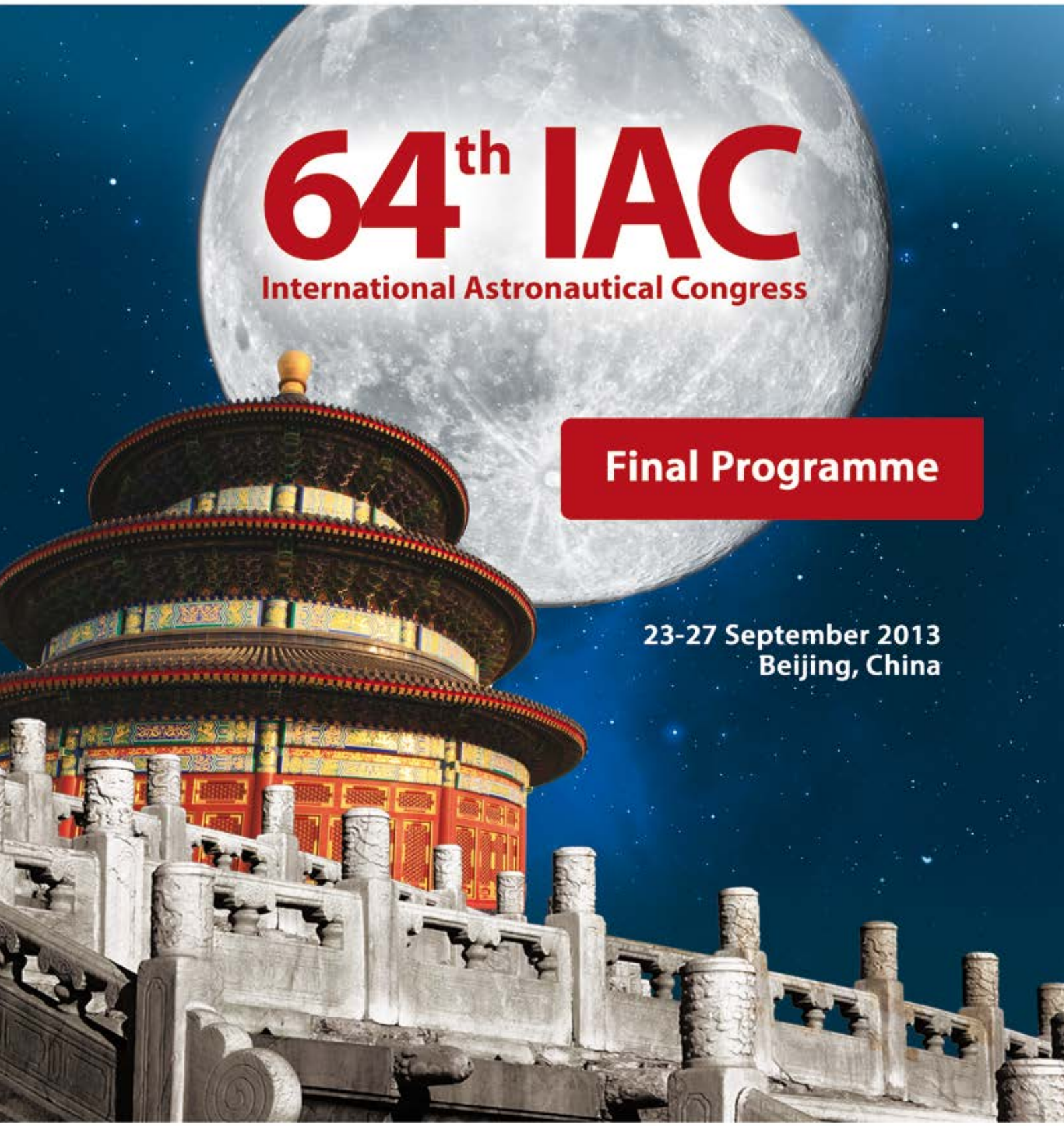
www.iac2013.org



# 64th IAC

## International Astronautical Congress

## Final Programme

23-27 September 2013
Beijing, China

*Promoting Space Development for the Benefit of Mankind*

PROMOTING SPACE DEVELOPMENT FOR THE BENEFITS OF MANKIND

推动航天发展 造福人类社会

INTERNATIONAL ASTRONAUTICAL CONGRESS

# 64th IAC

BEIJING 23~27 September, 2013

Supported by:

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# 1 Welcome Messages

## 1.1 Message from the President of the International Astronautical Federation

Welcome to the 64th International Astronautical Congress, which is held this year in the beautiful and exotic city of Beijing. This is the second IAC to take place in China, after the 47th Congress took place here in Beijing in 1996. It is however my first IAC as IAF President, and I am delighted to welcome new and old faces for what promises to be a wonderful week.

Our theme this year is **"Promoting Space Development for the Benefit of Mankind".** The world's ever-greater challenges, from energy sustainability to security issues, demand creative scientific thought. Space is of vital importance in addressing these issues, and improving the quality of life of our planet's inhabitants using the space around us. Monitoring climate change, enhancing satellite communications and promoting satellite data applications are but a few items on our development-based agenda this year.

Within these pages you will find details of the many technical sessions where leaders of their respective scientific fields address specialist space science, technology and policy questions. This sits alongside a rich programme of associated events, plenary debates and high-level lectures. Our dedicated teams of organisers have put together an unrivalled programme of technical content, presented through both oral and poster sessions, to address the interests of scientists, engineers, managers and lawyers, as well as students and young professionals.

More than 3600 abstracts were submitted this year, and the best 2311 papers were selected during the 2013 Spring Meeting in Paris. These papers and presentations can be found on the DVD included in your Congress bag. In addition, this booklet includes details of associated programmes and events, and compliments the Pocket Guide which will help you find your way around the bustling CNCC.

An IAC would not be possible without the dedication and hard work of the International Programme Committee (IPC), the IPC Steering Committee, the Local Organising Committee, the IAF Secretariat and all the other event organisers. I would like to take this opportunity to thank them all for making this another IAC to remember.

Enjoy Beijing and the rich programme that both the city and the IAC have to offer!

**Kiyoshi Higuchi**
*President*
*International Astronautical Federation*



## 1.2 Message from the Local Organising Committee

On behalf of the Chinese Local Organizing Committee, I sincerely welcome you to the 64th International Astronautical Congress (IAC) and the Space Exhibition which are being held at the China National Convention Center (CNCC), Beijing, from 23-27 September 2013. The IAC features many high-level events, with a large scope and influence, and great commercial value.

We're very pleased to hold this most prominent and influential event of the world space community in Beijing, China for the second time as some of you might still remember the 47th IAC successfully held in Beijing in 1996.

Being the capital, Beijing is not only the political and cultural center of China but also the important R&D and production base for China's space industry. With many space research organizations, enterprises and universities located here, Beijing has made significant contributions to the development of China's space industry and science and technology industry.

The exploration of the unknown is the unremitting pursuit of human beings, while the peaceful utilization of outer space is our common goal. As indicated by the theme of the 64th IAC, "**Promoting Space Development for the Benefits of Mankind**", the ultimate objective for us is to promote the development of economy and society and benefit mankind by utilizing space technology. On the basis of equality, mutual benefit, and mutual development, China's space industry will continuously participate in the activities for the utilization of outer space and work together with other countries in the world so as to make even greater contributions to the progress of science and technology and peaceful development of mankind.

We wish the 64th IAC a great success!

***XU Dazhe***
*Chairman of China Local Organizing Committee*
*President of Chinese Society of Astronautics*
*Chairman of China Aerospace Science and Technology Corporation*

## 1.3 Message from the International Programme Committee (IPC) Co-Chairs

Dear Colleagues and Friends,

We are proud to welcome you to the 64th International Astronautical Congress that is being held in Beijing. In 1996, China successfully held the 47th IAC. Since then, China's space programs have made great achievements. The 64th IAC will be a window for you to explore China's space activities and visit China's space facilities, at the same time, it will also open a door for Chinese space professionals to communicate and exchange with international colleagues.

The theme of this congress is **"Promoting Space Development for the Benefits of Mankind"**. This year the International Program Committee has put together an impressive program with excellent technical and informative content. Each year, theIAC offers the participants an unmatched opportunity not only to gain new knowledge, but also to have great networking opportunities, and this year we are convinced that Beijing offers the same and more to you all. It is expected that you will have good chances to meet with distinguished experts in various subjects, listen and talk to leaders in the space community through your active participation in various technical sessions, thematic events, forums and meetings so as to exchange views and share achievements and experiences, and vision for the future.

We are glad to see you here and thank you very much for making all the efforts to travel long distances to get together in Beijing for this great event. We would like to give many thanks to the IAF Secretariat, Chinese Society of Astronautics and LOC for their excellent preparation and organization of this Congress. We sincerely hope that along with learning about the advancements in knowledge and expertise in the space sector, you will also find time to enjoy yourselves with the charm of rich culture, beautiful arts, long history and all other pleasing features that Beijing and its surrounding areas offer.

We wish you an enjoyable stay in Beijing.

***LI Ming; Virendra Jha***
*Co-Chairs*
*International Program Committee*

# 2 Organisers

## 2.1 The International Astronautical Federation

Created in 1951 to foster dialogue between scientists around the world, and to support international cooperation in all space-related activities, the IAF to this day continues to connect space people. The Federation is the world's leading space advocacy body with 246 members, including all key space agencies, companies, societies, associations and institutes across across 6 continents and 62 countries. Over 40 administrative and technical committees support the Federation in its mission to advance knowledge about space and to foster the development of space assets by facilitating global cooperation. At its annual International Astronautical Congress (IAC) and other thematic conferences, the IAF brings its multidisciplinary and international network to life.

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**Youtube:** www.youtube.com/iafastro
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**Flickr:** http://www.flickr.com/photos/iafastro

## IAF Member Organisations 2013

| | |
|---|---|
| Algeria | Agence Spatiale Algérienne (ASAL) |
| Argentina | Comision Nacional de Actividades Espaciales (CONAE)<br>Federacion Argentina Astronautica (FAA)<br>Invap S.E. |
| Australia | Advanced Instrumentation and Technology Centre (AITC)<br>CSIRO Astronomy & Space Science<br>Engineers Australia<br>RMIT University, Australia<br>Space Industry Association of Australia<br>Space Policy Unit, Department of Innovation, Industry, Science and Research<br>Victorian Space Science Education Centre |
| Austria | Austrian Research Promotion Agency<br>European Space Policy Institute (ESPI)<br>Graz University of Technology (TU Graz)<br>Joanneum Research<br>Space Generation Advisory Council (SGAC) |
| Azerbaijan | National Aerospace Agency (NASA) of Azerbaijan Republic<br>Shamakhy Astrophysical Observatory |
| Bahrain | A9C Capital |
| Belgium | Belgian Science Policy (BELSPO)<br>CSL, Université de Liège<br>Euro Space Center<br>European Conference for Aero-Space Sciences (EUCASS)<br>QinetiQ Space nv<br>S.A.B.C.A<br>von Karman Institute for Fluid Dynamics |
| Brazil | Brazilian Space Agency (AEB)<br>Instituto de Aeronáutica e Espaço (IAE)<br>Instituto Nacional de Pesquisas Espaciais (INPE) |
| Bulgaria | Bulgarian Aerospace Agency |
| Canada | Canadian Aeronautics & Space Institute (CASI)<br>Canadian Space Agency<br>Canadian Space Society<br>Center for Planetary Science and Exploration, Western University<br>MDA Corporation<br>Neptec Design Group<br>Space Canada Corporation |
| China | Beihang University<br>Beijing Sunwise Space Technology Ltd.<br>China Head Aerospace Technology Co.<br>Chinese Society of Astronautics<br>Shaanxi Engineering Laboratory for Microsatellites |
| Colombia | Agustin Codazzi Geographic Institute |
| Croatia | Cluster of Serbian Aeronautical Industry - UVIS<br>Croatian Astronautical and Rocket Federation (HARS) |
| Cyprus | Cyprus Astronautical Society |
| Czech Republic | Czech Space Alliance<br>Czech Space Office |
| Denmark | Danish Astronautical Society<br>GomSpace Aps |
| Ecuador | Ecuadorian Civilian Space Agency (EXA) |
| Estonia | Enterprise Estonia |
| Finland | Finnish Astronautical Society |
| France | Arianespace<br>Association Aéronautique & Astronautique de France (AAAF)<br>Astrium SAS France<br>Centre National d'Etudes Spatiales (CNES)<br>CVA (Community of Ariane Cities)<br>Dassault Aviation<br>EADS Sodern<br>EURISY<br>Euroconsult<br>European Space Agency (ESA)<br>Eurospace<br>GIFAS<br>ICARE-CNRS<br>Institut Français d'Histoire de l'Espace<br>Institut Supérieur de l'Aéronautique et de l'Espace (ISAE)<br>International Institute of Space Commerce<br>International Space University (ISU)<br>Novespace<br>Office National d'Etudes et de Recherches Aérospatiales (ONERA)<br>Snecma<br>Starsem<br>Thales Alenia Space France |

| | |
|---|---|
| Germany | Access e.V.<br>Astrium GmbH<br>Deutsche Gesellschaft für Luft-und Raumfahrt, Lilienthal-Oberth e.V. (DGLR)<br>Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)<br>Eumetsat<br>Eurockot Launch Services GmbH<br>HE Space<br>IABG Industrieanlagen - Betriebsgesellschaft mbH<br>INSYEN AG<br>Internationaler Förderkreis für Raumfahrt – Hermann Oberth – Wernher von Braun e.V.<br>Kayser-Threde GmbH<br>MT Aerospace AG<br>OHB System AG<br>Tesat-Spacecom GmbH & Co. KG<br>University Wuerzburg<br>ZARM Fab GmbH |
| Hungary | Hungarian Astronautical Society (MANT) |
| India | Astronautical Society of India<br>Indian Space Research Organization (ISRO) |
| Indonesia | Indonesian National Institute of Aeronautics and Space (LAPAN) |
| Iran | Aerospace Research Institute |
| Ireland | National Space Centre |
| Israel | Israel Aerospace Industries. Ltd.<br>Israel Society of Aeronautics & Astronautics<br>Israel Space Agency<br>Rafael Advanced Defense Systems Ltd. |
| Italy | Alta SpA<br>Associazione Italiana di Aeronautica e Astronautica (AIDAA)<br>CGS S.p.A.Compagnia Generale per lo Spazio<br>CIRA Italian Aerospace Research Centre<br>Italian National Research Council - CNR<br>Italian Space Agency (ASI)<br>Politecnico di Turino<br>Serco Europe<br>Techno System Developments S.R.L.<br>Telespazio S.p.A.<br>Thales Alenia Space Italia<br>University of Naples “Federico II” |
| Japan | IHI Aerospace Co, Ltd.<br>Japan Aerospace Exploration Agency (JAXA)<br>Japan Society for Aeronautics and Space Sciences (JSASS)<br>Japanese Rocket Society<br>Kyushu Institute of Technology<br>Mitsubishi Electric Corporation<br>Mitsubishi Heavy Industries, Ltd.<br>NEC Corporation<br>Sky Perfect JSAT Corporation |
| South Korea | Korean Aerospace Research Institute<br>Korean Astronomy and Space Science Institute<br>Satrec Initiative<br>The Korean Society for Aeronautical and Space Sciences |
| Libya | Association of Arab Remote Sensing Centers (AARSC)<br>Libyan Center for Remote Sensing and Space Science (LCRSSS) |
| Lithuania | Lithuanian Space Association (LSA) |
| Luxemburg | SES |
| Malaysia | Astronautic Technology SDN BHD<br>National Space Agency of Malaysia (ANGKASA) |
| Mexico | Agencia Espacial Mexicana (AEM)<br>Geophysics Research Institute<br>Ramirez de Arellano y Abogados, S.C. Law Firm |
| Morocco | Centre Royal de Teledetection Spatiale |



| | |
|---|---|
| Nigeria | National Space Research and Development Agency, Abuja, Nigeria<br>Nigerian Meteorological Agency |
| Norway | Andoya Rocket Range<br>Kongsberg Satellite Services AS<br>Norsk Astronautisk Forening<br>Norwegian Space Centre |
| Pakistan | Pakistan Space and Upper Atmosphere Research Commission |
| Poland | Polish Academy of Sciences<br>Polish Astronautical Society |
| Portugal | CAST - Centre for Aerospace Science and Technologies, University of Beira Interior<br>Proespaço-The Portuguese Association of Space Industries |
| Romania | Commission d’Astronautique de l’Academie Roumaine<br>Romanian Space Agency (ROSA)<br>University POLITEHNICA of Bucharest - Research Center for Aeronautics and Space |
| Russia | Central Research Institute for Machine Building (FGUP TSNIIMASH)<br>Federal Space Agency (ROSCOSMOS)<br>JSC NPO Energomash<br>Khrunichev State Research & Production Space Center<br>Lavochkin Association<br>Moscow Aviation Institute<br>Russian Academy of Sciences<br>S.P. Korolev Rocket and Space Corporation Energia<br>Samara Space Centre “TsSKB-Progress” |
| Saudi Arabia | King Abdulaziz City for Science & Technology (KACST) |
| South Africa | National Research Foundation (NRF)<br>South African National Space Agency<br>South African Space Association (SASA)<br>Space Commercial Services Holdings (Pty) Ltd<br>Stellenbosch University<br>Sun Space & Information Systems (Pty) Ltd.<br>University of the Western Cape |
| Spain | Agrupacion Astronautica Espanola<br>Deimos Space S.L.<br>EADS CASA Espacio S.L.<br>EMXYS (Embedded Instruments and Systems S.L)<br>GMV Aerospace & Defence SAU<br>Instituto Nacional de Tecnica Aeroespacial (INTA)<br>SENER Ingenieria y Sistemas, S.A.<br>University of Valencia<br>University of Vigo |
| Sweden | Angström Aerospace Corporation (AAC)<br>GKN Aerospace Engine Systems<br>SSC<br>Swedish Society for Aeronautics and Astronautics |
| Switzerland | Ecole Polytechnique Fédérale de Lausanne (EPFL)<br>RUAG Space<br>SwissSpace Association |
| Syria | General Organization of Remote Sensing (GORS) |
| Taiwan, China | The Chinese Aeronautical and Astronautical Society located in Taipei |
| Thailand | Geo-Informatics and Space Technology Development Agency (GISTDA) |
| The Netherlands | Delft University of Technology<br>Dutch Space<br>International Association for the Advancement of Space Safety<br>National Aerospace Laboratory (NLR)<br>Netherlands Space Office (NSO)<br>Netherlands Space Society (NVR)<br>SpaceNed<br>TNO |
| Tunisia | ATUCOM - Tunisian Association for Communication and Space Sciences<br>Centre National de la Cartographie et de la Teledetection (CNCT) |

| | |
|---|---|
| Turkey | Istanbul Technical University<br>TÜBITAK<br>Turkish Aerospace Industries |
| Ukraine | Dniprotekhservice LLC<br>State Space Agency of Ukraine (SSAU)<br>Yuzhnoye State Design Office |
| United Arab Emirates | Emirates Institution of Advanced Science and Technology (EIAST) |
| United Kingdom | Astrium UK<br>Space Enterprise Partnerships Limited<br>Surrey Satellite Technology Ltd<br>The British Interplanetary Society<br>UK Space Agency<br>VEGA |
| United States | Aerojet-General Corporation<br>American Astronautical Society (AAS)<br>American Institute of Aeronautics and Astronautics (AIAA)<br>California Polytechnic State University<br>Department of Space Studies, University of North Dakota<br>Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST)<br>Georgia Institute of Technology, School of Aerospace Engineering<br>International Lunar Observatory Association<br>Law Offices of Sterns and Tennen<br>Lockheed Martin Corporation<br>Microcosm, Inc.<br>National Aeronautics and Space Administration (NASA)<br>National Oceanic and Atmospheric Administration (NOAA)<br>New Mexico Space Grant Consortium<br>Northrop Grumman Space Technology<br>Odyssey Space Research<br>Project Management Institute<br>Rocket Research Institute, Inc.<br>Secure World Foundation<br>Sirius XM Radio<br>South Dakota School of Mines and Technology<br>Space Policy Institute, George Washington University<br>Space Systems/Loral<br>The Aerospace Corporation<br>The Boeing Company<br>The Johns Hopkins University Applied Physics Laboratory<br>The Planetary Society<br>U.S. Geological Survey<br>University of Alabama in Huntsville<br>Virgin Galactic L.L.C<br>World Space Week Association<br>Wyle<br>X PRIZE Foundation |
| Uruguay | Centro de Investigacion y Difusion Aeronautico Espacial (CIDA-E) |
| Vietnam | Space Technology Institute (STI)<br>Vietnam National Satellite Center (VNSC)<br>Viettel Technologies Joint Stock Company |



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## 2.2 The International Academy of Astronautics (IAA)

The International Academy of Astronautics (IAA) was founded in 1960 by Theodore von Karman. The Academy is an independent international community of leading experts committed to expanding the frontiers of space, the newest realm of human activity. To foster the development of astronautics, the Academy undertakes a number of activities, including the recognition of outstanding contributors through elections and awards. It also facilitates professional communication, develops and promotes new ideas and initiatives, engages the public, and fosters a sense of community among the members. The IAA is a unique non-governmental organisation established in 1960 and recognised by the United Nations in 1996.

It is an honorary society with an action agenda. With 1200 elected members and corresponding members from 87 nations, it works closely with space agencies, industry, the academic community and the national science and engineering academies to determine needs and objectives and to help shape policy and forge cooperation by means of studies, position papers, conferences and publications. The IAA has published 52 studies to date and is engaged in the preparation of 40 others. The Academy also publishes the journal Acta Astronautica containing refereed papers.

The Academy now organises 20 conferences per year and regional meetings focused on the development and promotion of new initiatives. This activity also includes, in cooperation with the International Astronautical Federation and the International Institute of Space Law, the traditional contribution to the International Astronautical Congress (IAC), where the Academy sponsors 13 Symposia. The Academy also continues to enjoy its participation in the COSPAR Assemblies by sponsoring and co-sponsoring symposia. Although the IAA has many connections to these and other similar organisations, it is distinctive as the only international Academy of elected members in the broad area of astronautics and space.


1st IAA Conference on Dynamics and Control of Space Systems, Porto, Portugal, 19-21 March 2012

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## 2.3 The International Institute of Space Law (IISL)

Founded in 1960, the International Institute of Space Law (IISL) is an independent non-governmental organisation dedicated to fostering the development of space law. The membership of the Institute is composed of individuals and institutions from more than forty countries elected on the basis of their contributions to the field of space law or other social sciences related to space activities. In addition, prospective membership is open to students and young professionals with a demonstrated interest in space law.

Since 1992, the IISL organizes the annual Manfred Lachs Space Law Moot Court Competition. The competition is based on a hypothetical space law case, written by IISL members, in which around sixty student teams from universities in Africa, the Asia Pacific, Europe and North America, participate. The competition is an important part of the organisation's outreach programme, and its principal mechanism for engaging future generations of space law experts. The regional champions compete in the World Finals, which take place at the IAC and are judged each year by judges of the International Court of Justice. This unique feature makes the Manfred Lachs Moot Court one of the most prestigious moot court competitions in the world.

The IISL is an officially recognized observer at sessions of the United Nations Committee on the Peaceful Uses of Outer Space, and its Scientific & Technical and Legal Subcommittees. In cooperation with the European Centre for Space Law (ECSL), the IISL organizes an annual space law symposium for the delegates and staff attending the sessions of the UNCOPUOS Legal Subcommittee. In addition the Institute organises a variety of conferences on space law throughout the year in locations all over the world. It publishes an annual volume of IISL Proceedings with papers and reports of all these activities during the year.

As one of its main activities, the IISL holds an annual Colloquium at the International Astronautical Congress (IAC). During these Colloquia, the IISL strives to address topics that are of interest to all space actors and invites all IAC attendees to attend and participate in its sessions. The themes of the sessions of this year's Colloquium are:

- E7.1: 5th Nandasiri Jasentuliyana Keynote Lecture on Space Law & 5th Young Scholars Session
- E7.2: Settlement of Space-Related Disputes
- E7.3: International Regulations of Space Communications: Current Issues
- E7.4: Legal Aspects of Space Debris Remediation
- E7.5: Recent Developments in Space Law

During the IAC, the IISL also co-organises annual Scientific-Legal Roundtables with the International Academy of Astronautics (IAA), the 28th of which will be held this year in Beijing (E7.6-E3.5). Furthermore, the IISL co-organises a session each year with the IAF (E7.7-B3.8).

We hope to see many of you during our 56th Colloquium in Beijing and look forward to enriching debates and exchanges!

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Milton ("Skip") Smith (USA)
Leslie I. Tennen (USA)
Maureen Williams (Argentina)
Haifeng Zhao (China)

## 2.4 The Local Organising Committee (LOC)

***The LOC is composed of the following institutional representatives:***

### Honorary Chairs

***HAN Qide***
*Vice Chairman,*
The National Committee of the Chinese People's Political Consultative Conference
*Chairman,*
China Association for Science and Technology (CAST)

***CHEN Qiufa***
*Chairman,*
Hunan Provincial Committee of the Chinese People's Political Consultative Conference
*Former Administrator,*
China National Space Administration(CNSA)

***MA Xingrui***
*Administrator,*
West Bohemian University, Czech Republic
*Honorary President,*
Chinese Society of Astronautics

***ZHANG Jianqi***
*President,*
China Space Foundation

### Chair

***XU Dazhe***
*President,*
Chinese Society of Astronautics
*Chairman,*
China Aerospace, Science and Technology Corporation (CASC)

### Vice Chairs

***CAO Jianlin***
*Vice Minister,*
Ministry of Science and Technology of the People's Republic of China
*Vice president,*
Chinese Society of Astronautics

***YIN Hejun***
*Vice President,*
Chinese Academy of Sciences
*Vice president*
Chinese Society of Astronautics

***ZHANG Qin***
*Secretary,*
Secretariat of China Association for Science and Technology

***HU Yafeng***
*Deputy Administrator,*
China National Space Administration
*Vice president,*
Chinese Society of Astronautics

***WANG Zhaoyao***
*Director,*
China Manned Space Agency
*Vice president ,*
Chinese Society of Astronautics

***YANG Changfeng***
*Deputy Chief Designer,*
China Satellite Navigation Office
*Vice president,*
Chinese Society of Astronautics

***GAO Hongwei***
*Chairman,*
China Aerospace Science & Industry Corporation (CASIC)
*Vice president,*
Chinese Society of Astronautics

***HUAI Jinpeng***
*President,*
Beihang University
*Vice president,*
Chinese Society of Astronautics

***HU Haiyan***
*President,*
Beijing Institute of Technology
*Vice president,*
Chinese Society of Astronautics



***YUAN Jie***
*Vice-President,*
International Astronautical Federation
*Vice-President,*
China Aerospace Science and Technology Corporation (CASC)

***WU Zhuo***
*Vice President,*
China Space Foundation

### Members (in alphabetical order)

***CAI Guobiao***
*Dean,*
School of Astronautics
Beihang University

***CHEN Shaoyang***
*President,*
Sichuan Academy of Aerospace Technology of CASC

***CUI Pingyuan***
*Dean,*
School of Aerospace Engineering
Beijing Institute of Technology

***FU Min***
*Deputy Director General,*
General Office of CASC

***FU Zhimin***
*President,*
Defense Technology Academy of CASIC

***GONG Bo***
*President,*
Sichuan Academy of Aerospace Technology of CASC

***GONG Jinyu***
*Deputy Secretary General,*
Chinese Society of Astronautics

***GUO Jianping***
*Deputy Director General,*
International Cooperation Department of CASC

***HU Zhongmin***
*Director General,*
International Cooperation Department of CASC

***JIAO Jige***
*President,*
The Kinetic Technology Academy of CASIC

***LI Feng***
*President,*
China Academy of Aerospace Aerodynamics of CASC

***LI Guoping***
*Executive Deputy Secretary General,*
Secretariat of Coordination Committee for International Cooperation of CNSA

***LI Hong***
*President,*
China Academy of Launch Vehicle Technology of CASC

***LI Ming***
*Vice President,*
China Academy of Space Technology of CASC

***LIANG Yingnan***
*Deputy Director,*
International Relations Department of CAST

***LIU Meixuan***
*President,*
China Aerospace Times Electronics Co.Ltd. of CASC

***SHI Yang***
*President,*
Aisino Corporation

***TAN Yonghua***
*President,*
Academy of Aerospace Liquid Propulsion Technology of CASC

***TIAN Weiping***
*President,*
Academy of Aerospace Solid Propulsion Technology of CASC

***WEI Yiyin***
*President,*
Winged Vehicle Research Academy of CASIC

***WU Baolin***
*President,*
The Vehicle Technology Academy of CASIC

***WU Ji***
*Director,*
Center for Space Science and Applied Research
Chinese Academy of Sciences

***XU Wen***
*Director,*
China Center for Resources Satellite Data and Application of CASC

***YANG Baohua***
*President,*
China Academy of Space Technology of CASC

***YANG Junhua***
*Vice President & Secretary General,*
Chinese Society of Astronautics

***YIN Liming***
*President,*
China Great Wall Industry Corporation of CASC

***ZHANG Di***
*Director General,*
Department of Space Engineering of CASIC

***ZHU Zhisong***
*President,*
Shanghai Academy of Spaceflight Technology of CASC

***ZHUO Chao***
*General Manager,*
China Satellite Communications Co. Ltd. of CASC

## Executive Direction

***YANG Junhua***
*Executive Director,*
China LOC
*Vice President & Secretary General,*
Chinese Society of Astronautics

***GONG Jinyu***
*Deputy Executive Director,*
China LOC
*Deputy Secretary General,*
Chinese Society of Astronautics



# 3 Practical Information

## 3.1 City Map and Introduction to Beijing

**Map of the Congress location (CNCC):**


## 3.2 Travel from the airport to the congress venue

China National Convention Center (CNCC)
No.7 Tianchen East Road, Chaoyang District, Beijing 100105 China
Tel:+86 10 8437 3300

We recommend three ways to reach the CNCC from Beijing International Airport

| From Beijing International Airport To IAC 2013 venue | | | | |
|---|---|---|---|---|
| Route | | Departure frequency | Cost | Time comsuming |
| A. | TAXI | | Approx. RMB120-160 | Approx. 45 mins |
| B. | By Airport Express Bus Line 4, drop off at Ya Yuncun and then take taxi/or on foot for the remaining 1.2 kilometer | Every 30 mins | RMB16 (Airport Express)+ RMB20 (Taxi)= Approx. RMB36 | Approx. 60 mins |
| C. | By Airport Express Metro to Sanyuanqiao Station and take taxi | Every 10 mins | RMB25(Airport Express Metro) +RMB40(Taxi)=RMB65 | Approx. 40 mins |

**About Taxis:** At the airport you can see TAXI signs in both Chinese and English. When you take a cab from the airport to a hotel you can ask for taximeter (not fixed fares) and must ask for the invoice. Official taxis are green or blue.

The starting fare is € 1,70. There are also additional charges in the evening. As most of the taxi drivers do not speak English, it is best to provide the driver with the full Chinese address of the CNCC or your hotel.

**About the Subway:** CNCC is located next to the metro line 8 station "Olympic Green", which enables people to quickly go to the city centre and many tourist attractions. All metro signage and announcements on the trains are clearly given in Chinese and English.



## 3.3 Registration

### Registration Rates

| Registration Category | Before 22 June 2013 | Before 1 Aug 2013 | On-Site* | Notes |
|---|---|---|---|---|
| Full-paying Participants | 730€ | 840€ | 900€ | N/A |
| Full-paying Participants (Members) | 630€ | 770€ | 820€ | Who are employees or elected officers of an IAF member organization or who are current members of the IAA and the IISL. |
| Retired Persons | 365€ | 440€ | 490€ | Who meet the IAF's minimum requirements (no longer employed, fully retired and prepared to make at least one presentation on their experiences to a student or public group during the coming six months). Retirees need to upload documentation confirming their status. |
| Young Professionals | 265€ | 300€ | 330€ | Who are no older than 35 years of age at the time of the Congress |
| Full-time Students and primary/seconday level Teachers | 50€ | 60€ | 70€ | There is no age limit on students, while teachers should be primary/ secondary level teachers. Students should **upload** a scanned copy of student ID card, while teachers should upload teacher's license, or other equivalent documents. **No refund will be granted if registration under this category is cancelled.** |
| Accompanying Persons | 50€ | | | Maximum 1 per Full-paying or Retired Delegate, Accompanying persons are entitled to participate in the Opening and Closing Ceremony, the Space Exhibition, Plenary Events, Highlight Lectures, the Welcome Reception, and other events designated by the organizer, while access to IAC technical sessions is restricted. **No refund will be granted if registration under this category is cancelled.** |
| Media Representatives | Free of charge | | | Please provide 'a scanned copy of your press card or other equivalent proof at the time of registration. |

*On-site registration will take place in the lobby between entrances C1 & C2.

### What is covered by the fee?

**All categories (excluding Accompanying Persons):**

- congress documentation,
- admission to the Opening and Closing Ceremonies,
- access to the Technical and Public Programme,
- access to the Space Exhibition,
- access to the Welcome Reception and
- coffee breaks from Monday 23 September to Friday 27 September 2013.

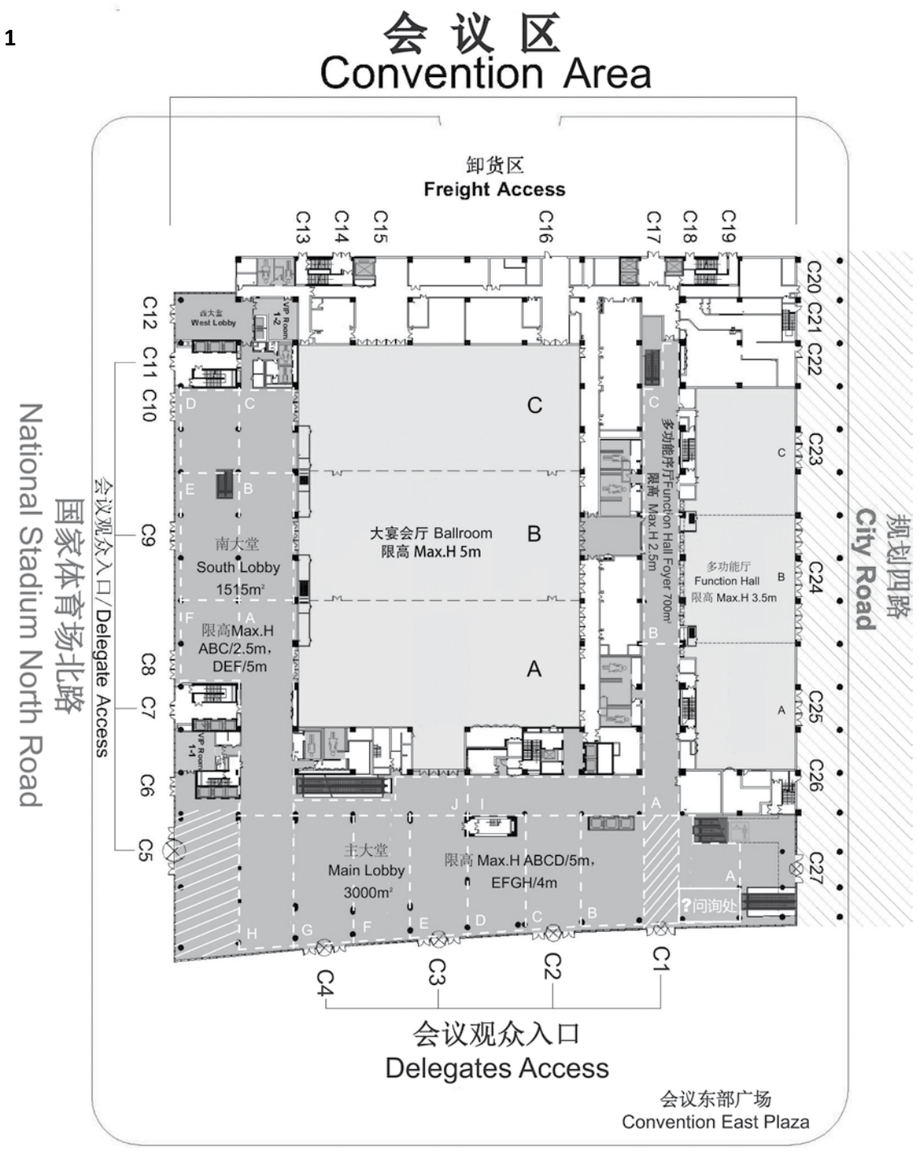
**Accompanying Persons:**

- admission to the Opening and Closing Ceremonies,
- access to the Space Exhibition,
- access to Plenary Events and Highlight Lectures, Late Breaking News and GNF Programme
- access to the Welcome Reception.

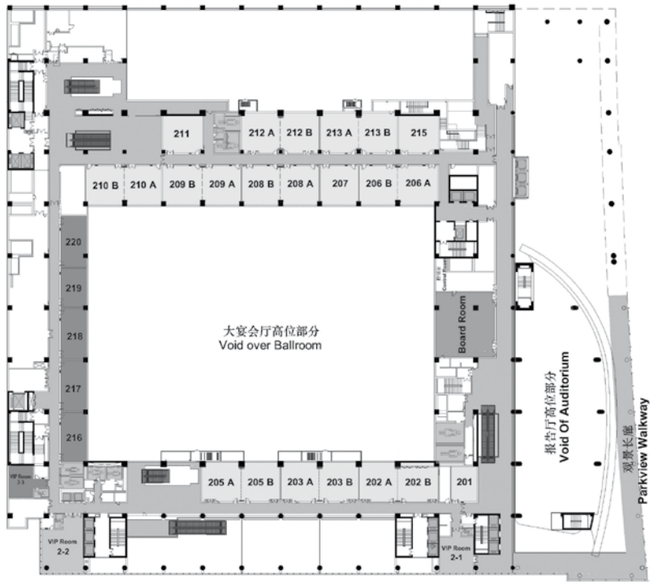
**Media representatives** who wish to register on-site are kindly requested to present their press card, passport and to fill in the media registration form at the registration desk.

## 3.4 Congress Venue Floor Plans

**Level 1**

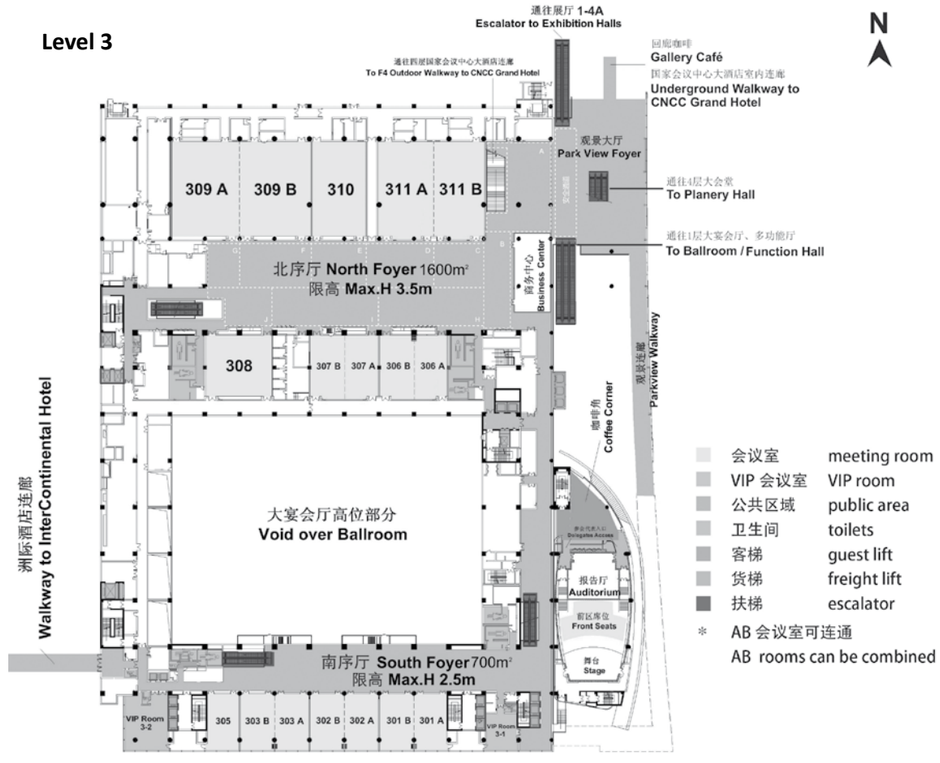



| | | | | | |
|---|---|---|---|---|---|
| | 会议室 | meeting room | | 客梯 | guest lift |
| | VIP会议室 | VIP room | | 货梯 | freight lift |
| | 公共区域 | public area | | 扶梯 | escalator |
| | 卫生间 | toilets | * | ABC会议室可连通 | ABC rooms can be combined |

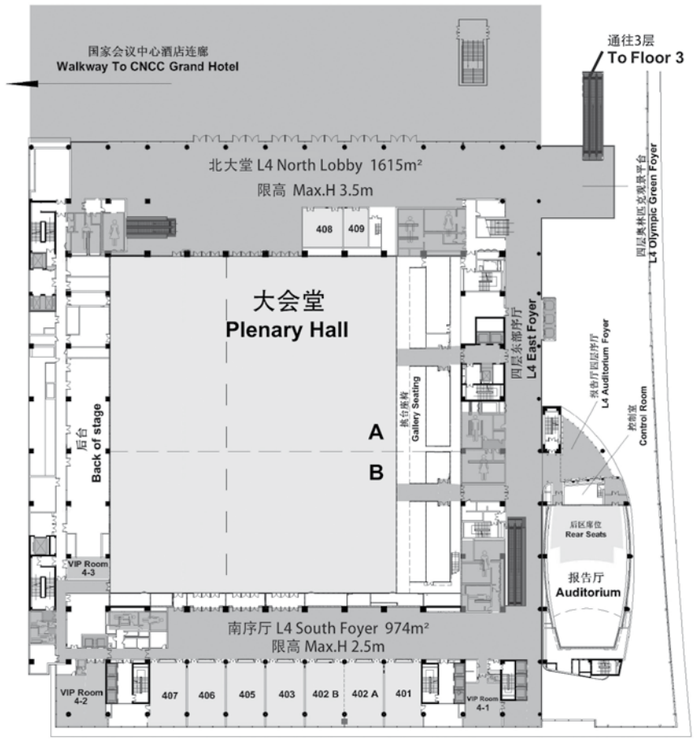



| | | |
|---|---|---|
| | 会议室 | meeting room |
| | VIP 会议室 | VIP room |
| | 公共区域 | public area |
| | 卫生间 | toilets |
| | 客梯 | guest lift |
| | 货梯 | freight lift |
| | 扶梯 | escalator |
| | 内部使用 | back of house |
| * | AB 会议室可连通 | AB rooms can be combined |

**Level 3**




| | | |
|---|---|---|
| | 会议室 | meeting room |
| | VIP 会议室 | VIP room |
| | 公共区域 | public area |
| | 卫生间 | toilets |
| | 客梯 | guest lift |
| | 货梯 | freight lift |
| | 扶梯 | escalator |
| * | AB 会议室可连通 | AB rooms can be combined |




**Level 4**

N

| | | |
|---|---|---|
| | 会议室 | meeting room |
| | VIP 会议室 | VIP room |
| | 公共区域 | public area |
| | 卫生间 | toilets |
| | 客梯 | guest lift |
| | 货梯 | freight lift |
| | 扶梯 | escalator |

* AB 会议室可连通
AB rooms can be combined

## 3.5 Office Opening Hours

**IAF Secretariat Office**

Location: Room 211

20 – 27 September
08:00 – 18:00

**IAA Secretariat Office:**

Location: Room 206A

20 – 27 September
08:00 – 18:00

**Cyber Café:**

Location: Hall 1 Lobby (in the exhibition)
Monday, 23 September
11:00 –18:00
Tuesday, 24 – Friday, 27 September
10:00 – 14:00

**Registration and Information Desk:**

Location: L1 Lobby
In order to register, please bring along your letter of confirmation, which entitles you to pick up your Congress documents.

21 – 27 September
08:00 – 18:00

**International Press Centre**

Location: VIP 3-2
Saturday, 21 September
13:00 – 20:00
Sunday, 22 September – Friday, 27 September
07:30 – 20:00

**IISL Members' Room**

Location: 407

23 – 27 September
08:00 – 18:00

**LOC Office**

Location: Room 202B,

20 – 27 September

08:00 – 18:00

**IAF Members' Lounge**

Location: GNF
Monday, 23 September
12:00 – 18:00
Tuesday, 24 – Friday, 27 September
10:00 – 14:00

**Exhibition Hall**

Location: Hall 1
Monday, 23 September
12:00 – 18:00
Tuesday, 24 – Friday, 27 September
10:00 – 14:00

**Press Briefing**

Location: VIP 3-2
Sunday, 22 September
18:15

**Speakers' Preparation Room**

Location: Room: 209B

22 – 27 September
08:00 – 17:00

**Congress Organiser**

Consult Registration Desk, L1 Lobby

## 3.6 Information for Authors

All authors are asked to upload their manuscripts and multimedia presentations prior to the Congress in order to make them available to all participants on the Interactive Congress Guide DVD.

You can still update multimedia presentations with the latest developments through the IAF website or in the Speakers' Presentation Room, located on the 2nd floor of CNCC (room 209 B).

Your presentation will be automatically preloaded on the computer in the Technical Session room. Please note that speakers are not allowed to insert USB memory sticks or CD-ROMs into the computers in the Technical Session rooms.

Therefore, all updates need to be uploaded at least 3 hours prior to the scheduled session. The Speakers' Presentation Room is equipped with computers (MS Windows XP–compatible) with CD/DVD drives and USB ports.

It will be open during the following hours, with technicians available to assist you:

Sunday 22nd - Friday 27th September, 08:00 – 17:00

Speakers are requested to report to their allocated Technical Session room 20 minutes prior to the start of their session to meet with the Session Chair and to check their presentation. Do not forget to bring two printed courtesy copies of your manuscript and a backup copy of your presentation. Some Session Chairs might also ask you for a short biography to introduce you at the session.

## 3.7 Useful Information

### Climate

September is one of the best months to visit Beijing. The average maximum temperature is 24°C in the day time, and the average minimum temperature is 11°C at night.

### Credit Cards

Credit and debit cards can be used in ATMs (which are widespread) displaying the appropriate sign. Credit cards can also be used in many supermarkets, hotels department store and restaurants. When you withdraw money from an ATM, the amounts are converted and dispensed in local currency; however, there will be fees involved.

### Currency

China's official currency is the Chinese RenMinBi or RMB for short. The basic unit is the yuan (also known as "kuai"), which equals 10 jiao (or "mao"), which is then divided into 10 fen. Coin denominations are one, two and five Fengs, one, five Jiaos and one Yuan; the banknotes are one, five Jiaos and 1, 5, 10, 20, 50 and 100 Yuan. Currency can be exchanged at all local banks. Banks are open from 09:00 to 16:30 Monday to Sunday.

### Medical Services

An emergency service center will be available near the meeting areas during the congress.

### Electricity

Most electrical outlets in China work on 220V AC at 50 cycles per second. Local outlets accept two flat plugs and three-pronged plugs that differ from those used in Europe, the UK and the USA. Foreign appliances may require an adapter that can be bought at supermarkets.

### Time

Beijing is eight hours ahead of Greenwich Mean Time (GMT). Differences with other major cities are London: -7 hour; New York City: - 12 hours; Sydney: + 2 hours; Tokyo: + 1 hours (Daylight Saving Time)

### Shops, Pharmacies, Restaurants, Museums

**Shops:** Most department stores in Beijing have continuous opening hours and are generally open from 09:30 to 21:00 or 21:30 Monday to Sunday. Some supermarkets are open from 08:30 to 21:30 on Monday to Sunday.

**Pharmacies:** open from 09:00 to 21:00 Monday to Sunday, but some remain open at all times of the day or night.

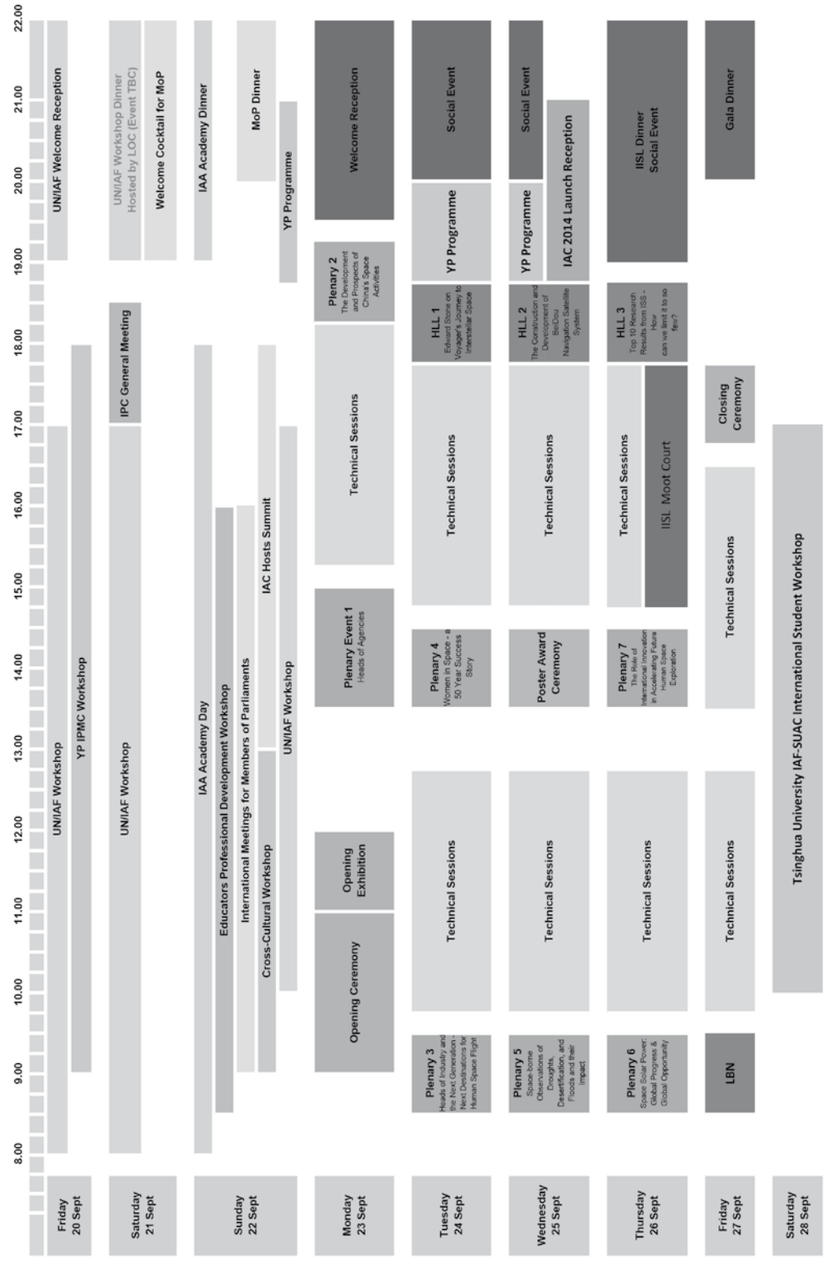
**Restaurants:** open from 10:30 to 14:00 and 16:30 to 22:00.

**Museums:** most of the scenic spots in Beijing such as museums, galleries and archaeological sites sell entrance tickets from 08:00 till 16:00. Some are open much earlier like The Temple of Heaven, Beihai Park, Summer Palace.



# 4 Conference Programme

## 4.1 Programme at a Glance



## 4.2 Day by Day

# Pre-Congress Schedule

### Friday 20th

**Young Professionals IPMC Workshop** **(see page 154)**

**UN-IAF workshop** **(see page 164)**

### Saturday 21st

**UN-IAF workshop** **(see page 164)**

### Sunday 22nd

**Cross-Cultural Presentation Workshop** **(see page 168)**

**UN/IAF Workshop** **(see page 164)**

**5th International Meeting for the Members of Parliaments** **(see page 169)**

**IAC Hosts Summit** **(see page 170)**

**Academy Day and Academy Dinner** **(see page 169)**

**Educators Professional Development Workshop** **(see page 166)**

# Main Congress Schedule

### Monday, 23 September

**09:00 – 11:00 Opening Ceremony**

**Location:** Plenary Room A

**11:00 – 12:00 Exhibition Opening**

**11:30 – 11:45 GNF – Opening**

**12:15 – 13:15 GNF – 3AF's (Association Aéronautique et Astronautique de France) Strategic Objective of Cooperating Internationally with Sister Societies**

**13:30 – 15:00 Plenary 1: Heads of Agencies**

**Location:** L4 , Plenary Room A

The Heads of Agencies plenary event will bring together the leaders of major space agencies worldwide. Following the structure of previous years, this year's Heads of Agencies Plenary will begin with an introductory presentation on latest developments, followed by a discussion on specific topics as well as an interactive Q&A session with the audience.

**Panellists:**

***Charles Bolden***
*Administrator,*
National Aeronautics and Space Administration (NASA),
United States

***Jean-Jacques Dordain***
*Director General,*
European Space Agency (ESA)

***MA Xingrui***
*Administrator*
China National Space Administration (CNSA),
China

***Walter Natynczyk***
*President,*
Canadian Space Agency (CSA),
Canada

***Vladimir Popovkin***
*Head,*
Federal Space Agency (Roscosmos),
Russia

***S Ramakrishnan***
*Distingueshed Scientist,*
Indian Space Research Organisation (ISRO),
India
*Director,*
Vikram Sarabhai Space Centre

***Naoki Okumura***
*President,*
Japan Aerospace Exploration Agency (JAXA),
Japan

*MODERATOR*
***Uli Bobinger***

**15:15 - 15:45 GNF – Heads of Agencies Press Conference**

**Start time: 15:15 Technical Sessions**

| No | Description | Room |
|---|---|---|
| A1.1 | Behaviour, Performance and Psychosocial Issues in Space | 303B |
| A2.1 | Gravity and Fundamental Physics | 210B |
| A3.1 | Space Exploration Overview | 311A |
| A6.1 | Measurements | 210A |
| B2.1 | Space-Based Navigation Systems and Services | 307A |
| B3.1 | Overview Session (Present and Near-Term Human Space Flight Programmes) | 308 |
| B4.2 | Small Space Science Missions | 307B |
| B6.4-V.1 | Flight Control Operations Virtual Forum | 209A |
| C1.1 | Attitude Dynamics (1) | 306A |
| C2.1 | Space Structures I - Development and Verification (Space Vehicles and Components) | 306B |
| C3.1 | Space-Based Solar Power Architectures – New Governmental and Commercial Concepts and Ventures | 303A |
| C4.1 | Propulsion System (1) | 208A |
| D1.1 | Innovative and Visionary Space Systems Concepts | 302B |

| | | |
|---|---|---|
| D2.1 | Launch Vehicles in Service or in Development | 311B |
| D3.1 | Strategies & Architectures as the Framework for Future Building Blocks in Space Exploration and Development | 208B |
| E1.1 | Ignition - Primary Space Education | 302A |
| E2.1 | Student Conference – Part 1 | 301B |
| E3.1 | National Space Policies and Programmes, and Regional Cooperation | 305 |
| E4.1 | Memoirs and Organisational Histories | 301A |

## 16:15 – 17:15 GNF – The needs of the Asian market in terms of satellites operators and launchers: How to respond.

## 18:15 – 19:30 Plenary 2: The Development and Prospects of China's Space Activities

**Location: L4, Plenary Room A**

This session will gather local and international speakers to introduce China's developments in major space projects including human spaceflight, lunar exploration, space technology, space transportation, space applications and different areas of space science.

The speakers will present and discuss China's comprehensive plan for the future of new-generation launch vehicles, their Manned Space Program, the second phase of China's Lunar Exploration Program, global satellite navigation system, and high-resolution Earth Observation Systems. The session will also look at China's communications satellite programmes, construction of space infrastructure, promotion of Chinese satellites and satellite applications industry, and space science research. The speakers will also discuss international cooperation towards the comprehensive, coordinated and sustainable development of the global space industry.

**Panellists:**

***XU Dazhe***
*Chairman,*
China Aerospace Science and Technology Corporation

***Hu Yafeng***
*Deputy Administrator,*
China National Space Administration

***GAO Hongwei***
*Chairman,*
China Aerospace Science & Industry Corporation

***José Raimundo Braga Coelho***
*President,*
Brazilian Space Agency

***WANG Zhaoyao***
*Director,*
China Manned Space Agency

***Berndt Feuerbacher,***
*Scientist ,*
*Past President,*
Astronautical Federation

***WU Ji***
*Director General,*
Center for Space Science and Applied Research,
Chinese Academy of Sciences

*MODERATOR*
***LI MING***
*IPC Co-chair,*
*Vice President,*
China Academy of Space Technology

## 19:30 - 22:00 Welcome reception

**Location:** L4 Lobby



# Tuesday, 24 September

## 08:30 – 09:30 Plenary 3: Heads of Industry and the Next Generation Plenary - Next Destinations for Human Space Flight

**Location:** Room 309 A&B

The 'Heads of Industry and the Next Generation - Next Destinations for Human Space Flight' plenary mixes the experience of current industry leaders with the vision of those who will lead the next generation's space programmes. This highly interactive plenary provides a great opportunity to fully explore future human spaceflight destinations and encourage open dialogue between young professionals, students and industry leaders. The young professionals and students will share their views as the most appropriate next destinations and priorities for human spaceflight, while industry leaders will address political, budgetary, and technical accomplishments necessary for such endeavors. The session seeks to spark the imagination of the participants and audience while providing insight on the realities that the space industry faces in attempting to fulfill human spaceflight visions.

**Panellists:**

***William Gerstenmaier***
*Associate Administrator Human Exploration and Operations,*
NASA

***Jonathan Lun***
*Student*

***Guillaume Tanier***
*Young Professional*

***Suzanne Gordon***
*Student,*

***Me GAO***
CAST

***Fritz Merckle***
*Member of the Board since 2003,*
OHB Systems AG

## Start time: 09:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.2 | Human Physiology in Space | 303B |
| A2.2 | Fluid and Materials Sciences | 210B |
| A3.2A | Moon Exploration – Part 1 | 311A |
| A6.2 | Modelling and Risk Analysis | 210A |
| B1.1 | International Cooperation in Earth Observation Missions | 301B |
| B2.2 | Near-Earth and Interplanetary Communications | 307A |
| B3.2 | How Can We Best Apply Our Experience to Future Human Missions? | 308 |
| B4.1 | 14th UN/IAA Workshop on Small Satellite Programmes at the Service of Developing Countries | 307B |
| B6.2 | New Operations Concepts, Advanced Systems and Commercial Space Operations | 305 |
| C1.2 | Attitude Dynamics (2) | 306A |
| C2.2 | Space Structures II - Development and Verification (Deployable and Dimensionally Stable Structures) | 306B |
| C3.2 | Wireless Power Transmission Technologies, Experiments and Demonstrations | 303A |
| C4.2 | Propulsion System (2) | 208A |
| D1.2 | Enabling Technologies for Space Systems | 302B |
| D2.2 | Launch Services, Missions, Operations and Facilities | 311B |

| | | |
|---|---|---|
| D4.1 | Novel Concepts and Technologies | 208B |
| E1.2 | Lift Off - Secondary Space Education | 302A |
| E2.2 | Student Conference – Part 2 | 209A |
| E7.1 | Nandasiri Jasentuliyana Keynote Lecture on Space Law & 5th Young Scholars Session | 301A |

## 10:00 – 12:00 GNF – How to get the most from working with Chinese space partners

## 13:30 – 14:30 Plenary 4: Women in Space – A 50-Year Success Story

**Location:** Room 309 A&B

In June 1963, Valentina Tereskova became the first woman in space. Since then, 56 women from 9 countries have flown once or several times in space, representing more than 10% of the total global astronaut corps. Women have been involved to different extents in all in space flight functions over the past 50 years: As scientists, payload specialists, engineers, pilots and commanders amongst others. This celebration of 50 years of Women in Space is a unique opportunity to gather almost all of the first female space travellers from 9 nations. During the event, participants will describe their first space flights, the perception of being a woman in a predominantly male domain, and the future of women in space.

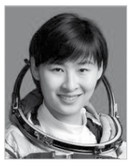
**Panellists:**

***Valentina Vladimirovna Tereshkova.***
*Member of the Russian Parliament*

***Chiaki Mukai***
*Manager, Senior Scientist, Astronaut*
*Space Biomedical Research Office,*
JAXA

***Sandra H. Magnus***
*Executive Director,*
American Institute of Aeronautics and Astronautics (AIAA)

***Mazlan Othman***
*Director,*
United Nations Office for Outer Space Affairs



***Liu Yang***
Chinese Astronaut

***Wang Yaping***
***Chinese Astronaut***

## Start time: 14:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.3 | Medical Care for Humans in Space | 303B |
| A2.3 | Microgravity Experiments from Sub-Orbital to Orbital Platforms | 210B |
| A3.2B | Moon Exploration – Part 2 | 311A |
| A5.1 | Human Lunar Exploration | 307A |
| A6.4 | Mitigation and Standards | 210A |
| B1.2 | Future Earth Observation Systems | 301B |
| B3.3 | Space Station Utilization | 308 |
| B4.5 | Access to Space for Small Satellite Missions | 307B |
| C1.3 | Guidance, Navigation and Control (1) | 306A |
| C2.3 | Space Structures - Dynamics and Microdynamics | 306B |
| C3.3 | Advanced Space Power Technologies and Concepts | 303A |



| | | |
|---|---|---|
| C4.9 | Hypersonic and Combined Cycle Propulsion | 208A |
| D1.3 | System Engineering Tools, Processes and Training (1) | 302B |
| D2.3 | Upper Stages, Space Transfer, Entry and Landing Systems | 311B |
| E1.3 | On Track - Undergraduate Space Education | 302A |
| E2.3-V.4 | Student Team Competition | 209A |
| E3.2 | International Space Exploration Policies and Programmes | 305 |
| E6.4-D4.2 | Joint Session on Global Public/Private Innovative Initiatives in Spaceflight | 208B |
| E7.2 | Settlement of Space-Related Disputes | 301A |

## 16:15 – 17:45 GNF – "Space at ILA Berlin Air Show 2014" (Reception)

## 17:45 – 18:45 Highlight Lecture 1: Dr Ed Stone HLL on Voyager's Journey to Interstellar Space

**Location:** Room 309 A&B

**Speaker:**

***Edward Stone***

## 18:45 – 21:00 YP Networking Event – The Future for Human Exploration

**(see page 155)**

## Wednesday, 25 September

### 08:30 – 09:30 Plenary 5: Space-borne Observations of Droughts, Desertification, Floods and their Impact on Water and Food Security

**Location:** Room 309 A&B

Climate change concerns an ever larger proportion of the earth's inhabitants, impacting daily life through problems such as the shortage of fresh water, food and other threats to health and well-being. Scientists have been tackling the challenge of understanding climate change trends, and supporting efforts towards adaptation and mitigation using space-based and ground-based observation with Earth Simulation Models. This plenary event will address the role of space applications in monitoring the causes, extent, and socio-economic impacts of desertification and drought. It will also address which space-based Earth Observation Missions will improve the monitoring of these critical parameters, to understand the growth of deserts, in addition to which types of data will be of greatest use in the modelling of desertification.

**Panellists:**

***Masanori Homma***
*Executive Director,*
JAXA

***Massimo Menenti***
ESA

***WU Bingfang***
*Head, Division of Digital Agriculture in the Institute of Remote Sensing and Digital Earth,*
Chinese Academy of Sciences

*MODERATOR*
***James Graf***
*Deputy Director for Earth Science and Technology,*
Jet Propulsion Laboratory

### Start time: 09:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.4 | Radiation Fields, Effects and Risks in Human Space Missions | 303B |
| A2.4 | Science Results from Ground Based Research | 210B |
| A3.3A | Mars Exploration – Part 1 | 311A |
| B1.3 | Earth Observation Sensors and Technology | 301B |
| B2.3 | Advanced Technologies for Space Communications and Navigation | 307A |
| B3.4-B6.5 | Sustainable Operations of Present and Future Space Stations - Joint Session of the Human Space Endeavours and Space Operations Symposia | 308 |
| B4.4 | Small Earth Observation Missions | 307B |
| C1.4 | Guidance, Navigation and Control (2) | 306A |
| C2.4 | Advanced Materials and Structures for High Temperature Applications | 306B |
| C4.3 | Propulsion Technology | 208A |
| D2.4 | Future Space Transportation Systems | 311B |
| D3.2 | Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development | 208B |
| D5.1 | Insuring Quality and Safety in a Cost Constrained Environment: Which Trade-Off? | 210A |
| E1.4 | In Orbit - Postgraduate Space Education | 302A |
| E2.4 | Educational Pico and Nano Satellites | 209A |
| E3.3 | Industrial Policies as Drivers of the Space Economy | 305 |
| E5.1 | New architectural, Strategic and Design Approaches to the Future of Human Space Flight | 303A |
| E7.3 | International Regulations of Space Communications: Current Issues | 301A |

### 10:00 – 12:30 GNF – Symposium on Space Medicine and People's Health

### Start time: 11:15 Technical Session

| | | |
|---|---|---|
| E5.2 | Moon, Mars and Beyond: Analogues, Habitation and Spin-Offs | 303A |

### Start time: 11:45 Technical Session

| | | |
|---|---|---|
| E6.1 | Case Studies and Prizes in Commercial Space | 302B |

### 13:30 - 14:30 Poster Award Ceremony

**Location:** Room 310

### 14:30 – 16:30 GNF – The Application and International Cooperation of Remote Sensing Satellites

### 14:30 – 16:10 World Space Week Celebration – with speech by Buzz Aldrin as one of the speakers

**Location:** Room 309 A&B

### Start time: 14:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.5 | Astrobiology and Exploration | 303B |
| A2.5 | Facilities and Operations of Microgravity Experiments | 210B |
| A3.3B | Mars Exploration – Part 2 | 311A |
| A4.1 | SETI 1: SETI Science and Technology | 208B |
| A5.2 | Human Mars Exploration | 307A |
| A6.3 | Hypervelocity Impacts and Protection | 210A |
| B1.4 | Earth Observation Data Management Systems | 301B |
| B3.5 | Astronauts: Those Who Make It Happen | 308 |
| B4.7A | Space Systems and Architectures Featuring Cross-Platform Compatibility | 307B |
| C1.5 | Guidance, Navigation and Control (3) | 306A |
| C2.5 | Smart Materials and Adaptive Structures | 306B |
| C4.4 | Electric Propulsion | 208A |
| D1.4 | Space Systems Architectures | 302B |
| D2.5 | Future Space Transportation Systems Technologies | 311B |
| E1.5 | Learning and Knowledge Development for a Globally Sophisticated Workforce | 302A |

| | | |
|---|---|---|
| E3.4 | Assuring a Safe, Secure and Sustainable Space Environment for Space Activities | 305 |
| E5.3 | Space Technologies - Earth Applications | 303A |
| E7.4 | Legal Aspects of Space Debris Remediation | 301A |
| V.3-B2.8 | Space Communications and Navigation Young Professionals Virtual Forum | 209A |

## 16:30 – 18:00 GNF – Q&A with Sandy Magnus – Former NASA Shuttle and International Space Station Astronaut.

## Start time: 16:45 Technical Session

| | | |
|---|---|---|
| B4.7B | Small Distributed Space Missions | 307B |

## 17:45 – 18:45 Highlight Lecture 2: The Construction and Development of BeiDou Navigation Satellite System

**Location:** Room 309 A&B

The presentation consists of three parts. The first part is a brief introduction of the development plan of BeiDou System, including the development objectives, 3 steps plan, basic policies and the system description. The second part introduces the rapid growth of BeiDou construction, application popularization and international cooperation since the 6th meeting of ICG, as well as the significant progress BeiDou System has made in every aspect. The third part is about the contribution of BeiDou System to GNSS. In general, it highlights BeiDou System construction, BeiDou System applications and BeiDou International Activities.

**Speaker:**

***RAN Chengqi***
*Doctor*
Director of the China Satellite Navigation Office

*MODERATOR*
***Jim Zimmermann***

## 12:45 – 21:00 YP Networking event – Future for Human Exploration

**(see page 155)**



# Thursday, 26 September

## 08:30 – 09:30 Plenary 6: Space Solar Power - Global Progress & Global Opportunity

**Location:** Room 309 A&B

Space Solar Power (SSP) allows us to harvest solar energy on platforms in near space, and wirelessly deliver the resulting power to missions in space and markets on Earth. Although past research failed to result in any major international effort to develop and demonstrate this novel technology, there have been a number of important accomplishments during recent years in SSP studies and technological developments.

As a result, SSP continues to be an exciting and promising – albeit sometimes controversial – vision for the future. This innovative plenary session will bring together international leaders and proponents of Space Solar Power. The event will include a presentation of the recently-completed International Academy of Astronautics (IAA) "First International Assessment of Space Solar Power," and review the progress in the US, Europe, Japan and China during the past decade. Moreover, it will conclude with a roundtable discussion of future prospects as well as plans for this unique opportunity for the global aerospace community to contribute to the solution of global energy and climate change challenges.

**Panellists:**

***John C. Mankins***
*Formerly NASA lead for SSP R&D,*
Artemis Innovation

***GE Chang-Chun***
China Academy of Science

***Isabelle Duvaux-Bechon***
*Head Future Preparation & Strategic Studies Office,*
ESA

***Nobuyuki Kaya***
*Vice President,*
Kobe University

## Start time: 09:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A2.6 | Microgravity Sciences Onboard the International Space Station and Beyond - Part 1 | 210B |
| A3.4 | Small Bodies Missions and Technologies | 311A |
| A4.2 | SETI 2: SETI and Society | 303B |
| A5.3-B3.6 | Joint Session on Human and Robotic Partnerships to Realise Space Exploration Goals | 308 |
| A6.5 | Space Debris Removal Issues | 210A |
| A7.1 | Technology Needs (Part 1) | 302B |
| B2.4 | Advanced Space Communications and Navigation Systems | 307A |
| B4.6A | Generic Technologies for Small/Micro Platforms | 307B |
| B5.1 | Integrated Applications End-to-End Solutions | 301B |
| C1.6 | Mission Design, Operations & Optimisation (1) | 306A |
| C2.6 | Space Environmental Effects and Spacecraft Protection | 306B |
| C4.5 | Special session: Thematic Workshop with Professionals and Students | 208A |
| D2.6 | Future Space Transportation Systems Verification and In-Flight Experimentation | 311B |

| | | |
|---|---|---|
| D3.3 | Novel Concepts and Technologies for Enable Future Building Blocks in Space Exploration and Development | 208B |
| D5.2 | Knowledge Management and Collaboration in Space Activities | 209A |
| E1.6 | Calling Planet Earth - Space Outreach to the General Public | 302A |
| E3.5-E7.6 | 28th IAA/IISL Scientific-Legal Round Table "Space and the Polar Regions (Arctic and Antarctica)" (Invited Papers) | 305 |
| E4.2 | Scientific and Technical Histories | 301A |
| E5.4 | Space as an Artistic Medium | 303A |

## 10:00 – 13:00 GNF – NEOs and Planetary Defense - Where Do We Stand?

**Start time: 11:45 Technical Session**

| | | |
|---|---|---|
| E5.6 | Space Societies and Museums | 303A |

## 13:30 – 14:30 Plenary 7: The Role of International Innovation in Accelerating Future Human Space Exploration

**Location:** Room 309 A&B

This session will address how the international human space flight community is developing new approaches to meet the challenges of future exploratory human missions, through research and innovation. It will also explain how the pilot project 'Accelerated Innovation' seeks to develop new and creative approaches to exploration in the area of human health and performance, which will rapidly accelerate space flight capabilities. During the plenary session, the variety of techniques and incentives being used to stimulate these innovations that include prizes and accelerated research models will also be addressed.

**Panellists:**

***William Gerstenmaier***
*Associate Administrator, Human Exploration and Operations Mission Directorate,*
National Aeronautics and Space Administration (NASA)

***Johann-Dietrich Wörner***
*Chairman of the Executive Board,*
German Aerospace Center (DLR),

***Martin Zell***
*Head of ISS Utilisation Department,*
ESA

***Chiaki Mukai,***
*Manager, Senior Scientist, Astronaut, Space Biomedical Research Office,*
Japan Aerospace Exploration Agency (JAXA),

***Jean-Claude Piedboeuf***
*Director General, Space Exploration,*
CSA

*MODERATOR*
***John Charles***
*Chief of the International Science Office ,*
NASA Human Research Programme

**Start time: 14:45 Technical Sessions**

| No | Description | Room |
|---|---|---|
| A1.6 | Life Support and EVA Systems | 303B |
| A2.7 | Microgravity Sciences Onboard the International Space Station and Beyond - Part 2 | 210B |
| A3.5 | Solar System Exploration | 311A |



| | | |
|---|---|---|
| A6.6 | Space Debris Removal Concepts | 210A |
| B1.5 | Earth Observation Applications and Economic Benefits | 301B |
| B2.5 | Fixed and Broadcast Communications | 307A |
| B4.6B | Generic Technologies for Nano/Pico Platforms | 307B |
| B6.3 | Mission Operations, Validation, Simulation and Training | 305 |
| C1.7 | Mission Design, Operations & Optimisation (2) | 306A |
| C2.7 | Space Vehicles – Mechanical/Thermal/Fluidic Systems | 306B |
| C4.6 | New Missions Enabled by New Propulsion Technology and Systems | 208A |
| D1.5 | Lessons Learned in Space Systems | 302B |
| D2.7 | Small Launchers: Concepts and Operations | 311B |
| D4.3 | Space Elevator Design and Impact | 208B |
| D6.1 | Commercial Space Flight Safety and Emerging Issues | 308 |
| E1.7 | New Worlds - Innovative Space Education and Outreach | 302A |
| E4.3 | History of Chinese Contribution to Astronautics | 301A |
| E5.5 | Space Assets and Disaster Management | 303A |
| V.2-B3.9 | Human Space Endeavours Young Professionals Virtual Forum | 209A |

## 16:30 –18:00 GNF – Social media and outreach - How the public has fallen back in love with space.

## 17:45 - 18:45 Highlight Lecture 3: Top 10 Research Results from International Space Station – How Can We Limit it to so Few?

**Location:** Room Room 309 A&B

The International Space Station has produced numerous scientific and technological developments over the past 12 years of onboard research, clearly demonstrating its value. Indeed, the difficulty comes when trying to choose which to highlight. The presenter, with input from all the International Partners conducting research on ISS, will describe the breadth and scope of the multinational research portfolio and describe in some detail those of most significance to each partner and to the worldwide community as a whole. This lecture is particularly timely because of the recent release of the book titled "Space Station Benefits for Humanity", published by the ISS Partners.

**Speaker:**

***Julie Robinson***
*SS Program Scientist,*
NASA's Johnson Space Center

## Friday, 27 September

### 08:30 – 09:30 Late Breaking News

**Location:** Room 309 A&B

### Start time: 09:45 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.7 | Biology in Space | 303B |
| A3.2C | Moon Exploration – Part 3 | 311A |
| A5.4-D2.8 | Joint Session on Going To and Beyond the Earth-Moon System: Human Missions to Mars, Libration Points and NEO's | 311B |
| A6.7 | Operations in Space Debris Environment, Situational Awareness | 210A |
| A7.2 | Technology Needs (Part 2) | 210B |
| B1.6 | Towards Implementation of GEOSS | 301B |
| B2.6 | Mobile Satellite Communications and Navigation Technology | 307A |
| B3.7 | New Technologies, Processes and Operating Modes Enabling Future Human Missions | 308 |
| B4.8 | Hitchhiking to the Moon and Beyond | 307B |
| B6.1 | Human Spaceflight Operations | 305 |
| C1.8 | Orbital Dynamics (1) | 306A |
| C2.8 | Specialised Technologies, Including Nanotechnology | 306B |
| C4.7-C3.5 | Joint Session on Nuclear Propulsion and Power | 208A |
| D4.4 | Contribution of Space Activities to Solving Global Societal Challenges | 208B |
| D5.3 | Space Weather and Effects: Prediction, Analysis and Protection | 209A |
| E1.8 | Space Culture: Innovative Approaches for Public Engagement in Space | 302A |
| E6.2 | Public/Private Human Access to Space - Supporting Studies | 302B |
| E7.5 | Recent Developments in Space Law | 308 |

### 10:00 - 11:30 GNF – Astronauts Outreach Event

### 12:30 – 14:00 GNF – Workshop on Space Policy and Law in Asia Pacific

### Start time: 13:30 Technical Sessions

| No | Description | Room |
|---|---|---|
| A1.8 | Multidisciplinary Space Life Sciences Research | 303B |
| A3.3C | Mars Exploration – Part 3 | 311A |
| A6.8 | Political, legal, Institutional and Economic Aspects of Space Debris Mitigation and Removal | 210A |
| B2.7 | Joint session on Dual Use (civil and military) Aspects of Telecommunications and GNSS | 307A |
| B4.3 | Small Satellite Operations | 307B |
| B5.2 | Tools and Technology in Support of Integrated Applications | 301B |
| C1.9 | Orbital Dynamics (2) | 306A |
| C2.9 | Advancements in Materials Applications and Rapid Prototyping | 306B |
| C3.4 | Small and Very Small Advanced Space Power Systems | 303A |
| C4.8 | Advanced and Combined Propulsion Systems | 208A |
| D1.6 | System Engineering Tools, Processes and Training (2) | 302B |
| D2.9-D6.2 | Joint Session on Private Human Access to Space: Sub-Orbital and Orbital Missions | 311B |
| D3.4 | Space Technology and System Management Practices and Tools | 208B |
| E1.9 | Space Network: Social Media and Digital Resources | 302A |
| E7.7-B3.8 | Joint IAF/IISL Session on Legal Framework for Cooperative Space | 308 |
| B3.10-V.5 | Next generation Destinations for Human Space Exploration | 209A |

### 16:30 – 17:30 Closing Ceremony

**Location:** Auditorium

The Closing Ceremony provides a formal closing of the activities of the 64rd IAC. and at the end of the ceremony, the Congress flag will be handed over to the next host country – Canada.

# Post-Congress Schedule

## Saturday, 28 September

### Tsinghua University IAF-SUAC International Student Workshop (see page 159)

**Location:** Tsinghua University, Beijing

## 4.3 Meeting Schedule

| Time | Event | Room |
|---|---|---|
| | **Saturday, 21 September 2013** | |
| 08:00 – 18:00 | ESA Bilaterals | 205 B |
| 08:00 – 18:00 | NASA Bilaterals | VIP 2-2 |
| 09:00 – 10:30 | IAA Board of trustees | 205 A |
| 09:00 – 17:00 | IAF-International Programme/project Management Committee (IPMC) | 203 A |
| 09:00 – 10:00 | IAF-International Programme/project Management Committee (IPMC) | 203 B |
| 09:00 – 11:00 | IAA Study Group 3.17 | 206B |
| 10:00 – 13:00 | IAA Committee on Space Debris | 202A |
| 14:00 – 16:30 | IAF Space Exploration Committee | 207 |
| 14:00 – 15:30 | IPC Steering Group (part 1) | 213 B |
| 15:30 – 17:00 | IAF-Technical Activities Committee (TAC) | 205 A |
| 16:00 – 18:00 | IAA Study Group 3.17 | 206B |
| | **Sunday, 22 September 2013** | |
| 08:00 – 14:00 | Cross-Cultural Presentation Workshop (CCPW) | 205 A |
| 08:00 – 18:00 | NASA Bilaterals | 305 |
| 08:00 – 11:00 | IAF-Space Education and Outreach Committee (SEOC) | 203A |
| 09:00 – 16:00 | International Meeting for Members of Parliaments | VIP 2-2 |
| 10:00 – 12:00 | IAF Finance Committee | 207 |
| 11:00 – 12:30 | IAF Working group on Technical Activities | 202A |
| 12:30 – 15:00 | IAF-Materials and Structures Committee | 205 B |
| 13:00 – 18:00 | IAC Hosts Summit | 203 A&B |
| 14:00 – 18:00 | IAF-Astrodynamics Committee | 213 B |
| 14:00 – 18:00 | IAF Bureau | 207 |
| 14:00 – 15:00 | PE3 Reharsal (next Generation + Industry ) | 205 A |
| 14:00 – 17:00 | IAF-Space Propulsion Technical Committee | 206 B |
| 14:00 – 16:00 | IAF-Space Transportation Committee | 202 A |
| 15:00 – 16:30 | IAF-Earth Observation Committee | 205 B |
| 15:00 – 17:00 | IAF Workforce Development Young Professional Programme Committee (WD-YPP) | 205 A |
| 16:00 – 18:00 | IAF-Space Safety Committee | 202 A |
| 16:30 – 18:00 | IAF-Subcommittee on the Global Earth Observation System of Systems (GEOSS) | 205 B |
| 17:00 – 18:00 | IAF-Materials and Structures Committee | 206 B |
| 17:00 – 18:00 | YSL, ESL and FSL recipients | 205 A |
| | **Monday, 23 September 2013** | |
| 08:00 – 18:00 | ESA Bilaterals | VIP 4-2 |
| 08:00 – 18:00 | NASA Bilaterals | VIP 4-1 |
| 08:00 – 18:00 | JAXA Bilaterals | VIP 2-2 |
| 12:00 – 13:30 | HoA Preparatory lunch | 206 B |
| 12:00 – 14:00 | SGAC Advisory Board | 207 |
| 13:00 – 14:00 | IAF-Congress and Symposia Advisory Committee (CSAC) | 213 B |
| 13:00 – 15:00 | IAF-Space System Committee | 202 A |
| 14:00 – 15:30 | IAF Regional Group in Latin America and the Caribbean (GRULAC) | 203 A |
| 14:00-16:00 | IAA Cosmic Study | 203 B |
| 14:30 – 18:30 | IISL Board Meeting | 207 |
| 14:30 – 16:30 | CNES Bilaterals | 205B |
| 15:00 – 18:15 | IAF General Assembly | 310 |
| 15:00 – 16:30 | PE3 Reharsal (next Generation + Industry ) | 205 A |
| 17:15-18:00 | Canadian Space Agency Bilaterals | 202 A |
| | **Tuesday, 24 September 2013** | |
| 08:00 – 11:00 | COPUOS EG D Regulatory regimes and guidance for actors in the space arena | 203 A |
| 08:00 – 10:00 | IAF-Congress and Symposia Advisory Committee (CSAC) | 206 B |
| 08:00 – 18:00 | ESA Bilaterals | VIP 4-2 |
| 08:00 – 12:00 | JAXA Bilaterals | 207 |
| 08:00 – 18:00 | NASA Bilaterals | VIP 4-1 |
| 08:30 – 9:30 | CNES Bilaterals | 205 B |
| 08:00 – 9:30 | IAF-Space Life Sciences Committee | 203 B |
| 09:00 – 11:00 | IAF-Space Security Committee | 213-B |
| 09:30– 11:00 | DLR Bilaterals | 205B |
| 09:30 – 11:00 | IAF-Industry Relations Committee | 203 B |
| 11:00 – 12:00 | CNES Bilaterals | 205 B |
| 10:00 – 12:00 | IAF-Honours and Awards Committee (HAC) | 205A |
| 10:00 – 13:00 | IAF-Space Societies Committee | 202 A |
| 10:00 – 11:00 | NASA Bilaterals | 206 B |
| 10:00 – 13:00 | US Department of State Meeting | VIP 2-2 |
| 11:00 - 12:00 | CNES Bilaterals | 205 B |
| 11:00 – 14:00 | COPUOS EG A Sustainable Space utilization supporting sustainable development on Earth | 203 A |
| 11:00 – 14:00 | COPUOS EG B Space Debris, space operations and collaborative tools to support space situational awareness | 203 B |
| 12:00 – 13:30 | IAF Regional Groups Coordination Meeting | 205 B |
| 12:00 – 13:15 | International Lunar Observatory Association (ILOA) Bilaterals | 213 B |
| 12:00 – 14:00 | Plenary/Debate Rehearsal | 206 B |
| 12:00 – 15:00 | SETI Committee | 207 |
| 13:00 – 14:00 | DLR Bilaterals | VIP2-2 |
| 13:30 – 15:30 | CNES Bilaterals | 205 B |
| 14:00 – 15:00 | Canadian Space Agency Meeting | 202 A |
| 14:00 – 16:00 | IAF-Committee for Liaison with International Organisations and Developing Nations (CLIODN) | 203A |
| 14:00 – 16:00 | IAF-Congress and Symposia Advisory Committee (CSAC) | 213 B |
| 14:00 – 16:00 | IAF-Space University Administrative Committee (SUAC) | 203 B |
| 14:00 – 18:00 | IAF-Space Operations Committee | 205A |
| 14:30 – 16:15 | China / Germany Bilaterals | VIP 2-2 |
| 15:00 – 16:30 | IAC Earth Observation Plenary Event preparation meeting | 206 B |
| 15:00 – 18:00 | ISEB HoE meeting 1 | 207 |
| 15:00 – 17:00 | IAF-Space Communications and Navigation Committee | 202 A |
| 16:00 – 18:00 | DLR Bilaterals | 213 B |
| 16:00 – 19:00 | Poster Competition Meeting | 203 B |
| 16:00 – 18:00 | IAF-Space Economy Committee | 203A |

| Time | Event | Room |
|---|---|---|
| 16:30 – 18:00 | GLAC Programme Committee Informal Meeting | 205 B |
| 16:30 – 18:00 | IAA Study Group 3.16 | 206 B |
| | **Wednesday, 25 September 2013** | |
| 08:00 – 12:00 | China/Netherlands Bilateral Meeting | 205 A+B |
| 08:00 – 14:00 | COPUOS EG B Space Debris, space operations and collaborative tools to support space situational awareness | 203 B |
| 08:00 – 11:00 | COPUOS EG D Regulatory regimes and guidance for actors in the space arena | 203 A |
| 08:00 – 10:00 | IAF-Congress and Symposia Advisory Committee (CSAC) | 213 B |
| 08:00 – 18:00 | ESA Bilaterals | VIP 4-2 |
| 08:00 – 18:00 | Inter-Agency Space Debris Coordination Committee (IADC) | 401 |
| 08:00 – 18:00 | NASA Bilaterals | VIP 4-1 |
| 09:00 – 12:00 | IAF-Space Education and Outreach Committee (SEOC) | 207 |
| 09:45 – 11:00 | IAF/AIAA | VIP 2-2 |
| 10:00 – 16:30 | Canadian Space Agency Meeting | 202 A |
| 10:00 – 12:00 | IAF-Policy Advisory Committee (PAC) | 213 B |
| 10:00 – 11:00 | NASA Bilaterals | 206 B |
| 11:00 – 14:00 | COPUOS EG A Sustainable Space utilization supporting sustainable development on Earth | 203 A |
| 13:00 – 15:00 | IAF Regional Group in Africa | 207 |
| 13:00 – 17:00 | Space Medicine and Health Workshop | 205 A+B |
| 13:30 – 16:30 | Board World Space Week | 206 B |
| 13:30 – 15:30 | Student Activities Subcommitee | VIP 2-2 |
| 14:00 – 16:00 | IAF-Congress and Symposia Advisory Committee (CSAC) | 213 B |
| 14:00 – 15:00 | IAF-Subcommittee on the Global Earth Observation System of Systems (GEOSS) | 203 A |
| 16:30 – 18:00 | IAF-Constitution Reflection Group - Consultation Opportunity for Members | 203 A |
| 15:00 – 18:00 | ISEB HoE meeting 2 | 207 |
| | **Thursday, 26 September 2013** | |
| 08:00 – 11:00 | COPUOS EG B Space Debris, space operations and collaborative tools to support space situational awareness | 203 B |
| 08:00 – 18:00 | ESA Bilaterals | VIP 4-2 |
| 08:00 – 18:00 | NASA Bilaterals | VIP 4-1 |
| 09:30 – 13:30 | IAF Bureau Meeting | 207 |
| 12:00 – 14:00 | IAF/IAA/IISL Advisory Committee on History Activities (ACHA) | 205 A |
| 12:00 – 13:30 | IPC Steering Group (part 2) | 213 B |
| 14:00 – 16:00 | DLR Bilaterals | 203 A |
| 14:00 – 16:00 | IAF-Entrepreneurship and Investment Committee | 202 A |
| 14:00 – 16:00 | IAF-Knowledge Management for Space Organisations (KMTC) | 213 B |
| 15:00 – 17:00 | IAF Asia-Pacific Regional Group | 206 B |
| 17:00 –19:00 | IAF-Astrodynamics Committee | 203 A |
| | **Friday, 27 September 2013** | |
| 08:00 – 18:00 | ESA Bilaterals | VIP 4-2 |
| 08:00 – 18:00 | NASA Bilaterals | VIP 4-1 |
| 09:00 – 13:00 | IAF General Assembly | 310 |
| 13:00 – 14:00 | IAF-Space Astronomy Committee | 202 A |



# 5 Technical Programme

## 5.1 Category Coordinators and Judges of the Poster Competition

**Cat A** — **SCIENCE AND EXPLORATION**

**Christophe Bonnal**
*Senior Expert - Launch systems; Centre National d'Etudes Spatiales (CNES)*

**Cat B** — **APPLICATIONS AND OPERATIONS**

**Otto Koudelka**
*Graz University of Technology (TU Graz)*

**Cat C** — **TECHNOLOGY**

**Junichiro Kawaguchi**
*Japan Aerospace Exploration Agency (JAXA)*

**Cat D** — **INFRASTRUCTURE**

**John David Bartoe**
*Retired - National Aeronautics and Space Administration (NASA)*

**Cat E** — **SPACE AND SOCIETY**

**Chris Welch**
*International Space University (ISU)*

## 5.2 Symposium Keynote Speakers

| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| **A1** | **SPACE LIFE SCIENCES SYMPOSIUM** | | | |
|  | **Progress and prospect of space medicine experiments in China**<br>*Yinghui Li, China Astronaut Research and Training Center, Beijing, China* | 24 September | 09:45 | 303B |
| **B3** | **HUMAN SPACE ENDEAVOURS SYMPOSIUM** | | | |
|  | **The Continuing Role Of International Partnerships In Human Spaceflight**<br>*William H. Gerstenmaier, National Aeronautics and Space Administration (NASA), United States* | 23 September | 15:15 | 308 |
|  | **Outlook for China Human Spaceflight Engineering Development**<br>*Ming Li, China Academy of Space Technology (CAST), China* | 23 September | 15:15 | 308 |
|  | **The International Space Station: A Key Step Towards Sustainable Human Space Exploration**<br>*Michael Suffredini, National Aeronautics and Space Administration (NASA), United States* | 24 September | 14:45 | 308 |
|  | **Keynote address from International Astronauts**<br>*Valentina Tereshkova, Russian Federation* | 25 September | 14:45 | 308 |
| **C1** | **ASTRODYNAMICS SYMPOSIUM** | | | |
|  | **19th John V. Breakwell Keynote Lecture: One, Two, Three, … Many**<br>*Martin Lo, Jet Propulsion Laboratory - California Institute of Technology, United States* | 27 September | 09:45 | 306A |
| **C2** | **MATERIALS AND STRUCTURES SYMPOSIUM** | | | |
|  | **Space Structure – Yesterday, Today and Tomorrow**<br>*Tetsuo Yasaka, QPS Institute, Japan* | 24 September | 09:45 | 306B |





| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| **C3** | **SPACE POWER SYMPOSIUM** | | | |
|  | **Peter Glaser Space Power Symposium Keynote Paper**<br>*Li Wang, China Academy of Space Technology (CAST), China* | 23 September | 15:15 | 303A |
| **E7** | **56th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE** | | | |
|  | **A Normative System for Outer Space Activities in the Next Half Century**<br>*Tare Brisibe, OnAir, Switzerland* | 24 September | 09:45 | 301A |

## 5.3 Technical Sessions by Symposium

| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| **A1** | **SPACE LIFE SCIENCES SYMPOSIUM** | | | |
| A1.1 | Behaviour, Performance and Psychosocial Issues in Space | Mon, 23 Sep | 15:15 | 303B |
| A1.2 | Human Physiology in Space | Tue, 24 Sep | 09:45 | 303B |
| A1.3 | Medical Care for Humans in Space | Tue, 24 Sep | 14:45 | 303B |
| A1.4 | Radiation Fields, Effects and Risks in Human Space Missions | Wed, 25 Sep | 09:45 | 303B |
| A1.5 | Astrobiology and Exploration | Wed, 25 Sep | 14:45 | 303B |
| A1.6 | Life Support and EVA Systems | Thu, 26 Sep | 14:45 | 303B |
| A1.7 | Biology in Space | Fri, 27 Sep | 09:45 | 303B |
| A1.8 | Multidisciplinary Space Life Sciences Research | Fri, 27 Sep | 13:30 | 303B |
| A1.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **A2** | **MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM** | | | |
| A2.1 | Gravity and Fundamental Physics | Mon, 23 Sep | 15:15 | 210B |
| A2.2 | Fluid and Materials Sciences | Tue, 24 Sep | 09:45 | 210B |
| A2.3 | Microgravity Experiments from Sub-Orbital to Orbital Platforms | Tue, 24 Sep | 14:45 | 210B |
| A2.4 | Science Results from Ground Based Research | Wed, 25 Sep | 09:45 | 210B |
| A2.5 | Facilities and Operations of Microgravity Experiments | Wed, 25 Sep | 14:45 | 210B |
| A2.6 | Microgravity Sciences Onboard the International Space Station and Beyond - Part 1 | Thu, 26 Sep | 09:45 | 210B |
| A2.7 | Microgravity Sciences Onboard the International Space Station and Beyond - Part 2 | Thu, 26 Sep | 14:45 | 210B |
| A2.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **A3** | **SPACE EXPLORATION SYMPOSIUM** | | | |
| A3.1 | Space Exploration Overview | Mon, 23 Sep | 15:15 | 311A |
| A3.2A | Moon Exploration – Part 1 | Tue, 24 Sep | 09:45 | 311A |
| A3.2B | Moon Exploration – Part 2 | Tue, 24 Sep | 14:45 | 311A |
| A3.2C | Moon Exploration – Part 3 | Fri, 27 Sep | 09:45 | 311A |
| A3.2D | Moon Exploration – Poster session | Wed, 25 Sep | 13:30 | North Foyer |
| A3.3A | Mars Exploration – Part 1 | Wed, 25 Sep | 09:45 | 311A |

| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| A3.3B | Mars Exploration – Part 2 | Wed, 25 Sep | 14:45 | 311A |
| A3.3C | Mars Exploration – Part 3 | Fri, 27 Sep | 13:30 | 311A |
| A3.4 | Small Bodies Missions and Technologies | Thu, 26 Sep | 09:45 | 311A |
| A3.5 | Solar System Exploration | Thu, 26 Sep | 14:45 | 311A |
| A3.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **A4** | **42nd SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps** | | | |
| A4.1 | SETI 1: SETI Science and Technology | Wed, 25 Sep | 14:45 | 208B |
| A4.2 | SETI 2: SETI and Society | Thu, 26 Sep | 09:45 | 303B |
| A4.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **A5** | **HUMAN EXPLORATION OF THE SOLAR SYSTEM SYMPOSIUM** | | | |
| A5.1 | Human Lunar Exploration | Tue, 24 Sep, | 14:45 | 307A |
| A5.2 | Human Mars Exploration | Wed, 25 Sep, | 14:45 | 307A |
| A5.3-B3.6 | Joint Session on Human and Robotic Partnerships to Realise Space Exploration Goals | Thu, 26 Sep, | 09:45 | 308 |
| A5.4-D2.8 | Joint Session on Going To and Beyond the Earth-Moon System: Human Missions to Mars, Libration Points and NEO's | Fri, 27 Sep, | 09:45 | 311B |
| A5.P | Poster Session | Wed, 25 Sep, | 13:30 | North Foyer |
| **A6** | **SPACE DEBRIS SYMPOSIUM** | | | |
| A6.1 | Measurements | Mon, 23 Sep | 15:15 | 210A |
| A6.2 | Modelling and Risk Analysis | Tue, 24 Sep | 09:45 | 210A |
| A6.3 | Hypervelocity Impacts and Protection | Wed, 25 Sep | 14:45 | 210A |
| A6.4 | Mitigation and Standards | Tue, 24 Sep | 14:45 | 210A |
| A6.5 | Space Debris Removal Issues | Thu, 26 Sep | 09:45 | 210A |
| A6.6 | Space Debris Removal Concepts | Thu, 26 Sep | 14:45 | 210A |
| A6.7 | Operations in Space Debris Environment, Situational Awareness | Fri, 27 Sep | 09:45 | 210A |
| A6.8 | Political, legal, Institutional and Economic Aspects of Space Debris Mitigation and Removal | Fri, 27 Sep | 13:30 | 210A |
| A6.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **A7** | **SYMPOSIUM ON TECHNOLOGICAL REQUIREMENTS FOR FUTURE SPACE ASTRONOMY AND SOLAR-SYSTEM SCIENCE MISSIONS** | | | |
| A7.1 | Technology Needs (Part 1) | Thu, 26 Sep | 09:45 | 302B |
| A7.2 | Technology Needs (Part 2) | Fri, 27 Sep | 09:45 | 210B |
| A7.3 | Lessons Learned | | | |
| **B1** | **EARTH OBSERVATION SYMPOSIUM** | | | |
| B1.1 | International Cooperation in Earth Observation Missions | Tue, 24 Sep | 09:45 | 301B |
| B1.2 | Future Earth Observation Systems | Tue, 24 Sep | 14:45 | 301B |
| B1.3 | Earth Observation Sensors and Technology | Wed, 25 Sep | 09:45 | 301B |
| B1.4 | Earth Observation Data Management Systems | Wed, 25 Sep | 14:45 | 301B |
| B1.5 | Earth Observation Applications and Economic Benefits | Thu, 26 Sep | 14:45 | 301B |
| B1.6 | Towards Implementation of GEOSS | Fri, 27 Sep | 09:45 | 301B |
| B1.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **B2** | **SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM** | | | |
| B2.1 | Space-Based Navigation Systems and Services | Mon, 23 Sep | 15:15 | 307A |
| B2.2 | Near-Earth and Interplanetary Communications | Tue, 24 Sep | 09:45 | 307A |
| B2.3 | Advanced Technologies for Space Communications and Navigation | Wed, 25 Sep | 09:45 | 307A |
| B2.4 | Advanced Space Communications and Navigation Systems | Thu, 26 Sep | 09:45 | 307A |
| B2.5 | Fixed and Broadcast Communications | Thu, 26 Sep | 14:45 | 307A |
| B2.6 | Mobile Satellite Communications and Navigation Technology | Fri, 27 Sep | 09:45 | 307A |
| B2.7 | Joint session on Dual Use (civil and military) Aspects of Telecommunications and GNSS | Fri, 27 Sep | 13:30 | 307A |
| B2.8-V3 | Space Communications and Navigation Young Professionals Virtual Forum | Wed, 25 Sep | 14:45 | 209A |
| B2.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **B3** | **HUMAN SPACE ENDEAVOURS SYMPOSIUM** | | | |
| B3.1 | Overview Session (Present and Near-Term Human Space Flight Programmes) | Mon, 23 Sep | 15:15 | 308 |
| B3.2 | How Can We Best Apply Our Experience to Future Human Missions? | Tue, 24 Sep | 09:45 | 308 |
| B3.3 | Space Station Utilization | Tue, 24 Sep | 14:45 | 308 |
| B3.4-B6.5 | Sustainable Operations of Present and Future Space Stations - Joint Session of the Human Space Endeavours and Space Operations Symposia | Wed, 25 Sep | 09:45 | 308 |
| B3.5 | Astronauts: Those Who Make It Happen | Wed, 25 Sep | 14:45 | 308 |
| B3.6-A5.3 | Joint Session on Human and Robotic Partnerships to Realise Space Exploration Goals | Thu, 26 Sep | 09:45 | 308 |
| B3.7 | New Technologies, Processes and Operating Modes Enabling Future Human Missions | Fri, 27 Sep | 09:45 | 308 |
| B3.8-E7.7 | Joint IAF/IISL Session on Legal Framework for Cooperative Space | Fri, 27 Sep | 13:30 | 308 |
| B3.9-V.2 | Human Space Endeavours Young Professional Virtual Forum | Thu, 26 Sep | 14:45 | 209A |
| B3.10-V.5 | Next Generation Destinations for Human Exploration | Fri, 27 Sep | 13:30 | 209A |
| B3.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **B4** | **20th SYMPOSIUM ON SMALL SATELLITE MISSIONS** | | | |
| B4.1 | 14th UN/IAA Workshop on Small Satellite Programmes at the Service of Developing Countries | Tue, 24 Sep, | 09:45 | 307B |
| B4.2 | Small Space Science Missions | Mon, 23 Sep | 15:15 | 307B |
| B4.3 | Small Satellite Operations | Fri, 27 Sep | 13:30 | 307B |
| B4.4 | Small Earth Observation Missions | Wed, 25 Sep | 09:45 | 307B |
| B4.5 | Access to Space for Small Satellite Missions | Tue, 24 Sep | 14:45 | 307B |
| B4.6A | Generic Technologies for Small/Micro Platforms | Thu, 26 Sep | 09:45 | 307B |
| B4.6B | Generic Technologies for Nano/Pico Platforms | Thu, 26 Sep | 14:45 | 307B |
| B4.7A | Space Systems and Architectures Featuring Cross-Platform Compatibility | Wed, 25 Sep | 14:45 | 307B |
| B4.7B | Small Distributed Space Missions | Wed, 25 Sep | 16:15 | 307B |
| B4.8 | Hitchhiking to the Moon and Beyond | Fri, 27 Sep | 09:45 | 307B |
| **B5** | **SYMPOSIUM ON INTEGRATED APPLICATIONS** | | | |
| B5.1 | Integrated Applications End-to-End Solutions | Thu, 26 Sep | 09:45 | 301B |
| B5.2 | Tools and Technology in Support of Integrated Applications | Fri, 27 Sep | 13:30 | 301B |
| **B6** | **SPACE OPERATIONS SYMPOSIUM** | | | |
| B6.1 | Human Spaceflight Operations | Fri, 27 Sep | 09:45 | 305 |
| B6.2 | New Operations Concepts, Advanced Systems and Commercial Space Operations | Tue, 24 Sep | 09:45 | 305 |
| B6.3 | Mission Operations, Validation, Simulation and Training | Thu, 26 Sep | 14:45 | 305 |
| B6.4-V.1 | Flight Control Operations Virtual Forum | Mon, 23 Sep | 15:15 | 209A |
| B6.5-B3.4 | Sustainable Operations of Present and Future Space Stations - Joint Session of the Human Space Endeavours and Space Operations Symposia | Wed, 25 Sep | 09:45 | 308 |
| B6.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **C1** | **ASTRODYNAMICS SYMPOSIUM** | | | |
| C1.1 | Attitude Dynamics (1) | Mon, 23 Sep | 15:15 | 306A |
| C1.2 | Attitude Dynamics (2) | Tue, 24 Sep | 09:45 | 306A |
| C1.3 | Guidance, Navigation and Control (1) | Tue, 24 Sep | 14:45 | 306A |
| C1.4 | Guidance, Navigation and Control (2) | Wed, 25 Sep | 09:45 | 306A |
| C1.5 | Guidance, Navigation and Control (3) | Wed, 25 Sep | 14:45 | 306A |

| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| C1.6 | Mission Design, Operations & Optimisation (1) | Thu, 26 Sep | 09:45 | 306A |
| C1.7 | Mission Design, Operations & Optimisation (2) | Thu, 26 Sep | 14:45 | 306A |
| C1.8 | Orbital Dynamics (1) | Fri, 27 Sep | 09:45 | 306A |
| C1.9 | Orbital Dynamics (2) | Fri, 27 Sep | 13:30 | 306A |
| **C2** | **MATERIALS AND STRUCTURES SYMPOSIUM** | | | |
| C2.1 | Space Structures I - Development and Verification (Space Vehicles and Components) | Mon, 23 Sep | 15:15 | 306B |
| C2.2 | Space Structures II - Development and Verification (Deployable and Dimensionally Stable Structures) | Tue, 24 Sep | 09:45 | 306B |
| C2.3 | Space Structures - Dynamics and Microdynamics | Tue, 24 Sep | 14:45 | 306B |
| C2.4 | Advanced Materials and Structures for High Temperature Applications | Wed, 25 Sep | 09:45 | 306B |
| C2.5 | Smart Materials and Adaptive Structures | Wed, 25 Sep | 14:45 | 306B |
| C2.6 | Space Environmental Effects and Spacecraft Protection | Thu, 26 Sep | 09:45 | 306B |
| C2.7 | Space Vehicles – Mechanical/Thermal/Fluidic Systems | Thu, 26 Sep | 14:45 | 306B |
| C2.8 | Specialised Technologies, Including Nanotechnology | Fri, 27 Sep | 09:45 | 306B |
| C2.9 | Advancements in Materials Applications and Rapid Prototyping | Fri, 27 Sep | 13:30 | 306B |
| C2.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **C3** | **SPACE POWER SYMPOSIUM** | | | |
| C3.1 | Space-Based Solar Power Architectures – New Governmental and Commercial Concepts and Ventures | Mon, 23 Sep | 15:15 | 303A |
| C3.2 | Wireless Power Transmission Technologies, Experiments and Demonstrations | Tue, 24 Sep | 09:45 | 303A |
| C3.3 | Advanced Space Power Technologies and Concepts | Tue, 24 Sep | 14:45 | 303A |
| C3.4 | Small and Very Small Advanced Space Power Systems | Fri, 27 Sep | 13:30 | 303A |
| C3.5-C4.7 | Joint Session on Nuclear Propulsion and Power | Fri, 27 Sep | 09:45 | 208A |
| C3.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **C4** | **SPACE PROPULSION SYMPOSIUM** | | | |
| C4.1 | Propulsion System (1) | Mon, 23 Sep | 15:15 | 208A |
| C4.2 | Propulsion System (2) | Tue, 24 Sep | 09:45 | 208A |
| C4.3 | Propulsion Technology | Wed, 25 Sep | 09:45 | 208A |
| C4.4 | Electric Propulsion | Wed, 25 Sep | 14:45 | 208A |
| C4.5 | Special session: Thematic Workshop with Professionals and Students | Thu, 26 Sep | 09:45 | 208A |
| C4.6 | New Missions Enabled by New Propulsion Technology and Systems | Thu, 26 Sep | 14:45 | 208A |
| C4.7-C3.5 | Joint Session on Nuclear Propulsion and Power | Fri, 27 Sep | 09:45 | 208A |
| C4.8 | Advanced and Combined Propulsion Systems | Fri, 27 Sep | 13:30 | 208A |
| C4.9 | Hypersonic and Combined Cycle Propulsion | Tue, 24 Sep | 14:45 | 208A |
| C4.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D1** | **SPACE SYSTEMS SYMPOSIUM** | | | |
| D1.1 | Innovative and Visionary Space Systems Concepts | Mon, 23 Sep | 15:15 | 302B |
| D1.2 | Enabling Technologies for Space Systems | Tue, 24 Sep | 09:45 | 302B |
| D1.3 | System Engineering Tools, Processes and Training (1) | Tue, 24 Sep | 14:45 | 302B |
| D1.4 | Space Systems Architectures | Wed, 25 Sep | 14:45 | 302B |
| D1.5 | Lessons Learned in Space Systems | Thu, 26 Sep | 14:45 | 302B |
| D1.6 | System Engineering Tools, Processes and Training (2) | Fri, 27 Sep | 13:30 | 302B |
| D1.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D2** | **SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM** | | | |
| D2.1 | Launch Vehicles in Service or in Development | Mon, 23 Sep | 15:15 | 311B |
| D2.2 | Launch Services, Missions, Operations and Facilities | Tue, 24 Sep | 09:45 | 311B |
| D2.3 | Upper Stages, Space Transfer, Entry and Landing Systems | Tue, 24 Sep | 14:45 | 311B |



| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| D2.4 | Future Space Transportation Systems | Wed, 25 Sep | 09:45 | 311B |
| D2.5 | Future Space Transportation Systems Technologies | Wed, 25 Sep | 14:45 | 311B |
| D2.6 | Future Space Transportation Systems Verification and In-Flight Experimentation | Thu, 26 Sep | 09:45 | 311B |
| D2.7 | Small Launchers: Concepts and Operations | Thu, 26 Sep | 14:45 | 311B |
| D2.8-A5.4 | Joint Session on Going To and Beyond the Earth-Moon System: Human Missions to Mars, Libration Points and NEO's | Fri, 27 Sep | 09:45 | 311B |
| D2.9-D6.2 | Joint Session on Private Human Access to Space: Sub-Orbital and Orbital Missions | Fri, 27 Sep | 13:30 | 311B |
| D2.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D3** | **SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND DEVELOPMENT** | | | |
| D3.1 | Strategies & Architectures as the Framework for Future Building Blocks in Space Exploration and Development | Mon, 23 Sep | 15:15 | 208B |
| D3.2 | Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development | Wed, 25 Sep | 09:45 | 208B |
| D3.3 | Novel Concepts and Technologies for Enable Future Building Blocks in Space Exploration and Development | Thu, 26 Sep | 09:45 | 208B |
| D3.4 | Space Technology and System Management Practices and Tools | Fri, 27 Sep | 13:30 | 208B |
| D3.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D4** | **SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FAR FUTURE** | | | |
| D4.1 | Novel Concepts and Technologies | Tue, 24 Sep | 09:45 | 208B |
| D4.2-E6.4 | Joint Session on Global Public/Private Innovative Initiatives in Spaceflight | Tue, 24 Sep | 14:45 | 208B |
| D4.3 | Space Elevator Design and Impact | Thu, 26 Sep | 14:45 | 208B |
| D4.4 | Contribution of Space Activities to Solving Global Societal Challenges | Fri, 27 Sep | 09:45 | 208B |
| D4.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D5** | **46th SYMPOSIUM ON SAFETY AND QUALITY IN SPACE ACTIVITIES** | | | |
| D5.1 | Insuring Quality and Safety in a Cost Constrained Environment: Which Trade-Off? | Wed, 25 Sep | 09:45 | 210A |
| D5.2 | Knowledge Management and Collaboration in Space Activities | Thu, 26 Sep | 09:45 | 209A |
| D5.3 | Space Weather and Effects: Prediction, Analysis and Protection | Fri, 27 Sep | 09:45 | 209A |
| D5.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **D6** | **SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES** | | | |
| D6.1 | Commercial Space Flight Safety and Emerging Issues | Thu, 26 Sep | 14:45 | 308 |
| D6.2-D2.9 | Joint Session on Private Human Access to Space: Sub-Orbital and Orbital Missions | Fri, 27 Sep | 13:30 | 311B |
| **E1** | **SPACE EDUCATION AND OUTREACH SYMPOSIUM** | | | |
| E1.1 | Ignition - Primary Space Education | Mon, 23 Sep | 15:15 | 302A |
| E1.2 | Lift Off - Secondary Space Education | Tue, 24 Sep | 09:45 | 302A |
| E1.3 | On Track - Undergraduate Space Education | Tue, 24 Sep | 14:45 | 302A |
| E1.4 | In Orbit - Postgraduate Space Education | Wed, 25 Sep | 09:45 | 302A |
| E1.5 | Learning and Knowledge Development for a Globally Sophisticated Workforce | Wed, 25 Sep | 14:45 | 302A |
| E1.6 | Calling Planet Earth - Space Outreach to the General Public | Thu, 26 Sep | 09:45 | 302A |
| E1.7 | New Worlds - Innovative Space Education and Outreach | Thu, 26 Sep | 14:45 | 302A |
| E1.8 | Space Culture: Innovative Approaches for Public Engagement in Space | Fri, 27 Sep | 09:45 | 302A |
| E1.9 | Space Network: Social Media and Digital Resources | Fri, 27 Sep | 13:30 | 302A |
| E1.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **E2** | **43rd STUDENT CONFERENCE** | | | |
| E2.1 | Student Conference – Part 1 | Mon, 23 Sep | 15:15 | 301B |
| E2.2 | Student Conference – Part 2 | Tue, 24 Sep | 09:45 | 209A |
| E2.3-V.4 | Student Team Competition | Tue, 24 Sep | 14:45 | 209A |

| Nr. | Session name | Date | Time | Room |
|---|---|---|---|---|
| E2.4 | Educational Pico and Nano Satellites | Wed, 25 Sep | 09:45 | 209A |
| **E3** | **26th SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS** | | | |
| E3.1 | National Space Policies and Programmes, and Regional Cooperation | Mon, 23 Sep | 15:15 | 305 |
| E3.2 | International Space Exploration Policies and Programmes | Tue, 24 Sep | 14:45 | 305 |
| E3.3 | Industrial Policies as Drivers of the Space Economy | Wed, 25 Sep | 09:45 | 305 |
| E3.4 | Assuring a Safe, Secure and Sustainable Space Environment for Space Activities | Wed, 25 Sep | 14:45 | 305 |
| E3.5-E7.6 | 28th IAA/IISL Scientific-Legal Round Table "Space and the Polar Regions (Arctic and Antarctica)" (Invited Papers) | Thu, 26 Sep | 09:45 | 305 |
| E3.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **E4** | **47th HISTORY OF ASTRONAUTICS SYMPOSIUM** | | | |
| E4.1 | Memoirs and Organisational Histories | Mon, 23 Sep | 15:15 | 301A |
| E4.2 | Scientific and Technical Histories | Thu, 26 Sep | 09:45 | 301A |
| E4.3 | History of Chinese Contribution to Astronautics | Thu, 26 Sep | 14:45 | 301A |
| **E5** | **24th SYMPOSIUM ON SPACE ACTIVITY AND SOCIETY** | | | |
| E5.1 | New architectural, Strategic and Design Approaches to the Future of Human Space Flight | Wed, 25 Sep | 09:45 | 303A |
| E5.2 | Moon, Mars and Beyond: Analogues, Habitation and Spin-Offs | Wed, 25 Sep | 11:15 | 303A |
| E5.3 | Space Technologies - Earth Applications | Wed, 25 Sep | 14:45 | 303A |
| E5.4 | Space as an Artistic Medium | Thu, 26 Sep | 09:45 | 303A |
| E5.5 | Space Assets and Disaster Management | Thu, 26 Sep | 14:45 | 303A |
| E5.6 | Space Societies and Museums | Thu, 26 Sep | 11:15 | 303A |
| E5.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **E6** | **BUSINESS INNOVATION SYMPOSIUM** | | | |
| E6.1 | Case Studies and Prizes in Commercial Space | Wed, 25 Sep | 11:45 | 302B |
| E6.2 | Public/Private Human Access to Space - Supporting Studies | Fri, 27 Sep | 09:45 | 302B |
| E6.4-D4.2 | Joint Session on Global Public/Private Innovative Initiatives in Spaceflight | Tue, 24 Sep | 14:45 | 208B |
| **E7** | **56th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE** | | | |
| E7.1 | Nandasiri Jasentuliyana Keynote Lecture on Space Law & 5th Young Scholars Session | Tue, 24 Sep | 09:45 | 301A |
| E7.2 | Settlement of Space-Related Disputes | Tue, 24 Sep | 14:45 | 301A |
| E7.3 | International Regulations of Space Communications: Current Issues | Wed, 25 Sep | 09:45 | 301A |
| E7.4 | Legal Aspects of Space Debris Remediation | Wed, 25 Sep | 14:45 | 301A |
| E7.5 | Recent Developments in Space Law | Fri, 27 Sep | 09:45 | 301A |
| E7.6-E3.5 | 28th IAA/IISL Scientific-Legal Round Table "Space and the Polar Regions - Issues of Satellite Applications, Policies and Regulations" | Thu, 26 Sep | 09:45 | 305 |
| E7.7-B3.8 | Joint IAF/IISL Session on Legal Framework for Cooperative Space | Fri, 27 Sep | 13:30 | 308 |
| E7.P | Poster Session | Wed, 25 Sep | 13:30 | North Foyer |
| **V** | **YOUNG PROFESSIONALS VIRTUAL FORUM** | | | |
| V.1-B6.4 | Flight Control Operations Young Professionals Virtual Forum - Joint Session of the Space Operations and Young Professionals Virtual Forum Symposia | Mon, 23 Sep | 15:15 | 209A |
| V.2-B3.9 | Human Space Endeavours Young Professionals Virtual Forum | Thu, 26 Sep | 14:45 | 209A |
| V.3-B2.8 | Space Communications and Navigation Young Professionals Virtual Forum | Wed, 25 Sep | 14:45 | 209A |
| V.4-E2.3 | Student Team Competition | Tue, 24 Sep | 14:45 | 209A |
| V.5-B3.10 | Next Generation Destinations for Human Exploration | Fri, 27 Sep | 13:30 | 209A |



# 5.4 Technical Papers by Symposium

## A1. SPACE LIFE SCIENCES SYMPOSIUM

***Coordinator(s):*** *Shan-guang Chen , China Astronaut Research and Training Center, China; Fengyuan Zhuang , Beihang University, China;*

### A1.1. Behaviour, Performance and Psychosocial Issues in Space

***September 23 2013, 15:15 — 303B***

***Chairman(s):*** *Nick Kanas , University of California, San Francisco, United States; Bin Wu , China Astronaut Research and Training Center, China;*
***Rapporteur(s):*** *Jun Wang , Astronaut Center of China, China;*

**IAC-13.A1.1.1**
HABITABILITY OF MANNED VEHICLES: THE IMPACT OF HUMAN FACTORS ON FUTURE LONG DURATION HUMAN SPACE EXPLORATION MISSIONS EN ROUTE TO MARS
*Giuseppe Ferraioli, ISAE - Institut Supérieur de l'Aéronautique et de l'Espace, Italy*

**IAC-13.A1.1.2**
THE RESEARCH ON CHARACTERISTICS OF MOOD STATE DURING 520 DAYS ISOLATION AND CONFINEMENT (MARS500)
*Yue Wang, China Astronaut Research and Training Center, China*

**IAC-13.A1.1.3**
A SYSTEMS APPROACH TO ENVIRONMENTAL EVALUATION, PSYCHOLOGICAL RESPONSES AND ADAPTATION STRATEGIES IN CONFINED AND ISOLATED GROUPS IN MARS500 STUDY.
*Anna Artyukhova, University of Nimes, France*

**IAC-13.A1.1.4**
ASTHENIA: CULTURAL DIFFERENCES CAN AFFECT HOW SPACE AGENCIES TREAT IT
*Luis Sandoval, The University of Texas at Austin, United States*

**IAC-13.A1.1.5**
EFFECT ON EMOTION OF 72 HOURS' SLEEP DEPRIVATION UNDER NARROW AND ISOLATED CIRCUMSTANCE
*Xueyong Liu, , China*

**IAC-13.A1.1.6**
EFFECTS OF 72H SLEEP DEPRIVATION ON SUBJECTS'S COGNITIVE ABILITY
*Haibo Qin, China Astronaut Research and Training Center, China*

**IAC-13.A1.1.7**
INFLIGHT COGNITIVE PERFORMANCE MONITORING:A REVIEW OF THE METHODS AND TOOLS, AND AN INTRODUCTION TO A CASE STUDY
*Yu Tian, Astronaut Center of China, China*

**IAC-13.A1.1.8**
THE EFFECT OF HYPER- AND MICROGRAVITY ON VISUOMOTOR COORDINATION OF AUGMENTED REALITY SELECTION IN CORRELATION WITH SPATIAL ORIENTATION AND HAPTICAL FEEDBACK
*Daniela Markov-Vetter, German Aerospace Center (DLR), Germany*

**IAC-13.A1.1.9**
IMPACT OF 60 DAYS -6 DEGREE HEAD-DOWN BED REST ON SUBJECTS' COGNITIVE ABILITY
*Haibo Qin, China Astronaut Research and Training Center, China*

### A1.2. Human Physiology in Space

***September 24 2013, 09:45 — 303B***

***Chairman(s):*** *Inessa Kozlovskaya , Institute for Biomedical Problems, Russia; Yinghui Li , China Astronaut Research and Training Center, China;*
***Rapporteur(s):*** *Patrik Sundblad , ESA, Sweden;*

**IAC-13.A1.2.1**
KEYNOTE: PROGRESS AND PROSPECT OF SPACE MEDICINE EXPERIMENTS IN CHINA
*Yinghui Li, China Astronaut Research and Training Center, China*

**IAC-13.A1.2.2**
ALTERATION IN THE LOWER LIMIT OF AUTOREGULATION WITH ELEVATIONS IN CEPHALIC VENOUS PRESSURE.
*Derek Nusbaum, , United States*

**IAC-13.A1.2.3**
SPACE EXPERIMENT "CARDIOVECTOR" AS A NEW STEP IN THE DEVELOPMENT OF THE METHOD OF BALLISTOCARDIOGRAPHY
*Elena Luchitskaya, Institute for Biomedical Problems, Russia*

**IAC-13.A1.2.4**
TCM PATTERN IDENTIFICATION RESEARCH ON HEALTH CONDITION OF HUMAN BODY IN LONG-TERM INCLOSED ENVIRONMENT
*Hongzhi Shi, China Astronaut Research and Training Center, China*

**IAC-13.A1.2.5**
EFFECTS OF LOW INTENSITY PULSED ACOUSTIC WAVE RETAINS BONE'S MICROSTRUCTURAL AND MECHANICAL INTEGRITY IN A DISUSE OSTEOPENIA MICE MODEL
*Yi-Xian Qin, State University of New York, United States*

**IAC-13.A1.2.6**
EFFECTIVENESS OF AN IMPROVED ARTIFICIAL GRAVITY WITH ERGOMETRIC EXERCISE DEVICE AS A COUNTERMEASURE FOR SPACEFLIGHT DECONDITIONING
*Satoshi Iwase, Aichi Medical University, Japan*

**IAC-13.A1.2.7**
MICROARRAY ANALYSIS REVEALS CHANGES IN BLOOD AND SALIVA GENE EXPRESSION PROFILES IN RESPONSE TO ARTIFICIAL GRAVITY AS EXPERIENCED ON THE SHORT-ARM HUMAN CENTRIFUGE
*Patrick De Boever, VITO/TAP, Belgium*

**IAC-13.A1.2.8**
BODY CORE TEMPERATURE CHANGES DURING SUBMAXIMAL BICYCLE EXERCISE UNDER LONGTERM MICRO-G IN ASTRONAUTS ON INTERNATIONAL SPACE STATION
*Andreas Werner, Charité - University Medicine Berlin, Germany*

**IAC-13.A1.2.9**
HEMODYNAMIC MONITORING DURING LONG TERM SPACE FLIGHT – COMPARISON BETWEEN LATERAL (4 ELECTRODES) AND LONGITUDINAL (8 ELECTRODES) IMPEDANCE CARDIOGRAPHY TECHNIQUES
*Jens Tank, Hannover Medical School, Germany*

**IAC-13.A1.2.10**
EFFECTS OF HYPERGRAVITY ON CARDIO-POSTRUAL INTERACTIONS AND CEREBRAL AUTOREGULATION IN MALES AND FEMALES
*Nandu Goswami, Medical Universitz of Graz, Austria*

** As of 29 August 2012*

## A1.3. Medical Care for Humans in Space

***September 24 2013, 14:45 — 303B***

***Chairman(s):*** *Anatoly I. Grigoriev , Russian Academy of Sciences, Russia; Hanns-Christian Gunga , Charité - University Medicine Berlin, Germany;*
***Rapporteur(s):*** *Bai Ding , Astronaut Center of China, China;*

**IAC-13.A1.3.1**
ANESTHESIA FOR HUMAN SPACEFLIGHT
*Christian Lüthen, Erasmus MC - University Medical Center Rotterdam, The Netherlands*

**IAC-13.A1.3.2**
EFFECT OF MICROGRAVITY ON HUMANS ON EXTENDED SPACE MISSIONS AND THE CHALLENGES FOR LONG TERM MISSIONS
*Ugur Guven, , United States*

**IAC-13.A1.3.3**
CAN SKIN TEMPERATURE BE A PREDICTOR FOR ORTHOSTATIC OR G-FORCE INDUCED LOSS OF CONSCIOUSNESS?
*Oliver Opatz, Center for Space Medicine Berlin (ZWMB), Germany*

**IAC-13.A1.3.4**
RESULTS OF THE BIOCHEMICAL ANALYSIS DURING LONG-TERM SPACE FLIGHTS ON THE RUSSIAN SEGMENT OF THE INTERNATIONAL SPACE STATION
*Igor Nichiporuk, IBMP, Russia*

**IAC-13.A1.3.5**
DISTINCTIVE CHARACTERISTIC OF LOCOMOTOR TRAINING FOR PREVENTION OF NEGATIVE CONSEQUENCES OF WEIGHTLESSNESS
*Elena Fomina, FSC RF-IMBP, Russia*

**IAC-13.A1.3.6**
RHODIOLA ROSEA RESTORES THE DECLINED BASILAR ARTERY BLOOD FLOW VELOCITY INDUCED BY 39DAY HEAD-DOWN BEDREST
*Ming Yuan, China Astronaut Research and Training Center, China*

**IAC-13.A1.3.7**
ESTABLISHMENT AND SPACE APPLICATION OF THE ON-ORBIT MONITORING TECHNOLOGY FOR 3-NITROTYROSINE IN URINE SAMPLES
*Chunyan Wang, China Astronaut Research and Training Center, China*

**IAC-13.A1.3.8**
INFLUENCES OF THE ENVIRONMENTAL FACTORS ON HUMAN CIRCADIAN RHYTHMS DURING A SIMULATED 30-DAY SPACEFLIGHT IN CLOSED ECOLOGICAL LIFE SUPPORT SYSTEM (CELSS) IN CHINA
*Ke Lv, China Astronaut Research and Training Center, China*

**IAC-13.A1.3.9**
ANALYSIS OF THE APPLICABILITY OF THE ANYBODY MODELING SYSTEM IN MICROGRAVITY ENVIRONMENT
*Li Hao, Astronaut Center of China, China*

**IAC-13.A1.3.10**
THE HEALTH OF THE ASTRONAUTS IN THE LONG-DURATION SPACE FLIGHT CONFINEMENT : THE IMPORTANCE OF THE THYROID GLAND
*Andrea Lazzarini, University of Udine, Italy*

**IAC-13.A1.3.11 (withdrawn)**
HUMAN HEALTH AND PERFORMANCE PREPARATIONS FOR A ONE-YEAR MISSION ON THE ISS.
*Jeffrey R. Davis, National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States*

## A1.4. Radiation Fields, Effects and Risks in Human Space Missions

***September 25 2013, 09:45 — 303B***

***Chairman(s):*** *Giovanni De Angelis , Istituto Superiore di Sanita (ISS), Italy; Yeqing Sun , Dalian Maritime University, China;*
***Rapporteur(s):*** *Nicole Buckley , Canadian Space Agency, Canada;*

**IAC-13.A1.4.1**
PLANETARY AND INTERPLANETARY PARTICLE RADIATION ENVIRONMENTS
*Giovanni De Angelis, Istituto Superiore di Sanita (ISS), Italy*

**IAC-13.A1.4.2**
SUMMARY OF THE EXPERIENCE WITH THE FIRST USE OF MEDIPIX-BASED RADIATION MEASUREMENTS ON THE ISS
*Lawrence Pinsky, University of Houston, United States*

**IAC-13.A1.4.3**
MUTATION OF CED-1 GENE OF CAENORHABDITIS ELEGANS AFFECTS MIRNA EXPRESSION PROFILE UNDER SPACE RADIATION AND MICROGRAVITY
*Dan Xu, Dalian Maritime University, China*

**IAC-13.A1.4.4**
RADIATION OF COSMIC RAYS IN LEO IN RECENT SOLAR CYCLE D. ZHOU1,2, C. WANG1, E. SEMONES3, N. ZAPP3, D. OSULLIVAN2, YEQING SUN4, S. ZHANG1, B. ZHANG1, P. ZHOU1, YUEQIANG SUN1, J. LIANG1, G. ZHU1 1NATIONAL SPACE SCIENCE CENTER, BEIJING
*Dazhuang Zhou, National Space Science Center (NSSC), China*

**IAC-13.A1.4.5**
RELATIVE NUCLEAR ABUNDANCES , LET AND DOSE RATES AT VARIOUS LOCATIONS AND CONFIGURATIONS IN ISS FROM THE ALTCRISS EXPERIMENT.
*Christer Fuglesang, KTH, Sweden*

**IAC-13.A1.4.6**
THE HUMAN ENERGETIC RADIATION ASSESSMENT (HERA) NETWORK
*Ralph L. McNutt, Jr., Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.A1.4.7 (withdrawn)**
THE SPACE RADIATION ESTIMATION FOR HUMAN ACTIVITIES ON THE MOON
*Daisuke Masuda, Japan Manned Space Systems Corporation (JAMSS), Japan*

**IAC-13.A1.4.8**
A STUDY ON THE LATERAL DISTRIBUTION OF CHERENKOV LIGHT IN SIMULATED EXTENSIVE AIR SHOWERS OF COSMIC RAYS
*Safoora Tanbakouei, Space Generation Advisory Council (SGAC), Iran*

**IAC-13.A1.4.9**
EVALUATION OF PRACTICAL APPLICATION OF RADIOPHYSICAL APPROACH FOR GEOPHYSICAL FIELDS PARAMETERS MEASUREMENT
*Sergiy Matviyenko State DesOfficeign, Yuzhnoye State Design Office, Ukraine*

**IAC-13.A1.4.10**
SPACE RADIATION DESCRIPTION, EFFECTS AND HAZARDS MANAGEMENT FOR A 180-DAY HUMAN MISSION TO AN EARTH-MOON LAGRANGIAN POINT
*Mattia Giovannini, Politecnico di Torino, Italy*

**IAC-13.A1.4.11**
GROUND-BASED RISK ASSESSMENT OF SPACE RADIATION WITH QUIESCENT CELLS.
*Guangming Zhou, Chinese Academy of Sciences, China*



**IAC-13.A1.4.12**
NURBS-BASED CHINESE FEMALE ASTRONAUT COMPUTATIONAL PHANTOM FOR SPACE RADIATION DOSIMETRY APPLICATION
*Xianghong Jia, , China*

**IAC-13.A1.4.13**
PROTEOMIC AND EPIGENETIC ANALYSIS OF RICE AFTER SEED SPACEFLIGHT AND GROUND-BASE ION RADIATIONS
*Wei Wang, Dalian Maritime University, China*

**IAC-13.A1.4.14**
ANTIOXIDANT AND ANTI HEAVY ION RADIATION ACTIVITY ON DIFFERENT PARTS OF LESSER KHINGAN MOUNTAIN MANYPRICKLE ACATHOPANAX
*Weihong Lu, Harbin Institute of Technology, China*

## A1.5. Astrobiology and Exploration

***September 25 2013, 14:45 — 303B***

***Chairman(s):*** *Petra Rettberg , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany; Yufen Zhao , CAS, China;*
***Rapporteur(s):*** *Inge ten Kate , SETI Institute, United States;*

**IAC-13.A1.5.1**
PHOSPHORUS CHEMISTRY AND EVOLUTION OF BIOLOGICAL MOLECULES
*Yufen Zhao, Xiamen University, China*

**IAC-13.A1.5.2**
RNA CATALYSIS, THE RNA WORLD AND ITS IMPORTANCE IN THE ORIGINS OF LIFE
*David Lilley, University of Dundee, United Kingdom*

**IAC-13.A1.5.3 (withdrawn)**
HYDROTHERMAL SYSTEMS IN EUROPA AND POSSIBILITY OF WATER ON SIMILAR BODIES AS A BIOLOGICAL PRECURSOR
*Ugur Guven, , United States*

**IAC-13.A1.5.4**
COSMIC CONVERGENT EVOLUTION OF BIOLUMINESCENCE ON EUROPA
*Claudio Flores Martinez, University of Heidelberg, Germany*

**IAC-13.A1.5.5**
THE RESEARCH ON GAS COMPOSITION AND CHARGED PARTICLES OF LEO
*Zhuang Haixiao, CAST, China*

**IAC-13.A1.5.6**
THE MILLER-UREY EXPERIMENT ON BOARD OF ISS
*Christian Kropiunig, Joanneum Research, Austria*

**IAC-13.A1.5.7**
GENE EXPRESSION MEASUREMENT MODULE (GEMM) – A FULLY AUTOMATED, MINIATURIZED INSTRUMENT FOR MEASURING GENE EXPRESSION IN SPACE
*Fathi Karouia, NASA Ames Research Center/UCSF, United States*

**IAC-13.A1.5.8**
LIFE SCIENCES PAYLOAD DEVELOPMENT AND R&D FOR EXPLORATORY MISSIONS
*Sandra Podhajsky, OHB System AG, Germany*

**IAC-13.A1.5.9**
THE ACIDOPHILIC IRON-SULFUR BACTERIUM ACIDITHIOBACILLUS FERROOXIDANS AS A MODEL ORGANISM FOR A PUTATIVE MARTIAN ECOSYSTEM
*Petra Rettberg, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A1.5.10 (Withdrawn)**
MICROBES AND SALTY WATER: NEW DATA WITH IMPLICATIONS FOR PLANETARY PROTECTION ON MARS
*John D. Rummel, East Carolina University, United States*

**IAC-13.A1.5.11**
MARS SAMPLE RETURN BACKWARD CONTAMINATION - PLANETARY PROTECTION RECOMMENDATIONS AND DESIGN GUIDELINES
*Nicolas Walter, European Science Foundation, France*

**IAC-13.A1.5.12**
ASTROBIOLOGY ROAD MAPPING (ASTROMAP) - A PROJECT WITHIN FP7 OF THE EUROPEAN COMMISSION
*Petra Rettberg, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

## A1.6. Life Support and EVA Systems

***September 26 2013, 14:45 — 303B***

*Chairman(s): Chiaki Mukai , Japan Aerospace Exploration Agency (JAXA), Japan; Peter Graef , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
*Rapporteur(s): Zhou Yongkang, Astronaut Center of China, China;*

**IAC-13.A1.6.1**
THE ANALYSIS OF THE RELATIONSHIP BETWEEN MOTION RESTRAINTS CAUSED BY PRESSURIZED SUITS AND RISK OF FALLING
*Yasuhiro Akiyama, Nagoya University, Japan*

**IAC-13.A1.6.2**
THE RESEARCH ON ESTIMATE MODEL OF HAND'S STRENGTH IN EVA WITH RADIAL BASIS FUNCTION NEURAL NETWORK (RBFNN)
*Zhou Shihua, Astronaut Center of China, China*

**IAC-13.A1.6.3 (withdrawn)**
ACTIVE BRAID COMPRESSION TECHNOLOGY FOR MECHANICAL COUNTER-PRESSURE (MCP) SPACE SUITS
*Bradley Holschuh, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.A1.6.4**
THE PERFORMANCE OF THE SYSTEM FOR WATER RECOVERY ON RUSSIAN SEGMENT OF THE INTERNATIONAL SPACE STATION
*Leonid Bobe, NIICHIMMASH, Russia*

**IAC-13.A1.6.5**
STUDY ON REGULATING TECHNOLOGY OF THE MATERIAL FLOW DYNAMIC BALANCE IN A 2-PERSON AND 30-DAY CELSS EXPERIMENT
*Guo Shuangsheng, , China*

**IAC-13.A1.6.6**
PHYSICOCHEMICAL AND BIOLOGICAL TECHNOLOGIES FOR FUTURE EXPLORATION MISSIONS
*Stefan Belz, University of Stuttgart, Germany*

**IAC-13.A1.6.7**
PHYSIOLOGICAL RESPONSE OF SACCHAROPOLYSPORA SPINOSA AND STREPTOMYCES SILACEUS TO SPACE FLIGHT
*Mei Liu, Chinese Academy of Sciences, China*

**IAC-13.A1.6.8**
CHANGES OF POLYDIMETHYLSILOXANE'S PROPERTY WITH DIFFERENT FINENESS BEFORE AND AFTER MICROBIAL CONTAMINATION UNDER THE THE CONDITION OF SPACE STATION INTERNAL ENVIRONMENT
*Hong Liu, Beihang University, China*

**IAC-13.A1.6.9**
A HIGH-PERFORMANCE GROUND-BASED PROTOTYPE OF HORN-TYPE SEQUENTIAL VEGETABLE PRODUCTION FACILITY FOR LIFE SUPPORT SYSTEM IN SPACE
*Hong Liu, Beihang University, China*

**IAC-13.A1.6.10**
GROUND TRIALS FOR MINI SPACE FARM
*Mao Zhang, American Netong Inc., United States*

## A1.7. Biology in Space

***September 27 2013, 09:45 — 303B***

***Chairman(s):*** *Peng Shang , Northwestern Polytechnical University, China; Marlene Grenon , University of California, San Francisco, United States;*
***Rapporteur(s):*** *Fengyuan Zhuang , Beihang University, China;*

**IAC-13.A1.7.1**
GENE EXPRESSION MEASUREMENT MODULE (GEMM)- THE DOOR TO HIGH-THROUGHPUT IN-SITU ANALYSES OF BIOLOGICAL SYSTEMS IN SPACE.
*Fathi Karouia, NASA Ames Research Center/UCSF, United States*

**IAC-13.A1.7.2 (withdrawn)**
FLEXIBLE MEMBRANE CULTIVATION CHAMBER DESIGN FOR THREE-DIMENSIONAL HUMAN CELL STRUCTURE GROWTH
*FABRICE ROTTMEIER, RUAG Space AG, Switzerland*

**IAC-13.A1.7.3**
OSTEOBLAST MINERALIZATION IS INHIBITED BY SIMULATED MICROGRAVITY USING RANDOM POSITIONING MACHINE
*Lifang Hu, Northwestern Polytechnical University, China*

**IAC-13.A1.7.4 (withdrawn)**
BONE ARCHITECTURE AND TURNOVER CHANGES IN WILD TYPE AND PLEIOTROPHIN-TRANSGENIC MICE EXPOSED TO NEAR ZERO AND 2G ENVIRONMENT
*Alessandra Ruggiu, University of Genova, Italy*

**IAC-13.A1.7.5**
INFLUENCE OF SIMULATED MICROGRAVITY ON CORTICAL (SUBMEMBRANE) CYTOSKELETON'S STRUCTURE OF THE SKELETAL MUSCLE FIBERS AND CARDIOMYOCYTES OF RODENTS
*Irina Ogneva, IBMP, Russia*

**IAC-13.A1.7.6**
TRANSVERSAL STIFFNESS OF RAT'S SOLEUS MUSCLE FIBERS AND CARDIOMYOCYTES DURING THE FIRST DAY OF THE HINDLIMB SUSPENSION
*Nikolay Biryukov, IBMP, Russia*

**IAC-13.A1.7.7**
SECRETION OF VWF FROM ENDOTHELIAL CELL UNDER ALTERED GRAVITY
*Chen Sang, Beihang Universityy, China*

**IAC-13.A1.7.8**
SIMULATED MICROGRAVITY ATTENUATE THE RESPONSIVENESS OF CBFA1 TO CYTOKINES
*Zhongquan Dai, China Astronaut Research and Training Center, China*

**IAC-13.A1.7.9**
THE CHANGES OF T REGULATORY CELLS IN THE THYMUS OF C57/BL MICE AFTER 28 D TAIL SUSPENSION
*Jinping Song, China Astronaut Research and Training Center, China*

**IAC-13.A1.7.10 (withdrawn)**
THE INFLUENCE OF ALTERED GRAVITY ON GENE EXPRESSION IN HUMAN CELLS OF THE IMMUNE SYSTEM
*Cora S. Thiel, University of Zurich, Switzerland*

**IAC-13.A1.7.11**
ACTIVATION OF T CELL SUBSET IS INHIBITED AFTER A PRE-EXPOSURE TO MODELED MICROGRAVITY AT RESTING STATE IN AN EXPOSURE-TIME DEPENDENT MANNER
*Haiying LUO, , China*

**IAC-13.A1.7.12 (withdrawn)**
DIFFERENTIAL PROTEIN EXPRESSION PROFILING BY ITRAQ-2DLC-MS/MS IN ARABIDOPSIS THALIANA CALLUS UNDER MICROGRAVITY ON BOARD CHINESE SPACECRAFT SZ-8
*HUI QIONG ZHENG, Shanghai institutes for Biological Sciences, Chinese Academy of Sciences, China*

## A1.8. Multidisciplinary Space Life Sciences Research

***September 27 2013, 13:30 — 303B***

***Chairman(s):*** *Satoshi Iwase , Aichi Medical University, Japan; Yulin Deng , Beijing Institute of Technology, China;*
***Rapporteur(s):*** *Jancy McPhee , USRA, United States;*

**IAC-13.A1.8.1**
SHORT RADIUS CENTRIFUGE WITH EXERCISE IS EFFECTIVE TO PREVENT SPACEFLIGHT DECONDITIONING CAUSED BY 10 DAYS OF HEAD-DOWN BEDREST IN HUMANS.
*Satoshi Iwase, Aichi Medical University, Japan*

**IAC-13.A1.8.2**
THE PROSPECTS FOR THE INTRODUCTION OF TECHNOLOGY IN SPACE CARDIOLOGY TO MEDICAL PRACTICE
*Evgenii Bersenev, IBMP, Russia*

**IAC-13.A1.8.3**
SIMULATED MICROGRAVITY STUDIES OF STEM CELLS AND ENGINEERED-TISSUE
*Qiuxia Lin, , China*

**IAC-13.A1.8.4**
MULTIDISCIPLINARY BIOMEDICAL RUSSIAN RESEARCH IN SPACE
*Oleg Orlov, SSC RF-Institute of Biomedical Problems RAS, Russia*

**IAC-13.A1.8.5**
THE PROSPECTS FOR MYOCARDIUM ENERGY METABOLISM STUDIES IN SPACE FLIGHT
*Vasily Rusanov, IBMP, Russia*

**IAC-13.A1.8.6**
EFFECTS OF SPACE WEATHER ON AIRLINE OPERATIONS
*Temidayo Popoola, Nigerian Meteorological Agency, Nigeria*

**IAC-13.A1.8.7**
MEDICAL, LEGAL AND ETHICAL CONSIDERATIONS FOR COMMERCIAL HUMAN SPACEFLIGHT
*Sara Langston, University of Sydney, Australia*

**IAC-13.A1.8.8 (withdrawn)**
RE-QUESTIONING THE EXISTENCE OF ORGANICS ON MARS?
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.A1.8.9 (withdrawn)**
ACCELERATING INNOVATION FOR SPACE FLIGHT AND EARTH BENEFITS- HOW ORGANIZATIONS TARGET BREAKTHROUGHS FOR HUMAN HEALTH AND PERFORMANCE
*Jeffrey R. Davis, National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States*

## A1.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Shan-guang Chen , China Astronaut Research and Training Center, China; Fengyuan Zhuang , Beihang University, China;*

**IAC-13.A1.P.1**
COGNITIVE EFFECTS OF STAR-FIELD ROTATING BACKGROUND : AN ERP STUDY
*Lin-Jie Wang, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.2**
NEGATIVE THINKING AND COMMUNICATION IN ISOLATION, CONFINEMENT, SLEEP DEPRIVATION
*Xiaolu Jing, China Astronaut Research and Training Center, China*



**IAC-13.A1.P.3**
ERGONOMIC DESIGN OF THE DISPLAY INTERFACE FOR MANUALLY CONTROLLED RENDEZVOUS AND DOCKING
*Wang Chunhui, , China*

**IAC-13.A1.P.4**
THE BASIC COGNITIVE CHARACTERISTICS STUDY OF 2 SUBJECTS IN 30 DAYS SIMULATED SPACE CONFINED ENVIRONMENT
*YI XIAO, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.5**
EFFECTS OF TAI CHI TRAINING ON EEG SPECTRUM POWER DURING SLEEP DEPRIVATION IN A NARROW AND SEALED ENVIRONMENT
*Feizhou Tong, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.6**
HI-SEAS: A LONG-DURATION HUMAN SPACEFLIGHT ANALOG IN HAWAII
*Kim Binsted, University of Hawaii, United States*

**IAC-13.A1.P.7**
ATTENUATED ALERTING AND LESS EFFECTIVE EXECUTIVE FUNCTIONING AFTER THREE NIGHT'S SLEEP DEPRIVATION
*Chunlei Liu, Beijing Key Lab of Applied Experimental Psychology, School of Psychology, Beijing Normal University, China*

**IAC-13.A1.P.8**
INFLUENCE OF SHORT ARM CENTRIFUGATION ON EEG DURING TILT TABLE TESTING
*Albert Niepel, , Austria*

**IAC-13.A1.P.9**
RESTORING HEALTHY HEART DYNAMICS THROUGH ATTENTION REGULATION: A NEW APPROACH TO CARDIAC ADAPTABILITY
*Alexandre Laurin, Simon Fraser University, Canada*

**IAC-13.A1.P.11**
A NEW INDEX FOR MORPHOLOGICAL MEASUREMENT OF FINGER PHOTOPLETHYSMOGRAM DURING -6° HEAD-DOWN BED REST
*Yanjun LI, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.12**
BIOCHEMICAL EVIDENCES ON YOUNGSTERS BEING BEST ASTRONAUT CANDIDATES
*Carlo Viberti, SpaceLand, Italy*

**IAC-13.A1.P.13**
THE DESIGN OF INSTRUMENT FOR DETECTING MICROORGANISMS IN SPACECRAFT WITH PCR BIOCHIP AND EMCCD CAMERA
*Fangwu Liu, , China*

**IAC-13.A1.P.14**
HEAVY-ION RADIATION INDUCES BOTH ACTIVATION OF MULTIPLE ENDOGENOUS TRANSPOSABLE ELEMENTS AND ALTERATIONS IN DNA METHYLATION IN RICE
*Meng Zhang, Dalian Maritime University, China*

**IAC-13.A1.P.15**
HEAVY-ION RADIATION INDUCED BYSTANDER EFFECT IN MICE
*Meng Zhang, Dalian Maritime University, China*

**IAC-13.A1.P.16**
NEW OPPORTUNITIES TO EXPAND KNOWLEDGE ABOUT COUNTERMEASURE DEVELOPMENT FOR FUTURE LONG DURATION SPACE MISSIONS AND LIFE SCIENCE EXPERIMENTS USING THE NEXT GENERATION SHORT ARM CENTRIFUGE :ENVIFUGE
*Timo Frett, German Aerospace Center (DLR), Germany*

**IAC-13.A1.P.17**
RECREATING THE SPACEBIKE: AN EARTH-BASED ANALOGUE OF AN ARTIFICIALLY INDUCED GRAVITATIONAL ENVIRONMENT
*Nicholas Coombe, , Australia*

**IAC-13.A1.P.18**
P53 INDUCES CELL DEATH BY AUTOPHAGY FOLLOWING IRRADIATION
*Yulin Deng, , China*

**IAC-13.A1.P.19**
PHYSIOLOGICAL CHARACTERIZATION OF A COMPACT SHORT RADIUS CENTRIFUGE ARTIFICIAL GRAVITY TEST PLATFORM
*Chris Trigg, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.A1.P.20 (withdrawn)**
PROGRESS IN THE DESIGN OF A MAGNETIC RESONANCE IMAGER FOR SPACEFLIGHT
*Gordon Sarty, University of Saskatchewan, Canada*

**IAC-13.A1.P.21**
PHYSIOLOGICAL ASSESSMENT OF THE GRAVITY LOADING COUNTERMEASURE SKINSUIT DURING EXERCISE
*Ana Diaz, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.A1.P.22**
ON-BOARD ANALYSIS — WHY? —
*Achim Schwarzwaelder, ASTRIUM EADS, Germany*

**IAC-13.A1.P.23**
EXPRESSION PROFILE OF DNA DAMAGE SIGNALING GENES IN 2 GY PROTON EXPOSED MOUSE BRAIN.
*VIRUPAXI GOORNAVAR, Norfolk State University, United States*

**IAC-13.A1.P.24**
*MITOCHONDRIAL GENOME MUTATIONS AFTER 24 HRS OF PROTON RADIATION*
*Hector Miranda, Texas Southern University, United States*

**IAC-13.A1.P.25**
TRANSCRIPTION FACTOR ACTIVATION IN HUMAN CELLS EXPOSED TO SPACE RELATED IONIZING RADIATION
*Arif Ali Chishti, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A1.P.26**
ESTIMATE THE CONTROL PRINCIPLE OF RADIATION EFFECT IN SPACE ENVIRONMENT FOR AN INTERPLANETARY HUMAN SPACE MISSION
*THANGAVEL SANJEEVIRAJA, , India*

**IAC-13.A1.P.27**
THE MECHANISM OF ASTROCYTE'S RESISTANT TO RAYS
*Yulin Deng, , China*

**IAC-13.A1.P.28**
APOPTOSIS AND INFLAMMATORY RESPONSES IN DIFFERENT BRAIN REGIONS OF RATS INDUCED BY HEAVY ION RADIATION AND DRAGON-1'S PROTECTIVE EFFECT
*Yulin Deng, , China*

**IAC-13.A1.P.29**
POSSIBLE ROLE OF SPACE AND PRIMITIVE EARTH ENVIRONMENT IN CHEMICAL EVOLUTION AND ORIGINS OF LIFE
*BRIJ TEWARI, University of Guyana, Guyana*

**IAC-13.A1.P.30**
CYANOBACTERIA: A MODEL FOR STUDYING SURVIVAL OF TERRESTRIAL LIFE IN LUNAR BASE ENVIRONMENTS
*Lifeng Qin, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.31**
MICROFLUIDIC CHIP FOR MICROORGANISM DETECTION
*Yulin Deng, , China*

**IAC-13.A1.P.32**
THE RESEARCH ON THE SURFACE PASSIVATING TREATMENT OF NOA81 MICROFLUIDIC GENE AMPLIFICATION CHIP
*Yulin Deng, , China*

**IAC-13.A1.P.33**
MULTIFUNCTIONAL ENZYME IS A SMART SOLUTION FOR EARLY LIFE
*Zhiliang JI, Xiamen University, China*

**IAC-13.A1.P.34**
POLYCONDENSATION OF N-PHOSPHOALANINE AND PEPTIDE FORMATION AT THE INTERFACE
*Yanmei Li, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology of Ministry of Education, Department of Chemistry, Tsinghua University, China*

**IAC-13.A1.P.35**
THE ORIGIN STUDY OF AMINO-ACID HOMOCHIRALITY BY THEORETICAL MODEL AND HYDROTHERMAL MATERIAL ANALYSIS
*Daxiong Han, Xiamen University, China*

**IAC-13.A1.P.36**
THE BIOLOGICAL,CHEMICAL AND PHYSICAL ROLES OF "EARTH'S ORBITAL CHIRALITY" IN SPACE-TIME
*Yujian He, University of Chinese Academy of Sciences, China*

**IAC-13.A1.P.37**
N-PHOSPHORYL AMINO ACIDS AS SMALL CHEMICAL MODELS FOR STUDY OF THE GENETIC CODE ORIGIN
*Yufen Zhao, Xiamen University, China*

**IAC-13.A1.P.38**
MIRROR SYMMETRY BREAKING IN THE SYNTHESIS OF CIS-[COBR(NH3)(EN)2]BR2
*Hui Zhang, Xiamen University, China*

**IAC-13.A1.P.39**
MICROBIOLOGICAL GENETIC INVENTORY WITHIN THE NASA AMES RESEARCH CENTER HIGH BAY CLEANROOM
*Fathi Karouia, NASA Ames Research Center/UCSF, United States*

**IAC-13.A1.P.40**
TWO HIGHLY SENSITIVE AND SELECTIVE COLORIMETRIC "OFF–ON" RHODAMINE-BASED FLUORESCENT CHEMOSENSOR FOR DIVALENT MERCURIC ION DETECTION
*Yong Ye, , China*

**IAC-13.A1.P.41**
DEVELOPMENT AND APPLICATIONS OF EVA SPACESUIT TESTING CHAMBER
*Yongkang Zhou, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.42**
OXYGEN GENERATION SYSTEM ON THE BASIS OF ELECTROLYSIS OF AN ALKALI AQUEOUS SOLUTION
*Eduard Kurmazenko, NIICHIMMASH, Russia*

**IAC-13.A1.P.43**
EFFECTS OF LONG-TERM HYPOBARIA AND HYPOXIA ON THE GROWTH AND NUTRITION OF LETTUCE
*Yongkang Tang, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.44**
DEVELOPMENT STATUS OF ONE MEMBRANE BASED SEPARATOR FOR SPACE OXYGEN GENERATION SYSTEM
*Li Junrong, Astronaut Center of China, China*

**IAC-13.A1.P.45**
MICROBIAL CHARACTERIZATION OF THE HUMIDITY CONDENSATE WATER ONBOARD "SHENZHOU-9" MANNED SPACECRAFT IN CHINA
*Lifeng Qin, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.46**
RESEARCH ON URINE PROCESSOR ASSEMBLY PRECIPITATION CONTROL DESIGN
*Qiujun Xing, China aerospace science & industry corporation, China*

**IAC-13.A1.P.47**
STUDY ON THE CHANGE CHARACTERISTICS OF THE TRACE ORGANIC CONTAMINANT IN THE 2-MEN AND 30-DAYS CELSS EXPERIMENT
*Ai Weidang, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.48**
GAS CHROMATOGRAPHY-ION MOBILITY SPECTROMETRY INSTRUMENT FOR ANALYZING VOLATILE ORGANIC COMPOUNDS IN ENCLOSED ATMOSPHERE OF SPACECRAFTS
*Alireza Ghorashi, , Iran*

**IAC-13.A1.P.49**
DISCUSSION ON CONTROL TECHNIQUE FOR MICROBES IN LIFE SUPPORT HIGH PRESSURE GAS SUPPLY SYSTEM OF SPACE STATION
*Gang Lei, , China*

**IAC-13.A1.P.50**
AN EXPERIMENTAL STUDY ON HUMIDITY CONDENSATE RECLAMATION FOR MANNED SPACE FLIGHT
*Haiyan Wang, Yanshan University, China*

**IAC-13.A1.P.51**
DESIGN OF OXYGEN GENERATION ASSEMBLY FOR SPACE STATION
*Lu Yanhua, CASC, China*

**IAC-13.A1.P.52**
INVESTIGATION ON THE ELECTRO-CATALYTIC OXIDATION AND PHOTO-CATALYTIC OXIDATION OF HYGIENIC WASTEWATER FOR LONG-TERM SPACE FLIGHTS
*Chengjian Zhao, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.53**
COMPREHENSIVE OPTIMIZATION OF THE EVA SPACESUIT CCHP SYSTEM
*Guodong Zhou, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.54 (withdrawn)**
MASS AND CONSUMABLE LOSS ANALYSIS OF EVA SPACESUIT CCPO SYSTEM
*Guodong Zhou, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.55**
GAIT ANALYSIS FOR MARTIAN EXPLORATION
*Dustin Kendrick, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.A1.P.56**
ACCURATE CONTROL OF MOISTURE CONTENT IN PLANT ROOT ZONE IN SPACE
*Jun-xia Yuan, China Academy of Space Technology (CAST), China*

**IAC-13.A1.P.57**
WHEN HIBERNATION IS EXPLOITED IN HUMAN DURING SPACE TRAVEL,IMMUNE SYSTEM FUNCTION WOULD BE REDUCED SERIOUSLY
*Irmak Begüm Şahin, , Turkey*

**IAC-13.A1.P.58**
ALTERED GRAVITY AS A TOOL FOR TISSUE ENGINEERING: IMPLICATIONS ON PROLIFERATION AND DIFFERENTIATION OF A NEURONAL MODEL
*Giada Genchi, Scuola Superiore Sant'Anna, Italy*

**IAC-13.A1.P.59**
HYPERGRAVITY ENHANCES LIPOFECTAMINE-MEDIATED TRANSFECTION OF NIH/3T3 CELLS
*Gianni Ciofani, Istituto Italiano di Tecnologia, Italy*

**IAC-13.A1.P.60**
RESEARCH ON TWO TYPES OF POLYSACCHARIDES AGAINST LYMPHOCYTES IMMUNOSUPPRESSION IN SIMULATED MICROGRAVITY ENVIRONMENT.
*Tong Hao, , China*

**IAC-13.A1.P.61**
TAIL SUSPENSION DISRUPTS COGNITION FUNCTION AND DOWN-REGULATES LEARNING-RELATED PROTEIN EXPRESSION IN RAT HIPPOCAMPUS
*Hailong Chen, China Astronaut Research and Training Center, China*



**IAC-13.A1.P.62**
THE EFFECT OF SPACEFLIGHT ON DROSOPHILA ENERGY METABOLISM AND GENE EXPRESSION.
*Kanyan Xu, , China*

**IAC-13.A1.P.63**
EFFECTS OF HYPERGRAVITY ON OSTEOPONTIN EXPRESSION IN OSTEOBLASTS
*Shuai Zhou, Beihang University, China*

**IAC-13.A1.P.64**
THE SIMBOX EXPERIMENT SYSTEM: A TURN-KEY DEVELOPMENT APPROACH TO LIFE SCIENCE EXPERIMENTS
*Achim Schwarzwaelder, ASTRIUM EADS, Germany*

**IAC-13.A1.P.65**
STUDIES ON CULTURE AND OSTEOGENIC INDUCTION OF HUMAN MESENCHYMAL STEM CELLS IN A CO2-INDEPENDENT CONDITION
*Jin-Fu Wang, Zhejiang University, China*

**IAC-13.A1.P.66**
APPLICATIONS OF MICROGRAVITY TECHNOLOGY FOR STUDYING CELLULAR DEVELOPMENT AND THREE DIMENSIONAL TISSUE FORMATIONS
*XIAOHUA LEI, Chinese Academy of Sciences, China*

**IAC-13.A1.P.67**
DESIGN AND REALIZATION OF SPR BIOCHEMICAL SENSING AND DETECTING SYSTEM IN SPACE
*Yi Wei, Astronaut Center of China, China*

**IAC-13.A1.P.68**
SIMULATED MICROGRAVITY INHIBITS THE CONTRACTILE RESPONSE OF RAT FEMORAL ARTERIES—ROLE OF ENDOTHELIAL AND VSM PI3K
*Jingyu Wang, State Key Laboratory of Space Medicine Fundamentals and Application, China Astronaut Research and Training Center, China*

**IAC-13.A1.P.69**
THE MICROGRAVITY CENTRE - A PIONEERING, MULTIDISCIPLINARY SPACE LIFE SCIENCES RESEARCH FACILITY
*Thais Russomano, Microgravity Centre, Brazil*

**IAC-13.A1.P.70**
NASA'S HUMAN RESEARCH PROGRAM PLANNING FOR INTERNATIONAL COLLABORATION AND THE YEAR-LONG ISS MISSION
*John Charles, NASA Human Research Program, United States*

**IAC-13.A1.P.71**
ANALYSING CONTENT OF THE VOLATILE ORGANIC COMPOUND(VOC) FOR A TYPE OF RUBBER USED IN THE CREW MODULE OF MANNED SPACECRAFT
*Guo Xing, Lanzhou Institute of Physics, China*

**IAC-13.A1.P.72**
EXAMPLE STUDY HIGHLIGHTING PROBLEMATICS OF THE EFFECTS OF HIGH G FLIGHT ON UNTRAINED COMMERCIAL PASSENGER.
*Tale Sundlisæter, Space Generation Advisory Council (SGAC), Norway*

**IAC-13.A1.P.73**
EFFECTS OF DIFFERENT HYPERGRAVITY ON PLATELET FUNCTIONS AND THROMBUS FORMATION
*Guanglei Liu, Beihang University, China*

**IAC-13.A1.P.74**
MECHANOSTIMULATION OF THE SUPPORT ZONES OF THE SOLES EVOKES THE STEPPING MOVEMENTS IN HUMANS UNDER SUPPORTLESS CONDITIONS
*Inessa Kozlovskaya, Institute for Biomedical Problems, Russia*

## A2. MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM

***Coordinator(s):*** *Marcus Dejmek , Canadian Space Agency, Canada;*
***Vice-Coordinator(s):*** *Kenol Jules , National Aeronautics and Space Administration (NASA), United States;*

### A2.1. Gravity and Fundamental Physics

***September 23 2013, 15:15 — 210B***

***Chairman(s):*** *Francois Gonzalez , Centre National d'Etudes Spatiales (CNES), France; Joachim Richter , RWTH Aachen, Germany;*
***Rapporteur(s):*** *Qi KANG , National Microgravity Laboratory, Institute of Mechanics, Chinese Academy of Sciences., China;*

**IAC-13.A2.1.1**
QUANTUM TEST OF THE EQUIVALENCE PRINCIPLE: THE STE-QUEST MISSION
*Naceur Gaaloul, Institute of Quantum Optics, Germany*

**IAC-13.A2.1.2**
MATTER-WAVE INTERFEROMETRY IN MICROGRAVITY
*Stephan Seidel, Leibniz Universiät Hannover, Germany*

**IAC-13.A2.1.3**
A PATHFINDER EXPERIMENT TOWARDS A TEST OF THE UNIVERSALITY OF FREE FALL IN MICROGRAVITY USING ATOM INTERFEROMETRY
*Sascha Kulas, ZARM - University of Bremen, Germany*

**IAC-13.A2.1.4**
SATELLITE TEST OF THE SPECIAL AND GENERAL RELATIVITY THEORY: A PROPOSAL
*Ruven Spannagel, DLR, German Aerospace Center, Germany*

**IAC-13.A2.1.5**
THE IN-ORBIT CALIBRATION PLAN FOR THE ACCELEROMETER OF THE MICROSCOPE SPACE MISSION
*Agnes Levy, ONERA, France*

**IAC-13.A2.1.6**
PREPARATION OF THE IN-ORBIT CALIBRATION AND THE MISSION DATA ANALYSIS FOR THE MICROSCOPE MISSION
*Hanns Selig, ZARM - University of Bremen, Germany*

**IAC-13.A2.1.7**
DEPLOYMENT OF THE ASTROD-GW AND OTHER GRAVITATIONAL WAVE MISSION FORMATIONS
*An-Ming Wu, National Space Organization, Taiwan, China*

**IAC-13.A2.1.8**
IS IT POSSIBLE TO MEASURE THE GRAVITOMAGNETIC FIELD WITH CLOCKS?
*Claus Lämmerzahl, ZARM - University of Bremen, Germany*

**IAC-13.A2.1.9**
EVALUATION OF PRACTICAL APPLICATION OF RADIOPHYSICAL APPROACH FOR GEOPHYSICAL FIELDS PARAMETERS MEASUREMENT
*Sergey Matvienko, Yuzhnoye State Design Office, Ukraine*

**IAC-13.A2.1.10**
DESIGN OF MICRO GRAVITY SIMULATOR FOR EARTH ENVIRONMENT USING ELECTROMAGNETIC PULL OVER A CAVITY
*Prashant Kapil, P3 Voith Aerospace, India*

## A2.2. Fluid and Materials Sciences

***September 24 2013, 09:45 — 210B***

***Chairman(s):*** *Raimondo Fortezza , Telespazio, Italy; Nickolay N. Smirnov , Moscow Lomonosov State University, Russia;*
***Rapporteur(s):*** *Jean-Claude Legros , Université Libre de Bruxelles, Belgium;*

**IAC-13.A2.2.1**
DROPLET REBOUND PHENOMENON UNDER SUDDEN DECREASE OF GRAVITY
*Jian-Fu Zhao, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.2.2**
SUPERCOMPUTER MODELING OF PULSE DETONATION ENGINES FED BY HYDROGEN
*Nickolay N. Smirnov, Moscow Lomonosov State University, Russia*

**IAC-13.A2.2.3**
DROPLET DYNAMICS AND VISCOSITY MEASUREMENT OF MODERATE VISCOUS FLUID USING ELECTROSTATIC LEVITATOR
*Satoshi Matsumoto, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A2.2.4**
EXPERIMENTAL INVESTIGATION ON EXTINCTION OF PREMIXED TURBULENT COMBUSTION IN OPPOSED FLOW
*Wang Suide, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.2.5**
EQUIVALENT MECHANICAL MODEL FOR PROPELLANT SLOSHING IN MICROGRAVITY
*Xi Zhang, School of Aerospace, Tsinghua University, Beijing, China*

**IAC-13.A2.2.6**
GRAVITY EFFECTS IN MASS AND SOLUTE TRANSPORT IN A BINARY METALLIC SYSTEM IN THE PRESENCE OF THERMODIFFUSION
*Elham Jafar-Salehi, Ryerson University, Canada*

**IAC-13.A2.2.7**
INVESTIGATION OF THE DYNAMIC STRENGTH OF IRON-RICH METEORITIC MATERIAL
*Laura Chen, Imperial College London, United States*

**IAC-13.A2.2.8**
VIBRATIONAL DYNAMICS OF A LIGHT SPHERE IN A ROTATING SPHERICAL CAVITY FILLED WITH LIQUID
*Victor Kozlov, , Russia*

**IAC-13.A2.2.9**
MICRO-CHANNEL FLOW BOILING HEAT TRANSFER AND ITS APPLICATIONS IN AEROSPACE THERMAL REGULATION SYSTEMS
*Yuan Wang, National University of Defense Technology, China*

**IAC-13.A2.2.10**
THE SUPERCRITICAL FLOW OF MARANGONI-BÉNARD CONVECTION
*Di WU, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.2.11**
ORIGIN OF MARANGONI CONVECTION ON A FREE SURFACE OF LIMITED AREA
*Antonio Viviani*, Seconda Universita' di Napoli, Italy*

**IAC-13.A2.2.12**
DEVELOPMENT OF FACILITIES TO ENSURE PROPELLANT CONTINUITY FOR LAUNCH VEHICLE TANKS AND PECULIARITIES OF THEIR DEVELOPMENT TESTING TAKING MICRO GRAVITY CONDITIONS INTO ACCOUNT
*Dmitriy Smolensky, Yuzhnoye State Design Office, Ukraine*

## A2.3. Microgravity Experiments from Sub-Orbital to Orbital Platforms

***September 24 2013, 14:45 — 210B***

***Chairman(s):*** *Ziad Saghir , Ryerson University, Canada; Raffaele Savino , University of Naples "Federico II", Italy;*

**IAC-13.A2.3.1**
*HEAT AND MASS TRANSFER AT A FREE SURFACE WITH NON-ISOTHERMAL BOUNDARY CONDITIONS IN A SINGLE SPECIES SYSTEM UNDER MICROGRAVITY*
*Michael Dreyer, ZARM - University of Bremen, Germany*

**IAC-13.A2.3.2**
RIBES PRECURSOR PAYLOAD ON BION-M1
*Alessandro Donati, Kayser Italia Srl, Italy*

**IAC-13.A2.3.3**
EJECTION AND RECOVERY SYSTEM FOR CUBESAT SIZED EJECTABLES ON SOUNDING ROCKETS
*Thomas Sinn, University of Strathclyde/Advanced Space Concepts Laboratory, United Kingdom*

**IAC-13.A2.3.4**
MISTRAL -MICRO-SATELLITE WITH REENTRY CAPABILITY FOR AIR LAUNCH: A TINY SPACECRAFT FOR SEVERAL MISSIONS IN LEO
*Raimondo Fortezza, Telespazio, Italy*

**IAC-13.A2.3.5**
IMPACHT - DROP WETTING AND EVAPORATION IN MICROGRAVITY
*David BRUTIN, IUSTI UMR 7343 AMU/CNRS, France*

**IAC-13.A2.3.6**
MIGRATION OF AN AIRCRAFT-BORNE MICRO-GRAVITY EXPERIMENT TO THE INTERNATIONAL SPACE STATION
*Murray Darrach, Jet Propulsion Laboratory, United States*

**IAC-13.A2.3.7**
EXPERIMENTS OF MICROGRAVITY PHYSICS ON BOARD THE SJ-10 RECOVERABLE SATELLITE
*Raffaele Savino, University of Naples "Federico II", Italy*

**IAC-13.A2.3.8**
EXPERIMENTAL STUDIES ON THE PROCESSES OF PROPELLANT REORIENTATION IN SPACE BY USING DROP TOWER
*Qiu-Sheng Liu, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.3.9 (withdrawn)**
LARGE SCALE SPACECRAFT FIRE SAFETY EXPERIMENTS
*Gary Ruff, NASA Glenn Research Center, United States*

**IAC-13.A2.3.10**
NUMERICAL SIMULATIONS IN PREPARATION OF A LOW GRAVITY EXPERIMENT ONBOARD REXUS 16: CHEMICAL WAVE IN SORET EFFECT (CWIS)
*Antonio Pugliese, , Italy*

**IAC-13.A2.3.11**
TWO JOINT EUROPEN PARTIAL-G PARABOLIC FLIGHT CAMPAIGNS FOR SCIENCE AND EXPLORATION AT MOON AND MARS GRAVITY LEVELS
*Vladimir Pletser, European Space Agency (ESA), The Netherlands*

## A2.4. Science Results from Ground Based Research

***September 25 2013, 09:45 — 210B***

***Chairman(s):*** *Valentina Shevtsova , Université Libre de Bruxelles, Belgium; Antonio Viviani* , Seconda Universita' di Napoli, Italy;*
***Rapporteur(s):*** *Nickolay N. Smirnov , Moscow Lomonosov State University, Russia;*







**IAC-13.A2.4.1**
RESEARCH ON THE MECHANISM OF MICRO-GRAVITY MEASUREMENT BY USING COLD ATOM DURING ON-ORBIT PHASE
*Qingwei Tong, Shanghai Institute of Satellite Engineering, China*

**IAC-13.A2.4.2**
ATTITUDE AND ORBIT TRACKING CONTROL SYSTEM OF DESIGNED OPERATION WITH NEUTRAL BUOYANCY FOR EXPERIMENTAL MODEL
*Shiyu Chen, College of Astronautics,Northwestern Polytechnical University, China*

**IAC-13.A2.4.3**
EXPERIMENTAL INVESTIGATION OF TURBULENT PREMIXED FLAME QUENCHING IN NORMAL- AND MICRO-GRAVITY
*Shuang-Feng Wang, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.4.4**
HIGHLY EXPANDED FLASHING LIQUID JETS IN VACUUM ENVIRONMENT
*Jian-Fu Zhao, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.4.5**
NONLINEAR CONVECTIVE OSCILLATIONS IN TWO-LAYER SYSTEMS WITH AN INTERFACIAL HEAT RELEASE
*Antonio Viviani*, Seconda Universita' di Napoli, Italy*

**IAC-13.A2.4.6**
EXPERIMENTAL RESEARCH ON TRANSITION ROUTES TO CHAOS IN THERMOCAPILLARY CONVECTION
*Peng Zhu, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.4.7**
WETTING AND EVAPORATION OF PURE FLUIDS DROPLETS
*David BRUTIN, IUSTI UMR 7343 AMU/CNRS, France*

**IAC-13.A2.4.8**
EXPERIMENTAL STUDY ON SURFACE TEMPERATURE OSCILLATION MODES FOR THIN FLUID LAYERS IN AN OPEN ANNULAR POOL
*Li Zhang, , China*

**IAC-13.A2.4.9**
MATHEMATICAL MODELING OF PERMEABILITY IN POROUS MEDIA AND DISPLACEMENT INSTABILITY
*Nickolay N. Smirnov, Moscow Lomonosov State University, Russia*

**IAC-13.A2.4.10**
AVERAGED CONVECTION OF A VISCOUS FLUID IN A ROTATING HORIZONTAL ANNULUS
*Victor Kozlov, , Russia*

**IAC-13.A2.4.11**
NUMERICAL SIMULATION OF WATER DROPLET IMPACT ON HEATED SURFACE UNDER MICROGRAVITY: EFFECT OF EVAPORATION
*Zhihu Xue, China Academy of Aerospace Aerodynamics(CAAA), China*

## A2.5. Facilities and Operations of Microgravity Experiments

***September 25 2013, 14:45 — 210B***

***Chairman(s):*** *Marcus Dejmek , Canadian Space Agency, Canada; Rainer Willnecker , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Peter Hofmann , Kayser-Threde GmbH, Germany;*

**IAC-13.A2.5.1**
A NEW CONCEPT OF FREE-FLOATING PLATFORM FOR MICROGRIVATY VIBRATION ISOLATION
*Wenbo Dong, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.A2.5.2**
FLUID SCIENCE LABORATORY ON BOARD ISS: FASES EXPERIMENT OPERATIONS AND FUTURE UTILIZATION OF FSL
*Dario Castagnolo, Telespazio, Italy*

**IAC-13.A2.5.3**
PREPARATION OF SPACE EXPERIMENTAL STUDIES ON DROPLET EVAPORATION ONBOARD CHINESE SCIENTIFIC SATELLITE
*Qiu-Sheng Liu, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.5.4**
SORET COEFFICIENT MEASUREMENTS IN CRUDE OILS DURING THE CHINESE SJ-10 MISSION
*Dirk Claessens, QinetiQ Space nv, Belgium*

**IAC-13.A2.5.5**
DECLIC, NOW AND TOMORROW
*Gabriel Pont, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A2.5.6**
UTILIZATION OF THE PROGRESS TRANSPORT CARGO VEHICLE CAPABILITIES TO PERFORM MICROGRAVITY EXPERIMENTS
*Tatiana Matveeva, Korolev RSC Energia, Russia*

**IAC-13.A2.5.7**
X-RISE: X-RAY INVESTIGATIONS UNDER SPACE ENVIRONMENT
*Florian Kargl, Deutsches Zentrum fuer Luft- und Raumfahrt (DLR), Germany*

**IAC-13.A2.5.8**
FUTURE PROSPECTS IN RESEARCH UNDER SPACE CONDITIONS AT THE DROP TOWER BREMEN
*Thorben Könemann, ZARM Fab GmbH, Germany*

**IAC-13.A2.5.9**
CONCEPT OF A MODULAR EXPERIMENT PLATFORM FOR MICRO-GRAVITY PAYLOADS
*Erwin Dekens, OHB System, Germany*

**IAC-13.A2.5.10**
DLR'S MOBILE ROCKET BASE – FLIGHT TICKETS FOR YOUR MICROGRAVITY EXPERIMENTS
*Andreas Stamminger, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A2.5.11**
A PRACTICAL LOW-COST BALLOON-LAUNCHED PLATFORM FOR MICROGRAVITY EXPERIMENTS: CONCEPT, DESIGN AND DEVELOPMENT
*Kristian Grayson, The University of Melbourne, Australia*

## A2.6. Microgravity Sciences Onboard the International Space Station and Beyond - Part 1

***September 26 2013, 09:45 — 210B***

***Chairman(s):*** *Kenol Jules , National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States; Bernard Zappoli , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Christoph Pütz , Astrium Space Transportation, Germany;*

**IAC-13.A2.6.1**
SCIENTIFIC UTILIZATION PLANNING FOR CHINESE SPACE STATION-ON MICROGRAVITY SCIENCE
*YANG YANG, Technology and Engineering Center for Space Utilization,Chinese Academy of Sciences, China*

**IAC-13.A2.6.2**
GLENN RESEARCH CENTER'S SPACE-BASED RESEARCH IN COMBUSTION, FLUID PHYSICS AND ACCELERATION MEASUREMENT ON THE ISS
*Brian Motil, NASA Glenn Research Center, United States*

**IAC-13.A2.6.3**
NEW TRIAL FOR MARANGONI EXPERIMENT IN KIBO/ISS, CONTINUOUS DAY TIME EXPERIMENT AND INTENTIONAL BREAKUP TO INVESTIGATE CREW MOTION IMPACT ON LIQUID BRIDGE
*Keiichiro Sakagami, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A2.6.4**
SURFACE TENSION-DRIVEN FLOWS IN EVAPORATIVE TWO-PHASE SYSTEMS IN MICROGRAVITY CONDITIONS
*Anselmo Cecere, Università degli Studi di Napoli "Federico II", Italy*

**IAC-13.A2.6.5**
SORET AND MOLECULAR DIFFUSION COEFFICIENTS MEASUREMENTS OF A BENCHMARK TERNARY MIXTURE ONBOARD ISS
*Amirhossein Ahadi, Ryerson University, Canada*

**IAC-13.A2.6.6**
BOILING PHENOMENA IN NEAR-CRITICAL SF6 OBSERVED IN WEIGHTLESSNESS
*Yves GARRABOS, CNRS, France*

**IAC-13.A2.6.7**
COMPLEX(DUSTY)PLASMAS RESEARCH ONBOARD THE INTERNATIONAL SPACE STATION
*Vladimir Molotkov, Joint Institute for High Temperatures of the Russian Academy of Sciences, Russia*

**IAC-13.A2.6.8 (withdrawn)**
ANALYSIS AND USE OF THE MICROACCELERATIONS MEASUREMENTS OBTAINED ON BOARD THE INTERNATIONAL SPACE STATION
*Denis Zavalishin, Russian Space Systems, Russia*

**IAC-13.A2.6.9 (withdrawn)**
SEVEN YEARS OF PERMANENT RUNNING OF MELFI-1 ON BOARD THE ISS AND UTILISATION OF THE THREE MELFI UNITS REFRIGERATION POOL
*Jean Chegançcas, EADS Astrium, France*

**IAC-13.A2.6.10**
THE USING OF SPRING VIBRATOR ON SMALL MASS MEASUREMENT IN MICRO-GRAVITY ENVIRONMENT
*Yuansheng Wang, China Aerospace Science and Industry Corporation, China*

**IAC-13.A2.6.11**
E-USOC AND THE SODI DCMIX-2 EXPERIMENT OPERATIONS PREPARATION
*Daniel Calvo, E-USOC, Universidad Politécnica de Madrid, Spain*

## A2.7. Microgravity Sciences Onboard the International Space Station and Beyond - Part 2

***September 26 2013, 14:45 — 210B***

***Chairman(s):*** *Peter Hofmann , Kayser-Threde GmbH, Germany; Christoph Pütz , Astrium Space Transportation, Germany;*
***Rapporteur(s):*** *Gabriel Pont , Centre National d'Etudes Spatiales (CNES), France;*

**IAC-13.A2.7.1**
THE CRITICAL MARANGONI NUMBER DEPENDENCE WITH ASPECT RATIO IN HIGH PRANDTL FLUID
*Shinichi Yoda, ISAS/JAXA, Japan*

**IAC-13.A2.7.2**
SPACE PROTEIN CRYSTALLIZATION: VAPOR DIFFUSION OR LIQUID/ LIQUID DIFFUSION?
*Huaixing Cang, , China*

**IAC-13.A2.7.3**
E-USOC AND THE GEOFLOW-2B EXPERIMENT OPERATIONS
*Daniel Calvo, E-USOC, Universidad Politécnica de Madrid, Spain*

**IAC-13.A2.7.4**
EXPERIMENTAL AND NUMERICAL INVESTIGATION OF LIQUID SLOSH DYNAMICS ON GROUND AND MICROGRAVITY PLATFORMS
*Sunil Chintalapati, Florida Institute of Technology, United States*

**IAC-13.A2.7.5**
NEW PROGRESS OF CHINESE MICROGRAVITY ACTIVE VIBRATION ISOLATION SYSTEM
*Zongfeng Li, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.A2.7.6**
AUTOMATIC ROTATABLE VIBROPROTECTIVE PLATFORM FOR MICROGRAVITY RESEARCH ONBOARD THE RS ISS
*Grigory Emelyanov, Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia*

**IAC-13.A2.7.7**
AN INFLUENCE OF DUST CLOUD ON THE POSITIVE COLUMN OF DC DISCHARGE UNDER MICROGRAVITY CONDITIONS.
*Alexander Usachev, Joint Institute for High Temperatures of the Russian Academy of Sciences, Russia*

**IAC-13.A2.7.8**
ELECTROSTATIC LEVITATION FURNACE EXPERIMENT FOR "KIBO" ON INTERNATIONAL SPACE STATION
*Yasuhiro Nakamura, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A2.7.9**
ANITA2, THE UPCOMING HIGH PERFORMANCE ISS AIR MONITOR FOR CONTINUOUS IN-ORBIT OPERATION
*Peter Hofmann, Kayser-Threde GmbH, Germany*

**IAC-13.A2.7.10**
DESIGN AND PREPARATION OF THE DEXTEROUS MANIPULATION EXPERIMENT FOR THE INTERNATIONAL SPACE STATION
*Vladimir Pletser, European Space Agency (ESA), The Netherlands*

**IAC-13.A2.7.11**
AUGMENTED WORKSPACE OF A MULTI-DOF SPACE MANIPULATOR FOR REACTIONLESS TARGET CAPTURE
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

## A2.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Chairman(s):*** *Marcus Dejmek , Canadian Space Agency, Canada;*

**IAC-13.A2.P.1**
GRAVITATIONAL MASS ATTRACTION COMPUTATION OF THE INNER FORMATION FLYING SYSTEM
*Zhenfeng Gu, Tsinghua University, China*

**IAC-13.A2.P.2**
VISUALIZATION OF SUPERSONIC FLOW OVER CYLINDERS WITH VARIOUS HEIGHTS
*Dun-dian Gang, National University of Defense Technology, China*

**IAC-13.A2.P.3**
A STUDY OF THE CONTACT ANGLE IN THE SPHERICAL AND CYLINDRICAL SURFACES
*ChenHui Zhang, Institute of Mechanics, Chinese Academy of Sciences, China*

**IAC-13.A2.P.4**
RESEARCH ON CHARACTERISTIC OF TANK PRESSURIZATION WITH DIFFUSER FOR LIQUID PROPULSION SYSTEM
*Shengchao Hu, Beijing Institute of Astronautical Systems Engineering, China*



**IAC-13.A2.P.5**
IGNITION OF FUEL SPRAYS BY SHOCK WAVE NUMERICAL SIMULATION
*Nickolay N. Smirnov, Moscow Lomonosov State University, Russia*

**IAC-13.A2.P.6**
INVESTIGATION ON FREE SLOSHING OF LIQUID IN TWO-DIMENSIONAL RECTANGULAR TANKS IN MICROGRAVITY
*Nan Miao, School of Aerospace, Tsinghua University, China*

**IAC-13.A2.P.7**
LIFT FORCE ACTING ON SOLID IN LIQUID NEAR THE BOUNDARY PERFORMING TANGENTIAL OSCILLATIONS
*Victor Kozlov, , Russia*

**IAC-13.A2.P.8**
CALCULATION OF PARTICLE MOTION IN MICROGRAVITY CONDITIONS BY METHODS OF COMPUTATIONAL POTENTIAL THEORY
*Marina Goncharenko, Dnepropetrovsk National University named after Oles' Gonchar, Ukraine*

# A3. SPACE EXPLORATION SYMPOSIUM

***Coordinator(s):*** *Christian Sallaberger , MDA Corporation, Canada; Bernard Foing , ESA/ESTEC, The Netherlands;*

## A3.1. Space Exploration Overview

***September 23 2013, 15:15 — 311A***

***Chairman(s):*** *Christian Sallaberger , MDA Corporation, Canada; Luc Frécon , Thales Alenia Space France, France;*
***Rapporteur(s):*** *Keyur Patel , National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States; Norbert Frischauf , ORF, Austria;*

**IAC-13.A3.1.1**
ESA APPROACH AND PLANNING FOR PREPARING THE EUROPEAN ENGAGEMENT IN HUMAN SPACEFLIGHT AND EXPLORATION POST 2020
*Thomas Reiter, , Germany*

**IAC-13.A3.1.2**
THE ISECG GLOBAL EXPLORATION ROADMAP: STRENGTHENING EXPLORATION THROUGH INCREASED HUMAN ROBOTIC PARTNERSHIP
*Kathy Laurini, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.A3.1.3**
COORDINATED ANALYSIS OF TECHNOLOGY DEVELOPMENT INTERESTS FOR THE GLOBAL EXPLORATION ROADMAP: THE GER TECHNOLOGY DEVELOPMENT MAP
*Juergen Hill, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A3.1.4**
ASSESSMENT OF THE STRATEGIC KNOWLEDGE GAPS FOR EXPLORATION
*Sylvie ESPINASSE, ESA, The Netherlands*

**IAC-13.A3.1.5**
FEASIBILITY STUDY ON THE JAPANESE HABITAT MODULE AT EARTH-MOON LAGRANGE POINT 2
*Tatsuhiro Nozue, Japan Manned Space Systems Corporation (JAMSS), Japan*

**IAC-13.A3.1.6**
30 YEARS OF FRENCH INVOLVEMENT IN SPACE EXPLORATION: LESSONS LEARNT AND PERSPECTIVES
*Richard Bonneville, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A3.1.7**
ATMOSPHERE AND SURFACE RESEARCH OF VENUS USING ATMOSPHERIC AND LANDING PROBES. NEW TECHNICAL CHALLENGES
*Viktor A. Vorontsov, Lavochkin Association, Russia*

**IAC-13.A3.1.8 (Withdrawn)**
A CSA VISION FOR SPACE EXPLORATION
*Jean-Claude Piedboeuf, Canadian Space Agency, Canada*

**IAC-13.A3.1.9**
DLR'S EXPLORATION PLANNING IN THE CONTEXT OF GLOBAL PARTNERSHIPS
*Juergen Hill, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A3.1.10 (withdrawn)**
STUDY ON INTELLIGENT REMOTE SENSOR FOR DEEP SPACE EXPLORATION
*Jiao Jianchao, Beijing Institute of Space Mechanics & Electricity, China*

**IAC-13.A3.1.11**
LONG MARCH FAMILY LAUNCH VEHICLES FOR DEEP SPACE EXPLORATION
*Li Guoai, China Academy of Launch Vehicle Technology, China*

## A3.2A. Moon Exploration – Part 1

***September 24 2013, 09:45 — 311A***

***Chairman(s):*** *Bernard Foing , ESA/ESTEC, The Netherlands; David Korsmeyer , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *William H. Siegfried , The Boeing Company, United States; Sylvie Espinasse , European Space Agency (ESA), The Netherlands;*

**IAC-13.A3.2A.2**
HERCULES: ANALOGUE TESTING OF A CANADIAN LUNAR ROVER PROTOTYPE
*Ryan McCoubrey, MDA, Canada*

**IAC-13.A3.2A.3**
DIGITAL SIMULATION OF LUNAR TERRAIN ENVIRONMENT AND ROVER CAMERA IMAGINATION FOR THE CHANG'E-3 MISSION
*Deyun Peng, Beijing Aerospace Control Center, China*

**IAC-13.A3.2A.4**
STUDY STATUS OF SELENE-2 MOON LANDING MISSION IN 2013
*Tatsuaki Hashimoto, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A3.2A.5**
UPDATE ON THE GOOGLE LUNAR X PRIZE
*Andrew Barton, X PRIZE Foundation, United States*

**IAC-13.A3.2A.6**
INTERNATIONAL LUNAR OBSERVATORY ASSOCIATION 4 MISSION UPDATE, SEPTEMBER 2013: HUMAN OBSERVATION FROM THE MOON
*Steve Durst, International Lunar Observatory Association, United States*

**IAC-13.A3.2A.7**
THE RESOLVE MISSION: NASA'S ROBOTIC LUNAR LANDER DEVELOPMENT
*Cheryl L.B. Reed, The Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.A3.2A.8 (withdrawn)**
RESOLVE: AN INTERNATIONAL LUNAR POLAR ICE PROSPECTOR MISSION MOVES TOWARDS FLIGHT
*William Larson, National Aeronautics and Space Administration (NASA)/Kennedy Space Center, United States*

**IAC-13.A3.2A.9**
MOBILE PAYLOAD ELEMENT (MPE): CONCEPT STUDY OF A SMALL, AUTONOMOUS AND INNOVATIVE SAMPLE FETCHING ROVER
*Peter Hofmann, Kayser-Threde GmbH, Germany*

## A3.2B. Moon Exploration – Part 2

***September 24 2013, 14:45 — 311A***

***Chairman(s):*** *Bernard Foing , ESA/ESTEC, The Netherlands; David Korsmeyer , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *William H. Siegfried , The Boeing Company, United States; Sylvie Espinasse , European Space Agency (ESA), The Netherlands;*

**IAC-13.A3.2B.1**
INTRODUCTION OF INTERNATIONAL SPACE EXPLORATION RESEARCH INSTITUTE ACTIVITIES IN KOREA
*Tai Sik Lee, Hanyang University, Korea, Republic of*

**IAC-13.A3.2B.2**
THE TECHNICAL CHARACTERISTIC AND FRUITION OF CHANG'E-2 MISSION
*Linzhi Meng, China Academy of Space Technology (CAST), China*

**IAC-13.A3.2B.3**
A ROVER VISION-BASED RELATIVE LOCALISATION SYSTEM FOR THE RESOLVE MOON EXPLORATION MISSION
*Jean-Francois Hamel, NGC Aerospace Ltd., Canada*

**IAC-13.A3.2B.4**
WIRELESS SENSOR NETWORKS FOR MOON EXPLORATION
*Pedro Rodrigues, Tekever, Portugal*

**IAC-13.A3.2B.5**
VISONE: MATURING THE LUNAR VISION-BASED ABSOLUTE NAVIGATION TECHNOLOGY
*Marcos Avilés Rodrigálvarez, GMV-Spain, Spain*

**IAC-13.A3.2B.6 (withdrawn)**
LUNAR ENVIRONMENTAL ANALOG INVESTIGATIONS WITH THE IPG6-B TEST FACILITY: MINI-MAGNETOSPHERES, REGOLITH-PLASMA-SPACECRAFT INTERACTIONS
*Michael Dropmann, Institute of Space Systems, Universität Stuttgart, Germany*

**IAC-13.A3.2B.7**
THE MARK IV: A SCALABLE LUNAR MINER PROTOTYPE
*Aaron Olson, University of Wisconsin, United States*

**IAC-13.A3.2B.8 (withdrawn)**
ON THE EVOLUTION OF ENERGY SUPPLY FOR FUTURE HABITATS ON THE MOON – AN EXAMPLE BASED ON LUNAR OXYGEN PRODUCTION
*Andy Braukhane, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A3.2B.9**
RESEARCH OF DRILLING IN THE SIMULATED MOON VACUUM ENVIRONMENT
*Jun Li, Beijing Spacecrafts, P. R. China, China*

**IAC-13.A3.2B.10**
A POSITIONING TECHNOLOGY OF LUNAR ROVER TELEOPERATION BASED ON VISION
*Lei LIU, 1)Science and Technology on Aerospace Flight Dynamics Laboratory, China,2)Beijing Aerospace Control Center, China, China*

## A3.2C. Moon Exploration – Part 3

***September 27 2013, 09:45 — 311A***

***Chairman(s):*** *Bernard Foing , ESA/ESTEC, The Netherlands; David Korsmeyer , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *William H. Siegfried , The Boeing Company, United States; Sylvie Espinasse , European Space Agency (ESA), The Netherlands;*

**IAC-13.A3.2C.1**
DESIGN OF THE RETURN TRAJECTORIES FROM A POLAR ARTIFICIAL LUNAR SATELLITE ORBIT TO THE EARTH, PROVIDING LANDING OF THE REENTRY VEHICLE INTO THE GIVEN RESTRICTED AREA OF THE EARTH SURFACE
*Yana Fedorova, TSNIIMASH, Russia*

**IAC-13.A3.2C.2**
LARGE CHEMICAL TRANSFER STAGES FOR LUNAR EXPLORATION
*Farid Gamgami, OHB System AG, Germany*

**IAC-13.A3.2C.3**
DEVELOPMENT OF AUTOMATIC LUNAR SOIL SAMPLING DRILLER
*Jun Li, Beijing Spacecrafts, P. R. China, China*

**IAC-13.A3.2C.4**
RUSSIAN PERSPECTIVE SPACE CRAFT FOR FUNDAMENTAL AND APPLIED MOON RESEARCHES
*Maxim Martynov, Lavochkin Association, Russia*

**IAC-13.A3.2C.5**
AN ENVIRONMENT MODELING ALGORITHM FOR LUNAR ROVER PATH PLANNING WITH CONSIDERATION OF FACTITIOUS INTERVENTION AND STEERING COST
*Xiao Cheng, Beijing Aerospace Control Center, China*

**IAC-13.A3.2C.6 (withdrawn)**
THE PROPOSAL FOR THE CONCEPT OF EARTH-MOON LAGRANGE POINT TRANSFER VEHICLE (EMLTV)
*Kotaro Kiritani, Mitsubishi Electric Corporation, Japan*

**IAC-13.A3.2C.7**
A COMPACT RADIO-FREQUENCY BASED RANGE SENSOR FOR COOPERATIVE MULTI-ROBOT SYSTEMS
*Francisco García-de-Quirós, EMXYS (Embedded Instruments and Systems S.L), Spain*

**IAC-13.A3.2C.8**
SHACKLETON ENERGY LUNAR SOURCED PROPELLANT DEPOT ARCHITECTURE
*Jim Keravala, Shackleton Energy Company, United States*

**IAC-13.A3.2C.9**
A LUNAR ROVER PATH SEARCHING ALGORITHM BASED ON TOPOLOGY
*Tianyi Yu, Beijing Aerospace Control Center, China*

**IAC-13.A3.2C.10**
NEW KOREAN LUNAR EXPLORATION PROGRAM (KLEP): AN INTRODUCTION TO THE OBJECTIVES, APPROACH, ARCHITECTURE, AND ANALYTICAL RESULTS
*Gwanghyeok Ju, Korea Aerospace Research Institute, Korea, Republic of*

**IAC-13.A3.2C.11**
LUNAR WAY-STATION
*Satinder Shergill, Space Generation Advisory Council, United Kingdom*



## A3.2D. Moon Exploration – Poster session

***September 25 2013, 13:30 — North Foyer***

***Chairman(s):*** *Bernard Foing , ESA/ESTEC, The Netherlands; David Korsmeyer , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *William H. Siegfried , The Boeing Company, United States; Sylvie Espinasse , European Space Agency (ESA), The Netherlands;*

**IAC-13.A3.2D.1**
RAMAN LASER SPECTROMETER FOR PLANETARY MISSIONS
*Eva Diaz, Centro de Astrobiologia (INTA), Spain*

**IAC-13.A3.2D.2 (withdrawn)**
HYBRID ROUTING ALGORITHMS FOR NAVIGATION CONTROL OF A SEMI-AUTONOMOUS ROBOTIC PLATFORM
*Aleksander Milshteyn, Structures Pointing And Control Engineering (SPACE) University Research Center, United States*

**IAC-13.A3.2D.3**
CARTOGRAPHY OF MARE MOSCOVIENSE ROI AND FUTURE SCIENTIFIC TRAVERSES
*Abigail Calzada Diaz, Birkbeck College London, United Kingdom*

**IAC-13.A3.2D.4**
MODELING, SIMULATION, INVERSION AND DATA VALIDATION FOR MICROWAVE REMOTE SENSING OF DEEP SPACE: MOON AND MARS
*Ya-Qiu Jin, , China*

## A3.3A. Mars Exploration – Part 1

***September 25 2013, 09:45 — 311A***

***Chairman(s):*** *Vincenzo Giorgio , Thales Alenia Space Italia, Italy; Pierre W. Bousquet , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Cheryl Reed , The Johns Hopkins University Applied Physics Laboratory, United States; Amalia Ercoli Finzi , Politecnico di Milano, Italy;*

**IAC-13.A3.3A.1**
MARS EXPLORATION: JUST STARTING...
*Jean-Pierre Bibring, , France*

**IAC-13.A3.3A.2 (withdrawn)**
MARS SCIENCE LABORATORY'S CURIOSITY ROVER ON MARS
*James K. Erickson, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.A3.3A.3**
MARS SCIENCE LABORATORY ENTRY, DESCENT AND LANDING SYSTEM, DESIGN CAPABILITIES AND PERFORMANCE RESULTS
*Adam Steltzner, NASA, United States*

**IAC-13.A3.3A.4**
EXOMARS 2016 MISSION: AN OVERVIEW OF THE PHASE C ACTIVITIES PROGRESS
*Carlo Cassi, Thales Alenia Space Italia, Italy*

**IAC-13.A3.3A.5**
DESIGN FOR MARS PLURAL MODE COMBINATION EXPLORATION MISSION
*Ying Chen, Qian Xuesen Laboratory of Space Technology, China*

**IAC-13.A3.3A.6**
SEIS, THE SEISMOMETER FOR THE INSIGHT MISSION
*Pierre W. Bousquet, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A3.3A.7 (withdrawn)**
ROBOTIC SAMPLE RETURN MISSION TO MARS- A NOVEL CONCEPT TO EXTRACT AND TRANSPORT MARTIAN SAMPLES
*Muhammad Shadab Khan, Department of Aeronautical Engineering,Babu Banarasi Das National Institute of Technology and Management,Lucknow, India*

**IAC-13.A3.3A.8**
CHINESE YINGHUO-1 MARS EXPLORATION SPACE PROBE: DESIGN, TECHNOLOGIES AND EXPERIENCE
*Jianwen Hou, Shanghai Academy of Spaceflight Technology, China*

**IAC-13.A3.3A.9**
JOINT MARS EXPLORATION WITH MASTER-SLAVE SATELLITES IN GROUP
*Fei Han, Shanghai Key Laboratory of Aerospace Intelligent Control Technology, China*

**IAC-13.A3.3A.10**
ARTIFICIAL INTELLIGENCE, ETHICAL AND LEGAL ISSUES ON MANNED MISSON TO MARS
*KAYODE ADEPOJU, African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria*

**IAC-13.A3.3A.11**
ULTRA-LOW ORBITS ON MARS FOR GRAVITY FIELD MEASUREMENTS AND ATMOSPHERIC SENSING APPLICATIONS
*Alessandro Grasso, International Space University (ISU), France*

## A3.3B. Mars Exploration – Part 2

***September 25 2013, 14:45 — 311A***

***Chairman(s):*** *Vincenzo Giorgio , Thales Alenia Space Italia, Italy; Pierre W. Bousquet , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Cheryl Reed , The Johns Hopkins University Applied Physics Laboratory, United States; Amalia Ercoli Finzi , Politecnico di Milano, Italy;*

**IAC-13.A3.3B.1**
NEW EVIDENCE FOR EARLY EXPLOSIVE VOLCANISM ON MARS
*Jun Huang, China University of Geosciences,Wuhan, China*

**IAC-13.A3.3B.2 (withdrawn)**
THE CURRENT CRATERING RATE AT MARS AND THE MOON
*Ingrid Daubar, University of Arizona, United States*

**IAC-13.A3.3B.3**
THE MARS2013 ANALOG FIELD MISSION IN MOROCCO
*Reinhard Tlustos, Austrian Space Forum, Austria*

**IAC-13.A3.3B.4 (withdrawn)**
EVOLUTION OF MARTIAN LANDSCAPE : INFLUENCE OF STRATIGRAPHY ON GEOMORPHOLOGY IN THE NORTH POLAR REGION
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.A3.3B.5**
VBB SEISMOMETER FOR INSIGHT MISSION
*Gilles Corlay, Sodern, France*

**IAC-13.A3.3B.6**
EXOMARS RLS SPECTROMETER: A BIG SCIENTIFIC AND TECHNOLOGICAL CHALLENGE
*María Colombo, Instituto Nacional de Tecnica Aeroespacial (INTA), Spain*

**IAC-13.A3.3B.7**
EXOMARS: SAMPLE PREPARATION AND DISTRIBUTION SYSTEM AND INSTRUMENTS UNDER DEVELOPMENT
*Peter Hofmann, Kayser-Threde GmbH, Germany*

**IAC-13.A3.3B.8**
THE MISSUS PROJECT: AN OVERVIEW OF A BALLOON EXPERIMENT IN PREPARATION FOR DREAMS ONBOARD EXOMARS 2016 MISSION
*Francesca Cucciarrè, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.A3.3B.9**
SCATTERING OF THE DUST STORM OF MARS AND THE ATTITUDE INVERSION OF MARS DETECTOR
*He Hongfei, State Key-Lab of Electromagnetic Environment Research, Shanghai,China, China*

**IAC-13.A3.3B.10**
THE ORBIT DESIGN FOR MARS DETECTOR WITH THE MINIMUM ENERGY
*Xun Duan, College of Astronautics,Northwestern Polytechnical University, China*

**IAC-13.A3.3B.11**
BIO-CONTAINMENT OF SAMPLES IN THE FRAME OF THE MARS SAMPLE RETURN MISSION: A MIXED EXPERIMENTAL/ANALYTICAL APPROACH FOR THE VERIFICATION OF BASIC PLANETARY PROTECTION REQUIREMENT
*Piergiovanni Magnani, Selex ES, Italy*

## A3.3C. Mars Exploration – Part 3

***September 27 2013, 13:30 — 311A***

***Chairman(s):*** *Vincenzo Giorgio , Thales Alenia Space Italia, Italy; Pierre W. Bousquet , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Cheryl Reed , The Johns Hopkins University Applied Physics Laboratory, United States; Amalia Ercoli Finzi , Politecnico di Milano, Italy;*

**IAC-13.A3.3C.1**
AN OPTIMAL SEPARATION POINT EVALUATION METHOD FOR SEPARABLE DEEP SPACE PROBES
*Wei You, Shanghai Institute of Satellite Engineering, China*

**IAC-13.A3.3C.2**
TRAJECTORY ANALYSIS ON ORBITING AND ENCOUNTERING EXPLORATION ABOUT THE MARTIAN MOON (PHOBOS)
*Ming Xu, Beihang University, China*

**IAC-13.A3.3C.3**
ASTRONOMICAL ASPECTS OF ENTRY, DESCENT AND LANDING SEQUENCE ON MARS
*Dusan Marceta, University of Belgrade, Faculty of Mechanical Engineering, Yugoslavia*

**IAC-13.A3.3C.4**
INNOVATIVE MARS EDL GNC TECHNOLOGIES FOR FUTURE CHINA MARS EXPLORATION
*Shuang Li, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.A3.3C.5**
RE-ASSESSMENT AND CFD ANALYSIS OF MARS AEROSHELL
*Muhammad Amjad Sohail, Other, Pakistan*

**IAC-13.A3.3C.6**
ONBOARD AUTONOMOUS NAVIGATION FOR A MARS EXPLORATION ROVER
*Alexandru Rusu, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A3.3C.7**
DEVELOPMENT OF A MULTI-SENSITIVE ISU-NASA AMES MARS ROVER'S TELE ROBOTIC ARM FOR TACTILE EXPLORATION
*Miguel Guillén, International Space University (ISU), France*

**IAC-13.A3.3C.8**
ADAPTIVE DUST REMOVAL DEVICE WITH DETECTOR FOR MARS SOLAR ARRAYS
*Wei Jia, Shanghai Academy of Spaceflight Technology, China*

**IAC-13.A3.3C.9**
TESTING THE EXOMARS DRILL IN MARS-LIKE CONDITIONS
*Alessandro Fumagalli, Selex ES, Italy*

**IAC-13.A3.3C.10**
VISION-BASED NAVIGATION SYSTEM FOR THE RENDEZVOUS PHASE OF MARS SAMPLE RETURN MISSION
*Jesus Gil-Fernandez, GMV Aerospace & Defence SAU, Spain*

**IAC-13.A3.3C.11**
OPTIMAL CONTROL OF SPACECRAFT DURING THE ASCENT OF MARS ARTIFICIAL SATELLITE
*Nikolay Sokolov, Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia*

**IAC-13.A3.3C.12**
RESEARCH ON AREOSTATIONARY ORBIT AND STATION KEEPING STRATEGY BASED ON LOW-THRUST PROPULSION
*Peng Zhang, Tsinghua University, China*

## A3.4. Small Bodies Missions and Technologies

***September 26 2013, 09:45 — 311A***

***Chairman(s):*** *Susan McKenna-Lawlor , Space Technology (Ireland) Ltd., Ireland; Stephan Ulamec , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Marc D. Rayman , Jet Propulsion Laboratory - California Institute of Technology, United States; Norbert Frischauf , ORF, Austria;*

**IAC-13.A3.4.1**
PREPARING ROSETTA RE-ACTIVATION
*Andrea Accomazzo, European Space Agency (ESA), Germany*

**IAC-13.A3.4.2**
LANDING PREPARATIONS FOR THE ROSETTA COMET LANDER, PHILAE
*Stephan Ulamec, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A3.4.3**
PHILAE LANDING TEST AT THE LANDING AND MOBILITY TEST FACILITY (LAMA)
*Silvio Schröder, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A3.4.4**
ESA MARCOPOLO-R: THE NEA SAMPLE RETURN MISSION CANDIDATE TO THE M-CLASS COSMIC VISION PROGRAM
*Remy Chalex, European Space Agency (ESA), The Netherlands*

**IAC-13.A3.4.5**
NEAR-EARTH ASTEROID 341843 (2008 EV5), TARGET OF ESA'S MARCOPOLO-R MISSION
*Michael Busch, National Radio Astronomy Observatory, United States*

**IAC-13.A3.4.6**
THE FINAL DEVELOPMENT STAGES OF MASCOT, A SMALL ASTEROID LANDER TO ACCOMPANY HAYABUSA-II
*Christian Ziach, Deutsches Zentrum für Luft- und Raumfahrt, Germany*

**IAC-13.A3.4.7**
MICROMEGA: A NIR HYPERSPECTRAL MICROSCOPE TO CHARACTERIZE THE COMPOSITION OF THE HAYABUSA 2 ASTEROID TARGET
*Jean-Pierre Bibring, , France*

**IAC-13.A3.4.8**
AIDA: ASTEROID IMPACT & DEFLECTION ASSESSMENT
*Andy Cheng, The Johns Hopkins University Applied Physics Laboratory, United States*





**IAC-13.A3.4.9**
RELATIVE DISTANCE ESTIMATION BETWEEN THE ASTEROID 4179 AND CHANG'E II BASED ON SPACEBORNE OPITCAL IMAGES
*Yanlong Bu, Science and technology on aerospace flight dynamics laboratory, China*

**IAC-13.A3.4.10**
DAWN'S OPERATIONS IN CRUISE FROM VESTA TO CERES
*Marc D. Rayman, Jet Propulsion Laboratory - California Institute of Technology, United States*

**IAC-13.A3.4.11**
DEM SIMULATION OF SAMPLING TOOL MECHANISMS FOR LOW GRAVITY BODIES
*Riccardo Carta, Politecnico di Milano, Italy*

**IAC-13.A3.4.12**
A UNIQUE MULTI-COMET MISSION OPPORTUNITY FOR CHINA IN 2018
*Robert Farquhar, Harbin Institute of Technology, United States*

## A3.5. Solar System Exploration

***September 26 2013, 14:45 — 311A***

***Chairman(s):*** *Junichiro Kawaguchi , Japan Aerospace Exploration Agency (JAXA), Japan; Mariella Graziano , GMV Aerospace & Defence SAU, Spain;*
***Rapporteur(s):*** *William H. Siegfried , The Boeing Company, United States;*

**IAC-13.A3.5.1**
AUTONOMOUS DEEP SPACE NAVIGATION WITH X-RAY PULSARS
*Jesus Gil-Fernandez, GMV Aerospace & Defence SAU, Spain*

**IAC-13.A3.5.2**
SOLAR ORBITER PAYLOAD SUITE: A HOTBED OF INNOVATION
*Salma Fahmy, European Space Agency (ESA), The Netherlands*

**IAC-13.A3.5.3**
SOLAR POLAR ORBIT TELESCOPE (SPORT): A POTENTIAL SPACE WEATHER MISSION OF CHINA
*Ying Liu, Chinese Academy of Sciences, China*

**IAC-13.A3.5.4**
BEPICOLOMBO SCIENCE OPERATIONS VALIDATION DURING SPACECRAFT TEST PROGRAM
*Raymond Hoofs, European Space Agency (ESA), The Netherlands*

**IAC-13.A3.5.5**
A NOVEL AEROBOT WITH A HEAT ENGINE UTILIZING ATMOSPHERIC TEMPERATURE GRADIENT FOR PLANETARY EXPLORATION
*WEI YAO, China Academy of Space Technology (CAST), China*

**IAC-13.A3.5.6**
INTERPLANETARY CUBESATS MISSION TO EARTH-SUN LIBRATION POINT FOR SPACE WEATHER EVALUATIONS
*Maria Antonietta Viscio, Politecnico di Torino - Thales Alenia Space Italia, Italy*

**IAC-13.A3.5.7**
THE PROPOSAL OF MARS AERO CAPTURE TECHNOLOGY DEMONSTRATION MISSION.
*Shinichiro Narita, JAXA, Japan*

**IAC-13.A3.5.8**
THEORETICAL AND COMPUTER INVESTIGATION OF CRACK FORMATION ON EUROPA'S SURFACE
*Sergey Aksenov, Moscow Institute of Electronics and Mathematics of National Research University Higher School of Economics (MIEM NRU HSE), Russia*

**IAC-13.A3.5.9**
AN EXPLORATION OF ICY WORLD HABITABILITY: THE EUROPA CLIPPER
*Thomas Magner, The Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.A3.5.10**
ENCELADUS EXPLORER (ENEX): A LANDER MISSION TO PROBE SUBGLACIAL WATER POCKETS ON SATURN'S MOON ENCELADUS FOR LIFE
*Konstantinos Konstantinidis, Universität der Bundeswehr München, Germany*

## A3.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Bernard Foing , ESA/ESTEC, The Netherlands; Christian Sallaberger , MDA Corporation, Canada;*

**IAC-13.A3.P.1**
PROGRAM OF IONOSPHERIC RESEARCHES OF UKRAINIAN MICROSAT SATELLITE
*Alexander Makarov, Yuzhnoye State Design Office, Ukraine*

**IAC-13.A3.P.2**
RESEARCH ON THE APPLICATION OF TERAHERTZ TECHNOLOGY IN AEROSPACE FIELD
*Xiao Li, China Academy of Launch Vehicle Technology, China*

**IAC-13.A3.P.3**
ANALYSES OF ACTIVE COOLING TECHNOLOGY FOR HYDROCARBON FUELED SCRAMJET
*Yanjuan Duan, The 41st Institute of the Fourth Academy of CASC, China*

**IAC-13.A3.P.4**
A TESTBED TO EVALUATE GUIDANCE AND CONTROL ALGORITHMS FOR PLANETARY LANDINGS BY EMULATING SPACECRAFT DYNAMICS WITH A QUADROTOR
*Narendra Gollu, Concordia University, Canada*

**IAC-13.A3.P.5 (Withdrawn)**
PLANETARY PROTECTION ISSUES FOR IN SITU RESOURCE UTILIZATION ON THE MOON AND MARS
*John D. Rummel, East Carolina University, United States*

**IAC-13.A3.P.6**
ABOUT THE FORMATION OF UNMANNED SMALL SPACE REENTRY VEHICLES
*Carlos Torres, Moscow Aviation Institute (State Technical University), Russia*

**IAC-13.A3.P.7**
FORECASTING AND PRICING OF R & D IN THE SPACE INDUSTRY
*Viktor A. Vorontsov, Lavochkin Association, Russia*

**IAC-13.A3.P.8 (withdrawn)**
AN OVERVIEW OF CURRENT AND UPCOMING ISECG ACTIVITIES
*Jean-Claude Piedboeuf, Canadian Space Agency, Canada*

**IAC-13.A3.P.9**
TWO JOINT EUROPEN PARTIAL-G PARABOLIC FLIGHT CAMPAIGNS FOR SCIENCE AND EXPLORATION AT MOON AND MARS GRAVITY LEVELS
*Vladimir Pletser, European Space Agency (ESA), The Netherlands*

**IAC-13.A3.P.10**
ARE THERE ANY OSCILLATIONS OF SOLAR ORIGIN IN THE SOLAR WIND?
*Alexander Potapov, Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Science, Russia*

**IAC-13.A3.P.11**
"PLANETARY SURFACE MODELLING AND VISUALISATION FOR ASSISTING ROVER NAVIGATION SYSTEM"
*Deepak Kumar, Central University of Karnataka, India*

**IAC-13.A3.P.12**
QUASI-PERIODIC ORBIT DESIGN ABOUT THE EARTH-MOON LIBRATION POINT
*Yingjing Qian, Harbin Institute of Technology, China*

**IAC-13.A3.P.13 (withdrawn)**
THE POSITION AND ORIENTATION MEASUREMENT TECHNOLOGY IN THE LUNAR ROVER TEST
*Yang Zaihua, Beijing institute of satellite environment engineering, China*

**IAC-13.A3.P.14**
LUNAR BASINS WITH AND WITHOUT MASCONS: A WAVE INTERPRETATION
*Gennady Kochemasov, , Russia*

**IAC-13.A3.P.15**
CONCEPT OF A LOW COST MOON PROBE NANOSATELLITE FOR A UNIVERSITY RESEARCH PROGRAM
*Ugur Guven, , United States*

**IAC-13.A3.P.16 (withdrawn)**
ANALYSIS OF ORBIT DETERMINATION PRECISION FOR CHINESE LUNAR EXPLORATION SPACECRAFT
*Qin Zhao, Beijing Institute control and Electronic Technology, China*

**IAC-13.A3.P.17**
ORBIT DESIGN AND OPTIMIZATION FOR THE LANDING EXPLORATION OF FAR-SIDE OF THE MOON BY COOPERATION OF THE PROBE AND LUNAR RELAY SATELLITE
*Yi Lu, Xi'an Jiaotong University, China*

**IAC-13.A3.P.18**
DYNAMIC RESPONSE OF DRILLING AND FEEDING MECHANISM OF LUNAR SOIL SAMPLING DRILLER
*Jun Li, Beijing Spacecrafts, P. R. China, China*

**IAC-13.A3.P.19**
LATERAL BENDING VIBRATION AND EXPERIMENTAL INVESTIGATION OF THE LUNAR SOIL SAMPLING DRILL PIPE
*Jun Li, Beijing Spacecrafts, P. R. China, China*

**IAC-13.A3.P.20**
A SCHEME OF REENTRY MODULE FOR LUNAR EXPLORATION
*Changwei Zhou, , China*

**IAC-13.A3.P.21**
RESEARCH ON AVIONICS AND CONTROL ARCHITECTURE FOR LOCOMOTIVE AND MECHANISM SYSTEM OF LUNAR ROVER
*Ran Wei, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.A3.P.22**
AUTONOMOUS HAZARD DETECTION AND AVOIDANCE SYSTEM BASED ON THE FUSION OF LIDAR AND CAMERA SENSORS FOR THE LUNAR LANDER MISSION
*David Neveu, NGC Aerospace Ltd., Canada*

**IAC-13.A3.P.23**
THE RESEARCH FOR TEST ENVIRONMENT WITH A LARGE-SCALE INDOOR SOLAR ILLUMINATION SIMULATING SYSTEM
*Linhua Yang, China Academy of Space Technology (CAST), China*

**IAC-13.A3.P.24**
THE SEALING TECHNOLOGY OF LUNAR SAMPLES
*Fu Chaohui, Lanzhou Institute of Physics, China*

**IAC-13.A3.P.25**
LUNAR MINING AND PROCESSING FOR HE 3 POSSIBILITIES AND CHALLENGES
*Gurunadh Velidi, University of Petroleum and Energy Studies, India*

**IAC-13.A3.P.26**
RESEARCH OF ROBOT ARM POSITIONING METHOD BASED ON HAZARD CAMERA
*Lei LIU, 1)Science and Technology on Aerospace Flight Dynamics Laboratory, China,2)Beijing Aerospace Control Center, China, China*

**IAC-13.A3.P.27**
ATTAINABLE SETS APPROACH FOR LOW-ENERGY, LOW-THRUST INTERPLANETARY TRANSFERS
*Renyong Zhang, Northwestern Polytechnical University, China*

**IAC-13.A3.P.28**
PROCEDURES FOR ESTABLISHING THE FIRST INTERNATIONAL AND PERMANENT MOON BASE
*Declan O'Donnell, United Societies in Space, Inc., United States*

**IAC-13.A3.P.29**
RAMAN LASER SPECTROMETER ADAPTATIVE OPERATION FOR MARS EXPLORATION
*Carlos Diaz, Centro de Astrobiologia (INTA), Spain*

**IAC-13.A3.P.30**
MARS IN ONE STEP ( CONDENSING MARS ATMOSPHERE AND PREPARING ITS FOR LIFE )
*mohammad hosein Fazeli, , Iran*

**IAC-13.A3.P.31**
THERMAL DESIGN OF DREAMS SCIENTIFIC PAYLOAD FOR EXOMARS 2016
*Francesca Cucciarrè, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.A3.P.32**
CHEMICAL NON-EQUILIBRIUM EFFECT ON TRIM ANGLE OF MARS SCIENCE LABORATORY ENTERING MARTIAN ATMOSPHERE
*Lv Junming, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.A3.P.33**
RBF NEURAL NETWORK ENSEMBLE METHOD AND AERODYNAMIC OPTIMIZATION
*Su Wei, Beijing Institute of Space Long Mach Vehicle, China*

**IAC-13.A3.P.34**
AERODYNAMIC STATIC STABILITY ANALYSIS OF MARS ENTRY VEHICLE
*Pan Xie, Shanghai Institute of Satellite Engineering, China*

**IAC-13.A3.P.35**
EXOMARS HEPA FILTER MODELING AND MARS ENTRY THERMAL ANALYSIS
*Ciro Borriello, Aviospace, Italy*

**IAC-13.A3.P.36 (withdrawn)**
ANTIENT MARTIAN TSUNAMIS: EARTH COUNTERPART OF PROJECTED MARTIAN SEDIMENT
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.A3.P.37**
RELIABILITY DESIGN OF THE MARS PROBE BASED ON THE MISSION AND ENVIRONMENTAL PROFILES ANALYSIS
*Qing Li, CASC, China*

**IAC-13.A3.P.38**
THERMAL ANALYSIS FOR A LANDER ON MARS SURFACE
*Haitao Wang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.A3.P.39**
VISION-BASED SPACECRAFT AUTONOMOUS NAVIGATION ALGORITHM FOR MARS PINPOINT LANDING
*Jianguo Li, Harbin Institute of Technology, China*

**IAC-13.A3.P.40**
THE NATURE AND PROPERTIES OF NEAR EARTH OBJECTS (METEORITES) WHICH LANDED IN NIGERIA.
*Fidelix Opara, , Nigeria*



**IAC-13.A3.P.41**
BALLOON RAPID RESPONSE FOR ISON (BRRISON)
*Dewey Adams, The Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.A3.P.42**
A MULTIDISCIPLINARY APPROACH TO LANDING SITE SELECTION FOR SMALL-BODY MISSIONS
*Francesco Topputo, Politecnico di Milano, Italy*

**IAC-13.A3.P.43**
AN INNOVATIVE METHOD FOR THE DEFLECTION OF POTENTIALLY HAZARDOUS ASTEROIDS
*Maria Antonietta Viscio, Politecnico di Torino - Thales Alenia Space Italia, Italy*

**IAC-13.A3.P.44 (withdrawn)**
A PRELIMINARY MISSION STUDY FOR CHARACTERIZING APOPHIS
*Jean-Yves Prado, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A3.P.45**
SMALL CELESTIAL BODY IMPACT TECHNOLOGY INTRODUCTION
*Jialiang He, Beijing Institute of Electronic System Engineering, China, China*

**IAC-13.A3.P.46**
METHODS AND TOOL FOR DETERMINING THE IN-SITU SUN ORBIT AND LONG TERM SOLAR POWER PROFILE FOR THE ROSETTA LANDER
*Andras Balazs, Wigner Research Centre for Physics, Hungarian Academy of Sciences, Hungary*

**IAC-13.A3.P.47**
DEVELOPING A NEW OPTIMAL MISSION FOR 79P/DU TOIT–HARTLEY COMET BY FORMATION FLYING OF SPACECRAFTS
*Iman Shafieenejad, K. N. Toosi University of Technology, Iran*

**IAC-13.A3.P.48**
THE COUPLING CONTROL OF ORBIT AND ATTITUDE FOR HAZARD AVOIDANCE BASED ON MODIFIED REFERENCE MODEL
*Haijing Hu, Beijing Institute of Technology, China*

**IAC-13.A3.P.49 (withdrawn)**
SOLAR PROBE PLUS: THE FIRST MISSION TO ENCOUNTER THE SUN
*Yanping Guo, The Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.A3.P.50 (withdrawn)**
THE GEODESY AND ORBITOGRAPHY OF MERCURY FROM KA-BAND RADIO TRACKING AND PRECISE ACCELEROMETRY OF ESA'S BEPICOLOMBO PLANETARY ORBITER
*Luciano Iess, Sapienza Università di Roma, Italy*

**IAC-13.A3.P.51**
MERCURY IMAGING X-RAY SPECTROMETER (MIXS) IN BEPICOLOMBO MISSION: ENVIRONMENTAL TESTS
*Jose A. Viceira, Instituto Nacional de Tecnica Aeroespacial (INTA), Spain*

**IAC-13.A3.P.52**
"PLANETARY SURFACE MODELLING AND VISUALISATION FOR ASSISTING ROVER NAVIGATION SYSTEM"
*Deepak Kumar, Central University of Karnataka, India*

**IAC-13.A3.P.53**
INVESTIGATIONS INTO INTERPLANETARY APPLICATIONS FOR LARGE IN-SPACE DEPLOYABLE SOLAR SAILS
*Tiffany Russell, NASA Marshall Space Flight Center, United States*

**IAC-13.A3.P.54**
SERVICE-ORIENTED ARCHITECTURE OF MULTI-AGENT SYSTEMS IN AEROSPACE EXPLORATION
*Yan Yan, China Academy of Launch Vehicle Technology, China*

**IAC-13.A3.P.55**
RESEARCH ON FROG-INSPIRED BIOMIMETIC JUMPING ROBOT FOR INTERSTELLAR DISCOVERY
*Meng Wang, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.A3.P.56**
PATH PLANNING AND REPLANNING FOR LUNAR ROVER BASED ON IMPROVED ANT COLONY ALGORITHM
*Biwei Tang, College of Astronautics,Northwestern Polytechnical University, China*

**IAC-13.A3.P.57**
A CISLUNAR IN-ORBIT INFRASTRUCTURE USING CYCLER TRAJECTORIES IN THE EARTH AND MOON SYSTEM
*Ming Xu, Beihang University, China*

**IAC-13.A3.P.58**
EXOMARS RAMAN LASER SPECTROMETER SCIENTIFIC PERFORMANCES CHECK WITH A BREADBOARD
*Andoni G. Moral, National Institute for Aerospace Technology (INTA), Spain*

**IAC-13.A3.P.59**
MARS ATMOSPHERIC ENTRY TRAJECTORY OPTIMIZATION WITH PARAMETER UNCERTAINTIES
*Shuang Li, Nanjing University of Aeronautics and Astronautics, China*

## A4. 42nd SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps

***Coordinator(s):*** *Seth Shostak , SETI Institute, United States; Claudio Maccone , International Academy of Astronautics (IAA), Italy;*

### A4.1. SETI 1: SETI Science and Technology

***September 25 2013, 14:45 — 208B***

***Chairman(s):*** *H. Paul Shuch , The SETI League, Inc., United States*

**IAC-13.A4.1.1**
INTRODUCTION TO SETI SCIENCE AND TECHNOLOGY
*H. Paul Shuch, The SETI League, Inc., United States*

**IAC-13.A4.1.2**
PROJECT DOROTHY: WORLDWIDE JOINT SETI OBSERVATION TO COMMEMORATE THE 50TH ANNIVERSARY OF PROJECT OZMA
*Shin-ya Narusawa, University of Hyogo, Japan*

**IAC-13.A4.1.3 (withdrawn)**
DEVELOPMENT OF A MULTI-FREQUENCY INTERFEROMETER TELESCOPE FOR RADIO ASTRONOMY (MITRA)
*Dominique INGALA, , South Africa*

**IAC-13.A4.1.4 (withdrawn)**
A LOW COST SPECTRUM ANALYZER FOR SETI OBSERVATIONS.
*Stelio Montebugnoli, National Institute for Astrophysics, Italy*

**IAC-13.A4.1.5 (withdrawn)**
AN ENHANCED PIGGYBACK MODE FOR SETI OBSERVATIONS
*Salvatore Pluchino, INAF - IRA, Italy*

**IAC-13.A4.1.6 (withdrawn)**
HARVARD ADVANCED ALL-SKY OPTICAL SETI - INITIAL OBSERVATIONS WITH THE ADVANCED CAMERA
*Curtis Mead, Harvard University, United States*

**IAC-13.A4.1.7**
STELLAR GENETICS USING STELLAR SUNSPOT ANALOGS TO REVEAL THE EVOLUTION AND FUTURE OF OUR SUN
*Chrishma Singh-Derewa, International Space University (ISU), United States*

**IAC-13.A4.1.8**
SETI AS A PART OF BIG HISTORY
*Claudio Maccone, International Academy of Astronautics (IAA), Italy*

## A4.2. SETI 2: SETI and Society

***September 26 2013, 09:45 — 303B***

***Chairman(s):*** *Fengyuan Zhuang , Beihang University, China;*

**IAC-13.A4.2.1**
ANALYZING THE STEPHENS MYSTERY SIGNAL
*H. Paul Shuch, The SETI League, Inc., United States*

**IAC-13.A4.2.2**
SETI : THE EARTH MUST NOT BECOME THE JAIL OF HUMANKIND
*Jacques Arnould, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A4.2.3**
BLACK HOLES: ATTRACTORS FOR INTELLIGENCE?
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.A4.2.4**
ON THE UNVERSALITY OF LINGUA COSMICA LOGICA
*Alexander Ollongren, Leiden University, The Netherlands*

**IAC-13.A4.2.5**
A WEB BASED SEMI AUTOMATIC FRAME WORK FOR ASTROBIOLOGICAL RESEARCHES
*Arun P V, , India*

**IAC-13.A4.2.6**
SETI IN THE LIGHT OF COSMIC CONVERGENT EVOLUTION
*Claudio Flores Martinez, University of Heidelberg, Germany*

**IAC-13.A4.2.7**
MUSIC AS AN ANALOGUE FOR INTERSTELLAR MESSAGE COMPOSITION
*Douglas Vakoch, SETI Institute and California Institute of Integral Studies, United States*

**IAC-13.A4.2.8**
THE NEED FOR AUTHORITY OF HUMANKIND IN SPACE LAW
*Aleksandar Milanov, , Bulgaria*

**IAC-13.A4.2.9 (withdrawn)**
A PROTOCOL FOR MESSAGING TO EXTRATERRESTRIAL INTELLIGENCE
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

## A4.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Claudio Maccone , International Academy of Astronautics (IAA), Italy; Gerson Seth Shostak , SETI Institute, United States;*

**IAC-13.A4.P.1**
ASTRONOMY IN THE ERA OF STARSHIP CIVILIZATION
*Lei Qian, , China*

**IAC-13.A4.P.2**
NAYUTA OSETI: OPTICAL SETI WITH THE LARGEST TELESCOPE IN JAPAN
*Shin-ya Narusawa, University of Hyogo, Japan*

**IAC-13.A4.P.3 (withdrawn)**
GRAVITATIONAL OPTICS
*Jeff Bytof, , United States*

**IAC-13.A4.P.4**
ITALIAN OPTICAL SETI SEARCHES AT FOAM13 OBSERVATORY
*Claudio Maccone, International Academy of Astronautics (IAA), Italy*

# A5. HUMAN EXPLORATION OF THE SOLAR SYSTEM SYMPOSIUM

***Coordinator(s):*** *Christian Sallaberger , MDA Corporation, Canada; Maria Antonietta Perino , Thales Alenia Space, Italy;*

## A5.1. Human Lunar Exploration

***September 24 2013, 14:45 — 307A***

***Chairman(s):*** *William H. Siegfried , The Boeing Company, United States;*
***Rapporteur(s):*** *Uwe Apel , Hochschule Bremen, Germany;*

**IAC-13.A5.1.1**
BEING SELENE'S GUEST: ANALYSIS OF THE LUNAR ENVIRONMENT AND ITS IMPACT ON BASE LOCATION SELECTION
*Volker Maiwald, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A5.1.2**
GEOLOGIC RECONNAISSANCE OF LUNAR SURFACE AND ANALYSIS OF LUNAR SETTLEMENT AREAS AS PER GEOLOGICAL CONSIDERATIONS
*Ugur Guven, , United States*

**IAC-13.A5.1.3**
KEY TECHNOLOGY OF MANNED LUNAR SURFACE LANDING, LIFTOFF AND OPERATING
*Lin-li GUO, China Academy of Space Technology (CAST), China*

**IAC-13.A5.1.4**
PROPOSED ORBITS FOR HUMAN MISSONS TO THE EARTH-MOON L2 REGION
*Josh Hopkins, Lockheed Martin Corporation, United States*

**IAC-13.A5.1.5**
ESTABLISHMENT OF A LUNAR BASE BY COUPLING LUNAR IN SITU RESOURCES UTILIZATION AND BIOREGENERATIVE LIFE SUPPORT SYSTEMS WITHIN THE OASIS NETWORK OF SPACEPORTS
*Lucie Poulet, , Germany*

**IAC-13.A5.1.6**
SHACKLETON ENERGY ENABLING HUMAN INDUSTRIAL OPERATIONS ON THE MOON BY 2020
*Jim Keravala, Shackleton Energy Company, United States*

**IAC-13.A5.1.7**
LARGE SOLAR ELECTRIC TRANSFER STAGES FOR LUNAR EXPLORATION
*Farid Gamgami, OHB System AG, Germany*

**IAC-13.A5.1.8**
EXPERIMENTAL STUDY ON WATERLESS LUNAR CONCRETE FOR LANDING PAD CONSTRUCTION
*Byung Chul Chang, Hanyang University, Korea, Republic of*

**IAC-13.A5.1.9**
ADVANCED DESIGN AND CONSTRUCTION OF LUNAR SURFACE STRUCTURES
*Sohrob Mottaghi, Rutgers University, United States*



**IAC-13.A5.1.10**
SINTERHAB 2.0 - DEPLOYMENT, LIFE SUPPORT INTEGRATION AND ARCHITECTURE SPIN-OFFS
*Ondrej Doule, Space Innovations, v.o.s., Czech Republic*

## A5.2. Human Mars Exploration

***September 25 2013, 14:45 — 307A***

***Chairman(s):*** *Maria Antonietta Perino , Thales Alenia Space, Italy; Nadeem Ghafoor , MDA, Canada;*
***Rapporteur(s):*** *Norbert Frischauf , ORF, Austria;*

**IAC-13.A5.2.1**
IAA STUDY GROUP ON GLOBAL HUMAN MARS SYSTEM MISSIONS EXPLORATION
*Giancarlo Genta, Politecnico di Torino, Italy*

**IAC-13.A5.2.2 (withdrawn)**
MARS AS THE NEXT DESTINATION FOR HUMAN SPACE EXPLORATION
*Gabriella Rios-Georgio, Orbital Sciences Corporation, United States*

**IAC-13.A5.2.3 (withdrawn)**
A COMBINED SOLAR ELECTRIC AND STORABLE CHEMICAL PROPULSION VEHICLE FOR PILOTED MARS MISSIONS
*George Schmidt, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.A5.2.4**
INVESTIGATION ON CYCLER STRATEGIES TO ESTABLISH A CONTINUOUS HUMAN PRESENCE ON MARS
*Luca Nardecchia, University of Rome "La Sapienza", Italy*

**IAC-13.A5.2.5**
*DEVELOPMENT AND SPACE APPLICATION OPPORTUNITIES OF INFLATABLE ENTRY/RE-ENTRY DECELERATORS*
*Yun Weidong, Shanghai Key Laboratory of Spacecraft Mechanism, Aerospace System Engineering Shanghai, China*

**IAC-13.A5.2.6**
DEPLOYABLE AND PORTABLE EMERGENCY SHELTER FOR MARS
*Sandra Haeuplik-Meusburger, Vienna University of Technology, Austria*

**IAC-13.A5.2.7 (withdrawn)**
EDEN - EVOLUTION AND DESIGN OF ENVIRONMENTALLY-CLOSED NUTRITION-SOURCES
*Daniel Schubert, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A5.2.8**
520-DAY ISOLATION AND CONFINEMENT SIMULATING A FLIGHT TO MARS REVEALS ELEVATED IMMUNE RESPONSES AND ALTERATIONS OF LEUKOCYTE PHENOTYPE (COSI STUDY)
*Alexander Chouker, University of Munich, Germany*

**IAC-13.A5.2.9**
NUMERICAL STUDY OF ENTRY INTO MARTIAN ATMOSPHERECONSIDERING CHEMICAL REACTIONS, AEROTHERMODYNAMICS AND APPROPRIATE GEOMETRIC CONSIDERATIONS BEST SUITABLE FOR MANNED MARTIAN ATMOSPHERIC ENTRY MISSION
*Ugur Guven, , United States*

**IAC-13.A5.2.10**
MARS ENVELOPE SIMULATION IN A HIGH-PERFORMANCE HUMAN CENTRIFUGE
*Zorana Dancuo, University of Belgrade, Lola Institute, Yugoslavia*

## A5.3-B3.6. Joint Session on Human and Robotic Partnerships to Realise Space Exploration Goals

***September 26 2013, 09:45 — 308***

***Chairman(s):*** *Christian Sallaberger , MDA Corporation, Canada; Anthony R. Gross , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Mark Hempsell , The British Interplanetary Society, United Kingdom; Alexandra Kindrat , International Space University (ISU), Canada;*

**IAC-13.A5.3-B3.6.1**
THE HUMAN SPACEFLIGHT EXPLORATION ACTIVITIES OF THE INTERNATIONAL ACADEMY OF ASTRONAUTICS
*Giuseppe Reibaldi, International Academy of Astronautics (IAA), France*

**IAC-13.A5.3-B3.6.2**
DEMONSTRATION OF COMMUNICATIONS SYSTEMS FOR FUTURE HUMAN EXPLORATION DURING THE OPSCOM-1 TEST USING THE ISS.
*Denis Van Hoof, Space Applications Services, Belgium*

**IAC-13.A5.3-B3.6.3 (withdrawn)**
HUMAN-ROBOTIC INTERACTION FOR LUNAR EXPLORATION IN THE DEVELOPMENT OF A LUNAR FAR-SIDE RADIO OBSERVATORY
*Giuseppe Cataldo, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.A5.3-B3.6.4**
MARS-X: HUMAN EXPLORATION OF MARS FROM MARTIAN ORBIT
*Phillippa Blaber, International Space University (ISU), France*

**IAC-13.A5.3-B3.6.5**
DETECTING LIFE IN RETURNED MARS SAMPLES: UPDATING THE DRAFT TEST PROTOCOL
*John D. Rummel, East Carolina University, United States*

**IAC-13.A5.3-B3.6.6 (withdrawn)**
OPTIMISING THE HUMAN VARIABLE: MULTIDISCIPLINARY DESIGN OPTIMISATION FOR HUMAN ROBOT COOPERATION ON PLANETARY EXPLORATION MISSIONS
*Christopher Brunskill, Surrey Space Centre, United Kingdom*

**IAC-13.A5.3-B3.6.7**
DIALOG INTERACTION BETWEEN COSMONAUTS AND A ROBOTIC ASSISTANT FOR A CREW SUPPORT WHILE PERFORMING FLIGHT TASKS
*Igor G. Sokhin, Yu.A. Gagarin Research and Test Cosmonaut Training Center, Russia*

**IAC-13.A5.3-B3.6.8**
MISSION RESULTS OF THE REX-J MISSION CONDUCTED ON THE JAPANESE EXPERIMENT MODULE TO REALIZE THE ASTRONAUT SUPPORT ROBOTS
*Mitsushige Oda, JAXA, Japan*

**IAC-13.A5.3-B3.6.9**
HUMAN-ROBOTIC PARTNERSHIP FOR SPACE EXPLORATION: USING OF ROBOT-ANDROID IN EXTREME SPACE CONDITIONS
*Oleg Saprykin, TSNIIMASH, Russia*

**IAC-13.A5.3-B3.6.10**
THE GAIT SWITCH AND CONTROL ON RECONFIGURABLE EXPLORATION ROBOT
*CHEN MENG, Institute of Aerospace System Engineering Shanghai, China*

**IAC-13.A5.3-B3.6.11**
SMALL VEHICLE EXPLORATION CAPABILITIES
*Jean Marc Salotti, Laboratoire de l'Intégration du Matériau au Système, France*

**IAC-13.A5.3-B3.6.12**
COMMERCIAL NEO PRECURSORS LEADING TO AN EXPLORATION AND UTILIZATION ARCHITECTURE WITH INFRASTRUCTURE COSTS SHARED BY PUBLIC AND PRIVATE ORGANIZATIONS
*David Gump, Deep Space Industries Inc., United States*

## A5.4-D2.8. Joint Session on Going Beyond the Earth-Moon System: Human Missions to Mars, Libration Points, and NEO's

***September 27 2013, 09:45 — 311B***

***Chairman(s):*** *Ernst Messerschmid , University of Stuttgart, Germany; Martin Sippel , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Leo Daniel , Massachusetts Institute of Technology (MIT), United States; Gerhard Schwehm , European Space Agency (ESA), Spain; Steve Creech , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.A5.4-D2.8.1**
INTERNATIONAL INDUSTRY CONCEPTS FOR HUMAN EXPLORATION FROM THE EARTH-MOON L2 REGION
*Josh Hopkins, Lockheed Martin Corporation, United States*

**IAC-13.A5.4-D2.8.2**
NASA'S SPACE LAUNCH SYSTEM: ONE VEHICLE, MANY DESTINATIONS
*Todd May, NASA Marshall Space Flight Center, United States*

**IAC-13.A5.4-D2.8.3 (withdrawn)**
PROGRESS ON DEMONSTRATION OF AN AFFORDABLE, ADVANCED LIQUID BOOSTER FOR THE SPACE LAUNCH SYSTEM
*Kimberly Doering, Dynetics, United States*

**IAC-13.A5.4-D2.8.4**
AN AFFORDABLE SYSTEM FOR HUMAN MISSIONS TO MARS
*Michael Raftery, Boeing Defense Space & Security, United States*

**IAC-13.A5.4-D2.8.5 (withdrawn)**
EUROPE'S ENABLING CONTRIBUTION TO THE US HUMAN SPACE EXPLORATION PROGRAMME: THE SERVICE MODULE FOR THE ORION CREW MODULE
*Mark Kinnersley, EADS Astrium Space Transportation GmbH, Germany*

**IAC-13.A5.4-D2.8.6**
STUDY ON TECHNICAL APPROACH FOR MANNED DEEP-SPACE EXPLORATION
*Yang Liu, Beijing Special Engineering Design and Research Institute, China*

**IAC-13.A5.4-D2.8.7**
REALISTIC ROADMAP FOR THE FIRST HUMAN MISSION TO MARS
*Jean Marc Salotti, Laboratoire de l'Intégration du Matériau au Système, France*

**IAC-13.A5.4-D2.8.8**
USING LUNAR SWINGBYS AND LIBRATION-POINT ORBITS TO EXTEND HUMAN EXPLORATION TO INTERPLANETARY DESTINATIONS
*David Dunham, Kinetx, Inc., United States*

**IAC-13.A5.4-D2.8.9**
SESAME OPENS: A PRECURSOR TO HUMAN ASTEROID MISSIONS
*Volker Maiwald, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A5.4-D2.8.10**
A VALUABLE STEPPING STONE FOR HUMANS BEYOND THE MOON
*Louis Friedman, The Planetary Society, United States*

## A5.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Maria Antonietta Perino , Thales Alenia Space, Italy; Christian Sallaberger , MDA Corporation, Canada;*

**IAC-13.A5.P.1 (withdrawn)**
COMPARISONS OF OBSERVED LET AND SIMULATED HETC-HEDS, PHITS, AND HZETRN LET FOR THE CRATER INSTRUMENT
*Jamie Porter, University of Tennessee, United States*

**IAC-13.A5.P.2**
A CONCEPT OF REUSABLE MANNED LUNAR LANDER BASED AT A SPACE STATION ON CYCLER ORBIT
*Kaiheng Xiang, China Academy of Space Technology (CAST), China*

**IAC-13.A5.P.3**
LUNAR REGOLITH SHIELDING FOR MANNED MISSIONS
*Amal Shaji Karapuzha, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.A5.P.4**
NIGHTSIDE MARTIAN IONOSPHERE PRODUCED BY ELECTRON PRECIPITATION UNDER DIFFERENT CRUSTAL FIELD CONDITIONS
*Yiteng Zhang, National Space Science Center (NSSC), China*

**IAC-13.A5.P.5**
GROUND PLANNING FOR REMOTE AUTONOMOUS SYSTEMS
*Marc Niezette, Telespazio VEGA Deutschland GmbH, Germany*

**IAC-13.A5.P.6 (withdrawn)**
PRESSURIZED ROVER FOR THE LUNAR POLE – CONCEPT, MISSION AND TESTING OPTIONS
*Jan Turek, Element Design, Czech Republic*

**IAC-13.A5.P.7**
MINI SPACE FARM--A FOOD SELF-SUFFICIENT SYSTEM IN LONG-TERM SPACE MISSION (PATENT PENDING)
*Mao Zhang, American Netong Inc., United States*

**IAC-13.A5.P.8**
WHEEL-GROUND INTERACTION IN PLANETARY ROVERS – TEST RIG AND PRELIMINARY TESTS
*Giancarlo Genta, Politecnico di Torino, Italy*

**IAC-13.A5.P.9**
NUCLEAR SPACE PROPULSION MISSION TO THE OORT CLOUD: MISSION POSSIBILITIES AND CHALLENGES
*Ugur Guven, , United States*

**IAC-13.A5.P.10**
SAVING THE EARTH FROM THE THREATEN OF NEAS: STRENGTHEN THE YARKOVSKY EFFECTS USING PARABOLIC MIRROR TO DEORBIT THEM
*He Guolong, Tsinghua University, China*

**IAC-13.A5.P.11**
MULTI-OBJECTIVE DETECTION TRAJECTORY OPTIMIZATION DESIGN IN SOLAR SYSTEM
*Yang Dalin, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.A5.P.12**
SPACE EXPLORATION BENEFITS FOR HUMAN SOCIETY
*Kohtaro Matsumoto, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A5.P.13**
LIST OF POTENTIAL TARGET NEOS FOR HUMAN MISSIONS
*Dominik Quantius, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*



# A6. SPACE DEBRIS SYMPOSIUM

***Coordinator(s):*** *Nicholas L. Johnson , National Aeronautics and Space Administration (NASA), United States; Christophe Bonnal , Centre National d'Etudes Spatiales (CNES), France ; Mark Matney, National Aeronautics and Space Administration (NASA), United States*

## A6.1. Measurements

***September 23 2013, 15:15 — 210A***

***Chairman(s):*** *Vladimir Agapov , Keldysh Institute of Applied Mathematics, RAS, Russia; Thomas Schildknecht , Astronomical Institute University of Bern (AIUB), Switzerland;*
***Rapporteur(s):*** *Patrick Seitzer , University of Michigan, United States;*

**IAC-13.A6.1.1**
ISON DEDICATED SURVEY INSTRUMENTS DEVELOPMENT
*Igor Molotov, Keldysh Institute of Applied Mathematics, RAS, Russia*

**IAC-13.A6.1.2**
OPERATIONAL AND EXPLOSION FRAGMENTS IN GEO AND HEO REGION DISCOVERED AND OBSERVED BY ISON NETWORK
*Vladimir Agapov, Keldysh Institute of Applied Mathematics, RAS, Russia*

**IAC-13.A6.1.3**
COORDINATED OPTICAL GEO SURVEY FOR EUROPEAN SSA PRECURSOR SERVICES
*Thomas Schildknecht, Astronomical Institute University of Bern (AIUB), Switzerland*

**IAC-13.A6.1.4**
OPTICAL REFLECTION SPECTROSCOPY OF GEO OBJECTS
*Patrick Seitzer, University of Michigan, United States*

**IAC-13.A6.1.5**
OBSERVATIONS IN THE THERMAL IR AND VISIBLE OF DRIFTING OBJECTS IN LIBRATION ORBITS AROUND THE WESTERN STABLE POINT
*Mark Skinner, Boeing, United States*

**IAC-13.A6.1.6**
FAST-MOVING OBJECT DETECTION IN SPACE SURVEILLANCE
*Vladimir Kouprianov, Central Astronomical Observatory, RAS, Russia*

**IAC-13.A6.1.7 (withdrawn)**
ORBITAL DEBRIS PARAMETER ESTIMATION FROM VERTICAL POINTING RADAR
*Alan Li, Stanford University, United States*

**IAC-13.A6.1.8 (withdrawn)**
POSITION SENSING OF ORBITAL DEBRIS BY LASER ILLUMINATION: OPTIMIZATION OF SYSTEM PERFORMANCE
*Uwe Voelker, German Aerospace Center (DLR), Germany*

**IAC-13.A6.1.9**
R&D ON IN-SITU SENSORS FOR MMOD MEASUREMENT AT JAXA
*Yukihito Kitazawa, IHI Corporation, Japan*

**IAC-13.A6.1.10**
INTERACTIVE 3D VISUALIZATION OF LARGE ASTRONOMICAL AND SPACE DEBRIS DATASETS
*Filipe Santos, University of Lisbon, Portugal*

## A6.2. Modelling and Risk Analysis

***September 24 2013, 09:45 — 210A***

*Chairman(s): Carmen Pardini , ISTI-CNR, Italy; Paula Krisko , ESCG/Jacobs, United States;*
*Rapporteur(s): Carsten Wiedemann , Technical University of Braunschweig, Germany;*

**IAC-13.A6.2.1**
SEMI-EMPIRICAL SATELLITE ANOMALIES ANALYSIS HIGHLIGHTING CONTRIBUTIONS FROM THE FENGYUN-1C EVENT
*Darren McKnight, Integrity Applications Incorporated (IAI), United States*

**IAC-13.A6.2.2**
ON-ORBIT FRAGMENTATION OF BRIZ-M
*Carsten Wiedemann, Technical University of Braunschweig, Germany*

**IAC-13.A6.2.3**
A SIMPLIFIED APPROACH TO ANALYZE THE SPACE DEBRIS EVOLUTION IN THE LOW EARTH ORBIT
*Christopher Kebschull, Technische Universität Braunschweig, Germany*

**IAC-13.A6.2.4**
EFFECTIVENESS OF GNSS DISPOSAL STRATEGIES
*Alessandro Rossi, IFAC-CNR, Italy*

**IAC-13.A6.2.5**
DISPOSAL STRATEGIES ANALYSIS FOR MEO ORBITS
*Noelia Sanchez Ortiz, Deimos Space S.L., Spain*

**IAC-13.A6.2.6**
EVOLUTION OF ANGULAR VELOCITY FOR LARGE SPACE DEBRIS AS A RESULT OF YORP
*Antonella Albuja, University of Colorado, United States*

**IAC-13.A6.2.7**
ORBITAL DYNAMICS OF LIGHTWEIGHT FLEXIBLE DEBRIS
*Sittiporn Channumsin, School of Engineering, University of Glasgow, United Kingdom*

**IAC-13.A6.2.8**
THE EFFECT OF PASSIVE ELECTROSTATIC CHARGING ON NEAR-GEOSYNCHRONOUS HIGH AREA TO MASS RATIO OBJECTS
*Carolin Früh, Air Force Research Laboratory / University of New Mexico, United States*

**IAC-13.A6.2.9**
REVIEW OF PAST ON-ORBIT COLLISIONS AMONG CATALOGED OBJECTS AND EXAMINATION OF THE CATASTROPHIC FRAGMENTATION CONCEPT
*Carmen Pardini, ISTI-CNR, Italy*

**IAC-13.A6.2.10**
STABILITY AND LIMIT CYCLE ANALYSIS OF DEBRIS REMOVAL
*David Finkleman, American Institute of Aeronautics and Astronautics (AIAA), United States*

## A6.3. Hypervelocity Impacts and Protection

***September 25 2013, 14:45 — 210A***

***Chairman(s):*** *Frank Schaefer , Fraunhofer - Institut für Kurzzeitdynamik, Ernst-Mach-Institut (EMI), Germany; Sergey Meshcheryakov , TSNIIMASH, Russia;*
***Rapporteur(s):*** *Alessandro Francesconi , University of Padova, Italy;*

**IAC-13.A6.3.1 (withdrawn)**
BALLISTIC LIMIT THICKNESS AND WEIGHT OF FLEXIBLE MATERIALS FOR SUB-MILLIMETER STEEL SPHERE IMPACT AT 6 KM/S
*Masumi Higashide, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.A6.3.2**
DEBRIS AREA DISTRIBUTION OF SPACECRAFT UNDER HYPERVELOCITY IMPACT
*LAN SHENGWEI, China Aerodynamics Research and Development Center, China*

**IAC-13.A6.3.3**
ELECTRICAL SIGNATURES OF HYPERVELOCITY IMPACT PLASMAS WITH APPLICATIONS IN IN-SITU PARTICLE DETECTION
*Martin Rudolph, Fraunhofer - Institute for High-Speed Dynamics, Germany*

**IAC-13.A6.3.4**
RESEARCH ON SHIELD FOR CHINA'S SPACE STATION FROM METEOROID AND ORBITAL DEBRIS
*Shigui Zheng, China Academy of Space Technology (CAST), China*

**IAC-13.A6.3.5**
EVALUATION OF ENHANCED SHIELDING CONFIGURATIONS AGAINST HYPERVELOCITY PARTICLE IMPACTS FOR FUTURE UNMANNED SPACECRAFT
*Jan Hupfer, Fraunhofer EMI, Germany*

**IAC-13.A6.3.6**
PROTECTING ACTIVE SPACECRAFT WITH A DEBRIS SWEEPER
*Rhys Clements, University of Southampton, United Kingdom*

**IAC-13.A6.3.7**
THE IMPROVEMENT OF SELF-CONSISTENCY WITH CONSERVATION LAW FOR HYPERVELOCITY IMPACT DEBRIS CLOUD ENGINEERING MODEL
*MA ZHAOXIA, China Aerodynamics Research and Development Center, China*

**IAC-13.A6.3.8 (withdrawn)**
DEBRIS DETECTOR VERIFICATION BY HVI-TESTS
*Waldemar Bauer, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A6.3.9**
NEW EVIDENCES FOR HIGH PERFORMANCE OF GONG-HOU SHIELD IN WITHSTANDING HYPERVELOCITY IMPACT
*Mingqiang Hou, , China*

**IAC-13.A6.3.10**
DEBRIS DISPERSION EFFECT IN N-SHAPE SHIELD CONFIGURATION
*Xuezhong Wen, China Aerodynamics Research and Development Center, China*

**IAC-13.A6.3.11**
DAMAGE INVESTIGATION OF WOVEN OF BASALT FIBER AND AL-SPHERE PROJECTILE IN HYPERVELOCITY IMPACT
*Yue Ha, Harbin Institute of Technology, China*

## A6.4. Mitigation and Standards

***September 24 2013, 14:45 — 210A***

***Chairman(s):*** *Fernand Alby , Centre National d'Etudes Spatiales (CNES), France; Heiner Klinkrad , European Space Agency (ESA), Germany;*
***Rapporteur(s):*** *Michael Yakovlev , Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia;*

**IAC-13.A6.4.1**
THE DEFINITION OF SPACE DEBRIS
*David Finkleman, American Institute of Aeronautics and Astronautics (AIAA), United States*

**IAC-13.A6.4.2**
AN UPDATE ON THE EFFECTIVENESS OF POSTMISSION DISPOSAL IN LEO
*J.-C. Liou, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.A6.4.3**
STATISTICAL METHODS TO ADDRESS THE COMPLIANCE OF GTO WITH THE FRENCH SPACE OPERATIONS ACT
*Hubert Fraysse, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A6.4.4**
DRAMA 2.0 - ESA'S SPACE DEBRIS RISK ASSESSMENT AND MITIGATION ANALYSIS TOOL SUITE
*Vitali Braun, Technische Universität Braunschweig, Germany*

**IAC-13.A6.4.5**
PROPELLANT-EFFICIENT METHOD FOR CONTROLLED DEORBIT OF LEO SATELLITES
*Ferdi de Bruijn, OHB System AG, Germany*

**IAC-13.A6.4.6**
DEORBITSAIL: FLIGHT-TESTING A DEORBITING SYSTEM
*Olive Stohlman, Surrey Space Centre, University of Surrey, United Kingdom*

**IAC-13.A6.4.7**
PROTECTING THE LEO SPACE SYSTEMS AGAINST SMALL DEBRIS PARTICLES
*Claude Cougnet, EADS Astrium, France*

**IAC-13.A6.4.8**
A SERIES OF DE-ORBIT MECHANISMS FOR ACTIVE PREVENTION AND REDUCTION OF SPACE DEBRIS
*Toshinori Kuwahara, Tohoku University, Japan*

**IAC-13.A6.4.9**
DEORBIT DEVICE AUTONOMY ANALYSIS FOR THE EOL OF SATELLITES IN LEO
*Andrew Wolahan, Cranfield University, United Kingdom*

**IAC-13.A6.4.10**
DEVELOPMENT OF AN AUTONOMOUS ONBOARD DEORBITING SYSTEM OF SLV STAGES WITH LPE
*Valery Trushlyakov, Federal Space Agency (ROSCOSMOS), Russia*

## A6.5. Space Debris Removal Issues

***September 26 2013, 09:45 — 210A***

***Co-Chair(s):*** *V. Adimurthy , Indian Space Researh Organisation, India; Fabio Santoni , University of Rome "La Sapienza", Italy;*
***Rapporteur(s):*** *John Hussey , Consultant, United States;*

**IAC-13.A6.5.1**
ANALYSIS OF MISSION DESIGN AND TARGET SELECTION FOR SPACE DEBRIS REMOVAL BY DLR'S ADVANCED STUDY GROUP
*Niels van der Pas, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A6.5.2**
THROW-NETS AND TETHERS FOR ROBUST SPACE DEBRIS CAPTURE
*Kjetil Wormnes, ESA, The Netherlands*

**IAC-13.A6.5.3**
RESEARCH ISSUES AND CHALLENGES IN AUTONOMOUS ACTIVE SPACE DEBRIS REMOVAL
*Susanne Peters, Universität der Bundeswehr München, Germany*

**IAC-13.A6.5.4**
ACTIVE DEBRIS REMOVAL USING THE CHARGED SATELLITE
*Masaki Nakamiya, Kyoto University, Japan*

**IAC-13.A6.5.5 (withdrawn)**
DE-TUMBLING OF DERELICT SATELITES AS A COMPONENT OF ACTIVE DEBRIS REMOVAL
*Adam Weisz, , United States*

**IAC-13.A6.5.6**
GROUND VALIDATION OF ACTIVE DEBRIS REMOVAL TECHNOLOGIES AND GNC SYSTEMS
*Pablo Colmenarejo, GMV Aerospace & Defence SAU, Spain*



**IAC-13.A6.5.7**
DESIGN AND ANALYSIS OF ELECTRO-DYNAMIC TETHER MICRO-SATELLITE FOR ACTIVE SPACE DEBRIS MITIGATION
*Xinsheng Wang, Beihang University, China*

**IAC-13.A6.5.8 (withdrawn)**
AD ASTRA'S VASIMR SPACE TUG LOW EARTH ORBIT SPACE CLEANER
*Andrew Ilin, Ad Astra Rocket Company, United States*

**IAC-13.A6.5.9**
THE E.DEORBIT ESA CDF STUDY: A DESIGN STUDY FOR THE SAFE REMOVAL OF LARGE SPACE DEBRIS
*Tiago Soares, , The Netherlands*

## A6.6. Space Debris Removal Concepts

***September 26 2013, 14:45 — 210A***

***Chairman(s):*** *Phillip Anz-Meador , ESCG/Jacobs, United States; Seishiro Kibe , Japan Aerospace Exploration Agency (JAXA), Japan;*
***Rapporteur(s):*** *Martin Rudolph , Fraunhofer - Institute for High-Speed Dynamics, Germany;*

**IAC-13.A6.6.1 (withdrawn)**
ACTIVE DEBRIS REMOVAL WAY FORWARD
*Didier ALARY, EADS Astrium Satellites, France*

**IAC-13.A6.6.2**
AN OVERVIEW AND EVALUATION OF ACTIVE SPACE DEBRIS REMOVAL CONCEPTS
*Joao Lousada, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A6.6.3**
ADR CONCEPTS FROM CNES FUNDED STUDY OTV
*Aurelien Pisseloup, EADS Astrium, France*

**IAC-13.A6.6.4**
SPACE DEBRIS REMOVAL FROM LEO - CONTROLLED RE-ENTRY USING AN OTV / SPACE-TUG VS. DE-ORBIT PACKS
*Marc Scheper, OHB System AG, Germany*

**IAC-13.A6.6.5**
ACTIVE DEBRIS REMOVAL SPACE MISSION CONCEPTS BASED ON HYBRID PROPULSION
*Filippo Maggi, Politecnico di Milano, Italy*

**IAC-13.A6.6.6**
COBRA ACTIVE DEBRIS REMOVAL CONCEPT
*Thomas Vincent Peters, GMV Aerospace & Defence SAU, Spain*

**IAC-13.A6.6.7 (withdrawn)**
DRAGON ROBOTIC SERVICE MISSION
*Magnus Paulsson, OHB Sweden, Sweden*

**IAC-13.A6.6.8**
A PRELIMINARY INVESTIGATION ON DISABLED SATELLITE REMOVAL APPROACH USING NON-CONTACTING INTER-SATELLITE ELECTROMAGNETIC FORCE
*Yuan-wen Zhang, National University of Defense Technology, China*

**IAC-13.A6.6.9 (withdrawn)**
PHOTON-PRESSURE COLLISION AVOIDANCE: EFFICIENCY ASSESSMENT ON AN ENTIRE CATALOGUE OF SPACE DEBRIS
*Nicolas Faber, NASA Ames Research Center / SGT Inc., United States*

**IAC-13.A6.6.10**
AN ELECTRIC PROPULSION "SHEPHERD" FOR ACTIVE DEBRIS REMOVAL THAT UTILIZES AMBIENT GAS AS PROPELLANT
*Mark Matney, NASA Johnson Space Center, United States*

**IAC-13.A6.6.11**
VIBANASS TEST RESULTS AND IMPACTS ON KAYSER-THREDE ACTIVE DEBRIS REMOVAL STRATEGY
*Clemens Kaiser, Kayser-Threde GmbH, Germany*

## A6.7. Operations in Space Debris Environment, Situational Awareness

***September 27 2013, 09:45 — 210A***

***Chairman(s):*** *T.S. Kelso , Center for Space Standards and Innovation, United States; Darren McKnight , Integrity Applications Incorporated (IAI), United States;*
***Rapporteur(s):*** *Holger Krag , European Space Agency (ESA), Germany;*

**IAC-13.A6.7.1**
A TELESCOPE MOUNT SUITABLE FOR SPACE SURVEILLANCE
*Fabrizio Piergentili, University of Rome "La Sapienza", Italy*

**IAC-13.A6.7.2**
ASSESSMENT OF POSSIBLE OBSERVATION STRATEGY IN LEO REGIME
*Alessandro Vananti, Astronomical Institute University of Bern (AIUB), Switzerland*

**IAC-13.A6.7.3**
DEVISING OF STRATEGIES TO MONITOR THE SPACE DEBRIS USING A NETWORK OF GROUND-BASED MEDIUM-SIZED OBSERVATORIES
*Kourosh Rokni, Iranian Space Agency (ISA), Iran*

**IAC-13.A6.7.4**
OPERATIONAL SPACE SURVEILLANCE ACTIVITIES AT CNES
*Fernand Alby, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.A6.7.5**
THE ROLE, PLACE AND DEVELOPMENT PROSPECTS OF THE RUSSIAN HAZARD ALARM SYSTEM IN THE INTEGRATION OF INTERNATIONAL EFFORTS TO PROVIDE SAFE SPACE ACTIVITIES
*Gennady Raykunov, Joint Stock Company "Russian Space Systems", Russia*

**IAC-13.A6.7.6**
COLLISION RISK ASSESSMENT AND AVOIDANCE MANOEUVRES - THE NEW CORAM TOOL FOR ESA
*Noelia Sanchez Ortiz, Deimos Space S.L., Spain*

**IAC-13.A6.7.7**
GEO SATELLITE CONJUNCTION ASSESSMENT AND COLLISION AVOIDANCE BASED ON THE CSM AND OWNER/OPERATOR EPHEMERIS
*Byoung-Sun Lee, Electronics and Telecommunications Research Institute(ETRI), Korea, Republic of*

**IAC-13.A6.7.8**
LESSONS FOR IMPROVED INTERNATIONAL SPACE SITUATIONAL AWARENESS (SSA) FROM RECENT DEVELOPMENTS IN MARITIME DOMAIN AWARENESS (MDA)
*Tiffany Chow, Secure World Foundation, United States*

## A6.8. Political, legal, Institutional and Economic Aspects of Space Debris Mitigation and Removal

***September 27 2013, 13:30 — 210A***

***Chairman(s):*** *Kazuto Suzuki , Hokkaido University, Japan; Tommaso Sgobba , International Association for the Advancement of Space Safety, The Netherlands;*
***Rapporteur(s):*** *Charlotte Mathieu , European Space Agency (ESA), France;*

**IAC-13.A6.8.1**
CONCEPTUALIZING AN ECONOMICALLY, LEGALLY, AND POLITICALLY VIABLE ACTIVE DEBRIS REMOVAL OPTION
*Tiffany Chow, Secure World Foundation, United States*

**IAC-13.A6.8.2**
POLITICAL AND INSTITUTIONAL CHALLENGES OF SPACE DEBRIS MITIGATION AND REMOVAL
*Charlotte Mathieu, European Space Agency (ESA), France*

**IAC-13.A6.8.3**
LEGAL AND POLITICAL ASPECTS OF SPACE DEBRIS MITIGATION AND REMOVAL – A CRITICAL ANALYSIS
*OLUSOJI NESTER JOHN, National Space Research and Development Agency,Nigeria, Nigeria*

**IAC-13.A6.8.4**
SOME LEGAL AND REGULATORY CHALLENGES TO THE CONDUCT OF ACTIVE DEBRIS REMOVAL AND ON-ORBIT SATELLITE SERVICING ACTIVITIES
*Yaw Nyampong, Faculty of Law, McGill University, Canada*

**IAC-13.A6.8.5**
LIABILITY IN THE CONTEXT OF SPACE DEBRIS
*Anna Konert, , Poland*

**IAC-13.A6.8.6**
ACTIVE SPACE DEBRIS REMOVAL, AN INDISPENSABLE MECHANISM FOR LONG TERM SUSTAINABILITY OF SPACE OVERCOMING CONCERNS OF SPACE DEBRIS
*Divya Agarwal, SRM University, kattankulathur,chennai, India*

**IAC-13.A6.8.7**
EMERGING SPACE NATIONS AND INTERNATIONAL COOPERATION FOR SPACE DEBRIS MITIGATION AND REMOVAL
*Ali Akbar Golroo, Aerospace Research Institute, Iran*

**IAC-13.A6.8.8**
SPACE DEBRIS MITIGATION AND NANO-SATELLITES: LEGAL CONSIDERATIONS AND THE NEED FOR AN INNOVATIVE POLICY
*Neta Palkovitz, ISIS- Innovative Solutions In Space B.V., The Netherlands*

**IAC-13.A6.8.9**
THE LONG-TERM COST OF DEBRIS REMOVAL FROM LEO
*Jerome Pearson, Star Technology and Research, Inc., United States*

## A6.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Christophe Bonnal , Centre National d'Etudes Spatiales (CNES), France; Nicholas L. Johnson , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.A6.P.1**
AUTOMATIC IMAGE ANALYSIS FOR SPACE DEBRIS MEASUREMENT
*Jacopo Piattoni, University of Bologna, Italy*

**IAC-13.A6.P.2**
RESEARCH ON CTDRS TLES IN GEOSYNCHRONOUS ORBIT AND THE METHOD TO IMPROVE THE ACCURACY.
*LEI WANG, , China*

**IAC-13.A6.P.3**
FAST RADON-FOURIER TRANSFORM FOR RADAR TARGET DETECTION
*Zhaoping Wu, China Academy of Space Technology (CAST), China*

**IAC-13.A6.P.4**
STUDY OF THREE-DIMENSIONAL IMAGE RECONSTRUCTION TECHNOLOGY ON SPACE VEHICLES
*Dong Lee, Xi'an Institute of Space Radio Technology, China*

**IAC-13.A6.P.5**
CORRELATION ANALYSIS AND MANEUVER ESTIMATION OF GEO OBJECTS WITH SPACE-BASED VISIBLE SURVEILLANCE
*Huafei DIAO, Academy of Equipment, China*

**IAC-13.A6.P.6**
NUMERICAL STUDY FOR LRCS OF SPACE TARGETS
*Gu Jun, , China*

**IAC-13.A6.P.7**
COMPARISON OF CENTERING ALGORITHM FOR OPTICAL SPACE DEBRIS CCD IMAGES
*Rong-Yu Sun, Purple Mountain Astronomical Observatory, China*

**IAC-13.A6.P.8**
REVISION OF STATISTICAL COLLISION ANALYSIS FOR OBJECTS INSIDE OF SATELLITE CONSTELLATIONS
*Jonas Radtke, Technische Universität Braunschweig, Germany*

**IAC-13.A6.P.9**
NASA ORBITAL DEBRIS BASELINE POPULATIONS
*Paula H. Krisko, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.A6.P.10**
YORP AND YARKOWSKI EFFECT ON SPACE DEBRIS WITH HIGH-AREA-TO-MASS RATIO AND ITS CHARACTERIZATION WITH OPTICAL SENSORS FOR ACCURATE ORBIT PROPAGATION
*Carolin Früh, Air Force Research Laboratory / University of New Mexico, United States*

**IAC-13.A6.P.11**
THE USE OF B-PLANE IN SHORT-TERM AND LONG-TERM ENCOUNTERS
*Alessandro Morselli, Politecnico di Milano, Italy*

**IAC-13.A6.P.12**
SPACE DEBRIS CLOUD EVOLUTION IN LOW EARTH ORBIT
*Francesca Letizia, University of Southampton, United Kingdom*

**IAC-13.A6.P.13**
ESA DRAMA ARES AND CROC: EVALUATION OF CROSS SECTION AND ESTIMATED COLLISION ALERTS
*Noelia Sanchez Ortiz, Deimos Space S.L., Spain*

**IAC-13.A6.P.14**
A FAST, MODULAR APPROACH TO OBJECT PROPAGATION AND COLLISION ANALYSIS
*Marek Möckel, Technische Universität Braunschweig, Germany*

**IAC-13.A6.P.15**
EVASIVE MANEUVERS OF OPERATIONAL VEHICLE BY HALL PROPULSION IN SPACE DEBRIS COLLISIONS
*Antonio Delson Jesus, Brazilian Space Agency (AEB), Brazil*

**IAC-13.A6.P.16**
ERROR ANALYSIS AND REVISION OF SATELLITE COLLISION BREAKUP MODELS
*Li Yiyong, Academy of Equipment, China*

**IAC-13.A6.P.17**
PRIORITY TARGETS FOR AN AUTONOMOUS DEBRIS REMOVAL MISSION
*Matteo Emanuelli, Space Generation Advisory Council (SGAC), Italy*

**IAC-13.A6.P.18**
RESEARCH ON SAFETY OF LAUNCHING SATELLITES INTO GEOSTATIONARY ORBIT
*Lei Han, National Space Science Center (NSSC), China*

**IAC-13.A6.P.19**
FRAGMENTATION AND EJECTION FOR AL-SPHERE HYPERVELOCITY IMPACTING ON METAL MESH BUMPER
*Gongshun Guan, Harbin Institute of Technology, China*

**IAC-13.A6.P.20**
EXPERIMENTATIONS WITH LSDYNA VALIDATION OF SPACE DEBRIS HYPERVELOCITY IMPACTS ON MULTIPLE COMPOSITE BUMPERS
*Abrar-Ul-Haq Khan Baluch, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of*

**IAC-13.A6.P.21**
RESEARCH ON HYPERVELOCITY IMPACT EFFECT FOR WHIPPLE SHIELD AT CRYOGENIC TEMPERATURES
*Jiyun Yang, Beijing Institute of Spacecraft Environment Engineering, China*



**IAC-13.A6.P.22**
STRUCTURAL DESIGN AND SIMULATION OF SPACE DEBRIS IMPACTING COMPOUND SHIELD IN HIGH VELOCITY
*Liu Zhenhao, Beijing Institute of Structure & Environment Engineering, China*

**IAC-13.A6.P.23**
ANALYSIS OF THE PROPELLANT SINKING PROCESS AT THE STATE OF WEIGHTLESSNESS FOR LIQUID ROCKET TANK
*Zhenqi Niu, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.A6.P.24**
END-OF-LIFE DISPOSAL TRAJECTORIES FOR LIBRATION POINT AND HIGHLY ELLIPTICAL ORBIT MISSIONS
*Camilla Colombo, University of Southampton, United Kingdom*

**IAC-13.A6.P.25**
ANALYSIS OF POSSIBLE DISPOSAL ORBITS FOR A REFINEMENT OF THE NEAR-EARTH SPACE IN ALTITUDE RANGE 900-1500 KM
*Tatiana Gridchina, , Russia*

**IAC-13.A6.P.26**
STUDY FOR DE-ORBIT SCHEMES OF LAUNCH VEHICLE LAST STAGE
*Gu Yanfeng, ases, China*

**IAC-13.A6.P.27**
AN APPROACH FOR CLEARING SPACE DEBRIS USING KINETIC KILL VEHICLES
*Ugur Guven, , United States*

**IAC-13.A6.P.28**
SPACE DEBRIS REMOVAL IN ULTRA-CLOSE BASED ON VISUAL NAVIGATION
*Chao Tang, China Academy of Launch Vehicle Technology, China, China*

**IAC-13.A6.P.29**
A SPACE DEBRIS "CLEANER KIT" BASED ON POLYURETANIC FOAMS
*Niccolò Bellini, University of Bologna, Italy*

**IAC-13.A6.P.30**
THE IMPACT DYNAMICS IN RENDEZVOUS AND DOCKING OF FREE-FLOATING FLEXIBLE SPACE MANIPULATOR CAPTURING A TARGET SATELLITE AND THE POST-IMPACT CONTROL FOR CALMING
*Qiuhuang Dong, Fuzhou University, China*

**IAC-13.A6.P.31**
THE MAIN STATEMENTS AND GENERAL CONCEPT FOR A DEVELOPMENT OF A SUPPOSED ANTI-METEOR SYSTEM WITH USING AN AIR LAUNCHED LAUNCH VEHICLE
*Dina Pogosyan, Air Launch Aerospace Corporation, Russia*

**IAC-13.A6.P.32**
POSE ESTIMATION AND COLLISION DETECTION FOR RENDEZVOUS AND DOCKING IN SPACE USING PHOTONIC MIXER DEVICES
*Leonardo Regoli, University Wuerzburg, Germany*

**IAC-13.A6.P.33**
WRECKER "WIRE DEPLOYMENT MECHANISM KIT FOR DEORBITING PICOSATELLITES"
*Roland Rosta, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A6.P.34**
THE CANX-7 DRAG SAIL DEMONSTRATION MISSION: ENABLING SPACE ENVIRONMENTAL STEWARDSHIP FOR NANO- AND MICROSATELLITES
*Grant Bonin, UTIAS Space Flight Laboratory, Canada*

**IAC-13.A6.P.35**
MODELING AND SIMULATION OF DEPLOYMENT DYNAMICS OF SPACE WEBS
*Haitao Liu, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.A6.P.36**
A TOOL TO EFFECTIVELY DESIGN TETHERED NET DEVICES FOR SUCCESSFUL ACTIVE DEBRIS REMOVAL
*Michèle Lavagna, Politecnico di Milano, Italy*

**IAC-13.A6.P.37 (withdrawn)**
EFFECTIVE MULTIPLE RENDEZVOUS CONSIDERING MODIFIED SPACE DEBRIS INDEX
*Tomohiro Narumi, Tokyo University of Science, Japan*

**IAC-13.A6.P.38**
DESIGN OF AN ACTIVE SPACE DEBRIS REMOVAL MISSION USING MODIFIED LAUNCH VEHICLE UPPER STAGES
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.A6.P.39**
DESIGN AND DEVELOPMENT OF A DEBRIS REMOVAL SYSTEM EMPLOYING DEORBITING MODULES FOR DEAD SATELLITES CLEAN-UP
*Mohamed Peer M. Varman, Hindustan University, India*

**IAC-13.A6.P.40**
ANALYTICAL APPROACH FOR THE SPACE DEBRIS COLLISION AVOIDANCE MANEUVER
*Dong-Hyun Cho, KARI, Korea, Republic of*

**IAC-13.A6.P.41**
ENHANCEMENT OF THE ITALIAN CAPABILITIES FOR PROTECTING SPACE ASSETS FROM SPACE DEBRIS
*Carlo Albanese, Telespazio S.p.A., Italy*

**IAC-13.A6.P.42**
MODELING THE COMBINATORIAL COMPLEXITY OF A NEW DATA ASSOCIATION TECHNIQUE USED WITH NARROW FENCE-TYPE RADAR SYSTEMS FOR SMALL LEO DEBRIS CATALOGUING
*Thibaut Castaings, Office National d'Etudes et de Recherches Aérospatiales (ONERA), France*

**IAC-13.A6.P.43**
THE POSITION OF HUMAN ACTIVITIES ON SPACE DEBRIS
*Abubakar Babagana, Seabed International, Nigeria*

## A7. SYMPOSIUM ON TECHNOLOGICAL REQUIREMENTS FOR FUTURE SPACE ASTRONOMY AND SOLAR-SYSTEM SCIENCE MISSIONS

***Coordinator(s):*** *Jacobus van Zyl , SunSpace, South Africa; Wim Hermsen , SRON - Netherlands Institute for Space Research, The Netherlands;*

## A7.1. Technology Needs (Part 1)

***September 26 2013, 09:45 — 302B***

***Co-Chair(s):*** *Wim Hermsen , SRON - Netherlands Institute for Space Research, The Netherlands; Jacobus van Zyl , SunSpace, South Africa;*

**IAC-13.A7.1.1 (withdrawn)**
OBSERVATIONAL IMAGE SIMULATOR OF VISIBLE TELESCOPE IN SVOM MISSION
*Chao WU, National Astronomical Observatories, Chinese Academy of Sciences, China*

**IAC-13.A7.1.2**
PAYLOAD CALIBRATION MANEUVERS FOR ASTROSAT
*Harish Joglekar, ISRO Satellite Centre (ISAC), India*

**IAC-13.A7.1.3**
THE CONCEPTUAL DESIGN OF X-RAY TIMING AND POLARIZATION SATELLITE
*Yongwei Dong, IHEP/CAS, China*

**IAC-13.A7.1.4**
EUCLID PAYLOAD MODULE: A 1.2M SIC TELESCOPE FOR HIGH ACCURACY SKY IMAGING IN VISIBLE AND NEAR INFRA-RED
*Eric Maliet, EADS Astrium, France*

**IAC-13.A7.1.5**
VERY LARGE CERAMIC TELESCOPES IN ASTRIUM FOR SPACE ASTROPHYSICS
*Eric Maliet, EADS Astrium, France*

**IAC-13.A7.1.6**
ORBIT DESIGN AND UV COVERAGE FOR TWO-SATELLITE SPACE VLBI
*Cheng Zhang, Chinese Academy of Sciences, China*

**IAC-13.A7.1.7**
THE CHINESE SPACE MILLIMETER-WAVELENGTH VLBI ARRAY - A STEP TOWARD IMAGING THE MOST COMPACT ASTRONOMICAL OBJECTS
*Tao An, Shanghai Astronomical Observatory, Chinese Academy of Sciences, China*

## A7.2. Technology Needs (Part 1)

***September 27 2013, 09:45 — 210B***

*Co-Chair(s): Wim Hermsen , SRON - Netherlands Institute for Space Research, The Netherlands; Jacobus van Zyl , SunSpace, South Africa;*

**IAC-13.A7.2.1**
A MACHINE LEARNING APPROACH FOR INVESTIGATING SPATIAL STRUCTURES BETWEEN SPECTRAL LINE SOURCES: FORMALDEHYDE ABSORPTIONS VERSUS METHANOL MASERS
*Daniel Okoh, National Space Research and Development Agency,Nigeria, Nigeria*

**IAC-13.A7.2.2**
RESEARCH ON THE PAYLOAD COVERAGE ANALYSIS OF SPACE SCIENCE EXPLORATION
*Zhen Yang, CSSAR/CAS, China*

**IAC-13.A7.2.3 (withdrawn)**
MISSION ARCHITECTURES AND PLATFORM OPTIONS FOR IN SITU EXPLORATION OF THE MIDDLE ATMOSPHERE OF VENUS
*Graham Dorrington, School of Aerospace, Mechanical and Manufacturing Engineering, RMIT University, Australia*

**IAC-13.A7.2.4 (withdrawn)**
QUIJOTEEXPRESS - A NOVEL PLANNING SYSTEM FOR FUTURE PLANETARY ROVER MISSIONS
*Juan Manuel Delfa Victoria, TU Darmstadt, Germany*

**IAC-13.A7.2.5**
THE STUDIES ON VIRTUAL SIMULATION PLATFORM FOR THE ENTRY DESCENT AND LANDING SYSTEM OF SPACECRAFT
*Jia He, Beijing Institute of Space Mechanics & Electricity, China*

**IAC-13.A7.2.6**
THE DETECTION OF NEAR EARTH OBJECTS,NEO'S
*Tesfay Kehase Abay, , Ethiopia*

**IAC-13.A7.2.7**
AEROSPACE SCIENCE APPLIED TO SCHOOL PROJECTS: PROJECT SPACE PIONEERS OF EDUCATION SCHOOL (EXPERIMENTAL ROCKET)
*JUAN CARLOS ARIAS CAÑÓN, Colegio Nuestra Señora del Rosario Funza, Colombia*

# B1. EARTH OBSERVATION SYMPOSIUM

*Coordinator(s): John Hussey, Consultant, United States; Pierre Ranzoli, Eumetsat, Germany;*

## B1.1. International Cooperation in Earth Observation Missions

***September 24 2013, 09:45 — 301B***

***Chairman(s):*** *John Hussey , Consultant, United States; Pierre Ranzoli , Eumetsat, Germany;*
***Rapporteur(s):*** *David Brent Smith , National Oceanic and Atmospheric Administration (NOAA), United States;*

**IAC-13.B1.1.1**
2013 REPORT ON THE ACTIVITIES OF THE COMMITTEE ON EARTH OBSERVATION SATELLITES (CEOS)
*Luc Brûlé, Canadian Space Agency, Canada*

**IAC-13.B1.1.2 (withdrawn)**
THE OPERATIONS OF INTERNATIONAL CHARTER SPACE AND MAJOR DISASTERS AND ITS APPLICATIONS IN CHINA
*Chaohui Guo, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B1.1.3 (withdrawn)**
INTERNATIONAL COOPERATION IN LAND IMAGING SATELLITE SYSTEMS
*Thomas Cecere, USGS Land Remote Sensing Program, United States*

**IAC-13.B1.1.4**
PAZ AND TERRASAR-X CONSTELLATION, INNOVATION THROUGH INTERNATIONAL COOPERATION
*Adrien Muller, EADS Astrium, Germany*

**IAC-13.B1.1.5**
METOP B IN-ORBIT COMMISSIONING
*JEAN PAUL GARDELLE, Astrium SAS France, France*

**IAC-13.B1.1.6**
APPLICATIONS OF SATELLITE REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS FOR SUPPORT OF MARITIME SECURITY IN THE TRI-BORDER AREA OF SOUTHEAST ASIA
*Katrina Laygo, Space Policy Institute, George Washington University, United States*

**IAC-13.B1.1.7 (withdrawn)**
DISCUSSION ON THE APPLICATION MECHANISM FOR REMOTE SENSING SATELLITE TO INTERNATIONAL DISASTER RELIEF AND MONITORING
*Wu Min, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B1.1.8**
UNIQUE OFFERINGS OF THE ISS AS AN EARTH OBSERVING PLATFORM
*Vic Cooley, National Aeronautics and Space Administration (NASA)/ Johnson Space Center, United States*

**IAC-13.B1.1.9**
MINIMIZING LATENCY BY INVESTING IN MULTIPLE PROCESSORS IN A MULTI-MISSION ENVIRONMENT
*Martin Krynitz, Kongsberg Satellite Services AS, Norway*

**IAC-13.B1.1.10**
ASTROSAT PORTFOLIO FOR EXPORT SYSTEMS
*Eric Maliet, EADS Astrium, France*

**IAC-13.B1.1.11**
A NETWORK OF EQUATORIAL GROUND SEGMENT FOR COLLECTION, DISSEMINATION AND ARCHIVING DATA FROM A CONSTELLATION OF LEO SEMI-ACTIVE INTERFEROMETRIC SAR SATELLITES
*Abdul Lawal, , United Kingdom*



## B1.2. Future Earth Observation Systems

***September 24 2013, 14:45 — 301B***

***Chairman(s):*** *Benoit Boissin , Centre National d'Etudes Spatiales (CNES), France; Gilles Corlay , Sodern, France;*
***Rapporteur(s):*** *Gunter Schreier , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.B1.2.1**
DMC3 CONSTELLATION: SUB-METER RESOLUTION IMAGERY AT THE LOWEST COSTS
*Stefanie Kohl, Surrey Satellite Technology Ltd, United Kingdom*

**IAC-13.B1.2.2**
PLEIADES HIGH RESOLUTION OPTICAL EARTH OBSERVATION SYSTEM STATUS AND FUTURE MISSIONS PREPARATION IN THE FRAME OF CXCI CNES PROGRAM
*Alain GLEYZES, CNES, France*

**IAC-13.B1.2.3**
EARTH OBSERVATION SYSTEM OF THE REPUBLIC OF KAZKAHSTAN
*Vladimir Ten, Kazakhstan Gharysh Sapary, Kazakhstan*

**IAC-13.B1.2.4**
NEW GENERATION OF EARTH OBSERVATION OPTICAL SYSTEMS
*Laure Brooker Lizon-Tati, EADS Astrium Satellites, France*

**IAC-13.B1.2.5**
NEMO-HD: A HIGH PERFORMANCE MULTISPECTRAL EARTH OBSERVATION MICROSATELLITE ENABLED BY COTS COMPONENTS
*Jakob Lifshits, Space Flight Laboratory, University of Toronto, Canada*

**IAC-13.B1.2.6**
OPTICAL INSTRUMENTS FOR METEOROLOGY AND CLIMATE RESEARCH, KAYSER-THREDE'S PARTICIPATION IN THE MTG PROGRAM
*Clemens Kaiser, Kayser-Threde GmbH, Germany*

**IAC-13.B1.2.7 (withdrawn)**
SPACE-BASED CARBON MONITORING BY GOSAT AND GOSAT-2: LESSONS AND LEARNED FROM GOSAT IN-ORBIT OPERATION AND TOWARDS BETTER ACCURACY OF XCO2 OBSERVATION
*Hiroshi Suto, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B1.2.8**
TERRASAR-X NEXT GENERATION – MISSION OVERVIEW
*Steffen Gantert, ASTRIUM EADS, Germany*

**IAC-13.B1.2.9 (withdrawn)**
SWIM, ON-BOARD CFOSAT, FOR A GLOBAL MONITORING OF THE WAVES
*Céline Tison, CNES, France*

**IAC-13.B1.2.10**
CHALLENGES FOR GNSS-REFLECTOMETRY IN THE ARCTIC
*Danijela Ignjatovic Stupar, International Space University (ISU), France*

**IAC-13.B1.2.11**
RESEARCH ON SPACE-BORNE LIDAR SURVEYING NERITIC SEABED TERRAIN
*Dou Qiang, China Academy of Space Technology (CAST), China*

## B1.3. Earth Observation Sensors and Technology

***September 25 2013, 09:45 — 301B***

***Chairman(s):*** *Andrew Court , TNO, The Netherlands; Yean Joo Chong , National University of Singapore, Rep. Of Singapore;*
*Rapporteur(s): Ralph Girard , Canadian Space Agency, Canada;*

**IAC-13.B1.3.1**
STATUS ON ADVANCED PASSIVE AND ACTIVE OPTICAL EO SENSORS IN THE GERMAN SPACE ?PROGRAMME- THE HYPERSPECTRAL INSTRUMENT ON ENMAP AND THE MERLIN LASER RADAR
*Timo Stuffler, Kayser-Threde GmbH, Germany*

**IAC-13.B1.3.2**
EVOLUTION AND TRENDS IN ATMOSPHERIC SOLAR-BACKSCATTER INSTRUMENTS
*Johan De Vries, Dutch Space, The Netherlands*

**IAC-13.B1.3.3**
STUDY OF HADAMARD TRANSFORM SPECTRAL IMAGER FOR FAINT OBJECT DETECTION
*Xin Sun, , China*

**IAC-13.B1.3.4 (withdrawn)**
COMPACT HYPERSPECTRAL IMAGERS FOR CANADIAN LAND AND OCEAN MONITORING
*Ralph Girard, Canadian Space Agency, Canada*

**IAC-13.B1.3.5**
TECHNOLOGIES OF HIGH-RESOLUTION EARTH OBSERVATION WITH DEPLOYABLE OPTICS FROM GEOSTATIONARY ORBIT
*Yang Bingxin, Beijing Institute of Space Mechanics & Electricity,CAST, China*

**IAC-13.B1.3.6**
APPLICATION OF IMAGING SPATIAL HETERODYNE SPECTROSCOPY IN THE NEW HIGH SPECTRAL RESOLUTION LIDAR FOR FUTURE SPACE-BASED CLIMATE STUDY
*Yunlong Lin, York University, Canada*

**IAC-13.B1.3.7**
THE DESIGN AND TEST OF SPECTRUM SUBDIVISION RECEIVER FOR MICROWAVE RADIOMETER ON SATELLITE
*Xiaohua Zhou, Xi'an Institute of Space Radio Technology, China*

**IAC-13.B1.3.8**
A S BAND SAR SMALL SATELLITE AND ITS VERIFICATION
*Zhang Running, DFH Satellite Company, Ltd., China*

**IAC-13.B1.3.9**
GIMS: AN INSTRUMENT FOR TYPHOON MONITORING FROM GEOSTATIONARY EARTH ORBIT
*Hao LIU, National Space Science Center (NSSC), China*

**IAC-13.B1.3.10**
DEVA: A THERMAL INFRARED OPTICAL INSTRUMENT FOR EARTH OBSERVATION FROM SPACE WITH UNPRECEDENTED PERFORMANCE
*Marco Esposito, coseno S.r.l., Italy*

**IAC-13.B1.3.11**
ON-ORBIT RESULTS OF THE NIRST MULTISPECTRAL IMAGER
*François Châteauneuf, INO R&D in Optics and photonics, Canada*

## B1.4. Earth Observation Data Management Systems

***September 25 2013, 14:45 — 301B***

***Chairman(s):*** *Carlo Ulivieri , University of Rome "La Sapienza", Italy; Gunter Schreier , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Bruce K. Quirk , U.S. Geological Survey, United States;*

**IAC-13.B1.4.1**
BLOCK GAIN VECTOR QUANTIZATION FOR SATELLITE SAR RAW DATA COMPRESSION
*Hyeon-Cheol Lee, Korea Aerospace Research Institute, Korea, Republic of*

**IAC-13.B1.4.2**
BUILDING A CLOUD FOR NEXT GENERATION GROUND DATA SYSTEM OF SPATIAL INFORMATION INFRASTRUCTURE
*Wei Wan, CASC, China*

**IAC-13.B1.4.3 (withdrawn)**
DOWNSCALING FOR INFRARED RESOLUTION ENHANCEMENT
*Jesús Gonzalo, University of León, Spain*

**IAC-13.B1.4.4**
GROUND SEGMENT FACILITIES OF THE EUROPEAN EARTH OBSERVATION PROGRAM COPERNICUS AT THE GERMAN AEROSPACE CENTER
*Gunter Schreier, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B1.4.5**
GROUND VS. SATELLITE RELAY BASED COMMUNICATIONS FROM LOW EARTH ORBIT – A TECHNICAL, FINANCIAL AND COMMERCIAL COMPARISON
*Baard Eilertsen, Kongsberg Satellite Services AS, Norway*

**IAC-13.B1.4.6**
GS4EO: A NEW GROUND SEGMENT FOR EARTH OBSERVATION MISSIONS
*Angel Monge, Elecnor Deimos, Spain*

**IAC-13.B1.4.7**
INDIA'S VISION FOR NATIONAL GIS (BASED ON EO, POSITIONING, SURVEY AND MAPS, VIRTUAL GI, GEO-TAGGED DATA)
*Mukund Kadursrinivas Rao, , India*

**IAC-13.B1.4.8**
MAPPING AND ANALYSIS OF BUILDING DENSITY IN LUGBE AREA OF ABUJA, NIGERIA USING GEOINFORMATION TECHNOLOGY
*Achema Emmanuel, , Nigeria*

**IAC-13.B1.4.9**
SENTINEL-1 PDGS, THE GMES GROUND SYSTEM FOR SENTINEL 1 SATELLITES OPERATION
*Eric Maliet, EADS Astrium, France*

**IAC-13.B1.4.10**
SPOT 6 AND SPOT 7 : OFFERING SPOT DATA CONTINUITY
*Eric Maliet, EADS Astrium, France*

## B1.5. Earth Observation Applications and Economic Benefits

***September 26 2013, 14:45 — 301B***

***Chairman(s):*** *Luigi Bussolino , Bussolino and Associates, Italy; Paul Kamoun , Thales Alenia Space France, France;*
***Rapporteur(s):*** *Yean Joo Chong , National University of Singapore, Rep. Of Singapore;*

**IAC-13.B1.5.1**
ADDING RISK INFORMATION FROM EARTH OBSERVATION SYSTEMS AND GIS TO DISASTER EARLY WARNING AND MANAGEMENT
*WEN LING XUAN, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B1.5.2 (withdrawn)**
ANALYSIS OF SAR MONITORING CAPABILITIES FOR COASTAL BATHYMETRY
*Marco D'Errico, Seconda Universita' di Napoli, Italy*

**IAC-13.B1.5.3**
EARTH OBSERVATION FOR MONITORING AND ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF ENERGY USE - THE EU-FP7 'ENERGEO' PROJECT
*Len van der Wal, TNO, The Netherlands*

**IAC-13.B1.5.4**
11TH ANNUAL SPACE GENERATION CONGRESS: EARTH OBSERVATION SESSION REPORT ON SPACE APPLICATIONS FOR WATER MANAGEMENT
*Noemie Bernede, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.B1.5.5**
APPLICATION OF WATER MANAGEMENT WITH SATELLITE TECHNOLOGY
*Min Wei, China Academy of Space Technology (CAST), China*

**IAC-13.B1.5.6**
MONITORING AND ASSESSMENT OF REGIONAL AIR QUALITY IN CHINA USING SPACE OBSERVATIONS (MARCO POLO)
*Len van der Wal, TNO, The Netherlands*

**IAC-13.B1.5.7**
PLEIADES USERS THEMATIC COMMISSIONING : EARTH OBSERVATION APPLICATIONS FROM OPTICAL CONSTELLATION
*Claire Tinel, CNES, France*

**IAC-13.B1.5.8**
IDENTIFICATION AND CROSS-CHECKING OF LARGE POINT SOURCE SO2 EMISSIONS IN EUROPE USING OMI RETRIEVALS
*Len van der Wal, TNO, The Netherlands*

**IAC-13.B1.5.9**
PLANNING FOR CITY OF MYSORE AND ENGAGING CITIZENS – BENEFITS FROM EO AND GIS BASED "INTERACTIVE" SYSTEM
*Mukund Kadursrinivas Rao, , India*

**IAC-13.B1.5.10**
THE ROLE OF EARTH OBSERVATION SATELLITE DURING THE INTERNATIONAL COLLABORATION ON THE 2012 NIGERIA FLOOD DISASTER
*Olojo Olabamiji, National Space Research and Development Agency, Abuja, Nigeria, Nigeria*

**IAC-13.B1.5.11**
EARTH OBSERVATION EXPANSION PROVIDES OPPORTUNITIES FOR COMMERCIAL MARKET GROWTH
*Adam Keith, Euroconsult, Canada*

**IAC-13.B1.5.12**
REMOTE SENSING FOR DROUGHT EARLY WARNING AND MONITORING IN MOROCCO
*Noureddine BIJABER, Royal centre for remote sensing, Morocco*

**IAC-13.B1.5.13**
RESEARCH ON POLICE GEOGRAPHY INFORMATION FUSION AND APPLICATION TECHNOLOGY BASED ON EARTH-OBSERVATION DATA
*Tan Li, Beijing Simulation Center, China*

## B1.6. Towards Implementation of GEOSS

***September 27 2013, 09:45 — 301B***

***Chairman(s):*** *Jan Kolar , Czech Space Office, Czech Republic; David Brent Smith , National Oceanic and Atmospheric Administration (NOAA), United States;*
***Rapporteur(s):*** *Simonetta Cheli , European Space Agency (ESA), Italy;*

**IAC-13.B1.6.1**
MAPPING CAPACITY BUILDING ACTIVITIES FOR THE USE OF SPACE-BORNE EARTH OBSERVATION DATA: THE CEOS WGCAPD INVENTORY PROJECT
*Tiffany Chow, Secure World Foundation, United States*

**IAC-13.B1.6.2**
COLLABORATION IN THE CEOS WORKING GROUP ON CAPACITY BUILDING AND DATA DEMOCRACY: A CASE STUDY OF THE DIGITAL ELEVATION MODELS WORKSHOP
*Tiffany Chow, Secure World Foundation, United States*



**IAC-13.B1.6.3**
THE WORK OF THE GROUP ON EARTH OBSERVATION DATA SHARING WORKING GROUP: AREAS OF FOCUS, PROGRESS AND CHALLENGES
*Catherine Doldirina, Joint Research Centre (JRC) of the European Commission, Italy*

**IAC-13.B1.6.4**
INCENTIVES AND BARRIERS TO INTERNATIONAL SHARING OF CLIMATE SATELLITES DATA: EVIDENCE FROM NATIONAL AND INTERNATIONAL CASE STUDIES
*Mariel Borowitz, Space Foundation, United States*

**IAC-13.B1.6.5**
DESIGN OF DISASTERS MANAGEMENT SPATIAL INFORMATION SYSTEM AND SERVICES
*Xiang Zhou, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, Beijing, China*

**IAC-13.B1.6.6**
RESEARCH ON DETECTING CO2 CONCENTRATION USING REMOTE SENSING DATA
*Qiongqiong Lan, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B1.6.7**
REMOTE SENSING METHODS AND MEANS IN NATURAL RESOURCES CONSERVATION PROBLEMS
*Alchin Shirin-zada, National Aerospace Agency (NASA) of Azerbaijan Republic, Azerbaijan*

**IAC-13.B1.6.8 (withdrawn)**
WILD FIRES PROPOGATION MODELING BASED ON REMOTE SENSING DATA
*Sergey Khvostikov, Moscow Institute of Electronics and Mathematics of National Research University Higher School of Economics (MIEM NRU HSE), Russia*

## B1.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Pierre Ranzoli , Eumetsat, Germany; John Hussey , Consultant, United States;*

**IAC-13.B1.P.1**
REMOTE MONITORING OF ENVIRONMENTAL CONDITIONS AROUND NUCLEAR POWER STATIONS FROM SPACE VEHICLES
*Mikhail Tumanov, Research Institute for Electromechanics, Russia*

**IAC-13.B1.P.2 (withdrawn)**
FORMATION, ORBIT AND ATTITUDE CONTROL FOR FUTURE LONG-BASELINE EARTH GRAVITY MISSIONS
*Enrico Canuto, Politecnico di Torino, Italy*

**IAC-13.B1.P.3**
APPLICATION OF SPACE TIME CODING AND ELEVATION DIGITAL BEAM-FORMING IN MIMO-SAR
*Qi Wei-kong, China Academy of Space Technology (CAST), China*

**IAC-13.B1.P.4**
ON THE FULL-CYCLE AND INTEGRATED HUB-STYLE MISSION PLANNING OF THE LAND OBSERVATION SATELLITES SYSTEM
*Hu Qiu, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B1.P.5**
THE DESIGN AND IMPLEMENTATION OF GNSS-R OCEAN MICROWAVE REMOTE SENSOR BASED ON SATELLITE BORNE DOUBLE-FACE MULTI-WAVE BEAM PHASED ARRAY ANTENNA
*Bo Zhou, Shanghai Academy of Spaceflight Technology, China*

**IAC-13.B1.P.6**
ISOTROP: AN OSSE TO STUDY THE IMPACT OF SENTINEL-4 AND SENTINEL-5 OBSERVATIONS ON AIR QUALITY DATA ASSIMILATION SYSTEMS
*Len van der Wal, TNO, The Netherlands*

**IAC-13.B1.P.7**
NARROW BAND INTERFERENCE SUPPRESSION FOR MULTI-CHANNEL SAR-GMTI SYSTEM
*Yang Lei, , China*

**IAC-13.B1.P.8**
HIGH SENSITIVITY CPT MAGNETOMETER BASED ON RUBIDIUM 87
*Xidong Wang, National Space Science Center (NSSC), China*

**IAC-13.B1.P.9**
THE ULTRA HIGH SPEED DATA STORAGE SYSTEM FOR SPACE REMOTE SENSING PAYLOADS
*Shaojun Wu, Technology and Engineering Center for Space Utilization, CAS, China*

**IAC-13.B1.P.10 (withdrawn)**
HIGH DATA RATE IMAGE COMPRESSION HW PLATFORMS
*Giuseppe Capuano, TECHNO SYSTEM DEV., Italy*

**IAC-13.B1.P.11**
ADVANCED DATA MANAGEMENT SYSTEM (ADAMS) FOR EARTH OBSERVATION IN RESTRICTED ACCESS AREAS.
*Simone La Torre, International Space University (ISU), France*

**IAC-13.B1.P.12**
STEREO IMAGE PROCESSING FOR A DAILY-REVISIT SATELLITE
*An-Ming Wu, National Space Organization, Taiwan, China*

**IAC-13.B1.P.13**
DAM SITE SELECTION USING GIS TECHNIQUES
*Javeria Muneer, , Pakistan*

**IAC-13.B1.P.14**
AN OPEN SOURCE STRATEGY TOWARDS THE DEVELOPMENT OF A GEO SPATIAL FRAME WORK IN PUBLIC HEALTH DOMAIN
*Arun P V, , India*

**IAC-13.B1.P.15**
CHINA FIRST SMALL SATELLITE CONSTELLATION FOR DISASTER AND ENVIRONMENT MONITORING AND ITS APPLICATION
*Bai Zhaoguang, Dong Fang Hong Satellite Co. Ltd., China*

**IAC-13.B1.P.16 (withdrawn)**
SMARTPHONE APPS AND EARTH OBSERVATION ISSUES AS A WAY TO ENHANCE ECONOMICAL GROWTH. GMES/COPERNICUS AND MYOCEAN2 BENEFITS.
*Jordi Sandalinas, , Spain*

# B2. SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM

***Coordinator(s):*** *Joe M. Straus , The Aerospace Corporation, United States; Otto Koudelka , Graz University of Technology (TU Graz), Austria;*

## B2.1. Space-Based Navigation Systems and Services

***September 23 2013, 15:15 — 307A***

***Chairman(s):*** *Rita Lollock , The Aerospace Corporation, United States; Cédric Balty , Thales Alenia Space France, France;*
***Rapporteur(s):*** *Norbert Frischauf , SpaceTec Partners SPRL, Belgium;*

**IAC-13.B2.1.1**
INITIAL DATA PROCESSING ASSESSMENT OF THE COMPASS SATELLITE NAVIGATION SYSTEM
*Hongzheng Cui, 1)Science and technology on aerospace flight dynamics laboratory, Beijing, China;2)Beijing aerospace control center, Beijing, China;, China*

**IAC-13.B2.1.2 (withdrawn)**
GNSS PERFORMANCE COMPARISON USING IN-ORBIT SATELLITE MEASUREMENTS
*Nikolaos Batzilis, Aristotle University of Thessaloniki, Greece*

**IAC-13.B2.1.3**
GNSS PERFORMANCES FOR MEO, GEO AND HEO
*Vincenzo Capuano, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland*

**IAC-13.B2.1.4**
SPACE BASED NAVIGATION AUGMENTATION SYSTEMS WORLDWIDE - CURRENT STATUS AND FUTURE OUTLOOK
*Norbert Frischauf, SpaceTec Partners SPRL, Belgium*

**IAC-13.B2.1.5**
MULTI-GNSS: POTENTIALS, RISKS AND BENEFITS
*Etim Offiong, African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria*

**IAC-13.B2.1.6**
A NOVEL ACQUISITION ARCHITECTURE FOR MULTI-MODE SATELLITE NAVIGATION SYSTEM RECEIVER BASED ON CORDIC ALGORITHM
*Zong Zhulin, University of electronic science and technology of China, China*

**IAC-13.B2.1.7**
EVALUATION OF THE REACHABILITY AND PROMPTNESS OF DELIVERING DISASTER AND EVACUATION INFORMATION USING AN AUGMENTATION SIGNAL OF THE QUASI-ZENITH SATELLITE SYSTEM
*Daisuke Iwaizumi, Keio University, Japan*

**IAC-13.B2.1.8**
GNSS FOR DISASTER MANAGEMENT – TECHNICAL AND POLICY ORIENTED RECOMMENDATIONS
*TEJAL THAKORE, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.B2.1.9**
MANAGEMENT PRACTICE OF NAVIGATION SATELLITE BATCH PRODUCTION
*Changjiang Li, China Academy of Space Technology (CAST), China*

**IAC-13.B2.1.10**
CONSTELLATION DESIGN AND STABILITY PROMOTION APPROACHES FOR COMPASS REGIONAL NAVIGATION SYSTEM
*Li HengNian, State Key Laboratory of Astronautic Dynamics (ADL), affiliated to Xi'an Satellite Control Center, Xi'an, China*

**IAC-13.B2.1.11**
GEO ORBIT DETERMINATION USING BEIDOU SYSTEM
*Xiucong Sun, Beihang University, China*

**IAC-13.B2.1.12**
STOCHASTIC ASSESSMENT OF GPS OBSERVATIONS FOR LEO RELATIVE NAVIGATION
*Leizheng Shu, Beihang University, China*

## B2.2. Near-Earth and Interplanetary Communications

***September 24 2013, 09:45 — 307A***

***Chairman(s):*** *Manfred Wittig , European Space Agency (ESA) retired, The Netherlands; Ramon P. De Paula , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Dipak Srinivasan , The Johns Hopkins University Applied Physics Laboratory, United States;*

**IAC-13.B2.2.1**
MARS SCIENCE ORBITERS RELAY COMMUNICATIONS NETWORK SUPPORT FOR THE MAR EXPLORATION ROVER (MER), MARS SCIENCE LABORATORY (MSL), AND FUTURE MARS 2016, 2018 AND 2020 LANDERS
*Ramon P. De Paula, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.B2.2.2**
A DEEP SPACE COMMUNICATION LINK BUDGET METHOD BASED ON CCSDS STANDARDS
*Xueqiang Chen, , China*

**IAC-13.B2.2.3**
A CREATIVE ARCHITECTURE FOR MASS-SENSITIVE TRANSPONDER
*Zhugang Wang, National Space Science Center (NSSC), China*

**IAC-13.B2.2.4**
A NOVEL X BAND TRANSMITTER FOR SMALL DEEP SPACE EXPLORERS
*Xianfeng Liang, Center for Space Science and Applied Research, Chinese Academy of Sciences, China*

**IAC-13.B2.2.5**
THE DESIGN OF EFFICIENT ERROR CONTROL CODES FOR SPACECRAFT TELECOMMAND
*Guojiang Xia, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.B2.2.6**
ANALYSIS OF DISTRIBUTED ANTENNA ARRAY COMBINING ALGORITHM PERFORMANCE FOR WEAK SIGNAL OF DEEP SPACE COMMUNICATIONS
*Xueshu Shi, Academy of Equipment, China*

**IAC-13.B2.2.7**
INTER-SATELLITE COMMUNICATION SYSTEM AND EMULATION FOR FLYING-AROUND SMALL SATELLITE FORMATION
*Zang Rongchun, DFH satellite Co.Ltd, China*

**IAC-13.B2.2.8**
DOWN LINK OPTICAL COMMUNICATION EXPERIMENT USING MICRO SATELLTE BODY POINTING AND COLLABORATION WITH CO-LOCATED SCIENCE INSTRUMENT
*Hiroo Kunimori, NICT, Japan*

**IAC-13.B2.2.9**
CAR: CODED AUTO RETRANSMISSION TRANSPORT PROTOCOL FOR DEEP SPACE COMMUNICATION
*Wanrong Yu, National University of Defense Technology, China*

**IAC-13.B2.2.10**
JOINT RELATIVE LOCALIZATION AND CLOCK SYNCHRONIZATION FOR A SATELLITE ARRAY
*Anton Delawari, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.B2.2.11**
REACTIVE COMMAND TO LEO SATELLITE USING HF TRANSIONOSPHERIC LINKS: THE HFPE TECHNOLOGICAL EXPERIMENT
*Jean-Paul Aguttes, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.B2.2.12**
ANALYZING SENSOR BASED POSITIONING ON THE SURFACE OF A DISTANT PLANET
*Aliz Szeile, Budapest University of Technology and Economics, Hungary*

## B2.3. Advanced Technologies for Space Communications and Navigation

***September 25 2013, 09:45 — 307A***

***Chairman(s):*** *Edward W. Ashford , Delft University of Technology, The Netherlands; M.G. Chandrasekhar , Devas Multimedia Pvt. Ltd., United States;*
***Rapporteur(s):*** *Elemer Bertenyi , E. Bertenyi & Associates Inc., Canada;*

**IAC-13.B2.3.1**
SPACEFIBRE: MULTI-GBITS/S NETWORK FOR SPACEFLIGHT APPLICATIONS
*Steve Parkes, University of Dundee, United Kingdom*

**IAC-13.B2.3.2 (withdrawn)**
DESIGN APPROACHES FOR INTERSTELLAR COMMUNICATION
*Divya Shankar, Nitte Meenakshi Institute of Technology, India*

**IAC-13.B2.3.3**
PROGRESSES IN THE FREQUENCY REUSE OPTIMISATION: INNOVATIVE APPROACHES AND PERSPECTIVES
*Antonio Saitto, , Italy*

**IAC-13.B2.3.4**
APPLICABILITY OF FREE SPACE LASER COMMUNICATIONS FOR MICRO-SATELLITES IN DIRECT AND INTER-SATELLITE LINK SCENARIOS
*Morio Toyoshima, National Institute of Information and Communications Technology, Japan*

**IAC-13.B2.3.5**
MALAYSIA NATIONAL COMMUNICATION SATELLITE DEVELOPMENT PROGRAM
*NOOR HIDAYAH TAUHID AHMAD, Malaysian National Space Agency (ANGKASA), Malaysia*

**IAC-13.B2.3.6**
INTEGRATING PLANAR ANTENNAS AND SOLAR CELLS INTO THE OLFAR SATELLITES
*Alex Budianu, University of Twente, The Netherlands*

**IAC-13.B2.3.8**
LASER COMMUNICATION EXPERIMENTS WITH ARTEMIS SATELLITE
*Sergii Kuzkov, NAS of Ukraine, Ukraine*

**IAC-13.B2.3.9**
IMPROVEMENT OF INFORMATION LATENCY IN EO-MISSIONS WITH THE USE OF HYBRID LASER/RF SYSTEMS
*Matthias Motzigemba, Tesat-Spacecom GmbH & Co. KG, Germany*

**IAC-13.B2.3.10**
VISIBLE LIGHT COMMUNICATIONS ON SPACECRAFT
*Liwei Ding, , China*

**IAC-13.B2.3.11**
THE PROGRESS OF SOFTWARE DEFINED RADIO TECHNOLOGY FOR SPACE COMMUNICATION
*Wang LingXia, School of Electronic Engineering, Xidian University, China*

**IAC-13.B2.3.12**
DESIGN OF RECONFIGURABLE REFLECTARRAY ANTENNA WITH SUM/DIFFERENCE BEAM PATTERNS
*Mingtao Zhang, China Academy of Space Technology (CAST), China*

**IAC-13.B2.3.13**
SIMULATION AND VERIFICATION PLATFORM DESIGN AND ANALYSIS OF CHINA COMPASS NAVIGATION
*Jun Xie, China Academy of Space Technology (CAST), China*

**IAC-13.B2.3.14**
SATELLITE COMMUNICATION SYSTEM ADOPTS CDMA-OFDM SIGNALING
*Tong Yang, China Academy of Space Technology (CAST), China*

**IAC-13.B2.3.15**
STUDY ON LOW EARTH ORBIT SPACECRAFT HIGH RELIABILITY AND HIGH PRECISION POSITIONING TECHNOLOGY BASED ON GNSS
*Zhi Chen, China Aerospace Science and Industry Corporation, China*

## B2.4. Advanced Space Communications and Navigation Systems

***September 26 2013, 09:45 — 307A***

***Chairman(s):*** *Robert Prevaux , Space Systems/Loral, United States; Morio Toyoshima , National Institute of Information and Communications Technology, Japan;*
***Rapporteur(s):*** *Amane Miura , National Institute of Information and Communications Technology, Japan;*

**IAC-13.B2.4.1**
DESIGN CONSIDERATIONS FOR SMALL SATELLITES SUPPORTING AIS AND ADS-B MISSIONS
*Otto Koudelka, Graz University of Technology (TU Graz), Austria*

**IAC-13.B2.4.2**
A NOVEL ANTENNA PHASED ARRAY CONCEPT FOR AIS AND ADS-B SIGNAL DETECTION USING NANO/MICRO-SATELLITES
*Manfred Wittig, European Space Agency (ESA) retired, The Netherlands*

**IAC-13.B2.4.4**
SWARM TO EARTH COMMUNICATION IN OLFAR
*Alex Budianu, University of Twente, The Netherlands*

**IAC-13.B2.4.5**
DESIGN OF ONBOARD COMMUNICATION SYSTEM FOR THE NANO-SATELLITE STUDSAT-2A/2B
*Divya Shankar, Nitte Meenakshi Institute of Technology, India*

**IAC-13.B2.4.6**
PERFORMANCE OF RATE QUARTER LOW DENSITY PARITY CHECK CODES FOR FREE SPACE OPTICAL COMMUNICATION IN A LOGNORMAL FADING DISTRIBUTION
*Adeel Malik, SUPARCO, Pakistan*

**IAC-13.B2.4.7**
DESIGN OF SMART ANTENNAS FOR NANOSATELLITES
*Arya Menon, Manipal Institute of Technology, Manipal University, India*

**IAC-13.B2.4.8**
ADAPTIVE FILTER BASED ARTIFICIAL INTELLIGENCE APPROACH IN IMAGE PROCESSING FOR DEEP SPACE & INTERPLANETARY AUTONOMOUS MISSIONS
*Ugur Guven, , United States*

**IAC-13.B2.4.9**
DESIGN AND DSP IMPLEMENTATION OF PROXIMITY SPACE RECEIVER BASED ON CCSDS STANDARD
*Rui Zhu, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.B2.4.10**
RESEARCH ON TELE-REACH MANAGEMENT OF CHINA'S AEROSPACE TT&C SYSTEM
*Fei Fan, Beijing Institute of Tracking and Telecommunication Technology, China*

**IAC-13.B2.4.11**
RESEARCH ON THE EF PHASE ESTIMATION X-RAY PULSARS RELATIVE NAVIGATION BASED SPATIAL STATES DETERMINATION OF FORMATION FLYING SPACECRAFTS
*Chengjun Guo, , China*

**IAC-13.B2.4.12**
GROUND-BASED RADIO NAVIGATION SYSTEM FOR GEO SATELLITES
*Yuguang Yang, China aerospace science & industry corporation, China*

**IAC-13.B2.4.13**
RESEARCH ON DOPPLER FREQUENCY-SHIFT AND PROPAGATION -DELAY OF POLAR ORBIT CONSTELLATION SATELLITE BASED ON HPOP
*Nan Hai Tao, China Xi'an Satellite Control Center, China*

**IAC-13.B2.4.14**
NEW FUTURE SPACECRAFT NAVIGATION TOOL:INTERFEROMETRY TECHNOLOGY BASED ON ANTENNA ARRAY
*Lue Chen, National Key Laboratory of Science and Technology on Aerospace Flight Dynamics, China*

## B2.5. Fixed and Broadcast Communications

***September 26 2013, 14:45 — 307A***

***Chairman(s):*** *Otto Koudelka , Graz University of Technology (TU Graz), Austria; Desaraju Venugopal , Devas Multimedia Pvt. Ltd., India;*
*Rapporteur(s): Moon-Beom Heo , Korea Aerospace Research Institute, Korea, Republic of;*

**IAC-13.B2.5.1**
ANALYSIS OF ADJACENT BAND MOBILE WIRELESS SERVICE INTERFERENCE TO SATELLITE RADIO BROADCAST RECEIVERS
*Robert D. Briskman, Sirius XM Radio, United States*

**IAC-13.B2.5.2**
DESIGN AND FIRST TEST OF A COMBINED 19.7 AND 39.4 GHZ BEACON RECEIVER FOR THE ALPHASAT PROPAGATION EXPERIMENT
*Franz Teschl, Joanneum Research, Austria*

**IAC-13.B2.5.3 (withdrawn)**
SIGNAL ANALYZER FOR DVB-S2 SATELLITE COMMUNICATION LINKS
*Eral Türkyilmaz, Joanneum Research, Austria*

**IAC-13.B2.5.4**
DEVISING A COMMUNICATIONS SATELLITE SOLUTION TO MEET THE NEEDS OF THE CHANGING WORLD IN A REGIONAL PERSPECTIVE
*Ahmad Talebzadeh, Asia-Pacific Space Cooperation Organization, China*

**IAC-13.B2.5.5**
RESEARCH ON OFDM TECHNOLOGY IN SATELLITE COMMUNICATION SYSTEM
*Chen Wang, Institute of Communication Satellite,China Academy of Space Technology, China*

**IAC-13.B2.5.6**
ANALYSIS AND STUDY ON CHANNEL CODING TECHNIQUE OF HIGH-RESOLUTION REMOTE SENSING SATELLITE DATA TRANSMISSION
*Chen Xin, Beijing Institute of Satellite Information Engineering, China Academy of Space Technology (CAST), China*

**IAC-13.B2.5.7**
AN INTERFERENCE DETECTION ALGORITHM BASED ON AR MODEL FOR THE FREQUENCY-HOPPING SYSTEM
*Xu Zhuoyi, China Academy of Space Technology (CAST), China*

**IAC-13.B2.5.8**
INTERFERENCE SIMULATION FOR THE SATELLITE ANTENNA REFLECTORS
*Yong XUE, China Academy of Space Technology (CAST), China*

**IAC-13.B2.5.9**
DESIGN OF A BROADBAND OMNI-DIRECTIONAL ANTENNA UNDER THE THICK DIELECTRIC MATERIAL LAYER
*Wang Xiaofei, The First Academy of China Aerospace Science and Technology Corporation, China*

**IAC-13.B2.5.10**
NOVEL DESIGN FOR MICROSTRIP TO STRIPLINE TRANSITIONS FOR MILLIMETER-WAVE APPLICATION IN LTCC
*Xin Xu, , China*

**IAC-13.B2.5.11**
DESIGN AND MULTIPACTOR SIMULATIONS OF A KU-BAND IMPEDANCE TRANSFORMER
*Tiancun Hu, Xi'an Institute of Space Radio Technology, China*

**IAC-13.B2.5.12**
MODELING OF EARTHQUAKE PREDICTION SYSTEM ON WIRELESS SENSOR NETWORK VIA SATELLITE COMMUNICATION
*Peng Zong, , China*

## B2.6. Mobile Satellite Communications and Navigation Technology

***September 27 2013, 09:45 — 307A***

***Chairman(s):*** *Robert D. Briskman , Sirius XM Radio, United States; Jean-Paul Aguttes , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Kevin Shortt , Canadian Space Society, Canada;*

**IAC-13.B2.6.1**
A COMPACT BROADBAND ANTENNA FOR WIRELESS TERMINALS IN TELEMETRY AND TELECOMMUNICATION SYSTEMS
*Gaojian Kang, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.B2.6.2**
RESEARCH AND DESIGN OF RADIATION HARD DATA TRANSMISSION AND SWITCHING TECHNOLOGY
*Lipeng Yue, CASC, China*

**IAC-13.B2.6.3**
THE VISIBILITY PERFORMANCE OF COMPASS/GPS IN NEAR-EARTH SPACE
*Weihua Ma, Northwestern Polytechnical University, China*

**IAC-13.B2.6.4 (withdrawn)**
ENHANCING THE SENSE OF ORIENTATION AND DIRECTION USING SATELLITE NAVIGATION DATA AND HAPTIC TECHNOLOGY
*Jan Walter Schroeder, , Germany*

**IAC-13.B2.6.5**
STUDY AND SIMULATION ANALYSIS ON TRAFFIC MODELS OF THE UMTS BASED GEO SATELLITE MOBILE COMMUNICATION SYSTEM
*Ying Tao, China Academy of Space Technology (CAST), China*

**IAC-13.B2.6.6**
ON CAPACITY EVALUATION IN SATELLITE-TERRESTRIAL INTEGRATED MOBILE COMMUNICATIONS SYSTEM
*Amane Miura, National Institute of Information and Communications Technology, Japan*

**IAC-13.B2.6.7**
A NEW ARCHITECTURE FOR CONVERGED MOBILE SATELLITE COMMUNICATION SYSTEM AND TERRESTRIAL MOBILE COMMUNICATION SYSTEM FOR PERSONAL COMMUNICATIONS
*Liye Zhao, DFH Satellite Co. Ltd., China*

**IAC-13.B2.6.8**
RESEARCH ON INTERFERENCE FROM STATIONS PROVIDING FEEDER LINKS OF THE NON-GEOSTATIONARY MOBILE-SATELLITE SYSTEMS TO STATIONS OF AERONAUTICAL SERVICE IN THE FREQUENCY BAND 5091-5150 MHZ
*Meng Li, China Academy of Space Technology (CAST), China*

**IAC-13.B2.6.9**
CAPACITY EVALUATION FOR TD-SCDMA MULTI-BEAM GEO SATELLITE COMMUNICATION SYSTEMS
*jia cen Han, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B2.6.10**
THE NAVIGATION SATELLITE ATTITUDE CONTROL METHODS INTRODUCTION AND THE EFFECT ON THE ANTENNA PHASE CENTER
*Tieying Li, Institute of Spacecraft System Engineering,China Academy of Space Technology (CAST), China*

**IAC-13.B2.6.11**
A FAST ACQUISITION METHOD FOR TD-ALTBOC MODULATION SIGNAL AND PERFORMANCE ANALYSIS
*Jie Ding, China Aerospace Science and Industry Corporation, China*



## B2.7. Joint session on Dual Use (civil and military) Aspects of Telecommunications and GNSS

***September 27 2013, 13:30 — 307A***

***Chairman(s):*** *Agnieszka Lukaszczyk , Secure World Foundation, Belgium; Rita Lollock , The Aerospace Corporation, United States;*
***Rapporteur(s):*** *Stephanie Wan , Space Generation Advisory Council (SGAC), United States;*

**IAC-13.B2.7.1**
*GNSS CIVILIAN/MILITARY DUAL-USE POLICY ISSUES*
*Stephanie Wan, Space Generation Advisory Council (SGAC), United States*

**IAC-13.B2.7.2**
*LIABILITY FOR SATELLITE NAVIGATION PROVIDERS: FROM AN AMERICAN AND CHINESE PERSPECTIVE*
*Ling Chen, Beihang University, China*

**IAC-13.B2.7.3 (withdrawn)**
*NAVIGATION AID IN THE ARCTIC REGION THOROUGH GALILEO/UAS PARASITIC IMAGING*
*Marco D'Errico, Seconda Universita' di Napoli, Italy*

**IAC-13.B2.7.4**
*MITIGATING AIS SPOOFING AND ENVIRONMENTAL DESTRUCTION BY VESSELS IN THE ARCTIC THROUGH OPEN-SOURCED SITUATIONAL AWARENESS AND COMMUNITY MONITORING*
*Luke Idziak, International Space University (ISU), France*

**IAC-13.B2.7.5**
*PERFORMANCE ANALYSIS AND ROBUST DESIGN ON GNSS ANTI-JAMMING ANTENNAS IN THE WORST-CASE SIGNAL BASED ON COMPLEX ELECTROMAGNETIC ENVIRONMENT*
*Chengjun Guo, , China*

**IAC-13.B2.7.6**
*RECENT RESEARCH ON SATELLITE AUTONOMOUS INTEGRITY MONITORING(SAIM) TECHNOLOGY*
*Bian Lang, Xi'an Institute of Space Radio Technology, China*

## B2.8-V.3. Space Communications and navigation Young Professionals Virtual Forum

***September 25 2013, 14:45 — 209A***

***Chairman(s):*** *Edward W. Ashford , Delft University of Technology, The Netherlands; Kevin Shortt , Canadian Space Society, Canada;*

**IAC-13.B2.8-V.3.1**
CONCEPT OF AN ENVIRONMENT FOR A CONTINUOUS UPLINK RAIN FADE ATTENUATION MEASUREMENT IN KA-BAND
*Mr. Jürgen Letschnik, LSE Space GmbH, Germany*

**IAC-13.B2.8-V.3.2**
DEEP SPACE AUTONOMOUS NAVIGATION AND EXPLORATION SYSTEM
*Anand Patil, , India*

**IAC-13.B2.8-V.3.3**
A WIRELESS COMMUNICATION TRANSCEIVER SYSTEM BASED ON PROXIMITY-1 SPACE LINK PROTOCOL
*Rui Cui, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.B2.8-V.3.4**
A TAXONOMY OF ENERGY EFFICIENCY STRATEGIES FOR CUBESAT CLUSTER FORMATION NETWORKS
*Shengchang LAN, Aalto University, Finland*

**IAC-13.B2.8-V.3.5**
APPLYING THE SYSTEM ENGINEERING APPROACH TO DEVISE AND VERIFY BUAA-SAT VHF/UHF COMMUNICATIONS SEGMENT
*Hooman Jazebizadeh, Beihang University, China*

**IAC-13.B2.8-V.3.6**
THE STUDY OF A NEW SCHEME FORGNSS BOC SIGNAL ACQUISITION
*Jichao Zhang, , China*

**IAC-13.B2.8-V.3.7**
FENICE: A FLEXIBLE, SCALABLE HIGH PERFORMANCE SATELLITE AIS RECEIVER
*Veronica De Perini, CGS S.p.A.Compagnia Generale per lo Spazio, Italy*

## B2.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Joe M. Straus , The Aerospace Corporation, United States; Otto Koudelka , Joanneum Research, Austria;*

**IAC-13.B2.P.1**
THE STUDY OF NAVIGATION SIGNAL DISORTION BY DAC
*Su Zhe, China Academy of Space Technology (CAST), China*

**IAC-13.B2.P.2**
IONOSPHERIC SCINTILLATIONS AND VARIABILITY OF TOTAL ELECTRON CONTENT [TEC] AND THEIR EFFECT ON GNSS OVER AKURE, NIGERIA.
*Oladosu Olakunle, African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria*

**IAC-13.B2.P.3**
FAULT DETECTION METHOD COMBINED RESIDUAL CHI-SQUARE AND IMPROVED SPRT ALGORITHM FOR INTEGRATED NAVIGATION SYSTEM
*Yang Jing, , China*

**IAC-13.B2.P.4**
THE STATION KEEPING DEAD-BAND BUDGETS AND ANALYSIS FOR GNSS CONSTELLATION
*QIAN Shan, Xi'an Satellite Control Center, China*

**IAC-13.B2.P.5**
A APPROACH TO IMPROVE THE IONOSPHERIC DELAY CORRECTION ACCURACY OF BEIDOU B1I SIGNAL IN THE SOUTHERN HEMISPHERE
*Lun AI, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.6**
AN IMPROVED ALGORITHM OF DOR PROCESSING FOR DEEP SPACE SPACECRAFT NAVIGATION
*Songtao Han, 1)National Key Laboratory of Science and Technology on Aerospace Flight Dynamics, Beijing; 2)Beijing aerospace control center, Beijing;, China*

**IAC-13.B2.P.7 (withdrawn)**
KEY TECHNOLOGIES ANALYSIS AND SYSTEM SCHEME DESIGN FOR LUNAR-EARTH LASER COMMUNICATION
*Xiangnan Liu, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.8**
AN AUTONOMOUS ORBIT DETERMINATION ALGORITHM FOR LUNAR PROBE USING GNSS SIGNAL
*Xiaoliang Wang, , China*

**IAC-13.B2.P.9**
A NEW AUTONOMOUS RADIO ARCHITECTURE FOR DEEP-SPACE TELEMETRY
*Shen YongJian, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B2.P.10**
IMPACT OF DYNAMIC MOTION ON THE PRECISION OF THE TWSTT IN SPACE EXPLORATION
*Meiting Zhang, DFH Satellite Co. Ltd., China*

**IAC-13.B2.P.11**
PRELIMINARY RESEARCH OF MARS LOCAL NAVIGATION CONSTELLATION
*Xiao Chen, Shanghai Institute of Satellite Engineering, China*

**IAC-13.B2.P.12**
A NEW BEAM WIDE-ANGLE SCANNING BELL LENS ANTENNA FOR INTERPLANETARY COMMUNICATIONS
*Yunan Zhao, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.13**
AUTONOMOUS NAVIGATION BETWEEN TRANS-MARS SATELLITE AND SUN-EARTH L2 ORBITER
*Peng Zhang, Tsinghua University, China*

**IAC-13.B2.P.14**
DELAY CALIBRATIONS OF CONNECTED ELEMENT INTERFEROMETRY (CEI) WITH SMALL ANTENNAS USING TWO SATELLITES
*Tian-Peng REN, National Key Laboratory of Science and Technology on Aerospace Flight Dynamics, China*

**IAC-13.B2.P.15**
ESTIMATION METHOD OF THE X-RAY PULSAR DIRECTION ERROR BASED ON BEIDOU SYSTEM
*Bo Yan, BUAA, China*

**IAC-13.B2.P.16**
DESIGN OF WIDEBAND MICROSTRIP PATCH ANTENNA FOR DEEP SPACE COMMUNICATION
*Ugur Guven, , United States*

**IAC-13.B2.P.17**
STUDY ON A HIGH PERFORMANCE RUBIDIUM ATOMIC FREQUENCY STANDARDS
*Rongbo Chen, Lanzhou Institute of Physics, China*

**IAC-13.B2.P.18 (withdrawn)**
EXPERIMENT STUDIES OF COHERENT OPTICAL COMMUNICATION TECHNOLOGIES FOR INTER-SATELLITE LINKS
*Liang Zhang, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.19**
ULTRA-WIDEBAND AND MILLIMETER WAVEBAND RADIO-OVER-FIBER SYSTEMS FOR ADVANCED SPACE COMMUNICATION APPLICATION
*Jie Yin, China Academy of Space Technology (CAST), China*

**IAC-13.B2.P.20**
DESIGN OF RADIAL POWER DIVIDER/COMBINER IN KA BAND
*Zhigang Zhang, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.21**
RESEARCH ON HIGH-PRECISION TRACK TECHNOLOGY FOR BURST SPREAD SPECTRUM SIGNAL
*Xuyang Chen, Academy of Space Electronic Information Technology, China*

**IAC-13.B2.P.22**
A METHOD OF MULTIPLE ACCESS INTERFERENCE SUPPRESSION FOR SPREAD SPECTRUM RECEIVERS BASED ON MULTI-CORRELATION PEAK DETECTION
*Lei Song, China Academy of Space Technology (CAST), China*

**IAC-13.B2.P.23**
RESEARCH ON PULSE-SYNCHRONIZATION IN BASEBAND OF IMPULSE RADIO-ULTRA WIDEBAND NON-COHERENT SYSTEM
*Chunyu Hou, National Space Science Center (NSSC), China*

**IAC-13.B2.P.24**
THE GPS/INS INTEGRATED NAVIGATION METHOD SUITABLE FOR THE SATELLITE SIGNALS BLOCKING SITUATION
*Che Huan, Space Advisory Company, China*

**IAC-13.B2.P.25**
A MULTI-POSITION SYSTEMATIC CALIBRATION METHOD FOR LASER GYRO STRAPDOWN INERTIAL NAVIGATION SYSTEM
*Li Shuying, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.B2.P.26**
COMPENSATION STATEGY FOR RAIN ATTENUATION IN KA BAND SATELLITE COMMUNICATION
*Wang Hongfeng, Shijiazhuang mechanical engineering college, China*

**IAC-13.B2.P.27**
THE ANALYSIS OF CORONA DISCHARGE BASED ON THE DIPLEXERS USED IN KA-BAND SATELLITE COMMUNICATIONS
*Mingliang Du, , China*

**IAC-13.B2.P.28**
RESEARCH AND DESIGN OF THE RADIATION HARD FFT PROCESSOR FOR SATELLITE
*Xiaodi Zhang, CASC, China*

**IAC-13.B2.P.29**
THE DESIGN OF A TWO-STAGE WIDE DYNAMIC RANGE ANALOGY AGC TECHNOLOGY
*Su Pu, China Academy of Space Technology (CAST), China*

**IAC-13.B2.P.30**
A COMPACT DUAL-BAND DIELECTRIC RESONATOR ANTENNA ARRAY FOR NAVIGATION APPLICATIONS
*Lei Shi, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.31**
LOW-PROFILE HIGH GAIN CONICAL BEAM NAVIGATION ANTANNA FOR GEO SATELLITE
*Heng Guo, Beijing Research Institute of Telemetry, China*

**IAC-13.B2.P.32**
INTRODUCTION OF A LEO MOBILE COMMUNICATION SATELLITE CONSTELLATION AND KEY TECHNIQUES RESEARCH OF USER LINK
*Xiaofeng Tao, China Academy of Space Technology (CAST), China*

**IAC-13.B2.P.33**
ADAPTIVE INTERPOLATION TECHNIQUE FOR RAPID ANALYSIS OF COMMUNICATION INTERFERENCE BETWEEN LEO AND GEO SATELLITES
*Tong Han, Beihang University, China*

## B3. HUMAN SPACE ENDEAVOURS SYMPOSIUM

***Coordinator(s):*** *John Uri , National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States; Cristian Bank , EADS Astrium Space Transportation GmbH, Germany;*

### B3.1. Overview Session (Present and Near-Term Human Space Flight Programmes)

***September 23 2013, 15:15 — 308***

***Chairman(s):*** *Carlo Mirra , EADS Astrium, The Netherlands; John Uri , National Aeronautics and Space Administration (NASA)/ Johnson Space Center, United States;*
***Rapporteur(s):*** *Rainer Willnecker , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.B3.1.1**
KEYNOTE: OUTLOOK FOR CHINA HUMAN SPACEFLIGHT ENGINEERING DEVELOPMENT
*Ming Li, China Academy of Space Technology (CAST), China*





**IAC-13.B3.1.2**
KEYNOTE: THE CONTINUING ROLE OF INTERNATIONAL PARTNERSHIPS IN HUMAN SPACEFLIGHT
*William H. Gerstenmaier, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.B3.1.3**
THE RUSSIAN HUMAN SPACEFLIGHT PROGRAM: ACCOMPLISHMENTS AND HORIZONS
*Alexey Krasnov, Federal Space Agency (ROSCOSMOS), Russia*

**IAC-13.B3.1.4**
JAPAN'S PERSPECTIVE ON THE INTERNATIONAL SPACE STATION FOR EXPLORATION
*Yoshiyuki Hasegawa, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B3.1.5**
THE ESA HUMAN SPACEFLIGHT PROGRAMME - RECENT ACHIEVEMENTS AND FUTURE PROGRAMMATIC GOALS AND CHALLENGES
*Thomas Reiter, , Germany*

**IAC-13.B3.1.6**
ORION PROGRAM EFT-1 STATUS
*Scott Norris, Lockheed Martin Space Systems Company, United States*

**IAC-13.B3.1.7**
THE TRANSITION FROM ISS TO DEEP SPACE EXPLORATION
*Michael Raftery, Boeing Defense Space & Security, United States*

**IAC-13.B3.1.8**
THE 2ND ITERATION OF THE ISECG GLOBAL EXPLORATION ROADMAP
*Bernhard Hufenbach, European Space Agency (ESA), The Netherlands*

**IAC-13.B3.1.9 (withdrawn)**
EUROPEAN SCENARIO FOR UTILISATION OF LOW EARTH ORBIT POST 2020
*Ségolène Brantschen, Space Applications Services N.V., Belgium*

### B3.2. How Can We Best Apply Our Experience to Future Human Missions?

***September 24 2013, 09:45 — 308***

***Chairman(s):*** *Dieter Sabath , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany; Sergey K. Shaevich , Khrunichev State Research & Production Space Center, Russia;*
***Rapporteur(s):*** *Gene Rice , RWI - Rice Wigbels Int'l, United States;*

**IAC-13.B3.2.1**
LESSONS LEARNED FROM ISS PROGRAM IN ENGINEERING AND MANAGEMENT
*Kuniaki Shiraki, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B3.2.2**
RESULTS OF 15-YEARS EXPLOITATION IF THE FIRST ISS MODULE FGB "ZARYA" AND EXPERIENCE OF SERVICE LIFE EXTENSION UNTIL 2028
*Sergey K. Shaevich, Khrunichev State Research & Production Space Center, Russia*

**IAC-13.B3.2.3**
AN INITIAL STUDY OF ORBITAL TRANSFER VEHICLE IN REFERENCE MISSION SCENARIO OF HUMAN LUNAR EXPLORATION WITH MANNED STATION AT EARTH-MOON LIBRATION POINT
*Mitsutoshi Tsujioka, Mitsubishi Heavy Industries, Ltd., Japan*

**IAC-13.B3.2.4 (withdrawn)**
DESIGNING OF THE CONTROL SYSTEM FOR THE NEW RUSSIAN MANNED TRANSPORTATION SYSTEM
*Evgeny Mikrin, S.P. Korolev Rocket and Space Corporation Energia, Russia*

**IAC-13.B3.2.5**
RENDEZVOUS MISSION: FROM ISS TO LUNAR SPACE STATION
*Rafail Murtazin, Rocket Space Corporation Energia, Russia*

**IAC-13.B3.2.6 (withdrawn)**
SPATIAL, COGNITIVE AND EXPERIENTIAL DIAGNOSIS: A USER-CENTERED APPROACH TO EVALUATE THE HABITABILITY OF MANNED RESEARCH STATIONS IN EXTREME ENVIRONMENTAL CONDITIONS.
*Marianthi Liapi, Aristotle University of Thessaloniki, Greece*

**IAC-13.B3.2.7 (withdrawn)**
CONCEPT OF THE OPERATIONAL TECHNIQUES APPLIED TO THE NEXT MANNED SPACE FLIGHT EXPLORATION PROGRAM BASED ON JEM OPERATION
*Kazuya Imaki, Japan Manned Space Systems Corporation, Japan*

**IAC-13.B3.2.8**
ACHIEVEMENTS AND EXPECTATION OF CHINA'S RENDEZVOUS AND DOCKING TASK
*Huang Zhen, Institute of Manned Space System Engineering, CAST, China*

**IAC-13.B3.2.9**
INNOVATION AND UTILIZATION OF THE TIANGONG-1 TARGET VEHICLE
*Mingsheng Bai, Institute of Manned Space System Engineering, CAST, China*

### B3.3. Space Station Utilization

***September 24 2013, 14:45 — 308***

***Chairman(s):*** *Maria Stella Lavitola , Thales Alenia Space Italia, Italy; Kevin D. Foley , The Boeing Company, United States;*
***Rapporteur(s):*** *Shannon Ryan , Defence Science and Technology Organisation (DSTO), Australia;*

**IAC-13.B3.3.1**
KEYNOTE: THE INTERNATIONAL SPACE STATION: A KEY STEP TOWARDS SUSTAINABLE HUMAN SPACE EXPLORATION
*Michael Suffredini, NASA, United States*

**IAC-13.B3.3.2**
ESA SCIENCE AND APPLICATIONS PROGRAMME ON ISS
*Martin Zell, European Space Agency (ESA), The Netherlands*

**IAC-13.B3.3.3 (withdrawn)**
JAPAN-RUSSIA JOINT AQUATIC ANIMAL EXPERIMENT IN KIBO MODULE.
*Nobuyoshi FUJIMOTO, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B3.3.4**
INTERNATIONAL SPACE STATION ACCOMPLISHMENTS UPDATE: SCIENTIFIC DISCOVERY, ADVANCING FUTURE EXPLORATION, AND BENEFITS BROUGHT HOME TO EARTH
*Julie A. Robinson, National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States*

**IAC-13.B3.3.5**
SCIENTIFIC AND APPLIED EXPERIMENTS ONBOARD THE ISS RUSSIAN SEGMENT
*Boris Zagreev, TSNIIMASH, Russia*

**IAC-13.B3.3.6**
A BRIEF INTRODUCE FOR SPACE SCIENCES RACKS IN CHINESE SPACE STATION
*Weijia Ren, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.B3.3.7**
FIVE YEARS OF UTILISATION OF THE EUROPEAN PHYSIOLOGY MODULES FACILITY (EPM)
*Erwin Dekens, OHB System, Germany*

**IAC-13.B3.3.8 (withdrawn)**
ISS UTILIZATION DEVELOPMENT FOR ASIAN PACIFIC REGION
*Yoichi Hasegawa, Japan Manned Space Systems Corporation (JAMSS), Japan*

**IAC-13.B3.3.9**
ISS AS A FIRST STEP TOWARDS SUSTAINED SPACE EXPLORATION
*Johannes Weppler, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B3.3.10 (withdrawn)**
DEVELOPMENT AND ON-ORBIT OPERATIONS OF MCE (MULTI-MISSION CONSOLIDATED EQUIPMENT)
*Hirohisa ODA, JAXA, Japan*

## B3.4-B6.5. Sustainable Operations of Present and Future Space Stations - Joint Session of the Human Space Endeavours and Space Operations Symposia

***September 25 2013, 09:45 — 308***

***Chairman(s):*** *Maria Stella Lavitola , Thales Alenia Space Italia, Italy; Helmut Luttmann , Astrium Space Transportation, Germany; Bob Chesson , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Rachid Amekrane , Astrium GmbH, Germany;*

**IAC-13.B3.4-B6.5.1**
A DECISION SUPPORT SYSTEM (DSS) FOR RESEARCH PROGRAM SCHEDULING ON THE RUSSIAN SEGMENT OF THE ISS
*Boris Zagreev, TSNIIMASH, Russia*

**IAC-13.B3.4-B6.5.2**
CHANGING THE ISS ATTITUDE TO MAXIMIZE SCIENCE RETURN OF THE SOLAR PAYLOAD
*Alice Michel, Belgian User Support and Operation Centre, Belgium*

**IAC-13.B3.4-B6.5.3**
FIRST EXPERIENCE WITH NEW COL-CC CONSOLE SETUP
*Dieter Sabath, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B3.4-B6.5.4**
COL-CC GROUND OPERATIONS – CHANGES OVER THE YEARS
*Thomas Mueller, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B3.4-B6.5.5**
FROM ATV JULES VERNE TO ALBERT EINSTEIN – EUROPEANS MASTERING OF SPACE RENDEZVOUS OPERATIONS
*Alberto Novelli, European Space Agency (ESA), The Netherlands*

**IAC-13.B3.4-B6.5.6**
THE ADVANCEMENT OF ROBOTIC SERVICING CAPABILITIES THROUGH DEXTRE UTILIZATION AND TECHNOLOGY DEMONSTRATION ON THE INTERNATIONAL SPACE STATION
*Richard Rembala, MDA Space Missions, Canada*

**IAC-13.B3.4-B6.5.7**
AN AFFORDABLE MODEL FOR ENDURING ISS MISSION OPERATIONS WITH INCREASED SCIENTIFIC PRODUCTIVITY
*Josh Berk, University of North Dakota, United States*

## B3.5. Astronauts: Those Who Make It Happen

***September 25 2013, 14:45 — 308***

***Chairman(s):*** *Igor V. Sorokin , S.P. Korolev Rocket and Space Corporation Energia, Russia; Alan T. DeLuna , , United States;*
***Rapporteur(s):*** *Tai Nakamura , Japan Aerospace Exploration Agency (JAXA), Japan;*

**IAC-13.B3.5.1**
KEYNOTE ADDRESS FROM INTERNATIONAL ASTRONAUTS
*Valentina Tereshkova, Russian Federation*

**IAC-13.B3.5.2**
AGENT-BASED MODELING AND SIMULATION OF ASTRONAUTS' BEHAVIORS DURING LONG-DURATION SPACE FLIGHT
*Li Hao, China Astronaut Research and Training Center, China*

**IAC-13.B3.5.3**
PECULIARITIES OF OPEN COMPETITIVE COSMONAUT SELECTION IN RUSSIA IN 2012
*Igor G. Sokhin, Yu.A. Gagarin Research and Test Cosmonaut Training Center, Russia*

**IAC-13.B3.5.4**
TRAINING OF NON-PROFESSIONAL COSMONAUTS FOR SPACEFLIGHTS TO THE ISS
*Igor G. Sokhin, Yu.A. Gagarin Research and Test Cosmonaut Training Center, Russia*

**IAC-13.B3.5.5**
THE ASTRONAUT'S PLAYSCAPE: SUPPORTING CREATIVITY THROUGH PLAY IN LONG-TERM MISSIONS BEYOND EARTH ORBIT.
*Marianthi Liapi, Aristotle University of Thessaloniki, Greece*

**IAC-13.B3.5.6**
SAFETY, PERFORMANCE AND COMFORT ON EUROMOONMARS MDRS MISSION SIMULATION
*Irene Lia Schlacht, Politecnico di Milano / Technische Universitaet Berlin, Germany*

**IAC-13.B3.5.7**
SPECIFICS OF CONDUCTING AND USING IMAGERY OF THE EARTH'S SURFACE PERFORMED BY THE RUSSIAN ISS CREW
*Mikhail Yu. Belyaev, Korolev RSC Energia, Russia*

## B3.6.-A5.3. Joint Session on Human and robotic Partnerships to realise Space Exploration Goals

***September 26 2013, 09:45 — 308***

***Chairman(s):*** *Christian Sallaberger , MDA Corporation, Canada; Anthony R. Gross , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Mark Hempsell , The British Interplanetary Society, United Kingdom; Alexandra Kindrat , International Space University (ISU), Canada;*

**IAC-13.B3.6.-A5.3.1**
THE HUMAN SPACEFLIGHT EXPLORATION ACTIVITIES OF THE INTERNATIONAL ACADEMY OF ASTRONAUTICS
*Giuseppe Reibaldi, International Academy of Astronautics (IAA), France*

**IAC-13.B3.6.-A5.3.2**
DEMONSTRATION OF COMMUNICATIONS SYSTEMS FOR FUTURE HUMAN EXPLORATION DURING THE OPSCOM-1 TEST USING THE ISS.
*Denis Van Hoof, Space Applications Services, Belgium*

**IAC-13.B3.6.-A5.3.3**
HUMAN-ROBOTIC INTERACTION FOR LUNAR EXPLORATION IN THE DEVELOPMENT OF A LUNAR FAR-SIDE RADIO OBSERVATORY
*Giuseppe Cataldo, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.B3.6.-A5.3.4**
MARS-X: HUMAN EXPLORATION OF MARS FROM MARTIAN ORBIT
*Phillippa Blaber, International Space University (ISU), France*



**IAC-13.B3.6.-A5.3.5**
DETECTING LIFE IN RETURNED MARS SAMPLES: UPDATING THE DRAFT TEST PROTOCOL
*John D. Rummel, East Carolina University, United States* **IAC-13.**

**B3.6.-A5.3.6 (withdrawn)**
OPTIMISING THE HUMAN VARIABLE: MULTIDISCIPLINARY DESIGN OPTIMISATION FOR HUMAN ROBOT COOPERATION ON PLANETARY EXPLORATION MISSIONS
*Christopher Brunskill, Surrey Space Centre, United Kingdom*

**IAC-13.B3.6.-A5.3.7**
DIALOG INTERACTION BETWEEN COSMONAUTS AND A ROBOTIC ASSISTANT FOR A CREW SUPPORT WHILE PERFORMING FLIGHT TASKS
*Igor G. Sokhin, Yu.A. Gagarin Research and Test Cosmonaut Training Center, Russia*

**IAC-13.B3.6.-A5.3.8**
MISSION RESULTS OF THE REX-J MISSION CONDUCTED ON THE *JAPANESE EXPERIMENT MODULE TO REALIZE THE ASTRONAUT SUPPORT ROBOTS*
*Mitsushige Oda, JAXA, Japan*

**IAC-13.B3.6.-A5.3.9**
HUMAN-ROBOTIC PARTNERSHIP FOR SPACE EXPLORATION: USING *OF ROBOT-ANDROID IN EXTREME SPACE CONDITIONS*
*Oleg Saprykin, TSNIIMASH, Russia*

**IAC-13.B3.6.-A5.3.10**
THE GAIT SWITCH AND CONTROL ON RECONFIGURABLE *EXPLORATION ROBOT*
*CHEN MENG, Institute of Aerospace System Engineering Shanghai, China*

**IAC-13.B3.6.-A5.3.11**
SMALL VEHICLE EXPLORATION CAPABILITIES
*Jean Marc Salotti, Laboratoire de l'Intégration du Matériau au Système, France*

**IAC-13.B3.6.-A5.3.12**
COMMERCIAL NEO PRECURSORS LEADING TO AN EXPLORATION AND UTILIZATION ARCHITECTURE WITH INFRASTRUCTURE COSTS *SHARED BY PUBLIC AND PRIVATE ORGANIZATIONS*
*David Gump, Deep Space Industries Inc., United States*

## B3.7. New Technologies, Processes and Operating Modes Enabling Future Human Missions

***September 27 2013, 09:45 — 308***

***Chairman(s):*** *Martin Zell , European Space Agency (ESA), The Netherlands; Lionel Suchet , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Gi-Hyuk Choi , Korea Aerospace Research Institute, Korea, Republic of;*

**IAC-13.B3.7.1**
EARLY FIRE DETECTION TECHNOLOGY FOR MANNED SPACECRAFT
*Jianfa Zhou, Beijing Research Institute of Telemetry, China*

**IAC-13.B3.7.2 (withdrawn)**
CONTROLLED ENVIRONMENTAL AGRICULTURE (CEA) TECHNOLOGIES – A NEW APPROACH FOR HUMAN SPACE EXPLORATION BY DECREASING RE-SUPPLY MASS
*Daniel Schubert, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B3.7.3 (withdrawn)**
HUMAN SPACESHIP CONTROL BY CREW INTERVENTION AND ITS DYNAMICS COCKPIT SIMULATOR
*Hiroshi Ueno, JAXA, Japan*

**IAC-13.B3.7.4**
KINEMATIC PERFORMANCE OPTIMIZATION OF A CLASS OF FOUR-DEGREE-OF-FREEDOM SPATIAL PARALLEL MANIPULATORS BY REDUNDANT ACTUATION AVAILABLE TO SPACE ROBOT MOUNTED IN CAPSULE
*Ming Qi, 1.Beijing Institute of Control Engineering,2.Space Precision Bearing Applications Laboratory, China*

**IAC-13.B3.7.5**
SPACE ASSEMBLY TECHNOLOGY OF LARGE MODULE TYPE ANTENNA
*XiaoFei Ma, Xi'an Institute of Space Radio Technology, China*

**IAC-13.B3.7.6**
SPACE INFLATABLE MAGIC CUBE HABITAT (SIMCH) (PATENT PENDING)
*Mao Zhang, American Netong Inc., United States*

**IAC-13.B3.7.7**
RESEARCH ON POWERED DESCENT GUIDANCE AND CONTROL FOR MANNED MARS HAZARD AVOIDANCE AND SAFE LANDING
*Ping Wang, China Academy of Space Technology (CAST), China*

**IAC-13.B3.7.8**
DESIGN, ANALYSIS AND OPTIMIZATION OF A MULTI-PLANETARY ENTRY VEHICLE (MPEV)
*Ugur Guven, , United States*

## B3.8.-E7.7 JointIAF/IISL Session on Legal Framework for Cooperative Space Endeavours

***September 27 2013, 13:30 — 308***

***Chairman(s):*** *Cristian Bank , EADS Astrium Space Transportation GmbH, Germany; Lesley Jane Smith , Leuphana University of Lüneburg/Weber-Steinhaus & Smith, Germany;*
***Rapporteur(s):*** *Luise Weber-Steinhaus , WIA-Europe, Germany;*

**IAC-13.B3.8-E7.7.1 (withdrawn)**
A CONSIDERATION ON THE LEGAL FRAMEWORK FOR THE FUTURE EXPLORATION
*Fuki Taniguchi, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B3.8-E7.7.2**
RESPONSIBLE SPACE EXPLORATION AND USE: BALANCING STAKEHOLDER INTERESTS
*Pascale Ehrenfreund, Space Policy Institute, George Washington University, United States*

**IAC-13.B3.8-E7.7.3**
EVOLUTION FROM POLICY TOWARDS LAW: INTERNATIONAL COOPERATION IN THE PEACEFUL USES OF OUTER SPACE"
*LIAO Minwen, CHINA UNIVERSITY OF POLITICAL SCIENCE AND LAW, China*

**IAC-13.B3.8-E7.7.4**
LEGAL ASPECTS OF THE ISECG NON-BINDING COORDINATING MECHANISM
*Christopher Johnson, Space Generation Advisory Council (SGAC), United States*

**IAC-13.B3.8-E7.7.5**
REVISION ON ASTRONAUT'S DEFINITION
*Safoora Tanbakouei, Space Generation Advisory Council (SGAC), Iran*

**IAC-13.B3.8-E7.7.6**
*EUROPEAN SPACE AGENCY AND EUROPEAN COMMISSION: RECENT RULES FOR THE EUROPEAN SPACE SECTOR*
*Annette Froehlich, European Space Policy Institute (ESPI), Austria*

**IAC-13.B3.8-E7.7.7**
THEOTHER TRIANGLE IN EUROPEAN SPACE GOVERNANCE: THE EU, ESA ANDTHEUN
*Rik Hansen, KU Leuven, Belgium*

**IAC-13.B3.8-E7.7.8**
STATE RESPONSIBILITY AND LIABILITY FOR AN AIR LAUNCH UNDER INTERNATIONAL COOPERATION
*Yuri Takaya-Umehara, Kobe University, Japan*

**IAC-13.B3.8-E7.7.9**
DIPLOMATIC IMPACT OF HUMAN SPACE EXPLORATION
*Yu Takeuchi, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B3.8-E7.7.10**
LEGAL ISSUES RELATED TO PROTECTING LUNAR ARTIFACTS AND HERITAGE SITES
*Virgiliu Pop, Romanian Space Agency (ROSA), Romania*

**IAC-13.B3.8-E7.7.11**
REGULATING REMOTE SENSING SPACE SYSTEMS INCANADA: LINKING NATIONAL REGULATION TO INTERNATIONAL COMMITMENTS
*Thomas Gillon, Government of Canada, Canada*

## B3.9-V.2. Human Space Endeavours Young Professionals Virtual Forum

***September 26 2013, 14:45 — 209A***

***Chairman(s):*** *Guillaume Girard , INSYEN AG, Germany; Cristian Bank , EADS Astrium Space Transportation GmbH, Germany;*
***Rapporteur(s):*** *Alexandra Kindrat , International Space University (ISU), Canada;*

**IAC-13.B3.9-V.2.1**
LUNAR EXPLORATION ARCHITECTURE TRADE ANALYSES
*Jackelynne Silva, Georgia Institute of Technology, United States*

**IAC-13.B3.9-V.2.2**
QUANTUM COMMUNICATION TECHNIQUES FOR DEEP SPACE & INTERPLANETARY MISSIONS: EXPLORATION & EXAMINATION OF METHODS MEETING LOW POWER REQUIREMENTS
*Arpit Goel, University of Petroleum and Energy Studies, India*

**IAC-13.B3.9-V.2.3**
CHALLENGES OF FUTURE HUMAN SPACE EXPLORATION RETHINKING WHAT IS POSSIBLE
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.B3.9-V.2.4**
USE OF COLD GAS PROPULSION SYSTEM IN A 3U CUBESAT
*Surmit Bhui, University of Petroleum and Energy Studies, India*

**IAC-13.B3.9-V.2.5**
ANALYSIS OF THE JURISDICTION OVER FACILITIES BUILT ON THE MOON
*Yangzi Tao, Beijing Institute of Technology, China*

**IAC-13.B3.9-V.2.6**
DETERMING SYNTHETIC APERTURE RADAR SIGNATURE OF TERRAIN FOR EARTH OBSERVATION USING COMPUTER ELECTROMAGNETIC MODE
*Maurice Ezeoke, University College London, United Kingdom*

## B3.10-V.5. Next Generation Destinations for Human Exploration Young Professionals Virtual Forum

***September 27 2013, 13:30 — 209A***

***Co-Chair(s):*** *Nicholas Fishwick, Astrium Ltd,UK;*
***Rapporteur(s):*** *Kevin Stube, The Planetary Society, USA;*

**B3.10-V.5.1**
MOON
*Yurika Nakanno, , Japan*

**B3.10-V.5.2**
LAVA TUBES ON THE MOON
*Guillaume Tanier, , France*

**B3.10-V.5.3**
NEO
*Huai-Chien Change, , Taiwan, China*

**B3.10-V.5.4**
ASTEROIDS
*Jonathan Lun, , South Africa*

**B3.10-V.5.5**
MARS
*Suzanne Gordon, , United States*

**B3.10-V.5.6**
ENCELADUS
*Andrew Crawford, , United States*

## B3.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

*Co-Chair(s): Cristian Bank , EADS Astrium Space Transportation GmbH, Germany; John Uri , National Aeronautics and Space Administration (NASA)/Johnson Space Center, United States;*

**IAC-13.B3.P.1**
DESIGN ON EXPERIMENT SUPPORT ONBOARD MANNED SPACE STATION
*Biao Yang, China Academy of Space Technology (CAST), China*

**IAC-13.B3.P.2**
RESEARCH ON SATELLITE ON-ORBIT MAINTENANCE TECHNOLOGY
*Jian Li, , China*

**IAC-13.B3.P.3**
THEORETICAL PERFORMANCE OF PLATE-FIN HEAT EXCHANGERS FOR HSP MISSION
*Mansu Navaneethan, Vikram Sarabhai Space Centre (VSSC), India*

**IAC-13.B3.P.4**
SPACE BIOMEDICAL IMAGING RESEARCH
*XueMin Yin, Astronaut Center of China, China*

**IAC-13.B3.P.5**
DESIGN OF WIND SPEED SENSOR FOR THE CABIN OF MANNED SPACECRAFT
*Xiantao Yang, Beijing Research Institute of Telemetry, China*

**IAC-13.B3.P.6**
DESIGN ON RELIABILITY OF MALFULTION DETECTION AND PROCESSING FLIGHT SOFTWARE
*YI REN, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.B3.P.7**
LANDING POINT PREDICTION OF MANNED SPACECRAFT BASED ON FINE MODEL OF RECOVERY AND LANDING SYSTEM
*SUN Shouming, State Key Laboratory of Astronautic Dynamics, China*

# B4. 20th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS

***Coordinator(s):*** *Rhoda Shaller Hornstein , National Aeronautics and Space Administration (NASA), United States; Alex da Silva Curiel , Surrey Satellite Technology Ltd, United Kingdom;*



## B4.1. 14th UN/IAA Workshop on Small Satellite Programmes at the Service of Developing Countries

***September 24 2013, 09:45 — 307B***

***Chairman(s):*** *Sias Mostert , Space Commercial Services Holdings (Pty) Ltd, South Africa; Sergei Chernikov , United Nations Office at Vienna, Austria;*
***Rapporteur(s):*** *Pierre Molette , , France; Danielle Wood , Johns Hopkins University Applied Physics Laboratory, United States;*

**IAC-13.B4.1.1**
MANAGEMENT OF SMALL SATELLITE PROGRAMS
*Danielle Wood, Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.B4.1.2**
WHY AND HOW SMALL SATELLITES CAN BE RELEVANT TOOLS FOR SCIENTIFIC RESEARCH?
*Shanti Swaroop Kandala, Young India Fellowship Programme, India*

**IAC-13.B4.1.3**
LESSONS LEARNED FROM THE SUNSAT AND SUMBANDILASAT MISSIONS FOR AN HOLISTIC APPROACH TO HUMAN CAPITAL DEVELOPMENT
*Khalid Manjoo, Space Advisory Company, South Africa*

**IAC-13.B4.1.4**
SPACE ENGINEERING EDUCATION THROUGH ON-THE-JOB TRAINING IN NANO-SATELLITE FOR CAPACITY BUILDING IN BASIC SPACE TECHNOLOGY DEVELOPMENT
*Mengu Cho, Kyushu Institute of Technology, Japan*

**IAC-13.B4.1.5**
MICRO/NANO SATELLITE TECHNOLOGIES AND APPLICATIONS IN CHINA
*Shufan Wu, , China*

**IAC-13.B4.1.6**
EARTH OBESERVATION SATELLITE DEVELOPMENT IN VIETNAM
*Anh Tuan Pham, Vietnam National Satellite Center (VNSC), Vietnam*

**IAC-13.B4.1.7**
*VRSS-1 SATELLITE SUMMARY*
*Cheng Yan, DFH Satellite Co. Ltd., China*

**IAC-13.B4.1.8**
THE DSPACE NANOSATELLITE PROJECT: DEFINITION AND IMPACT IN THE PROMOTION OF THE AEROSPACE FIELD IN COSTA RICA
*Carlos Alvarado, Central American Association of Aeronautics and Space (ACAE), Costa Rica*

**IAC-13.B4.1.9 (withdrawn)**
ONE SATELLITE PER COUNTRY - AN OPEN-SOURCE SMALL-SATELLITE REFERENCE ARCHITECTURE FOCUSED ON THE NEEDS OF DEVELOPING NATIONS
*Claas Ziemke, Private, Germany*

**IAC-13.B4.1.10**
A CONSTELLATION OF NEAR-EQUATORIAL BASED INTERFEROMETRIC SAR SATELLITES: A CLOSER LOOK AT THE BENEFITS TO DEVELOPING NATIONS
*Abdul Lawal, , United Kingdom*

**IAC-13.B4.1.11**
APPLICATION OF COLLABORATIVE AUTONOMOUS CONTROL AND THE OPEN PROTOTYPE FOR EDUCATIONAL NANOSATS FRAMEWORK TO ENABLE ORBITAL CAPABILITIES FOR DEVELOPING NATIONS
*Jeremy Straub, University of North Dakota, United States*

## B4.2. Small Space Science Missions

***September 23 2013, 15:15 — 307B***

***Chairman(s):*** *Stamatios Krimigis , The John Hopkins University, United States; Denis Moura (CNES) , Centre National d'Etudes Spatiales (CNES), France;*

**IAC-13.B4.2.1**
GLOBALIZATION EXTENSION OF TRANSIENT LUMINOUS EVENTS FROM FORMOSAT-2 OBSERVATION
*Rock Jeng-Shing Chern, University of Science & Technology, Taiwan, China*

**IAC-13.B4.2.2 (withdrawn)**
IMPLEMENTATION AND OPTIMIZATION OF ATTITUDE CONTROLLER FOR DE-ORBITING EXPERIMENT WITH ELECTROSTATIC PLASMA BRAKE
*Osama Khurshid, Aalto University School of Science and Technology, Finland*

**IAC-13.B4.2.3 (withdrawn)**
CUBESAT BASED STUDY OF METEOROIDS AND THEIR IMPACT ON SPACECRAFT
*Ashish Goel, , United States*

**IAC-13.B4.2.4**
THE KUAFU-B MISSION BASED ON A EUROPEANIZED SMALL SATELLITE BUS
*Peter Hofmann, Kayser-Threde GmbH, Germany*

**IAC-13.B4.2.5**
SVOM : A NEW MISSION FOR GAMMA-RAY BURSTS STUDIES
*Bertrand Cordier, CEA, France*

**IAC-13.B4.2.6**
THE DEVELOPMENT OF MICRO-ROSI - MICRO ROENTGEN SATELLITE INSTRUMENT
*Lars Tiedemann, Max-Planck-Institut für Extraterrestrial Physics, Germany*

**IAC-13.B4.2.7 (withdrawn)**
QEYSSAT: QUANTUM ENCRYPTION AND SCIENCE ON A SMALL-SATELLITE PLATFORM
*Ralph Girard, Canadian Space Agency, Canada*

**IAC-13.B4.2.8**
TETHERED SATELLITE-BASED HIGH PRECISION MAGNETIC FIELD MEASUREMENT TECHNIQUES
*Xueqian WANG, China Academy of Space Technology (CAST), China*

**IAC-13.B4.2.9**
USE OF AN ACTIVE ELECTRODYNAMIC TETHER TO PROVIDE A VARIABLE ORBIT FOR EFFECTIVE RADIATION MODELING AT DIFFERENT ALTITUDES IN THE LOW EARTH ORBIT
*Ishaan Sood, Manipal Institute of Technology, Manipal University, India*

**IAC-13.B4.2.10**
ESTCUBE-1 NANOSATELLITE FOR ELECTRIC SOLAR WIND SAIL TECHNOLOGY DEMONSTRATION IN LOW EARTH ORBIT
*Erik Kulu, Tartu Observatory, Estonia*

## B4.3. Small Satellite Operations

***September 27 2013, 13:30 — 307B***

***Chairman(s):*** *Peter M. Allan , Rutherford Appleton Laboratory, United Kingdom; Karen McBride , University of California, Los Angeles, United States;*

**IAC-13.B4.3.1**
IN-FLIGHT OPERATIONS OF A HIGH-AVAILABILITY NANOSATELLITE CONSTELLATION FOR MARITIME OBSERVATION
*Alexander Beattie, Space Flight Laboratory, University of Toronto, Canada*

**IAC-13.B4.3.2**
FULLY AUTOMATED MISSION PLANNING TOOL FOR DEIMOS-2 AGILE SATELLITE
*Matthias Renard, Deimos Space S.L., Spain*

**IAC-13.B4.3.3**
ASAP: AUTONOMOUS DYNAMIC SCHEDULING FOR SMALL SATELLITES
*Harald Wojtkowiak, University Wuerzburg, Germany*

**IAC-13.B4.3.4**
PARAMETRIC CUBESAT FLIGHT SIMULATION ARCHITECTURE
*Christopher Lowe, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.B4.3.5**
OPTIMIZATION ON MISSION OPERATIONS OF THE HANDICAPPED FORMOSAT-2
*Rock Jeng-Shing Chern, University of Science & Technology, Taiwan, China*

**IAC-13.B4.3.6**
THE ITU RADIO REGULATIONS - CHALLENGES FOR SMALL SATELLITES
*Attila MATAS, International Telecommunication Union (ITU), Switzerland*

**IAC-13.B4.3.7**
INVESTIGATION OF PAYLOADS FOR SMALL SATELLITES WITH A COMMERCIAL OVERVIEW
*Narayan Prasad Nagendra, , India*

**IAC-13.B4.3.8**
A NOVEL BUSINESS MODEL TO SUBSTANTIATE THE COMMERCIAL VIABILITY OF A CUBESAT CONSTELLATION FOR ADVANCED EARTH OBSERVATION AND MONITORING
*Fatima Dyczynski, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.B4.3.9**
MISSION OPERATION PLAN FOR SEMI-AUTONOMOUS CONTROL OF A REMOTE SENSING LEO STUDENT MICROSATELLITE
*Mohammad Malekan, Amirkabir University of Technology, Iran*

**IAC-13.B4.3.10**
ADIA: A NOVEL ONBOARD FAILURE DIAGNOSTIC SYSTEM FOR NANOSATELLITES
*Gerhard Fellinger, University of Würzburg, Germany*

**IAC-13.B4.3.11**
DISTRIBUTED GROUND STATION NETWORK - A GLOBAL SYSTEM FOR TRACKING AND COMMUNICATION WITH SMALL SATELLITES AS AN OPEN SERVICE
*Andreas Hornig, University of Stuttgart, Germany*

**IAC-13.B4.3.12**
RESEARCH ON SMALL SATELLITE FORMATION INTER-SATELLITE MEASUREMENT AND COLLABORATIVE CONTROL
*Zhi Chen, China Aerospace Science and Industry Corporation, China*

**IAC-13.B4.3.13**
THE TET-1 ON-ORBIT VERIFICATION MISSION – STATUS AND FUTURE OPPORTUNITIES
*Norbert M.K. Lemke, Kayser-Threde GmbH, Germany*

## B4.4. Small Earth Observation Missions

***September 25 2013, 09:45 — 307B***

***Chairman(s):*** *Larry Paxton , The Johns Hopkins University Applied Physics Laboratory, United States; Amnon Ginati , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Klaus Briess , Technische Universität Berlin, Germany;*

**IAC-13.B4.4.1**
A NEW PAYLOAD TECHNIQUE ON SMALL SATELLITE FOR IONOSPHERIC SCINTILLATION/TEC DETERMINATION
*Li Xiao, , China*

**IAC-13.B4.4.2**
GLOBAL NAVIGATION SATELLITE SYSTEM REFLECTOMETRY SMALL SATELLITE PLATFORM
*Dirk Claessens, QinetiQ Space nv, Belgium*

**IAC-13.B4.4.3**
THE QB50 PROJECT AND THE PARTICIPATION OF CHINESE UNIVERSITIES
*Yu Xiaozhu, Shaanxi Engineering Laboratory for Microsatellites, China*

**IAC-13.B4.4.4**
OPTIMIZING AN INFRARED CAMERA FOR OBSERVATION OF ATMOSPHERIC GRAVITY WAVES FROM A CUBESAT PLATFORM
*Snorre Stavik Rønning, Norwegian University of Science and Technology, Norway*

**IAC-13.B4.4.5**
PROBA-V, THE GLOBAL VEGETATION TRACKER
*Davy Vrancken, QinetiQ Space nv, Belgium*

**IAC-13.B4.4.6**
A MICROWAVE REMOTE SENSING SMALL SATELLITE PROJECT FOR INVESTIGATION OF OCEANIC DYNAMIC CHARACTER
*Lei Zhang, DFH Satellite Co. Ltd., China*

**IAC-13.B4.4.7**
DEVELOPMENT OF A LOW-COST COMMERCIAL MICROSAT CAPABLE OF 1.0 METER GSD IMAGERY
*Melissa Wuerl, Andrews Space, United States*

**IAC-13.B4.4.8**
GLOBAL DISASTER FORECASTING AND MONITORING SATELLITE SYSTEM
*Yanli Wang, China Xichang Satellite Launch Center, China*

**IAC-13.B4.4.9**
RUSSIAN TECHNOLOGIES OF MONITORING AND REMOTE SENSING USING NANOSATELLITES
*Alexander Romanov, JSC "Russian Space Systems", Russia*

**IAC-13.B4.4.10**
SPACE BASED AIS DETECTION WITH THE MARITIME MONITORING AND MESSAGING MICROSATELLITE
*Nathan Orr, Space Flight Laboratory, University of Toronto, Canada*

**IAC-13.B4.4.11**
JOINT EMSA/ESA INITIATIVE FOR INNOVATIVE AIS SATELLITES, TECHNOLOGIES, APPLICATIONS AND SERVICES
*Carsten Tobehn, European Space Agency (ESA), The Netherlands*

**IAC-13.B4.4.12**
THE CANADIAN SPACE AGENCY MICROSATELLITE PROGRAM
*Ralph Girard, Canadian Space Agency, Canada*

## B4.5. Access to Space for Small Satellite Missions

***September 24 2013, 14:45 — 307B***

***Chairman(s):*** *Alex da Silva Curiel , Surrey Satellite Technology Ltd, United Kingdom; Jeffery Emdee , The Aerospace Corporation, United States;*

**IAC-13.B4.5.1**
LONG MARCH,EASY AND RELIABLE ACCESS TO SPACE FOR SMALL SATELLITES
*Bo Liu, China Great Wall Industry Corporation, China*

**IAC-13.B4.5.2**
LAUNCHING NANOSATS AFFORDABLY, PROBLEMS AND SOLUTIONS
*Gerald Webb, Commercial Space Technologies Ltd., United Kingdom*



**IAC-13.B4.5.3**
DEPLOYMENT SYSTEM FOR 50+ CUBESATS
*Lucy Berthoud, University of Bristol, United Kingdom*

**IAC-13.B4.5.4 (withdrawn)**
TECHNICAL ASPECTS OF SMALL SATELLITES DEPLOYMENT FROM JAPANESE EXPERIMENTAL MODULE OF ISS
*Shigeru Imai, Japan Manned Space Systems Corporation, Japan*

**IAC-13.B4.5.5**
INTERPLANETARY HITCHHIKING TO SUPPORT SMALL SPACECRAFT MISSIONS BEYOND EARTH ORBIT
*Anders Kose Nervold, University of North Dakota, United States*

**IAC-13.B4.5.6**
LESSONS LEARNED FOR FUTURE SECONDARY LAUNCHES
*Adam Hadaller, Spaceflight Inc., United States*

**IAC-13.B4.5.7**
EVALUATION OF SECONDARY AND HOSTED PAYLOAD SYSTEMS
*Jonah Zimmerman, Stanford University, United States*

**IAC-13.B4.5.8**
RECOMMENDATIONS ON THE USE OF ELECTRIC PROPULSION FOR SMALL SATELLITES: LESSONS LEARNED FROM PROBA SATELLITES
*Julien Tallineau, QinetiQ Space nv, Belgium*

**IAC-13.B4.5.9**
USE OF PIEZO-MOTOR TECHNOLOGY IN NOVASEP, A SEPARATION MECHANISM FOR NANO AND MICRO SATELLITES
*Stanislaw Ostoja Starzewski, Novanano SAS, France*

**IAC-13.B4.5.10**
ANALYSIS OF A "MULTI-CUSTOMER SATELLITE ACCESS" (MUSA) APPROACH
*Simone La Torre, International Space University (ISU), France*

## B4.6A. Generic Technologies for Small/Micro Platforms

***September 26 2013, 09:45 — 307B***

***Chairman(s):*** *Nicholas Waltham , Rutherford Appleton Laboratory, United Kingdom; Philip Davies , Surrey Satellite Technology Ltd, United Kingdom;*

**IAC-13.B4.6A.1**
NEW TECHNOLOGY TESTING RESULT OF SJ-9 SATELLITE
*Liu Yiwei, , China*

**IAC-13.B4.6A.2**
SDS-4 ATTITUDE CONTROL SYSTEM: FLIGHT RESULTS OF ATTITUDE CONTROL SYSTEM FROM NOMINAL OPERATION AND EXTEND MISSION
*Yuta Nakajima, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.B4.6A.3**
MICRO ELECTRIC PROPULSION TECHNOLOGY FOR SMALL SATELLITES: DESIGN, TESTING, MISSIONS AND IN-ORBIT OPERATIONS
*Vaios Lappas, Surrey Space Centre, University of Surrey, United Kingdom*

**IAC-13.B4.6A.4**
ORIGAMI-BASED MEMBRANE STORAGE AND DEPLOYMENT TECHNOLOGY FOR DE-ORBITING SATELLITES
*Hiraku Sakamoto, Tokyo Institute of Technology, Japan*

**IAC-13.B4.6A.5**
DEVELOPMENT AND TEST OF LOW COST SOLAR PANEL TECHNOLOGIES FOR SMALL SATELLITES
*Salvo Marcuccio, Alta SpA, Italy*

**IAC-13.B4.6A.6**
GENERIC THERMAL DESIGN STRATEGY FOR 50KG-CLASS MICRO-SATELLITES
*Yoshihiro Tomioka, Tohoku University, Japan*

**IAC-13.B4.6A.7**
SMART DATA COMMUNICATION SOLUTIONS FOR SMALL SATELLITES
*M.Rizwan Mughal, Politecnico di Torino, Italy*

**IAC-13.B4.6A.8**
THE INTRODUCTION OF SAST50 MICRO-SATELLITE PLATFORM
*Zhou Shihong, Shanghai Institute of Satellite Engineering, China*

**IAC-13.B4.6A.9**
LOWERING THE COST OF SPACE ACCESS – A NEW GENERATION OF LOW COST SSTL PLATFORMS
*Alex da Silva Curiel, Surrey Satellite Technology Ltd, United Kingdom*

## B4.6B. Generic Technologies for Nano/Pico Platforms

***September 26 2013, 14:45 — 307B***

***Chairman(s):*** *Nicholas Waltham , Rutherford Appleton Laboratory, United Kingdom; Philip Davies , Surrey Satellite Technology Ltd, United Kingdom;*
***Rapporteur(s):*** *Joost Elstak , ISIS - Innovative Solutions In Space B.V., The Netherlands;*

**IAC-13.B4.6B.1**
PREPARING SMALL SATELLITES FOR BIG OPERATIONS
*Joost Elstak, ISIS - Innovative Solutions In Space B.V., The Netherlands*

**IAC-13.B4.6B.2**
ANOMALY INVESTIGATION OF HORYU-II AND LESSONS LEARNED
*Yuta Okumura, Kyushu Institute of Technology, Japan*

**IAC-13.B4.6B.3**
THE UWE SATELLITE BUS, A MODULAR AND FLEXIBLE ARCHITECTURE FOR FUTURE PICOSATELLITE FORMATIONS
*Florian Reichel, University Würzburg, Germany*

**IAC-13.B4.6B.4**
DESIGN AND DEVELOPMENT APPROACH FOR A HIGHLY CAPABLE STANDARD NANO-SPACECRAFT
*Joris Naudet, QinetiQ Space nv, Belgium*

**IAC-13.B4.6B.5**
THE SWISSCUBE'S TECHNOLOGIES RESULTS AFTER FOUR YEARS OF FLIGHT
*Stefano Rossi, Swiss Space Center, Switzerland*

**IAC-13.B4.6B.6 (withdrawn)**
ACTIVE MAPPING OF CUBESAT'S REFLECTARRAY ANTENNA PATTERN WITH ITS ATTITUDE CONTROL SYSTEM
*CHARLES LEE, California State University, United States*

**IAC-13.B4.6B.7**
INTER-SATELLITE COMMUNICATION LINK FOR A SPACE BASED INTERFEROMETER
*Robert Grootjans, University of Twente, The Netherlands*

**IAC-13.B4.6B.8**
X BAND TELEMETRY SOLUTION FOR CUBE AND NANO SATELLITE
*Jean-Paul Aguttes, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.B4.6B.9**
GAMANET: DISRUPTING COMMUNICATIONS AND NETWORKING IN SPACE
*Pedro Rodrigues, Tekever, Portugal*

**IAC-13.B4.6B.10**
A SMARTPHONE BASED STAR TRACKER
*Florian DECONINCK, ESA/ESTEC, The Netherlands*

**IAC-13.B4.6B.11**
DESIGN AND DEVELOPMENT OF A SUN SIMULATION DEVICE FOR TESTING NANO-SATELLITES
*Thai Pham Hong, FPT University, Vietnam*

**IAC-13.B4.6B.12**
EVALUATION OF A COMMERCIAL-OFF-THE-SHELF SQUID MAGNETOMETER FOR NANOSATELLITE SPACE WEATHER MISSIONS
*Kehinde Ogunyanda, Cape Peninsula University of Technology, South Africa*

**IAC-13.B4.6B.13**
DETERMINING POSITION, ROTATION AND ORIENTATION FOR TETHERED TWIN NANO SATELLITE TO MAP DATA FROM AN INTERFEROMETER.
*Rowan De Vries, University of Twente, The Netherlands*

**IAC-13.B4.6B.14**
INVESTIGATION OF A GROUND STATION SEGMENT FOR NANO-SATELLITES USING SDR APPROACH
*Jesus Sanchez, National Cheng Kung University, Taiwan, China*

**IAC-13.B4.6B.15**
INSTRUMENT INTERFACE MODULE BETWEEN THE ON-BOARD-COMPUTER AND PAYLOADS IN CINEMA CUBESAT AS DEVELOPED WITH FPGA
*Yongmyung Seo, Kyung Hee University, Korea, Republic of*

## B4.7A. Space Systems and Architectures Featuring Cross-Platform Compatibility

***September 25 2013, 14:45 — 307B***

***Chairman(s):*** *Jaime Esper , National Aeronautics and Space Administration (NASA), United States; Marco D'Errico , Seconda Universita' di Napoli, Italy;*
***Rapporteur(s):*** *Massimiliano Pastena , SSBV, United Kingdom;*

**IAC-13.B4.7A.1**
MODEL-BASED SIMULATION AND VERIFICATION ENVIRONMENT FOR SPACE PLUG-AND-PLAY INSTRUMENTS
*Toshinori Kuwahara, Tohoku University, Japan*

**IAC-13.B4.7A.2**
IP-BASED PROTOCOL STACK FOR NANOSATELLITE COMMUNICATIONS
*Radim Badsi, , Germany*

**IAC-13.B4.7A.3 (withdrawn)**
A GENERIC AND PROTOCOL INDEPENDENT OPEN-SOURCE TELECOMMAND AND TELEMETRY PACKET INTERPRETATION AND EXECUTION ENGINE
*Claas Ziemke, Private, Germany*

**IAC-13.B4.7A.4**
TUBIX – THE TU BERLIN INNOVATIVE NEXT GENERATION NANOSATELLITE PLATFORM
*Merlin Barschke, Technische Universität Berlin, Germany*

**IAC-13.B4.7A.5**
COST REDUCTION FOR SMALL SATELLITE CAPABILITIES THROUGH STANDARDISATION: PROBA-NEXT PLATFORM
*Julien Tallineau, QinetiQ Space nv, Belgium*

**IAC-13.B4.7A.6**
FORMATION FLYING CAPABILITIES USING SMALL & NANO SATELLITE COMBINATION: PROBA-CUBE DISTRIBUTED SYSTEM
*Julien Tallineau, QinetiQ Space nv, Belgium*

## B4.7B. Small Distributed Space Missions

***September 25 2013, 16:15 — 307B***

***Chairman(s):*** *Marco D'Errico , Seconda Universita' di Napoli, Italy; Jaime Esper , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Giancarmine Fasano , University of Naples "Federico II", Italy;*

**IAC-13.B4.7B.1**
A NOVEL ON-ORBIT SERVICING TECHNOLOGY BASED ON MICROSATELLITE PLATFORM
*Xueqian WANG, China Academy of Space Technology (CAST), China*

**IAC-13.B4.7B.2**
DESIGN AND ANALYSIS OF DISTRIBUTED NANO-SATELLITE SYSTEMS FOR MULTI-ANGULAR, MULTI-SPECTRAL EARTH OBSERVATION
*Sreeja Nag, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.B4.7B.3**
GPU ACCELERATED GENETIC ALGORITHM FOR IN-SAR CLUSTER CONFIGURATION KEEPING ACROSS-TRACK BASELINE UNDER THE J2 PERTURBATION
*Kai Yu, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.B4.7B.4 (withdrawn)**
PROBA-3 MISSION FOR DEMONSTRATION OF PRECISE FORMATION FLYING TECHNOLOGIES
*Salvador Llorente, SENER Ingenieria y Sistemas, S.A., Spain*

**IAC-13.B4.7B.5**
*THE CANX-4&5 MISSION: ACHIEVING PRECISE FORMATION FLIGHT AT THE NANOSATELLITE SCALE*
*Grant Bonin, UTIAS Space Flight Laboratory, Canada*

**IAC-13.B4.7B.6**
THE ROAD TO OLFAR - A ROADMAP TO INTERFEROMETRIC LONG-WAVELENGTH RADIO ASTRONOMY USING MINIATURIZED DISTRIBUTED SPACE SYSTEMS
*Kevin Quillien, Technical University Delft, Faculty of Aerospace Engineering, The Netherlands*

**IAC-13.B4.7B.7**
A NEW SIDE-TONE-BASED INTER-SATELLITE RADIO LINK FOR SMALL SATELLITE FORMATION FLYING
*Ge Zhu, Xi'an Institute of Space Radio Technology, China*

**IAC-13.B4.7B.8**
OPTIMAL CONTROL OF 6-DOF ELECTROMAGNETIC FORMATION USING THE LEGENDRE PSEUDOSPECTRAL METHOD
*Jing Chen, National Key Laboratory of Aerospace Flight Dynamics, Northwestern Polytechnical University, China*

## B4.8. Hitchhiking to the Moon

***September 27 2013, 09:45 — 307B***

***Chairman(s):*** *Leon Alkalai , National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States; Rene Laufer , Baylor University, United States;*
***Rapporteur(s):*** *Amanda Stiles , X PRIZE Foundation, ;*

**IAC-13.B4.8.1**
PIGGYBACKING, CAPABILITIES AND LIMITS FOR COST EFFICIENT EARTH AND DEEP SPACE EXPLORATION
*Farid Gamgami, OHB System AG, Germany*

**IAC-13.B4.8.2**
MOMENT: MAGNETIC OBSERVATIONS OF MARS ENABLED BY NANOSATELLITE TECHNOLOGY
*Grant Bonin, UTIAS Space Flight Laboratory, Canada*

**IAC-13.B4.8.3**
A PROPOSED INTERNATIONAL LUNAR GEOPHYSICAL YEAR
*David Dunlop, , United States*

**IAC-13.B4.8.4**
QUANTIFYING THE MARKET ADDRESSABLE BY GOOGLE LUNAR X PRIZE TEAMS
*Andrew Barton, X PRIZE Foundation, United States*



**IAC-13.B4.8.5**
MOON EXPRESS LUNAR MISSIONS OF OPPORTUNITY – ENABLING SCIENCE, EXPLORATION AND COMMERCE
*Robert D. Richards, International Space University (ISU), United States*

**IAC-13.B4.8.6**
GOOGLE LUNAR X PRIZE-BARCELONA MOON TEAM UPDATE
*Marc Zaballa Camprubi, Galactic Suite SL, Spain*

**IAC-13.B4.8.7**
LANDING THE FIRST ISRAELI SPACECRAFT ON THE MOON
*Avi Barliya, SpaceIL, Israel*

**IAC-13.B4.8.8 (withdrawn)**
ROBUST UNMANNED PLANETARY SURFACE EXPLORATION THROUGH SELF-DRIVEN SPHERICAL ROVERS
*Joshua Tristancho, UPC, Spain*

**IAC-13.B4.8.9 (withdrawn)**
GNSS TO REACH THE MOON
*Vincenzo Capuano, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland*

**IAC-13.B4.8.10**
ATTITUDE CONTROL FOR SMALL SATELLITES USING GRADIENT-MODIFIED METHODS
*Teodor-Viorel Chelaru, University POLITEHNICA of Bucharest - Research Center for Aeronautics and Space, Romania*

## B5. SYMPOSIUM ON INTEGRATED APPLICATIONS

***Coordinator(s):*** *Amnon Ginati , European Space Agency (ESA), The Netherlands; Larry Paxton , The Johns Hopkins University Applied Physics Laboratory, United States;*

## B5.1. Integrated Applications End-to-End Solutions

***September 26 2013, 09:45 — 301B***

***Chairman(s):*** *David Y. Kusnierkiewicz , The John Hopkins University, United States; Amnon Ginati , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Boris Penne , DSI Informationstechnik, Germany;*

**IAC-13.B5.1.1**
GEOSPATIAL ANALYSIS OF THE AQUIFEROUS POTENTIAL ZONES IN THE CRYSTALLINE BASEMENT OF BULAWAYO METROPOLITAN AREA, ZIMBABWE
*Constant Chuma, National University of Science and Technology, Zimbabwe*

**IAC-13.B5.1.2**
BUSINESS INSTITUTE DEDICATED TO SPACE APPLICATIONS
*LEVY FABRICE, Astrium SAS France, France*

**IAC-13.B5.1.3**
DISASTER MANAGEMENT SYSTEMS: PERSPECTIVES FOR POLICY AND DESIGN
*Murthy Remilla, National Remote Sensing Center, Indian Space Research Organisation, Hyderabad, INDIA, India*

**IAC-13.B5.1.4 (withdrawn)**
GEOSPATIAL ASSESSMENT OF GULLY EROSION PROGRESSION AND VULNERABILITY MAPPING IN AGULU-NANKA AREA IN ANAMBRA STATE.
*Okeke Ugo Henry, National Space Research Development Agency (NSRDA), Abuja Nigeria, Nigeria*

**IAC-13.B5.1.5**
IN SEARCH OF STANDARD. OR ABOUT EFFECTIVE USE OF SPACE SOLUTIONS IN CIVIL PROTECTION AND HUMANITARIAN OPERATIONS
*Jakub Ryzenko, Crisis Informatin Centre,SRC & Warsaw University, Poland*

**IAC-13.B5.1.6**
INTEGRATED APPLICATIONS FOR THE SUSTAINABLE USE OF COASTAL REGIONS IN BRAZIL
*Olga Zhdanovich, European Space Agency (ESA), The Netherlands*

**IAC-13.B5.1.7**
SPACE INFRASTRUCTURES FOR MARITIME SURVEILLANCE
*Eric Maliet, EADS Astrium, France*

**IAC-13.B5.1.8**
INTEGRATING NAVIGATION AND COMMUNICATION FOR EMERGENCY SERVICES
*Peter Buist, Netherlands Space Society (NVR), The Netherlands*

**IAC-13.B5.1.9**
HYPERSPECTRAL THERMAL IMAGING FOR TERRESTRIAL APPLICATIONS THROUGH A NANOSATELLITE
*Kshitij Naik, Manipal Institute of Technology, Manipal University, India*

**IAC-13.B5.1.10**
BROADBAND COMMUNICATION AND INFORMATION SOLUTION FOR ISLANDS BASED ON SATELLITES
*Xiu Mao, Beijing Institute of Satellite Information Engineering, China Academy of Space Technology (CAST), China*

**IAC-13.B5.1.11 (withdrawn)**
INTEGRATED SPACE SOLUTIONS FOR RAILWAY SIGNALLING APPLICATIONS (3INSAT)
*Michele Castorina, ESA, The Netherlands*

**IAC-13.B5.1.12**
"SPACE4EDU: SATELLITE TECHNOLOGY FOR SMART RURAL SCHOOLS IN SOUTH AFRICA"
*Davide Tomassini, European Space Agency (ESA), The Netherlands*

## B5.2. Tools and Technology in support of Integrated Applications

***September 27 2013, 13:30 — 301B***

***Chairman(s):*** *Larry Paxton , The Johns Hopkins University Applied Physics Laboratory, United States; Carsten Tobehn , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *David Y. Kusnierkiewicz , The John Hopkins University, United States;*

**IAC-13.B5.2.1**
DATA MINING TECHNOLOGY USES IN AEROSPACE INTEGRATED APPLICATION
*Han Yonggen, Science and Technology on Space Physics Laboratory, China*

**IAC-13.B5.2.2**
RESEARCH ON SATELLITE-BASED AIS SYSTEM AND ITS INTEGRATED APPLICATION
*Meng Jing, , China*

**IAC-13.B5.2.3**
SEVERAL IMPLEMENT MODES ANALYSIS ABOUT DISTANCE EDUCATION BASED ON SATELLITE
*Jun Yin, Beijing Institute of Satellite Information Engineering, China Academy of Space Technology (CAST), China*

**IAC-13.B5.2.4 (withdrawn)**
SHIP MONITORING BY SAR DATA IN SUPPORT TO INTEGRATED MARITIME SURVEILLANCE SERVICES
*Marco D'Errico, Seconda Universita' di Napoli, Italy*

**IAC-13.B5.2.5**
SPACE MONITORING OF GROUND OBJECTS BY MULTITEMPORAL SATELLITE IMAGERY ON THE SAME TERRITORY
*Larysa Areshkina, , Belarus*

**IAC-13.B5.2.6**
THE APPLICATION OF SPACE INFORMATION SYSTEM IN NATURAL DISASTER
*Zhiting Fei, China Academy of Launch Vehicle Technology(CALT), China*

**IAC-13.B5.2.7**
THE BRAIN FOR AN INTERACTIVE ARCTIC NETWORK (BRIAN): ENHANCING SITUATIONAL AWARENESS IN THE ARCTIC
*Padraic Doherty, International Space University (ISU), France*

**IAC-13.B5.2.8**
INTEGRATED END-TO-END NEO THREAT MITIGATION SOFTWARE SUITE
*Juan L. Cano, Deimos Space S.L., Spain*

**IAC-13.B5.2.9**
REMOTE SENSE AND NAVIGATION DATA ASSIMILATION FOR LOCAL TRAFFIC CORROBORATIVE MANAGEMENT APPLICATION
*Gong-Tao Wang, CASC, China*

**IAC-13.B5.2.10**
SPACE STORAGE AS BACKUP FOR CRITICAL OR PERSONAL INFORMATION
*Jesús Gonzalo, University of León, Spain*

**IAC-13.B5.2.11**
TEMPORAL AND SPATIAL VARIABILITY OF VEGETATION IN SOURCE REGION OF THE YANGTZE RIVER USING EMPIRICAL ORTHOGONAL FUNCTION (EOF) ANALYSIS OF REMOTE SENSING DATA
*Ting Chen, Twenty First Century Aerospace Technology Co.,Ltd, China*

**IAC-13.B5.2.12**
USING SOCIAL MEDIA TO LOCATE AND TRACK ASTEROIDS
*John Sojka, US DoD, United States*

## B6. SPACE OPERATIONS SYMPOSIUM

***Coordinator(s):*** *H. Neal Hammond , Space Bridges, LLC, United States; Bob Chesson , European Space Agency (ESA), The Netherlands;*

### B6.1. Human Spaceflight Operations

***September 27 2013, 09:45 — 305***

***Chairman(s):*** *Michael McKay , European Space Agency (ESA), Germany; Mario Cardano , Thales Alenia Space France, Italy;*
***Rapporteur(s):*** *Helmut Luttmann , Astrium Space Transportation, Germany;*

**IAC-13.B6.1.1**
AUGMENTED REALITY STUDY FOR ASSISTING CREW OPERATION IN SPACE
*Li Hailong, China Astronaut Research and Training Center, China*

**IAC-13.B6.1.2**
MOBILE AUGMENTED REALITY FOR SPACE OPERATION PROCEDURES: A GENERIC APPROACH OF AUTHORING AND GUIDING ON-BOARD PAYLOAD ACTIVITIES
*Daniela Markov-Vetter, German Aerospace Center (DLR), Germany*

**IAC-13.B6.1.3**
A HYBRID DYNAMICAL SYSTEM METHOD FOR MODELING ASTRONAUTS' COMPLEX OPERATIONS DURING EXTRAVEHICULAR ACTIVITY
*Li Hao, China Astronaut Research and Training Center, China*

**IAC-13.B6.1.4**
INCREMENT PREPARATION AND EXECUTION AT COLUMBUS CONTROL CENTER
*Prashant Shukla, TelespazioVega Deutschland, Germany*

**IAC-13.B6.1.5**
CADMOS : 20 YEARS OF MICROGRAVITY OPERATIONS
*Gabriel Pont, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.B6.1.6**
FROM INSTITUTIONAL LOGISTICS CARRIER TO COMMERCIAL LOGISTICS TO THE ISS: A CHALLENGE AND AN OPPORTUNITY.
*Annamaria Piras, Thales Alenia Space Italia, Italy*

**IAC-13.B6.1.7 (withdrawn)**
SPECIFIC FEATURES OF TRANSPORT VEHICLE OPERATIONS PLANNING FOR STANDARD AND FAST ISS RENDEZVOUS PROFILES
*Tatiana Matveeva, Korolev RSC Energia, Russia*

**IAC-13.B6.1.8**
A VISUALIZATION SIMULATION PLATFORM OF COGNITIVE WORKLOAD AND PERFORMANCE ANALYSIS FOR SPACE OPERATIONS
*Liu Yuqing, Astronaut Center of China, China*

**IAC-13.B6.1.9**
THE ITALIAN SPACEGATE: STUDY AND INNOVATIVE APPROACHES TO FUTURE GENERATION TRANSPORTATION BASED ON HIGH ALTITUDE FLIGHT
*Francesco Santoro, Altec S.p.A., Italy*

**IAC-13.B6.1.10**
INSURING QUALITY AND SAFETY IN A COST CONSTRAINED ENVIRONMENT FOR DEVELOPING EFFECTIVE SPACE TOURISM BUSINESS : TRADE OFF POSSIBILITIES?
*Gurunadh Velidi, University of Petroleum and Energy Studies, India*

### B6.2. New Operations Concepts, Advanced Systems and Commercial Space Operations

***September 24 2013, 09:45 — 305***

***Chairman(s):*** *Pierre LODS , Centre National d'Etudes Spatiales (CNES), France; Thomas Kuch , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Keiichiro Sakagami , Japan Aerospace Exploration Agency (JAXA), Japan;*

**IAC-13.B6.2.1**
THE TROLL SATELLITE STATION IN ANTARCTICA – ACHIEVING HIGH RELIABILITY IN CHALLENGING CONDITIONS
*Borre Pedersen, Kongsberg Satellite Services AS, Norway*

**IAC-13.B6.2.2**
STUDY ON TT&C RESOURCES SCHEDULING TECHNIQUE BASED ON INTER-SATELLITE LINK
*Xiaosong Gu, Xi'an Satellite Control Center, China*

**IAC-13.B6.2.3**
THE PROSPECTS OF DEVELOPMENT AND USE OF INTELLIGENT CONTROL SYSTEMS FOR SPACE VEHICLES
*Nikolay Sokolov, Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia*

**IAC-13.B6.2.4**
FAULT DIAGNOSIS OF SPACECRAFT IN LONG TERM MANAGEMENT
*Weiguang Liang, Beijing Aerospace Control Center, China*

**IAC-13.B6.2.5**
OPTICAL MEASUREMENTS AND RELATIVE TRAJECTORY DETERMINATION OF COLOCATE GEOSTATIONARY SATELLITES
*Fabrizio Piergentili, University of Rome "La Sapienza", Italy*

**IAC-13.B6.2.6 (withdrawn)**
RESCUING AND REPURPOSING GEO SATELLITES FROM HIGHLY INCLINED INCORRECT TRANSFER ORBIT
*Ery Fitrianingsih, , Indonesia*



**IAC-13.B6.2.7 (withdrawn)**
APPLICATION AND PROSPECT OF ON-ORBIT SERVICE FOR GEO SATELLITES
*Enyu Gao, China Academy of Space Technology (CAST), China*

**IAC-13.B6.2.8**
CAPTURE, EJECTION AND HANDLING OF SPACE PAYLOADS, USING ROBOTIC SYSTEMS WITH SUPER-FLEXIBLE MANIPULATOR ARMS
*Pavel M. Trivailo, RMIT University, Australia, Australia*

**IAC-13.B6.2.9**
EXPERIENCE IN COMMISSIONING AND OPERATIONS OF THE BRITE-AUSTRIA NANOSATELLITE MISSION
*Manuela Unterberger, Graz University of Technology (TU Graz), Austria*

**IAC-13.B6.2.10**
TAKE FIVE EXPERIMENT : USING END OF SPOT4 SATELLITE OPERATIONAL LIFE FOR SIMULATING THE FUTURE SENTINEL-2 MISSION
*Laurence HOUPERT, CNES, France*

### B6.3. Mission Operations, Validation, Simulation and Training

***September 26 2013, 14:45 — 305***

***Chairman(s):*** *Paolo Ferri , European Space Agency (ESA), Germany; John Auburn , Telespazio S.p.A., Italy;*
***Rapporteur(s):*** *Thomas Uhlig , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.B6.3.1**
GALILEO IN-ORBIT VALIDATION STREAMLINING OPERATIONS WITHIN DIFFERENT OPERATION CENTRES
*Fabien Armogathe, EADS Astrium Satellites, Germany*

**IAC-13.B6.3.2**
INCREASING OPERATIONAL SECURITY TO SUPPORT SCIENCE MISSIONS
*Anders Kose Nervold, University of North Dakota, United States*

**IAC-13.B6.3.3**
SHORT TERM PLANNING OF THE SPACE STATION OPERATION MISSION
*Huijiao Bu, National University of Defense Technology of the Chinese People's Liberation Army, China*

**IAC-13.B6.3.4**
INTERFACES FOR ENHANCING SPACECRAFT OPERATIONS SYSTEM USING STK VISUALIZATIONS
*Aravind B, ISTRAC/ISRO, India*

**IAC-13.B6.3.5**
AUTOMATION OF PRELAUNCH SIMULATIONS FOR INDIAN LEO AND PLANETARY MISSIONS
*PARIMALARANGAN THIRUNARAYANAN, ISTRAC/ISRO, India*

**IAC-13.B6.3.6 (withdrawn)**
DISTRIBUTED SIMULATIONS FOR SATELLITE CONSTELLATION MISSIONS
*Christian Bodemann, Telespazio VEGA Deutschland GmbH, Germany*

**IAC-13.B6.3.7**
SPACE TOURISM MISSION OPERATIONS AND VALIDATION CRITERIA AND TRAINING FOR DEVELOPING SKILLED MAN POWER FOR SAFE OPERATIONS
*Gurunadh Velidi, University of Petroleum and Energy Studies, India*

**IAC-13.B6.3.8**
ASTRONAUT OPERATION SIMULATION IN SPACE STATION BASED ON VIRTUAL REALITY
*Chen Xuewen, China Astronaut Research and Training Center, China*

**IAC-13.B6.3.9**
A LAYERED ARCHITECTURE FOR MOTION CONTROL OF VIRTUAL ASTRONAUT IN SPACE OPERATION TRAINING
*An Ming, Astronaut Center of China, China*

### B6.4-V.1. Flight Control Operations Virtual Forum

***September 23 2013, 15:15 — 209A***

***Chairman(s):*** *Katja Leuoth , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany; Ahmed Farid , Telespazio VEGA Deutschland GmbH, Germany;*

**IAC-13.B6.4-V.1.1**
PREPARATION AND COORDINATION TASKS OF AN INCREMENT LEAD COL-OC
*Jérôme Campan, DLR, German Aerospace Center, Germany*

**IAC-13.B6.4-V.1.2 (withdrawn)**
THE EFFECT OF CONTROL POWER FOR SPACECRAFT HANDLING QUALITIES
*Huan Liu, Institute of Manned Space System Engineering,China Academy of Space Technology (CAST), China*

**IAC-13.B6.4-V.1.3 (withdrawn)**
XMM-NEWTON'S REACTION WHEELS RE-LUBRICATION ACTIVITIES
*Mauro Pantaleoni, Rhea System S.A., Germany*

**IAC-13.B6.4-V.1.4**
PRACTICAL CHALLENGES AND REAL TIME EXECUTION OF MAPS AND MISSION PLANNING ON A REMOTE MARS ANALOGUE LOCATION IN THE MOROCCO 2013 FIELD SIMULATION (AUSTRIAN SPACE FORUM)
*Andrea Boyd, Space Applications Services N.V., Belgium*

**IAC-13.B6.4-V.1.5**
THE MISSION AND ACTIVITY PLANNING STRATEGY FOR THE MARS2013 MISSION
*Sebastian Hettrich, German Federal Office for Radiation Protection, Austrian Space Forum, Germany*

**IAC-13.B6.4-V.1.6**
NANORACKS
*Richard Pournelle, Nanoracks, United States*

### B6.5-B3.4 Sustainable Operations of Present and Future Space Stations - Joint Session of the Human Space Endeavours and Space Operations Symposia

***September 25 2013, 09:45 — 308***

***Chairman(s):*** *Maria Stella Lavitola , Thales Alenia Space Italia, Italy; Helmut Luttmann , Astrium Space Transportation, Germany; Bob Chesson , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Rachid Amekrane , Astrium GmbH, Germany;*

**IAC-13.B6.5-B3.4.1**
A DECISION SUPPORT SYSTEM (DSS) FOR RESEARCH PROGRAM SCHEDULING ON THE RUSSIAN SEGMENT OF THE ISS
*Boris Zagreev, TSNIIMASH, Russia*

**IAC-13.B6.5-B3.4.2**
CHANGING THE ISS ATTITUDE TO MAXIMIZE SCIENCE RETURN OF THE SOLAR PAYLOAD
*Alice Michel, Belgian User Support and Operation Centre, Belgium*

**IAC-13.B6.5-B3.4.3**
FIRST EXPERIENCE WITH NEW COL-CC CONSOLE SETUP
*Dieter Sabath, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B6.5-B3.4.4**
COL-CC GROUND OPERATIONS – CHANGES OVER THE YEARS
*Thomas Mueller, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.B6.5-B3.4.5**
FROM ATV JULES VERNE TO ALBERT EINSTEIN – EUROPEANS MASTERING OF SPACE RENDEZVOUS OPERATIONS
*Alberto Novelli, European Space Agency (ESA), The Netherlands*

**IAC-13.B6.5-B3.4.6**
THE ADVANCEMENT OF ROBOTIC SERVICING CAPABILITIES THROUGH DEXTRE UTILIZATION AND TECHNOLOGY DEMONSTRATION ON THE INTERNATIONAL SPACE STATION
*Richard Rembala, MDA Space Missions, Canada*

**IAC-13.B6.5-B3.4.7**
AN AFFORDABLE MODEL FOR ENDURING ISS MISSION OPERATIONS WITH INCREASED SCIENTIFIC PRODUCTIVITY
*Josh Berk, University of North Dakota, United States*

## B6.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Bob Chesson , European Space Agency (ESA), The Netherlands; H. Neal Hammond , Space Bridges, LLC, United States;*

**IAC-13.B6.P.1**
A CONCEPTUAL DESIGN OF ON-ORBIT SERVICING IN GEO
*Zhang Qingzhan, ases, China*

**IAC-13.B6.P.2**
OPERATION MODES OF DEMAND ACCESS SERVICE IN TDRS SYSTEMS
*Caihong Kai, , China*

**IAC-13.B6.P.3**
A NOVEL MANIPULATOR'S TRAJECTORY PLANNING FOR FREE-FLYING SPACE ROBOT
*Bo Zhang, Harbin Institute of Technology, China*

**IAC-13.B6.P.4**
TWO YEARS OF COMS NORMAL OPERATION FOR EARTH OBSERVATION MISSION
*Young-Min CHO, Korea Aerospace Research Institute, Korea, Republic of*

**IAC-13.B6.P.5**
DYNAMICS AND COOPERATIVE CONTROL OF A SPACE ROBOT TEAM AFTER CAPTURING A COMMON TARGET
*Yongsheng Xu, China Academy of Space Technology (CAST), China*

# C1. ASTRODYNAMICS SYMPOSIUM

***Coordinator:*** *Erick Lansard, Thales Research & Technology, France; Alfred Ng, Canadian Space Agency, Canada;*

## C1.1. Attitude Dynamics (1)

***September 23 2013, 15:15 — 306A***

***Chairman(s):*** *Gianmarco Radice , University of Glasgow, United Kingdom; Kazuya Yoshida , Tohoku University, Japan;*
***Rapporteur(s):*** *Simei Ji , Beijing Institute of Technology, China;*

**IAC-13.C1.1.1**
MAXIMUM-LIKELIHOOD ESTIMATION OPTIMIZER FOR CONSTRAINED, TIME-OPTIMAL SATELLITE REORIENTATION
*Robert G. Melton, The Pennsylvania State University, United States*

**IAC-13.C1.1.2**
DRAG-FREE AND ATTITUDE CONTROL FOR CHINESE PLANNING ASTROD-I MISSION
*Ming Xu, Beihang University, China*

**IAC-13.C1.1.3**
PASSIVE AEROSTABILITY FOR DRAG SAILS
*Gemma Saura Carretero, Cranfield University, United Kingdom*

**IAC-13.C1.1.4**
BRITE-CONSTELLATION: ON-ORBIT ATTITUDE PERFORMANCE OF A NANOSATELLITE TELESCOPE
*Bryan Johnston-Lemke, Space Flight Laboratory, University of Toronto, Canada*

**IAC-13.C1.1.5**
DYNAMIC DECOUPLING OF SLOSH MOTION IN THRUSTING SPACECRAFT WITH MULTIPLE LARGE LIQUID STORES
*Jay Kang, Korea Aerospace University, Korea, Republic of*

**IAC-13.C1.1.6**
UNIFORM ROTATIONS OF A TWO-BODY TETHERED SYSTEM IN AN ELLIPTIC ORBIT
*Anna Guerman, CAST - Centre for Aerospace Science and Technologies, University of Beira Interior, Portugal*

**IAC-13.C1.1.7**
HYBRID POSITION/FORCE CONTROL OF LARGE SPACE MANIPULATORS
*Dongming Ge, China Academy of Space Technology (CAST), China*

**IAC-13.C1.1.8**
DESIGN OF SPHERICAL SOLAR SAILS FOR SPACECRAFT ATTITUDE MANEUVERS
*Fedorenko Alexey, Moscow Institute of Electronics and Mathematics of National Research University Higher School of Economics (MIEM NRU HSE), Russia*

**IAC-13.C1.1.9**
MAGNETIC ATTITUDE CONTROL OF A TWO BODY SYSTEM IN DRAG BALANCE INSTRUMENT IMPLEMENTATION
*Fabio Santoni, University of Rome "La Sapienza", Italy*

**IAC-13.C1.1.10**
DISCOVERING RAZI ACCELERATION VIA THE THEORY OF DERIVATIVE KINEMATICS AND ITS APPLICATION TO THE DYNAMIC ANALYSIS OF SPACECRAFT SYSTEMS
*Ahmad Salahuddin Mohd Harithuddin, RMIT University (Royal Melbourne Institute of Technology), Australia*

**IAC-13.C1.1.11**
FINITE-TIME CONTINUOUS SLIDING MODE MAGNETO COULOMBIC ATTITUDE CONTROL
*Manoranjan Sinha, IIT-Kharagpur, India*

**IAC-13.C1.1.12**
A NADIR-POINTING MAGNETIC ATTITUDE CONTROL SYSTEM FOR TIGRISAT NANOSATELLITE
*Paride Testani, Scuola Ingegneria Aerospaziale, Italy*

**IAC-13.C1.1.13**
STATISTICAL RESEARCH OF THE NANOSATELLITE RELATIVE MOTION AFTER SEPARATION FROM THE ROCKET CARRIER UPPER STAGE
*Igor V. Belokonov, Samara State Aerospace University, Russia*

## C1.2. Attitude Dynamics (2)

***September 24 2013, 09:45 — 306A***

***Chairman(s):*** *Anna Guerman , CAST - Centre for Aerospace Science and Technologies, University of Beira Interior, Portugal; Hyochoong Bang , Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of;*
***Rapporteur(s):*** *Amalia Ercoli Finzi , Politecnico di Milano, Italy;*

**IAC-13.C1.2.1**
LONG TERM DYNAMICS AND CONTROL OF A BARE ELECTRODYNAMIC TETHERS UNDER MULTI-ENVIRONMENT PERTURBATIONS
*Rui Zhong, York University, Canada*

**IAC-13.C1.2.2**
RESEARCH ON DESIGN AND PERFORMANCE ANALYSIS OF HIGH POWER ELECTROMECHANICAL ACTUATOR APPLIED TO SPACECRAFTS
*Yuexuan Wang, China Academy of Launch Vehicle Technology, China*

**IAC-13.C1.2.3**
EXPERIMENTAL DEMONSTRATION OF 3-DOF CAPABILITIES OF A TILTED WHEEL USING AN AIR-BEARING TABLE
*Lawrence Inumoh, Surrey Space Centre, University of Surrey, United Kingdom*

**IAC-13.C1.2.4**
A RESIDUAL-BASED ADAPTIVE UNSCENTED KALMAN FILTER FOR MICROSATELLITES
*Le Xuan Huy, Tokyo Institute of Technology, Japan*

**IAC-13.C1.2.5**
ANALYSIS AND EXPERIMENTS FOR DELAY COMPENSATION IN ATTITUDE CONTROL OF FLEXIBLE SPACECRAFT
*Marco Sabatini, Università di Roma "La Sapienza", Italy*

**IAC-13.C1.2.6**
OBSERVER-BASED ROBUST SLIDING MODE CONTROL FOR SPACECRAFT ATTITUDE MANEUVER SUBJECT TO REACTION WHEEL FRICTION
*Shunan Wu, Dalian University of Technology, China*

**IAC-13.C1.2.7 (withdrawn)**
DETERMINATION OF SPACECRAFT INERTIAL PARAMETERS ON BOARD.
*Dmitry Timoshin, TSNIIMASH, Russia*

**IAC-13.C1.2.8**
TWO STAGE DE-TUMBLING FOR TWIN NANO-SATELLITES STUDSAT-2A/2B
*Saroj Kumar, Nitte Meenakshi Institute Of Technology., India*

**IAC-13.C1.2.9**
JOINT-SPACE DYNAMICS ALGORITHM OF SPACE MANIPULATORS WITH TREE STRUCTURE BY USING INERTIA MAPPING MATRIX
*Mingming Wang, Technical University of Munich, Germany*

**IAC-13.C1.2.10**
SPACECRAFT SUN POINTING USING COPLANAR SOLAR PANELS DATA AND MAGNETIC FIELD MEASUREMENTS
*Mohammad Abdelrahman, International Islamic University Malaysia, Malaysia*

**IAC-13.C1.2.11**
CONTROL ALGORITHMS DEVELOPMENT FOR SPACE PLATFORM WITH A ROTATING SOLAR SAIL
*Aleksandr Zykov, S.P. Korolev Rocket and Space Corporation Energia, Russia*

**IAC-13.C1.2.12**
A METHOD OF GUIDE STAR SELECTION FOR STAR IDENTIFICATION IN THE CONDITION OF HIGH BACKGROUND AND HIGH DYNAMIC
*Wei Zhang, China Aerospace Science and Industry Corporation, China*

**IAC-13.C1.2.13**
ROBUST SLIDING MODE CONTROL OF A MOVING-MASS ACTUATED SUBORBITAL REENTRY BIOLOGICAL PAYLOAD
*Aidin Mohammadi, Aerospace Research Institute, Iran*

## C1.3. Guidance, Navigation and Control (1)

***September 24 2013, 14:45 — 306A***

***Chairman(s):*** *Fuyuto Terui , Japan Aerospace Exploration Agency (JAXA), Japan; Bernard Lübke-Ossenbeck , OHB System AG, Germany;*
***Rapporteur(s):*** *Paolo Teofilatto , University of Rome "La Sapienza", Italy;*

**IAC-13.C1.3.1 (withdrawn)**
GUIDANCE, NAVIGATION, AND CONTROL SYSTEM PERFORMANCE DURING THE LANDSAT DATA CONTINUITY MISSION LAUNCH AND COMMISSIONING
*James O'Donnell, National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center, United States*

**IAC-13.C1.3.2 (withdrawn)**
PHASE SPACE AND ORBIT RELATIVE MOTION BETWEEN HIGH AREA-TO-MASS RATIO SPACECRAFT
*Camilla Colombo, University of Southampton, United Kingdom*

**IAC-13.C1.3.3**
A LINEAR CONSTANT GAIN CONTROLLER BASED ON INTEGRATED GUIDANCE AND CONTROL FOR THE RE-ENTRY PHASE OF A MANNED SPACE MISSION
*Aravind B, ISTRAC/ISRO, India*

**IAC-13.C1.3.4**
INNOVATIVE MARS EDL GNC TECHNOLOGIES FOR FUTURE CHINA MARS EXPLORATION
*Shuang Li, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.C1.3.5**
INTER-SATELLITE ORIENTATION OBSERVATION AND LONG-TERM AUTONOMOUS ORBIT DETERMINATION FOR CONSTELLATION
*Fei Han, Shanghai Key Laboratory of Aerospace Intelligent Control Technology, China*

**IAC-13.C1.3.6**
A MIXED KALMAN/H-INFINITY FILTERING APPROACH FOR AUGMENTED PROPORTIONAL NAVIGATION GUIDANCE
*Adrian-Mihail Stoica, University POLITEHNICA of Bucharest - Research Center for Aeronautics and Space, Romania*

**IAC-13.C1.3.7**
*ATTITUDE CONTROL OF SPACECRAFT USING OPTIMAL NONLINEAR CONTROL SDRE AND THETA-D*
*M. Na, , Greece*

**IAC-13.C1.3.8**
APPLICATION OF PLURAL MOMENTUM EXCHANGE IMPACT DAMPERS TO LANDING GEAR SYSTEMS
*Tsubasa Watanabe, Nagoya University, Japan*

**IAC-13.C1.3.9**
OPTIMAL GUIDANCE FOR SOFT LANDING ON IRREGULAR-SHAPED ASTEROIDS USING SLIDING-MODE CONTROL
*Hongwei YANG, Tsinghua University, China*

**IAC-13.C1.3.10**
ON THE CUCKER-SMALE FLOCKING MODEL APPLIED TO A FORMATION MOVING IN A CENTRAL FORCE-FIELD
*Fabrizio Paita, Universitat Politecnica de Catalunya (UPC), Spain*

**IAC-13.C1.3.11**
AN EXPLORATION OF NUMERICAL METHODS FOR LOW-THRUST TRAJECTORY OPTIMIZATION IN N-BODY MODELS
*Francesco Topputo, Politecnico di Milano, Italy*

**IAC-13.C1.3.12 (withdrawn)**
VISUAL NAVIGATION PERFORMANCE FOR PRECISE LUNAR LANDING: STATUS OF A TECHNOLOGICAL BREAKTHROUGH
*Giovanni Orlando, EADS Astrium Space Transportation GmbH, Germany*

**IAC-13.C1.3.13**
THE SHENZHOU MANNED SPACECRAFT RENDEZVOUS AND DOCKING GUIDANCE, NAVIGATION AND CONTROL DESIGN
*Hu Jun, Beijing Institute of Control Engineering, China*

## C1.4. Guidance, Navigation and Control (2)

***September 25 2013, 09:45 — 306A***

***Chairman(s):*** *Eberhard Gill , Delft University of Technology, The Netherlands; James O'Donnell , National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center, United States;*
***Rapporteur(s):*** *Michael Ovchinnikov , Keldysh Institute of Applied Mathematics, RAS, Russia;*

**IAC-13.C1.4.1**
METHOD OF VIRTUAL TRAJECTORIES FOR THE PRELIMINARY DESIGN OF MULTIPLE GRAVITY-ASSIST INTERPLANETARY TRAJECTORIES
*Sergey Trofimov, Keldysh Institute of Applied Mathematics, RAS, Russia*

**IAC-13.C1.4.2**
UNOBSERVED MANEUVER RECONSTRUCTION AND PROPAGATION USING THE ESSENTIAL THRUST FOURIER COEFFICIENTS
*Hyun Chul Ko, University of Colorado, United States*

**IAC-13.C1.4.3**
ORBIT CONTROL OF ASTEROIDS IN LIBRATION POINT ORBITS FOR RESOURCE EXPLOITATION
*Matteo Ceriotti, University of Glasgow, United Kingdom*

**IAC-13.C1.4.4**
PRECISE POINT POSITIONING OF MEGHA-TROPIQUES USING ROSA DATA
*Narayanasetti Venkata Vighnesam, Indian Space Research Organization (ISRO), India*

**IAC-13.C1.4.5**
PRECISE SPIN SYNC SLEW CONTROL BASED ON NONLINEAR OPTIMIZATION FOR SPINNING SPACECRAFT
*Yunhua Wu, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.C1.4.6**
SINPLEX: A SMALL INTEGRATED NAVIGATION SYSTEM FOR PLANETARY EXPLORATION
*Erik Laan, TNO, The Netherlands*

**IAC-13.C1.4.7**
DISTURBANCE TORQUE ESTIMATION AND COMPENSATION SCHEME FOR THREE-AXIS ATTITUDE CONTROL OF SPACECRAFT USING MAGNETIC TORQUERS
*KanuPriya Govila, ISRO Satellite Centre (ISAC), India*

**IAC-13.C1.4.8**
DESIGN NONLINEAR MODEL PREDICTIVE CONTROLLER FOR SPACE REDUNDANT MANIPULATORS
*Mingming Wang, Technical University of Munich, Germany*

**IAC-13.C1.4.9**
SINGULAR STEERING LOGIC ANALYSIS USING CONTROL MOMENT GYROS FOR NANO-SATELLITE TSUBAME
*Ting Hao, Tokyo Institute of Technology, Japan*

**IAC-13.C1.4.10**
OPTIMAL-SLIDING-MODE-BASED RELATIVE POSITION AND ATTITUDE COUPLED CONTROL FOR AUTONOMOUS RENDEZVOUS AND DOCKING TO A TUMBLING TARGET
*Wei LU, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.C1.4.11**
AUTONOMOUS GNC FOR ASTEROID DEFLECTION AND ATTITUDE CONTROL VIA LASER ABLATION
*Massimo Vetrisano, University of Strathclyde, United Kingdom*

**IAC-13.C1.4.12**
ATTITUDE MANEUVER CONTROL OF A SPACECRAFT BY ONE VARIABLE-SPEED CONTROL MOMENT GYROS
*Haichao Gui, Beihang University, China*

**IAC-13.C1.4.13**
ADAPTIVE SEMI-ANALYTICAL GUIDANCE FOR AUTONOMOUS PLANETARY LANDING
*Paolo Lunghi, Politecnico di Milano, Italy*

## C1.5. Guidance, Navigation and Control (3)

***September 25 2013, 14:45 — 306A***

***Chairman(s):*** *Arun Misra , McGill University, Canada; Daniel Scheeres , University of Colorado, United States;*
***Rapporteur(s):*** *Benedicte Escudier , Institut Supérieur de l'Aéronautique et de l'Espace (ISAE), France;*

**IAC-13.C1.5.1**
NEW APPROACH FOR ESTIMATION OF ASTEROID'S INTERNAL STRUCTURE WITH IMAGE-BASED SHAPE MODEL
*Norizumi Motooka, University of Tokyo, Japan*

**IAC-13.C1.5.2**
AUTONOMOUS DISTRIBUTED LQR/APF CONTROL ALGORITHMS FOR CUBESAT SWARMS MANOEUVRING IN ECCENTRIC ORBITS
*Leonel Palacios, University of Glasgow, United Kingdom*

**IAC-13.C1.5.3**
ON THE ISSUES AND REQUIREMENTS OF BEARINGS-ONLY GUIDANCE AND NAVIGATION FOR IN-¬ORBIT RENDEZVOUS
*Jonathan Grzymisch, University of Stuttgart, Germany*

**IAC-13.C1.5.4**
ONBOARD STATE VECTOR ACCURACY IMPROVEMENT BY SEGMENTATION OF ORBIT FOR MARS ORBITER MISSION
*Tintu Chacko, ISRO Satellite Centre (ISAC), India*

**IAC-13.C1.5.5**
AGENT BASED CONTROL FOR AUTONOMOUS COOPERATION OF INTELLIGENT SPACECRAFT CLUSTER
*Jiang Chao, School of Aerospace, Tsinghua University, Beijing, China*

**IAC-13.C1.5.6**
ATTITUDE STABILIZATION OF UNDERACTUATED FLEXIBLE SPACECRAFT
*Dongxia Wang, Beihang University, China*

**IAC-13.C1.5.7 (withdrawn)**
A SIMPLE UNSCENTED KALMAN FILTER FOR ATTITUDE QUATERNIONS
*Murty Challa, The Johns Hopkins University Applied Physics Laboratory, United States*

**IAC-13.C1.5.8**
ATTITUDE TRACKING AND STABILIZATION FOR SOFT LANDING OF A LUNAR MODULE
*Mathavaraj S, ISRO Satellite Centre (ISAC), India*

**IAC-13.C1.5.9**
APPLICATION OF HAMILTONIAN STRUCTURE-PRESERVING CONTROL TO CLUSTER FLIGHT FOR FRACTIONATED SPACECRAFT ON AN ELLIPTIC ORBIT
*Ming Xu, Beihang University, China*

**IAC-13.C1.5.10**
LOW ALTITUDE DESCENT SIMULATION FOR AUTONOMOUS LUNAR LANDINGS
*Iain Martin, University of Dundee, United Kingdom*



**IAC-13.C1.5.11**
OPTIMAL ELLIPTIC ORBITAL RENDEZVOUS WITH CONTINUOUS RADIAL THRUST ON THE CHASER
*Xiangyu Zhang, Research Center of Satellite Technology, Harbin Institute of Technology, China*

**IAC-13.C1.5.12 (withdrawn)**
GUIDANCE AND CONTROL FOR ACCURATE PLANETARY LANDING
*Enrico Canuto, Politecnico di Torino, Italy*

**IAC-13.C1.5.13**
IRIDES: NEW RENDEZVOUS OBJECTIVES FOR THE PRISMA MISSION
*Per Bodin, OHB Sweden, Sweden*

## C1.6. Mission Design, Operations & Optimisation (1)

***September 26 2013, 09:45 — 306A***

***Chairman(s):*** *Michèle Lavagna , Politecnico di Milano, Italy; Kathleen Howell , Purdue University, United States;*
***Rapporteur(s):*** *Igor V. Belokonov , Samara State Aerospace University, Russia;*

**IAC-13.C1.6.1**
ADR MISSION DESIGN AND DE-ORBITING STRATEGIES APPLIED TO HEAVY TARGETS
*Ciro Borriello, Aviospace, Italy*

**IAC-13.C1.6.2**
MINIMUM-THRUST PROBLEM AND ITS APPLICATION TO TRAJECTORY OPTIMIZATION WITH THRUST SWITCHINGS
*Viacheslav Petukhov, RIAME, Russia*

**IAC-13.C1.6.3**
A NOVEL NONLINEAR GUIDANCE SCHEME FOR POWER-LIMITED AUTONOMOUS RENDEZVOUS WITH FIXED DOCKING DIRECTION AND COLLISION AVOIDANCE CONSTRAINTS
*Li Peng, Northwestern Polytechnical University, China*

**IAC-13.C1.6.4**
OPTIMAL LOW THRUST DEORBITING OF PASSIVELY STABILIZED LEO SATELLITES
*Michael Ovchinnikov, Keldysh Institute of Applied Mathematics, RAS, Russia*

**IAC-13.C1.6.5**
OPTIMAL LOW-THRUST TRANSFERS IN TWO-BODY AND THREE-BODY DYNAMICS
*Pierluigi Di Lizia, Politecnico di Milano, Italy*

**IAC-13.C1.6.6**
OPTIMIZATION OF OPERATIVE PLANNING AND EFFICIENCY FOR MULTI-SATELLITE OBSERVATION AND COMMUNICATION CONSTELLATIONS
*Valeriy V. Darnopykh, Moscow Aviation Institute (National Research University, MAI), Russia*

**IAC-13.C1.6.7**
NOVEL NUMERICAL OPTIMISATION OF THE HOHMANN SPIRAL TRANSFER
*Steven Owens, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.C1.6.8**
MULTIOBJECTIVE TRAJECTORY OPTIMIZATION OF SOLAR SAIL SPACECRAFT
*Yang Zhang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C1.6.9**
OPTIMAL LAW FOR INCLINATION CHANGE IN AN ATMOSPHERE THROUGH SOLAR SAILING
*Valentin Stolbunov, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.C1.6.10**
HIGH-FIDELITY OPTIMUM ELECTRIC PROPULSION TRANSFER DESIGN TO GEO AND MEO
*Sven Erb, European Space Research and Technology Centre, ESA-ESTEC, The Netherlands*

**IAC-13.C1.6.11**
OPTIMAL LUNAR LANDING TRAJECTORY DESIGN FOR HYBRID ENGINE
*Dong-Hyun Cho, KARI, Korea, Republic of*

**IAC-13.C1.6.12**
TRAJECTORY OPTIMIZATION FOR SUN-EARTH L5 POINT MISSIONS
*Mingtao Li, National Space Science Center (NSSC), China*

**IAC-13.C1.6.13**
A STUDY ON LOW-COST AND FLEXIBLE DEEP SPACE EXPLORATION UTILIZING A CONCEPT OF INTERPLANETARY PARKING ORBIT
*Toshinori Ikenaga, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.C1.6.14 (withdrawn)**
NEW TECHNOLOGY FOR THE OPTIMIZATION OF LOW-EARTH ORBIT SATELLITE MANEUVERS FOR THE PURPOSES OF VARIOUS SPACE MISSIONS
*Pavel Kozlov, COSMOEXPORT Aerospace Research Agency, Russia*

## C1.7. Mission Design, Operations & Optimisation (2)

***September 26 2013, 14:45 — 306A***

***Chairman(s):*** *Yury Razoumny , COSMOEXPORT Aerospace Research Agency, Russia; David B. Spencer , The Pennsylvania State University, United States;*
***Rapporteur(s):*** *Vincent Martinot , Thales Alenia Space France, France;*

**IAC-13.C1.7.1**
ABORT CAPABILITY EVALUATION FOR MULTI-STAGE SPACE TRANSPORTATION SYSTEMS
*Yongfeng Xie, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.C1.7.2**
OPTIMIZATION OF MICROCARB MISSION: ACQUISTION, STATION KEEPING AND END OF LIFE
*JORDI FONTDECABA BAIG, Thales Alenia Space France, France*

**IAC-13.C1.7.3**
NOVEL APPROACHES TO THE DESIGN OF FRACTIONATED CLUSTERS FOR LONG-TERM EARTH OBSERVATION MISSIONS
*Jing Chu, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.C1.7.4**
ELECTRA - THE IMPLEMENTATION OF ALL-ELECTRIC PROPULSION ON A GEOSTATIONARY SATELLITE
*Peter Rathsman, OHB Sweden, Sweden*

**IAC-13.C1.7.5 (withdrawn)**
XMM-NEWTON'S OPERATIONS PREPARATION FOR THE 4 WHEEL DRIVE PROJECT
*Mauro Pantaleoni, Rhea System S.A., Germany*

**IAC-13.C1.7.6**
TRAJECTORY OPTIONS FOR THE AKATSUKI RECOVERY
*Stefano Campagnola, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.C1.7.7**
AN OPTION FOR CHANG'E-2'S EXTENDED FLIGHT: NEAR-EARTH ASTEROID FLYBY TRAJECTORIES FROM THE SUN-EARTH L2 VIA LUNAR GRAVITY ASSIST
*GAO YANG, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.C1.7.8**
EARTH RESONANT GRAVITY ASSISTS FOR ASTEROID RETRIEVAL MISSIONS
*Joan Pau Sanchez Cuartielles, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.C1.7.9**
A ROBUST NEAR EARTH ASTEROID MITIGATION CAMPAIGN OF MULTIPLE FORMATION FLYING GRAVITY TRACTORS
*Leonel Palacios, University of Glasgow, United Kingdom*

**IAC-13.C1.7.10**
OPTIMAL SPACECRAFT TRAJECTORIES FOR EXPEDITION TO ASTEROID APOPHIS WITH RETURN TO EARTH
*Vyacheslav V. Ivashkin, Keldysh Institute of Applied Mathematics, RAS, Russia*

**IAC-13.C1.7.11**
MARCOPOLO-R PROXIMITY TRAJECTORY ANALYSIS AND DESIGN FOR BINARY ASTEROID 1996 FG3.
*Francesco Cacciatore, Elecnor Deimos, Spain*

**IAC-13.C1.7.12**
ACCESS TO MARS FROM EARTH-MOON LIBRATION POINT ORBITS: MANIFOLD AND DIRECT OPTIONS
*Masaki Kakoi, Purdue University, United States*

**IAC-13.C1.7.13 (withdrawn)**
MAPPING OF JOVIAN MOONS VIA MULTIPLE FLYBYS
*Tsz Yan So, The Hong Kong University of Science and Technology, Hong Kong*

## C1.8. Orbital Dynamics (1)

***September 27 2013, 09:45 — 306A***

***Chairman(s):*** *Jean-Paul Berthias , Centre National d'Etudes Spatiales (CNES), France;*
*Rapporteur(s): Weihua Zhang , National University of Defense Technology, China;*
***Co-Chair(s):*** *Johannes Schoenmaekers , European Space Operations Centre, Germany;*

**IAC-13.C1.8.1**
19TH JOHN V. BREAKWELL KEYNOTE LECTURE: ONE, TWO, THREE, … MANY
*Martin Lo, Jet Propulsion Laboratory - California Institute of Technology, United States*

**IAC-13.C1.8.2**
END-OF-LIFE DISPOSAL OF LIBRATION POINT ORBIT SPACECRAFT
*Zubin Olikara, Institut d'Estudis Espacials de Catalunya, Spain*

**IAC-13.C1.8.3**
AGILE SOLAR SAILING IN THREE-BODY PROBLEM: MOTION BETWEEN ARTIFICIAL EQUILIBRIUM POINTS
*Jeannette Heiligers, University of Strathclyde, United Kingdom*

**IAC-13.C1.8.4**
MANOEUVRING CONSIDERATIONS FOR QUASI-PERIODIC TRAJECTORIES
*Marcel Duering, University of Strathclyde, United Kingdom*

**IAC-13.C1.8.5**
EARTH-SUN L1 AND L2 TO MOON TRANSFERS EXPLOITING NATURAL DYNAMICS
*Willem van der Weg, University of Strathclyde, United Kingdom*

**IAC-13.C1.8.6**
A NOTE ON THE DYNAMICS AROUND THE LAGRANGE POINTS OF THE EARTH--MOON SYSTEM IN A COMPLETE SOLAR SYSTEM MODEL
*Yijun Lian, National University of Defense Technology, China*

**IAC-13.C1.8.7**
MANIFOLD DYNAMICS IN THE EARTH-MOON SYSTEM VIA ISOMORPHIC MAPPING
*Mauro Pontani, University of Rome "La Sapienza", Italy*

**IAC-13.C1.8.8**
THE USE OF INVARIANT MANIFOLDS FOR LOW-ENERGY EARTH-MOON TRANSFERS OF LUNAR LANDING MISSION
*Ke Liang, Northwestern Polytechnical University, China*

**IAC-13.C1.8.9**
JET TRANSPORT PROPAGATION OF UNCERTAINTIES FOR ORBITS AROUND THE EARTH
*Daniel Pérez-Palau, University of Barcelona, Spain*

**IAC-13.C1.8.10**
ARTIFICIAL FROZEN ORBITS AROUND MERCURY
*Xue Ma, School of Aerospace, Tsinghua University, Beijing, China*

**IAC-13.C1.8.11**
RELATIVE ORBITAL DYNAMICS OF SWARMS OF FEMTO-SPACECRAFT
*Giorgio Mingotti, University of Strathclyde, United Kingdom*

## C1.9. Orbital Dynamics (2)

***September 27 2013, 13:30 — 306A***

***Chairman(s):*** *Othon Winter , UNESP - Univ Estadual Paulista, Brazil; Josep J. Masdemont , Universitat Politecnica de Catalunya (UPC), Spain;*
***Rapporteur(s):*** *Shoji Yoshikawa , Mitsubishi Electric Corporation, Japan;*

**IAC-13.C1.9.1**
OUT-OF-PLANE EXTENSION OF RESONANT ENCOUNTERS FOR ESCAPE AND CAPTURE
*Elisa Maria Alessi, IFAC-CNR, Italy*

**IAC-13.C1.9.2**
A NEW STRATEGY OF DESIGNING LOW-THRUST TRAJECTORIES IN ALTERNATE ROTATIONAL COORDINATES
*Jun Matsumoto, The University of TOKYO, Graduate school, Japan*

**IAC-13.C1.9.3**
DYNAMICS OF A SPACECRAFT IN THE VICINITY OF BINARY ASTEROIDS
*Pamela Woo, McGill University, Canada*

**IAC-13.C1.9.4**
ORBIT DYNAMICS IN THE VICINITY OF CONTACT BINARY ASTEROIDS
*Feng Jinglang, Delft University of Technology (TU Delft), The Netherlands, China*

**IAC-13.C1.9.5**
LINEAR STABILITY OF THE RELATIVE EQUILIBRIA OF A SPACECRAFT AROUND AN ASTEROID
*Yue Wang, Beihang University, China*

**IAC-13.C1.9.6**
APPLICATIONS OF SRP DOMINATED HIGHLY NON-KEPLERIAN TRAJECTORIES AROUND MINOR BODIES
*Daniel Garcia Yarnoz, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.C1.9.7**
COMBINED ORBIT DETERMINATION FOR CE-2 AND TOUTATIS BASED ON OPTICAL IMAGING DATA AT FLY-BY
*Songjie HU, 1)Science and Technology on Aerospace Flight Dynamics Laboratory, China,2)Beijing Aerospace Control Center, China, China*

**IAC-13.C1.9.8**
A SIMULATION TOOL FOR SPACE SITUATIONAL AWARENESS: NEAR EARTH OBJECTS
*Pierluigi Di Lizia, Politecnico di Milano, Italy*



**IAC-13.C1.9.9**
SWITCH POINTS FOR HIGHLY ECCENTRIC ORBITS: MODELLING THE OCCURRENCES OF SIGN CHANGES IN THE RATE OF CHANGE OF THE ECCENTRICITY
*Matthew Bourassa, Carleton Univeristy, Canada*

**IAC-13.C1.9.10**
ADAPTIVE STRUCTURES FOR SPACECRAFT ORBIT CONTROL
*Stefania Soldini, University of Southampton, United Kingdom*

**IAC-13.C1.9.11**
NUMERICAL APPROXIMATION OF INVARIANT MANIFOLDS IN THE RESTRICTED THREE-BODY PROBLEM
*Francesco Topputo, Politecnico di Milano, Italy*

**IAC-13.C1.9.12 (withdrawn)**
THE FARSIDE EXPLORER: MISSION ANALYSIS - DESIGN AND COMPUTATION OF A QUASI BALLISTIC TRANSFER TRAJECTORY TO THE FAR SIDE OF THE MOON
*Andrea Campa, ISAE - Institut Supérieur de l'Aéronautique et de l'Espace, Italy*

# C2. MATERIALS AND STRUCTURES SYMPOSIUM

***Coordinator(s):*** *Constantinos P. Stavrinidis , European Space Agency (ESA), The Netherlands; Pavel M. Trivailo , RMIT University, Australia, Australia;*

## C2.1. Space Structures I - Development and Verification (Space Vehicles and Components)

***September 23 2013, 15:15 — 306B***

***Chairman(s):*** *Alwin Eisenmann , IABG Industrieanlagen - Betriebsgesellschaft mbH, Germany; Andreas Rittweger , Astrium Space Transportation, France;*
***Rapporteur(s):*** *Jean-Alain Massoni , Thales Alenia Space France, France;*

**IAC-13.C2.1.1**
ANALYZING THE FRACTAL OF THE FRACTURE OF WELDING JOINT IN AEROSPACE INDUSTRY TO EVALUATE THE FRACTURE TOUGHNESS
*Zhang Junjie, Aerospace research institute of materials and processing technology (ARIMPT), China*

**IAC-13.C2.1.2**
DEVELOPMENT AND DEMONSTRATION OF FRICTION STIR WELDING PROCESS TOWARDS REALISATION OF PROPELLANT TANKS FOR SPACE PROGRAMME
*Srinivasa Rao, LPSC, ISRO, India*

**IAC-13.C2.1.3**
NEW POSSIBILITIES IN CREATING OF EFFECTIVE COMPOSITE SIZE-STABLE HONEYCOMB STRUCTURES DESIGNED FOR SPACE PURPOSES
*Volodymyr Slyvynskyi, Ukrainian Research Institute of Engineering Technique, OJSC, Ukraine*

**IAC-13.C2.1.4**
STUDY OF HONEYCOMB SANDWICH STRUCTURE FOR TANK BEARING LOAD
*Jianwei Wang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C2.1.5 (withdrawn)**
THERMO MECHANICAL ARCHITECTURE DEVELOPMENT OF LIQUID HYDROGEN TANKS FOR UPPER STAGES WITH USE OF CRYOGENIC HELIUM MACHINE
*Anton Kolozezny, TSNIIMASH, Russia*

**IAC-13.C2.1.6**
THE DEVELOPMENT HISTORY AND APPLICATION STATUS OF CHINA'S MANNED SPACECRAFT DOCKING MECHANISM
*Qiu Huayong, ases, China*

**IAC-13.C2.1.7**
DYNAMIC ANALYSIS AND VALIDATION FOR ROTATING SEPARATION OF LM-5'S LARGE-SCALE PAYLOAD FAIRING
*He Wei, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.1.8**
AN AUTOMATIC MODELING METHOD FOR POGO SYSTEM OF LARGE LIQUID ROCKETS
*Shujun Tan, School of Aeronautics and Astronautics, Dalian University of Technology, China*

**IAC-13.C2.1.9**
INVERSE ESTIMATION ON ELASTIC PARAMETER OF PARTICULATE REINFORCED COMPOSITES BASED ON CAX
*YAO Dong, CASC, China*

**IAC-13.C2.1.10**
ANALYSIS ON CARBON-CARBON NOZZLE THERMAL STRESS OF SOLID ROCKET MOTORS
*Zhang Qingya, Beijing Institute of Technology, China*

**IAC-13.C2.1.11**
PERFORMANCE INVESTIGATION OF SPACEBORNE MICRO-VIBRATION ISOLATION SYSTEM COMBINED WITH HEAT PIPE COOLING SYSTEM
*Hyun-Ung Oh, Chosun University, Korea, Republic of*

## C2.2. Space Structures II - Development and Verification (Deployable and Dimensionally Stable Structures)

***September 24 2013, 09:45 — 306B***

***Chairman(s):*** *Paolo Gasbarri , Università di Roma "La Sapienza", Italy; Jean-Alain Massoni , Thales Alenia Space France, France;*
***Rapporteur(s):*** *Pierre Rochus , CSL, Université de Liège, Belgium;*

**IAC-13.C2.2.1**
KEYNOTE LECTURE: SPACE STRUCTURE – YESTERDAY, TODAY AND TOMORROW
*Tetsuo Yasaka, QPS Institute, Japan*

**IAC-13.C2.2.2**
A NEW APPROACH TO STABILIZATION OF INFLATABLE SPACE STRUCTURES
*Manpreet Puri, University of Strathclyde, United Kingdom*

**IAC-13.C2.2.3**
ON-ORBIT EXPERIMENTAL RESULTS OF THE REX-J EXTENDABLE ROBOTIC MANIPULATOR
*Atsushi Ueta, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.C2.2.4**
CHARACTERIZING LIGHTWEIGHT AND DIMENSIONALLY ULTRA STABLE STRUCTURES FOR SPACE APPLICATION
*Ruven Spannagel, DLR, German Aerospace Center, Germany*

**IAC-13.C2.2.5**
THERMAL PROPERTY AND MICROSTRUCTURE CONTRAST OF THREE KINDS OF CARBON/SILICON CARBIDE COMPOSITES
*Jin Li, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.C2.2.6**
DEPLOYMENT ANALYSIS AND CONTROL STRATEGIES OF FLEXIBLE SPACE MANIPULATORS
*Andrea Pisculli, University of Rome "La Sapienza", Italy*

**IAC-13.C2.2.7 (withdrawn)**
MULTIBODY ANALYSIS OF A TWO AXIS ORIENTED DEPLOYABLE SOLAR ARRAY
*Anne GIOVANNINI, Thales Alenia Space France, France*

**IAC-13.C2.2.8**
DESIGN AND EVALUATION OF INFLATABLE STRUCTURAL CONCEPTS FOR AERODYNAMIC DRAG AUGMENTATION.
*Gabriel Secheli, Surrey Space Centre, University of Surrey, United Kingdom*

**IAC-13.C2.2.9**
SHAPE MEASUREMENT OF CREASED LARGE SPACE MEMBRANE BY PHOTOMETRIC STEREO TECHNIQUE
*Hiroshi Furuya, Tokyo Institute of Technology, Japan*

**IAC-13.C2.2.10**
EQUIVALENT STIFFNESS OF LARGE DEPLOYABLE MEMBRANE WITH RANDOM INITIAL DEFORMATION
*Ayumu Yamasaki, Tokyo Institute of Technology, Japan*

**IAC-13.C2.2.11**
PARAMETRIC STUDY OF FLEXIBLE SOLAR ARRAY BASED ON ORTHOGONAL METHOD
*Liu Dali, Aerospace System Engineering Shanghai, China*

**IAC-13.C2.2.12**
MINIMUM WEIGHT DESIGN OF ORTHOTROPIC CYLINDRICAL LAUNCHER SHELL STRUCTURES SUBJECTED TO LOCAL LOAD INTRODUCTION
*Jochen Albus, Astrium GmbH, Germany*

## C2.3. Space Structures - Dynamics and Microdynamics

***September 24 2013, 14:45 — 306B***

***Chairman(s):*** *Peter M. Bainum , Howard University, United States; Ijar M. Da Fonseca , Instituto Nacional de Pesquisas Espaciais (INPE) and UNINOVE University, Brazil;*
***Rapporteur(s):*** *Harijono Djojodihardjo , Universitas Al Azhar Indonesia, Indonesia;*

**IAC-13.C2.3.1**
ACTIVE ISOLATION/SUPPRESSION FOR SATELLITE MICRO-VIBRATION WITH STEWART PLATFORM
*Weipeng Li, Beihang University, China*

**IAC-13.C2.3.2**
A.M.LYAPUNOV METHODOLOGY IN MODELLING DYNAMICS OF GYROSCOPIC STABILIZATION AND ORIENTATION SYSTEMS
*Lyudmila Kuzmina, Kazan National Research Technical University, Russia*

**IAC-13.C2.3.3**
ON THE THREE DIMENSIONAL DYNAMICS OF A FLEXIBLE BEAM MOVING IN LOW EARTH ORBIT
*Ahmed Badawy, Military Technical College, Egyptian Armed Forces, Egypt*

**IAC-13.C2.3.4**
CONFIGURATION MODELLING OF CABLE-STAYED SPACE REFLECTORS
*Anatoliy Alpatov, Institute of Technical Mechanics of the National Academy of Science and State Space Agency of Ukraine, Ukraine*

**IAC-13.C2.3.5**
FLEXIBILITY ISSUES IN DISCRETE ON-OFF ACTUATED SPACECRAFT: NUMERICAL AND EXPERIMENTAL TESTS
*Paolo Gasbarri, Università di Roma "La Sapienza", Italy*

**IAC-13.C2.3.6 (withdrawn)**
SIMULTANEOUS STRUCTURAL/CONTROL OPTIMIZATION OF A LOW EARTH ORBIT SPACE STRUCTURE BY USING GENETIC ALGORITHM TECHNIQUE
*Ijar M. Da Fonseca, Instituto Nacional de Pesquisas Espaciais (INPE) and UNINOVE University, Brazil*

**IAC-13.C2.3.7**
VIBRO-ACOUSTIC ANALYSIS OF RANDOM VIBRATION RESPONSE OF A FLEXIBLE STRUCTURE DUE TO ACOUSTIC FORCING
*Harijono Djojodihardjo, Universitas Al Azhar Indonesia, Indonesia*

**IAC-13.C2.3.8**
OPTIMAL DESIGN OF SPACECRAFT FORMATION SYSTEMS FOR AUSTRALIA
*Pavel M. Trivailo, RMIT University, Australia, Australia*

**IAC-13.C2.3.9**
RESEARCH OF THE DYNAMICS MOTION OF LANDING VEHICLE WITH INFLATABLE BRAKING DEVICE IN THE PLANET ATMOSPHERE
*Vsevolod Koryanov, Bauman Moscow State Technical University, Russia*

**IAC-13.C2.3.10**
A NOVEL VIBRATION ISOLATION SYSTEM FOR REACTION WHEEL ON SPACE TELESCOPES
*Yao Zhang, Beijing Institute of technology(BIT), China*

**IAC-13.C2.3.11**
ON THE USE OF VARIOUS CORRELATION CRITERIA FOR THE VALIDATION OF SATELLITES FEM
*Guglielmo Aglietti, Surrey Space Centre, University of Surrey, United Kingdom*

**IAC-13.C2.3.12**
EIGEN-SENSITIVITY BASED METHOD FOR STATISTICAL ENERGY ANALYSIS PARAMETERS IDENTIFICATION USING TRANSIENT MEASURED DATA
*Hongliang Zhang, Harbin Institute of Technology, China*

**IAC-13.C2.3.13**
STATIC AND DYNAMIC SIMULATION OF LARGE-DEFORMATION SOLAR SAILS
*Chao Xie, Aerospace System Engineering Shanghai, China*

## C2.4. Advanced Materials and Structures for High Temperature Applications

***September 25 2013, 09:45 — 306B***

***Chairman(s):*** *Marc Lacoste , Herakles (Safran group), France; David E. Glass , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Luigi Scatteia , Booz and Company, The Netherlands;*

**IAC-13.C2.4.1**
A COMPETITIVE THERMAL PROTECTION SYSTEM FOR HYPERSONIC VEHICLES.
*Marta Albano, University of Rome "La Sapienza", Italy*

**IAC-13.C2.4.2**
ABLATION BEHAVIORS OF C/C-ZRC-ZRB2-SIC COMPOSITES BY MEANS OF ARC HEATED WIND TUNNEL UP TO 2000?
*Meng Xiangli, The Fourth Academy of CASC, China*

**IAC-13.C2.4.3**
CATALYTIC CHEMICAL VAPOR INFILTRATION OF CARBON NANOTUBE/NANOFIBER NETWORK REINFORCED CARBON/CARBON COMPOSITES: CATALYTIC EFFECT ON THE DENSIFICATION BEHAVIOR AND MATRIX MICROSTRUCTURE
*Hailiang Deng, Xi'an Aerospace Composite Materials Institute, China*

**IAC-13.C2.4.4**
DESIGN AND THERMAL PERFORMANCE TEST OF A NOVEL THERMAL PROTECTION/INSULATION ANTENNA WINDOW FOR LONG TIME REENTRY SPACE VEHICLES
*Na Liu, China Academy of Launch Vehicle Technology, China*



**IAC-13.C2.4.5**
EFFECT OF PREFORM STRUCTURE ABOUT MECHANICAL PROPERTIES OF CARBON/CARBON COMPOSITES
*Ying-qiang Liao, , China*

**IAC-13.C2.4.6**
INVESTIGATION OF THE THERMO-MECHANICAL AND ABLATIVE BEHAVIOUR OF SILICON CARBIDE BASED CONCRETES EXPOSED TO HYBRID PROPULSION ENVIRONMENTS.
*Raffaele D'Elia, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.C2.4.7**
INVESTIGATION ON THE COMPRESSIVE PROPERTIES OF THE 4D IN-PLANE BRAIDED C/C COMPOSITES
*Kunlong WEI, Xi'an institute of aerospace propulsion technology, China*

**IAC-13.C2.4.8**
PREPARATION OF CARBON FIBER-REINFORCED SILICON CARBIDE MATRIX COMPOSITE BY REACTIVE MELT INFILTRATION AT MODEST TEMPERATURE
*Yanwei Zhao, Aerospace research institute of materials and processing technology (ARIMPT), China*

**IAC-13.C2.4.9**
PROGRESSIVE DAMAGE ANALYSIS OF A 4D IN-PLANE BRAIDED C/C COMPOSITES SUBJECTED TO UNIDIRECTIONAL TENSION
*SHI Hongbin, Xi'an institute of aerospace propulsion technology, China*

**IAC-13.C2.4.10**
RESEARCH ON THERMAL PROPERTIES OF HIGH-PERFORMANCE CARBON FIBER
*He Fengmei, Aerospace research institute of materials and processing technology (ARIMPT), China*

**IAC-13.C2.4.11**
ABLATIVE MATERIAL BASED ON EPOXY RESIN FILLED WITH HOLLOW GLASS AND PHENOLIC RESIN MICROSPHERES
*Carlo Vassalli, University of Rome "La Sapienza", Italy*

**IAC-13.C2.4.12**
THE EFFECT OF POLYMERIZATION TECHNIQUES ON THE PROPERTIES OF CARBON FIBER
*Han Xiao, EMC2, China*

**IAC-13.C2.4.13**
THE RELATIONSHIP BETWEEN MICROSTRUCTURE OF SIC COATING AND TENSILE STRENGTH OF CVD-SIC FIBERS
*Song Zhao, Xi'an Aerospace Composites Institute, China*

## C2.5. Smart Materials and Adaptive Structures

***September 25 2013, 14:45 — 306B***

***Co-Chair(s):*** *Junjiro Onoda , Japan Society for Aeronautics and Space Sciences (JSASS), Japan; Pavel M. Trivailo , RMIT University, Australia, Australia;*
***Rapporteur(s):*** *Paolo Gaudenzi , University of Rome "La Sapienza", Italy;*

**IAC-13.C2.5.1**
DECENTRALIZED VIBRATION CONTROL OF A MULTI-LINK FLEXIBLE ROBOTIC MANIPULATOR USING SMART PIEZOELECTRIC TRANSDUCERS
*Dunant Halim, University of Nottingham China, China*

**IAC-13.C2.5.2**
INFLATABLE SHAPE CHANGING COLONIES ASSEMBLING VERSATILE SMART SPACE STRUCTURES
*Thomas Sinn, University of Strathclyde/Advanced Space Concepts Laboratory, United Kingdom*

**IAC-13.C2.5.3**
RESEARCH ON GUIDED WAVE BASED STRUCTURAL HEALTH MONITORING TECHNIQUES FOR DEEP SPACE EXPLORER
*Xi Lu, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C2.5.4**
SHAPE-CHANGING SOLAR SAILS FOR NOVEL MISSION APPLICATIONS
*Andreas Borggräfe, University of Strathclyde, United Kingdom*

**IAC-13.C2.5.5**
SURFACE CONTROL OF ACTIVE HYBRID SPACE MIRRORS
*Brij Agrawal, Naval Postgraduate School, United States*

**IAC-13.C2.5.6**
THE PERFORMANCE RESEARCH OF THE METAL RUBBER VIBRATION ISOLATOR FOR WHOLE-SPACECRAFT VIBRATION SUPPRESSION
*Zhang Yongliang, , China*

**IAC-13.C2.5.7 (withdrawn)**
WIRELESS STRAIN SENSING SYSTEM FOR STRUCTURAL HEALTH MONITORING UNDER VARIOUS GRAVITY LEVEL
*Yayu Monica Hew, , United States*

**IAC-13.C2.5.8**
ROV-E ACTIVITIES AT SOUTHAMPTON UNIVERSITY
*James Foster, University of Southampton, United Kingdom*

**IAC-13.C2.5.9**
RESEARCH ON THE APPLICATION OF FIBER BRAGG GRATINGS SENSORS FOR STRUCTURAL HEALTH MANAGEMENT OF COMPOSITES IN SPACECRAFT
*Haisheng Wu, Beijing Spacecrafts, P. R. China, China*

**IAC-13.C2.5.10**
MULTI-FUNCTIONAL PIEZOELECTRIC SPACE VEHICLE STRUCTURAL SYSTEM
*Judin Narlely, SRM University, kattankulathur,chennai, India*

**IAC-13.C2.5.11**
ADAPTIVE DEFORMABLE SKIN RESISTANT TO HIGH TEMPERATURE TECHNOLOGY RESEARCH
*Shiyong Huang, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.5.12**
ACTUATORS LOCATION OPTIMIZATION AND ACTIVE VIBRATION CONTROL OF LARGE FLEXIBLE SPACE STRUCTURES
*Liangliang Lv, Aerospace System Engineering Shanghai, China, China*

## C2.6. Space Environmental Effects and Spacecraft Protection

***September 26 2013, 09:45 — 306B***

***Co-Chair(s):*** *Giuliano Marino , CIRA Italian Aerospace Research Centre, Italy; Iuriy Moshnenko , Yuzhnoye State Design Office, Ukraine;*
***Rapporteur(s):*** *Franz-Josef Kahlen , University of Cape Town, South Africa;*

**IAC-13.C2.6.1**
GROUND THERMAL RADIATION VACUUM TESTS AND THERMAL-STRUCTURAL ANALYSIS FOR THIN-WALLED CFRP LENTICULAR CROSS-SECTION SPACE BOOM
*Guangqiang Fang, Aerospace System Engineering Shanghai, China*

**IAC-13.C2.6.2**
PROTECTION OF SPACECRAFT FROM SPACE ENVIRONMENTAL EFFECTS
*Mollik Nayyar, Manipal Institute of Technology, Manipal University, India*

**IAC-13.C2.6.3**
AEROBRAKING EFFECTS INDUCED EROSION OF KAPTON
*Hu Longfei, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C2.6.4**
ANALYTICAL STUDY OF THERMAL AND MECHANICAL PROPERTIES OF SYNTACTIC FOAMS FOR SPACE APPLICATIONS
*Tony Kulesa, South Dakota School of Mines and Technology, United States*

**IAC-13.C2.6.5**
THERMAL SHIELDING OF A SPHERE-CONE REENTRY VEHICLE
*Xiaoyan Li, Research & Development Center of China Academy of Vehicle Technology, China*

**IAC-13.C2.6.6 (withdrawn)**
RADIATION SHIELDING AGAINST SPES AND GCRS WITH PLASMA INDUCED MAGNETIC FIELDS
*Emmanuelle Dujols, Propulsion and Research Center, United States*

**IAC-13.C2.6.7**
CONTAMINATION MEASUREMENT AND CONTROL OF CHINESE SPACECRAFT
*Yang Dongsheng, China Academy of Space Technology (CAST), China*

**IAC-13.C2.6.8**
THE TEMPERATURE DEPENDENCE OF SOLAR SAIL MATERIALS ON A HELIOCENTRIC DISTANCE
*Roman Ya. Kezerashvili, New York City College of Technology, United States*

**IAC-13.C2.6.9**
ANALYSIS OF COMPOSITE PLATE SUBJECT TO SPACE DEBRIS IMPACT FOR UNLIKELY PENETRATION CASE
*Harijono Djojodihardjo, Universitas Al Azhar Indonesia, Indonesia*

**IAC-13.C2.6.10**
AEROTHERMODYNAMICS OF A REENTRY VEHICLE NOSE WITH A FORWARD FACING CONICAL CAVITY
*Rajesh Yadav, University of Petroleum and Energy Studies, India*

**IAC-13.C2.6.11**
THERMAL-STRUCTURAL ANALYSIS OF SOLAR CELLS ON FLEXIBLE SOLAR ARRAY
*Yuhan Zhang, School of Aerospace and Mechanics, Tongji University, China*

**IAC-13.C2.6.12**
THE APPROPRIATE TECHNIQUE FOR THE MICROSATELLITE HARDWARE DESIGN IN LINE WITH THE REDUCTION COST: MITIGATION THE RADIATION EFFECTS OVER A MICRO SATELLITE FLYING IN LOW EQUATOR ORBIT
*Bustanul Arifin, Indonesian National Institute of Aeronautics and Space (LAPAN), Indonesia*

**IAC-13.C2.6.13**
HARDNESS ASSURANCE EVALUATION OF MICROCONTROLLERS FOR SATELLITE ELECTRONICS WITH LASER PULSES
*Vafa Sedghi, , Iran*

## C2.7. Space Vehicles – Mechanical/Thermal/ Fluidic Systems

***September 26 2013, 14:45 — 306B***

***Co-Chair(s):*** *Oleg Alifanov , Moscow Aviation Institute, Russia; Brij Agrawal , Naval Postgraduate School, United States;*
***Rapporteur(s):*** *Guoliang Mao , Beijing Institute of Aerodynamics, China;*

**IAC-13.C2.7.1**
PARAMETRIC SHAPE OPTIMIZATION OF REENTRY MODULE FOR SPACE MISSIONS
*Ugur Guven, , United States*

**IAC-13.C2.7.2**
*THERMAL MODELING OF THE ADAPTIVE THERMAL CONTROL MICROSYSTEM OF THE SPACECRAFT*
*Anatoliy Patsievskiy, S.P. Korolev Rocket and Space Corporation Energia, Russia*

**IAC-13.C2.7.3**
GLOBAL ERROR ESTIMATION IN CFD MESH COARSENING PROCESS FOR UNCERTAINTY QUANTIFICATION METHODS
*Martin Kubicek, University of Strathclyde, United Kingdom*

**IAC-13.C2.7.4**
COOLING SYSTEM FOR HIGH ENERGY POTENTIAL SPACE VEHICLE
*Anton Burdanov, Central Research Institute for Machine Building (FGUP TSNIIMASH), Russia*

**IAC-13.C2.7.5**
HEAT TRANSFER MANAGEMENT BY AEROSPIKES FOR A HYPOTHESIZED LIFTING BODY IN HYPERSONIC FLOW
*Shashank Khurana, The University of TOKYO, Graduate school, Japan*

**IAC-13.C2.7.6**
AERODYNAMIC IMPROVEMENT OF THE BRAZILIAN SATELLITE LAUNCH VEHICLE
*Paulo Moraes Jr., Instituto de Aeronáutica e Espaço (IAE), Brazil*

**IAC-13.C2.7.7**
NUMERICAL STUDY OF ACTIVE COOLING TECHNIQUES OF A NANO SATELLITE USING CFD FOR PERFORMANCE ENHANCEMENT
*Mollik Nayyar, Manipal Institute of Technology, Manipal University, India*

**IAC-13.C2.7.8**
AERODYNAMIC DESIGN OF A CAPSULE CONFIGURATION FOR HIGH-SPEED MANNED RE-ENTRY
*Bingyan Chen, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C2.7.9**
VARIABLE INERTIA FLUIDIC RING ACTUATOR ON ATTITUDE CONTROL AND RESIDUAL FUEL MANAGEMENT SYSTEMS
*Hong Guan, Beihang University, China*

**IAC-13.C2.7.10**
THE STUDY ON IOT BASED MANUFACTURING SYSTEM FOR ASTRONAUTICAL PRODUCTS
*Xie Xinping, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.C2.7.11**
THERMAL MAPPING AND TRENDS OF MARS ANALOG MATERIALS IN SAMPLE ACQUISITION OPERATIONS USING EXPERIMENTATION AND MODELS
*Timothy Szwarc, Stanford University, United States*

**IAC-13.C2.7.12**
TRANSIENT STUDY ABOUT THE HEAT TRANSFER OF SUBLIMATOR COMBINED WITH FLUID LOOP
*Yuying WANG, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology, China*

**IAC-13.C2.7.13**
MATERIALS SURFACE EMISSIVITY ANALYSES PERFORMED BY THE COMBINED USE OF DUAL AND SINGLE COLOR OPTICAL PYROMETERS
*Carlo Purpura, CIRA Italian Aerospace Research Centre, Italy*

## C2.8. Specialised Technologies, Including Nanotechnology

***September 27 2013, 09:45 — 306B***

***Co-Chair(s):*** *Mario Marchetti , University of Rome "La Sapienza", Italy; Pierre Rochus , CSL, Université de Liège, Belgium;*
***Rapporteur(s):*** *Pavel M. Trivailo , RMIT University, Australia, Australia;*

**IAC-13.C2.8.1**
NANOELECTRONICS: ANALYTICAL MODELLING OF SINGLE STRAND DNA (SSDNA)- SET AS A NANO SWITCH FOR FUTURE SPACE APPLICATIONS.
*Vishal Sharma, Govt. Degree College Udhampur, Jammu and Kashmir, India*

**IAC-13.C2.8.2**
PREDICTION OF TORSIONAL BUCKLING BEHAVIOR OF SINGLE-WALLED CARBON NANOTUBES VIA A MOLECULAR MECHANICS MODEL
*Saeid Sahmani, Amirkabir University of Technology, Iran*

**IAC-13.C2.8.3**
LIGHT ABSORPTION IN THIN FILM VIA NANO PARTICLES
*Yongan Tang, , United States*

**IAC-13.C2.8.4**
AN ACCURATE LOW CURRENT MEASUREMENT CIRCUIT FOR EXTREMELY HIGH VACUUM IONIZATION GAUGE
*Chaoyang Zhou, Lanzhou Institute of Physics, China*

**IAC-13.C2.8.5**
NANOCOMPOSITES FOR SPACE APPLICATIONS: CARBON NANOTUBES ENHANCED CYANATE ESTER COMPOSITE HAVING EXCELLENT THERMAL PROPERTY, HIGH DIELECTRIC CONSTANT AND LOW PERCOLATION THRESHOLD
*Sohaib Akbar, SUPARCO, Pakistan*

**IAC-13.C2.8.6**
RARE-EARTH-DOPED AMORPHOUS CHALCOGENIDES IN PHOTONICS
*Jan Hrabovský, University of Pardubice, Czech Republic*

**IAC-13.C2.8.7**
ADVANCED THERMAL CONTROL OF LAUNCHER EQUIPMENT BAY USING PHASE CHANGE MATERIAL
*Jean-Paul Collette, , Belgium*

**IAC-13.C2.8.8**
THE USE OF COLOR TECHNOLOGY TO SUPPORT ORIENTATION IN SPACE HABITAT
*Chiara Burattini, University of Rome "La Sapienza", Italy*

**IAC-13.C2.8.9**
DIMENSIONLESS DESIGN METHOD RESEARCH FOR ANNULUS-SHAPED FLEXURE STRUCTURE USING IN SPACE-PRECISION-SYSTEM
*Shanshan ZHAO, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.8.10**
THE EFFECTS OF WEAVE PARAMETER ON PROPERTIES OF AXIAL CARBON ROD WEAVED 4D C/C COMPOSITES
*Li Guo cai, The 41st Institute of the Fourth Academy of CASC, China*

**IAC-13.C2.8.11**
ESTIMATING OF EXTERNAL HEAT FLUX FOR ABLATIVE THERMAL PROTECTION OF SPACECRAFT BY INVERSE PROBLEMS TECHNIQUE
*Andrey V. Netelev, Moscow Aviation Institute (State Technical University), Russia*

## C2.9. Advancements in Materials Applications and Rapid Prototyping

***September 27 2013, 13:30 — 306B***

***Co-Chair(s):*** *Yeong-Moo Yi , Korea Aerospace Research Institute, Korea, Republic of; Giuliano Marino , CIRA Italian Aerospace Research Centre, Italy;*
***Rapporteur(s):*** *Luigi Scatteia , Booz and Company, The Netherlands;*

**IAC-13.C2.9.1**
DELOYMENT CHARACTERISTICS OF A NEW LANDING GEAR FOR LUNAR LANDER
*Jianzhong YANG, Institute of Spacecraft System Engineering,China Academy of Space Technology (CAST), China*

**IAC-13.C2.9.2**
A STUDY OF FAILURE CRITERIA OF VARIABLE STIFFNESS COMPOSITE PANELS
*Yan Zhang, Beijing Institute of Technology, School of Aerospace Engineering, China*

**IAC-13.C2.9.3**
APPLICATIONS OF GRAPHENE IN SPACECRAFT ENGINEERING
*Shen Zicai, Center of Spacecraft Assembly Integration and Test,CAST,Beijing, China*

**IAC-13.C2.9.4**
CO-CURE MANUFACTURE PROCESS AND EVALUATION OF KSLV-II INTERSTAGE COMPOSITE PANELS
*Kwang-Soo Kim, Korea Aerospace Research Institute, Korea, Republic of*

**IAC-13.C2.9.5**
FRICTION STIR WELD APPLICATION AND TOOLING DESIGN FOR THE MULTI-PURPOSE CREW VEHICLE STAGE ADAPTER
*John Alcorn, University of Alabama in Huntsville, United States*

**IAC-13.C2.9.6**
FUSED DEPOSITION MODELING TECHNIQUES FOR MANUFACTURING OF CUBESAT BASED ON MODULAR DESIGN CONCEPT
*Fabrizio Piergentili, University of Rome "La Sapienza", Italy*

**IAC-13.C2.9.7**
RESEARCH ON INSULATION PROPERTIES OF HIGH-SPEED AIRCRAFT LIGHTWEIGHT HEAT-RESISTANT MATERIALS IN HIGH-TEMPERATURE ENVIRONMENT
*Dafang Wu, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C2.9.8**
RESEARCH ON TECHNOLOGY OF RAPID PROTOTYPING AND MANUFACTURING APPLIED TO AEROSPACE SERVO PRODUCTS
*Yuexuan Wang, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.9.9**
EFFECT OF LIF COATING ON THE THERMAL OXIDATION CHARACTERISTICS FOR BORON PARTICLES
*Chen Tao, The 42nd Institute of the Fourth Academy of CASC, China*

**IAC-13.C2.9.10**
TECHNOLOGY DISCUSSION OF SMD COMPONENTS USED FOR MICRO SPACECRAFT
*Risi Sun, China Academy of Space Technology (CAST), China*

**IAC-13.C2.9.11**
THE APPLICATIONS OF ADDITIVE MANUFACTURING IN SPACE DEVELOPMENTS
*Liang Xiaokang, Capital Aerospace Machinery Corporation, China*

**IAC-13.C2.9.12**
THE INFLUENCE OF AGEING TREATMENT ON MICROSTRUCTURE AND MECHANICAL PROPERTIES OF TB2 TITANIUM ALLOY
*Xin Yang, China Academy of Space Technology (CAST), China*

## C2.9. Advancements in Materials Applications and Rapid Prototyping

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Constantinos P. Stavrinidis , European Space Agency (ESA), The Netherlands; Pavel M. Trivailo , RMIT University, Australia, Australia;*

**IAC-13.C2.P.1**
A NEW SERVO MECHANISM NAMED ECCENTUATOR
*Zhou Bei, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.2**
STUDY ON PHASED ARRAY ULTRASONIC NONDUSTRUCTIVE TESTING FOR ALUMINIUM ALLOY FRICTION STIR WELDING
*Leena Zhang, , China*

**IAC-13.C2.P.3**
THE INFLUENCE OF PRE-OXIDATION ON THE PROPERTIES OF PAN BASED CARBON FIBER
*Gao Fengge, EMC2, China*

**IAC-13.C2.P.4**
A NEW METHOD FOR CG MEASUREMENT IN DETERMINATION OF MASS PROPERTIES OF SPACECRAFTS AND THEIR COMPONENTS
*Hamed Sheikh Bahaee, Iranian Space Agency (ISA), Iran*

**IAC-13.C2.P.5**
DESIGN AND EXAMINATION OF STAGE-SEPARATION CONNECTING APPLIANCES OF A MISSILE
*Ronghui Wang, , China*

**IAC-13.C2.P.6**
WATER MEDIUM HYDRAULIC TEST METHODS FOR LARGE LIQUID HYDROGEN TANK
*Peng Weibin, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.C2.P.7**
A NEW RELIABILITY EVALUATION METHOD OF SOLAR ARRAY UNFOLDING MECHANICS BASED ON TEST DATA ON GROUND AND ON-ORBIT FLIGHT DATA
*Wei Wang, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.C2.P.8**
RESEARCH ON THE DETAIL DESIGN OF AIRCRAFT WINGS
*Liu Guo-chun, , China*

**IAC-13.C2.P.9**
ANALYSIS OF COILABLE LATTICE MAST
*Yang Zhou, School of Aerospace and Mechanics, Tongji University, China*

**IAC-13.C2.P.10**
APPLICATION OF NON-PROBABILISTIC STATISTICAL ENERGY ANALYSIS IN SPACECRAFT'S VIBRO-ACOUSTIC ENVIRONMENT PREDICTION
*Di Wu, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.11**
GLOBAL DAMPING CONFIGURATION OF LARGE SPACE TRUSS STRUCTURE BASED ON ENERGY FINITE ELEMENT ANALYSIS
*Lu Zhou, China Academy of Space Technology (CAST), China*

**IAC-13.C2.P.12**
EFFECTS OF THE HIGH-TEMPERATURE LOADING ON THE STRUCTURE DYNAMIC BEHAVIOR
*Hao Cheng, Beijing Institute of Structure & Environment Engineering, China*

**IAC-13.C2.P.13**
OPERATIONAL MODAL ANALYSIS OF IN-FLIGHT SPACE LAUNCH VEHICLES ON USE OF TRANSMISSIBILITY MEASUREMENTS
*Si-Da Zhou, Beijing Institute of Technology, China*

**IAC-13.C2.P.14**
TRAJECTORY AND DEFORMATION COUPLING CALCULATION MODEL FOR PLANE MOTION OF A SLENDER BODY
*Liu Weiwei, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.15**
CONSTRAINED DAMPING LAYER FOR DYNAMIC LOADING ATTENUATION OF LIQUID ROCKET ENGINE FRAME
*Binchao Li, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C2.P.16**
OBSERVER-BASED TWO TIME CONTROL OF FREE-FLYING FLEXIBLE SPACE MANIPULATOR
*Xiaoyan Yu, Fuzhou University, China*

**IAC-13.C2.P.17**
RESONANT FIXTURE DESIGN AND TEST VERIFICATION ON SHAKER SRS TEST
*Aijun Ma, China Astronaut Research and Training Center, China*

**IAC-13.C2.P.18**
VIBRATION SUPPRESSION OF SPACE STRUCTURES USING CONTROL MOMENT GYROSCOPES AS ACTUATORS
*Quan Hu, Beihang University, China*

**IAC-13.C2.P.19 (withdrawn)**
ANALITICAL AND EXPERIMENTAL QUANTIFICATION OF STIFFNESS AND DAMPING FOR DRY FRICTION DAMPERS AND THEIR APPLICATION TO IMPACT.
*Michelle Guzman, , Mexico*

**IAC-13.C2.P.20**
MODELING AND SIMULATION OF A MICRO-VIBRATION ATTENUATING SYSTEM BASED ON FLEXIBLE SATELLITE MODEL
*Haiping Liu, China Academy of Space Technology (CAST), China*

**IAC-13.C2.P.21**
NONLINEAR VIBRATION OF A BOLT JOINTED BEAM UNDER MICROSLIP
*ZHANG Xiang-meng, Research Center of Satellite Technology, Harbin Institute of Technology, China*

**IAC-13.C2.P.22**
TEMPERATURE SIMULATION TEST OF MTPS IN ARC TUNNEL
*Xiaoyan Li, Research & Development Center of China Academy of Vehicle Technology, China*

**IAC-13.C2.P.23**
INVESTIGATION ON THE DESIGN FORMULAS FOR THE NOZZLE FLEXIBLE JOINT
*Qu Zhuanli, The 41st Institute of the Fourth Academy of CASC, China*

**IAC-13.C2.P.24**
THE EFFECT OF PORE STRUCTURE ON STRENGTH AND THERMAL CONDUCTIVITY OF POROUS ZRO2 CERAMICS
*Jun Zhou, Aerospace Research Institute of Materials and Processing Technology(ARIMP), China*

**IAC-13.C2.P.25**
RESEARCH ON INFLUENCE OF PREFORM PARAMETERS ON PROPERTIES OF CARBON/CARBON COMPOSITES
*JinHuang Zheng, , China*

**IAC-13.C2.P.26**
MECHANICAL PROPERTIES TEST OF 2D C/C COMPOSITES
*WEI Lianfeng, Xi'an Aerospace Composite Materials Institute, China*

**IAC-13.C2.P.27**
FIBER CONTENT EFFECT ON THE PERFORMANCE OF CARBON / CARBON COMPOSITES
*Shao Haicheng, , China*

**IAC-13.C2.P.28**
HEAT TREATMENT TEMPERATURE EFFECT ON THE THERMAL-PHYSICAL PROPERTIES OF CARBON/CARBON COMPOSITES
*Li Yongjun, , China*

**IAC-13.C2.P.29**
FIBROUS CERAMIC TILES FOR ULTRAHIGH TEMPERATURE THERMAL INSULATION
*Jingjing Sun, , China*

**IAC-13.C2.P.30**
ADVANCED MOSI2/NBSI2/NB5SI3 MULTILAYER COATING ON NIOBIUM ALLOY FOR THE BIPROPELLANT ROCKET ENGINE
*Haiqing Li, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.31**
THERMAL STRUCTURE ANALYSIS OF NOZZLE THROAT TO BRAIDED C/C COMPOSITE
*Liu Shuguang, The 41st Institute of the Fourth Academy of CASC, China*

**IAC-13.C2.P.32**
STUDY ON EPDM INSULATION REINFORCED BY PAA RESIN WITH EXCELLENT ABLATION AND PARTICLES EROSION RESISTANCE
*Wenli Wang, CASIC, China*



**IAC-13.C2.P.33**
THE ANISOTROPY OF THERMAL CONDUCTIVITY IN DIBORIDES OF ZIRCONIUM AND HAFNIUM
*Luo Xiaoguang, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C2.P.34**
MOLDING OF LOW-COST COMPOSITE CERAMIC INSULATION MATERIALS AND ITS APPLICATION IN THERMAL PROTECTION OF MISSILE OVER LARGE AREA
*Zhengshuai Yin, , China*

**IAC-13.C2.P.35**
RESEARCH ON ANTI-OXIDATION OF C/C COMPOSITES PREPARED BY SILICON CONTAINING POLYARYLACETYLENES
*JinHuang Zheng, , China*

**IAC-13.C2.P.36**
EFFECT OF PYROLYTIC CARBON INTERFACE ON PERFORMANCE OF C/C COMPOSITE
*Jiantao Sun, , China*

**IAC-13.C2.P.37**
BOUNDARY CONDITION ON STRESS CALCULATION OF THE NOZZLE FIXED CASE
*LIU YU, The 41st Institute of the Fourth Academy of CASC, China*

**IAC-13.C2.P.38**
STUDY ON ON-ORBIT MICRO-VIBRATION MONITORING AND ADAPTIVE CONTROL SYSTEM
*XUAN ZHANG, CASC, China*

**IAC-13.C2.P.39**
SPECIAL FIBER SENSOR FOR SPACECRAFT APPLICATION
*Shi Qing, Beijing Research Institute of Telemetry, China*

**IAC-13.C2.P.40**
OPTIMIZED THERMAL DESIGN OF THE GAMMA RAY BURST DETECTOR
*Ying Liu, Chinese Academy of Sciences, China*

**IAC-13.C2.P.41**
THE ARC-HEATED DIRECT-CONNECTED TESTING TECHNOLOGY OF SCRAMJET COMBUSTOR THERMAL PROTECTION SYSTEM
*Tu Jian-qiang, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C2.P.42**
DEVELOPMENT OF ENVIRONMENT SIMULATOR GVU-600 FOR RUSSIAN ISS-RESHETNEV
*XIAOQIN RU, CAST, China*

**IAC-13.C2.P.43**
EVALUATION OF PREDICTION OF INGAP2/GAAS/GE SOLAR CELL PERFORMANCE IN SPACE RADIATION ENVIRONMENT
*Sheng-Sheng Yang, Lanzhou Institute of Physics, China*

**IAC-13.C2.P.44**
THE STUDY OF ATOMIC OXYGEN ENVIRONMENT PROTECTION DESIGN AND EXPERIMENT TECHNIQUES FOR SPACECRAFT
*Hua Zhang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C2.P.45 (withdrawn)**
AN EQUIPMENT FOR COLLECTING QUANTITATIVE HARMFUL GASES IN THE SPACECRAFT CABIN
*Yao Yuhua, China Astronaut Research and Training Center, China*

**IAC-13.C2.P.46**
DELAMINATION GROWTH BEHAVIOR IN LAMINATED COMPOSITES UNDER COMPRESSIVE FATIGUE LOADS
*Lu Zhang, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.47**
EMPIRICAL EVALUATION OF THERMAL CONTACT RESISTANCE OF BOLTED JOINT CONFIGURATIONS EMPLOYED IN SATELLITE APPLICATIONS FITTED WITH INTERFACE MATERIALS UNDER VACUUM CONDITIONS
*Esmaeil Moeini, Amirkabir University of Technology, AutSat Project, Iran*

**IAC-13.C2.P.48**
DSMC MODELING OF RAREFIED AERODYNAMIC FEATURES FOR LUNAR EXPLORATION RE-ENTRY VEHICLE
*Jie Liang, Beihang University, China*

**IAC-13.C2.P.49**
EFFECT OF A MULTI-DISK AEROSPIKE ON THE AEROTHERMODYNAMICS OF A REENTRY CONFIGURATION
*Rajesh Yadav, University of Petroleum and Energy Studies, India*

**IAC-13.C2.P.50**
A POSSIBLE FUTURE NEED OF AN ENFORCED THERMAL CONTROL OF THE EARTH
*Jose Sergio Almeida, Instituto Nacional de Pesquisas Espaciais (INPE), Brazil*

**IAC-13.C2.P.51**
RESEARCH ON THE AERODYNAMIC HEATING FEATURE OF PLANE-SYMMETRIC AIRCRAFT
*Xudong LI, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.52**
MOLECULAR DYNAMIC SIMULATION OF COMPONENT AND PLATE INTERFACES IN A NANOSATELLITE
*Michael Kio, National Space Research and Development Agency, Abuja, Nigeria, Nigeria*

**IAC-13.C2.P.53**
VIBRATION SIGNALS ANALYSIS FOR SOLID LUBRICATION OF ROLLING BALL BEARINGS
*Kaifeng Zhang, Lanzhou Institute of Physics, China*

**IAC-13.C2.P.54**
A NEW METHOD TO EVALUATE THE DAMAGE EXTENT OF C/C COMPOSITE MATERIAL STRUCTURE USING ACOUSTIC EMISSION TECHNOLOGY
*Haibei GU, Beijing Institute of Structure & Environment Engineering, China*

**IAC-13.C2.P.55**
MINIMUM-MASS HEAT SHIELD FOR A NEPTUNE AEROCAPTURE MISSION
*Antonio Mazzaracchio, Sapienza Università di Roma, Italy*

**IAC-13.C2.P.56**
RESEARCH OF BACTERIAL ANTIFUNGAL DECORATIVE BOARD USED IN SPACE MANNED CABIN
*Jimei Shi, , China*

**IAC-13.C2.P.57**
STUDY ON ULTRA-TEMPERATURE, HIGH HEAT FLUX, NONLINEARITY AERODYNAMIC HEATING ENVIRONMENT SIMULATION AND THERMO-MACHANICAL TESTING TECHNIQUE
*Dafang Wu, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C2.P.58**
A NEW CONCEPT OF THREE-DIMENSIONAL FULL FIVE-DIRECTIONAL BRAIDED COMPOSITES
*Fan Zhang, Research & Development Center of China Academy of Vehicle Technology, China*

**IAC-13.C2.P.59**
POTENTIAL APPLICATIONS OF HYBRID FORMING OF ALUMINUM ALLOYS IN AIRCRAFTS
*Jingqi Cai, China Academy of Launch Vehicle Technology, China*

**IAC-13.C2.P.60**
NEW WELD FILLER WIRE AND METHOD OF RESTRAINT INTENSITY DECREASE CHARACTERIZATION FOR AL-LI ALLOY 2195
*Jiao Haojun, China Academy of Launch Vehicle Technology, China, China*

**IAC-13.C2.P.61**
RESEARCH ON COMPOSITE HIGH-PRESSURE VESSEL TECHNOLOGY APPLICABLE FOR SPACE SYSTEM
*Li Cuiyun, Institute for Cooperation in Space (ICIS), China*

**IAC-13.C2.P.62**
PRELIMINARY INVESTIGATION OF AN INNOVATIVE SHAPE DEFORMABLE SPACE ROVER USING DIELECTRIC ELASTOMER ACTUATORS
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.C2.P.63**
PRELIMINARY STUDY ON LASER BEAM WELDABILITY OF DIRECT LASER FABRICATED GH4169 FOR AEROSPACE APPLICATIONS
*Peng Dong, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.C2.P.64**
PREPARATION AND PERFORMANCE RESEARCH OF ANTI-ELECTROSTATIC WHITE THERMAL-CONTROL COATINGS FOR SPACECRAFTS
*Gang Ma, Beijing Spacecrafts,China Academy of Space Technology (CAST), China*

**IAC-13.C2.P.65**
ANALYSIS AND PREVENTION OF CRACKING OF CARBONSTEEL COMPONENTS OF AEROSPACE PRODUCT
*Yao Chunchen, Jiang industries group co. ltd, China*

## C3. SPACE POWER SYMPOSIUM

***Coordinator(s):*** *Leopold Summerer , European Space Agency (ESA), The Netherlands;*

### C3.1. Space-Based Solar Power Architectures – New Governmental and Commercial Concepts and Ventures

***September 23 2013, 15:15 — 303A***

***Chairman(s):*** *Leopold Summerer , European Space Agency (ESA), The Netherlands; John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States;*
***Rapporteur(s):*** *Nobuyuki Kaya , Kobe University, Japan;*

**IAC-13.C3.1.1**
PETER GLASER SPACE POWER SYMPOSIUM KEYNOTE PAPER
*Leopold Summerer, European Space Agency (ESA), The Netherlands*

**IAC-13.C3.1.2**
AN INTEGRATED ROADMAP FOR SPS-ALPHA (SOLAR POWER SATELLITE VIA ARBITRARILY LARGE PHASED ARRAY)
*John C. Mankins, ARTEMIS Innovation Management Solutions, LLC, United States*

**IAC-13.C3.1.3**
SPACE AND ENERGY – AT THE SERVICE OF ENERGY ON EARTH
*Leopold Summerer, European Space Agency (ESA), The Netherlands*

**IAC-13.C3.1.4**
SUNBEAMS FROM SPACE MIRRORS IN DAWN DUSK POLAR ORBIT FEEDING SOLAR FIELDS ON THE GROUND FOR LOW COST ELECTRICITY
*Lewis Fraas, , United States*

**IAC-13.C3.1.5**
MAINTENANCE SCENARIO FOR SOLAR POWER SATELLITE TO PREVENT SPACE JUNKS
*Susumu Sasaki, Japan Aerospace Exploration Agency (JAXA)/ISAS, Japan*

**IAC-13.C3.1.6 (withdrawn)**
THE PROMISE OF ELECTRICITY FROM SPACE USING SATELLITE SOLAR POWER STATIONS FOR WORLD ECONOMIC DEVELOPMENT - NOVEL CONCEPTS
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C3.1.7**
ATTITUDE AND ORBITAL DYNAMICS OF LARGE SOLAR POWER SATELLITES
*Ian McNally, University of Glasgow, United Kingdom*

**IAC-13.C3.1.8**
CONCEPTUAL DESIGN ON THE SANDWICH SOLAR POWER SATELLITE
*Nobuyuki Kaya, Kobe University, Japan*

**IAC-13.C3.1.9**
2ND INTERNATIONAL SPS PAPER COMPETITION - WINNING PAPER
*Leopold Summerer, European Space Agency (ESA), The Netherlands*

### C3.2. Wireless Power Transmission Technologies, Experiments and Demonstrations

***September 24 2013, 09:45 — 303A***

***Chairman(s):*** *Nobuyuki Kaya , Kobe University, Japan; Frank Little , Texas A&M University, United States;*
*Rapporteur(s): Frank Steinsiek , Astrium Space Transportation, Germany; Massimiliano Vasile , University of Strathclyde, United Kingdom;*

**IAC-13.C3.2.1**
SPACE SOLAR POWER SANDWICH MODULE TESTING AND PERFORMANCE CHARACTERIZATION
*Paul Jaffe, Naval Research Laboratory, United States*

**IAC-13.C3.2.2**
MICROWAVE WIRELESS POWER TRANSMISSION TEST POWER SATELLITE: SYSTEM ENGINEERING
*Frank Little, Texas A&M University, United States*

**IAC-13.C3.2.3**
*DEVELOPMENT OF PHASED-ARRAY ANTENNA SYSTEM FOR WIRELESS POWER TRANSMISSION EXPERIMENT*
*Tanaka Koji, ISAS/JAXA, Japan*

**IAC-13.C3.2.4**
THE EXPERIMENTAL PROPOSAL OF THE MICROWAVE POWER TRANSMISSION FROM THE CHINESE MANNED SPACE STATION
*Haitao Liu, Qian Xuesen Laboratory of Space Technology, China*

**IAC-13.C3.2.5**
DESIGN AND APPLICATIONS OF EFFICIENT MICROWAVE RECTIFIERS FOR WIRELESS POWER TRANSMISSION
*Changjun Liu, , China*

**IAC-13.C3.2.6**
A REFLECTION BASED POWER AUGMENTATION CONCEPT FOR FRACTIONATED SPACECRAFT SYSTEMS
*Chunshi FAN, China Academy of Space Technology (CAST), China*

**IAC-13.C3.2.7**
RESEARCH AND EXPERIMENT ON THE LASER WIRELESS POWER TRANSMISSION CHAIN
*Zhao Changming, Beijing Institute of Technology, China*

**IAC-13.C3.2.8**
DEMONSTRATION OF ISS BASED IR WPT SYSTEM AND CAPABILITIES OF ATMOSPHERIC RESEARCHES.
*Vitaliy Kapranov, RSC "Energia", Russia*

**IAC-13.C3.2.9**
ORBITAL POSITION, TRANSMISSION PATH AND SPACECRAFT ATTITUDE DETERMINATION FOR A SOLAR POWER SPACECRAFT
*Jeremy Straub, University of North Dakota, United States*



### C3.3. Advanced Space Power Technologies and Concepts

***September 24 2013, 14:45 — 303A***

***Chairman(s):*** *Carla Signorini , European Space Agency (ESA), The Netherlands; Koji Tanaka , ISAS, JAXA, Japan;*
***Rapporteur(s):*** *Lee Mason, National Aeronautics and Space Administration (NASA), United States; Leopold Summerer , European Space Agency (ESA), The Netherlands;*

**IAC-13.C3.3.1**
RESEARCH AND FABRICATION OF INVERTED METAMORPHIC TRIPLE-JUNCTION SOLAR CELL WITH 32% EFFICIENCY
*Ni Jiawei, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.C3.3.2 (withdrawn)**
VIBRATION SUPPRESSION OF TETHERED SPACE SOLAR POWER SATELLITE BY TETHER TENSION CONTROL
*Jixiang Fan, Harbin Institute of Technology, China*

**IAC-13.C3.3.3**
DESIGN OF AN ELECTRIC POWER SYSTEM WITH INCORPORATION OF A PHASED ARRAY ANTENNA FOR OLFAR
*Matthijs Klein, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.C3.3.4**
IMPLEMENTATION OF A POWER SIMULATOR FOR ENERGY BALANCE ANALYSIS OF A LEO SATELLITE
*Moon-Jin Jeon, Korea Aerospace Research Institute, Korea, Republic of*

**IAC-13.C3.3.5**
INTERNATIONAL SPACE STATION RUSSIAN SEGMENT MULTIPURPOSE LABORATORY MODULE ENERGY BALANCE MATHEMATICAL MODELING COMPLEX
*Evgeny Golovanov, S.P. Korolev Rocket and Space Corporation Energia, Russia*

**IAC-13.C3.3.6**
HIGH SPECIFIC ENERGY 90AH LI-ION BATTERY FOR THE NEW LUNAR EXPLORATION VEHICLE
*Wang Chen, Shanghai Academy of Spaceflight Technology, China*

**IAC-13.C3.3.7**
THIN FILM SILICON TANDEM SOLAR CELLS ON FLEXIBLE SUBSTRATES: REALIZATION AND ELECTRON IRRADIATION
*Cheng Liu, Shanghai Aerospace Institute, China*

**IAC-13.C3.3.8**
ANALYSIS AND DESIGN METHOD OF ELECTRICAL POWER SYSTEM IN CHINA'S LUNAR EXPLORATION PROJECT
*Ming Zhang, Institute of Spacecraft System Engineering,China Academy of Space Technology (CAST), China*

**IAC-13.C3.3.9**
DESIGN AND EXPERIMENTAL STUDY OF THERMOPHOTOVOLTAIC SYSTEM FOR DEEP-SPACE EXPLORATION
*Chen Xue, , China*

**IAC-13.C3.3.10**
RESEARCH ON SEVERAL KEY PROBLEMS AFFECTING RELIABILITY OF SOLID-STATE POWER SWITCH AND SPACE SOLID-STATE POWER DISTRIBUTION SYSTEM
*Yi Deying, Beijing Spacecrafts,China Academy of Space Technology (CAST), China*

**IAC-13.C3.3.11**
AN AGENT BASED OPTIMIZATION METHOD FOR MICRO-SATELLITE POWER SYSTEM DESIGN WITH DISTRIBUTED POWER BALANCING CONSTRAINTS
*Hou Liqiang, Xi'an Jiaotong University, State Key Laboratory of Astronautic Dynamics, China*

**IAC-13.C3.3.12**
NEXT GENERATION LI-ION BATTERIES WITH HIGH SPECIFIC ENERGY FOR SPACE APPLICATION
*Haitao Gu, , China*

**IAC-13.C3.3.13**
RESEARCH ON KEY TECHNOLOGIES OF LUNAR PROBE POWER SYSTEM
*Huahui Zhang, Shanghai Academy of Spaceflight Technology, China*

**IAC-13.C3.3.14**
A TWO-STAGE COMBINED CYCLE SPACE POWER SYSTEM FOR ASTEROID EXPLORATION
*Roger X. Lenard, LPS, United States*

**IAC-13.C3.3.15**
DISCORD BETWEEN GAIA AND SELENE: WHY SELENOTHERMAL ENERGY IS INSUFFICIENT FOR ELECTRICAL POWER GENERATION
*Volker Maiwald, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

### C3.4. Small and Very Small Advanced Space Power Systems

***September 27 2013, 13:30 — 303A***

***Chairman(s):*** *Massimiliano Vasile , University of Strathclyde, United Kingdom; Shoichiro Mihara , Japan Space Systems (J-spacesystems), Japan;*
***Rapporteur(s):*** *Alex Ignatiev , University of Houston, United States; Susumu Sasaki , Japan Aerospace Exploration Agency (JAXA)/ISAS, Japan;*

**IAC-13.C3.4.1**
CONSTRUCTING A CONSTELLATION OF 6U SOLAR POWER CUBE SATELLITES
*Corey Bergsrud, University of North Dakota, United States*

**IAC-13.C3.4.2**
COMPARISON OF SIMPLE-TO-PRODUCE CUSTOM SOLAR PANEL SIMULATOR APPROACHES FOR DEVELOPING NANOSATELLITE POWER SYSTEMS
*Mihkel Pajusalu, University of Tartu, Estonia*

**IAC-13.C3.4.3**
MICRO SPACE POWER SYSTEM USING MEMS FUEL CELL FOR NANO SATELLITE
*Taegyu Kim, Chosun University, Korea, Republic of*

**IAC-13.C3.4.4**
THROUGH-LIFE MODELLING OF NANO-SATELLITE POWER SYSTEM DYNAMICS
*Christopher Lowe, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.C3.4.5**
INNOVATIVE ELECTRIC POWER SUPPLY SYSTEM FOR NANOSATELLITES
*Anwar Ali, Politecnico di Torino, Italy*

**IAC-13.C3.4.6**
DESIGN OF ELECTRONIC POWER SYSTEM FOR STUDSAT 2
*SNEHA VELAYUDHAN, Nitte Meenakshi Institute Of Technology., India*

**IAC-13.C3.4.7 (withdrawn)**
DESIGN AND IMPLEMENTATION OF POWER DISTRIBUTION CONTROL SUBSYSTEM FOR MICRO-SATELLITE BASE ON FPGA
*Hongqiang Lv, , China*

**IAC-13.C3.4.8**
ANALYSIS OF THE ELECTRICAL POWER SYSTEM FOR ESTCUBE-1
*Mihkel Pajusalu, University of Tartu, Estonia*

**IAC-13.C3.4.9**
DEVELOPMENT OF A STEERABLE DEPLOYED SOLAR ARRAY SYSTEM FOR NANOSPACECRAFT
*Fabio Santoni, University of Rome "La Sapienza", Italy*

## C3.5-C4.7 Joint Session on Nuclear Propulsion and Power

***September 27 2013, 09:45 — 208A***

***Chairman(s):*** *Leopold Summerer , European Space Agency (ESA), The Netherlands; Mariano Andrenucci , University of Pisa, Italy;*
***Rapporteur(s):*** *Lee Mason , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.C3.5-C4.7.1**
MEGAHIT: MEGAWATT HIGHLY EFFICIENT TECHNOLOGIES FOR SPACE POWER AND PROPULSION SYSTEMS FOR LONG-DURATION EXPLORATION MISSIONS – ADVANCED PROPULSION ROADMAP FOR HORIZON 2020
*Jean-Claude Worms, European Science Foundation, France*

**IAC-13.C3.5-C4.7.2 (withdrawn)**
PROGRESS ON PRODUCTION OF A EUROPEAN ALTERNATIVE OF 241AM FOR USE IN RADIOISOTOPE POWER SYSTEMS
*Tim Tinsley, , United Kingdom*

**IAC-13.C3.5-C4.7.3**
PHOENIX "POWER SUPPORT SYSTEM FOR HARSH AND EXTREME ENVIRONMENTS INSIDE ROBEX"
*Roland Rosta, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.C3.5-C4.7.4**
DISRUPTIVE TECHNOLOGIES FOR POWER AND PROPULSION (DIPOP) FISSION NUCLEAR OPTIONS
*Richard Blott, Space Enterprise Partnerships Limited, United Kingdom*

**IAC-13.C3.5-C4.7.5**
NUCLEAR THERMAL ROCKET: A REACHABLE AND EFFECTIVE PROPELLING SOLUTION FOR SPACE EXPLORATION PROJECTS
*Gang Hong, Beijing institute of Astronautical Systems Engineering, Beijing, China*

**IAC-13.C3.5-C4.7.6 (withdrawn)**
DEVELOPMENT AND TESTING OF A EUROPEAN RADIOISOTOPE THERMOELECTRIC GENERATOR SYSTEM
*Richard Ambrosi, University of Leicester, United Kingdom*

**IAC-13.C3.5-C4.7.7**
DESIGN OF A NOZZLE FOR SPACE PROPULSION USING GAS CORE NUCLEAR REACTORS OF A LONG RANGE SPACECRAFT: DESIGN PARAMETERS AND CHALLENGES
*Ugur Guven, , United States*

**IAC-13.C3.5-C4.7.8**
PROPULSION REQUIREMENTS FOR A SAFE HUMAN EXPLORATION OF MARS
*Claudio Bruno, United Technologies Corp., United States*

**IAC-13.C3.5-C4.7.9**
SOILD CORE FISSION THERMAL ROCKET AND ITS ADVANCEMENTS - A VITAL & POSSIBLE NUCLEAR TECHNOLOGY FOR THE EXPLORATION OF MARS AND THE PLANETS BEYOND
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C3.5-C4.7.10 (withdrawn)**
DEPENDENT INTERNATIONAL PROSPECT OF THE RADIATION-SAFE ELECTRO ROCKET AND ROCKET INSTALLATION FOR SERVICE OF SET OF ORBITAL AND LAND GROUPINGS
*Igor Kurkin, Moscow Aviation Institute (State Technical University), Russia*

**IAC-13.C3.5-C4.7.11**
PROSPECTS OF THE USE OF EXTERNAL MAGNETIC FIELD INTERACTION EFFECTS DURING LONG-TERM SPACE MISSIONS
PROSPECTS OF THE USE OF EXTERNAL MAGNETIC FIELD INTERACTION EFFECTS DURING LONG-TERM SPACE MISSIONS
*Alexander Degtyarev, Yuzhnoye State Design Office, Ukraine*

## C3.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Chairman(s):*** *Leopold Summerer , European Space Agency (ESA), The Netherlands;*

**IAC-13.C3.P.1**
BUSINESS CASE FOR A CONSTELLATION OF 6U SOLAR POWERED CUBESATS IN LEO
*Corey Bergsrud, University of North Dakota, United States*

**IAC-13.C3.P.2**
INTERVAL SPLITTING APPROACH TO THE OPTIMAL POWER CONTROL OF SATELLITE DIVERSITY SYSTEM
*Yingnan ZHANG, China Academy of Space Technology (CAST), China*

**IAC-13.C3.P.3**
DEMAND ANALYSIS OF SPACE STATION FLEXIBLE SOLAR ARRAY'S APPLICATIONS AND FEASIBILITY EVALUATION OF THEIR POWER GENERATION PROGRAM
*Zhibin Wang, , China*

**IAC-13.C3.P.4**
A EPITAXY TECHNOLOGY OF GROWING HIGH QULALITY IN0.3GA0.7AS MATERIAL WITH LARGE LATTICE MISMATCH DEGREE
*YANG Hongdong, Shanghai Insitute of Space Propulsion, China*

**IAC-13.C3.P.5**
FLEXIBLE AMORPHOUS SILICON SOLAR CELLS AND MODULES ON POLYIMIDE SUBSTRATE
*Liang Chen, Shanghai Aerospace Institute, China*

**IAC-13.C3.P.6**
RESEARCH OF THE AM0 CALIBRATION TECHNOLOGY FOR MULTI-JUNCTION SPACE SOLAR CELL
*Ni Jiawei, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.C3.P.7**
RESEARCH ON TECHNOLOGY OF RELIABILITY DESIGN AND VERIFICATION OF SOLID-STATE POWER CONTROLLER IN ADVANCED SPACE INTELLIGENT POWER DISTRIBUTION SYSTEM
*Ren Liang, Beijing Spacecrafts,China Academy of Space Technology (CAST), China*

**IAC-13.C3.P.8**
THE APPLICATION OF PEMFCS/RFCS IN SPACE FIELD
*Ya Zhang, , China*

**IAC-13.C3.P.9**
THE RESEARCH OF UNDERVOLTAGE SELF-LOCKING CONTROL FOR SATELLITE PAYLOAD POWER SUPPLY
*Zhefeng Li, Beijing Spacecrafts,China Academy of Space Technology (CAST), China*

**IAC-13.C3.P.10**
RESEARCH ON SEQUENTIAL SWITCHING SHUNT REGULATOR BASED ON SMALL SIGNAL MODEL
*Yonggang Chen, Beijing Spacecrafts,China Academy of Space Technology (CAST), China*

**IAC-13.C3.P.11**
*STUDY ON THE ACOUSTIC DETECTION METHOD OF THE ELECTRICAL BREAKDOWN OF AEROSPACE MECHATRONICS MODULE*
*Chao Sun, , China*







**IAC-13.C3.P.12**
HIGH POWER LITHIUM SECONDARY BATTERIES
*Honghui Gu, , China*

**IAC-13.C3.P.13**
POWER SYSTEM TECHNOLOGY APPLICATION OF RENDEZVOUS AND DOCKING IN MANNED SPACE FLIGHT
*Gai Ge, , China*

**IAC-13.C3.P.14**
THE CHARACTERISTIC OF 18QNY1G20 TYPE SINGLE PRESSURE VESSEL HYDROGEN-NICKEL BATTERY
*Ganhong Lin, , China*

**IAC-13.C3.P.15**
DESIGN AND SIMULATION OF GEOSTATIONARY METEOROLOGICAL SATELLITE POWER SYSTEM
*Miao Zihui, , China*

**IAC-13.C3.P.16 (withdrawn)**
DESIGN OF EFFICIENT SOLAR CELLS FOR MAXIMUM POWER GENERATION
*AKASH DEEP K JAIN, SRM University, kattankulathur,chennai,INDIA, India*

**IAC-13.C3.P.17**
COMPREHENSIVE STUDY ON HIGH POWER DENSITY DIGITAL PWM CONTROL BATTERY CHARGING AND DISCHARGING REGULATOR
*Ming Fu, Shenzhen Academy of Aerospace Technology,Joint Laboratory of Space Power System Technology Innovation, China*

**IAC-13.C3.P.18 (withdrawn)**
GENERATION OF POWER USING COMMERCIALLY AVAILABLE THERMOELECTRIC MODULES IN NANOSATELLITES
*Aditya Shanker, Manipal Institute of Technology, Manipal University, India*

**IAC-13.C3.P.19**
THE RESEARCH OF HIGH POWER DC CONVERTER FOR REGENERATE FUEL BATTERY SYSTEM IN SPACE
*Zhong Jinghong, CASC, China*

**IAC-13.C3.P.20**
TEMPERATURE DISTRIBUTION OF METHANO-HYDROGEN PEROXIDE AUTOTHERMAL REFORMING FOR PEM FUEL CELL IN SPACE EXPLORATION
*Byeongseob Park, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of*

**IAC-13.C3.P.21**
SPACE SOLAR POWER DEMONSTRATION STATION IS A NECESSARY STEP IN SPACE POWER DEVELOPMENT.
*Valentin Sysoev, Lavochkin Association, Russia*

**IAC-13.C3.P.22**
DESIGN OF ELECTRIC POWER SYSTEM OF PARIKSHIT NANO SATELLITE
*Naman Vaidya, Manipal Institute of Technology, Manipal University, India*

# C4. SPACE PROPULSION SYMPOSIUM

***Coordinator(s):*** *Giorgio Saccoccia , European Space Agency (ESA), The Netherlands; Richard Blott , Space Enterprise Partnerships Limited, United Kingdom; David Micheletti , Universal Technical Resource Services, United States;*

## C4.1. Propulsion System (1)

***September 23 2013, 15:15 — 208A***

***Chairman(s):*** *Max Calabro , The Inner Arch, France; Christophe Bonhomme , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Walter Zinner , Astrium GmbH, Germany;*

**IAC-13.C4.1.1**
THE DEVELOPMENT OF LOX/LH2 ENGINE IN CHINA
*Nan Zhang, Beijing Aerospace Propulsion Institute, China*

**IAC-13.C4.1.2**
DEVELOPMENT STATUS OF THE CRYOGENIC OXYGEN/HYDROGEN YF-77 ENGINE FOR LONG-MARCH 5
*Dayong Zheng, Beijing Aerospace Propulsion Institute, China*

**IAC-13.C4.1.3**
THE VINCI UPPER STAGE ENGINE: THE DEMONSTRATION OF MATURITY
*Patrick Danous, Snecma, France*

**IAC-13.C4.1.4**
TECHNOLOGY DEMONSTRATION STATUS OF LE-X ENGINE
*Hideo Sunakawa, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.C4.1.5**
CYCLONE-4 LAUNCH VEHICLE III STAGE ENGINE. GROUND TESTING RESULTS
*Alexandr Prokopchuk, Yuzhnoye State Design Office, Ukraine*

**IAC-13.C4.1.6**
EXPAND OF CAPABILITIES OF ROCKET AND SPACE COMPLEXES WITH HIGH–MOLECULAR ADDITIVES TO LIQUID PROPELLANT COMPONENTS
*Petr Levochkin, NPO Energomash, Russia*

**IAC-13.C4.1.7**
DEVELOPMENT AND TEST OF THE LOX/METHANE REGENERATIVE COOLED ROCKET ENGINE (2ND REPORT)
*Kohei Taya, IHI Corporation, Japan*

**IAC-13.C4.1.8**
TECHNOLOGICAL DEMONSTRATION TESTS OF MAIN ENGINE FOR REUSABLE SOUNDING ROCKET
*Tomoyuki HASHIMOTO, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.C4.1.9**
SYSTEM ANALYSIS AND APPLIED STUDY IN THE FIELD OF A CHOICE OF ROCKET ENGINES FOR PERSPECTIVE REUSABLE LAUNCHERS.
*Yuri Gusev, TSNIIMASH, Russia*

**IAC-13.C4.1.10**
OVERVIEW ON LIQUID PROPULSION SYSTEM MODELING TOOLS FOR QUICK-LOOP, ENGINEERING AND DESIGN STUDIES
*Markus Jäger, Astrium Space Transportation, Germany*

**IAC-13.C4.1.11**
PROPULSION CONTROL SYSTEM MODEL FOR LIQUID ROCKET ENGINES USING INTELLIGENT TECHNIQUES
*Elayaperumal Ezhilrajan, Indian Space Research Organization (ISRO), India*

**IAC-13.C4.1.12**
PERFORMANCE ANALYSES FOR PROPULSION SYSTEM OF CE-2 SATELLITE WITH THE EXTRA MISSIONS
*Liang Junqiang, Beijing Institute of Control Engineering, China*

## C4.2. Propulsion System (2)

***September 24 2013, 09:45 — 208A***

***Chairman(s):*** *Stéphane Henry , Herakles (Safran group), France; I-Shih Chang , The Aerospace Corporation, United States;*
***Rapporteur(s):*** *Toru Shimada , Japan Aerospace Exploration Agency (JAXA), Japan;*

**IAC-13.C4.2.1**
SOLID ROCKET MOTORS CHOICES FOR ARIANE 6 LAUNCHER
*Didier Boury, Herakles (Safran group), France*

**IAC-13.C4.2.2**
DEMONSTRATION TECHNOLOGY ACTIVITIES FOR ARIANE 6 PPH SOLID ROCKET MOTORS STAGES
*Philippe Cloutet, Herakles, Safran group, France*

**IAC-13.C4.2.3**
CHARACTERIZATION OF THE BALLISTIC PROPERTIES OF THE NOVEL ALAN-7 SOLID ROCKET PROPELLANT
*Angelo Cervone, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.C4.2.4**
EXPERIMENTAL INVESTIGATION OF THE PRESSURE COUPLED RESPONSES OF COMPOSITE PROPELLANT WITH DIFFERENT AMMONIUM PERCHLORATE PARTICLES SIZE
*Jin Bingning, Northwestern Polytechnical University, China*

**IAC-13.C4.2.5**
DEVELOPMENT OF THE QUASI-3D MODEL FOR THE GRAIN BURNBACK ANALYSIS OF SRM'S
*Arnau Pons Lorente, Escola Tècnica Superior d'Enginyeries Industrial i Aeronàutica de Terrassa (ETSEIAT), Universitat Politècnica de Catalunya, Spain*

**IAC-13.C4.2.6**
MULTI-OBJECTIVE OPTIMIZATION OF HYBRID ROCKET MOTOR AND DECISION-MAKING USING A HYPER-RADIAL VISUALIZATION METHOD
*Xingliang Sun, Beijing University of Areonautics and Astronautics, China*

**IAC-13.C4.2.7**
EXPERIMENTAL INVESTIGATION ON A LAB-SCALE HYBRID ROCKET BURNING N2O/PARAFFIN-BASED FUEL AND N2O/METAL-LOADED HTPB
*Francesca Scaramuzzino, Second University of Naples, SUN, Italy*

**IAC-13.C4.2.8 (withdrawn)**
VISUALIZATION OF HYBRID COMBUSTION BETWEEN PARAFFIN AND GASEOUS OXYGEN
*Elizabeth Jens, Stanford University, United States*

**IAC-13.C4.2.9**
OBSERVATION OF THE SURFACE REGRESSION BEHAVIOR OF HYBRID ROCKET FUEL USING A SLAB MOTOR
*Yutaka Wada, Akita University, Japan*

**IAC-13.C4.2.10**
REGRESSION RATE MODELS VERSUS EXPERIMENTAL RESULTS FOR HYBRID ROCKET ENGINES BASED ON H2O2 AND HTPB/AL
*Dennis Porrmann, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.C4.2.11**
NUMERICAL SIMULATION OF UNSTEADY NON-EQUILIBRIUM FLOWS OF HYBRID ROCKET IGNITION USING SIZE-OPTIMIZED REACTION MECHANISM
*Shota Yamanaka, University of Tokyo, Japan*

**IAC-13.C4.2.12**
ASPECTS REGARDING HYBRID COMBUSTION INSTABILITY CONTROL
*Sterian Danaila, University POLITEHNICA of Bucharest - Research Center for Aeronautics and Space, Romania*

## C4.3. Propulsion Technology

***September 25 2013, 09:45 — 208A***

***Chairman(s):*** *John Harlow , Aerojet-General Corporation, United Kingdom; George Schmidt , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Didier Boury , Herakles (Safran group), France;*

**IAC-13.C4.3.1**
DEVELOPMENT AND TESTING OF NITROUS OXIDE/PROPANE ROCKET ENGINE
*Wang Dong, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.3.2**
DEVELOPMENT OF GREEN PROPELLANT REACTION CONTROL SYSTEM (GPRCS) FOR SERVIS-3 PROJECT
*Tetsuya Matsuo, Mitsubishi Heavy Industries, Ltd., Japan*

**IAC-13.C4.3.3**
A NOVEL KIND OF GREEN HIGH ENERGY SOLID PROPELLANT CONTAINING HYDROGEN PEROXIDE
*Zhang Yungang, , China*

**IAC-13.C4.3.4**
RECENT PROGRESS ON THE DEVELOPMENT OF A LOX/LCH4 ROCKET ENGINE DEMONSTRATOR IN THE FRAMEWORK OF THE ITALIAN HYPROB PROGRAM
*Vito Salvatore, CIRA Italian Aerospace Research Center, Capua, Italy*

**IAC-13.C4.3.5**
DEVELOPMENT OF COMBUSTION TECHNOLOGIES USING THE DLR P8 CRYOGENIC TEST BENCH
*Patrick Danous, Snecma, France*

**IAC-13.C4.3.6**
THE DEVELOPMENT OF HIGH PERFORMANCE BIPROPELLANT ROCKET ENGINE OF SMALL THRUST CLASS
*Hui Li, Beijing Aerospace Propulsion Institute, China*

**IAC-13.C4.3.7**
SELF-PRESSURIZING PROPELLANT TANK DYNAMICS
*Jonah Zimmerman, Stanford University, United States*

**IAC-13.C4.3.8**
CRYOGENIC PROPELLANT TANK PRESSURISATION SYSTEMS FOR CRYOGENIC UPPER STAGE OF GEO SYNCHRONOUS SATELLITE LAUNCH VEHICLE
*Sathis kumar B, Indian Space Research Organization (ISRO), India*

**IAC-13.C4.3.9**
DEVELOPMENT AND TESTING OF A PISTONLESS ROCKET ENGINE PUMP TECHNOLOGY DEMONSTRATOR
*Matthew Cannella, University of Colorado, United States*

**IAC-13.C4.3.10**
RESEARCH AND DEVELOPMENT OF THE TURBOPUMP FOR A HYDROGEN PEROXIDE/KEROSENE ROCKET ENGINE WITH STAGED COMBUSTION CYCLE
*Chen Hui, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.3.11**
SLURRY-PROPELLANT ROCKET PROPULSION. ECO-SAFETY AND NEW POWER OPPORTUNITIES. TESTS OF NEW PROPELLANTS.
*Yulian Protsan, The Laboratory of Advanced Jet Propulsion, Ukraine*

**IAC-13.C4.3.12**
A SURVEY OF THE HEALTH MONITORING TECHNOLOGY FOR LIQUID-PROPELLANT ROCKET ENGINES
*Jianjun Wu, College of Aerospace Science and Engineering, National University of Defense Technology, China*



## C4.4. Electric Propulsion

***September 25 2013, 14:45 — 208A***

***Chairman(s):*** *Garri A. Popov , Research Institute of Applied Mechanics and Electrodynamics, Russia; Mariano Andrenucci , Alta SpA, Italy;*
***Rapporteur(s):*** *Norbert Puettmann , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.C4.4.1**
IN-FLIGHT EXPERIMENTS AND DEVELOPMENT OF ELECTRIC PROPULSION SYSTEM ON SATELLITE SJ-9A
*Shen Yan, Beijing Institute of Control Engineering, China*

**IAC-13.C4.4.2**
TAL THRUSTER DEVELOPMENT FOR THE JAPANESE HIGH-POWER IN-SPACE PROPULSION PROJECT RAIJIN
*Tony Schönherr, University of Tokyo, Japan*

**IAC-13.C4.4.3 (withdrawn)**
MAGNETO-PLASMA ROCKET PROPULSION
*Judin Narlely, SRM University, kattankulathur,chennai, India*

**IAC-13.C4.4.4**
THE ALTA FT-150 FEEP MICROTHRUSTER: TEST RESULTS OF THE PRE-QUALIFICATION CAMPAIGN
*Angela Rossodivita, Alta S.p.A., Italy*

**IAC-13.C4.4.5**
IONIC LIQUID FEEP THRUSTER ION BEAM CHARACTERIZATION
*Salvo Marcuccio, Alta SpA, Italy*

**IAC-13.C4.4.6**
STUDY ON DISCHARGE CHARACTERISTICS AND MODE TRANSITION PHENOMENON IN A HELICON PLASMA THRUSTER
*Cheng Yuguo, National University of Defense Technology of the Chinese People's Liberation Army, China*

**IAC-13.C4.4.7**
MODELING OF LAB6 HOLLOW CATHODE PERFORMANCE AND LIFETIME
*Riccardo Albertoni, Alta SpA, Italy*

**IAC-13.C4.4.8**
DESIGN AND DEVELOPMENT OF AN ENGINEERING-MODEL LOW-POWER LIQUIFIED-GAS RESISTOJET
*Abdolrahim Rezaeiha, Sharif University of Technology, Iran*

**IAC-13.C4.4.9**
STATUS OF THE HEMP- THRUSTER DEVELOPMENT FOR SATELLITE MISSIONS
*Norbert Püttmann, DLR, German Aerospace Center, Germany*

**IAC-13.C4.4.10**
THE LIPS-200 ION ELECTRIC PROPULSION SYSTEM DEVELOPMENT FOR THE DFH-3B SATELLITE PLATFORM
*Zhang Tianping, Lanzhou Institute of Physics, China*

**IAC-13.C4.4.11**
NUMERICAL SIMULATION OF A SYSTEM OF FORMATION OF AN INTENSE ION BEAM FROM GAS DISCHARGE PLASMA OF AN ION THRUSTER
*Ruslan Akhmetzhanov, Research Institute of Applied Mechanics and Electrodynamics, Russia*

**IAC-13.C4.4.12 (withdrawn)**
MAGNETIC NOZZLE OPTIMIZATION FOR PLASMA SPACE PROPULSION
*Mario Merino, Universidad Politécnica de Madrid, Spain*

**IAC-13.C4.4.13**
FEASIBILITY STUDY OF AIR-BREATHING PULSED PLASMA THRUSTER
*Tony Schönherr, University of Tokyo, Japan*

**IAC-13.C4.4.14**
STUDY ON A DOUBLE PULSE DISCHARGE SOLID PULSED PLASMA THRUSTER
*Huang Tiankun, Beijing Institute of Technology, China*

**IAC-13.C4.4.15 (withdrawn)**
ETHYLAMMONIUM NITRATE IS A SINGULAR PROPELLANT IN ELECTROSPRAY PROPULSION
*Jan Kolmas, , United States*

## C4.5. Special session: Thematic Workshop with Professionals and Students

***September 26 2013, 09:45 — 208A***

***Chairman(s):*** *Giorgio Saccoccia , European Space Agency (ESA), The Netherlands; Richard Blott , Space Enterprise Partnerships Limited, United Kingdom;*
***Rapporteur(s):*** *Jacques Gigou , European Space Agency (ESA), France; George Schmidt , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.C4.5.1**
MEMS COLD GAS MICROTHRUSTER ON URSA MAIOR CUBESAT
*Fabrizio Piergentili, University of Rome "La Sapienza", Italy*

**IAC-13.C4.5.2**
REACTION CONTROL SYSTEM USING HYBRID MICRO-THRUSTERS FOR GUIDED SPACE VEHICLES
*Teodor-Viorel Chelaru, University POLITEHNICA of Bucharest - Research Center for Aeronautics and Space, Romania*

**IAC-13.C4.5.3**
EXPLORATORY DEVELOPMENT OF GREEN PROPELLANTS
*Xue Liu, , China*

**IAC-13.C4.5.4**
FIRE TEST OF 500 NEWTON BIPROPELLANT THRUSTER WITH PROPELLANT HYDROGEN PEROXIDE AND KEROSENE.
*Igor Nikolaevich Borovik, Moscow Aviation Institute (National Research University, MAI), Russia*

**IAC-13.C4.5.5**
DEVELOPMENT OF A 35KN THRUST HYDROGEN PEROXIDE/ KEROSENE STAGE-COMBUSTION ENGINE
*Qiang Li, Beijing Aerospace Propulsion Institute, China*

**IAC-13.C4.5.6**
APPLICATION OF ADVANCED PROPULSION TECHNOLOGY IN SPACE TRANSPORTATION
*Chang Liu, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.C4.5.7 (withdrawn)**
ELECTRIC PROPULSION FOR INTERPLANETARY MISSIONS IN THE SOLAR SYSTEM: TRADE STUDIES AND POTENTIAL APPLICATIONS.
*Andrés Dono Pérez, International Space University (ISU), France*

**IAC-13.C4.5.8**
SPACE PROPULSION ROCKET ENGINES: WHERE IS THE PROGRESS?
*MARIA CRISTINA SALGADO, Instituto Tecnológico de Aeronáutica (ITA), Brazil*

## C4.6. New Missions Enabled by New Propulsion Technology and Systems

***September 26 2013, 14:45 — 208A***

***Chairman(s):*** *Giorgio Saccoccia , European Space Agency (ESA), The Netherlands; David A. Micheletti , MSE Technology Applications, Inc., United States;*
***Rapporteur(s):*** *Jerrol Littles , Pratt & Whitney Rocketdyne, United States;*

**IAC-13.C4.6.1**
RESEARCH ON ADN GREEN PROPULSION TECHNOLOGY FOR FAST-RESPONDING SATELLITE APPLICATIONS
*Jialong JI, China Academy of Space Technology (CAST), China*

**IAC-13.C4.6.2 (withdrawn)**
5 KW HALL EFFECT THRUSTER(S) TO IMPROVE VEGA LAUNCHER CAPABILITIES
*Tommaso Misuri, Alta SpA, Italy*

**IAC-13.C4.6.3**
IN-SITU RESOURCE UTILIZATION ON MARS FOR HUMAN SPACEFLIGHT TO GENERATE FUEL FOR A NUCLEAR THERMAL PROPULSION SYSTEM
*Vibha Vibha, International Space University (ISU), France*

**IAC-13.C4.6.4 (withdrawn)**
PROGRESS TOWARDS ENABLING A NEXT-GENERATION SOLAR ELECTRIC PROPULSION TRANSPORTATION CAPABILITY
*George Schmidt, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.C4.6.5**
STUDY ON THE ENGINEERING APPLICATION PROBLEMS OF ELECTRIC PROPULSION SYSTEM FOR ASTEROID EXPLORATION MISSIONS
*Bilei Zhou, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C4.6.6 (withdrawn)**
HIGH POWER MPD NUCLEAR ELECTRIC PROPULSION (NEP) FOR ARTIFICIAL GRAVITY HOPE MISSIONS TO CALLISTO AND EUROPA
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C4.6.7 (withdrawn)**
ELECTROSTATIC AB-RAMJET PROPULSION SYSTEM FOR INTERPLANETARY EXPLORATION
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C4.6.8**
ALL-PURPOSE LIGHTWEIGHT PROPULSION MODULE FOR DEEP SPACE EXPLORATION
*Baodong Fang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.C4.6.9**
SOLAR SYSTEM ESCAPE ARCHITECTURE FOR REVOLUTIONARY SCIENCE
*Jeffrey Nosanov, NASA, United States*

**IAC-13.C4.6.10**
INTERSTELLAR MISSION TO BARNARD'S STAR USING ADVANCED NUCLEAR PROPULSION METHODS: MISSION POSSIBILITIES, PROPULSION METHODS AND CHALLENGES
*Ugur Guven, , United States*

**IAC-13.C4.6.11**
DECELERATION OPTIONS FOR A ROBOTIC INTERSTELLAR SPACECRAFT
*Wei Wang, Shanghai Institute of Satellite Engineering, China*

## C4.7-C3.5. Joint Session on Nuclear Propulsion and Power

***September 27 2013, 09:45 — 208A***

***Chairman(s):*** *Leopold Summerer , European Space Agency (ESA), The Netherlands; Mariano Andrenucci , University of Pisa, Italy;*
***Rapporteur(s):*** *Lee Mason, National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.C4.7-C3.5.1**
MEGAHIT: MEGAWATT HIGHLY EFFICIENT TECHNOLOGIES FOR SPACE POWER AND PROPULSION SYSTEMS FOR LONG-DURATION EXPLORATION MISSIONS – ADVANCED PROPULSION ROADMAP FOR HORIZON 2020
*Jean-Claude Worms, European Science Foundation, France*

**IAC-13.C4.7-C3.5.2 (withdrawn)**
PROGRESS ON PRODUCTION OF A EUROPEAN ALTERNATIVE OF 241AM FOR USE IN RADIOISOTOPE POWER SYSTEMS
*Tim Tinsley, , United Kingdom*

**IAC-13.C4.7-C3.5.3**
PHOENIX "POWER SUPPORT SYSTEM FOR HARSH AND EXTREME ENVIRONMENTS INSIDE ROBEX"
*Roland Rosta, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.C4.7-C3.5.4**
DISRUPTIVE TECHNOLOGIES FOR POWER AND PROPULSION (DIPOP) FISSION NUCLEAR OPTIONS
*Richard Blott, Space Enterprise Partnerships Limited, United Kingdom*

**IAC-13.C4.7-C3.5.5**
NUCLEAR THERMAL ROCKET: A REACHABLE AND EFFECTIVE PROPELLING SOLUTION FOR SPACE EXPLORATION PROJECTS
*Gang Hong, Beijing institute of Astronautical Systems Engineering, Beijing, China*

**IAC-13.C4.7-C3.5.6 (withdrawn)**
DEVELOPMENT AND TESTING OF A EUROPEAN RADIOISOTOPE THERMOELECTRIC GENERATOR SYSTEM
*Richard Ambrosi, University of Leicester, United Kingdom*

**IAC-13.C4.7-C3.5.7**
DESIGN OF A NOZZLE FOR SPACE PROPULSION USING GAS CORE NUCLEAR REACTORS OF A LONG RANGE SPACECRAFT: DESIGN PARAMETERS AND CHALLENGES
*Ugur Guven, , United States*

**IAC-13.C4.7-C3.5.8**
PROPULSION REQUIREMENTS FOR A SAFE HUMAN EXPLORATION OF MARS
*Claudio Bruno, United Technologies Corp., United States*

**IAC-13.C4.7-C3.5.9**
SOILD CORE FISSION THERMAL ROCKET AND ITS ADVANCEMENTS - A VITAL & POSSIBLE NUCLEAR TECHNOLOGY FOR THE EXPLORATION OF MARS AND THE PLANETS BEYOND
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C4.7-C3.5.10 (withdrawn)**
DEPENDENT INTERNATIONAL PROSPECT OF THE RADIATION-SAFE ELECTRO ROCKET AND ROCKET INSTALLATION FOR SERVICE OF SET OF ORBITAL AND LAND GROUPINGS
*Igor Kurkin, Moscow Aviation Institute (State Technical University), Russia*

**IAC-13.C4.7-C3.5.11**
PROSPECTS OF THE USE OF EXTERNAL MAGNETIC FIELD INTERACTION EFFECTS DURING LONG-TERM SPACE MISSIONS PROSPECTS OF THE USE OF EXTERNAL MAGNETIC FIELD INTERACTION EFFECTS DURING LONG-TERM SPACE MISSIONS
*Alexander Degtyarev, Yuzhnoye State Design Office, Ukraine*

## C4.8. Advanced and Combined Propulsion Systems

***September 27 2013, 13:30 — 208A***

***Chairman(s):*** *Jacques Gigou , European Space Agency (ESA), France; Richard Blott , Space Enterprise Partnerships Limited, United Kingdom;*
***Rapporteur(s):*** *William W. Smith , Aero Jet International, United States*



**IAC-13.C4.8.1**
RADIO WAVE AND ION CYCLOTRON THRUSTER
*Harshit Bisen, SRM University Chennai, India*

**IAC-13.C4.8.2**
A NOVEL COMBINED PROPULSION CONCEPT FOR DEEP SPACE MISSIONS
*Ragini Ramachandran, Embry Riddle Aeronautical University, United States*

**IAC-13.C4.8.3**
FAST Z-PINCH THRUSTER FOR SPACE TUGS
*Patrick Giddens, UAHuntsville, United States*

**IAC-13.C4.8.4**
EXPERIMENTAL TESTS OF THE MACH EFFECT THRUSTER.
*Heidi Fearn, California State University, United States*

**IAC-13.C4.8.5**
ADVANCED SOLAR THERMAL PROPULSION WITH SPECTRAL-SELECTIVE MULTI-STAGED CONCENTRATOR-ABSORBER SYSTEM
*Sergey Finogenov, Moscow Aviation Institute, Russia*

**IAC-13.C4.8.6**
INVESTIGATION ON STATUS AND PROSPECTIVE APPLICATION OF GELLED PROPELLANTS
*Shuang Liu, The 41st Institute of the Sixth Academy of Aerospace Science & Industry Corp, China*

**IAC-13.C4.8.7 (withdrawn)**
A STUDY OF LASER PROPULSION: AN OVERDRIVEN DETONATION MODE FOR A LASER-ABSORPTION WAVE
*Kohei Shimamura, The University of TOKYO, Graduate school, Japan*

**IAC-13.C4.8.8**
NUMERICAL STUDY ON WORKING PROCESSES OF A NOVEL LASER ABLATION THRUSTER WITH ELECTROMAGNETIC ACCELERATION
*Daixian Zhang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.C4.8.9 (withdrawn)**
LIGHTFORCE: REFINED LASER PROPULSION FORCE MODEL
*Fan Yang Yang, NASA Ames Research Center/USRA, United States*

**IAC-13.C4.8.10**
EXPERIMENTAL RESEARCH ON CONTINUOUS DETONATION ENGINE
*Tianyi Shi, Peking University Health Science Center, China*

**IAC-13.C4.8.11**
EFFECTS OF DIFFERENT TYPES OF DIVERGING NOZZLE ON PROPULSION PERFORMANCE OF CONTINUOUS DETONATION ENGINE (CDE)
*Ugur Guven, , United States*

**IAC-13.C4.8.12**
OPTIMUM CONTROL OF RAMJETS AT HIGH FLIGHT MACH NUMBER AND WIDE-RANGE WORKING CONDITIONS
*Baoe Yang, Xi'an Aerospace Propulsion Institute, China*

## C4.9. Hypersonic and Combined Cycle Propulsion

***September 24 2013, 14:45 — 208A***

***Chairman(s):*** *Salvatore Borrelli , CIRA Italian Aerospace Research Centre, Italy; Shigeru Aso , Kyushu University, Japan;*
***Rapporteur(s):*** *Patrick Danous , Snecma, France;*

**IAC-13.C4.9.1**
COMBINED CYCLE PROPULSION SYSTEM?CHALLENGE AND PROSPECTS
*Zhang Chengzhi, China Academy of Launch Vehicle Technology, China*

**IAC-13.C4.9.2**
COMPUTATIONAL INVESTIGATION OF EFFECT OF CONVERGING-DIVERGING NOZZLE (C-D NOZZLE) ON THE PERFORMANCE OF PULSE DETONATION ENGINE(PDE)- EFFECTS ON THRUST AND INLET PRESSURE
*Ugur Guven, , United States*

**IAC-13.C4.9.3 (withdrawn)**
COMPREHENSIVE CONSIDERATION OF GELLED FUEL IN HYPERSONIC RAMJET PROPULSION
*Jianxin HU, , China*

**IAC-13.C4.9.4**
THE CONSTANT PRESSURE TIME IN A PISTON DRIVER OF FREE PISTON SHOCK TUNNEL
*Zhu Hao, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C4.9.5**
EXPERIMENTAL STUDY ON RBCC WITH OXYGEN/KEROSENE FIRSTLY COMBUSTION
*Liang Tian, Beihang University, China*

**IAC-13.C4.9.6**
MEASUREMENTS OF TWO-DIMENSIONAL TEMPERATURE DISTRIBUTION IN COMBUSTION USING DIODE LASER ABSORPTION SPECTROSCOPY
*Junling Song, Academy of Equipment, China*

**IAC-13.C4.9.7**
INFLUENCING FACTORS ON THE MODE TRANSITION IN A DUAL-MODE SCRAMJET COMBUSTOR
*Zhang Yan, Beihang University, China*

**IAC-13.C4.9.8**
MIXING AND COMBUSTION CHARACTERISTICS WITH LOBE NOZZEL UPSTREAM OF A V-GUTTER IN A SUBSONIC FLOW
*Yanan Wang, National University of Defense Technology, China*

**IAC-13.C4.9.9**
SYSTEM DESIGN AND ANALYSIS OF HYDROCARBON SCRAMJET WITH REGENERATION COOLING AND EXPANSION CYCLE
*Wu Xianyu, College of Aerospace and Materials Engineering, National University of Defense Technology, China*

**IAC-13.C4.9.10**
CALCULATION OF AERODYNAMIC CHARACTERISTICS OF SAME MODEL SWIVEL NOZZLES WITH MATHEMATICAL MODELING OF REAL GAS EFFECTS
*Alexey Galaktionov, Central Research Institute for Machine Building (FGUP TSNIIMASH), Russia*

**IAC-13.C4.9.11**
THERMODYNAMIC LIMITATION ON BORON ENERGY REALIZATION IN RAMJET PROPULSION
*Alon Gany, TECHNION - Israel Institute of Technology, Israel*

**IAC-13.C4.9.12**
THERMAL DECOMPOSITION OF MODEL ENDOTHERMIC HYDROCARBON FUELS AND THEIR MIXTURES
*Rongpei Jiang, Beijing institute of aerospace testing technology, China*

**IAC-13.C4.9.13**
EXPERIMENTAL INVESTIGATION ON ANGLED TRANSVERSE LIQUID JET IN SUPERSONIC CROSSFLOW
*Tong Yiheng, College of Aerospace and Materials Engineering, National University of Defense Technology, China*

## C4.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Richard Blott , Space Enterprise Partnerships Limited, United Kingdom; David Micheletti , Universal Technical Resource Services, United States; Giorgio Saccoccia , European Space Agency (ESA), The Netherlands;*

**IAC-13.C4.P.1**
THE RESEARCH ON THE PRINCIPLE OF EMDRIVE PROPULSION TECHNOLOGY
*Chen Yue, , China*

**IAC-13.C4.P.2**
LOX-KEROSENE LIQUID ROCKET ENGINE WITH A THRUST OF 9.8 MN
*Petr Levochkin, NPO Energomash, Russia*

**IAC-13.C4.P.3**
START-UP TRANSIENT SIMULATION OF 60T CLASS LOX/METHANE LIQUID ROCKET ENGINE
*WANG JUN, Beijing Aerospace Propulsion Institute, China*

**IAC-13.C4.P.4**
NUMERICAL SIMULATION FOR THE SATELLITE PROPULSION SYSTEM
*Duan Na, Beijing institute of aerospace testing technology, China*

**IAC-13.C4.P.5 (withdrawn)**
THE COMPARISON OF COMBUSTION CHARACTERISTICS BETWEEN OXYGEN/METHANE AND OXYGEN/PROPANE FOR BIPROPELLANT THRUSTER
*Byeongseob Park, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of*

**IAC-13.C4.P.6**
CHARACTERISATION AND ELECTROLYTIC DECOMPOSITION OF ADN-HAN MIXTURE IN A POLYMER MICROPROPULSION SYSTEM
*Jit Kai Chin, University of Nottingham Malaysia Campus, Malaysia*

**IAC-13.C4.P.7**
THE INFLUENCE OF NITROGEN PRESSURIZATION OF LIQUID OXYGEN QUALITY
*ZHANG JIAXIAN, Beijing institute of aerospace testing technology, China*

**IAC-13.C4.P.8**
CFD MODELING ACTIVITIES ON TESTING TECHNOLOGY OF LIQUID ROCKET ENGINE
*Mao Li, Beijing institute of aerospace testing technology, China*

**IAC-13.C4.P.9**
OXYGEN AND METHANE LIQUID PROPELLANT ROCKET ENGINES FOR REUSABLE SPACE TRANSPORT SYSTEM
*Igor Fatuev, NPO Energomash, Russia*

**IAC-13.C4.P.10**
ANALYTICAL STUDY RESULTS OF GREEN PROPELLANT APPLICATION POSSIBILITY IN LANDING MODULE AND SPACE TUG ENGINES
*Andrew Kukhta, Yuzhnoye State Design Office, Ukraine*

**IAC-13.C4.P.11**
DEVELOPING TENDENCY IN LIQUID ROCKET ENGINE RESEARCH AND CORRESPONDING KEY TECHNOLOGIES
*Li Bin, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.P.12**
THE SERVICE LIFE ASSESSMENT OF NEPE PROPELLANT
*Xie Hongyu, , China*

**IAC-13.C4.P.13**
MECHANICAL BEHAVIOR RESEARCH FOR AIR-GROUND INCONSISTENCY OF SOLID ROCKET MOTOR
*Wang Yongping, The 41st Institute of the Sixth Academy of Aerospace Science & Industry Corp, China*

**IAC-13.C4.P.14**
SOLID ROCKET MOTOR SEGMENT DISMANTLING, CAUSE ANALYSIS AND REASSEMBLY
*Balabadra Mahesh, Defence Research and Development Laboratory, India*

**IAC-13.C4.P.15**
ULTRASONIC MEASUREMENT OF SOLID FUEL REGRESSION RATE OF A HYBRID SLAB MOTOR
*Sheng Zhao, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C4.P.16**
DESIGN AND PERFORMANCE EVALUATION OF LAB-SCALE HYBRID THRUSTER USING CATALYTICALLY DECOMPOSED HYDROGEN PEROXIDE OXIDIZER
*Minwoo Lee, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of*

**IAC-13.C4.P.17**
NUMERICAL SIMULATION AND TESTING OF H2O2 - LDPE HYBRID ROCKET MOTOR WITH DIAPHRAGM
*Pengfei Wang, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C4.P.18**
EXPERIMENTAL INVESTIGATION ON COMBUSTION OF ALUMINUM IN THE AP/HTPB COMPOSITE PROPLLENT
*Xin Liu, Northwestern Polytechnical University, China*

**IAC-13.C4.P.19**
TRANSIENT SIMULATION OF OPERATION PROCESS IN A THROTTLEABLE HYBRID ROCKET MOTOR
*Peng Zeng, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C4.P.20**
BIGLOBAL INSTABILITY OF COMPRESSIBLE TAYLOR-CULICK FLOW
*Shangrong YANG, Northwestern Polytechnical University, China*

**IAC-13.C4.P.21**
THE COMPARISON OF THE DIFFERENT MODELS OF THE BURNING REGRESSION RATE IN THE HYBRID ROCKET MOTOR
*Valery Bucharsky, Dnepropetrovsk National University named after Oles' Gonchar, Ukraine*

**IAC-13.C4.P.22**
REPLACEMENT OF HYDRAZINE-BASED SYSTEMS BY MEANS OF HYBRID ROCKETS
*Filippo Maggi, Politecnico di Milano, Italy*

**IAC-13.C4.P.23**
EXPERIMENTAL INVESTIGATION OF FUEL REGRESSION RATE IN HTPB BASED LAB-SCALE HYBRID ROCKET MOTOR
*Xintian Li, Beihang University, China*

**IAC-13.C4.P.24**
THE NUMERICAL SIMULATION OF A STAGED TRANSVERSE INJECTION BEHIND A REARWARD FACING STEP INTO A MACH 2 STREAM IN A CONFINED ENVIRONMENT AND ITS APPLICATION IN THE DEVELOPMENT OF SCRAMJET TECHNOLOGY
*JOHN VIVIAN PRASHANT, Indian Space Research Organization (ISRO), India*

**IAC-13.C4.P.25**
DESIGN AND SIMULATION OF GAS OXYGEN / METHANE VORTEX COOLING THRUST CHAMBER
*Gongnan Li, Beijing University of Aeronautics and Astronautics, China*

**IAC-13.C4.P.26**
VISCOPLASTIC AND ELASTO-PLASTIC THERMAL-STRUCTURE ANALYSIS OF THE REUSABLE ROCKET THRUST CHAMBER
*Jinhui Yang, Beihang University, China*

**IAC-13.C4.P.27**
THE TVC SYSTEMS FOR A CHINESE LIQUID OXYGEN AND KEROSENE LAUNCH VEHICLE
*Shoujun Zhao, China Academy of Launch Vehicle Technology, China*

**IAC-13.C4.P.28 (withdrawn)**
HEAT EXCHANGE AND PRESSURE DROP INDUCED BY SLOSHING
*Takehiro Himeno, University of Tokyo, Japan*

**IAC-13.C4.P.29**
*RESEARCH ON THE SCHEME AND HOT FIRE TESTS OF COMBUSTION DEVICES FOR 100KN LOX/METHANE ROCKET ENGINE*
*Ma Dongying, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.P.30**
DEVELOPMENT OF FLUID CONTROL COMPONENTS FOR LIQUID PROPULSION SYSTEMS OF ISRO
*G. SUNDARAVADIVELU, LPSC, ISRO, India*

**IAC-13.C4.P.31**
RESEARCH OF LASER IGNITION OF PROPELLANT OXYGEN-KEROSENE IN THE MODEL SET
*Petr Levochkin, NPO Energomash, Russia*

**IAC-13.C4.P.32**
EFFECTS OF ELECTRODE GEOMETRY ON MAGNETIC FIELD DISTRIBUTION IN A PULSED PLASMA THRUSTER
*Hua Zhang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.C4.P.33**
DEVELOPMENT OF SCALING MODELS FOR APPLIED FIELD MAGNETOPLASMADYNAMIC THRUSTERS
*Tobias Mayer, Institute of Space Systems, Universität Stuttgart, Germany*

**IAC-13.C4.P.34**
EVALUATION OF THE PERFORMANCES OF A HELICON PLASMA THRUSTER
*Cheng Yuguo, National University of Defense Technology of the Chinese People's Liberation Army, China*

**IAC-13.C4.P.35**
STUDY ON THE PLUME CHARACTERISTICS OF PULSED PLASMA THRUSTER
*Rui Zhang, College of Aerospace and Materials Engineering, National University of Defense Technology, China*

**IAC-13.C4.P.36**
DEVELOPMENT OF A CHARGE EXCHANGE THRUSTER FOR NANOSATELLITE MISSIONS
*Xiaofeng Wu, University of Sydney, Australia*

**IAC-13.C4.P.37 (withdrawn)**
DESIGN, MANUFACTURING AND CHARACTERIZATION OF A 1 MILLINEWTON CLASS FEEP EMITTER
*Angela Rossodivita, Alta S.p.A., Italy*

**IAC-13.C4.P.38**
THERMIONIC EMISSION BY A THIN BARE TETHER WITH LOW-W COATING
*Xin Chen, Madrid Politechnic University, Spain*

**IAC-13.C4.P.39**
DEVELOPMENT AND TESTING OF THE INERTIAL ELECTROSTATIC CONFINEMENT DIFFUSION THRUSTER
*Mark Becnel, University of Alabama in Huntsville, United States*

**IAC-13.C4.P.40**
EXPERIMENTAL INVESTIGATION OF SELF-EXCITATION INFLUENCE ON LOW FREQUENCY OSCILLATIONS OF SPT
*Zhang Wen, China Academy of Launch Vehicle Technology, China*

**IAC-13.C4.P.41**
EXPERIMENTAL OPTIMIZATION OF PREHEATING DURATION IN LOW-POWER RESISTOJET
*Abdolrahim Rezaeiha, Sharif University of Technology, Iran*

**IAC-13.C4.P.42**
FABRICATION OF SELF-ORDERED NANO-SCALE EMITTERS IN FEEP
*Liu Yuming, China Academy of Space Technology (CAST), China*

**IAC-13.C4.P.43**
STUDY OF DENSITY JUMP PHENOMENON UNDER THE EFFECT OF CIRCUIT LOSS IN A HELICON PLASMA THRUSTER
*Cheng Yuguo, National University of Defense Technology of the Chinese People's Liberation Army, China*

**IAC-13.C4.P.44**
THE DYNAMIC OPERATION OF A HIGH Q EMDRIVE MICROWAVE THRUSTER
*Roger Shawyer, Satellite Propulsion Research Ltd, United Kingdom*

**IAC-13.C4.P.45**
STUDY ON THE OPERATION PROCESS OF PULSED PLASMA THRUSTERS BY A MODIFIED ELECTROMECHANICAL MODEL
*Hua Zhang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.C4.P.46**
THE LIMITING CURRENT OF THE ION BEAM IN LABORATORY OPERATING CONDITIONS OF THE HALL THRUSTER
*Nikolay Shumilin, Moscow Institute of Electronics and Mathematics of National Research University Higher School of Economics (MIEM NRU HSE), Russia*

**IAC-13.C4.P.47**
INTERDEPENDENCE BETWEEN INTEGRAL CHARACTERISTICS OF HALL THRUSTERS
*Alexander Shumilin, Moscow Institute of Electronics and Mathematics of National Research University Higher School of Economics (MIEM NRU HSE), Russia*

**IAC-13.C4.P.48**
INTEGRATION CONSIDERATIONS IN SATELLITE PROPULSION SYSTEMS: HALL THRUSTERS VERSUS ION ENGINES
*Roberto Dextre, , United States*

**IAC-13.C4.P.49 (withdrawn)**
STUDY AND ANALYSIS OF PLUME BACKFLOW FROM A LITHIUM MAGNETOPLASMADYNAMIC THRUSTER ENABLED ON AN EXPERIMENTAL NANO-SATELLITE
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C4.P.50**
MAGNETOPLASMADYNAMIC ELECTRIC PROPULSION THRUSTER BEHAVIOR AT THE 27 MEGAWATT LEVEL – ISRO SPONSORED PROJECT
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.C4.P.51**
EFFECTS OF ELECTRODE CONFIGURATION ON ABLATIVE PULSED PLASMA THRUSTER PERFORMANCE
*Hua Zhang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.C4.P.52**
INVESTIGATION ON WAVE STRUCTURE AND POWER DEPOSITION IN A HELICON PLASMA THRUSTER
*Cheng Yuguo, National University of Defense Technology of the Chinese People's Liberation Army, China*

**IAC-13.C4.P.53**
CHEMICAL STRUCTRAL AND DISTRIBUTION CHARACTERISTICS OF THE PULSED PLASMA THRUSTER PLUME DEPOSTION
*Rui Zhang, College of Aerospace and Materials Engineering, National University of Defense Technology, China*

**IAC-13.C4.P.54**
INITIAL FLIGHT TEST RESULTS OF THE LIPS-200 ELECTRIC PROPULSION SYSTEM ON SJ-9A SATELLITE
*Zhang Tianping, Lanzhou Institute of Physics, China*

**IAC-13.C4.P.55**
NEW THRUST MEASUREMENT DEVICE FOR 10N ROCKET ENGINE
*Wanlong Liu, Beijing institute of aerospace testing technology, China*

**IAC-13.C4.P.56**
MULTISCALE SIMULATIONS OF PRIMARY ATOMIZATION FOR TWO IMPINGING JETS
*Liu Changbo, , China*

**IAC-13.C4.P.57**
OXIDIZER-RICH PREBURNER-FEED SYSTEM MEDIUM FREQUENCY COUPLED STABILITY INVESTIGATION
*Shang Liu, , China*

**IAC-13.C4.P.58**
FLOW-INDUCED VIBRATIONS OF LIQUID ROCKET ENGINE BELLOWS SUBJECTED TO INTERNAL HIGH PRESSURE AND VELOCITY
*Fu Ping, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.P.59 (withdrawn)**
THE EFFECT OF RING WITH LARGE EDDY SIMULATION IN THE FLOW DEVELOPMENT CYLINDRICAL DUCT
*Mon Khin Oo, , Korea, Republic of*

**IAC-13.C4.P.60**
INVESTIGATION OF SHUTDOWN DYNAMIC CHARACTERISTICS FOR LOX/KEROSENE ROCKET ENGINE
*Nan Ma, Xi'an Aerospace Propulsion Institute, China*

**IAC-13.C4.P.61**
MICROHYBRID ENGINE NUMERICAL AND EXPERIMENTAL RESULTS
*Florin Mingireanu, Romanian Space Agency (ROSA), Romania*

**IAC-13.C4.P.62 (withdrawn)**
SPACE PROPULSION SYSTEM USING EARTHS MAGNETIC FIELD
*AKASH DEEP K JAIN, SRM University, kattankulathur,chennai,INDIA, India*

**IAC-13.C4.P.63**
THE ISOTOPE STIRLING POWER SYSTEM ENERGY MANAGEMENT
*Chong Xiao, China Academy of Launch Vehicle Technology, China*

**IAC-13.C4.P.64**
FUSION-FISSION HYBRID PULSED PROPULSION SYSTEM FOR IMPROVED SPACE TRANSPORTATION
*Micah Laughmiller, Univeristy of Alabama in Huntsville, United States*

**IAC-13.C4.P.65**
THEORETICAL ANALYSES OF PERFORMANCE OF THE INTEGRATED ROCKET-RAMJET ENGINE
*QIAOFENG XIE, Tsinghua University School of Aerospace, China*

**IAC-13.C4.P.66**
INVESTIGATION OF RAMJET ENGINE REAL-TIME SIMULATOR MODELING AND SIMULATING
*Junlong Liang, Northwestern Polytechnical University, China*

**IAC-13.C4.P.67**
WIND TUNNEL RESEARCH ON FORWARD-FACING CAVITY FLOW
*Jiang Zhang, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.C4.P.68**
SUMMARY AND DEVELOPMENT IN RESEARCH ON HIGH-ENERGY LASER PROPULSION
*Feng QI, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.C4.P.69**
EXPERIMENTAL STUDY OF BORON IGNITION AND COMBUSTION IN CONVECTIVE FLOW
*Chuanbo Fang, National University of Defense Technology, China*

**IAC-13.C4.P.70**
ANALYSIS OF HEAT RELEASE DISTRIBUTION IN SCRAMJET COMBUSTOR USING WALL PRESSURE BASED ONE DIMENSIONAL MODEL
*Wang Chao, Science and Technology on Scramjet Laboratory, National University of Defense Technology, China*

**IAC-13.C4.P.71**
EXPERIMENTAL INVESTIGATION AND NUMERICAL SIMULATION ON COMBUSTION CHARACTERISTIC OF SOLID FUEL RAMJET
*Qiang Xia, , China*

**IAC-13.C4.P.72**
NUMERICAL INVESTIGATION OF A MA 10 STREAM TRACED SCRAMJET AT OFF DESIGN CONDITIONS
*Jianxing Zhou, Beijing Mech-electro Engineering Institute, CASIC, China*

**IAC-13.C4.P.73**
ANALYSIS OF A COMBINED MULTI-MODE DETONATION WAVE ENGINE FOR AEROSPACE CRAFT
*Kongqian Sun, Science and Technology on Scramjet Laboratory,Beijing Power Machinery Research Inst, China*

**IAC-13.C4.P.74**
A NEW HYBRID-ROCKET-BASED COMBINED-CYCLE PROPULSION SYSTEM CONCEPT
*Junhai Li, China Academy of Space Technology (CAST), China*

## D1. SPACE SYSTEMS SYMPOSIUM

***Coordinator(s):*** *Robert L. Henderson , The Johns Hopkins University Applied Physics Laboratory, United States; Reinhold Bertrand , European Space Agency (ESA), Germany;*

### D1.1. Innovative and Visionary Space Systems Concepts

***September 23 2013, 15:15 — 302B***

***Chairman(s):*** *Mauricio Moshe Guelman , Asher Space Research Institute, Technion, I.I.T., Israel; Jill Prince , National Aeronautics and Space Administration (NASA)/Langley Research Center, United States;*
***Rapporteur(s):*** *Peter Dieleman , National Aerospace Laboratory (NLR), The Netherlands;*

**IAC-13.D1.1.1**
THE CONCEPTUAL DESIGN OF AN INTERSTELLAR SPACECRAFT ~ LONGSHOT II– THE NEXT GENERATION
*Divya Shankar, Nitte Meenakshi Institute of Technology, India*

**IAC-13.D1.1.2**
DLR ADVANCED STUDY GROUP: KUBE² - ANALYSIS ABOUT THE POSSIBILITIES OF KUIPER BELT EXPLOITATION AND EXPLORATION
*Volker Maiwald, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.D1.1.3**
THE HUNDRED-YEAR SATELLITE
*Jesús Gonzalo, University of León, Spain*

**IAC-13.D1.1.4 (withdrawn)**
A PROFIT ORIENTED ASTEROID BASED BUSINESS PLAN
*André Caminoa, Unispace Exponential Creativity, Argentina*

**IAC-13.D1.1.5**
SOCIETAL SPACE SYSTEMS: A FUTURE TO FRACTIONATED SPACE SYSTEMS
*Alejandro Salado, Stevens Institute of Technology, United States*



**IAC-13.D1.1.6**
NETWORKED CONTROL OF DISTRIBUTED PICO-SATELLITE SYSTEMS
*Klaus Schilling, University Wuerzburg, Germany*

**IAC-13.D1.1.7**
PRINCIPLE AND VERIFICATION OF NAVIGATION SHARING FOR SATELLITE CLUSTER
*Zhaohui Dang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.D1.1.8**
RELATIVE NAVIGATION AND CONTROL FOR FRACTIONATED SPACECRAFT BASED ON GRAPH THEORY
*Min Hu, Academy of Equipment, China*

**IAC-13.D1.1.9 (withdrawn)**CONCEPT FOR ON ORBIT SERVICEABLE SPACECRAFT BUILDING BLOCKS – \\ STRUCTURAL DESIGN
*Andre Adomeit, RWTH Aachen University - Institut fuer Leichtbau, Germany*

**IAC-13.D1.1.10**
CUBALLUTE: A CUBESAT MISSION TO DEPLOY AN INFLATABLE HYPERSONIC DRAG BODY (BALLUTE) IN THE MARTIAN ATMOSPHERE
*Konstantinos Konstantinidis, Universität der Bundeswehr München, Germany*

**IAC-13.D1.1.11**
TECHNICAL APPROACH TO SELECT DESIGN PARAMETERS OF THE AIR-LAUNCHED SPACE SYSTEMS
*Dmitriy Kalinichenko, Yuzhnoye State Design Office, Ukraine*

**IAC-13.D1.1.12**
RUSSIAN SPACE EXPERIMENT "ZNAMYA-3"
*Artem Poletika, Central Research Institute for Machine Building (FGUP TSNIIMASH), Russia*

### D1.2. Enabling Technologies for Space Systems

***September 24 2013, 09:45 — 302B***

***Chairman(s):*** *Xavier Roser , Thales Alenia Space France, France; Jean-Paul Aguttes , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Eiichi Tomita , Japan Aerospace Exploration Agency (JAXA), Japan;*

**IAC-13.D1.2.1 (withdrawn)**
DRAG CALCULATIONS OF FLAPS IN RAREFIED WAKE FLOWS WITH A DSMC METHOD
*Paul Nizenkov, University of Stuttgart, Germany*

**IAC-13.D1.2.2**
ROOT-VOTER BASED RELIABLE COMPUTING BASE
*Nicholas Mc Guire, Beijing Shenzhou Aerospace Software Technology Co., Ltd., China*

**IAC-13.D1.2.3**
ADVANCED SOLAR ARRAY PERFORMANCE MONITORING
*Edward Bongers, Dutch Space, The Netherlands*

**IAC-13.D1.2.4**
SELF-CALIBRATION OF SPACEBORNE MEMBRANE PHASED ARRAY
*Bo Yang, Northwestern Polytechnical University, China*

**IAC-13.D1.2.5**
PIEZOELECTRIC ULTRASONIC MOTOR REACTION WHEEL FOR CUBESAT
*Xun Sun, University of Sydney, Australia*

**IAC-13.D1.2.6**
AUTOMATED SENSOR NETWORK VERIFICATION LINEARITY IN A SEGMENTED REFLECTOR TESTBED
*Zarah Espano, , United States*

**IAC-13.D1.2.7**
A MINIATURE STABILIZED PLATFORM FOR LASERCOM TERMINALS ON-BOARD NANOSATELLITES
*Francesco Sansone, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D1.2.8**
THE NEXT GENERATION OF SPACEFLIGHT PROCESSORS: LOW POWER, HIGH PERFORMANCE, WITH INTEGRATED SPACEWIRE ROUTER AND PROTOCOL ENGINES
*Steve Parkes, University of Dundee, United Kingdom*

**IAC-13.D1.2.9**
KINETIC STUDIES ON A SOLAR WIND SHIELD BASED ON PLASMA INFLATION OF MAGNETIC FIELD
*Salvo Marcuccio, Alta SpA, Italy*

**IAC-13.D1.2.10**
STUDY OF THE LOCOMOTION PRINCIPLE OF A NEW DIELECTRIC ELASTOMER ROLLING ROVER
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D1.2.11**
CLEAN SPACE INITIATIVE: GUARANTEEING THE FUTURE OF SPACE ACTIVITIES BY PROTECTING THE ENVIRONEMNT
*Tiago Soares, , The Netherlands*

### D1.3. System Engineering Tools, Processes and Training (1)

***September 24 2013, 14:45 — 302B***

***Chairman(s):*** *Geilson Loureiro , Instituto Nacional de Pesquisas Espaciais (INPE), Brazil; Marco Guglielmi , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Dmitry Payson , Skolkovo Foundation, Russia;*

**IAC-13.D1.3.1 (withdrawn)**
A TOOL FOR RAPID AND EARLY SCHEDULE ESTIMATES
*Elisabetta Lamboglia, ESA/ESTEC, The Netherlands*

**IAC-13.D1.3.2**
THE NEW ISO STANDARD ON TRL
*Franck Durand-Carrier, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D1.3.3**
DISRUPTIVE INNOVATION: A COMPARISON BETWEEN GOVERNMENT AND COMMERCIAL SPACE
*Tibor Balint, Royal College of Art, United Kingdom*

**IAC-13.D1.3.4 (withdrawn)**
INTRODUCING A CONNECTIVITY INDEX FOR SATELLITE DESIGN PARAMETERS TO MANAGE SPACECRAFT COMPLEXITY
*Tanja Nemetzade, Astrium GmbH, Germany*

**IAC-13.D1.3.5**
RESEARCH ON KEY ACTIVITIES RECOGNITION IN THE CONCURRENT DESIGN PROCESS
*Li Deng, Beihang University, China*

**IAC-13.D1.3.6**
SYSTEM MODEL FOR EARTH OBSERVATION MISSIONS
*Vladimir Ten, Kazakhstan Gharysh Sapary, Kazakhstan*

**IAC-13.D1.3.7**
UML FOR SPACE SYSTEMS: FROM SPECIFICATION TO DESIGN AND IMPLEMENTATION
*M.Rizwan Mughal, Politecnico di Torino, Italy*

**IAC-13.D1.3.8**
SPACECRAFT MANUFACTURING PROCESS OPTIMIZATION THEORY AND ENGINEERING PRACTICE
*Dai Weixu, CAST, China*

**IAC-13.D1.3.9**
CONCURRENT ENGINEERING APPLIED TO SMALL SATELLITE PHASE B PROJECTS: QINETIQ SPACE METHODOLOGIES
*Julien Tallineau, QinetiQ Space nv, Belgium*

**IAC-13.D1.3.10**
MICROSATELLITE SIMULATOR CONCEPTUAL DESIGN FOR SUPPORTING SATELLITE DEVELOPMENT IN INDONESIA
*Abdul Karim, Indonesian National Institute of Aeronautics and Space (LAPAN), Indonesia*

**IAC-13.D1.3.11**
PROJECT MANAGEMENT & DEVELOPMENT ENGINEERING - ACCESSIBLE TO PROCESS MANAGEMENT AND LEAN THINKING?
*Cristian Bank, EADS Astrium Space Transportation GmbH, Germany*

## D1.4. Space Systems Architectures

***September 25 2013, 14:45 — 302B***

***Chairman(s):*** *Peter Dieleman , National Aerospace Laboratory (NLR), The Netherlands; Franck Durand-Carrier , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Igor V. Belokonov , Samara State Aerospace University, Russia;*

**IAC-13.D1.4.1**
A NEW GROUND SYSTEM PRODUCT LINE FOR CNES FUTURE MISSIONS RELYING ON ISIS
*HELENE PASQUIER, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D1.4.2**
BEHAVIOR-BASED DISTRIBUTED MOTION PLANNING FOR SATELLITE SWARM WITH ELECTROMAGNETIC FORCE
*Huan Huang, National University of Defense Technology, China*

**IAC-13.D1.4.3**
RESPONSIVE NANOSAT COMMUNICATION CONSTELLATION FOR THE ASIAN-PACIFIC REGION
*Xinsheng Wang, Beihang University, China*

**IAC-13.D1.4.4**
A DDS BASED REAL-TIME DISTRIBUTED SIMULATION ARCHITECTURE FOR SPACE ROBOTIC TELE-OPERATION
*Mingming Wang, Technical University of Munich, Germany*

**IAC-13.D1.4.5**
AUTONOMOUS SCIENTIST FOR FUTURE SAMPLE RETURN MISSIONS
*Helia Sharif, Carleton Univeristy, Canada*

**IAC-13.D1.4.6**
CONSTRAINT PROGRAMMING FOR AUTONOMOUS ON-BOARD RESOURCE MANAGEMENT
*Baptiste Soyer, , France*

**IAC-13.D1.4.7**
CONTROL SYSTEMS AND STRATEGIES ONBOARD OF VLM-1
*Josef Ettl, German Aerospace Center (DLR), Germany*

**IAC-13.D1.4.8**
NASTRAC (NITTE AMATEUR SATELLITE TRACKING CENTER) - A GROUND STATION TO TRACK AND COMMUNICATE WITH SATELLITES IN AMATEUR BAND.
*Divya Shankar, Nitte Meenakshi Institute of Technology, India*

**IAC-13.D1.4.9**
AN ARCHITECTURE DESIGN FOR HIGH-AVAILABILITY SPACE NETWORK BASED ON PARALLEL REDUNDANCY STRUCTURE
*Yue Wang, Institute of Manned Space System Engineering, CAST, China*

**IAC-13.D1.4.10**
DEFINING A SUCCESSFUL COMMERCIAL ASTEROID MINING PROGRAM
*Dana G. Andrews, Andrews Space, United States*

**IAC-13.D1.4.11**
ON-BOARD COMPUTER FOR TWIN NANO SATELLITE MISSION - STUDSAT-2A/2B
*Bheema Rajulu, N.M.I.T. Bangalore, India*

**IAC-13.D1.4.12**
THE INFLUENCE BROUGHT BY THE SPACE DATA SYSTEM TO THE SPACE TECHNIQUE
*Zhongwei Feng, China Academy of Launch Vehicle Technology, China*

## D1.5. Lessons Learned in Space Systems

***September 26 2013, 14:45 — 302B***

***Chairman(s):*** *Klaus Schilling , University Wuerzburg, Germany; Eiichi Tomita , Japan Aerospace Exploration Agency (JAXA), Japan;*
***Rapporteur(s):*** *Marco Guglielmi , European Space Agency (ESA), The Netherlands;*

**IAC-13.D1.5.1**
HISTORIC LESSONS LEARNED FROM SPACE TETHERS AND SOLUTION - FROM GEMINI11 TO SPACE ELEVATOR -
*Hironori FUJII, Kanagawa Institute of Technology, Japan*

**IAC-13.D1.5.2**
SYSTEMS ENGINEERING CHALLENGES AND LESSONS LEARNED FROM A SPACE MONKEY PROJECT
*Mohammad Ebrahimi, Aerospace Research Institute, Iran*

**IAC-13.D1.5.3**
LESSONS LEARNED FROM THREE UNIVERSITY EXPERIMENTS ONBOARD THE REXUS/BEXUS SOUNDING ROCKETS AND STRATOSPHERIC BALLOONS
*Thomas Sinn, University of Strathclyde/Advanced Space Concepts Laboratory, United Kingdom*

**IAC-13.D1.5.4**
DESIGN AND RELIABILITY ANALYSIS OF HETEROGENEOUS FAULT-TOLERANT ON-BOARD COMPUTER FOR MICRO-SATELLITES
*Xinsheng Wang, Beihang University, China*

**IAC-13.D1.5.5**
TELECOM 2 LESSONS LEARNED - HOW SATELLITE DESIGN AND OPERATION HANDLING FITS WITH END OF LIFE REQUIREMENTS
*Arnaud Varinois, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D1.5.6**
LESSONS LEARNED DEVELOPING A 3U COMMUNICATION CUBESAT
*Alim Rustem Aslan, Istanbul Technical University, Turkey*

**IAC-13.D1.5.7**
LESSONS LEARNED AND FOLLOW-UPS TO EDUCATIONAL CUBESAT PROJECTS GAINED IN THE PW-SAT PROJECT
*Maciej Urbanowicz, Students Space Association, Poland*

## D1.6. System Engineering Tools, Processes and Training (2)

***September 27 2013, 13:30 — 302B***

***Chairman(s):*** *Tibor S. Balint , Royal College of Art, United States; Norbert Frischauf , ORF, Austria;*
*Rapporteur(s): Geilson Loureiro , National Institute for Space Research - INPE , Brazil;*

**IAC-13.D1.6.1**
ENHANCED MODEL-BASED SYSTEM ENGINEERING TO AID THE DELFFI FORMATION FLYING MISSION
*Lin Huang, *Delft University of Technology (TU Delft), The Netherlands; #DFH Satellite Company, Ltd., China*





**IAC-13.D1.6.2**
MODEL BASED SYSTEMS ENGINEERING (MBSE) APPLIED THROUGH A SYSML MODEL TO THE MASCOT ASTEROID LANDER
*Michael Kretzenbacher, Monash University, Australia*

**IAC-13.D1.6.3**
ANALYSIS AND VERIFICATION OF COMMUNICATION LINK BUDGETS FOR SMALL SATELLITES
*Miriam Vázquez Vázquez, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.D1.6.4**
PROBABILISTIC ASSESSMENT AND OPTIMIZATION FOR FRACTIONATED SPACECRAFT ARCHITECTURE FROM THE ECONOMIC COST POINT OF VIEW
*Ming Xu, Beihang University, China*

**IAC-13.D1.6.5**
A COMPLETE PERFORMANCE TESTS OF AN ANALOGUE SUN SENSOR WITH IMPROVED LINEARITY, VARIABLE SLIT AND SHUTTER DISTANCE
*Pavel Paces, Czech Technical University In Prague, Czech Republic*

**IAC-13.D1.6.6 (withdrawn)**
EVALUATION OF CHANGES IN DESIGN PARAMETER RANGES WITH A VALUE INTERVAL STRATEGY FOR SOLVING CONFLICTIVE GOALS IN SATELLITE DESIGN
*Tanja Nemetzade, Astrium GmbH, Germany*

**IAC-13.D1.6.7**
A GENERAL CONCEPTUAL MODEL FOR LAUNCH VEHICLE DESIGN AND ANALYSIS
*Suhong Ma, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.D1.6.8**
THE MICROSATELLITE LAUNCH VEHICLE (VLM-1) FUNCTIONAL ANALYSIS
*Jonas Bianchini Fulindi, Instituto de Aeronáutica e Espaço (IAE), Brazil*

**IAC-13.D1.6.9**
AN APPROACH TO THE DEVELOPMENT OF THE VLM-1 FIRST STAGE PYROTECHNIC SUBSYSTEM
*Luis Henrique Ferreira da Silva, DCTA-IAE, Brazil*

**IAC-13.D1.6.10**
RESEARCH OF PROJECT PORTFOLIO MANAGEMENT AND FLOW OPTIMIZING BASED ON SPACE ENTERPRISE STRATEGY GUIDING
*Xubo WANG, 1)School of Management,Northwestern Polytechnical University,NPU,China;2)Chinese Society of Astronautics,CSA, China*

**IAC-13.D1.6.11**
EXPERIENCES ON TRAINING SYSTEM ENGINEERS FOR SPACE BIOLOGY PROJECTS
*Mohammad Ebrahimi, Aerospace Research Institute, Iran*

**IAC-13.D1.6.12**
CATEGORIZING REQUIREMENTS TO INCREASE THE SIZE OF THE SOLUTION TRADESPACE: MOVING AWAY FROM NASA AND ESA'S REQUIREMENTS CATEGORIZATION MODELS
*Alejandro Salado, Stevens Institute of Technology, United States*

## D1.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Robert L. Henderson , The Johns Hopkins University Applied Physics Laboratory, United States; Reinhold Bertrand , European Space Agency (ESA), Germany;*

**IAC-13.D1.P.1**
STRUCTURING THE GLOBE PROTECTION SYSTEM OF THE COMBINED INTERNATIONAL ACTION ON EARTH'S ORBIT
*Peng GUAN, Beijing Aerospace Control Center, China*

**IAC-13.D1.P.2**
MULTIDISCIPLINARY DESIGN OPTIMISATION OF ALL-ELECTRIC COMMUNICATIONS SATELLITES
*Kathryn Dunlop, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.D1.P.3**
DEVELOPMENT OF PLATFORM TECHNIQUES OF TELECOMMUNICATION SATELLITE AND THEIR APPLICATIONS TO DFH-4E PLATFORM
*Liu Likun, Institute of Communication Satellite,China Academy of Space Technology, China*

**IAC-13.D1.P.4**
MODELING AND ANALYSIS FOR SPACECRAFT DATABASE OF ELECTROMAGNETIC COMPATIBILITY
*Guo Zhonghai, China Xichang Satellite Launch Center, China*

**IAC-13.D1.P.5**
DEVELOPMENT OF A NEW GENERATION HIGH RELIABILITY LONG LIFE SOLAR ARRAY DRIVE MECHANISM FOR FUTURE APPLICATIONS
*Rui Li, Beijing Institute of Control Engineering, China*

**IAC-13.D1.P.6**
IMPERATIVE MODIFICATIONS REQUIRED FOR TECHNICAL USAGE OF STAR PATTERN RECOGNITION ALGORITHM ONBOARD A TYPICAL STAR TRACKER
*Shabnam Yazdani, K. N. Toosi University of Technology, Iran*

**IAC-13.D1.P.7**
APPLICATION OF ITERATIVE FILTERING AND REVERSE-SMOOTH ALGORITHM IN POS OF HIGH RESOLUTION EARTH OBSERVATION SYSTEM
*Zhang Qintuo, , China*

**IAC-13.D1.P.8**
A ROBUST TIME SYNCHRONIZATION SOLUTION FOR WSN IN SATELLITE VIBRATION MONITORING
*Kan Li, Shanghai Institute of Satellite Engineering, China*

**IAC-13.D1.P.9**
THERMAL ARCHITECTURES AND INTERFACE IDEAS FOR MODULAR SERVICEABLE SATELLITES
*Jens Riesselmann, Technische Universität Berlin, Germany*

**IAC-13.D1.P.10**
DUAL-ARM SPACE ROBOT SYSTEM DESIGN AND COORDINATION OPERATIONS TECHNOLOGY RESEARCH
*Houde Liu, China Academy of Space Technology (CAST), China*

**IAC-13.D1.P.11**
APPLICATION OF SCHEDULING METHOD IN TIME-TRIGGERED SPACECRAFT CONTROL NETWORK WITH BANDWIDTH CONSTRAINTS
*Yu Xie, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D1.P.12**
SMALL FOOTPRINT FAULT TOLERANT 8/16-BIT PROCESSOR FOR SPACE APPLICATIONS
*Iztok Kramberger, University of Maribor, Slovenia*

**IAC-13.D1.P.13**
BUSINESS-PRODUCT-SERVICE PORTFOLIO APPROACH APPLIED TO SPACE SYSTEMS
*Giuliani Garbi, College Anhanguera of São José, Brazil*

**IAC-13.D1.P.14**
A SPF IDENTIFICATION METHODOLOGY FOR TVC SYSTEMS IN LAUNCH VEHICLES
*Shoujun Zhao, China Academy of Launch Vehicle Technology, China*

**IAC-13.D1.P.15**
MULTI-DISCIPLINARY DESIGN OPTIMIZATION FOR LAUNCHER FAMILY DESIGN
*Sven Erb, European Space Research and Technology Centre, ESA-ESTEC, The Netherlands*

**IAC-13.D1.P.16**
PRELIMINARY DESIGN OF SPACE SYSTEMS SUBJECT TO MIXED ALEATORY-EPISTEMIC UNCERTAINTY
*Simone Alicino, University of Strathclyde, United Kingdom*

**IAC-13.D1.P.17**
REAL-TIME SPACEWIRE INSTRUMENT SIMULATION IN A DAY
*Steve Parkes, University of Dundee, United Kingdom*

**IAC-13.D1.P.18**
TOWARDS THE DEVELOPMENT OF A NEW ROLLING ROVER ACTUATED BY MEANS OF ELECTROACTIVE POLYMERS
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D1.P.19**
MODELING OF A PERIPHERAL POINTING ARCHITECTURE FOR THE SPACE TESTBED
*Arpineh Sarkesian, , United States*

**IAC-13.D1.P.20**
IMPORTANCE RANKING AND CORRECTION OF ERROR FACTORS FOR MULTI-STAGE MANUFACTURING PROCESS OF AEROSPACE ELECTRONIC APPARATUS USING MSA METHODS AND SVM
*Haoting Liu, China Academy of Aerospace Electronics Technology, China*

**IAC-13.D1.P.21**
THE MULTICHANNEL VISUALIZATION SPACECRAFT SIMULATION AND DEMONSTRATION SYSTEM BASED ON OSG ENGINE
*Dongzhe Wang, Harbin Institute of Technology, China*

**IAC-13.D1.P.22**
INTERACTION-BASED CONCEPTUAL DESIGN METHODS FOR SPACE SCIENCE MISSIONS
*Xiaodong Peng, National Space Science Center (NSSC), China*

**IAC-13.D1.P.23 (withdrawn)**
NANO-SATELLITE MISSION DESIGN BY PARAMETRIC THROUGH-LIFE SYSTEM MODELLING
*Christopher Lowe, University of Strathclyde/Advanced Space Concept Laboratory, United Kingdom*

**IAC-13.D1.P.24**
ROBUST DESIGN OPTIMIZATION OF A LAUNCH VEHICLE IN PRESENCE OF PARAMETRIC UNCERTAINTIES
*Masoud Ebrahimi, Tarbiat modares university, Iran*

**IAC-13.D1.P.25**
BEYOND-LEO ARCHITECTURE SIZING TOOL (BLAST)
*Keithe Baggett, Zero Point Frontiers Corp., United States*

**IAC-13.D1.P.26**
ENVIRONMENTAL IMPACT ASSESSMENT - THE APPLICATION OF THE LCA METHODOLOGY FOR SPACE MISSIONS AT ESA
*Jakob Huesing, ESA, The Netherlands*

**IAC-13.D1.P.27**
THE INTEGRATED MONITORING SYSTEM FOR THE OPERATIONAL STATUS OF THE MERIDIAN PROJECT SOUNDING ROCKETS
*Huan He, National Space Science Center (NSSC), China*

**IAC-13.D1.P.28**
DESIGN AND IMPLEMENTATION OF GROUND AUTHENTICATION SYSTEM FOR CHOLLIAN SATELLITE
*IN JUN KIM, Electronics and Telecommunications Research Institute(ETRI), Korea, Republic of*

**IAC-13.D1.P.29**
A MODELING APPROACH FOR THE PROFIT ANALYSIS OF CELLULARIZED SPACECRAFT ARCHITECTURES
*David Sternberg, Massachusetts Institute of Technology (MIT), United States*

**IAC-13.D1.P.30**
DYNAMIC RECONFIGURABLE ON-BOARD REAL-TIME OPERATING SYSTEM DESIGN BASED ON FPGA FOR DEEP SPACE EXPLORER
*Fanyu Zhao, School of Aerospace Engineering, Beijing Institute of Technology, China*

**IAC-13.D1.P.31**
SPACEBORNE SAR SYSTEM OF LIGHT-WEIGHT AND HIGH-AGILITY
*Ye XingBin, CASC, China*

**IAC-13.D1.P.32**
STUDY OF THE PROJECT PORTFOLIO MODEL AND SYSTEM APPROACH IN SPACE ENGINEERING MANAGEMENT
*Suike LI, School of Management,Northwestern Polytechnical University,NPU, China*

**IAC-13.D1.P.33**
STUDY ON DESIGN PROCESS OF MISSILES ELECTRICAL SYSTEMS BASED ON CHS
*Xudong Zhang, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.D1.P.34**
MODULAR DESIGN METHOD USED FOR SCIENCE EXPERIMENT CONTROL UNIT IN SPACE
*Lei Yan, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.D1.P.35**
METHODS AND EXPERIENCE OF SOFTWARE ENGINEERING IN GREAT SPACE PROJECT
*Xinhua Zheng, China Academy of Aerospace Systems Science and Engineering, China*

**IAC-13.D1.P.36**
SYSTEMC-BASED SPARC V8 MMU RESEARCH AND DESIGN
*Xingfeng Wang, Beijing Microelectronics Technology Institute, Chin*

## D2. SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM

***Coordinator(s):*** *John M. Horack , Teledyne Brown Engineering Inc., United States; Ulf Palmnäs , GKN Aerospace Engine Systems, Sweden;*

***Secretary(s):*** *Paulo Moraes Jr. , Instituto de Aeronáutica e Espaço (IAE), Brazil;*

### D2.1. Launch Vehicles in Service or in Development

***September 23 2013, 15:15 — 311B***

***Chairman(s):*** *Tomohiko Goto , Mitsubishi Heavy Industries, Ltd., Japan; Christian Dujarric , European Space Agency (ESA), France;*
***Rapporteur(s):*** *Ray F. Johnson , The Aerospace Corporation, United States;*

**IAC-13.D2.1.1**
*ARIANE 5 ECA AND ES ON-GOING DEVELOPMENT ACTIVITIES INCLUDING ADAPTION FOR GALILEO MISSION*
*Daniel de Chambure, European Space Agency (ESA), France*

**IAC-13.D2.1.2**
*THE FIRST FLIGHT OF JAPAN'S EPSILON LAUNCH VEHICLE*
*Yasuhiro Morita, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.D2.1.3**
*ARIANESPACE LAUNCHER FAMILY STATUS*
*Denis Schmitt, Arianespace, France*





**IAC-13.D2.1.4**
STUDY ON PROPELLANT TECHNOLOGY OF LARGE SOLID BOOSTER
*yan hui Liang, China aerospace science & industry corporation, China*

**IAC-13.D2.1.5**
ARIANE-5 MEA AFTER THE MINISTERIAL COUNCIL 2012
*Catherine Poincheval, Astrium Space Transportation, France*

**IAC-13.D2.1.6**
ARIANE 6 THE FUTURE EUROPEAN LAUNCHER
*Sylvain Guédron, ESA - APT, France*

**IAC-13.D2.1.7**
CURRENT STATUS OF JAPANESE FLAGSHIP LAUNCH VEHICLE, H-IIA AND H-IIB
*Takashi Noma, Mitsubishi Heavy Industries, Ltd., Japan*

**IAC-13.D2.1.8**
COMPLEX PROBLEM OF SYSTEM DESIGNING OF SPACE ROCKET SYSTEMS WITHIN THE INTERNATIONAL COOPERATION
*Olexandr Kashanov, Yuzhnoye State Design Office, Ukraine*

**IAC-13.D2.1.9**
THE COMMERCIAL COMPETITIVENESS OF THE ARIANE 5ME/6 LAUNCH VEHICLES
*Scott Fisher, Space Generation Advisory Council (SGAC), Australia*

**IAC-13.D2.1.10**
NASA'S SPACE LAUNCH SYSTEM: MOVING TOWARD THE LAUNCH PAD
*Steve Creech, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.D2.1.11**
SOLID ROCKET BOOSTER FOR NASA SPACE LAUNCH SYSTEM (SLS)
*Donald Sauvageau, ATK Launch Systems, United States*

### D2.2. Launch Services, Missions, Operations and Facilities

***September 24 2013, 09:45 — 311B***

***Chairman(s):*** *Igor V. Belokonov , Samara State Aerospace University, Russia; Yves Gérard , Astrium Space Transportation, France;*
***Rapporteur(s):*** *Christophe Bonnal , Centre National d'Etudes Spatiales (CNES), France;*

**IAC-13.D2.2.1 (withdrawn)**
ARIANE GROUND FACILITIES: BACKGROUND, OPERATIONAL PHASE AND FUTURE DEVELOPMENT
*Pier Michele Roviera, European Space Agency (ESA), France*

**IAC-13.D2.2.2**
LONG-TERM PREDICTION OF VOSTOCHNY COSMODROME DEVELOPMENT IN SUPPORT OF SPACE ACTIVITY OF RUSSIA AND INTERNATIONAL COOPERATION
*Alla Serikova, Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia*

**IAC-13.D2.2.3**
ROCKOT - THE AFFORDABLE LAUNCHER FOR SMALL SATELLITE CONSTELLATIONS
*Peter Freeborn, Eurockot Launch Services GmbH, Germany*

**IAC-13.D2.2.4**
LAUNCH SERVICES PROGRAM MANAGEMENT: A LONG MARCH CASE
*Yuan SI, China Great Wall Industry Corporation, China*

**IAC-13.D2.2.5**
CYCLONE-4 SPACE LAUNCH SYSTEM: INNOVATIONS AND COMPETITIVE PRICING WITH IMPRESSIVE HERITAGE
*Sergiy Guchenkov, Alcantara Cyclone Space, Brazil*

**IAC-13.D2.2.6**
ADAPTION AND SEPARATION TECHNOLOGY OF MICRO-SATELLITE BASED ON QB50 PROJECT
*Rong Chen, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.2.7**
A NEW OVERALL NETWORK ARCHITECTURE DESIGN FOR THE LAUNCH VEHICLE SYSTEM
*Weiqiang Xia, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.D2.2.8**
NEW ADVANCES OF CHINESE SPACE TRACKING SHIP
*Cong Bo, , China*

**IAC-13.D2.2.9**
STUDY ON NUMERICAL CALCULATION METHOD FOR THE EXPLOSIVE FRAGMENTS IN INITIAL SEGMENT OF ROCKET LAUNCH
*Yang Liu, Beijing Special Engineering Design and Research Institute, China*

**IAC-13.D2.2.10**
RESEARCH ON MECHANISM OF LAUNCH VEHICLE ELECTROSTATIC CHARGING AND ELECTROSTATIC PROTECTION
*Xu Lijie, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.D2.2.11**
CORROSION CONTROL IN THE LAUNCH ENVIRONMENT
*Luz Calle, NASA, United States*

### D2.3. Upper Stages, Space Transfer, Entry and Landing Systems

***September 24 2013, 14:45 — 311B***

***Chairman(s):*** *Shayne Swint , National Aeronautics and Space Administration (NASA)/Marshall Space Flight Center, United States; Oliver Kunz , MT Aerospace AG, Germany;*
***Rapporteur(s):*** *Gennaro Russo , Associazione Italiana di Aeronautica e Astronautica (AIDAA), Italy;*

**IAC-13.D2.3.1**
AEROTHERMODYNAMIC AND TPS DESIGN ANALYSIS OF THE USV3 RE-ENTRY VEHICLE
*Davide Cinquegrana, CIRA Italian Aerospace Research Centre, Italy*

**IAC-13.D2.3.2**
ATV PROPULSION SYSTEM - WELCOME ON BOARD! HOW THE ATV MISSIONS' FEEDBACK AND REAL-TIME MONITORING HAVE BEEN MANAGED IN A CONTINUOUS IMPROVEMENT PROCESS
*Johann HENOCQUE, Astrium GmbH, Germany*

**IAC-13.D2.3.3 (withdrawn)**
MISSION CONCEPT AND TECHNICAL SUBJECTS OF HTV-R (HTV-RETURN)
*Yusuke Suzuki, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.D2.3.4**
CARAVAN CARGO AUTONOMOUS RENDEZVOUS AND VELOCITY ADJUSTMENT/NAVIGATION
*Udrivolf Pica, International Space University (ISU), France*

**IAC-13.D2.3.5 (withdrawn)**
A STUDY OF REENTRY BLACKOUT ALLEVIATION USING ELECTRON BUNCHING IN THE REENTRY PLASMA LAYER
*Siddharth Krishnamoorthy, Student, United States*

**IAC-13.D2.3.6**
APPLIED MAGNETO-AERODYNAMICS FOR SAFER RE-ENTRY OF SPACE VEHICLE.
*Aakash Chhunchha, SRM University, Chennai, India*

**IAC-13.D2.3.7 (withdrawn)**
AEROTHERMODYNAMICS OF AN OPTIMAL DESIGN OF MARS RE-ENTRY VEHICLE FROM HYPERSONIC TO SUBSONIC FLOW REGIME
*Balbir Singh, Manipal Institute of Technology, Manipal University, India*

**IAC-13.D2.3.8**
MODELING AND ANALYZING OF THE SOFT-LANDING PHASE OF PARACHUTE-RETROROCKET SYSTEM
*Huang Wei, Beijing Institute of Mechanical & Electrical Engineering, China*

**IAC-13.D2.3.9**
SCHEME DESIGN OF A PARACHUTE RECOVERY SYSTEM FOR UAV
*Zeng Liang, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.3.10**
DESIGN PHILOSOPHY FOR OTV OPERATING ON CRYOGENIC PROPELLANT COMPONENTS
*Dmitry Loupiak, Energia RSC, Russia*

**IAC-13.D2.3.11**
SPACE LAUNCH SYSTEM EVOLVABILITY ASSESSMENT: UPPER STAGE DEFINITION
*Jon Holladay, NASA, United States*

## D2.4. Future Space Transportation Systems

***September 25 2013, 09:45 — 311B***

***Rapporteur(s):*** *Sundaram Ramakrishnan , Indian Space Researh Organisation, India;*
***Chairman(s):*** *David E. Glass , National Aeronautics and Space Administration (NASA), United States; José Gavira Izquierdo , European Space Agency (ESA), The Netherlands;*

**IAC-13.D2.4.1**
NELS - LAUNCHER CONCEPT SELECTION FOR THE "NEW EUROPEAN LAUNCH SERVICE"
*Marc Scheper, OHB System AG, Germany*

**IAC-13.D2.4.2**
ECONOMICAL SELF-SUSTAINABILITY OF A NEW EUROPEAN LAUNCH SERVICE (NELS)
*Piotr Perczynski, MT Aerospace AG, Germany*

**IAC-13.D2.4.3**
CONCEPTUAL DESIGN OF A SPACE TUG FOR SATELLITES MISSIONS SUPPORT
*Maria Antonietta Viscio, Politecnico di Torino - Thales Alenia Space Italia, Italy*

**IAC-13.D2.4.4**
DESIGN PARAMETERS OPTIMISATION OF THE UNIFIED SERIES OF REUSABLE INTERORBITAL TUG WITH ELECTRICAL PROPULSIONS AND NUCLEAR POWER SYSTEM OF MEGAWATT CLASS IN NEAR EARTH TRANSPORT OPERATIONS FOR HEAVY PAYLOADS AND SATTELITE TRANSPORTATION TO F
*Dmitry Goropaev, Central Research Institute for Machine Building (FGUP TSNIIMASH), Russia*

**IAC-13.D2.4.5**
PROGRESS OF SPACELINER ROCKET-POWERED HIGH-SPEED CONCEPT
*Martin Sippel, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.D2.4.6**
PROGRESS ON THE SKYLON AND SABRE
*Mark Hempsell, Reaction Engines Ltd., United Kingdom*

**IAC-13.D2.4.7**
ANALYSIS OF EFFECTIVENESS OF UTILIZATION STRATEGY FOR SPACE LAUNCH VEHICLE WITH REUSABLE FIRST STAGE IN TURNAROUND SERVICING PHASE
*Alla Serikova, Central Research Institute of Machine Building (FSUE/TSNIIMASH), Russia*

**IAC-13.D2.4.8**
THE CONCEPTUAL SCHEME BASED ON AIR-BREATHING PROPULSION REUSABLE SPACE TRANSPORTATION SYSTEM
*Yiyin Wei, Beijing Electro-Mechanical Engineering Institute, China*

**IAC-13.D2.4.9**
SYSTEM-DEFINED FLIGHT DEMONSTRATOR OF REENTRY LAUNCH VEHICLE' BLOCK WITHIN REUSABLE SPACE LAUNCH VEHICLE CONFIGURATION
*Anatoly Kuzin, Khrunichev State Research & Production Space Center, Russia*

**IAC-13.D2.4.10**
THE AUSTRAL LAUNCH VEHICLE: REDUCING SPACE TRANSPORTATION COST THROUGH REUSABILITY, MODULARITY AND SIMPLICITY
*Adriaan Schutte, Heliaq Advanced Engineering, Australia*

**IAC-13.D2.4.11**
OPTIMUM MANEUVER OF AIR LAUNCH ROCKETS
*Masashi Miura, Tottori University, Japan*

## D2.5. Future Space Transportation Systems Technologies

***September 25 2013, 14:45 — 311B***

***Chairman(s):*** *Yoshifumi Inatani , Institute of Space and Astronautical Science, Japan; Sylvain Guédron , ESA - APT, France;*
***Rapporteur(s):*** *Pier Paolo de Matteis , CIRA Italian Aerospace Research Centre, Italy;*

**IAC-13.D2.5.1 (withdrawn)**
ESA FLPP SYSTEM DRIVEN TECHNOLOGY SELECTION FOR FUTURE EUROPEAN LAUNCH VEHICULES
*Guy Ramusat, ESA european space agency, France*

**IAC-13.D2.5.2**
LONG DURATION CRYOGENIC PROPELLANT IN-SPACE STORAGE TECHNOLOGY
*Wang Xiaowei, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.5.3**
DESIGN OF INTER TANK STRUCTURE FOR CRYO STAGE WITH A COMMON BULK HEAD
*REMESH KUMAR RADHA KRISHA REDDIAR, Vikram Sarabhai Space Centre, Thiruvananthapuram-695 022, INDIA, India*

**IAC-13.D2.5.4**
OPTIMIZATION ANALYSIS OF SELF-PRESSURIZATION PROCESS FOR LIQUID OXYGEN TANK OF LIQUID ROCKET
*Zhenqi Niu, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.D2.5.5**
SYSTEM DESIGN AND TECHNICAL DEMONSTRATIONS FOR REUSABLE SOUNDING ROCKET
*Satoshi Nonaka, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.D2.5.6 (withdrawn)**
STUDY ON REAL-TIME NETWORK FOR REUSABLE SOUNDING ROCKET
*Takanori Narita, Mitsubishi Heavy Industries, Ltd., Japan*

**IAC-13.D2.5.7**
PROGNOSTICS AND HEALTH MANAGEMENT TECHNOLOGY OF LARGE LAUNCH VEHICLE
*Xu Liang, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.5.8**
CONCEPT OF MULTIPURPOSE ELECTROJET SPACE TUG CREATION
*Angela Oliinykova, Yuzhnoye State Design Office, Ukraine*

**IAC-13.D2.5.9**
ANALYSIS OF THE AVIONIC SYSTEM ACHITECTURE FOR FUTURE MANNED REUSABLE LAUNCH VEHICLE
*Wang Linna, China Academy of Launch Vehicle Technology, China*



**IAC-13.D2.5.10**
PRECISE MARGINS TO OPERATIONAL LIMITS OF THE RACS TAKING INTO ACCOUNT THE PWM IMPLEMENTATION
*Keysmer Enrique Damo La Rosa, University of Rome "La Sapienza", Italy*

## D2.6. Future Space Transportation Systems Verification and In-Flight Experimentation

***September 26 2013, 09:45 — 311B***

***Chairman(s):*** *Giorgio Tumino , European Space Agency (ESA), France; Charles E. Cockrell Jr. , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Tetsuo Hiraiwa , Japan Aerospace Exploration Agency (JAXA), Japan; Alexander D. Storozh , Samara Space Centre, Russia;*

**IAC-13.D2.6.1**
THE IXV PROGRAMME: STATUS OF THE VEHICLE INTEGRATION AND MISSION PREPARATION
*Giorgio Tumino, European Space Agency (ESA), France*

**IAC-13.D2.6.2**
ESA INTERMEDIATE EXPERIMENTAL VEHICLE SYSTEM SYNTHESIS TEST. DESIGN, VERIFICATION AND IMPLEMENTATION.
*Giuseppe Rufolo, ESA, France*

**IAC-13.D2.6.3**
CMC TECHNOLOGY FOR WINDWARD AND NOSE OF THE IXV VEHICLE : TOWARDS FULL-SCALE MANUFACTURING AND QUALIFICATION.
*Thierry Pichon, Herakles, Safran, France*

**IAC-13.D2.6.4**
FLIGHT ACCEPTANCE OF A VERY PERFORMANT, HIGH-RELIABLE COMPUTER FOR THE ESA IXV RE-ENTRY VEHICLE - AN ELEMENTARY SUBSYSTEM FOR FUTURE SPACE TRANSPORTATION SYSTEMS
*Koen Puimege, QinetiQ Space nv, Belgium*

**IAC-13.D2.6.5**
INTERMEDIATE EXPERIMENTAL VEHICLE, ESA PROGRAM EXTRAPOLATION GROUND TO FLIGHT WIND TUNNEL AND CFD APPROACH
*Jean-Pierre Tribot, Dassault Aviation, France*

**IAC-13.D2.6.6**
RANS ANALYSIS OF THE TPS PROTUSIONS ON THE ESA IXV VEHICLE
*Pietro Catalano, C.I.R.A. - S.C.P.A., Italy*

**IAC-13.D2.6.7**
THE PRIDE PROGRAMME: FROM THE IXV TO THE ISV
*Giorgio Tumino, European Space Agency (ESA), France*

**IAC-13.D2.6.8**
USV3 PROJECT VISION FOR A SPACE VEHICLE WITH AUTOMATIC RE-ENTRY AND LANDING CAPABILITY
*CAMILLO RICHIELLO, CIRA Italian Aerospace Research Center, Capua, Italy*

**IAC-13.D2.6.9**
THE DEVELOPMENT OF THE SMALL SOUNDING ROCKET PROGRAM
*Adam Okninski, Institute of Aviation, Poland*

**IAC-13.D2.6.10**
THE AERODYNAMIC DAMPING TEST OF ELASTIC LAUNCH VEHICLE MODEL IN TRANSONIC FLOW
*Chen Ji, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.D2.6.11**
A TRAJECTORY DESIGN METHOD FOR THE CROSS-DOMAIN FLIGHT OF TRANS ATMOSPHERIC VEHICLE
*Yongyuan Li, China Academy of Launch Vehicle Technology, China*

## D2.7. Small Launchers: Concepts and Operations

***September 26 2013, 14:45 — 311B***

***Chairman(s):*** *Markus Jäger , Astrium Space Transportation, Germany; Harry A. Cikanek , National Oceanic and Atmospheric Administration (NOAA), United States;*
***Rapporteur(s):*** *Nicolas Bérend , Office National d'Etudes et de Recherches Aérospatiales (ONERA), France;*

**IAC-13.D2.7.1**
FUTURE APPLICATIONS OF SMALL LAUNCHERS – A SECTOR WITH CONSIDERABLE OPPORTUNITIES
*Scott Fisher, Space Generation Advisory Council (SGAC), Australia*

**IAC-13.D2.7.2**
THE DEVELOPMENT AND OPERATION OF AN AFFORDABLE AIR LAUNCHED NANOSATELLITE LAUNCH SYSTEM FOR THE US AND EUROPEAN MARKETS
*Charles Lauer, Rocketplane Global, Inc., United States*

**IAC-13.D2.7.3**
SMALL LOW-COST LAUNCH VEHICLES: ENGINEERING AND BUSINESS BROAD ANALYSIS
*Pol Guixe, Cranfield University, United Kingdom*

**IAC-13.D2.7.4**
CONCEPTUAL LAY-OUT OF A SMALL LAUNCHER W.R.T. TRANSIENT PHASES
*Markus Jäger, Astrium Space Transportation, Germany*

**IAC-13.D2.7.5**
FEASIBILITY STUDY OF SMALL SATELLITES LAUNCHER VEHICLE LAUNCHED FROM ATMOSPHERIC CARRIER AIRCRAFT
*Nicole Viola, Politecnico di Torino, Italy*

**IAC-13.D2.7.6**
NUMERICAL INVESTIGATIONS ON THE AERODYNAMICS OF SHEFEX-III LAUNCHER
*Yi Li, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.D2.7.7**
THE INFINITE STAGING ROCKET--FIRST STEP TO REALIZATION
*Olga Motsyk, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.D2.7.8**
L3AR – A NEW AIR LAUNCH CONCEPT USING A DEDICATED AUTOMATIC CARRIER
*Nicolas Bérend, Office National d'Etudes et de Recherches Aérospatiales (ONERA), France*

**IAC-13.D2.7.9**
SCHEMATA OF AVIATION-ROCKETRY SYSTEMS FOR SMALL SPACECRAFT LAUNCHES. OPPORTUNITIES FOR REALIZATION. ANALOGUES AND PROTOTYPES
*Sergey Shcherbak, S.P. Korolev Rocket and Space Corporation Energia, Russia*

**IAC-13.D2.7.10 (withdrawn)**
ROCKOON DEMONSTATION IN THE GRANCANARIA SPACEPORT FOR FEMTO-SATELLITES
*Joshua Tristancho, UPC, Spain*

## D2.8-A5.4.Joint Session on Going Beyond the Earth-Moon System: Human Missions to Mars, Libration Points, and N EO's

***September 27 2013, 09:45 — 311B***

***Chairman(s):*** *Ernst Messerschmid , University of Stuttgart, Germany; Martin Sippel , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Rapporteur(s):*** *Leo Daniel , Massachusetts Institute of Technology (MIT), United States; Gerhard Schwehm , European Space Agency (ESA), Spain; Steve Creech , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.A5.4-D2.8.1**
INTERNATIONAL INDUSTRY CONCEPTS FOR HUMAN EXPLORATION FROM THE EARTH-MOON L2 REGION
*Josh Hopkins, Lockheed Martin Corporation, United States*

**IAC-13.A5.4-D2.8.2**
NASA'S SPACE LAUNCH SYSTEM: ONE VEHICLE, MANY DESTINATIONS
*Todd May, NASA Marshall Space Flight Center, United States*

**IAC-13.A5.4-D2.8.3 (withdrawn)**
PROGRESS ON DEMONSTRATION OF AN AFFORDABLE, ADVANCED LIQUID BOOSTER FOR THE SPACE LAUNCH SYSTEM
*Kimberly Doering, Dynetics, United States*

**IAC-13.A5.4-D2.8.4**
AN AFFORDABLE SYSTEM FOR HUMAN MISSIONS TO MARS
*Michael Raftery, Boeing Defense Space & Security, United States*

**IAC-13.A5.4-D2.8.5 (withdrawn)**
EUROPE'S ENABLING CONTRIBUTION TO THE US HUMAN SPACE EXPLORATION PROGRAMME: THE SERVICE MODULE FOR THE ORION CREW MODULE
*Mark Kinnersley, EADS Astrium Space Transportation GmbH, Germany*

**IAC-13.A5.4-D2.8.6**
STUDY ON TECHNICAL APPROACH FOR MANNED DEEP-SPACE EXPLORATION
*Yang Liu, Beijing Special Engineering Design and Research Institute, China*

**IAC-13.A5.4-D2.8.7**
REALISTIC ROADMAP FOR THE FIRST HUMAN MISSION TO MARS
*Jean Marc Salotti, Laboratoire de l'Intégration du Matériau au Système, France*

**IAC-13.A5.4-D2.8.8**
USING LUNAR SWINGBYS AND LIBRATION-POINT ORBITS TO EXTEND HUMAN EXPLORATION TO INTERPLANETARY DESTINATIONS
*David Dunham, Kinetx, Inc., United States*

**IAC-13.A5.4-D2.8.9**
SESAME OPENS: A PRECURSOR TO HUMAN ASTEROID MISSIONS
*Volker Maiwald, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.A5.4-D2.8.10**
A VALUABLE STEPPING STONE FOR HUMANS BEYOND THE MOON
*Louis Friedman, The Planetary Society, United States*

## D2.9-D6.2. Solutions for Human Flights in China

***September 27 2013, 13:30 — 311B***

***Chairman(s):*** *Jens Lassmann , Astrium Space Transportation, Germany; Douglas O. Stanley , National Institute of Aerospace, United States;*
***Rapporteur(s):*** *Julio Aprea , European Space Agency (ESA), France;*

**IAC-13.D2.9-D6.2.1**
HEAVY LAUNCH VEHICLE AND ITS APPLICATION
*Li Shuo, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.9-D6.2.2**
ELEMENTS OF MANNED LAUNCH VEHICLE AND IMPLEMENT
*Mu Sun, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.D2.9-D6.2.3**
DOCKING MECHANISM AND DYNAMIC ANALYSIS OF EARTH-LUNAR ORBITAL TRANSFER STAGE
*Shengbao Wu, , China*

**IAC-13.D2.9-D6.2.4**
RESEARCH ON PROCESSING OF SPACESUIT BY EMF
*Zhang Wenzhong, Capital Aerospace Machinery Corporation, China*

**IAC-13.D2.9-D6.2.5**
THE MODAL TEST OF THE CZ-2F STRAP-ON LAUNCH VEHICLE
*WANG Jianmin, Beijing Institute of Structure & Environment Engineering, China*

**IAC-13.D2.9-D6.2.6**
IMPLEMENTATION AND RESEARCH ON THE PRINCIPLE TESTING PLATFORM BASED ON INTELLIGENT ICD FOR BUS REDUNDANCY CONTROL SYSTEM
*Zhekui XIN, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D2.9-D6.2.7**
APPLICATION OF FRICTION STIR WELDING IN THE FIELD OF LAUNCH VEHICLE TANK MANUFACTURING
*Zhao Yanhua, Capital Aerospace Machinery Corporation, China*

**IAC-13.D2.9-D6.2.8**
PROGRESS AND PROSPECT OF ADVANCED GUIDANCE AND CONTROL TECHNOLOGY FOR LAUNCH VEHICLE
*Xu Guoqiang, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D2.9-D6.2.9**
ATTITUDE DECOUPLING CONTROL FOR ROLLING SPACECRAFT
*Xiyuan Huang, , China*

**IAC-13.D2.9-D6.2.10**
LONGITUDINAL SEAM WELDING SYSTEM FOR LARGE LAUNCH VEHICLE
*Ting Zhao, China Academy of Launch Vehicle Technology, China, China*

**IAC-13.D2.9-D6.2.11**
ANALYSIS ON TT&C SCHEME FOR THE LOWER ORBIT LONG-PLAYING FINAL-STAGE ROCKET
*Xiaoding Wang, China Academy of Launch Vehicle Technology, China, China*

## D2.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *John M. Horack , Teledyne Brown Engineering Inc., United States; Ulf Palmnäs , GKN Aerospace Engine Systems, Sweden;*

**IAC-13.D2.P.1**
EXPERIMENTAL STUDY ON THE HIGH-PRESSURE GAS FLOW PERFORMANCE OF ORIFICE PLATES USED IN THE ROCKET PROPELLANT PRESSURIZATION SYSTEM
*Qiang Li, Beijing Aerospace Institute of Metrology & Measurement Technology, China*

**IAC-13.D2.P.2**
VISUALIZATION TECHNOLOGY OF NUMERICAL SIMULATION FOR LAUNCH VEHICLE DURING FLIGHT
*Wanyan Zhenhai, Beijing institute of Astronautical Systems Engineering, Beijing, China*



**IAC-13.D2.P.3**
*A POSSIBILITY BASED MISSION DESIGN OPTIMIZATION FOR THE SPACE LAUNCH VEHICLE*
*JUNG-IL SHU, Konkuk University, Korea, Republic of*

**IAC-13.D2.P.4**
EXPERIMENTAL RESEARCH ON SIMULATION OF ROCKETS TAKEOFF
*Fuyou Huang, , China*

**IAC-13.D2.P.5**
A NEW OPTICS AND RADAR STRAP-DOWN MEASURING SYSTEM
*Jiahong Chen, , China*

**IAC-13.D2.P.6**
RESEARCH ON FAST TESTING METHOS OF LAUNCH VEHICLE
*Ziyu Wang, Beijing Institute of Astronautical Systems Engineering, China*

**IAC-13.D2.P.7**
ADAPTIVE FAULT-TOLERANT CONTROL SYSTEM OF REUSABLE LAUNCH VEHICLE
*Yu Han, Harbin Institute of Technology, China*

**IAC-13.D2.P.8**
DEVELOPMENT OF A LINEAR SWEEPING FREQUENCY PRESSURE GENERATOR FOR DYNAMIC PRESSURE CALIBRATION
*Dayou Zhang, , China*

**IAC-13.D2.P.9**
WATER SUPPRESSION TEST ON JET NOISE
*Chen Jinsong, China Academy of Launch Vehicle Technology, China, China*

**IAC-13.D2.P.10**
STABLE TRACKING OF NARROW-BEAM INSTRUMENTATION RADAR OF SPACE TRACKING SHIP
*Qu Yuanxin, , China*

**IAC-13.D2.P.11**
AN ANALYTICAL FOR THE DESIGNING OF GENERAL ASSEMBLY-TEST BUILDING OF SPACECRAFT LAUNCH SITE
*Xian Feng, CAST, China*

**IAC-13.D2.P.12**
THE ANALYSIS ABOUT THE DEVELOPING APPROACHES OF TECHNOLOGIES OF SAFELY RECYCLING AND REUSING LAUNCH VEHICLE CORE STAGES AND ROCKET BOOSTERS
*Shang Xianyang, China Academy of Launch Vehicle Technology, China*

**IAC-13.D2.P.13**
AERODYNAMIC ANALYSIS OF THE USV3 VEHICLE FROM HYPERSONIC TO LANDING FLIGHT CONDITIONS
*Francesco Petrosino, CIRA Italian Aerospace Research Centre, Italy*

**IAC-13.D2.P.14**
ORBITAL TRANSFER TRANSPORT SYSTEM BASE ON UPPER STAGE TECHNOLOGY
*Xubin Zhang, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.D2.P.15**
MULTI-DISCIPLINARY DESIGN AND TRAJECTORY OPTIMISATION OF A SINGLE-STAGE-TO-ORBIT VEHICLE
*Fabrizio Pescetelli, University of Strathclyde, United Kingdom*

**IAC-13.D2.P.16**
FEASIBILITY STUDY OF SPACECRAFT CLUSTER LAUNCHES WITH ONE LAUNCH VEHICLE INTO VARIOUS BASIC ORBITS
*Igor Mashtak, Yuzhnoye State Design Office, Ukraine*

**IAC-13.D2.P.17**
ROCKOON LEEM PROJECT
*Daniel Pastor Moreno, UPM-LEEM, Spain*

**IAC-13.D2.P.18**
A FRAMEWORK FOR INTEGRATING DIFFERENT SPACE LAUNCH CONCEPTS FOR EFFICIENT SPACE LAUNCH OPERATIONS
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.D2.P.19**
THE SOLUTION OF FUTURE SPACE TRANSPORT—THE PATENT ANALYSIS OF 3DP TECHNOLOGY APPLICATION IN AEROSPACE
*Li Feng, China Aerospace Science & Industry Academy, China*

**IAC-13.D2.P.20**
AEROTHERMODYNAMICS OF ROUND LEADING EDGE AIRFOIL WITH A FLOW-THROUGH DUCT AT HYPERSONIC SPEED
*Rajesh Yadav, University of Petroleum and Energy Studies, India*

**IAC-13.D2.P.21**
VACUUM MAGLEV - A GREENER AND SUSTAINABLE SPACE TRANSPORT SYSTEM THAT COULD KICK-START FURTHER INTERNATIONAL COLLABORATION.
*Tanay Sharma, University of Sussex, United Kingdom*

**IAC-13.D2.P.22**
RESEARCH ON THE INTEGRATION OF SMALL LAUNCH VEHICLE AND SMALL SATELLITE PLATFORM
*ChangWei Hu, , China*

**IAC-13.D2.P.23**
A BALLOON BASED LAUNCH SYSTEM FOR MICRO/NANO/PICO-SATELLITES
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.D2.P.24**
THE CONTROL SYSTEM SIMULATION OF NEW LAUNCH VEHICLE BASED ON HLA
*Guangping Qi, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D2.P.25**
MANNED LUNAR LAUNCHING MODE AND THE REQUIREMENT FOR HEAVY LAUNCH VEHICLE
*Wenqing Li, , China*

**IAC-13.D2.P.26**
STUDY OF A NEW AEROSPACE VEHICLE PROJECT BASED ON TURBINE-BASED COMBINED CYCLE ENGINE
*Xin Xu, Beijing Institute of Mechanical & Engineering, China*

## D3. SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND DEVELOPMENT

***Coordinator(s):*** *John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States; Alain Pradier , European Space Agency (ESA), The Netherlands;*

## D3.1. Strategies & Architectures as the Framework for Future Building Blocks in Space Exploration and Development

***September 23 2013, 15:15 — 208B***

***Chairman(s):*** *John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States; Maria Antonietta Perino , Thales Alenia Space, Italy;*
***Rapporteur(s):*** *Horst Rauck , DLR, German Aerospace Center, Germany; Guillaume Girard , INSYEN AG, Germany;*

**IAC-13.D3.1.1**
A COMMON FRAMEWORK FOR CONTEXTUALIZING SPACE EXPLORATION STRATEGIES
*G. Ryan Faith, Space Foundation, United States*

**IAC-13.D3.1.2**
POTENTIAL EUROPEAN CONTRIBUTIONS TO INTERNATIONAL EXPLORATION SCENARIOS
*Bernd Bischof, EADS Astrium Space Transportation GmbH, Germany*

**IAC-13.D3.1.3**
BUILDING BLOCK ELEMENTS AND ENABLING TECHNOLOGIES FOR EXPLORATION
*Maria Antonietta Perino, Thales Alenia Space, Italy*

**IAC-13.D3.1.4**
SELF-DEPLOYABLE HABITAT FOR EXTREME ENVIRONMENTS (SHEE) - AN INVESTIGATION OF DESIGN AND CONSTRUCTION PRINCIPLES
*Ondrej Doule, Space Innovations, v.o.s., Czech Republic*

**IAC-13.D3.1.5**
DEPENDENCY NETWORK ANALYSIS: FOSTERING THE FUTURE OF SPACE WITH NEW TOOLS AND TECHNIQUES IN SPACE SYSTEMS-OF-SYSTEMS DESIGN AND ARCHITECTURE
*Cesare Guariniello, Purdue University, United States*

**IAC-13.D3.1.6**
PANORAMA OF IDEAS ON STRUCTURES AND MATERIALS FOR THE DESIGN OF A MULTI-MODULAR MANNED SPACE STATION LOCATED AT EML2.
*Stéphanie Lizy-Destrez, SUPAERO- Ecole Nationale Supérieure de l'Aéronautique et de l'Espace, France*

**IAC-13.D3.1.7**
SHACKLETON ENERGY ENABLING INFRASTRUCTURE FOR SOLAR SYSTEM INDUSTRIALIZATION
*Jim Keravala, Shackleton Energy Company, United States*

**IAC-13.D3.1.8**
SPACE STATION 2.0: A PUBLIC-PRIVATE MODEL FOR INTERNATIONAL SPACE EXPLORATION
*Josh Berk, University of North Dakota, United States*

**IAC-13.D3.1.9**
INTERSTELLAR RANGE SPACECRAFT PROPULSION AND AUTONOMOUS SYSTEMS ANALYSIS FOR INTERSTELLAR EXPLORATION WITH MULTI-GENERATIONAL SPACECRAFT
*Ugur Guven, , United States*

**IAC-13.D3.1.10 (withdrawn)**
INNOVATIONS IN UP GRADATION IN INFRASTRUCTURE OF SPACE CRAFTS FOR LONG SPACE MISSIONS ON NEO/EXOPLANET.
*Ankita Vashishtha, , India*

## D3.2. Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development

***September 25 2013, 09:45 — 208B***

***Chairman(s):*** *William H. Siegfried , The Boeing Company, United States; Scott Hovland , European Space Agency (ESA), The Netherlands;*
***Rapporteur(s):*** *Horst Rauck , DLR, German Aerospace Center, Germany; Paivi Jukola , Aalto University, Finland;*

**IAC-13.D3.2.1**
ADVANTAGES AND CAPABILITIES OF AN IN-SPACE NAVIGATION INFRASTRUCTURE IN MOON AND MARS MISSIONS
*Giovanni B. Palmerini, Universita' di Roma 'La Sapienza', Italy*

**IAC-13.D3.2.2**
TECHNOLOGY DEVELOPMENT FOR ENABLING IN-SPACE INFRASTRUCTURE
*Christopher Moore, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.D3.2.3**
IMPROVING COMMUNICATION FOR SPACE EXPLORATION MISSIONS TO MARS
*Maria Victoria Alonsoperez, Space Generation Advisory Council (SGAC), Uruguay*

**IAC-13.D3.2.4**
CONCEPT FOR A MOON AND ASTEROID SAMPLE RETURN FACILITY
*Lucy Berthoud, University of Bristol, United Kingdom*

**IAC-13.D3.2.5**
TYCHO: DEMONSTRATOR AND OPERATIONAL SATELLITE MISSION TO EARTH-MOON-LIBRATION POINT EML-4 FOR COMMUNICATION RELAY PROVISION AS A SERVICE
*Andreas Hornig, University of Stuttgart, Germany*

**IAC-13.D3.2.6**
DEVELOPING EXPLORATION KEY TECHNOLOGIES FOR IN-ORBIT VALIDATION: THE STEPS2 PROJECT
*Maria Antonietta Perino, Thales Alenia Space, Italy*

**IAC-13.D3.2.7**
ADVANCED AND COST EFFECTIVE WASTE DISPOSAL AND TREATMENT METHODS FOR SPACE STATIONS
*Ugur Guven, , United States*

**IAC-13.D3.2.8**
LEAST-SQUARES-BASED REACTIONLESS CAPTURE OF A TUMBLING TARGET WITH A SPACE MANIPULATOR
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D3.2.9**
AN EFFICIENT BIONIC-BASED STRATEGY FOR SPACE STATIONS MANUFACTURING & ASSEMBLY PROCESS
*Mohammad Hadi Shariati Qalehnou, , Iran*

**IAC-13.D3.2.10**
REACTION CONTROL OF FLEXIBLE JOINT SPACE MANIPULATORS
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D3.2.11**
NONSINGULAR FUZZY TERMINAL SLIDING MODE CONTROL BASED ON SINGULAR SUPPRESSION AND ELASTIC VIBRATION SUPPRESSING OF FREE-FLOATING SPACE ROBOT WITH FLEXIBLE JOINTS
*Jie Liang, , China*

## D3.3. Novel Concepts and Technologies for Enable Future Building Blocks in Space Exploration and Development

***September 26 2013, 09:45 — 208B***

***Chairman(s):*** *Scott Hovland, European Space Agency (ESA), The Netherlands; Alain Dupas , European Bank for Reconstruction and Development, France;*
***Rapporteur(s):*** *Christopher Moore , National Aeronautics and Space Administration (NASA), United States; Junjiro Onoda, Japan Society for Aeronautics and Space Sciences (JSASS), Japan;*

**IAC-13.D3.3.1**
3D PRINTING ON ISS: REDUCING EARTH DEPENDENCY AND OPENING NEW SPACE BASED MARKETS
*Jason Dunn, Made In Space, Inc., United States*

**IAC-13.D3.3.2**
A STUDY ON GEOPHYSICAL EXPLORATION STRATEGIES TOWARDS MINING ASTEROIDS
*Sebastian M. Ernst, TU Bergakademie Freiberg (TUBAF), Germany*



**IAC-13.D3.3.3**
CONCEPT FOR ON ORBIT SERVICEABLE SPACECRAFT BUILDING BLOCKS – \\MECHANICAL INTERFACE
*Thomas A. Schervan, RWTH Aachen University - Institut fuer Leichtbau, Germany*

**IAC-13.D3.3.4**
INCREASED PERFORMANCE REACTION CONTROL IN THE OPERATIONS OF HYPER-REDUNDANT SPACE MANIPULATORS
*Silvio Cocuzza, CISAS – "G. Colombo" Center of Studies and Activities for Space, University of Padova, Italy*

**IAC-13.D3.3.5 (withdrawn)**
SERVICABLE SATELLITES - A SOLUTION FOR IMPLEMENTING SUSTAINABILITY IN SPACE
*Jana Weise, Technische Universität Berlin, Germany*

**IAC-13.D3.3.6**
DEVELOPING SPACESUIT COMPATIBLE GEOLOGIC FIELD EQUIPMENT FOR TESTING IN A MARS ANALOG ENVIRONMENT
*April Davis, , United States*

**IAC-13.D3.3.7 (withdrawn)**
THE SPACE TUGS: AN AFFORDABLE AND FEASIBLE ASTEROID DEFLECTION SYSTEM
*André Caminoa, Unispace Exponential Creativity, Argentina*

**IAC-13.D3.3.8 (withdrawn)**
ATRM: AIRBORNE TITAN RECONNAISSANCE MISSION - A TITAN AIRPLANE MISSION CONCEPT
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.D3.3.9**
WELDING IN SPACE: A COMPARATIVE EVALUATION OF CANDIDATE WELDING TECHNOLOGIES AND LESSONS LEARNED FROM ON-ORBIT EXPERIMENTS
*Tracie Prater, United Launch Alliance, United States*

**IAC-13.D3.3.10**
USING MARTIAN CLIMATE MODELS TO ASSESS THE POTENTIAL OF ARTIFICIAL GREENHOUSE GASES TO INCREASE MARTIAN SURFACE TEMPERATURES
*Isabelle Dicaire, European Space Agency (ESA), The Netherlands*

**IAC-13.D3.3.11**
RESEARCH ON THE APPLICATION OF PHASE DIVERSITY TO LARGE APERTURE SPACE CAMERA
*Xin Wang, China Academy of Launch Vehicle Technology, China*

**IAC-13.D3.3.12**
PRODUCE SPACE SOFTWARE FROM SOFTWARE FACTORY
*Xinhua Zheng, China Academy of Aerospace Systems Science and Engineering, China*

## D3.4. Space Technology and System Management Practices and Tools

***September 27 2013, 13:30 — 208B***

***Chairman(s):*** *John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States; Paivi Jukola , Aalto University, Finland;*
***Rapporteur(s):*** *Maria Antonietta Perino , Thales Alenia Space, Italy; Hans E.W. Hoffmann , International Astronautical Federation (IAF), Germany;*

**IAC-13.D3.4.1**
ADVANCED CONCEPTS STUDIES AS A TOOL FOR STRATEGIC PLANNING: A RETROSPECTIVE AND PROSPECTIVE VIEW
*John C. Mankins, ARTEMIS Innovation Management Solutions, LLC, United States*

**IAC-13.D3.4.2**
WHICH IS BETTER: PUTTING MANY EGGS INTO FEWER BASKETS OR FEWER EGGS INTO MANY BASKETS? A MODELING APPROACH TO EVALUATING SPACE RESEARCH AND DEVELOPMENT RESOURCE ALLOCATION
*Alexander Burg, George Washington University, United States*

**IAC-13.D3.4.3**
CLOSER
*Simone La Torre, International Space University (ISU), France*

**IAC-13.D3.4.4**
SELECTION AND EXPLOITATION OF 3D PRINTING TECHNOLOGY TO ENABLE ON-BOARD MANUFACTURING CAPABILITY ON THE ISS: USING SCENARIO PLANNING FOR DEVELOPING REQUIREMENTS
*Angeliki Kapoglou, International Space University (ISU), United States*

**IAC-13.D3.4.5 (withdrawn)**
FULL CYCLE ENGINEERING TOOL FOR LOW-COST UNMANNED RESPONSIVE SPACE MISSIONS
*Joshua Tristancho, UPC, Spain*

**IAC-13.D3.4.6**
MDO TECHNIQUES INTEGRATED WITH SYSTEM MODELING FRAMEWORK: MBSE METHODOLOGIES APPLIED TO SPACE SYSTEM DESIGN AND ANALYSIS
*Michele Cencetti, Politecnico di Torino - Thales Alenia Space Italia, Italy*

**IAC-13.D3.4.7 (withdrawn)**
THE NEW ISO STANDARD " DEFINITION OF THE TECHNOLOGY READINESS LEVELS (TRL) AND THEIR CRITERIA OF ASSESSMENT"
*Franck Durand-Carrier, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D3.4.8**
APPLICATION OF TECHNOLOGY READINESS LEVELS (TRLS) IN CHINA AEROSPACE PROJECTS
*Yu Liu, , China*

**IAC-13.D3.4.9**
FEDERATED SATELLITE SYSTEMS: A CASE STUDY ON SUSTAINABILITY ENHANCEMENT OF SPACE EXPLORATION SYSTEMS ARCHITECTURES
*Alessandro Aliakbargolkar, Skolkovo Institute of Science and Technology, Russia*

**IAC-13.D3.4.10**
AN EFFECTIVE METHOD FOR ANALYZING STOCHASTIC MISSIONCYCLE COST OF FRACTIONATED SPACECRAFT
*Xin Ning, Northwestern Polytechnical University, China*

**IAC-13.D3.4.11**
AN INTELLIGENT MODEL-BASED DIAGNOSING ENGINE USING CONSTRAINT PROGRAMMING
*Bo Lee, Beihang University, China*

**IAC-13.D3.4.12**
SCENARIO ASSESSMENT FOR THE DEMONSTRATION OF ENABLING TECHNOLOGIES FOR SPACE EXPLORATION
*Maria Antonietta Viscio, Politecnico di Torino - Thales Alenia Space Italia, Italy*

## D3.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Alain Pradier , European Space Agency (ESA), The Netherlands; John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States;*

**IAC-13.D3.P.1**
EXPERIMENT PLATFORM FOR NEW TECHNOLOGY ON SPACE STATION
*Qiaozhong Dong, , China*

**IAC-13.D3.P.2**
THE RUSSIAN MISSION CONTROL CENTRE AS AN ELEMENT OF INTERNATIONAL INTEGRATION IN SPACE EXPLORATION
*Denis Zelenov, Central Research Institute of Machine Building (TSNIIMASH), Russia*

**IAC-13.D3.P.3**
PROSPECT AND ANALYSIS OF TT&C SYSTEM BASED ON CPS
*Jianxue Sang, China Xichang Satellite Launch Center, China*

**IAC-13.D3.P.4**
A NEW PARALLEL ALGORITHM FOR CONSTRUCTION OF CONCEPT LATTICE
*Hui Dong, China Academy of Launch Vehicle Technology, China*

**IAC-13.D3.P.5**
CURRENT DESIGN SITUATION AND PROSPECTION OF THE RF/ MICROWAVE CHIP FOR SPECIFIC SYSTEMIC USE
*Feng Liu, Beijing Research Institute of Telemetry, China*

**IAC-13.D3.P.6**
A NEW TECHNOLOGY READINESS ASSESSMENT METHOD BASED ON CHARACTERISTICS OF TECHNOLOGY MATURE PROGRESS
*Wang Ting ting, China Aerospace Science and Technology Corporation (CASC), China*

## D4. SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FAR FUTURE

***Coordinator(s):*** *Giuseppe Reibaldi , International Academy of Astronautics (IAA), France; Hans E.W. Hoffmann , International Astronautical Federation (IAF), Germany;*

## D4.1. Novel Concepts and Technologies

***September 24 2013, 09:45 — 208B***

***Chairman(s):*** *Claudio Bruno , University of Rome "La Sapienza", United States; Hans E.W. Hoffmann , International Astronautical Federation (IAF), Germany;*
***Rapporteur(s):*** *Kathleen Coderre , Lockheed Martin Corporation, United States;*

**IAC-13.D4.1.1**
ARCHITECTURAL CONCEPTS FOR A LUNAR CAMPUS OF THE INTERNATIONAL SPACE UNIVERSITY
*James Burke, The Planetary Society, United States*

**IAC-13.D4.1.2**
DIFFERENT PROSPECTS FOR SPACE COLONIZATION EFFORTS FOR THE FUTURE OF HUMANITY: POSSIBILITIES AND CHALLENGES
*Ugur Guven, , United States*

**IAC-13.D4.1.3 (withdrawn)**
POSSIBILITIES AND CHALLENGES OF DETECTING EXOMOONS FOR COLONIZATION AND FOR ADVANCED TERRAFORMING
*Ugur Guven, , United States*

**IAC-13.D4.1.4 (withdrawn)**
STRATOBASE: A SPACE LAUNCHING BASE IN THE STRATOSPHERE
*André Caminoa, Unispace Exponential Creativity, Argentina*

**IAC-13.D4.1.5**
UTILIZING NEAR EARTH OBJECTS (NEOS) AS SPACECRAFT FOR MANNED INTERPLANETARY EXPLORATION
*Huai-Chien Chang, The University of TOKYO, Graduate school, Japan*

**IAC-13.D4.1.6**
LAUNCH SUSTAINABILITY FORUMS SEEK NOVEL INNOVATIONS AND CARVE NICHE AUDIENCES
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.D4.1.7**
CONTROL FORCE SHARING APPROACH FOR FRACTIONATED SPACECRAFT BASED ON ELECTROMAGNETIC FORCE
*Min Hu, Academy of Equipment, China*

**IAC-13.D4.1.8**
VACUUM-ARC ASTEROID THRUSTERS (VAST) – A DESIGN CONCEPT FOR AN ASTEROID SPACE TRANSPORTATION SYSTEM
*Jonathan Lun, South African National Space Agency (SANSA), South Africa*

**IAC-13.D4.1.9**
ATMOSPHERIC PRESSURE PLASMAS – A NEW CLASS OF TOOLS FOR SUPPORTING FUTURE EXPLORATION MISSIONS
*Christopher Vasko, Eindhoven University of Technology, The Netherlands*

**IAC-13.D4.1.10**
INTERSTELLAR MISSION TO WOLF 359: POSSIBILITIES FOR THE FUTURE
*Ugur Guven, , United States*

## D4.2-E6.4 Joint Session on Global Public/ Private Innovative Initiatives in Spaceflight

***September 24 2013, 14:45 — 208B***

***Chairman(s):*** *Horst Rauck , DLR, German Aerospace Center, Germany; Rachel Villain , Euroconsult, France;*
***Rapporteur(s):*** *Sundaram Ramakrishnan , Indian Space Researh Organisation, India;*

**IAC-13.D4.2-E6.4.1 (withdrawn)**
PUBLIC PRIVATE PARTNERSHIPS ROLE IN SPACE ACTIVITY: THE IMPORTANCE OF LEGAL AND REGULATORY ASPECTS FOR PROJECT SUCCESS
*Norah Patten, University of Limerick, Ireland*

**IAC-13.D4.2-E6.4.2**
INTERNATIONAL COMMERCIALIZATION CONSORTIUMS AS A TOOL FOR SPACE TECHNOLOGY COMMERCIALIZATION
*Phyl Speser, Goddard SFC, United States*

**IAC-13.D4.2-E6.4.3**
"THE LAW ON SPACE ACTIVITY OF THE RUSSIAN FEDERATION" WITHIN THE REALIZATION OF SPACE-RELATED PUBLIC-PRIVATE PARTNERSHIP PROJECTS.
*Dina Pogosyan, Air Launch Aerospace Corporation, Russia*

**IAC-13.D4.2-E6.4.4**
THINK DIFFERENT – GENERIC ECONOMIC MODELS FOR ON-ORBIT SERVICING (OOS)
*Joerg Kreisel, JOERG KREISEL International Consultant (JKIC), Germany*

**IAC-13.D4.2-E6.4.5**
INDUSTRY STANDARDS FOR COMMERCIAL SPACE TRANSPORTATION
*George Nield, Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States*

**IAC-13.D4.2-E6.4.6**
PROMOTING SPACE DEVELOPMENT FOR THE BENEFIT OF A EUROPEAN REGION – EMP INITIATIVE
*Catherine LAMBERT, CNES, France*

**IAC-13.D4.2-E6.4.7**
IMPACTS OF COLLABORATION IN SPACE EXPLORATION R&D IN CANADA: CONNECTING THE STAKEHOLDERS TO ACCELERATE INNOVATION
*Annie Martin, Ecole Polytechnique de Montreal, Canada*

**IAC-13.D4.2-E6.4.8**
THE FAA COE CST: COLLABORATIVE EFFORTS FOR COMMERCIAL SPACE RESEARCH
*Ken Davidian, Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States*



**IAC-13.D4.2-E6.4.10**
SPACEPORT BARCELONA – A PUBLIC PRIVATE PARTNERSHIP TO CREATE THE FIRST COMMERCIAL SUBORBITAL SPACEPORT IN EUROPE
*Charles Lauer, Rocketplane Global, Inc., United States*

## D4.3. Space Elevator Design and Impact

***September 26 2013, 14:45 — 208B***

***Rapporteur(s):*** *Peter Swan , SouthWest Analytic Network, United States;*
***Chairman(s):*** *Arun Misra , McGill University, Canada; Patrick Hambloch , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.D4.3.1**
CONCEPTUAL COLONIZATION OF SPACE USING SPACE-ELEVATORS FROM MARS' NATURAL SATELLITE "PHOBOS"
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*

**IAC-13.D4.3.2**
ENERGY CONSIDERATIONS IN THE PARTIAL SPACE ELEVATOR
*Pamela Woo, McGill University, Canada*

**IAC-13.D4.3.3**
CONSIDERATION OF TETHER ELASTICITY IN THE DEPLOYMENT PHASE OF A SPACE ELEVATOR SYSTEM
*Mehdi Keshmiri, Isfahan University of Technology, Iran*

**IAC-13.D4.3.4**
EXPERIMENTAL STUDY ON SPEED CONTROL OF RIDER ON TWISTED TAPE TETHER USING IMAGE PROCESSING
*Kazuyoshi Yoshino, Kanagawa Institute of Technology, Japan*

**IAC-13.D4.3.5 (withdrawn)**
ORBITAL 'SLING' FOR LEO TO GEO MASS TRANSFER
*Andrew Meulenberg, Universiti Sains Malaysia, Malaysia*

**IAC-13.D4.3.6**
THE SPACE ELEVATOR CONSTRUCTION CONCEPT
*Yoji Ishikawa, Obayashi Corporation, Japan*

**IAC-13.D4.3.7**
HOW DO INTENSE MAGNETIC STORMS AFFECT A SPACE ELEVATOR?
*Anders Jorgensen, New Mexico Tech, United States*

**IAC-13.D4.3.8**
DYNAMICS OF SPACE ELEVATOR IN RESPONSE TO DISTURBANCES
*Hironori FUJII, Kanagawa Institute of Technology, Japan*

**IAC-13.D4.3.9 (withdrawn)**
3D PRINTING IN SPACE: A GAME CHANGER
*André Caminoa, Unispace Exponential Creativity, Argentina*

**IAC-13.D4.3.10**
THE BABEL TOWER: A SUPER-TALL STRUCTURE WITH A SUB-ORBITAL ELEVATOR
*André Caminoa, Unispace Exponential Creativity, Argentina*

**IAC-13.D4.3.11**
COMPARISON AND ANALYSIS OF CENTRALIZED AND DECENTRALIZED SCHEMES OF NAVIGATION SHARING FOR SATELLITE CLUSTER
*Zhaohui Dang, College of Aerospace Science and Engineering, National University of Defense Technology, China*

**IAC-13.D4.3.12**
BASED ON THE INTELLIGENT INTERACTION PATTERN OF ENTITIES FOR THE SPACE LAUNCH COMMAND AND MANAGEMENT SYSTEM
*Tingyou Cao, Beijing Special Engineering Design and Research Institute, China*

**IAC-13.D4.3.13**
AN INTERNATIONAL SPACE TECHNOLOGY ROADMAP: DISTRIBUTED RISK REDUCTION FOR THE NEXT GENERATION FLAGSHIP OBSERVATORY
*Josh Berk, University of North Dakota, United States*

## D4.4. Contribution of Space Activities to Solving Global Societal Challenges

***September 27 2013, 09:45 — 208B***

***Chairman(s):*** *John C. Mankins , ARTEMIS Innovation Management Solutions, LLC, United States; Giuseppe Reibaldi , International Academy of Astronautics (IAA), France;*
***Rapporteur(s):*** *Jacob Sutherlun , National Oceanic and Atmospheric Administration (NOAA), United States;*

**IAC-13.D4.4.1**
SPACE AT THE SERVICE OF CITIZENS – THE ESA VIEWPOINT AND ASSOCIATED ACTIVITIES
*Isabelle Duvaux-Bechon, European Space Agency (ESA), France*

**IAC-13.D4.4.2**
OUTER SPACE DEVELOPMENT AS A SOLUTION FOR GLOBAL CHALLENGES
*Edythe Weeks, Webster University Worldwide, United States*

**IAC-13.D4.4.3**
LAUNCH SUSTAINABILITY FORUMS SEEK NOVEL INNOVATIONS AND CARVE NICHE AUDIENCES
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.D4.4.4**
FOOD PRODUCTION WITHIN A CONTAINER BY RECYCLING URINE AND ORGANIC WASTE
*Dominik Quantius, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.D4.4.5**
CLIMATE ENGINEERING: WHICH ROLE FOR SPACE?
*Isabelle Dicaire, European Space Agency (ESA), The Netherlands*

**IAC-13.D4.4.6**
SPACE TECHNOLOGY APPLICATIONS TO SUPPORT SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES
*Yusuke Muraki, Asian Development Bank (ADB), The Philippines*

**IAC-13.D4.4.7**
ENDING SCARCITY BY FULFILLING OUR DESTINY: HOW SPACE RESOURCE EXTRACTION CAN MEET GLOBAL SOCIETAL CHALLENGES
*David Vaccaro, Futron Corporation, United States*

**IAC-13.D4.4.8**
STUDY ON CRITICAL TECHNOLOGIES AND MISSION ROADMAP FOR ASTEROID MINING
*Yang Liu, Beijing Special Engineering Design and Research Institute, China*

**IAC-13.D4.4.9**
ASTEROID MINING POSSIBILITIES AND CHALLENGES IN THE FUTURE
*Ugur Guven, , United States*

**IAC-13.D4.4.10**
TELE-REALITY:HOW SPACE TECHNOLOGY TRANSFORMS HUMAN PERCEPTIONS OF SPACE, TIME AND SELF
*Jacques Arnould, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D4.4.11 (withdrawn)**
UNDERGROUND TERRAFORMING
*André Caminoa, Unispace Exponential Creativity, Argentina*

## D4.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Giuseppe Reibaldi , International Academy of Astronautics (IAA), France; Hans E.W. Hoffmann , International Astronautical Federation (IAF), Germany;*

**IAC-13.D4.P.1**
PHOTOCATALYTIC APPLICATION OF ZINC OXIDE NANOWIRES FOR GREEN SPACE EXPLORATION
*INNOCENT UDOM, University of South Florida, United States*

**IAC-13.D4.P.2**
ARTIFICIAL METEOR SHOWERS AS AN EXAMPLE FOR A SECONDARY BUSINESS CASE FOR ACTIVE DEBRIS REMOVAL
*Philipp Maier, Space Generation Advisory Council (SGAC), Germany*

# D5. 46th IAA SYMPOSIUM ON SAFETY AND QUALITY IN SPACE ACTIVITIES

***Coordinator(s):*** *Jeanne Holm , University of California, Los Angeles, United States; Roberta Mugellesi-Dow , European Space Agency (ESA), Germany;*

## D5.1. Insuring Quality and Safety in a Cost Constrained Environment: Which Trade-Off?

***September 25 2013, 09:45 — 210A***

***Chairman(s):*** *Manola Romero , Office National d'Etudes et de Recherches Aérospatiales (ONERA), France; Alexander S. Filatyev , Central Aero-HydroDynamic Institute, Russia;*
***Rapporteur(s):*** *Pierre Molette , , France;*

**IAC-13.D5.1.1**
LEGAL AND POLICY ISSUES IN DEVELOPING COMMERCIAL LAUNCH BASE AND FOR SPACECRAFT WHERE HUMAN SAFETY ISSUES INVOLVED
*Gurunadh Velidi, University of Petroleum and Energy Studies, India*

**IAC-13.D5.1.2**
LICENSING SYSTEM OF SPACE ACTIVITIES IN CHINA: STATUS QUO, PROBLEMS AND PROPOSED SOLUTIONS
*Jingzhu Li, Harbin Institute of Technology, China*

**IAC-13.D5.1.3**
QUALITY AND SECURITY MANAGEMENT SYSTEMS
*Bruno Lazare, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D5.1.4**
INFORMED CONSENT IN COMMERCIAL SPACE TRANSPORTATION SAFETY
*George Nield, Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States*

**IAC-13.D5.1.5**
THE ENSURING OF THE CONTROL SYSTEM EFFICIENCY OF TECHNOLOGICAL SYSTEMS OF A ROCKET-SPACE COMPLEX ON PRE-LAUNCH STAGE OF ITS OPERATION
*Vadim Kadzhaev, Federal State Unitary Enterprize CENTER FOR GROUND SPPACE INFRASTRUCTURE OPERATION (FGUP TsENKI), Russia*

**IAC-13.D5.1.6**
PRODUCT READINESS LEVELS (PRLS) -- NEW TOOLS FOR CUSTOMERS AND MANUFACTURERS TO REACH A CONSENSUS ABOUT QUALITY AND RISKS OF SPACE PRODUCTS
*Fang Zhu, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.D5.1.7**
USING COST-OF-QUALITY INDICATORS FOR THE PROCUREMENT OF SPACE SYSTEMS
*Angeliki Kapoglou, International Space University (ISU), United States*

**IAC-13.D5.1.8**
TECHNOLOGY OF THE SPACE STATION HEALTH MANAGEMENT INTEGRATED ENGINEERING ENVIRONMENT AND VIRTUAL TEST
*Hongzheng Fang, China Aerospace Science & Industry Academy, China*

**IAC-13.D5.1.9**
A RELIABILITY ASSURANCE FRAMEWORK FOR COTS COMPONENTS USED IN SPACE SCIENTIFIC PAYLOADS
*Wei Dang, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

## D5.2. Knowledge Management and Collaboration in Space Activities

***September 26 2013, 09:45 — 209A***

***Co-Chair(s):*** *Roberta Mugellesi-Dow , European Space Agency (ESA), Germany; Lionel Baize , Centre National d'Etudes Spatiales (CNES), France;*
***Rapporteur(s):*** *Patrick Hambloch , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.D5.2.1**
A METHOD OF KNOWLEDGE MATURITY ASSESSMENT IN AEROSPACE ENTERPRISES
*Junpeng Du, China Academy of Launch Vehicle Technology, China*

**IAC-13.D5.2.2**
OBSTACLES AND SOLUTIONS FOR ESA KNOWLEDGE MANAGEMENT SYSTEM
*Roberta Mugellesi-Dow, European Space Agency (ESA), Germany*

**IAC-13.D5.2.3**
FROM LOCAL INFORMATION MANAGEMENTS TO A CORPORATE KM APPROACH
*Lionel Baize, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.D5.2.4**
PUBLICATION TRENDS AT NASA'S MARSHALL SPACE FLIGHT CENTER AND POTENTIAL IMPACTS ON KNOWLEDGE MANAGEMENT
*Emma Fry, University of Alabama in Huntsville, United States*

**IAC-13.D5.2.5**
CIRCE – PROMOTING A DATA E-INFRASTRUCTURE FOR THE INTERNATIONAL SPACE STATION
*Patrick Hambloch, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.D5.2.6**
THE DIGITAL LIBRARY AS THE KNOWLEDGE INFRASTRUCTURE IN JAXA
*Akiko Fujii, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.D5.2.7**
STUDY ON THE APPLICATION OF SATELLITE-BASED KNOWLEDGE BASE SEARCH ENGINE
*Miao Su, National Space Science Center (NSSC), China*

**IAC-13.D5.2.8 (withdrawn)**
SPACE SAFETY IS NOT AN OPTION
*Carmen Felix, International Association for the Advancement of Space Safety, Mexico*

**IAC-13.D5.2.9**
LAYING OUT AN INFRASTRUCTURE FOR IMPLEMENTING A KNOWLEDGE STRATEGY
*Sarah Amiri, Emirates Institution for Advanced Science and Technology (EIAST), United Arab Emirates*





**IAC-13.D5.2.10**
A NEW PROCESS FOR SPACE COMPUTER SYSTEM DEPENDABILITY ANALYSIS
*Carlos Lahoz, Institute of Aeronautics and Space (IAE), Brazil*

**IAC-13.D5.2.11**
LAUNCH SUSTAINABILITY FORUMS SEEK INNOVATIONS AND CARVE NICHE AUDIENCES
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

## D5.3. Space Weather and Effects: Prediction, Analysis and Protection

***September 27 2013, 09:45 — 209A***

***Chairman(s):*** *Jean-Francois Roussel , Office National d'Etudes et de Recherches Aérospatiales (ONERA), France; Mengu Cho , Kyushu Institute of Technology, Japan;*

**IAC-13.D5.3.1**
SOLAR MAXIMUM AND SPACECRAFT PROTECTION
*Rogan Shimmin, International Space University (ISU), United States*

**IAC-13.D5.3.2**
A NETWORK SIMULATION OF SOLAR STORM DISASTER
*Peng Zong, , China*

**IAC-13.D5.3.3 (withdrawn)**
STUDY ON THE ACCELERATIONS OF ENERGETIC PARTICLES IN THE EARTH'S RADIATION BELT
*Biao Yang, China Academy of Space Technology (CAST), China*

**IAC-13.D5.3.4**
EFFECT OF SPACE WEATHER PERTURBATIONS ON NANOSATELLITE COMMUNICATIONS AND SUB SYSTEMS
*Ugur Guven, , United States*

**IAC-13.D5.3.5**
THIRD PARTY VERIFICATION BASED RELIABILITY ASSURANCE TECHNIQUE OF SPACE SEMICONDUCTOR DEVICE
*cheng wu Long, China Aerospace Science and Industry Corporation, China*

**IAC-13.D5.3.6**
THE BASIC CONCEPTS OF ANTICIPATING SINGLE EVENT EFFECT RATES
*Du Shougang, , China*

**IAC-13.D5.3.7**
ANTI-SEU EFFECT METHODS OF SPACECRAFT AND ITS EVALUATION
*Fei Zhou, Shanghai Institute of Satellite Engineering, China*

**IAC-13.D5.3.8**
THE TRANSIENT PULSES INDUCED BY LASER IN BIPOLAR JUNCTION TRANSISTOR
*Maoxin Chen, , China*

**IAC-13.D5.3.9**
RADIATION EFFECT ON IMAGERS FOR SPACE APPLICATIONS
*Hubert Guillaume, Office National d'Etudes et de Recherches Aérospatiales (ONERA), France*

**IAC-13.D5.3.10**
MISSION RESULTS OF HIGH VOLTAGE TECHNOLOGY DEMONSTRATION SATELLITE "HORYU-2"
*Shunsuke Iwai, Kyushu Institute of Technology, Japan*

**IAC-13.D5.3.11**
STUDY OF SPACECRAFT SURFACE CHARGING WITH DIFFERENT SECONDARY ELECTRON EMISSION OF DIELECTRIC
*Yifeng Chen, China Aerospace Science and Technology Corporation (CASC), China*

**IAC-13.D5.3.12**
MITIGATION METHOD OF PREVENTING SECONDARY ARCING ON SOLAR ARRAY BY USING CAPACITOR AND INDUCTOR
*Ishio Haruta, , Japan*

**IAC-13.D5.3.13**
A METHOD OF CONTROLLING FLOATING POTENTIAL FOR SPACE STATION BASED ON ION CURRENT MAGNIFICATION
*Huang Jianguo, Center of Spacecraft Assembly Integration and Test,CAST, China*

## D5.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Jeanne Holm , University of California, Los Angeles, United States; Roberta Mugellesi-Dow , European Space Agency (ESA), Germany;*

**IAC-13.D5.P.1**
INSURUNG QUALITY AND SAFETY OF SATELLITE GROUND SYSTEM WITH CONSTRAINED COST BASED ON PROGNOSTICS AND HEALTH MANAGEMENT
*Wang Hongfeng, Shijiazhuang mechanical engineering college, China*

**IAC-13.D5.P.2**
STUDY OF SAFE RELIABILITY ASSURANCE MODE FOR MANNED SPACE ENGINEERING
*Wei Wang, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*

**IAC-13.D5.P.3**
ANALYSIS AND DISCUSSION OF HEALTH MANAGEMENT TECHNOLOGY FOR LARGE LAUNCH VEHICLE
*Zhang Suming, China Academy of Launch Vehicle Technology, China*

**IAC-13.D5.P.4**
PRELIMINARY STUDY ON NEAR SPACE ENVIRONMENT SIMULATOR
*Liang Gong, National University of Defense Technology, China*

**IAC-13.D5.P.5**
EXAMINATION OF THE INFLUENCE OF INTERNAL STRUCTURE OF CORONAL MASS EJECTIONS (CMES)
*Axel Garcia Burgos, NASA GSFC, United States*

# D6. SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES

***Coordinator(s):*** *John Sloan , Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States;*

## D6.1. Commercial Space Flight Safety and Emerging Issues

***September 26 2013, 14:45 — 308***

***Chairman(s):*** *John Sloan , Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States; Christophe Chavagnac , Astrium UK, France;*
***Rapporteur(s):*** *Gennaro Russo , Associazione Italiana di Aeronautica e Astronautica (AIDAA), Italy;*

**IAC-13.D6.1.1**
REGULATING THE SAFETY OF SUBORBITAL FLIGHTS IN EUROPE: NAVIGATING THROUGH THE LABYRINTH OF COMPETENCES OF THE EU, ITS MEMBER STATES AND EASA
*Michail Chatzipanagiotis, , Greece*

**IAC-13.D6.1.2**
THE FIRST DECADE OF SPACE TOURISM
*Eva Yi-Wei Chang, University of Science & Technology, Taiwan, China*

**IAC-13.D6.1.3**
CERTIFICATION AND SAFETY ASPECTS RELATING TO THE TRANSPORT OF PASSENGERS INTO SUBORBITAL SPACE THROUGH THE USE OF HIGH ALTITUDE BALLOONS
*Annelie Schoenmaker, zero2infinity, Spain*

**IAC-13.D6.1.4**
COST OF DESIGN-TO-SAFETY : THE ASTRIUM SPACEPLANE SHOWCASE
*Christophe Chavagnac, Astrium UK, France*

**IAC-13.D6.1.5 (withdrawn)**
DASSAULT AVIATION'S SUBORBITAL PROJECTS: ROOTS AND PROSPECTIVE
*Marie-Christine Bernelin, Dassault Aviation, France*

**IAC-13.D6.1.6 (withdrawn)**
ESTABLISHING A REGULATORY FRAMEWORK FOR THE DEVELOPMENT AND OPERATIONS OF SUB-ORBITAL AND ORBITAL AIRCRAFT (SOA) IN THE EU
*Jean-Bruno Marciacq, European Aviation Safety Agency (EASA), Germany*

**IAC-13.D6.1.7**
CERTIFICATION OF A SUBORBITAL AIRCRAFT
*Laurent Gathier, Dassault Aviation, France*

**IAC-13.D6.1.8**
AEROTHERMODYNAMIC AND SYSTEM ANALYSIS OF A SMALL HYPERSONIC AIRPLANE (HYPLANE)
*Valerio Carandente, University of Naples "Federico II", Italy*

**IAC-13.D6.1.9**
DETERMINING APPROPRIATE FAILURE PROBABILITIES FOR PROBABILISTIC ANALYSIS OF NEW COMMERICAL SPACEFLIGHT VEHICLES
*Michael Brett, Aerospace Concepts Pty Ltd, Australia*

**IAC-13.D6.1.10**
FLYING NAKED – A COST BENEFIT ANALYSIS OF THE USE OF PRESSURE SUITS IN SUBORBITAL SPACEFLIGHT
*Charles Lauer, Rocketplane Global, Inc., United States*

**IAC-13.D6.1.11 (withdrawn)**
COMMERCIAL HUMAN SPACEFLIGHT: SELF-REGULATION IS THE FUTURE
*Carmen Felix, International Association for the Advancement of Space Safety, Mexico*

**IAC-13.D6.1.12**
SUBORBITAL FLIGHTS SOARING. FROM EXPERIMENTAL TO OPERATIONAL : IMPLEMENTATION OF REGULATIONS AND PROMOTION OF SPACE TOURISM AND OTHER SUBORBITAL ACTIVITIES
*Maxime Puteaux, Institut du Droit de l'Espace et des Telecommunications - IDEST, France*

## D6.2-D2.9. Solutions for Human Flights in China

***September 27 2013, 13:30 — 311B***

*Chairman(s): Jens Lassmann , Astrium Space Transportation, Germany; Douglas O. Stanley , National Institute of Aerospace, United States;*
*Rapporteur(s): Julio Aprea , European Space Agency (ESA), France;*

**IAC-13.D6.2-D2.9.1**
HEAVY LAUNCH VEHICLE AND ITS APPLICATION
*Li Shuo, China Academy of Launch Vehicle Technology, China*

**IAC-13.D6.2-D2.9.2**
ELEMENTS OF MANNED LAUNCH VEHICLE AND IMPLEMENT
*Mu Sun, Beijing Institute of Aerospace Systems Engineering, China*

**IAC-13.D6.2-D2.9.3**
DOCKING MECHANISM AND DYNAMIC ANALYSIS OF EARTH-LUNAR ORBITAL TRANSFER STAGE
*Shengbao Wu, , China*

**IAC-13.D6.2-D2.9.4**
RESEARCH ON PROCESSING OF SPACESUIT BY EMF
*Zhang Wenzhong, Capital Aerospace Machinery Corporation, China*

**IAC-13.D6.2-D2.9.5**
THE MODAL TEST OF THE CZ-2F STRAP-ON LAUNCH VEHICLE
*WANG Jianmin, Beijing Institute of Structure & Environment Engineering, China*

**IAC-13.D6.2-D2.9.6**
IMPLEMENTATION AND RESEARCH ON THE PRINCIPLE TESTING PLATFORM BASED ON INTELLIGENT ICD FOR BUS REDUNDANCY CONTROL SYSTEM
*Zhekui XIN, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D6.2-D2.9.7**
APPLICATION OF FRICTION STIR WELDING IN THE FIELD OF LAUNCH VEHICLE TANK MANUFACTURING
*Zhao Yanhua, Capital Aerospace Machinery Corporation, China*

**IAC-13.D6.2-D2.9.8**
PROGRESS AND PROSPECT OF ADVANCED GUIDANCE AND CONTROL TECHNOLOGY FOR LAUNCH VEHICLE
*Xu Guoqiang, Beijing Aerospace Automatic Control Institute, China*

**IAC-13.D6.2-D2.9.9**
ATTITUDE DECOUPLING CONTROL FOR ROLLING SPACECRAFT
*Xiyuan Huang, , China*

**IAC-13.D6.2-D2.9.10**
LONGITUDINAL SEAM WELDING SYSTEM FOR LARGE LAUNCH VEHICLE
*Ting Zhao, China Academy of Launch Vehicle Technology, China, China*

**IAC-13.D6.2-D2.9.11**
ANALYSIS ON TT&C SCHEME FOR THE LOWER ORBIT LONG-PLAYING FINAL-STAGE ROCKET
*Xiaoding Wang, China Academy of Launch Vehicle Technology, China, China*

# E1. SPACE EDUCATION AND OUTREACH SYMPOSIUM

***Coordinator(s):*** *Chris Welch , International Space University (ISU), France; Naomi Mathers , Advanced Instrumentation and Technology Centre (AITC), Australia;*

## E1.1. Ignition - Primary Space Education

***September 23 2013, 15:15 — 302A***

***Chairman(s):*** *Gulnara T. Omarova , Astrophysical Institute, Kazakhstan; Michael Pakakis , Victorian Space Science Education Centre, Australia;*
***Rapporteur(s):*** *Kerrie Dougherty , Powerhouse Museum, Australia;*

**IAC-13.E1.1.1 (withdrawn)**
INCORPORATING "FROM BLUE TO RED – THE FIRST HUMAN MISSION TO MARS' – AS IGNITION FOR EDUCATION AND OUTREACH AT THE ELEMENTARY SCHOOL LEVEL.
*Samantha Whelan Kotkas, , Canada*





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STUDENTS & YOUNG PROFESSIONALS EVENTS
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SOCIAL EVENTS & TECHNICAL TOURS
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**IAC-13.E1.1.2**
THE EFFECTS ON MATH ACHIEVEMENT AND ATTITUDES WHEN INCORPORATING SATELLITE EDUCATION IN A 4TH GRADE CLASSROOM
*Margot Solberg, Ecuadorian Civilian Space Agency (EXA), Ecuador*

**IAC-13.E1.1.3**
THE "TO LIGHTEN THE DREAM OF OUTER SPACE FOR JUVENILE" PROGRAM
*Yu Cao, Beijing Institute of Electronic System Engineering, China, China*

**IAC-13.E1.1.4**
NOVAE DISTRIBUTION IN THE ANDROMEDA GALAXY: A SPRINGBOARD FOR ENGAGING YOUNG STUDENTS IN SPACE SCIENCE
*Kyla Borders, Peninsula High School, United States*

**IAC-13.E1.1.5 (withdrawn)**
ANALYSIS OF THE KNOWLEDGE AND ATTITUDES OF PRIMARY AND JUNIOR SECONDARY SCHOOL TEACHERS TOWARDS SPACE SCIENCE AND TECHNOLOGY
*Oluwatoyin Ajayi, African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria*

**IAC-13.E1.1.6**
THE ROLE OF THE MEXICAN SPACE AGENCY IN THE DEVELOPMENT OF HUMAN CAPITAL IN THE SPACE FIELD IN MEXICO.
*Carlos Duarte, Agencia Espacial Mexicana (AEM), Mexico*

**IAC-13.E1.1.7**
PRESERVICE ELEMENTARY TEACHERS' CONCEPTUALIZATION OF COSMIC DIMENSIONS
*Chuck Fidler, , United States*

## E1.2. Lift Off - Secondary Space Education

***September 24 2013, 09:45 — 302A***

***Chairman(s):*** *Shamim Hartevelt-Velani , European Space Agency (ESA), The Netherlands; Dennis Stone , World Space Week Association, United States;*
***Rapporteur(s):*** *Vera Mayorova , Bauman Moscow State Technical University, Russia;*

**IAC-13.E1.2.1**
HKUST SPACE CAMP: INSPIRING FUTURE SPACE EXPLORERS IN HONG KONG
*Cheuk Yu Ngai, The Hong Kong University of Science and Technology, Hong Kong*

**IAC-13.E1.2.2**
SHAPING AUSTRALIAN SECONDARY STUDENTS ATTITUDES TO STEM
*Milorad Cerovac, The King David School, Australia*

**IAC-13.E1.2.3**
HUMANO-ROBOT LEARNING (HURL): AN INTEGRATED ROBOTIC EDUCATION APPROACH
*Samuel Anih, African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria*

**IAC-13.E1.2.4**
ATTRACTIVE SCIENCE EDUCATION WITH SPACE: LESSONS OF PHYSICS WITH EARTH OBSERVATION SATELLITES
*Gil DENIS, Planete Sciences, France*

**IAC-13.E1.2.5**
MICROGRAVITY EXPERIMENTS WITH SAILPLANES: EDUCATIONAL BENEFITS OF A PARABOLIC FLIGHT CAMPAIGN WITH SCHOOL STUDENTS
*Jan Walter Schroeder, , Germany*

**IAC-13.E1.2.6**
THE USE OF SPACE APPLICATIONS TO ENHANCE LEARNING WITHIN THE INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAMME
*Carol Norberg, Rudbeck, Sollentuna Municipality, Sweden*

**IAC-13.E1.2.7**
CANSAT TEACHER TRAINING COURSE
*Jøran Grande, NAROM - Norwegian Centre for Space-Related Education, Norway*

**IAC-13.E1.2.8 (withdrawn)**
THIS GENERATION'S SPUTNIK : ELIMINATING THE POVERTY ACHIEVEMENT GAP IN K-12 SCIENCE THROUGH THE USE OF SPACE SCIENCE EDUCATION
*Kareen Borders, University of Washington, United States*

**IAC-13.E1.2.9**
"FROM BLUE TO RED – THE FIRST HUMAN MISSION TO MARS' – A CREATIVE, INTEGRATIVE, CROSS-CURRICULAR APPROACH TO EDUCATION AND OUTREACH.
*Samantha Whelan Kotkas, , Canada*

**IAC-13.E1.2.10**
EDUCATING THE NEXT GENERATION IN SPACE SCIENCES - ACTIVITIES AT THE UNIVERSITY OF TORONTO
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

## E1.3. On Track - Undergraduate Space Education

***September 24 2013, 14:45 — 302A***

***Chairman(s):*** *Naomi Mathers , Advanced Instrumentation and Technology Centre (AITC), Australia; Marilyn Steinberg , Canadian Space Agency, Canada;*
***Rapporteur(s):*** *David Cook , University of Alabama in Huntsville, United States;*

**IAC-13.E1.3.1**
DESIGN AND DEVELOPMENT OF A MICROGRAVITY STOWAGE SYSTEM SPECIFIC FOR DEEP SPACE EXPLORATION
*Taylor Stokes, University of Alabama in Huntsville, United States*

**IAC-13.E1.3.2 (withdrawn)**
EDUCATIONAL LESSONS LEARNED FROM THE FIRST-MOVE CUBESAT MISSION
*Claas Olthoff, Technische Universität München, Germany*

**IAC-13.E1.3.3**
PERCEIVED VALUE OF STUDENT PARTICIPATION IN THE FIELD OF AEROSPACE ENGINEERING FROM A STUDENT'S PERSPECTIVE.
*Sven Kevin van Langen, University of Twente, The Netherlands*

**IAC-13.E1.3.4**
CONCURRENT DESIGN FACILITY IN AN ACADEMIC ENVIRONMENT
*Anton Ivanov, Swiss Space Center, Switzerland*

**IAC-13.E1.3.5**
ESTONIAN STUDENT SATELLITE PROGRAM
*Mart Noorma, University of Tartu, Estonia*

**IAC-13.E1.3.6 (withdrawn)**
EXPERIENCE IN HIGHER SCHOOL AND INDUSTRY COMPANIES COOPERATION IN BUILDING UP CONTINUOUS SPACE EDUCATIONAL SYSTEM IN UKRAINE
*A.V. Novikov, Yuzhnoye State Design Office, Ukraine*

**IAC-13.E1.3.7 (withdrawn)**
STANFORD SPACEFLIGHT INITIATIVE: LESSONS IN STUDENT SPACE ENTREPRENEURSHIP
*David Gerson, Stanford University, United States*

**IAC-13.E1.3.8**
EEE+18 SPACE EDUCATION PROGRAMM A SUCCESS STORY OF EDUCATIONAL INNOVATION IN COLOMBIA
*Diego Adolfo Romero Arias, Colombian Association Astronautics (ASTCOL), Colombia*

**IAC-13.E1.3.9**
HOW CAN A GROUP OF 3RD YEAR UNIVERSITY STUDENTS DESIGN A REAL NANO-SATELLITE? A CASE STUDY AT DELFT UNIVERSITY OF TECHNOLOGY
*Angelo Cervone, Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.E1.3.10**
AEROSPACE EDUCATION AND OUTREACH IMPACT ON UNDERGRADUATE STUDENTS IN COSTA RICA: CHALLENGES AND ACCOMPLISHMENTS
*Magaly Sandoval, Central American Association of Aeronautics and Space (ACAE), Costa Rica*

**IAC-13.E1.3.11 (withdrawn)**
SHAPING OUR FUTURE THROUGH INTEGRATE PRODUCT TEAM
*Laura Ashley Atencio, University of Alabama in Huntsville, United States*

## E1.4. In Orbit - Postgraduate Space Education

***September 25 2013, 09:45 — 302A***

***Chairman(s):*** *Angela Diaz Phillips , Purdue University, United States; David B. Spencer , The Pennsylvania State University, United States;*
***Rapporteur(s):*** *James L. Stofan , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.E1.4.1**
EDUCATIONAL BENEFITS AND CHALLENGES FOR THE NORWEGIAN STUDENT SATELLITE PROGRAM
*Jøran Grande, NAROM - Norwegian Centre for Space-Related Education, Norway*

**IAC-13.E1.4.2**
BENEFIT OF INTERDISCIPLINARY CONCEPT FOR POSTGRADUATE SPACE PROGRAMS
*Veronica La Regina, Italian Space Agency (ASI), Italy*

**IAC-13.E1.4.3**
TWENTY FIVE YEARS OF SPACE EDUCATION AT THE UNIVERSITY OF NORTH DAKOTA
*Santhosh K. Seelan, Department of Space Studies, University of North Dakota, United States*

**IAC-13.E1.4.4**
SPACE LAW EDUCATION IN NIGERIA: THE ROLE OF ARCSSTEE
*Lami Ali-Fadiora, African Regional Centre for Space Science and Technology Education in English, Nigeria*

**IAC-13.E1.4.5**
LESSON LEARNED FROM THE DESIGN AND CONSTRUCTION OF A CUBESAT PROTOTYPE (EREGBUSAT), FOR EDUCATIONAL AND LABORATORY PURPOSE
*Nnadih Stanislaus Ogechukwu, African Regional Centre for Space Science and Technology Education in English, Nigeria*

**IAC-13.E1.4.6**
REMOTE SENSING EDUCATION AND CAPACITY BUILDING IN INDIA
*Kamal Narain Joshi, , India*

**IAC-13.E1.4.7**
THE SOUTHERN HEMISPHERE SUMMER SPACE PROGRAM - THREE YEARS ON
*Michael Davis, Space Industry Association of Australia, Australia*

**IAC-13.E1.4.8**
INSTRUCTION IN PRACTICE WITH LOW COST SIMULATING PROJECTS
*Sajjad Ghazanfarinia, Satellite Research Institute, Iran*

**IAC-13.E1.4.9**
DEVELOPMENT OF STAR TRACKER DESIGN AND TEST SOFTWARE: INNOVATION AND OPTIMIZATION
*Shabnam Yazdani, K. N. Toosi University of Technology, Iran*

## E1.5. Learning and Knowledge Development for a Globally Sophisticated Workforce

***September 25 2013, 14:45 — 302A***

***Chairman(s):*** *Edward J. Hoffman , National Aeronautics and Space Administration (NASA), United States; Bettina Boehm , European Space Agency (ESA), France;*
***Rapporteur(s):*** *Amalio Monzon , EADS, United Kingdom; Olga Zhdanovich , European Space Agency (ESA), The Netherlands;*

**IAC-13.E1.5.1**
ANALYSIS OF GLOBAL SPACE WORKFORCE AND EDUCATION
*Mariel Borowitz, Space Foundation, United States*

**IAC-13.E1.5.2**
COMPARATIVE PROFILING OF THE GLOBALIZED SPACE-SKILLED WORKFORCE POOL
*David Vaccaro, Futron Corporation, United States*

**IAC-13.E1.5.3**
DEVELOPING THE NEXT GENERATION WORKFORCE: FINDINGS AND NEXT STEPS FROM THE IPMC INTERNATIONAL YOUNG PROFESSIONALS WORKSHOP
*Julio Aprea, European Space Agency (ESA), France*

**IAC-13.E1.5.4**
MOTIVATION FACTORS FOR YOUNG PROFESSIONALS IN THE AEROSPACE INDUSTRY: DETAILED SUMMARY OF THE MOTIVATION GROUP FROM 2012 INTERNATIONAL PROGRAM/PROJECT MANAGEMENT COMMITTEE YOUNG PROFESSIONAL WORKSHOP
*Kevin Stube, The Planetary Society, United States*

**IAC-13.E1.5.5**
UNDERSTANDING HOW HUMAN RESOURCE POLICIES INFLUENCE THE CAREER PROGRESSIONS OF NASA'S TECHNICAL WORKFORCE
*Isabel Bignon, George Washington University, United States*

**IAC-13.E1.5.6**
THE ESA YOUNG GRADUATE TRAINEE EXPERIENCE – A TADPOLE IN THE SPACE COMMUNITY POND!
*Alexander Kinnaird, ESA, United Kingdom*

**IAC-13.E1.5.7**
INTRODUCTION TO VENEZUELAN REMOTE SENSING SATELLITE TRAINING
*Shuyan Wang, DFH Satellite Co. Ltd., China*

**IAC-13.E1.5.8**
ESTABLISHMENT OF A MULTI-NATIONAL UNIVERSITY EFFORT TO PROMOTE INTERNATIONAL COOPERATION AND DEVELOP THE FUTURE SPACE WORKFORCE
*Ben Groenewald, Cape Peninsula University of Technology, South Africa*

**IAC-13.E1.5.9**
PREPARING FOR GLOBAL COLLABORATION - NASA'S INTERNATIONAL PROJECT MANAGEMENT COURSE
*Edward J. Hoffman, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.E1.5.10**
USING TRANSFORMATIONAL LEADERSHIP TO ACHIEVE EXCELLENCE IN MULTI-CULTURAL PROJECT MANAGEMENT
*Radhashyam Giridharadas, George Washington University, United States*

**IAC-13.E1.5.11 (withdrawn)**
THE IDEAL PROJECT TEAM: A DUAL PERSPECTIVE ON UNIVERSITY LEARNING OBJECTIVES AND EMPLOYEE REQUIREMENTS IN THE SPACE SECTOR
*Johannes Reijneveld, EADS Astrium Services, Germany*



## E1.6. Calling Planet Earth - Space Outreach to the General Public

***September 26 2013, 09:45 — 302A***

***Chairman(s):*** *Carol Christian, STScI, United States; Lisa LaBonte, Arab Youth Venture Foundation, United Arab Emirates;*
***Rapporteur(s):*** *Gulnara T. Omarova , Astrophysical Institute, Kazakhstan;*

**IAC-13.E1.6.1**
BRINGING ROBOTIC SATELLITE SERVICING CLOSER TO HOME
*Danielle DeLatte, ASRC Space & Defense, United States*

**IAC-13.E1.6.2**
EDUCATION AND OUTREACH THROUGH INVOLVEMENT - SGAC'S FIND AN ASTEROID PROJECT
*Alexander Karl, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.E1.6.3**
ASTRONAUTICS POPULARIZATION VIA MODERN DEVICES
*Václav Dajbych, Kosmo Klub, Czech Republic*

**IAC-13.E1.6.4**
THE NEXT GENERATION'S VISION FOR PUBLIC OUTREACH AND EDUCATION ON THE ISS AND FUTURE SPACE STATIONS
*Anja Frey, , Germany*

**IAC-13.E1.6.5**
AFTER SYROMIATNIKOV'S APOLLO-SOYUZ IN 1975, REACHING OUT IN REUNION ISLAND WITH A « GATE OF THE WORLDS » SPACE MONUMENT AND A LEGEND FOR OVERVIEW
*RANOROJAONA PELERIN ALICE, , La Reunion*

**IAC-13.E1.6.6**
ILAN RAMON INTERNATIONAL SPACE CONFERENCE - BRINGING SPACE DOWN TO EARTH
*Tal Inbar, Fisher Institute for Air and Space Strategic Studies, Israel*

**IAC-13.E1.6.7**
HOW TO INITIATE AND DEVELOP SPACE SCIENCE AND OUTREACH ACTIVITIES IN DEVELOPING COUNTRIES
*Behnoosh Meskoob, , Iran*

**IAC-13.E1.6.8**
SPACE ECO LITERACY : A VITAL SUSTAINABLE MEANS FOR COMMUNITY EMPOWERMENT
*Jagannatha Venkataramaiah, Indian Space Research Organization (ISRO), India*

**IAC-13.E1.6.9**
SPACE OUTREACH IN NEPAL
*Kishor Acharya, Space Generation Advisory Council (SGAC), Nepal*

**IAC-13.E1.6.10**
THE CONSTRUCTION OF PUBLIC RELATIONS IN SPACE ACTIVITIES
*WANG SHANSHAN, Renmin University of China, China*

## E1.7. New Worlds - Innovative Space Education and Outreach

***September 26 2013, 14:45 — 302A***

***Chairman(s):*** *Jean-Daniel Dessimoz , Western Switzerland University of Applied Sciences (HESSO.HEIG-VD) and Swiss Association for Astronautics, Switzerland; Vera Mayorova , Bauman Moscow State Technical University, Russia;*
***Rapporteur(s):*** *Carol Christian , STScI, United States;*

**IAC-13.E1.7.1**
INNOVATIVE OUTREACH ACTIVITIES USING THE KOSMONAUTA.NET WEBSERVICE
*Michal Moroz, kosmonauta.net, Poland*

**IAC-13.E1.7.2**
EXPLOITING SPACE EXPERIENCE TO ENGAGE AND INSPIRE YOUNG PEOPLE
*Christer Fuglesang, KTH, Sweden*

**IAC-13.E1.7.3**
RANDOM ACCESS MICROGRAVITY STOWAGE - DESIGN TEAM OUTREACH TO SECONDARY EDUCATION SCHOOLS PROMOTING STEM EDUCATION AND CAREERS
*Christopher Barnett, University of Alabama in Huntsville, United States*

**IAC-13.E1.7.4**
USING INTERNATIONAL SPACE STATION FOR EDUCATION AND POLULARIZATION OF SPACE RESEARCH
*Vera Mayorova, Bauman Moscow State Technical University, Russia*

**IAC-13.E1.7.5**
STUDENT-LED OUTREACH THROUGH A UNIVERSITY NANOSATELLITE
*Dario Schor, University of Manitoba, Canada*

**IAC-13.E1.7.6**
OUTREACH CHALLENGE FOR A NEWLY CREATED SPACE AGENCY
*Mario Arreola, Agencia Espacial Mexicana (AEM), Mexico*

**IAC-13.E1.7.7**
PATHWAYS TO SPACE: A MISSION TO FOSTER THE NEXT GENERATION OF SCIENTISTS AND ENGINEERS
*Kerrie Dougherty, Powerhouse Museum, Australia*

**IAC-13.E1.7.8**
OPENING AEROSPACE FLIGHTS TO EVERYBODY: THE NEW SPACELAND CENTERS TO ENGAGE THE PUBLIC IN THE ASSETS OF S.T.E.M. AND SPACE DISCIPLINES
*Carlo Viberti, SpaceLand, Italy*

**IAC-13.E1.7.9**
EVA SIMULATION TRAINING UNDERWATER WITH A REMOTE MISSION 'CONTROL'.
*Sarah Jane Pell, ESA Topical Team Arts & Science, Australia*

**IAC-13.E1.7.10**
EXPERIENCE IN INTEGRATING ROBOTS DESIGNED FOR PLANETARY EXPLORATION AND AN ENVIRONMENT INITIALLY DESIGNED FOR COOPERATING ROBOTS ON PLANET EARTH
*Jean-Daniel Dessimoz, Western Switzerland University of Applied Sciences (HESSO.HEIG-VD) and Swiss Association for Astronautics, Switzerland*

**IAC-13.E1.7.11**
TELE-EDUCATION: AN APPROACH FOR INCLUDING NON-TRADITIONAL GROUPS IN THE KNOWLEDGE OF SPACE ACTIVITIES IN VENEZUELA
*Mariana Maneiro, Bolivarian Agency for Space Activities (ABAE), Venezuela*

**IAC-13.E1.7.12**
CUBESAT AND HPA PROGRAM FOR MOTIVATING STUDENT AND GENERAL PUBLIC IN THE REPUBLIC OF KOREA
*Jeong-Won Lee, Korea Aerospace Research Institute, Korea, Republic of*

## E1.8. Space Culture: Innovative Approaches for Public Engagement in Space

***September 27 2013, 09:45 — 302A***

***Chairman(s):*** *Franco Bernelli-Zazzera , Politecnico di Milano, Italy; Roger Malina , Laboratoire d'Astrophysique de Marseille, France;*
***Rapporteur(s):*** *Andrea Jaime , Space Generation Advisory Council (SGAC), Austria;*

**IAC-13.E1.8.1**
THE INTERNATIONAL SPACE ORCHESTRA – PERFORMATIVE EXPERIENTIAL AND EVENT-BASED SPACE PUBLIC OUTREACH
*Chris Welch, International Space University (ISU), France*

**IAC-13.E1.8.2 (withdrawn)**
EMERGENT SPACE-ARTS COLLABORATIONS IN MEXICO
*Nahum Romero, Laboratorio Arte Alameda, Mexico*

**IAC-13.E1.8.3**
PEACEMAKING ROCKET WORKSHOP IN TANEGASHIMA: UTILIZATION OF SPACE ART IN SOCIETY
*Yuri Tanaka, Tokyo National University of Fine Arts and Music, Japan*

**IAC-13.E1.8.4**
NO BORDERS - BRIDGING CULTURES THROUGH YURI'S NIGHT
*Stephanie Finnvik, Yuri's Night, United States*

**IAC-13.E1.8.5 (withdrawn)**
THE ROLE OF NETWORKING FOR PUBLIC ENGAGEMENT IN SPACE
*Damian M. Bielicki, University of Silesia in Poland, United Kingdom*

**IAC-13.E1.8.6**
THE VIEW FROM BELOW
*Joanna Griffin, University of Plymouth, Transtechnology Research Group, United Kingdom*

**IAC-13.E1.8.7**
SPACEUP UNCONFERENCES: A 21ST CENTURY GLOBAL APPROACH TO SPACE OUTREACH
*Andreas Hornig, University of Stuttgart, Germany*

**IAC-13.E1.8.8**
THE ROLE OF AMATEUR ASTRONOMERS IN POPULARIZATION OF SPACE CULTURE IN SOCIETY
*Hamed Sheikh Bahaee, Iranian Space Agency (ISA), Iran*

## E1.9. Space Network: Social Media and Digital Resources

***September 27 2013, 13:30 — 302A***

***Chairman(s):*** *Andrea Boese , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany; David Cook , University of Alabama in Huntsville, United States;*
***Rapporteur(s):*** *Carolyn Knowles , National Aeronautics and Space Administration (NASA), United States;*

**IAC-13.E1.9.1**
CREATE SPACE ON EARTH: LEVERAGE THE PROXIMITY FACTOR
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.E1.9.2**
CULTIVATING A MULTICULTURAL ONLINE AUDIENCE: A STUDY OF THE EFFECTIVENESS OF SOCIAL MEDIA FOR YURI'S NIGHT
*Stephanie Finnvik, Yuri's Night, United States*

**IAC-13.E1.9.3**
SPACE AGENDA, A SOCIAL MEDIA TOOL FOR GLOBAL SPACE-RELATED EVENTS
*Halit Mirahmetoglu, Space Agenda, Turkey*

**IAC-13.E1.9.4**
WORLD SPACE WEEK AND THE USE OF SOCIAL MEDIA IN SPACE EDUCATION
*Luise Weber-Steinhaus, WIA-Europe, Germany*

**IAC-13.E1.9.5**
IMPROVE THE PUBLIC IMAGE OF CHINESE HUMAN SPACE ACTIVITY THROUGH SOCIAL MEDIA
*Zhang Zhihui, , China*

**IAC-13.E1.9.6**
SPACE IMAGE IN THE WEST- AND SOUTH-EUROPEAN ONLINE MEDIA
*Olga Ovchinnikova, Moscow Lomonosov State University, Russia*

**IAC-13.E1.9.7**
ROLES AND RESPONSIBILITIES: A NEW ERA OF ADVERTISING FOR GOVERNMENT SPACE AGENCIES
*Nicole Herrmann, ADNET Systems, Inc., United States*

**IAC-13.E1.9.8**
UTILIZATION OF SOCIAL MEDIA FOR DEVELOPING MARKET POTENTIAL FOR COMMERCIAL SPACE OPERATIONS
*Gurunadh Velidi, University of Petroleum and Energy Studies, India*

**IAC-13.E1.9.9 (withdrawn)**
EXPLORING A SPACE EDUCATION THEMATIC WEBSITE TO BOOST PRECOLLEGE DIGITAL INCLUSION - A BRAZILIAN EDUCATION MINISTRY'S EXPERIENCE
*Norma Reis, Brazilian Ministry of Education - MEC, Brazil*

## E1.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Chris Welch , International Space University (ISU), France; Naomi Mathers , Advanced Instrumentation and Technology Centre (AITC), Australia;*

**IAC-13.E1.P.1**
SPACE EDUCATION AND THEIR IMPACT ON SCHOOL CHILDREN IN NEPAL.
*Suman Gautam, , Nepal*

**IAC-13.E1.P.2**
ROADMAP TO SPACE ROBOTICS
*Danielle DeLatte, ASRC Space & Defense, United States*

**IAC-13.E1.P.3 (withdrawn)**
HIGH SCHOOL STUDENTS DEVELOPING A NANO SATELLITE - TEAM BUILDING, EDUCATIONAL GOALS, INFRASTRUCTURE AND LESSONS LEARNED
*Claas Ziemke, Private, Germany*

**IAC-13.E1.P.4**
PRE-COLLEGE SATURDAY RESEARCH ACADEMY AT ARECIBO OBSERVATORY
*Juan Arratia, Ana G. Méndez University System, Puerto Rico*

**IAC-13.E1.P.5**
DEVELOPMENT OF SPACE ACTIVITY IN SOUTH AFRICA AND ITS EFFECT ON THE SOUTH AFRICAN POPULATION
*Tebogo Molobye, , South Africa*

**IAC-13.E1.P.6**
SPACE EDUCATION AT HIGH SCHOOL LEVEL FOR ADVANCEMENT OF SCIENCE AND TECHNOLOGY OF MANKIND AND CHALLENGES OF SPACE EDUCATION IN 21ST CENTURY
*Ugur Guven, , United States*

**IAC-13.E1.P.7**
OPENORBITER: ANALYSIS OF A STUDENT-RUN SPACE PROGRAM
*Jeremy Straub, University of North Dakota, United States*

**IAC-13.E1.P.8**
ARLISS'S CONTRIBUTION TO SPACE EDUCATION - INTERNATIONAL CANSAT COMPETITION
*Ryusuke Konishi, Keio University, Japan*

**IAC-13.E1.P.9**
THE MODE OF THE SPACE OUTREACH TO THE CHINESE GENERAL PUBLIC
*Qian Zhao, Beijing Institute of Electronic System Engineering, China*

**IAC-13.E1.P.10**
CREATE SPACE ON EARTH: LEVERAGE THE PROXIMITY FACTOR
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*





**IAC-13.E1.P.11**
USING THE ADVANTAGE OF SPACE TECHNOLOGY TO PROMOTE SOCIAL AND ECONOMIC PROGRESSES ——INTRODUCTION AND REFLECTION OF CHINA'S PRACTICES OF USING SPACE TECHNOLOGY IN PUBLIC WELFARE AND SOCIAL SERVICES
*MingHui Lu, , China*

**IAC-13.E1.P.12 (withdrawn)**
A CHALLENGING APPROACH OF SPACE CIVIL UTILIZATION TO FEEL ONE-EARTH
*Yoichi Hasegawa, , Japan*

**IAC-13.E1.P.13**
SPACESHIP DESIGN: A SUBJECT WITHIN INTERDISCIPLINARY DESIGN CURRICULUM
*Ondrej Doule, Space Innovations, v.o.s., Czech Republic*

**IAC-13.E1.P.14**
CONSCIOUSNESS SURVEYS CONCERNING ASTEROID EXPLORER "HAYABUSA" (CONPLETE)
*Toshiaki Takemae, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.E1.P.15**
NAVIGATING THE CONTESTED SPACES OF SPACE SCIENCE AND TECHNOLOGY IN INDIA
*Joanna Griffin, University of Plymouth, Transtechnology Research Group, United Kingdom*

**IAC-13.E1.P.16**
LAUNCH SUSTAINABILITY FORUMS CARVE NICHE AUDIENCES
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

## E2. 43rd STUDENT CONFERENCE

***Coordinator(s):*** *Stephen Brock , American Institute of Aeronautics and Astronautics (AIAA), United States; Marco Schmidt , University Wuerzburg, Germany;*

## E2.1. Student Conference – Part 1

***September 23 2013, 15:15 — 301B***

***Chairman(s):*** *Rachid Amekrane , Astrium GmbH, Germany; Benedicte Escudier , Institut Supérieur de l'Aéronautique et de l'Espace (ISAE), France;*
***Rapporteur(s):*** *Jeong-Won Lee , Korea Aerospace Research Institute, Korea, Republic of;*

**IAC-13.E2.1.1**
THERMAL MODEL FOR CUBESATS: A SIMPLE AND EASY MODEL FROM THE SWISSCUBE'S THERMAL FLIGHT DATA
*Stefano Rossi, Swiss Space Center, Switzerland*

**IAC-13.E2.1.2**
RESISTOJET FOR MICRO AND NANO SATELLITES
*Arseniy Pavlov, Bauman Moscow State Technical University, Russia*

**IAC-13.E2.1.3**
FUZZY WAVELET CMAC NEURAL NETWORK CONTROL FOR FREE-FLOATING SPACE FLEXIBLE MANIPULATOR TO TRACK DESIRED TRAJECTORY
*Pin Liang, , China*

**IAC-13.E2.1.4 (withdrawn)**
TWO STAGE DE-TUMBLING FOR TWIN NANO-SATELLITES STUDSAT-2A/2B
*Saroj Kumar, Nitte Meenakshi Institute Of Technology., India*

**IAC-13.E2.1.5**
DYNAMIC CLOSED LOOP ATTITUDE CONTROL SIMULATION AND VERIFICATION ENVIRONMENT FOR MICRO-SATELLITES
*Kazufumi Fukuda, Tohoku University, Japan*

**IAC-13.E2.1.6**
RESIDUAL AIR INFLATED SYSTEMS FOR CUBESATS
*Ruaridh Clark, , United Kingdom*

**IAC-13.E2.1.7**
NEW OPTIONS FOR THE MERCURY ORBIT INSERTION OF BEPICOLOMBO
*Anja Schuster, , Germany*

**IAC-13.E2.1.8**
FINDING MULTIPLE SUN-EARTH SADDLE-POINT FLYBYS FOR LISA PATHFINDER
*Emilien Fabacher, SUPAERO, France*

## E2.2. Student Conference – Part 2

***September 24 2013, 09:45 — 209A***

***Chairman(s):*** *Marco Schmidt , University Wuerzburg, Germany; Jeong-Won Lee , Korea Aerospace Research Institute, Korea, Republic of;*
***Rapporteur(s):*** *Benedicte Escudier , Institut Supérieur de l'Aéronautique et de l'Espace (ISAE), France;*

**IAC-13.E2.2.1**
ENHANCED SPACE BASED SOLAR POWER STATION - USING TOTAL INTERNAL REFLECTION
*Aditya Easwar, SRM University, Chennai, India*

**IAC-13.E2.2.2**
GENERALIZED PREDICTIVE THERMAL CONTROL OF A THERMAL-VACUUM CHAMBER FOR SPACE QUALIFICATION TESTS
*Stefano Tacca, Politecnico di Milano, Italy*

**IAC-13.E2.2.3**
ORBITAL DEFLECTION METHOD OF POTENTIALLY HAZARDOUS ASTEROIDS USING THE INTERACTION BETWEEN TWO ASTEROIDS
*Ryota Inoue, Hokkaido University, Japan*

**IAC-13.E2.2.4**
WIDE BANDGAP MICROSYSTEM COMPONENTS FOR NANO, PICO & FEMTO-SATELLITE APPLICATIONS
*Chetan Angadi, Stanford University & Delft University of Technology (TU Delft), The Netherlands*

**IAC-13.E2.2.5**
ATTITUDE DETERMINATION OF NANO-SATELLITES USING LOW-COST, QUADRANT BASED MEMS SUN SENSORS FOR CREATING UNIQUE SENSOR FUSION
*Irfan Rashed, Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of*

**IAC-13.E2.2.6**
DESIGN, TEST AND VERIFICATION OF A MINIATURE ATTITUDE CONTROL SYSTEM FOR THE PICOSATELLITE UWE-3
*Florian Reichel, University Würzburg, Germany*

**IAC-13.E2.2.7**
END TO END MONOCULAR SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM FOR PLANETARY ROVERS
*Abhinav Bajpai, , United Kingdom*

**IAC-13.E2.2.8**
CANSAT : MULTIPHYSICS EXPERIMENTAL DESIGN OF A SMALL SATELLITE AUTOMATIC AND PRECISE COME BACK MISSION
*Justine Gontier, ISAE-ENSICA, France*

## E2.3-V.4. Student Team Competition

***September 24 2013, 14:45 — 209A***

***Chairman(s):*** *Naomi Mathers , Advanced Instrumentation and Technology Centre (AITC), Australia; Carolyn Knowles , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Soyeon Yi , Korea Aerospace Research Institute, Korea, Republic of;*

**IAC-13.E2.3-V.4.1**
THE DESIGN AND ORGANIZATIONAL APPROACH FOR A STUDENT-BUILT HYBRID SOUNDING ROCKET
*Jeffrey R. Osborne, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.E2.3-V.4.2**
ISEDE DEMONSTRATOR ON HIGH ALTITUDE BALLOON BEXUS: INFLATABLE SATELLITE ENCOMPASSING DISAGGREGATED ELECTRONICS
*Thomas Sinn, University of Strathclyde/Advanced Space Concepts Laboratory, United Kingdom*

**IAC-13.E2.3-V.4.3**
STRATOSPHERIC DECOMPOSITION OF SELECTED CFC'S COMPOUNDS AS AN EXAMPLE OF STUDENT BALLOON EXPERIMENT IN THE EARTH'S ATMOSPHERE - PROJECT FREDE
*Jedrzej Gorski, Wroclaw University of Technology, Poland*

**IAC-13.E2.3-V.4.4**
3U CUBESAT FOR CANADIAN SATELLITE DESIGN CHALLENGE: A POLYTECHNIQUE MONTREAL AND UNIVERSITY OF BOLOGNA COOPERATION
*Mark Smyth, Ecole Polytechnique de Montreal, Canada*

**IAC-13.E2.3-V.4.5**
ENGINEERING DESIGN OF A LOW GRAVITY EXPERIMENT ONBOARD REXUS 16: CHEMICAL WAVE IN SORET EFFECT (CWIS)
*Antonio Pugliese, , Italy*

**IAC-13.E2.3-V.4.6 (withdrawn)**
AZAD-1, INDIA'S FIRST SOLAR OBSERVATION STUDENT SATELLITE
*Aafaque Khan, Maulana Azad National Institute of Technology, India*

**IAC-13.E2.3-V.4.7**
POST-ISS FUTURE ACTIVITIES IN LOW EARTH ORBIT
*Giuseppe Ferraioli, ISAE - Institut Supérieur de l'Aéronautique et de l'Espace, Italy*

**IAC-13.E2.3-V.4.8**
INVESTIGATION OF THE SURFACE DEFORMATION AND DENDRITIC SOLIDIFICATION OF TITANIUM ALLOY MELTED IN MILIGRAVITY
*Elena Sorina Lupu, Politechnic University of Bucharest, Romania*

**IAC-13.E2.3-V.4.9**
PERFORMANCE OPTIMIZATION OF 1U SATELLITE ANTENNA
*Pushkar Chaudhari, College of Engineering Pune, India*

**IAC-13.E2.3-V.4.10**
MONITORING STORM TIME RELATIVISTIC ELECTRON ENHANCEMENT IN LOW EARTH ORBIT ON A NANOSATELLITE PLATFORM
*Kshitij Naik, Manipal Institute of Technology, Manipal University, India*

## E2.4. Educational Pico and Nano Satellites

***September 25 2013, 09:45 — 209A***

***Chairman(s):*** *Muriel Richard, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Franco Bernelli-Zazzera , Politecnico di Milano, Italy;*

**IAC-13.E2.4.1**
I-INSPIRE II: UNIVERSITY OF SYDNEY'S 2ND GENERATION NANOSATELLITE FOR INITIAL INTEGRATED NANO SPECTROGRAPH, PROPULSION, IMAGER AND RADIATION EXPLORER
*Xiaofeng Wu, University of Sydney, Australia*

**IAC-13.E2.4.2**
UNIVERSITY DESIGN AND BUILD AUSROC LIQUID FUELED ROCKET SYSTEM
*Jackson May, , Australia*

**IAC-13.E2.4.3**
DESIGN OF A PLUG AND PLAY SOLAR SAIL MODULE AS THE PROPULSION SYSTEM FOR NANOSATELLITES
*Orzuri Rique Garaizar, Escola Tècnica Superior d'Enginyeries Industrial i Aeronàutica de Terrassa (ETSEIAT), Universitat Politècnica de Catalunya, Spain*

**IAC-13.E2.4.4**
JUMPSAT: QUALIFYING THREE EQUIPMENTS IN ONE CUBESAT MISSION
*Stéphanie Lizy-Destrez, SUPAERO- Ecole Nationale Supérieure de l'Aéronautique et de l'Espace, France*

**IAC-13.E2.4.5 (withdrawn)**
ACADEMIC PROTOTYPE OF A NANOSATELLITE COMMUNICATIONS SUBSYSTEM FOR HANDS-ON ACTIVITIES BY STUDENTS
*Miguel Gallego, Universidad Politécnica de Madrid, Spain*

**IAC-13.E2.4.6**
ORBIT DETERMINATION APPROACH FOR EDUCATIONAL SATELLITES USING GROUND STATION NETWORKS
*Marco Schmidt, University Wuerzburg, Germany*

**IAC-13.E2.4.7**
DESIGN AND DEVELOPMENT OF STRUCTURAL SUB-SYSTEM FOR TWIN NANO-SATELLITE "STUDSAT-2"
*Sandesh Rathnavarma Hegde, N.M.A.M.I.T, Nitte, India*

**IAC-13.E2.4.8**
SWAYAM - PASSIVELY STABILIZED COMMUNICATION SATELLITE
*Rahul Kulkarni, College of Engineering Pune, India*

**IAC-13.E2.4.9**
SPACE EXPERIMENT ``BMSTU-SAIL''
*Nikolay Nerovnyy, Bauman Moscow State Technical University, Russia*

**IAC-13.E2.4.10**
DESIGN, IMPLEMENTATION, AND TESTING OF THE T-SAT1 NANOSATELLITE AT THE UNIVERSITY OF MANITOBA
*Dario Schor, University of Manitoba, Canada*

**IAC-13.E2.4.11**
CUBESAT SATELLITE PROJECTS AND THEIR IMPACT IN SPACE EDUCATION IN DEVELOPING COUNTRIES
*Ece Gülfem Dağdeviren, Space Generation Advisory Council (SGAC), Turkey*



# E3. 26th SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS

***Coordinator(s):*** *Jacques Masson , European Space Agency (ESA), France; Elisabeth Back Impallomeni , University of Padova, Italy;*

## E3.1. National Space Policies and Programmes, and Regional Cooperation

***September 23 2013, 15:15 — 305***

***Chairman(s):*** *Max Grimard , EADS Astrium, France; Bernhard Schmidt-Tedd , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.E3.1.1**
A DEVELOPMENT FRAMEWORK FOR LOCAL AND REGIONAL PROGRAMS AND ITS IMPACT ON THE GLOBAL SPACE DOMAIN.
*Tanay Sharma, University of Sussex, United Kingdom*

**IAC-13.E3.1.2**
A COMPREHENSIVE ANALYSIS OF REGIONAL COOPERATION, NATIONAL SPACE POLICIES AND PROGRAMMES IN CENTRAL AND EASTERN EUROPE
*Daniel Sagath, European Space Agency (ESA), France*

**IAC-13.E3.1.3**
DECENTRALIZATION OF SPACE RESEARCH WITHIN EUROPE AND ITS EFFECT ON TECHNOLOGY DEVELOPMENT
*Ademir Vrolijk, George Washington University, United States*

**IAC-13.E3.1.4**
FIRST POLISH ACTIVITIES AS A FULL MEMBER OF ESA
*Krzysztof Kanawka, kosmonauta.net, Poland*

**IAC-13.E3.1.5**
ONE REGION, TWO STORIES: THE PUZZLE OF NORTHEAST ASIA'S WEAK COOPERATION IN SPACE AND STRONG COOPERATION IN AVIATION
*Alanna Krolikowski, University of Toronto, Canada*

**IAC-13.E3.1.6**
SPACE & DEVELOPMENT: BENCHMARKING THE IMPLEMENTATION OF NATIONAL SPACE PROGRAMS TO NATIONAL DEVELOPMENT OBJECTIVE
*Ian Christensen, Futron Corporation, United States*

**IAC-13.E3.1.7**
THE INSPIRATIONS OF JAPANESE NATIONAL SPACE LEGISLATIONS' EXPERIENCE TO THE OTHER ASIAN SPACE-FARING STATES AND ITS EFFECT TO THE SPACE COOPERATION IN THIS REGION
*Mingyan Nie, Institute of Air and Space Law, University of Cologne, Germany*

**IAC-13.E3.1.8**
NIGERIAN SPACE POLICY: A CASE OF BUILDING A STRONG SPACE FUTURE FOR THE REGION OF AFRICA
*OLUSOJI NESTER JOHN, National Space Research and Development Agency,Nigeria, Nigeria*

**IAC-13.E3.1.9**
PROMOTING INTRA-AFRICAN SPACE COOPERATION: IS IT TIME FOR AN AFRICAN SPACE AGENCY?
*Peter Martinez, South African Astronomical Observatory, South Africa*

**IAC-13.E3.1.10 (withdrawn)**
LATIN AMERICA AND CARIBBEAN PARTICIPATION IN HUMAN SPACEFLIGHT ACTIVITIES
*Giuseppe Reibaldi, International Academy of Astronautics (IAA), France*

**IAC-13.E3.1.11**
IS CENTRAL AMERICA INVOLVED IN SPACE? THE WEAKNESS OF A STATE NOT DOING SPACE.
*Veronica La Regina, Italian Space Agency (ASI), Italy*

**IAC-13.E3.1.12**
THE ANDEAN COMMUNITY FAILURE TO CREATE A COMMON SPACE POLICY
*Camilo Guzman, UNIVERSIDAD SERGIO ARBOLEDA, Colombia*

## E3.2.International Space Exploration Policies and Programmes

***September 24 2013, 14:45 — 305***

***Chairman(s):*** *Nicolas Peter , European Space Agency (ESA), France; Pascale Ehrenfreund , Space Policy Institute, George Washington University, United States;*

**IAC-13.E3.2.1**
TOWARDS A COORDINATED EUROPEAN SPACE EXPLORATION PROGRAM
*Gerda Horneck, DLR Institute of Aerospace Medicine, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.E3.2.2**
POLICY INNOVATION IN HUMAN SPACE FLIGHT
*Scott Pace, Space Policy Institute, George Washington University, United States*

**IAC-13.E3.2.3**
ESA'S RECENT DEVELOPMENTS IN SPACE EXPLORATION
*Isabelle Duvaux-Bechon, European Space Agency (ESA), France*

**IAC-13.E3.2.4**
U.S. SPACE STUDIES BOARD VIEWS ON INTERNATIONAL COLLABORATION IN SPACE SCIENCE
*Michael Moloney, National Research Council, United States*

**IAC-13.E3.2.5**
THE UNITED NATIONS HUMAN SPACE TECHNOLOGY INITIATIVE (HSTI) ACTIVITY STATUS IN 2013
*Mika Ochiai, United Nations Office for Outer Space Affairs, Austria*

**IAC-13.E3.2.6**
INTERNATIONAL ASTRONAUTICAL FEDERATION (IAF) GLOBAL NETWORKING FORUM "OFF THE EARTH, FOR THE EARTH – THE NEXT STEPS IN HUMAN AND ROBOTIC SPACE EXPLORATION"
*Nicolas Peter, European Space Agency (ESA), France*

**IAC-13.E3.2.7 (withdrawn)**
IN SITU RESOURCES ON THE MOON AND MARS: SOME CONSEQUENCES OF THEIR APPROPRIATION AND USE
*John D. Rummel, East Carolina University, United States*

**IAC-13.E3.2.8**
ISSUES IN DEVELOPING A RESPONSIBLE ENVIRONMENTAL REGIME FOR CELESTIAL BODIES
*Catherine Howells, Space Policy Institute, George Washington University, United States*

**IAC-13.E3.2.9**
EXPANDING OPTIONS FOR IMPLEMENTING PLANETARY PROTECTION DURING HUMAN SPACE EXPLORATION: UPDATE ON AN IAA STUDY
*Margaret Race, SETI Institute, United States*

**IAC-13.E3.2.10**
INTERNATIONAL COMMERCIAL AEROSPACE ACTIVITY DEVELOPMENT TRENDS AND CHINA'S STRATEGIES
*Shan Wenjie, China Academy of Launch Vehicle Technology, China*

**IAC-13.E3.2.11**
INTERNATIONAL SPACE EXPLORATION: MAPPING COMPARATIVE READINESS LEVELS ACROSS NATIONAL ACTORS
*David Vaccaro, Futron Corporation, United States*

**IAC-13.E3.2.12**
FIRST MISSION TO PLUTO: POLICY, POLITICS, SCIENCE AND TECHNOLOGY IN THE ORIGINS OF NEW HORIZONS, 1989-2003
*Michael Neufeld, Smithsonian Institution, United States*

## E3.3. Industrial Policies as Drivers of the Space Economy

***September 25 2013, 09:45 — 305***

***Chairman(s):*** *Joan Harvey , Canadian Space Agency, Canada; Claire Jolly , Organisation for Economic Co-operation and Development (OECD), France;*

**IAC-13.E3.3.1**
AUSTRALIA'S ROLE IN THE GLOBAL SPACE INDUSTRY
*Michael Davis, Space Industry Association of Australia, Australia*

**IAC-13.E3.3.2**
NEW TRENDS IN THE ITALIAN SPACE INDUSTRIAL LANDSCAPE: SMES AND TECHNOLOGY DISTRICTS AS DRIVERS OF SPACE ECONOMY
*Silvia Ciccarelli, Italian Space Agency (ASI), Italy*

**IAC-13.E3.3.3**
MEASURING THE TRANSITION: GENERATION CHANGE IN INTERNATIONAL SPACE INDUSTRIES AND CASE OF RUSSIA
*Dmitry Payson, Skolkovo Foundation, Russia*

**IAC-13.E3.3.4**
NEW ISRAELI CIVIL SPACE POLICY TO BOOST R&D AND COMMERCIAL SPACE INDUSTRIAL BASE
*Eytan Tepper, CHINA UNIVERSITY OF POLITICAL SCIENCE AND LAW, China*

**IAC-13.E3.3.5**
EX ANTE ASSESMENT OF ECONOMIC AND SOCIETAL AFFECTS INDUCED BY SPACE INVESTMENTS IN A SMALL EMERGING SPACE COUNTRY
*Madis Võõras, Enterprise Estonia, Estonia*

**IAC-13.E3.3.6**
THE ROLE OF ITALIAN SPACE INDUSTRY POLICY: PAST EXPERIENCE AND PRESENT PERSPECTIVES
*Giancarlo Graziola, University of Bergamo, Italy*

**IAC-13.E3.3.7**
COMPARING POLICY BEST PRACTICES: WHKCH NATIONAL SPACE POLICY MEASURES EMPIRICALLY DEMONSTRATE THE GREATEST ECONOMIC RETURNS?
*David Vaccaro, Futron Corporation, United States*

**IAC-13.E3.3.8**
IDENTIFICATION AND ANALYSIS OF NATIONAL AND REGIONAL INDUSTRY CLUSTERS OF THE EUROPEAN SPACE INDUSTRY
*Zhuoyan Lu, University of Lapland, Finland*

**IAC-13.E3.3.9**
MECHANISMS FOR DEVELOPING SPACE TECHNOLOGIES
*Adam Keith, Euroconsult, Canada*

**IAC-13.E3.3.10**
ENTREPRENEURSHIP AND INNOVATION IN THE EUROPEAN SPACE SECTOR: OVERVIEW AND IMPACTS OF EUROPEAN SPACE AGENCY AND EUROPEAN UNION'S INITIATIVES
*Noemie Bernede, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.E3.3.11**
TRADE AND DIPLOMACY AS A MEANS OF INCREASING SPACE INDUSTRY GROWTH
*Micah Walter-Range, Space Foundation, United States*

## E3.4. Assuring a Safe, Secure and Sustainable Space Environment for Space Activities

***September 25 2013, 14:45 — 305***

***Rapporteur(s):*** *Ciro Arevalo Yepes , The World Economic Forum's Global Agenda Council on Space Security, Colombia;*
***Chairman(s):*** *Ray Williamson , Secure World Foundation, United States;*

**IAC-13.E3.4.1**
COMMON HORIZONS: ASSURING SPACE SUSTAINABILITY IN THE SERVICE OF ACHIEVING SUSTAINABILITY ON EARTH
*Ray A. Williamson, Secure World Foundation, United States*

**IAC-13.E3.4.2**
ENGAGING ALL STAKEHOLDERS IN SPACE SUSTAINABILITY GOVERNANCE INITIATIVES
*Tiffany Chow, Secure World Foundation, United States*

**IAC-13.E3.4.3**
ASSURING THE LONG-TERM SUSTAINABILITY OF OUTER SPACE ACTIVITIES: THE ROLE OF UN COPUOS
*Peter Martinez, South African Astronomical Observatory, South Africa*

**IAC-13.E3.4.4**
INTERNATIONAL CODE OF CONDUCT FOR OUTER SPACE ACTIVITIES – WHY BOTHER?
*Agnieszka Lukaszczyk, Secure World Foundation, Belgium*

**IAC-13.E3.4.5 (withdrawn)**
SUSTAINABILITY AS A MEDIUM FOR PEACE: CHALLENGES AND OPPORTUNITIES FOR ASIAN SPACE-FARING NATIONS
*Aurélie Trur, Graduate Institute for Policy Studies GRIPS Tokyo, Japan*

**IAC-13.E3.4.6 (withdrawn)**
THE HUMANITARIAN DANGERS POSED BY ANTI-SATELLITE WARFARE.
*Michael Sheehan, , United Kingdom*

**IAC-13.E3.4.7**
INTERNATIONAL PERSPECTIVES ON ON-ORBIT SATELLITE SERVICING AND ACTIVE DEBRIS REMOVAL AND RECOMMENDATIONS FOR A SUSTAINABLE PATH FORWARD
*Brian Weeden, Secure World Foundation, United States*

**IAC-13.E3.4.8**
TOWARDS A CYBER-SECURITY POLICY FOR A SUSTAINABLE, SECURE AND SAFE SPACE ENVIRONMENT
*Luca del Monte, European Space Agency (ESA), France*

**IAC-13.E3.4.9**
SUSTAINABILITY, SATELLITES, AND GROUND-BASED OBSERVATORIES
*Vatsala Khetawat, , India*

**IAC-13.E3.4.10**
A THREE-DIMENSIONAL IR MODEL FOR UNDERSTANDING SPACE SECURITY
*Guilhem Penent, Institut de Recherche Stratégique de l'Ecole Militaire (IRSEM), and Institut Français des Relations Internationales (IFRI), France*

## E3.5-E7.6. 28th IAA/IISL Scientific-Legal Round Table "Space and the Polar Regions (Arctic and Antarctica)" (Invited Papers)

***September 26 2013, 09:45 — 305***

***Chairman(s):*** *Kai-Uwe Schrogl , European Space Agency (ESA), France; Geir Hovmork , Norwegian Space Centre, Norway;*
***Rapporteur(s):*** *Nicola Rohner-Willsch , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*



**IAC-13.E3.5-E7.6.1**
SPACE AND THE POLAR REGIONS - CASES OF SATELLITE APPLICATIONS, POLICIES AND REGULATIONS
*Stephan Hobe, University of Cologne, Germany*

**IAC-13.E3.5-E7.6.2**
SPACE APPLICATIONS FOR THE POLAR REGIONS - AN OVERVIEW
*Isabelle Duvaux-Bechon, European Space Agency (ESA), France*

**IAC-13.E3.5-E7.6.3**
FOCUS ON SPACE APPLICATIONS FOR TRANSPORTATION IN THE POLAR REGIONS
*Lauren Small-Pennefather, Canadian Space Agency, Canada*

**IAC-13.E3.5-E7.6.4**
SPACE APPLICATIONS FOR TRANSPORTATION IN THE POLAR REGIONS
*Toru Fukuda, JAXA/EORC, Japan*

**IAC-13.E3.5-E7.6.5**
MARINE AND MARITIME MONITORING IN THE ARCTIC
*Bo N. Andersen, Norwegian Space Centre, Norway*

**IAC-13.E3.5-E7.6.6**
THE POTENTIAL FOR COMMERCIAL SATELLITE SERVICES FOR POLAR REGIONS
*Jean-François Petit, Astrium SAS France, France*

## E3.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Jacques Masson , European Space Agency (ESA), France; Elisabeth Back Impallomeni , University of Padova, Italy;*

**IAC-13.E3.P.1 (withdrawn)**
INTERNATIONAL COOPERATION OF UKRAINE IN THE FIELD OF SPACE EXPLORATION: SOME INNOVATIVE ASPECTS, POSSIBILITIES AND OPPORTUNITIES
*Yevgeniy Zakharchuk, Western Scientific Center of National Academy of Sciences of Ukraine, Ukraine*

**IAC-13.E3.P.2 (withdrawn)**
DEVELOPMENT OF COPERNICUS DATA POLICY AND LICENSING TERMS AND CONDITIONS: AN OVERVIEW OF THE PROCESS
*Catherine Doldirina, Joint Research Centre (JRC) of the European Commission, Italy*

**IAC-13.E3.P.3**
A MULTI INSTITUTIONAL PROJECT FOR SPECIALIZED HUMAN CAPITAL FORMATION IN THE SPACE FIELD IN MEXICO
*BLANCA REBOLLAR, Agencia Espacial Mexicana (AEM), Mexico*

**IAC-13.E3.P.4**
THE LEGAL AND POLICY FOUNDATIONS FOR AN AFRICAN SPACE AGENCY
*Phetole Sekhula, , South Africa*

**IAC-13.E3.P.5**
PROGRESSIVE USE OF SATELLITE TECHNOLOGY ON DISASTER MANAGEMENT RELIEF: THE CHALLENGES OF A LEGAL AND POLICY FRAMEWORK
*Sandra Cabrera-Alvarado, Space Generation Advisory Council (SGAC), France*

**IAC-13.E3.P.6**
ANALYSES OF STRATEGY OF INTERNATIONAL COOPERATION ENHANCEMENT
*Ren Xujin, , China*

**IAC-13.E3.P.7**
STUDY ON PRODUCT SYSTEM OF INTERNATIONAL TRAINING IN SPACE SECTOR
*Ma Li, China Academy of Space Technology (CAST), China*

**IAC-13.E3.P.8**
SPACE CRIME: THE NEED FOR POLICE POWER OVER THE SPACE CONDUCT OF ALL NON-STATE ACTORS
*George Anthony Long, , United States*

**IAC-13.E3.P.9 (withdrawn)**
THE ENVIRONMENTAL IMPACT OF SPACE TOURISM: A LEGAL GUIDELINE
*Sandra Teichert, , Germany*

**IAC-13.E3.P.10**
CAN SOFT LAW ANSWER THE ARMS CONTROL DILEMMA IN OUTER SPACE
*Maria Pozza, 1) University of Otago (New Zealand) 2) Lauterpacht Visiting Fellow, Lauterpacht Centre for International Law, University of Cambridge (UK), New Zealand*

## E4. 47th IAA HISTORY OF ASTRONAUTICS SYMPOSIUM

***Coordinator(s):*** *Christophe Rothmund , Snecma, France; Philippe Jung , Association Aéronautique & Astronautique de France (AAAF), France; Ake Ingemar Skoog , , Germany;*

## E4.1. Memoirs and Organisational Histories

***September 23 2013, 15:15 — 301A***

***Rapporteur(s):*** *Theo Pirard , Space Information Center, Belgium; Niklas Reinke , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*
***Chairman(s):*** *Marsha Freeman , 21st Century Science & Technology, United States; Hervé Moulin , Institut Français d'Histoire de l'Espace, France;*

**IAC-13.E4.1.1 (withdrawn)**
ANDRÉ-LOUIS HIRSCH (1899-1962) - A SPONSOR FOR EARLY ASTRONAUTICS IN FRANCE
*Pierre-François Mouriaux, Association Histoires d'espace, France*

**IAC-13.E4.1.2**
HEINZ-HERMANN KOELLE AND HIS CONTRIBUTIONS TO SPACE DEVELOPMENT
*Charles Lundquist, University of Alabama in Huntsville, United States*

**IAC-13.E4.1.3**
THE FATHER OF THE HIGH THRUST ION ENGINE
*John Harlow, Aerojet-General Corporation, United Kingdom*

**IAC-13.E4.1.4 (withdrawn)**
THE RAILROAD AND THE SPACE PROGRAM REVISITED: HISTORICAL ANALOGUES AND THE STIMULATION OF COMMERCIAL SPACE OPERATIONS
*Roger D. Launius, Smithsonian Institution, United States*

**IAC-13.E4.1.5 (withdrawn)**
BMW ROCKET ENGINES 1939-45
*Christophe Rothmund, Snecma, France*

**IAC-13.E4.1.6**
THE PEDRO PAULET'S LIQUID PROPELLANT ROCKET ENGINE INVENTION: FIRST STEP IN THE SPACE ROCKETRY
*Luis Rojas, , Peru*

**IAC-13.E4.1.7 (withdrawn)**
BRAZILIAN ASTRONAUTICAL HISTORY: FROM SANTOS DUMONT UP TO ASTER MISSION
*Ana Paula Marins Chiaradia, UNESP/FEG, Brazil*

**IAC-13.E4.1.8**
MEDICAL-BIOLOGICAL RESEARCH FOR MANNED SPACE FLIGHTS
*Alexander Medenkov, Moscow Aviation Institute (National Research Institute, MAI), Russia*

**IAC-13.E4.1.9**
ENTERING THE SIXTIETH YEAR OF ACTA ASTRONAUTICA
*Rock Jeng-Shing Chern, University of Science & Technology, Taiwan, China*

## E4.2. Scientific and Technical Histories

***September 26 2013, 09:45 — 301A***

***Chairman(s):*** *Kerrie Dougherty , Powerhouse Museum, Australia; Susan McKenna-Lawlor , Space Technology (Ireland) Ltd., Ireland;*
***Rapporteur(s):*** *Christophe Rothmund , Snecma, France; William Cuthbert Jones , Executive Intelligence Review News Service, United States;*

**IAC-13.E4.2.1**
SPACEPORT AUSTRALIA: EARLY PROPOSALS FOR EQUATORIAL LAUNCH FACILITIES IN AUSTRALIA
*Kerrie Dougherty, Powerhouse Museum, Australia*

**IAC-13.E4.2.2**
NEW OBSERVATIONS ON REACTION-PROPELLED MANNED AIRCRAFT CONCEPTS, CA. 1670-1900, A SURVEY: PART 1 (1670-1869)
*Frank H. Winter, National Air and Space Museum, United States*

**IAC-13.E4.2.3**
HISTORY OF THE AIR LAUNCH CONCEPT'S LAUNCH SYSTEM PRACTICAL DEVELOPMENT IN FORMER SOVIET UNION AND RUSSIA
*Dina Pogosyan, Air Launch Aerospace Corporation, Russia*

**IAC-13.E4.2.4 (withdrawn)**
GENESIS OF THE VULCAIN ENGINE
*Christophe Rothmund, Snecma, France*

**IAC-13.E4.2.5 (withdrawn)**
DEFA PARCA: EARLY SURFACE-TO-AIR MISSILE FOR THE FRENCH ARMY
*Philippe Jung, Association Aéronautique & Astronautique de France (AAAF), France*

**IAC-13.E4.2.6**
TO RIDE A COMET: 25TH ANNIVERSARY OF ISRAEL'S SHAVIT SATELLITE LAUNCH VEHICLE
*Tal Inbar, Fisher Institute for Air and Space Strategic Studies, Israel*

**IAC-13.E4.2.7**
NEW HORIZON: 25TH ANNIVERSARY OF ISRAEL'S FIRST SATELLITE, OFEK 1
*Tal Inbar, Fisher Institute for Air and Space Strategic Studies, Israel*

**IAC-13.E4.2.8**
THE JAPANESE ROCKOON PROGRAM FOR THE IGY: TECHNOLOGY AND JAPANESE SOCIETY
*Shizuko HAMADA-PORET, , France*

**IAC-13.E4.2.9**
THE EFFECT OF WERNHER VON BRAUN AND SERGEI KOROLEV ON THE MODERN STATE OF SPACE TECHNOLOGY
*Ugur Guven, , United States*

## E4.3A. History of Chinese Contribution to Astronautics

***September 26 2013, 14:45 — 301A***

***Chairman(s):*** *Christophe Rothmund , Snecma, France;*
***Rapporteur(s):*** *Charles Lundquist , University of Alabama in Huntsville, United States;*

**IAC-13.E4.3.1**
QIAN-XUESEN (H.S.TSIEN), HIS EARLY SCIENTIFIC ENDEAVOR IN ASTRONAUTICS
*Radu Rugescu, Politechnic University of Bucharest, Romania*

**IAC-13.E4.3.2**
INTERSECTION OF THE CAREERS OF RUDOLF HERMANN AND QIAN XUESEU
*Charles Lundquist, University of Alabama in Huntsville, United States*

**IAC-13.E4.3.3**
A 1946 PROPOSAL FOR A CHINESE ROCKET PROGRAM
*Marsha Freeman, 21st Century Science & Technology, United States*

**IAC-13.E4.3.4**
THE DEVELOPMENT HISTORY OF CHINESE LAUNCH VEHICLES
*Chen Haipeng, , China*

**IAC-13.E4.3.5**
DEVELOPMENT OF CHINA METEOROLOGICAL SATELLITE
*Yang Zhang, Shanghai Institute of Satellite Engineering, China*

**IAC-13.E4.3.6**
CHINA'S SPACE DEVELOPMENT HISTORY: A COMPARISON OF THE ROCKET AND SATELLITE SECTORS
*Andrew Erickson, Naval War College/Harvard University, United States*

**IAC-13.E4.3.7**
ACADEMIC CONTRIBUTION OF IAA MEMBERS FROM ASTRONAUT CENTER OF CHINA
*Hong Liang, China Astronaut Research and Training Center, China*

## E5. 24th SYMPOSIUM ON SPACE ACTIVITY AND SOCIETY

***Coordinator(s):*** *Geoffrey Languedoc , Canadian Aeronautics & Space Institute (CASI), Canada; Olga Bannova , University of Houston, United States;*

## E5.1. New architectural, Strategic and Design Approaches to the Future of Human Space Flight

***September 25 2013, 09:45 — 303A***

***Chairman(s):*** *Olga Bannova , University of Houston, United States; Brent Sherwood , Caltech/JPL, United States;*
***Rapporteur(s):*** *A. Scott Howe , National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States;*

**IAC-13.E5.1.1**
"LESS IS MORE"? - EXPLORING DESIGN PRINCIPLES OF MODERN ARCHITECTURE IN THE CONTEXT OF SPACE HABITATION.
*David Wong, , United Kingdom*

**IAC-13.E5.1.2**
RESEARCH PROGRESS IN THE TECHNOLOGY OF STRATOSPHERIC AIRSHIP
*Zhang Ruimin, China Academy of Aerospace Aerodynamics(CAAA), China*

**IAC-13.E5.1.3**
HOW THE DESIGN OF HUMANIZED ZERO GRAVITY TOILET BENEFIT SPACE TOURISTS WITH DISABILITIES
*Huai-Chien Chang, The University of TOKYO, Graduate school, Japan*

**IAC-13.E5.1.4**
DESIGNING MIXED GRAVITY EXERTION GAMES FOR HUMANS IN SPACE.
*Sarah Jane Pell, ESA Topical Team Arts & Science, Australia*



**IAC-13.E5.1.5 (withdrawn)**
GRAND CHALLENGES AS A DRIVER AND UNIFIER OF THE GLOBAL INNOVATION SYSTEM
*Jennifer Gustetic, NASA, United States*

**IAC-13.E5.1.6**
STAKEHOLDER ENGAGEMENT STRATEGIES: LESSONS LEARNED AND BEST PRACTICES AS APPLIED TO FUTURE HUMAN SPACE EXPLORATION
*Nicole Herrmann, ADNET Systems, Inc., United States*

## E5.2. Moon, Mars and Beyond: Analogues, Habitation and Spin-Offs

***September 25 2013, 11:15 — 303A***

***Co-Chair(s):*** *Olga Bannova , University of Houston, United States; Brent Sherwood , Caltech/JPL, United States;*
***Rapporteur(s):*** *A. Scott Howe , National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States;*

**IAC-13.E5.2.1**
INTELLIGENT SPACECRAFT MODULES: EMPLOYING USER-CENTERED ARCHITECTURE WITH ADAPTABLE TECHNOLOGY FOR THE DESIGN OF HABITABLE INTERIORS IN LONG-TERM MISSIONS.
*Konstantinos-Alketas Oungrinis, Technical University of Crete, Greece*

**IAC-13.E5.2.2 (withdrawn)**
ASSESSING HABITAT DESIGN: THE HABITABILITY FACTOR OF CURRENT MARS ANALOGUE ENVIRONMENTS
*Gisela A. Muñoz, Embry Riddle Aeronautical University, United States*

**IAC-13.E5.2.3**
ARCHITECTURAL DESIGN OF A RESEARCH SPACE STATION IN THE VENUSIAN CLOUDS
*Despoina Linaraki, Technical University of Crete, Greece*

## E5.3. Space Technologies - Earth Applications

***September 25 2013, 14:45 — 303A***

***Co-Chair(s):*** *Olga Bannova , University of Houston, United States; Nona Minnifield Cheeks , National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center, United States;*
***Rapporteur(s):*** *Anna Barbara Imhof , Liquifer Systems Group (LSG), Austria;*

**IAC-13.E5.3.1**
DEVELOPMENTS OF CHINA SPACE TECHNOLOGY IN THE PAST YEARS
*Ming Li, China Academy of Space Technology (CAST), China*

**IAC-13.E5.3.2**
DEVELOPMENT AND APPLICATION OF CHINESE AEROSPACE SYSTEMS ENGINEERING METHOD
*Xinhua Zheng, China Academy of Aerospace Systems Science and Engineering, China*

**IAC-13.E5.3.3**
THE USEFULNESS OF HISTORICAL EARTH OBSERVATION SATELLITE IMAGES
*Yean Joo Chong, National University of Singapore, Rep. Of Singapore*

**IAC-13.E5.3.4 (withdrawn)**
NEW APPROACHES TO COMBATTING POACHING IN AFRICA: THE USE OF SATELLITE IMAGERY AND UAVS TO LEVEL THE PLAYING FIELD
*Thomas Snitch, Little Falls Associates, Inc., United States*

**IAC-13.E5.3.5**
THE APPLICATION OF SPACE TECHNOLOGY IN PUBLIC INTELLIGENT TRANSPORTATION RECONSTRUCTION
*Yu Cao, Beijing Institute of Electronic System Engineering, China, China*

**IAC-13.E5.3.6**
LAUNCH SUSTAINABILITY FORUMS SEEK NOVEL INNOVATIONS
*Beth Beck, National Aeronautics and Space Administration (NASA), United States*

**IAC-13.E5.3.7**
SPACE OCCURS IN YOUR ENVIRONMENT
*Nona Minnifield Cheeks, National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center, United States*

**IAC-13.E5.3.8 (withdrawn)**
THE DEVELOPMENT OF THE AEROSPACE INDUSTRY IN MEXICO AND THE IMPACT OF TRANSFER OF SPACE TECHNOLOGY ON ITS SOCIETY
*Carmen Felix, International Association for the Advancement of Space Safety, Mexico*

**IAC-13.E5.3.9**
TECHNOLOGY TRANSFER ECOSYSTEM
*Nona Minnifield Cheeks, National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center, United States*

**IAC-13.E5.3.10 (withdrawn)**
SPACE TECHNOLOGY AND THE DEVELOPING WORLD
*Lisandro Martinez, Asociación Argentina de Tecnologia Espacial, Argentina*

**IAC-13.E5.3.11**
INTERNATIONAL EXCHANGE INTERN PROGRAMS AS A FOUNDATION FOR FUTURE SPACE EXPLORATION COOPERATION
*Olga Bannova, University of Houston, United States*

**IAC-13.E5.3.12**
*CASES STUDIES OF INNOVATIVE APPLICATIONS IN SPACE TECHNOLOGIES*
*Ying Cao, Beijing Mech-electro Engineering Institute, CASIC, China*

## E5.4. Space as an Artistic Medium

***September 26 2013, 09:45 — 303A***

***Co-Chair(s):*** *Tim Otto Roth , , Germany; Tibor Balint , Royal College of Art, United Kingdom;*
***Rapporteur(s):*** *Ioannis MICHALOU(di)S , Massachusetts Institute of Technology (MIT), Greece;*

**IAC-13.E5.4.1**
ASTRONAUTS AS AN ARTISTIC MEDIUM
*Sarah Jane Pell, ESA Topical Team Arts & Science, Australia*

**IAC-13.E5.4.2**
SPACE WISHES: A NEW MEDIA INTERDISCIPLINARY PERFORMANCE COLLABORATION TO BE CREATED DURING A SUB-ORBITAL FLIGHT
*Frank Pietronigro, Zero Gravity Arts Consortium, United States*

**IAC-13.E5.4.3**
EARTH FLASH - A SCIENCE & ART PROJECT CREATING AN EARTH-BASED ENVIRONMENT TO EXPERIENCE LIGHT FLASHES ASTRONAUTS DO HAVE IN SPACE
*Tim Otto Roth, , Germany*

**IAC-13.E5.4.4 (withdrawn)**
OLFACTORY KITS AND PERSONAL GREENHOUSES FOR SPACEFARERS
*Carrie Paterson, California State University, United States*

**IAC-13.E5.4.5**
TUNGUSKA METEORITE IN THE PAINTINGS OF THE ARTIST OF THE KULIK EXPEDITION 1937
*Itta Riumina, Association Tsiolkovsky, Russia*

**IAC-13.E5.4.6**
MAKING OF THE VENUS CONCEPT WATCH 1.0
*Tibor Balint, Royal College of Art, United Kingdom*

**IAC-13.E5.4.7**
ETHEROSPERMIA: THE SKY-SEEDING PROJECT
*Ioannis MICHALOUDIS, Curtin University of Technology, Australia*

## E5.5. Space Assets and Disaster Management

***September 26 2013, 14:45 — 303A***

***Co-Chair(s):*** *Peter Swan , SouthWest Analytic Network, United States; Geoffrey Languedoc , Canadian Aeronautics & Space Institute (CASI), Canada;*
***Rapporteur(s):*** *Natasha Jackson , Faculty of Engineering, Carleton University, Canada;*

**IAC-13.E5.5.1**
BUILDING UP NATIONAL SPACE CAPABILITIES FOR DISASTER MANAGEMENT: ANALYSIS OF A TREND IN EMERGING SPACE NATIONS AND DEVELOPING COUNTRIES
*Noemie Bernede, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.E5.5.2**
EARLY WARNING SYSTEMS AND DISASTER MANAGEMENT TECHNIQUES FOR TURKEY AND OTHER NATIONS IN THE REGION: APPLICATIONS OF A SUCCESSFUL SPACE PROGRAM FOR THE PUBLIC
*Ugur Guven, , United States*

**IAC-13.E5.5.3**
SOCIAL MEDIA & SPACE TECHNOLOGIES IN THE DISASTER CYCLE - HELP OR HINDRANCE?
*Natassa Antoniou, Secure World Foundation, Belgium*

**IAC-13.E5.5.4**
DISASTER MANAGEMENT: A CRAZY IDEA TO DISSEMINATE EMERGENCY INFORMATION TO POPULATIONS
*Ghislain RUY, LuxSpace Sarl, Luxemburg*

**IAC-13.E5.5.5**
SPACE FOR HUMANITARIAN RELIEF: THE CENTRE FOR RESPONSIVE INFORMATION FOR SAFETY AND SECURITY (CRISIS)
*Ross Findlay, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany*

**IAC-13.E5.5.6**
INITIAL STEPS TOWARD A LUNAR ARCHIVE OF EMERGENCY INFORMATION
*James Burke, The Planetary Society, United States*

## E5.6. Space Societies and Museums

***September 26 2013, 11:15 — 303A***

***Co-Chair(s):*** *Scott Hatton , The British Interplanetary Society, ;*

**IAC-13.E5.6.1**
MUSEUMS AND AFFILIATED SPACE SOCIETIES: 25 YEARS OF EXPERIENCE AT THE POWERHOUSE MUSEUM
*Kerrie Dougherty, Powerhouse Museum, Australia*

**IAC-13.E5.6.2**
ADVOCATING SPACE – ISRAELI NGO'S SPACE ACTIVITIES: A FIELD REPORT
*Tal Inbar, Fisher Institute for Air and Space Strategic Studies, Israel*

**IAC-13.E5.6.3**
THE BRITISH INTERPLANETARY SOCIETY – FROM IMAGINATION TO REALITY – 80 YEARS
*Alistair Scott, The British Interplanetary Society, United Kingdom*

## E5.P. Poster Sessions

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Olga Bannova , University of Houston, United States; Geoffrey Languedoc , Canadian Aeronautics & Space Institute (CASI), Canada;*

**IAC-13.E5.P.1**
THE POSITION OF THE MOON, SUN, STARS, LIGHTNING AND SPACE RELATED SCIENCES IN AFRICA.
*ABUBAKAR BABAGANA, SEABED INTERNATIONAL, Nigeria*

**IAC-13.E5.P.2**
TEMPORAL AND SPATIAL VARIABILITIES OF TOTAL OZONE COLUMN OVER IRAQ
*Saadiyah Al-juaifari, Ministry of Science & Technology, Iraq*

**IAC-13.E5.P.3**
COSMOS GRAND DESIGN AS THEORETICAL, TECHNOLOGICAL AND ART MEDIUM FOR HIGHLY INNOVATIVE SYNERGETIC GRAND DESIGN COMPOSITIONS OF SCIENCE, TECHNOLOGY AND ART – PAST, PRESENT AND FUTURE
*Zdravko Andonov, Space Research and Technology Institute - Bulgarian Academy of Sciences, Bulgaria*

**IAC-13.E5.P.4**
SPACE PROGRAM OF TURKEY AND INTERNATIONAL COOPERATION OPPORTUNITIES FOR DISASTER MANAGEMENT
*Ugur Guven, , United States*

# E6. BUSINESS INNOVATION SYMPOSIUM

***Coordinator(s):*** *Ken Davidian , Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States;*

## E6.1. Case Studies and Prizes in Commercial Space

***September 25 2013, 11:45 — 302B***

***Chairman(s):*** *Aude de Clercq , European Space Agency (ESA), The Netherlands;*

**IAC-13.E6.1.1**
COMMERCIAL SPACE SUITS FOR THE NEWSPACE AGE
*Misuzu Onuki, Space Frontier Foundation, Japan*

**IAC-13.E6.1.2**
SHACKLETON ENERGY COMPANY'S SPACE INFRASTRUCTURE ECONOMICS NECESSARY FOR SOLAR SYSTEM MARKET EXPANSION
*Jim Keravala, Shackleton Energy Company, United States*

**IAC-13.E6.1.3**
CARAVAN - FINANCIAL MODEL FOR ON ORBIT SERVICES
*Chrishma Singh-Derewa, International Space University (ISU), United States*

**IAC-13.E6.1.4**
FUNDING A CUBESAT ON KICKSTARTER
*Megan Kane, , United States*

**IAC-13.E6.1.5 (withdrawn)**
PRACTICAL METHODS FOR SUSTAINABILITY OF SPACE RELATED INVESTMENT REGARDING DEVELOPMENT OF FUSION-PROPELLED INTERSTELLAR PROBE
*Rohan M Ganapathy, Hindusthan College of Engineering and Technology, India*



**IAC-13.E6.1.6**
COMPETITIONS, GAMES AND PRIZES - TOOLS FOR ADVANCED SPACE RESEARCH
*Leopold Summerer, European Space Agency (ESA), The Netherlands*

**IAC-13.E6.1.7**
WINNING BY LOSING - INVESTMENTS, INCENTIVES AND REWARDS OF PARTICIPANTS IN AN EXTREME FORM OF INNOVATION TOURNAMENTS
*Florian Schirg, , Austria*

**IAC-13.E6.1.8**
SPACE HABITAT IS HUMAN HABITAT AFTER ALL: BOLDLY GOING WHERE HAVE NOT GONE BEFORE
*Phyl Speser, Goddard SFC, United States*

**IAC-13.E6.1.9**
MICROSATELLITES AND MICROLAUNCHERS: THE TANDEM THAT WILL DISRUPT THE SATELLITE INDUSTRY
*Lluc Guillem Palerm Serra, zero2infinity, Spain*

**IAC-13.E6.1.10**
DEFINITION AND ANALYSIS OF THE INTERNATIONAL COMMERCIAL SPACEFLIGHT INDUSTRY, 2006-2012
*Paul Guthrie, The Tauri Group, United States*

## E6.2. Public/Private Human Access to Space - Supporting Studies

***September 27 2013, 09:45 — 302B***

***Chairman(s): Ken Davidian, FAA AST, USA***
***James Keravala, Shackleton Energy, USA***

**IAC-13.E6.2.1**
AN OUTLINE OF THE IAA STUDY GROUP "PUBLIC/PRIVATE HUMAN ACCESS TO SPACE"
*Simonetta Di Pippo, Italian Space Agency (ASI), Belgium*

**IAC-13.E6.2.2**
APPLYING GAME THEORY TO COMMERCIAL HUMAN SUBORBITAL TRAINING
*William F. Mitchell, Environmental Tectonics Corporation, United States*

**IAC-13.E6.2.3**
THE CHALLENGE OF FUTURE SPACE SYSTEMS AND SERVICES: EFFECTIVE NSWERS TO LOCAL ISSUES WITH GLOBAL SOLUTIONS
*Gil DENIS, Astrium SAS France, France*

**IAC-13.E6.2.4**
AN ANALYSIS OF THE OPERATION PATTERN AND THE DEVELOPMENT TREND OF THE INDUSTRY OF REMOTE SENSING SATELLITE
*Hua Cai, , China*

**IAC-13.E6.2.5**
UNDERSTANDING THE DYNAMICS OF INNOVATION IN THE ORBITAL LAUNCH VEHICLE INDUSTRY USING THE ABERNATHY-UTTERBACK INNOVATION MODEL.
*Raj Nair, University of Colorado, United States*

**IAC-13.E6.2.6**
INDUSTRIAL INNOVATION CYCLE ANALYSIS OF THE ORBITAL LAUNCH VEHICLE INDUSTRY
*Julio Aprea, European Space Agency (ESA), France*

**IAC-13.E6.2.7**
A HISTORICAL OVERVIEW OF CHINESE ENTREPRENEURSHIP AND ITS CULTURAL IMPACT ON SPACE INDUSTRY POLICY AND DECISION-MAKING PROCEDURES
*Zhuoyan Lu, University of Lapland, Finland*

**IAC-13.E6.2.8**
HISTORICAL AND CULTURAL ASSESSMENT OF ENTREPRENEURSHIP AND INVESTMENT IN GERMANY
*Philipp Maier, Space Generation Advisory Council (SGAC), Germany*

**IAC-13.E6.2.9**
THE ROAD TO PRIVATIZATION OF SPACE EXPLORATION: WHAT IS MISSING?
*Joana Ribeiro Gomes, Aeronautic Institute of Technology – ITA/DCTA/CA-MD, Brazil*

**IAC-13.E6.2.10**
MULTI VARIABLE COMPARING SPACE PURCHASING POWER BETWEEN MAIN SPACE NATIONS
*Shruti Vyas, International Space University (ISU), India*

**IAC-13.E6.2.11**
SKILLS AUDIT OF THE AUSTRALIAN SPACE SECTOR
*Michael Brett, Aerospace Concepts Pty Ltd, Australia*

**IAC-13.E6.2.12**
SPACE TOURISM TECHNOLOGIES AND ITS ADVANCEMENT THROUGH COMMERCIAL COOPERATION OF DEVELOPING COUNTRIES AND SMALL COMPANIES
*Ugur Guven, , United States*

## E6.4-D4.2. Joint Session on Global Public/Private Innovative Initiatives in Spaceflight

***September 24 2013, 14:45 — 208B***

***Chairman(s):*** *Horst Rauck , DLR, German Aerospace Center, Germany; Rachel Villain , Euroconsult, France;*
***Rapporteur(s):*** *Sundaram Ramakrishnan , Indian Space Researh Organisation, India;*

**IAC-13.E6.4-D4.2.1 (withdrawn)**
PUBLIC PRIVATE PARTNERSHIPS ROLE IN SPACE ACTIVITY: THE IMPORTANCE OF LEGAL AND REGULATORY ASPECTS FOR PROJECT SUCCESS
*Norah Patten, University of Limerick, Ireland*

**IAC-13.E6.4-D4.2.2**
INTERNATIONAL COMMERCIALIZATION CONSORTIUMS AS A TOOL FOR SPACE TECHNOLOGY COMMERCIALIZATION
*Phyl Speser, Goddard SFC, United States*

**IAC-13.E6.4-D4.2.3**
"THE LAW ON SPACE ACTIVITY OF THE RUSSIAN FEDERATION" WITHIN THE REALIZATION OF SPACE-RELATED PUBLIC-PRIVATE PARTNERSHIP PROJECTS.
*Dina Pogosyan, Air Launch Aerospace Corporation, Russia*

**IAC-13.E6.4-D4.2.4**
THINK DIFFERENT – GENERIC ECONOMIC MODELS FOR ON-ORBIT SERVICING (OOS)
*Joerg Kreisel, JOERG KREISEL International Consultant (JKIC), Germany*

**IAC-13.E6.4-D4.2.5**
INDUSTRY STANDARDS FOR COMMERCIAL SPACE TRANSPORTATION
*George Nield, Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States*

**IAC-13.E6.4-D4.2.6**
PROMOTING SPACE DEVELOPMENT FOR THE BENEFIT OF A EUROPEAN REGION – EMP INITIATIVE
*Catherine LAMBERT, CNES, France*

**IAC-13.E6.4-D4.2.7**
IMPACTS OF COLLABORATION IN SPACE EXPLORATION R&D IN CANADA: CONNECTING THE STAKEHOLDERS TO ACCELERATE INNOVATION
*Annie Martin, Ecole Polytechnique de Montreal, Canada*

**IAC-13.E6.4-D4.2.8**
THE FAA COE CST: COLLABORATIVE EFFORTS FOR COMMERCIAL SPACE RESEARCH
*Ken Davidian, Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST), United States*

**IAC-13.E6.4-D4.2.9**
SPACEPORT BARCELONA – A PUBLIC PRIVATE PARTNERSHIP TO CREATE THE FIRST COMMERCIAL SUBORBITAL SPACEPORT IN EUROPE
*Charles Lauer, Rocketplane Global, Inc., United States*

## E7. 56th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE

***Coordinator(s):*** *Lesley Jane Smith , Leuphana University of Lüneburg/Weber-Steinhaus & Smith, Germany; Mahulena Hofmann , University of Luxembourg, Luxemburg;*

***Publication officer(s):*** *Rafael Moro-Aguilar , Orbspace, Austria;*

### E7.1. Nandasiri Jasentuliyana Keynote Lecture on Space Law & 5th Young Scholars Session

***September 24 2013, 09:45 — 301A***

***Chairman(s):*** *Tanja Masson-Zwaan , International Institute of Air and Space Law, Leiden University, The Netherlands; Haifeng Zhao , Harbin Institute of Technology, China;*
***Rapporteur(s):*** *Guoyu Wang , , China;*

**IAC-13.E7.1.1**
KEYNOTE LECTURE: A NORMATIVE SYSTEM FOR OUTER SPACE ACTIVITIES IN THE NEXT HALF CENTURY
*Tare Brisibe, OnAir, Switzerland*

**IAC-13.E7.1.2**
"SPACE LAW- FUTURE CHALLENGES AND POTENTIAL SOLUTIONS" EXAMINING PAST INTERNATIONAL SPACE LAW IN ORDER TO DETERMINE THE FUTURE OF INTERNATIONAL SPACE LAW: LEARNING LESSONS FROM HISTORY
*Maria Pozza, 1) University of Otago (New Zealand) 2) Lauterpacht Visiting Fellow, Lauterpacht Centre for International Law, University of Cambridge (UK), New Zealand*

**IAC-13.E7.1.3**
THE DELIMITATION BETWEEN AIR SPACE AND OUTER SPACE AND THE EMERGENCE OF AEROSPACE OBJECTS
*Jinyuan SU, Xi'an Jiaotong University School of Law, China*

**IAC-13.E7.1.4**
THE CONCEPTION AND TREATMENT OF INTERNATIONAL GOVERNMENTAL ORGANIZATIONS IN THE PREPARATORY WORKS OF THE OUTER SPACE TREATY
*Christopher Johnson, Space Generation Advisory Council (SGAC), United States*

**IAC-13.E7.1.5**
THE NOTION OF "DAMAGE" CAUSED BY A SPACE OBJECT UNDER THE 1972 LIABILITY CONVENTION
*Elena Carpanelli, , Italy*

**IAC-13.E7.1.6**
ONE STEP BACK? DUTIES RELATING TO THE RESCUE OF ASTRONAUTS IN ORBIT UNDER THE ARRA
*Martin Reynders, , Germany*

**IAC-13.E7.1.7**
THE MOON AND OTHER CELESTIAL BODIES: FROM THE "PROVINCE ALL MANKIND" TOWARDS THE "COMMON HERITAGE OF MANKIND"?
*Ksenia Shestakova, , Russia*

**IAC-13.E7.1.8**
THE FREEDOM TO USE OUTER SPACE, OR: THE ABSENCE OF CLAIMS OVER AREAS IN SPACE AND THE OBLIGATION TO ACTUALLY USE ITS RESOURCES
*Philip De Man, Catholic University of Louvain, Belgium*

**IAC-13.E7.1.9**
SOME LEGAL ISSUES BASED ON THE CASE OF "PHOBOS-GRUNT" PROBE
*Honggui Li, China Great Wall Industry Corporation, China*

**IAC-13.E7.1.10**
LEGAL ISSUES ON THE LAUNCH BY NORTH KOREA: PRIVILEGE OF UN SECURITY COUNCIL RESOLUTIONS OR OUTER SPACE TREATIES
*Zhuoyan Lu, University of Lapland, Finland*

**IAC-13.E7.1.11**
SPACE ENTREPRENEURSHIP AND SPACE LAW – FUTURE CHALLENGES AND POTENTIAL SOLUTIONS
*Neta Palkovitz, ISIS- Innovative Solutions In Space B.V., The Netherlands*

**IAC-13.E7.1.12**
DEFINING THE FRONTIER OF SPACE COMMERCIALIZATION - ANALYSIS ON THE NORMATIVE IMPLICATION OF UNIDROIT SPACE PROTOCOL FOR CORPUS JURIS SPATIALIS
*Rong Du, The University of Hong Kong, Hong Kong*

**IAC-13.E7.1.13**
TOWARDS A COHERENT EUROPEAN SPACE PROCUREMENT LAW AND POLICY: A NEW STEP FORWARD?
*Ewoud Hacke, , Belgium*

### E7.2. Settlement of Space-Related Disputes

***September 24 2013, 14:45 — 301A***

***Chairman(s):*** *Sergio Marchisio , Italian National Research Council - CNR, Italy; Mahulena Hofmann , University of Luxembourg, Luxemburg;*
***Rapporteur(s):*** *Rik Hansen , KU Leuven, Belgium;*

**IAC-13.E7.2.1**
BINDING ARBITRATION AS AN EFFECTIVE MEANS OF DISPUTE SETTLEMENT FOR ACCIDENTS IN OUTER SPACE
*Henry Hertzfeld, Space Policy Institute, George Washington University, United States*

**IAC-13.E7.2.2**
THE SIGNIFICANCE OF THE PERMANENT COURT OF ARBITRATION'S OPTIONAL RULES FOR ARBITRATION OF DISPUTES RELATING TO OUTER SPACE ACTIVITIES
*Haifeng Zhao, Harbin Institute of Technology, China*

**IAC-13.E7.2.3**
OPTIONAL RULES FOR ARBITRATION OF DISPUTES RELATING TO OUTER SPACE ACTIVITIES. A GREAT OPPORTUNITY FOR THE PROGRESSIVE DEVELOPMENT OF SPACE LAW
*Guillermo Duberti, Conicet/ Universidad de Belgrano, Buenos Aires, Argentina*

**IAC-13.E7.2.4**
ESTABLISHMENT OF A SPECILIZED TRIBUNAL UNDER THE INTERNATIONAL TELECOMMUNICATION UNION TO ADJUDICATE DISPUTES AS A MEANS TO IMPROVE THE EFFICIENCY OF THE MANAGEMENT OF THE RADIO-FREQUENCY SPECTRUM
*Elina Morozova (Zaytseva), INTERSPUTNIK International Organization of Space Communications, Russia*

**IAC-13.E7.2.5**
THE PCA'S OPTIONAL RULES FOR THE ARBITRATION OF DISPUTES RELATING TO OUTER SPACE ACTIVITIES AND DISPUTE RESOLUTION IN THE ITU REGULATORY SYSTEM.
*Juliana Scavuzzi, Institute of Air and Space Law, McGill University, Canada*

**IAC-13.E7.2.6**
BRINGING SPACE LAW IN THE 21ST CENTURY: THE PERMANENT COURT OF ARBITRATION ADOPTS OPTIONAL RULES FOR ARBITRATION OF DISPUTES RELATING TO OUTER SPACE ACTIVITIES
*Fabio Tronchetti, Harbin Institute of Technology, China*

**IAC-13.E7.2.7**
*DISPUTING WITH ESA*
*Ulrike M. Bohlmann, ESA, France*

**IAC-13.E7.2.8 (Withdrawn)**
ARBITRATION OF DISPUTES RELATING TO OUTER SPACE ACTIVITIES. INTERNATIONAL JURISDICTION, RECOGNITION AND ENFORCEMENT OF JUDGEMENTS IN LIABILITY INSURANCE MATTERS RELATED TO ACCIDENTS OCCURRED DURING PRIVATE COMMERCIAL ACTIVITIES IN OUTER SPACE
*Jordi Sandalinas, , Spain*

**IAC-13.E7.2.9**
HOW TO RESOLVE PRIVATE PARTY SPACE-RELATED DISPUTES SUCCESSFULLY
*Milton Smith, Sherman & Howard, LLC, United States*

**IAC-13.E7.2.10**
A BASIS FOR DIRECTLY APPLYING PRINCIPLES OF THE LIABILITY CONVENTION TO PRIVATE PARTIES
*George Anthony Long, , United States*

**IAC-13.E7.2.11 (withdrawn)**
RESOLVING TELECOMMUNICATIONS INTERCONNECTION DISPUTES IN CHINA: WILL THE PCA OPTIONAL ARBITRATION RULES BE A WAY OUT FOR CHINA?
*Yun Zhao, The University of Hong Kong, Hong Kong*

### E7.3. International Regulations of Space Communications: Current Issues

***September 25 2013, 09:45 — 301A***

***Chairman(s):*** *Francis Lyall , University of Aberdeen, Scotland, U.K., United Kingdom; Dennis Burnett , National Security and Export Compliance Consulting, United States;*
***Rapporteur(s):*** *Andreas Loukakis , , Luxemburg;*

**IAC-13.E7.3.1**
THE EQUITABLE ACCESS TO THE GEO FOR DEVELOPING COUNTRIES: A PENDING CHALLENGE
*Camilo Guzman, UNIVERSIDAD SERGIO ARBOLEDA, Colombia*

**IAC-13.E7.3.2**
EFFICIENT AND EQUITABLE USE OF ORBIT BY SATELLITE SYSTEMS: "PAPER SATELLITE" ISSUE REVISITED
*Setsuko Aoki, Keio University, Japan*

**IAC-13.E7.3.3 (withdrawn)**
SOME DECISIONS OF THE WRC-12 RELATED TO 'PAPER SATELLITES' AND EQUITABLE ACCESS TO RADIO FREQUENCIES AND GEOSTATIONARY ORBITAL POSITIONS
*Ram S. Jakhu, McGill University, Canada*

**IAC-13.E7.3.4**
THE ITU RADIO REGULATIONS AND WRC-15 CHALLENGES RELATED TO SPACE SERVICES
*Yvon HENRI, ITU, Switzerland*

**IAC-13.E7.3.5**
INTERNATIONAL REGULATIONS OF TRANSMISSIONS TO EXTRATERRESTRIAL INTELLIGENCE: ACTIVE SETI, RADAR ASTRONOMY, AND THE RADIO REGULATIONS
*Douglas Vakoch, SETI Institute and California Institute of Integral Studies, United States*

**IAC-13.E7.3.6**
THE ITU'S EVOLVING REGULATORY ROLE FOR SPACE DEBRIS 'RULES OF THE ROAD': IMPLICATIONS FOR SPACE COMMUNICATIONS REGULATION
*Larry Martinez, International Institute of Space Law (IISL), United States*

**IAC-13.E7.3.7**
THE CURRENT CHALLENGES OF LIABILITY FOR LOSS OF SATELLITE-BASED SERVICES
*Lesley Jane Smith, Leuphana University of Lüneburg/Weber-Steinhaus & Smith, Germany*

**IAC-13.E7.3.8**
" PRODUCT LIABILITY RAMIFICATIONS FOR ERRONEOUS GNSS SIGNALS: AN ALTERNATIVE APPROACH IS POSSIBLE?"
*Andreas Loukakis, , Luxemburg*

**IAC-13.E7.3.9**
ITU INSTRUMENTS UNDER THE PERSPECTIVE OF GENERAL INTERNATIONAL LAW
*Mahulena Hofmann, University of Luxembourg, Luxemburg*

### E7.4. Legal Aspects of Space Debris Remediation

***September 25 2013, 14:45 — 301A***

***Chairman(s):*** *Joanne Irene Gabrynowicz , University of Mississippi, United States; Bin Li , Beihang University, China;*
***Rapporteur(s):*** *Catherine Doldirina , Joint Research Centre (JRC) of the European Commission, Italy;*

**IAC-13.E7.4.1**
PRESERVING THE OUTER SPACE ENVIRONMENT: THE 'PRECAUTIONARY PRINCIPLE' APPROACH TO SPACE DEBRIS
*OLAVO DE OLIVEIRA BITTENCOURT NETO, University of Sao Paulo, Brazil*

**IAC-13.E7.4.2 (withdrawn)**
DRAFTING NORMS ON SPACE DEBRIS. A NEW TASK FOR THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE?
*Irmgard Marboe, University of Vienna, Austria*

**IAC-13.E7.4.3**
SPACE DEBRIS - EMERGING CHALLENGE, COMMON CONCERN AND SHARED RESPONSIBILITY: LEGAL CONSIDERATIONS AND DIRECTIONS TOWARDS SECURE AND SUSTAINABLE SPACE ENVIRONMENT
*Olga S. Stelmakh, Parliament of Ukraine / V.Koretsky Institute of State and Law, National Academy of Sciences of Ukraine, Ukraine*

**IAC-13.E7.4.4**
LONG-TERM SUSTAINABILITY OF SPACE ACTIVITIES VERSUS IMMINENT DANGER FROM SPACE: IS SPACE LAW READY TO MEET THE CHALLENGE?
*Olga Volynskaya, Federal Space Agency (ROSCOSMOS), Russia*

**IAC-13.E7.4.5**
LIABILITY FOR SPACE DEBRIS IN THE FRAMEWORK OF PRIVATE INTERNATIONAL SPACE LAW
*Hamid Kazemi, , Iran*

**IAC-13.E7.4.6 (withdrawn)**
INTERNATIONAL LAW LIABILITIES FROM INACTIVE SPACE MISSIONS
*Marco Ferrazzani, European Space Agency (ESA), France*

**IAC-13.E7.4.7**
THE DUE CRITERIA AND PRINCIPLES FOR THE ACTIVE SPACE DEBRIS REMOVAL
*Guoyu Wang, , China*

**IAC-13.E7.4.8**
SPACE DEBRIS REMEDIATION- COMMON BUT DIFFERENTIATED RESPONSIBILITY
*V. Gopala Krishnan, Indian Space Research Organization (ISRO), India*

**IAC-13.E7.4.9**
THE INTERNATIONAL REGIME FOR SPACE DEBRIS REMEDIATION IN LIGHT OF COMMERCIALIZED SPACE ACTIVITIES
*SOUICHIROU KOZUKA, Gakushuin University, Japan*

**IAC-13.E7.4.10**
WHEN THE NATURE AND DURATION OF SPACE BECOMES APPROPRIATION: A PROPOSITION – "USE" AS A LEGAL PREDICATE FOR A STATE'S OBJECTION TO ACTIVE DEBRIS REMOVAL
*Melissa K. Force, MK Force Consultants International, United States*

**IAC-13.E7.4.11**
ANALYSIS OF NON-COOPERATIVE SPACE OBJECT REMEDIATION OPTIONS
*James Rendleman, , United States*

**IAC-13.E7.4.12**
REMEDIATION OF SPACE DEBRIS THROUGH MECHANISM OF THE RIGHT TO SALVAGE
*Madiha Riaz, SUPARCO, Pakistan*

**IAC-13.E7.4.13**
JAPANESE CONTRIBUTION TO THE SPACE SITUATIONAL AWARENESS (SSA)
*Yasuaki Hashimoto, The National Institute for Defense Studies, Japan*

**IAC-13.E7.4.14**
CHINA AND SPACE ENVIRONMENT PROTECTION: AN EVALUATION FROM AN INTERNATIONAL LEGAL PERSPECTIVE
*Xiaodan Wu, Chinese Academy of Social Sciences, China*

## E7.5. Recent Developments in Space Law

***September 27 2013, 09:45 — 301 A***

***Chairman(s):*** *Ulrike M. Bohlmann , ESA, France; Setsuko Aoki , Keio University, Japan;*
***Rapporteur(s):*** *Olga S. Stelmakh , Parliament of Ukraine / V.Koretsky Institute of State and Law, National Academy of Sciences of Ukraine, Ukraine;*

**IAC-13.E7.5 (withdrawn)**
SPACE ACTIVITIES IN SOUTH AMERICA: A PROPOSAL FOR A SPECIFIC REGIONAL SMALL SATELLITE PROJECT
*Sylvia Ospina, S. Ospina & Associates - Consultants, United States*

**IAC-13.E7.5.1**
WHY A PHILOSOPHY OF INTERNATIONAL SPACE LAW?
*José Monserrat-Filho, Brazilian Space Agency (AEB), Brazil*

**IAC-13.E7.5.2**
DISTILLING GENERAL PRINCIPLES OF INTERNATIONAL SPACE LAW
*Diane Howard, McGill University, United States*

**IAC-13.E7.5.3**
THE SOURCES OF INTERNATIONAL SPACE LAW
*Ram S. Jakhu, McGill University, Canada*

**IAC-13.E7.5.4**
ASTEROID MINING
*Paul Larsen, Georgetown University Law Center, United States*

**IAC-13.E7.5.5**
EVOLUTION OF CNES STATUS FROM 1961 TO NOW
*Philippe Clerc, Centre National d'Etudes Spatiales (CNES), France*

**IAC-13.E7.5.6**
SPACE GOVERNANCE IN JAPAN
*Yuichiro Nagai, , Japan*

**IAC-13.E7.5.7**
PERSPECTIVES FOR A NATIONAL GI POLICY (INCLUDING ASSESSMENT OF EXISTING NATIONAL REMOTE SENSING, MAP AND DATA SHARING POLICIES)
*Mukund Kadursrinivas Rao, , India*

**IAC-13.E7.5.8**
RECENT DEVELOPMENTS IN SPACE-RELATED LAW AND POLICY WITHIN THE POST-SOVIET AREA
*Olga S. Stelmakh, Parliament of Ukraine / V.Koretsky Institute of State and Law, National Academy of Sciences of Ukraine, Ukraine*

**IAC-13.E7.5.9**
FEDERAL VERSUS STATE: PRIVATE COMMERCIAL SPACEFLIGHT OPERATOR IMMUNITY REGULATION IN THE UNITED STATES
*Frans von der Dunk, University of Nebraska-Lincoln, The Netherlands*

**IAC-13.E7.5.10**
AN OVERVIEW OF PROTOCOL ON SPACE ASSETS FROM CHINA'S PERSPECTIVE
*Jilian Wang, China Great Wall Industry Corporation, China*

**IAC-13.E7.5.11 (withdrawn)**
LEGAL ISSUES OF RELEASING SATELLITES IN OUTER SPACE
*Atsuyo Ito, , Japan*

**IAC-13.E7.5.12**
THE SHAPING OF "PEACEFUL PURPOSES": WHAT NORTH KOREAN SPACE ACTIVITIES CAN TELL US ABOUT THE HEART OF SPACE SECURITY LAW
*PJ Blount, LL.M. in Air and Space Law, United States*

**IAC-13.E7.5.13 (withdrawn)**
THE FREE ACCESS TO OUTER SPACE PRINCIPLE IN THE LIGHT OF THE RELEVANT SECURITY COUNCIL RESOLUTIONS
*Hadi Mahmoudi, Aerospace Research Institute (member at IISL), Iran*

**IAC-13.E7.5.14 (withdrawn)**
TRANSPARENCY AND CONFIDENCE-BUILDING MEASURES IN OUTER SPACE
*Sergiy Negoda, United Nations/OOSA, Austria*

## E7.6-E3.5. 28th IAA/IISL Scientific-Legal Round Table "Space and the Polar R egions (Arctic and Antarctica)" (Invited Papers)

***September 26 2013, 09:45 — 305***

***Chairman(s):*** *Kai-Uwe Schrogl , European Space Agency (ESA), France; Geir Hovmork , Norwegian Space Centre, Norway;*
***Rapporteur(s):*** *Nicola Rohner-Willsch , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;*

**IAC-13.E7.6-E3.5.1**
SPACE AND THE POLAR REGIONS - CASES OF SATELLITE APPLICATIONS, POLICIES AND REGULATIONS
*Stephan Hobe, University of Cologne, Germany*

**IAC-13.E7.6-E3.5.2**
SPACE APPLICATIONS FOR THE POLAR REGIONS - AN OVERVIEW
*Isabelle Duvaux-Bechon, European Space Agency (ESA), France*

**IAC-13.E7.6-E3.5.3**
FOCUS ON SPACE APPLICATIONS FOR TRANSPORTATION IN THE POLAR REGIONS
*Lauren Small-Pennefather, Canadian Space Agency, Canada*

**IAC-13.E7.6-E3.5.4**
SPACE APPLICATIONS FOR TRANSPORTATION IN THE POLAR REGIONS
*Toru Fukuda, JAXA/EORC, Japan*

**IAC-13.E7.6-E3.5.5**
MARINE AND MARITIME MONITORING IN THE ARCTIC
*Bo N. Andersen, Norwegian Space Centre, Norway*

**IAC-13.E7.6-E3.5.6**
THE POTENTIAL FOR COMMERCIAL SATELLITE SERVICES FOR POLAR REGIONS
*Jean-François Petit, Astrium SAS France, France*



## E7.7-B3.8. Joint IAF/IISL Session on Legal Framework for Cooperative Space Endeavours

***September 27 2013, 13:30 — 308***

***Chairman(s):*** *Cristian Bank , EADS Astrium Space Transportation GmbH, Germany; Lesley Jane Smith , Leuphana University of Lüneburg/Weber-Steinhaus & Smith, Germany;*
***Rapporteur(s):*** *Luise Weber-Steinhaus , WIA-Europe, Germany;*

**IAC-13.E7.7-B3.8.1 (withdrawn)**
A CONSIDERATION ON THE LEGAL FRAMEWORK FOR THE FUTURE EXPLORATION
*Fuki Taniguchi, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.E7.7-B3.8.2**
RESPONSIBLE SPACE EXPLORATION AND USE: BALANCING STAKEHOLDER INTERESTS
*Pascale Ehrenfreund, Space Policy Institute, George Washington University, United States*

**IAC-13.E7.7-B3.8.3**
EVOLUTION FROM POLICY TOWARDS LAW: INTERNATIONAL COOPERATION IN THE PEACEFUL USES OF OUTER SPACE"
*LIAO Minwen, CHINA UNIVERSITY OF POLITICAL SCIENCE AND LAW, China*

**IAC-13.E7.7-B3.8.4**
LEGAL ASPECTS OF THE ISECG NON-BINDING COORDINATING MECHANISM
*Christopher Johnson, Space Generation Advisory Council (SGAC), United States*

**IAC-13.E7.7-B3.8.5**
REVISION ON ASTRONAUT'S DEFINITION
*Safoora Tanbakouei, Space Generation Advisory Council (SGAC), Iran*

**IAC-13.E7.7-B3.8.6**
EUROPEAN SPACE AGENCY AND EUROPEAN COMMISSION: RECENT RULES FOR THE EUROPEAN SPACE SECTOR
*Annette Froehlich, European Space Policy Institute (ESPI), Austria*

**IAC-13.E7.7-B3.8.7**
THE OTHER TRIANGLE IN EUROPEAN SPACE GOVERNANCE: THE EU, ESA AND THE UN
*Rik Hansen, KU Leuven, Belgium*

**IAC-13.E7.7-B3.8.8**
STATE RESPONSIBILITY AND LIABILITY FOR AN AIR LAUNCH UNDER INTERNATIONAL COOPERATION
*Yuri Takaya-Umehara, Kobe University, Japan*

**IAC-13.E7.7-B3.8.9**
DIPLOMATIC IMPACT OF HUMAN SPACE EXPLORATION
*Yu Takeuchi, Japan Aerospace Exploration Agency (JAXA), Japan*

**IAC-13.E7.7-B3.8.10**
LEGAL ISSUES RELATED TO PROTECTING LUNAR ARTIFACTS AND HERITAGE SITES
*Virgiliu Pop, Romanian Space Agency (ROSA), Romania*

**IAC-13.E7.7-B3.8.11**
REGULATING REMOTE SENSING SPACE SYSTEMS IN CANADA: LINKING NATIONAL REGULATION TO INTERNATIONAL COMMITMENTS
*Thomas Gillon, Government of Canada, Canada*

## E7.P. Poster Session

***September 25 2013, 13:30 — North Foyer***

***Co-Chair(s):*** *Lesley Jane Smith , Leuphana University of Lüneburg/Weber-Steinhaus & Smith, Germany; Mahulena Hofmann , University of Luxembourg, Luxemburg;*

**IAC-13.E7.P.1**
THE TRAGEDY OF COMMONS IN OUTER SPACE----THE CASE OF SPACE DEBRIS
*Peng Wang, , China*

**IAC-13.E7.P.2 (withdrawn)**
THE INSURANCE MARKET ON THE DOORSTEP OF THE PUBLIC ACCESS TO SPACE - LEGAL ISSUES CONCERNING THE LIABILITY AND THE INSURANCE OF COMMERCIAL SPACEFLIGHTS. SPACEFLIGHTS.
*Damian M. Bielicki, University of Silesia in Poland, United Kingdom*

**IAC-13.E7.P.3**
LEGALITY OF NON-COOPERATIVE SATELLITE REMOVAL
*Siqing LI, , China*

**IAC-13.E7.P.4 (withdrawn)**
GOLD RUSH ON THE FINAL FRONTIER: IS A NEW REGULATORY FRAMEWORK NECESSARY FOR THE COMMERCIAL EXPLOITATION OF NATURAL RESOURCES IN OUTER SPACE?
*Nicholas Charles Puschman, University of Strathclyde, Glasgow, United Kingdom*

**IAC-13.E7.P.5**
OMITTING THE MOON TREATY: THE POINT OF NO RETURN
*Daniël Konrad Link, , Brazil*

**IAC-13.E7.P.6**
CONTAMINATION: THE UNSPOKEN THREAT TO LUNAR STATIONS
*RADHIKA MISRA, Student, India*

**IAC-13.E7.P.7**
SMALL SATELLITES - SMART LAWS? SMALL SATELLITE PROJECTS FACING NATIONAL SPACE LEGISLATION. CASE STUDY: AUSTRIAN OUTER SPACE ACT.
*Anita RINNER, University Graz, Austria*

**IAC-13.E7.P.8**
APPLICABILITY OF RESCUE AND RETURN PROVISIONS UNDER THE OUTER SPACE TREATY AND THE RESCUE AND RETURN AGREEMENT TO 'ASTRONAUTS' AND 'PERSONNEL' STRANDED IN OUTER SPACE
*Steven Wood, Leiden University, United States*

**IAC-13.E7.P.9**
THE REGULATION OF SPACE TOURISM AND ITS REPERCUSSIONS FOR THE AIR-SPACE BOUNDARY
*Rik Hansen, KU Leuven, Belgium*

**IAC-13.E7.P.10**
AN ANALYSIS OF THE SPACE DEBRIS PROBLEM IN THE GEOSTATIONARY ORBIT
*Ipshita Chaturvedi, , Australia*

**IAC-13.E7.P.11**
SOFT LAW AND SPACE SECURITY: A POST-MODERN THEORY PERSPECTIVE
*Istovant NKOGHE, Université de Brest, France*

**IAC-13.E7.P.12**
REGULATING SPACE EXPLOITATION FOR SUSTAINABLE DEVELOPMENT AND BENEFITS OF MANKIND: FROM THE PERSPECTIVE OF PLANETARY RESOURCE EXPLOITATION
*Jingjing Nie, , China*

**IAC-13.E7.P.13**
FREEDOM THROUGH REGULATION: ADVANCING GLOBAL GOVERNANCE IN OUTER SPACE.
*Isavella Maria Vasilogeorgi, Institute of Air and Space Law, McGill University, Canada*

**IAC-13.E7.P.14 (withdrawn)**
LEGAL FRAMEWORK FOR MITIGATING SPACE DEBRIS
*Girish Kalla, , India*

**IAC-13.E7.P.15**
THE LEGALITY OF UNILATERAL REMOVAL OF OBJECTS LAUNCHED INTO OUTER SPACE: RE-INTERPRETING ARTICLE VIII OF THE OUTER SPACE TREATY
*Viraj Parikh, National Law School of India University, India*

**IAC-13.E7.P.16**
PRIVACY PROTECTION: THE LEGAL ISSUES OF USE OF SATELLITE DATE IN CHINA'S COURT
YAN YIM, CHINA UNIVERSITY OF POLITICAL SCIENCE AND LAW, Hong Kong

**IAC-13.E7.P.17**
ON-ORBIT TRANSFER OF SATELLITES BETWEEN STATES: STATE LIABILITY UNDER SPACE LAW
*Upasana Dasgupta, , Canada*

**IAC-13.E7.P.18 (withdrawn)**
THE APPLICATION OF SPACE OR AIR LAW FOR HYPERSONIC VEHICLES
*Karina Wardak, , Germany*

## YPVF. YOUNG PROFESSIONALS VIRTUAL FORUMS

***Coordinator(s):*** *Kathleen Coderre , Lockheed Martin Corporation, United States; Guillaume Girard , INSYEN AG, Germany;*

## V.1-B6.4. Flight Control Operations Virtual Forum

***September 23 2013, 15:15 — 209A***

***Chairman(s):*** *Katja Leuoth , Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany; Ahmed Farid , Telespazio VEGA Deutschland GmbH, Germany;*

**IAC-13.V.1-B6.4.1**
PREPARATION AND COORDINATION TASKS OF AN INCREMENT LEAD COL-OC
*Jérôme Campan, DLR, German Aerospace Center, Germany*

**IAC-13.V.1-B6.4.2**
THE EFFECT OF CONTROL POWER FOR SPACECRAFT HANDLING QUALITIES
*Huan Liu, Institute of Manned Space System Engineering,China Academy of Space Technology (CAST), China*

**IAC-13.V.1-B6.4.3 (withdrawn)**
XMM-NEWTON'S REACTION WHEELS RE-LUBRICATION ACTIVITIES
*Mauro Pantaleoni, Rhea System S.A., Germany*

**IAC-13.V.1-B6.4.4**
PRACTICAL CHALLENGES AND REAL TIME EXECUTION OF MAPS AND MISSION PLANNING ON A REMOTE MARS ANALOGUE LOCATION IN THE MOROCCO 2013 FIELD SIMULATION (AUSTRIAN SPACE FORUM)
*Andrea Boyd, Space Applications Services N.V., Belgium*

**IAC-13.V.1-B6.4.5**
THE MISSION AND ACTIVITY PLANNING STRATEGY FOR THE MARS2013 MISSION
*Sebastian Hettrich, German Federal Office for Radiation Protection, Austrian Space Forum, Germany*

**IAC-13.V.1-B6.4.6**
NANORACKS
*Richard Pournelle, Nanoracks, United States*

## V.2-B3.9. Human Space Endeavours Young Professionals Virtual Forum

***September 26 2013, 14:45 — 209A***

***Chairman(s):*** *Guillaume Girard , INSYEN AG, Germany; Cristian Bank , EADS Astrium Space Transportation GmbH, Germany;*
***Rapporteur(s):*** *Alexandra Kindrat , International Space University (ISU), Canada;*

**IAC-13.V.2-B3.9.1**
LUNAR EXPLORATION ARCHITECTURE TRADE ANALYSES
*Jackelynne Silva, Georgia Institute of Technology, United States*

**IAC-13.V.2- B3.9.2**
QUANTUM COMMUNICATION TECHNIQUES FOR DEEP SPACE & INTERPLANETARY MISSIONS: EXPLORATION & EXAMINATION OF METHODS MEETING LOW POWER REQUIREMENTS
*Arpit Goel, University of Petroleum and Energy Studies, India*

**IAC-13.V.2-B3.9.3**
CHALLENGES OF FUTURE HUMAN SPACE EXPLORATION - RETHINKING WHAT IS POSSIBLE
*Seyed Ali Nasseri, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.V.2-B3.9.4**
*USE OF COLD GAS PROPULSION SYSTEM IN A 3U CUBESAT*
*Surmit Bhui, University of Petroleum and Energy Studies, India*

**IAC-13.V.2-B3.9.5**
ANALYSIS OF THE JURISDICTION OVER FACILITIES BUILT ON THE MOON
*Yangzi Tao, Beijing Institute of Technology, China*

**IAC-13.V.2-B3.9.6**
DETERMING SYNTHETIC APERTURE RADAR SIGNATURE OF TERRAIN FOR EARTH OBSERVATION USING COMPUTER ELECTROMAGNETIC MODE
*Maurice Ezeoke, University College London, United Kingdom*

## V.3-B2.8. Space Communications and Navigation Young Professionals Virtual Forum

***September 25 2013, 14:45 — 209A***

***Chairman(s):*** *Edward W. Ashford , Delft University of Technology, The Netherlands; Kevin Shortt , Canadian Space Society, Canada;*

**IAC-13.V.3-B2.8.1**
CONCEPT OF AN ENVIRONMENT FOR A CONTINUOUS UPLINK RAIN FADE ATTENUATION MEASUREMENT IN KA-BAND
*Mr. Jürgen Letschnik, LSE Space GmbH, Germany*

**IAC-13.V.3-B2.8.2**
DEEP SPACE AUTONOMOUS NAVIGATION AND EXPLORATION SYSTEM
*Anand Patil, , India*

**IAC-13.V.3-B2.8.3**
A WIRELESS COMMUNICATION TRANSCEIVER SYSTEM BASED ON PROXIMITY-1 SPACE LINK PROTOCOL
*Rui Cui, Nanjing University of Aeronautics and Astronautics, China*

**IAC-13.V.3-B2.8.4**
A TAXONOMY OF ENERGY EFFICIENCY STRATEGIES FOR CUBESAT CLUSTER FORMATION NETWORKS
*Shengchang LAN, Aalto University, Finland*

**IAC-13.V.3-B2.8.5**
APPLYING THE SYSTEM ENGINEERING APPROACH TO DEVISE AND VERIFY BUAA-SAT VHF/UHF COMMUNICATIONS SEGMENT
*Hooman Jazebizadeh, Beihang University, China*



**IAC-13.V.3-B2.8.6**
THE STUDY OF A NEW SCHEME FOR GNSS BOC SIGNAL ACQUISITION
*Jichao Zhang, , China*

**IAC-13.V.3-B2.8.7**
FENICE: A FLEXIBLE, SCALABLE HIGH PERFORMANCE SATELLITE AIS RECEIVER
*Veronica De Perini, CGS S.p.A.Compagnia Generale per lo Spazio, Italy*

## V.4-E2.3.Student Team Competition

***September 24 2013, 14:45 — 209A***

***Chairman(s):*** *Naomi Mathers , Advanced Instrumentation and Technology Centre (AITC), Australia; Carolyn Knowles , National Aeronautics and Space Administration (NASA), United States;*
***Rapporteur(s):*** *Soyeon Yi , Korea Aerospace Research Institute, Korea, Republic of;*

**IAC-13.V.4-E2.3.1**
*THE DESIGN AND ORGANIZATIONAL APPROACH FOR A STUDENTBUILT HYBRID SOUNDING ROCKET*
*Jeffrey R. Osborne, University of Toronto Institute for Aerospace Studies, Canada*

**IAC-13.V.4-E2.3.2**
*ISEDE DEMONSTRATOR ON HIGH ALTITUDE BALLOON BEXUS: INFLATABLE SATELLITE ENCOMPASSING DISAGGREGATED ELECTRONICS*
*Thomas Sinn, University of Strathclyde/Advanced Space Concepts Laboratory, United Kingdom*

**IAC-13.V.4-E2.3.3**
*STRATOSPHERIC DECOMPOSITION OF SELECTED CFC'S COMPOUNDS AS AN EXAMPLE OF STUDENT BALLOON EXPERIMENT IN THE EARTH'S ATMOSPHERE - PROJECT FREDE*
*Jedrzej Gorski, Wroclaw University of Technology, Poland*

**IAC-13.V.4-E2.3.4**
*3U CUBESAT FOR CANADIAN SATELLITE DESIGN CHALLENGE: A POLYTECHNIQUE MONTREAL AND UNIVERSITY OF BOLOGNA COOPERATION*
*Mark Smyth, Ecole Polytechnique de Montreal, Canada*

**IAC-13.V.4-E2.3.5**
*ENGINEERING DESIGN OF A LOW GRAVITY EXPERIMENT ONBOARD REXUS 16: CHEMICAL WAVE IN SORET EFFECT (CWIS)*
*Antonio Pugliese, , Italy*

**IAC-13.V.4-E2.3.6 (withdrawn)**
*AZAD-1, INDIA'S FIRST SOLAR OBSERVATION STUDENT SATELLITE*
*Aafaque Khan, Maulana Azad National Institute of Technology, India*

**IAC-13.V.4-E2.3.7**
*POST-ISS FUTURE ACTIVITIES IN LOW EARTH ORBIT*
*Giuseppe Ferraioli, ISAE - Institut Supérieur de l'Aéronautique et de l'Espace, Italy*

**IAC-13.V.4-E2.3.8**
*INVESTIGATION OF THE SURFACE DEFORMATION AND DENDRITIC SOLIDIFICATION OF TITANIUM ALLOY MELTED IN MILIGRAVITY*
*Elena Sorina Lupu, Politechnic University of Bucharest, Romania*

**IAC-13.V.4-E2.3.9**
*PERFORMANCE OPTIMIZATION OF 1U SATELLITE ANTENNA*
*Pushkar Chaudhari, College of Engineering Pune, India*

**IAC-13.E2.3-V.4.10**
*MONITORING STORM TIME RELATIVISTIC ELECTRON ENHANCEMENT IN LOW EARTH ORBIT ON A NANOSATELLITE PLATFORM*
*Kshitij Naik, Manipal Institute of Technology, Manipal University, India*

## V.5-B3.10. Next Generation Destinations for Human Exploration Young Professionals Virtual Forum

***September 27 2013, 13:30 — 209A***

***Co-Chair(s):*** *Nicholas Fishwick, Astrium Ltd,UK;*
***Rapporteur(s):*** *Kevin Stube, The Planetary Society, USA;*

**V.5-B3.10.1**
MOON
*Yurika Nakanno, , Japan*

**V.5-B3.10.2**
LAVA TUBES ON THE MOON
*Guillaume Tanier, , France*

**V.5-B3.10.3**
NEO
*Huai-Chien Change, , Taiwan, China*

**V.5-B3.10.4**
ASTEROIDS
*Jonathan Lun, , South Africa*

**V.5-B3.10.5**
MARS
*Suzanne Gordon, , United States*

**V.5-B3.10.6**
ENCELADUS
*Andrew Crawford, , United States*

# 6 Students' and Young Professionals' Events

## 6.1 Young Professionals events

***All young professionals, please join us at these events included in your registration.***

IAF YOUNG PROFESSIONALS PROGRAMME

### 6.1.1 IPMC Young Professionals' Workshop

**Friday, 20 September - 9:00-18:00 - Grand Skylight Catic Hotel**

The IAF International Project Management Committee (IPMC) organises the Young Professionals Workshop to gather inputs from young professionals in the international space community to gain the knowledge they need to better develop and empower the next-generation workforce.

The workshop – which is being planned in coordination with the IAF Workforce Development - Young Professional Programme Committee – is being held to provide IAF member organisations with the knowledge they need to better develop and empower the next generation space workforce.

The workshop participants – 50 young space professionals (under 35 years of age) nominated by IPMC and IAF member organisations – will take part in several discussions around topics including mentorship, exchange opportunities, project organisation methodology, promotion of exchange and networking between YP and challenges facing the next generation.

The IPMC plans to produce a report on the results of the workshop and recommendations of the participants which will be made available to interested IAF member organisations in late 2013 or early 2014.

The report of the 2012 YP workshop is available on the IAF website.

This Workshop is sponsored by Northwestern Polytechnical University, China, and Boeing.

### 6.1.2 2013 IAC Young Professional Programme

#### *Welcome Reception*

**Sunday, 22 September - 18:45 - 21:00 - Room 310**

Come and meet the other YPs who are attending the IAC, learn more about this year's YP specific events, and talk key IAF leaders and IAC organise

Speakers include:
- Naoki Okumura, JAXA President (invited)
- XU Dazhe, Chair of the IAC Local Organising Committee (invited)
- LI Ming, Co-Chair IAC International Programme Committee (invited)

Cocktails and light appetizers will be served.

#### *The Future of Human Exploration*

**Tuesday, 24 September - 18:45 - 21:00 - Room 309 A&B**

With several different destinations proposed for human exploration from Low Earth Orbit, to the moon, an asteroid, and Mars, hear a discussion among high level managers from several space agencies on their plans and take time to engage them on their plans. This event follows on the discussion from the combined Heads of Industry and Next Generation Plenary on the same topic earlier in the day. Attend both to enhance your understanding of how Young Professionals can shape the future of human exploration.

Speakers include:
- William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, NASA
- Masazumi Miyake, ISS Program Manager, Japan Aerospace Exploration Agency (JAXA) (invited)
- Thomas Reiter, Astronaut & Director of Human Spaceflight and Operations, European Space Agency (ESA) (invited)
- Sandy Magnus, former NASA Shuttle and International Space Station Astronaut
- Fei Junlong, CSA Taikonaut (invited)

Moderated by Kathy Laurini, Senior Advisor, Exploration and Space Operations, NASA

Cocktails and light appetizers will be served in room 310 after the panel.

#### *Space Debris*

**Wednesday 25 September - 18:45 - 21:00 - Room 309 A&B**

Come and listen to our panel discussing the threats of Space Debris and the challenges to mitigate these. YPs will have the opportunity to share ideas with this expert panel.

Speakers include:
- Dr.Heiner Klinkrad, Head of ESA Space Debris Office, European Space Agency
- Mr. Brian Weeden, Technical Advisor, Secure World Foundation
- Tanja Masson-Zwaan, President IISL (Moderator)(Legal issues)
- Zhuoyan Lu, SGAC
- Dr. Tetsuo Yasaka, QPS Institute
- Muriel Richard, EPFL

Moderated by Agnieszka Lukaszczyk, Secure World Foundation
Cocktails and light appetizers will be served in room 310 after the panel.

The 2013 Young Professionals Networking Events are sponsored by:

### 6.1.3. 2013 Young Professionals Virtual Forums

The Virtual Forums allow speakers & audience to link into the IAC from around the world, so that those who cannot attend in person can still benefit from the knowledge and experience of presentations. To find out more come along to a session room to listen in.

**Location:** Room 209A or join remotely: http://www.iafastro.com/index.php/events/iac/iac-2013/vf-2013

**V1-B6.4 - Space Operations** – Monday, 23 Sept, 15:15 – 18:15 Beijing time

*Targets hands-on flight control/operations personnel from multiple international organisations with objectives of sharing best practices, lessons learned, and issues.*

**V4-E2.3 - Student Team Competition** – Tuesday, 24 Sept, 14:45 – 17:45 Beijing time

*Undergraduate and graduate-level student teams present papers on any subject related to space sciences, industry or technology.*

**V3-B2.8 - Space Communications & Navigation (SCAN) –** Wednesday, 25 Sept, 14:45 – 17:45 Beijing time

*Present and discuss developments in a wide range of satellite communication topics, including fixed, mobile, broadcasting, and data relay technologies and services, as well as those for satellite based position determination, navigation, and timing.*

**V2-B3.9 - Human Space Endeavours** – Thursday, 26 Sept, 14:45 – 17:45 Beijing time

*Sharing best practices, future projects, research and issues for the future of Human Space Endeavours.*

**V5-B3.10 - Next Generation Destinations for Human Exploration –** Friday, 27 Sept, 13:30 – 15:30 Beijing time

*Share the viewpoints of students and young professionals for the future destinations for human space exploration.*

INNOVATIVE SYSTEMS ENGINEERING
INSYEN

### 6.1.4 Additional YP events

- **Plenary Event 3: Next Generation and Heads of Industry –** Tuesday 24 September - 08:30-09:30, room 309 A & B
- **Session E1.5 Learning and Knowledge Development for a Globally Sophisticated Workforce –** Wednesday 25 September 14:45 – 17:45, room 302A



## 6.2 Students events

### 6.2.1 International Student competition – E.2 Symposium – Student Conference

**Coordinators:**
Stephen Brock and Marco Schmidt

The IAC E2 Symposium, the "Student Conference," presents technical papers from various disciplines. Additionally, all authors present their work in the frame of an international student competition. All presentations are scientific contributions from students, undergraduate and graduate. Their papers may be on any project in space sciences, industry, or technology.
The Student Conference sessions E2.1 and E2.2 are reserved for students presenting papers of no more than two student authors (single student competition). The Student Team Competition, E2.3, addresses team projects. The project teams may be of any size, but the paper must represent the student work and be authored by three or more students at the undergraduate or graduate level.
All students presenting papers in the E2.1 and E2.2 sessions compete in the student competition for gold and silver medals. Graduate and undergraduate students will be considered separately. Additionally, a best paper prize is awarded for an outstanding technical paper. The best technical paper is selected from all entries. Students presenting in session E2.3 compete for the Hans von Muldau Team Award.

The winners of the student competition receive the prizes during the closing ceremony at the end of the IAF congress.

### 6.2.2 International Space Education Board (ISEB) Student Programme

Dear Students,

It is with great pleasure that I welcome you to the 64th International Astronautical Congress (IAC) in Beijing, China. The activities that you will be taking part in have been planned especially for you to learn from upper management level personnel, globally recognized specialists, experts on the forefront of space development, young professionals, and fellow peers from around the world.

The International Space Education Board (ISEB) will be sponsoring 54 outstanding students. The majority of ISEB activities will take place at the International Student Zone (ISZ). This area is the hub for student activity for the duration of the IAC and we urge you to utilize it to its fullest capacity. Feel free to use it as an area to connect and network with professionals and students.

The connections you make here can greatly influence your future both professionally as well as in your personal life. I urge you to make as many friends as possible so that we can collectively strive to make this world a better place and fortify the space industry. Please take full advantage of this opportunity to help yourself expand your field of vision and increase your potential.

On behalf of the ISEB, I would like to thank the International Astronautical Federation and the members of the Local Organizing Committee for their assistance in helping us bring a quality program to this year's participants.

I wish all of you a fruitful conference and a memorable experience in Beijing.

Sincerely,

Yasunori Matogawa
Chair, International Space Education Board
Special Adviser to JAXA President

## *International Space Education Board (ISEB) Student Programme*

### Sunday, 22 September : International Space Education Board (ISEB) Orientation Day

**10:00 – 18:00** ISEB Meet and Greet @ Beihang University [ISEB Students Only]

### Monday, 23 September: Commencement Day

**16:00 – 17:00** Heads of Agency Q&A Session @ ISZ (International Student Zone)
*Senior space officials address questions given by ISEB sponsored students* [Open to All Students]

### Tuesday, 24 September: NASA & KARI Day

**13:00 – 14:00** Lunchtime Session by NASA & KARI @ ISZ [Open for All Students]
"Working Together to Share Student Research"
*A variety of presentations given by NASA and KARI sponsored students*

### Wednesday, 25 September: ESA & SANSA Day

**13:00 – 14:00** Lunchtime Session by ESA & SANSA @ ISZ [Open for All Students]
"Working Together to Share Student Research"
*Special presentations given by Paolo Ferri "Rosetta – Awakening the comet chaser" and other presenters*

**14:00 – 14:15** Presentation by Defi Aerospatial Etudiate "Feasibility study of a spaceport for manned suborbital flights"

**14:15 – 14:45** International Space University (Nassim Bovet).

### Thursday, 26 September: JAXA & VSSEC Day

**12:00 – 13:00** Presentation by JAXA sponsored students

**13:00 – 14:00** Lunchtime Session by JAXA & VSSEC @ ISZ [Open for All Students]
"Remote Sensing: Is the Earth Just Blue?"
*Presentations on Remote Sensing given by Brett Biddington on Australia's reliance and application on remote sensing and the development of Australia's ground station network, and by Yasushi Horikawa, Technical Counselor of JAXA and Chair of UN COPUOS, on Japanese Space Technology ~Japan's Satellite and Space Utilization Program~*

### Friday, 27 September: Outreach Day

**09:00 – 11:00** Outreach Activity @ Fang Cao Di International School [ISEB Students Only]



## 6.2.3 Tsinghua University Student Workshop

### 28 September 2013 – Tsinghua University

This workshop is organised in cooperation with Tsinghua University and the International Astronautical Federation – Space University Administrative Committee (IAF-SUAC) in conjunction with the International Astronautical Congress (IAC) 23-27 September 2013 in CNCC, Beijing, China.

20 students will present their research in front of an assembly of peers and senior space experts on the following topics:

- Near earth orbit science and exploration projects with space station/lib and satellites;
- Deep space sciences and exploration projects with lunar/mars rover and others;
- Innovation in satellite/spacecraft technologies and applications;

The best presentation will be awarded a prize.

This workshop is sponsored by Ecole Polytechnique de Lausanne (EPFL), Chinese Society of Astronautics and Tsinghua University

If you wish to attend the workshop, please contact Lisa Antoniadis, lisa.antoniadis@iafastro.org

# 6.3. IAF Grant and Recognition programmes for students and YP

## 6.3.1 Young Space Leaders Recognition Programme

These awards are issued to students and young professionals who are in the course of their academic or professional activities, and have helped promote astronautics by enhancing outreach opportunities, expanding knowledge of space among the general public or fostering deeper engagement within the international space community. The five winners will be awarded their prizes during the Closing Ceremony of the 64th IAC on 27 September. They will also be invited to the gala dinner as guests of honor of the IAF President, Mr. Kiyoshi Higuchi.

***Kimberley Clayfield***

*CSIRO Space Sciences and Technology, Australia*

Dr Kimberley Clayfield is Executive Manager of Space Sciences and Technology within the Australia national research organisation, CSIRO (an IAF member since 1986). In this role, Kimberley is helping to guide the development and implementation of CSIRO and Australia space technology agenda through achievements including: establishing a significant new million-dollar Earth observation initiative within CSIRO; co-authoring a major national study into the Earth observation data dependencies of the Australian R&D sector; and influencing important national space policy developments, including playing a key role in developing the proposal which led to the four-year $40 million Australian Space Research Program, and contributing to the creation of Australia first national space policy (released in April 2013).

Kimberley, a mechanical engineer with additional qualifications in space science, public policy and business administration, is an invited member of both the Engineers Australia National Committee for Space Engineering, and the Australian Academy of Science National Committee on Space Science. She has also previously served as a Past Chair (Sydney Section) and Deputy Director Young Professionals (Region VII) of the American Institute of Aeronautics and Astronautics. Kimberley represents CSIRO on the IAF; she is a member of the Policy Advisory Committee, and in 2012 she served as an elected member of the Nominations Committee supporting the biennial IAF elections.

Kimberley has a passion for education, and dedicates much of her personal time to inspiring young people to study science and engineering, particularly through her long-standing volunteer role of more than a decade as Program Director of both the South Australian Space School and National Space Camp (annual 3-5 day vacation programs for school students in Grades 10 and 11), through which she has mentored more than 500 students to date. She has also been a visiting lecturer at several International Space University programs.

Kimberley recently received the 2013 NAB Women Agenda Leadership Award for Emerging Leader in the Public or Not-for-profit Sector. She has previously been named one of Australia's Most Inspiring Young Engineers by Engineers Australia (2010), and was the recipient of an Australian Leadership Award in 2011.

***Trong Thu Vu***

*FPT University in Hanoi, Vietnam*

Inspired by black and white pictures of the planet Mars sent back from the Pathfinder '97 mission mission, the then high school Trong Thu Vu was quickly captivated captivated by space issues. In 2008 Thu left his former job as a software engineer to follow his dream of space. Thu is now leading the team at FSpace laboratory, FPT University in Hanoi, Vietnam with a focus in development and applications of nano-satellites. Their first space mission, F-1 CubeSat was deployed from Kibo module/ISS to orbit together with 4 other CubeSats on October 4th, 2012. The little satellite carried an IAF pin, a miniature flag of Vietnam and other memorial items to space as a tribute from the team to supporters.

Thu was first exposed to the international space community at IAC 2009 when he was awarded an IAF Youth Grant Programme. He has since also become the National Point of Contact for Vietnam at Space Generation Advisory Council (SGAC), effectively being the bridge connecting Vietnamese youth and the space community. Thu was recognized as SGAC's Member of the Month in March 2011 and now serving the second term.

After attending the Space Studies Program at the International Space University in 2010, Thu contributed to a paper on asteroid mining roadmap which he co-presented at the 61st IAC in Prague later the same year. Thu has participated in 3 UN/IAF workshops, first as an observer then as a full participant, discussing and sharing his experience with nano-satellites development for socio-economic benefits. He also served as a rapporteur for several sessions.

Thu sees peaceful exploration and applications of space as a means to build trust among people and nations, promote new technology research and bring benefits to the economy. He supports an international, interdisciplinary and intercultural approach to tackle challenges in realizing this goal.

Currently, Thu is working with the Vietnamese Aerospace Association to develop a 2U CubeSat participating in QB50 project - a network of 50 international CubeSats for study of the lower thermosphere and also to develop a plan to host one of future IAF conferences in Vietnam to promote space activities in the region.



***Kathleen Coderre***

*Lockheed Martin, USA*

Kathleen Coderre has worked for Lockheed Martin since 2007 and is currently a Systems Engineer on the Facilities Development and Operations Contract (FDOC). FDOC provides mission control systems services, development, maintenance and operations support at NASA Johnson Space Center.

Kathleen as been involved with the IAF since 2007 and currently serves as the Vice Chair for Virtual Activities for the Young Professionals Programme/Workforce Development Committee (WD/YPP). She was a co-creator of the first remote session ever offered at the IAC in 2008 and has managed the growth of the virtual forum pilot program from one to five technical sessions all negotiated with established IAF technical committees. Kathleen is also a member of the Space Operations Committee (SOC). She holds a Bachelor of Science degree in Aeronautical and Mechanical Engineering and is finishing a Master's degree in Systems Engineering.

Kathleen is an active member of the Space Generation Advisory Council and has helped organize events such as the Space Generation Congress (SGC) and Space Generation Fusion Forum. In 2013, Kathleen was selected as the liaison between the Space Generation Congress organizing team and the WD/YPP Committee where she will serve a two year term.

Kathleen has always had a passion for space exploration and after she attended her first SGC and IAC in 2006, her interest in international space grew. Space is a vast expanse with much to learn, countless places to explore and many questions waiting to be answered.

Working together on an international scale will allow for pooling both our resources and expertise from around the world, allowing us to go further and learn more as the human race.

Kathleen would like to thank her mentors and those who have nominated her for the Young Space Leaders Recognition Programme; the highest honor the IAF gives to students and young professionals. It is truly an honor to receive this recognition from the IAF.

***Jacob Sutherlun***

*NOAA Satellite and Information Service International and Interagency Affairs Office, USA*

Jacob Sutherlun is an International Relations Specialist in the International Affairs Division of the U.S. National Oceanic and Atmospheric Administration Satellite and Information Service(NOAA NESDIS). Jacob currently serves as the Vice-Chair of the CEOS Capacity Building and Data Democracy (CapD) Working Group and will chair this working group for two years beginning in November. He also co-leads a United States Group on Earth Observations initiative to increase the understanding of and the capacity to participate in the Group on Earth Observations in the Americas.

Jacob earned his Master of Arts in International Affairs from the Elliott School of International Affairs at The George Washington University where he combined his interests in energy, environment, and space. Prior to that, Jacob worked as an engineer in Texas as well as in Bolivia where he served as a United States Peace Corps Volunteer. At NOAA and in the various international organizations that Jacob is involved in, he is able to combine his engineering and international backgrounds to help build the capacity to use space-based Earth observations for informed environmental decision making.

Jacob Sutherlun is a Young Professional associated with both the IAF GEOSS Subcommittee and the IAF Space Education and Outreach Committee (SEOC). He has been an organizer of the Next Generation Plenaries for the Cape Town, Naples and upcoming Beijing IACs. At the Naples IAC, he co-chaired the joint Virtual Forum technical session on Global Earth Observations co-sponsored by both the IAF GEOSS Subcommittee and the Workforce Development-Young Professionals Programme Committee. He is similarly involved in organizing a Virtual Forum for the Beijing IAC. Jacob presented papers at IAF technical sessions in Cape Town and Naples and at the UN/IAF Workshops at both locations. He likewise will present abstracts in connection with Beijing IAC.

***Julio Aprea***

*European Space Agency, France*

Julio Aprea has been working for the European Space Agency (ESA) since 2005, over the years he has served in different positions with a specific focus on Project Management of Space Systems Development. Julio currently works as Project Controller for the Ariane 5ME and Ariane 6 launchers and was in the past involved in satellite projects such as Cryosat-2, Aeolus and GOCE. Prior to joining ESA, Julio worked as Software Development Project Manager for Ternium in Argentina.

Julio holds an Industrial Engineering degree from the National University of La Plata (UNLP), Argentina and in 2005 he graduated from ISU's Master in Space Studies. Julio has been invited to lecture on Project Management, Planning and Control at the ISU Space Studies Program and he has been asked to co-chair its Business and Management Department .

Julio believes that international cooperation is essential to the growth of the space sector. Julio contributes to international cooperation by being an active member of the Space Generation Advisory Council (SGAC), where he served as National Point of Contact for Argentina and as Regional Coordinator for South America. He is now SGAC Competitions Coordinator and Program Coordinator for the Space Generation Fusion Forum.

Julio is a strong supporter of the IAF. He has attended and presented at IACs in Fukuoka, Glasgow, Prague, Cape Town and Naples. Together with the IAF Secretariat, Julio is involved in the organization of Student and Young Professional paper competitions, as well as the organization of the IAF-IPMC Young Professionals Workshop. And in addition to these activities Julio is a member of IAF Space Transportation Committee, and Entrepreneurship and Investment Committee in which he shows great dedication.

## 6.3.2 Emerging Space Leaders Grant Programme

Thirteen young people have been selected to participate in the 2013 IAF Emerging Space Leaders Grant Programme and will attend the 64th International Astronautical Congress in Beijing, China from 23 to 27 October 2013 (listed in alphabetical order):

***Kishor Acharya***
*Tribhuwan University, Nepal*

Mr Acharya is completing his Bachelor in physics at the Tribhuwan University, in Kathmandu, Nepal.

***Constant Chuma***
*National University Of Science And Technology, Zimbabwe*

A graduate of the National University of Science and Technology and the African REgional Centre for Space Science and Technology Education in English (Nigeria), Mr Chuma works at the National University of Science and Technology as a lecturer.

***Zorana Dancuo***
*University Of Belgrade, Serbia*

Ms Dancuo has a Master's Degree from the Faculty of Mechanical Engineering of the University of Belgrade and started her PhD in 2010 on high-G human centrifuges for pilot and astronaut training and flight simulation.

***Sergii Kuzkov***
*Main Astronautical Observatory, National Academy Of Sciences Of Ukraine*

A graduate of the Taras Shevchenko National University of Kiev (Ukraine) Mr Kuzkov works at the Main Astronautical Observatory of the National Academy of Sciences of Ukraine as leading engineer.

***Jonathan Lun***
*Wits University, South Africa*

Mr Jun has a Master's Degree in Mechanical University from Stellenbosch University (South Africa) and started his PhD in developing new ways of improving the performance of the plasma thruster.

***Mariana Maneiro***
*Bolivarian Agency For Space Activities, Venezuela*

A graduate of the Beijing Aeronautic and Astronautic Unversity in China, Dr Maneiro works at the Bolivarian Agency for Space Activities as Chief of Engineering and Projects Division.

***Sohrob Mottaghi***
*Rutgers, The State University Of New Jersey, Usa*

Mr Mottaghi has a Bachelor of Science in Mechanical University from Islamic Azad University (Tehran, Iran) and started his PhD in lunar settlements.

***Seyed Ali Nasseri***
*University of Toronto, Canada*

Mr Nasseri has a Bachelor of Science in Aerospace University from K.N. Toosi University of Technology and started a Master's Degree in aerospace sciences and engineering.

***Zubin Olikara***
*Institutd'EstudisEspacials de Catalunya, Spain*

Mr Olikara started a PhD in Aerospace Engineering Sciences in University of Colorado Boulder (USA) and works as researcher at the Institutd'EstudisEspacials de Catalunya (IEEC) in Barcelona, Spain.

***Norah Patten****
*University of Limerick, Ireland*

A graduate of the University of Limerick and the International Space University (Strasbourg, France), Dr. Patten works as post-doctoral researcher at the University of Limerick.

***Tracie Prater***
*United Launch Alliance, USA*

Dr Prater has a PhD from Vanderbilt University (Nashville, USA) in Mechanical Engineering and works at the United Launch Alliance as Materials and Processes Engineer / Factory Support Engineer.

***Olga Stelmakh***
*VerkhovnaRada of Ukraine (Parliament), Ukraine*

A graduate of the University of Paris-11, the Institute of Space and Telecommunication Law (France) and from V. Koretsky Institute of State and Law to the National Academy of Sciences of Ukraine, Ms Stelmakh works at the Parliament of Ukraine as Senior Legal Adviser.

***Luise Weber-Steinhaus***
*Astrium GmbH, Germany*

A graduate of Humboldt, Technische and Freie-UniversitÃ¤t (Berlin, Germany) and from the International Space University, Ms Weber-Steinhaus works at Astrium GmbH as a Manage for Internal Communication and Editorial.

* Will not be attending



## 6.3.3 Future Space Leaders Grant Programme

***Jason Dunn***
*Made in Space, Inc.*

Jason Dunn holds two degrees in aerospace engineering and he is a young space entrepreneur currently building his second space company Made in Space. As Chief Technologist of the company, he is leading a team to build and fly a 3D Printer on the International Space Station. Once in operation it will mark the first time in history that Humanity has manufactured off-Earth. In 2008 Jason formed his first company, Earthrise Space Incorporated (ESI). The mission of ESI was to give students first hand experience building real space missions.In late 2010, Jason also began work with Moon Express, another contender in the Google Lunar X PRIZE. Moon Express was formed during the Summer of 2010 by Jason's mentor, Bob Richards. In January of 2013 Jason left Moon Express to dedicate his entire attention to Made In Space. Today you can find him at Made In Space Head Quarters at NASA Ames Research Park in Moffett Field, CA.

***Paul Guthrie***
*Tauri Group*

Paul Guthrie is a Senior Economist and Business Development Lead at The Tauri Group, an analytic consulting firm based in the Washington, DC area. Paul is a leading expert in commercial space markets, and in multi-disciplinary technology investment management. He has conducted market and strategy analysis for senior NASA leadership and for leading aerospace firms internationally. Paul was the United States Point of Contact for the Space Generation Advisory Council from 2010 to 2013. He has been quoted in the Denver Post, Scientific America, and Investors Business Daily; and his work has been cited publicly by President Barack Obama, the OECD, The Wall Street Journal, PBS News, the Government Accountability Office, NASA Administrators Mike Griffin and Charlie Bolden, Time Magazine, CNBC, Wired, and in congressional testimony. Paul holds masters degrees from the Johns Hopkins University in Applied Economics, and the Elliott School of International Affairs at George Washington in International Science and Technology Policy; he also holds a BA in Philosophy from the Honors Program at Holy Cross College in Worcester, MA. Paul is a former member of the United States Rowing Team (2003-2004), a Pan American Games Bronze Medalist (2003), and has won seven US national championships as an Olympic Development rowing coach, including three in 2013.

***Aaron Olson***
*University of Wisconsin, Madison*

Aaron Olson was born in Kikwit, D.R. Congo and raised in Madison, WI, U.S.A. He earned a B.S. in Mechanical Engineering in 2012 at the University of Wisconsin-Madison. During his undergraduate education, he studied abroad at the Institute Superieur de l'Aeronautiqueet de l'Espace for a semester, had internships at both NASA Goddard Space Flight Center and NASA Langley Research Center. Aaron was also part of the 2011 winning NASA Exploration Habitat competition student team that built an expandable module for NASA'S Deep Space Habitat Prototype. He was the president of the UW-Madison chapter of Students for the Exploration and Development of Space, participated in NASA's Undergraduate Microgravity Research program and was also a crew member of the 110th Mars Desert Research Station Crew.

Aaron was the 2013-2014 Dr. Laurel Salton Clark Memorial Graduate Fellow, as named by the Wisconsin Space Grant Consortium, and a graduate student in Fusion Technology Institute of the UW-Madison Engineering Physics department. He is researching the acquisition of lunar resources for power generation and life support purposes.

# 7 Associated Events

## 7.1 UN/IAF Workshop (20 – 22 September)

### *UN/IAF International Workshop on*
### *"Space Technology for Economic Development"*

**Location: Meeting Room 301 A&B,**
**China National Convention Center (CNCC)**

The 23rd meeting in the series of workshops jointly organized by the United Nations Office for Outer Space Affairs (UN-OOSA) and the International Astronautical Federation (IAF) will be held in conjunction with and as an associated event of the 64th International Astronautical Congress (IAC). It will discuss how space technologies, applications, information and services can contribute to sustainable economic and social development programmes, primarily in developing countries.

Primary objectives of this event include the following:

- To increase awareness among decision-makers and representatives of research and academic community of space technology applications for addressing economic development, primarily in developing countries;
- To examine low-cost space-related technologies and information resources available for addressing economic development needs in developing countries;
- To promote educational and public awareness initiatives, as well as to contribute into capacity building process in this area; and
- To strengthen international and regional cooperation in the subjects.

The current workshop is being organized with participation of the European Space Agency (ESA), International Academy of Astronautics (IAA), Committee on Space Research (COSPAR) and International Institute of Space Law (IISL). Its programme will address, through plenary sessions, working groups meetings and discussions, a range of space technologies that can provide cost-effective solutions and essential information for planning and implementation of programmes or projects addressing economic development. It also will discuss international and regional initiatives and capacity building activities in this area.

The programme of the workshop will include 4 technical sessions addressing the following themes:
- Technical Session 1: **Space applications for agriculture**
- Technical Session 2: **Space applications for land use**
- Technical Sessions 3 & 4: **Space for disaster management**

Concluding round table discussion with participation of heads/top managers of space agencies and other relevant national/regional/international institutions and organizations from both space faring and non-space faring countries will be held on the last day of the meeting (Sunday, 22 September, from 16:00 to 17:30). Prior to the round table discussion, two or three Working Groups will be established in order to summarize critical issues/focal themes identified in the presentations delivered at the technical sessions of the workshop for addressing those to the panelists.

In addition to the UN and IAF, the current co-sponsorship of the meeting includes European Space Agency (ESA) and Chinese Society of Astronautics (CSA), and it is still open to interested organizations and companies. Financial support provided by the co-sponsors will allow a number of selected participants from developing countries to attend the workshop and IAC.

Participation in the meeting is open to all registrants of the IAC, and there is no registration fee associated with the workshop.

Additional information on the workshop, including on-line registration form, are available on the UN-OOSA website: http://www.unoosa.org/oosa/en/SAP/act2013/un-iaf/index.html



For further information, please contact:

***UN-OOSA:***
**Sergei Chernikov**,
UN Office for Outer Space Affairs
E-mail: unpsa@unoosa.org

***IAF:***
**Christian Feichtinger,**
IAF Secretariat
E-mail: info@iafastro.org

**Tentative Programme**

**Friday, 20 September 2013**

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|---|---|
| 08:00 – 08:30 | **Registration** |
| 08:30 – 10:00 | **Inaugural Session**<br>• Opening ceremony<br>• Keynote addresses I by Mr. Dengyun Yu, China Aerospace Science and Technology Corporation (CASC), China<br>• Keynote addresses II by Ms. Ersilia Vaudo, European Space Agency (ESA)<br>• Keynote addresses III by Dr. Jean-Louis Fellous, Executive Director, COSPAR |
| 10:00 – 10:30 | Coffee break |
| 10:30 – 12:00 | **Technical Session 1 - Space applications for agriculture**<br>*Co-chairs:* Karl Doetsch, DISC, Canada and Mr. Xinmin Wang, China |
| 12:00 – 13:00 | Lunch |
| 13:00 – 17:00 | **Technical Session 2 - Space applications for land use**<br>*Co-chairs:* Ersilia Vaudo, ESA and Prof. Shengtian Yang, China |
| 18:00 | Reception organized by the Local Organizing Committee |

**Saturday, 21 September 2013**

| | |
|---|---|
| 08:00 – 12:00 | **Technical Session 3 - Space for disaster management**<br>*Co-chairs:* Amnon Ginati, IAA/ESA and Mr. Siquan Yang, China National Drought Mitigation Center, China |
| 12:00 – 13:00 | Lunch |
| 13:00 – 17:00 | **Technical Session 4 - Space for disaster management**<br>*Co-chairs:* David Kendall, CSA, Canada, Canada and Mrs. Yunjie Zhang, China |

**Sunday, 22 September 2013**

| | |
|---|---|
| 10:00 – 14:30 | **Working Groups Meeting**<br>Two Working Groups will be established to prepare for the Round Table discussion in addressing questions on critical issues/focal themes identified at the technical sessions. |
| 15:00 – 16:30 | **Round Table Discussion**<br>*Moderator:* Yasushi Horikawa, Chairman of COPUOS<br>A concluding Round Table discussion will be organized with the participation of heads/top managers of space agencies and other relevant national/regional/international institutions and organizations from both space faring and non-space faring countries in order to establish a direct dialogue with the Workshop participants on how space technologies and policies can contribute into sustainable economic development programmes in developing countries. The round table will also discuss issues and problems in participants' countries as well as will open an exchange of pragmatic ideas between panelists and participants of the Workshop. |
| 16:30 – 17:00 | **Concluding Session**<br>Co-chairs: Sergei Chernikov,UNOOSA and Kai-Uwe Schrogl, ESA and IAF/CLIODN |

## 7.2 IAF/ISEB Educators' Professional Development Program

The IAF/ISEB Educators' Professional Development Programme, organised by the International Astronautical Federation (IAF) and the Victoria Space Science Education Centre (VSSEC) on the behalf of ISEB, will be held on Sunday 22 September 2013 at the Youth Science & Technology Center of Beijing Xicheng, China.

The one-day programme is offered to primary school teachers. Primary educators will be introduced to the latest pedagogical research and effective instructional strategies, and the fundamentals of the space environment through a keynote session given by Ms Anne Tweed, former president of the National Science Teachers Association, USA; Principal consultant at Mid-Continental Research for Educational Learning and author of "Designing Effective Science Instruction". The Educators will be engaging in a series of theme-based and interactive workshops where hands-on experiential learning is the focus such as "Can liquid water exist on Mars?", "Radiation in Space", "Starsearch!" and "Remote Sensing and Salinity of Oceans Potato Float".

The workshop will be delivered by PhD students selected, sponsored and trained by ISEB members.

## 7.3 Cross-Cultural Presentation Workshop

The Cross-Cultural Presentation Workshop is organised for Emerging and Future Space leader Grants recipients and Next Generation Plenary speakers to provide them with the opportunity to improve their oral skills for their presentations and to sensitize them to the issues of speaking at large multi-cultural events.

The animators of the Cross-Cultural Presentation workshop are:

***Scott Madry***

Scott Madry is a research associate professor at the University of North Carolina at Chapel Hill and a member of the faculty of the International Space University in Strasbourg, France. He has been doing international teaching and research for some 30 years and is interested in effective international communications and presentation skills.

***Carol Carnett***

Carol Carnett is an attorney and a teacher of English to Speakers of Other Languages. She is Director of English Programs for the International Space University Summer Space Studies Program and Southern Hemisphere Space Studies Program, where she teaches English language skills, including writing and presentation workshops focused on effective English communication in international meetings and conferences.

## 7.4 5th International Meeting for Members of Parliaments

The 5th International Meeting for Members of Parliaments is held on Sunday 22 September 2013 in Beijing, China in conjunction with the 64th International Astronautical Congress.

In pursuing this initiative, the IAF offers to Members of Parliaments from all over the world a well-defined and organized platform for a dialogue with the traditional space community on a global scale.

The focus topic of this fifth meeting is **"Benefits of Space Technology for Economic Growth and Competitiveness of Industry"**.

The one-day programme offers keynote addresses from two distinguished speakers: Mr. Jean-Jacques Dordain and Mrs. Claire Jolly.

***Jean-Jacques Dordain***

Jean-Jacques Dordain, Director General of the European Space Agency (ESA) and Vice-President of the International Astronautical Federation, will give a talk entitled *"From space research to services with political and economic impact"*.

***Claire Jolly***

Claire Jolly, Senior Policy Analyst of the OECD Space Forum and Directorate for Science, Technology and Industry for OECD, will present on the subject of *"The economic impact of investments in space technology and space services"*.

## 7.5 Academy Day (Sunday, 22 September 2013)

***International Academy of Astronautics (IAA)***
***Jointly with the Chinese Academy of Sciences (CAS)***

### IAA Plenary Session - Open Meeting

Location: CNCC Room 310, Chair: Prof Zhuang Fengyuan

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|---|---|
| 09h00 | Welcome Address, Madhavan Nair |
| 09h05 | Welcome Address, Chinese Academy of Sciences |
| 09h10 | Laurels for Team Achievements Introduction, Madhavan Nair |
| 09h15 | Laurels for Team Achievement Lecture: the Chandrayaan Mission to the Moon |
| 10h05 | 30th IAA Scientific Lecture |
| 11h00 | IAA Summit Follow-on Activities Overview, Corinne Jorgenson |
| 11h15 | Round Table Head of Space Agencies |
| 12h00 | IAA Luncheon (*)<br>*(CNCC In advance registration required)* |

### IAA Restricted Session

Location: CNCC Room 310

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|---|---|
| 13h15 | General Meeting of the Academy *(Meeting access restricted to IAA members and Corresponding Members)* |

### IAA Plenary Session - Open Meeting

Location: CNCC Room 310, Chair: Hu Zhongmin

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|---|---|
| 14h30 | Welcome Address, Anatoly Perminov |
| 14h40 | Technical presentations |
| 18h00 | Adjourn Plenary Session |
| 18h30 – 22h00 | Reception and Dinner, Induction Ceremony of Newly Elected IAA members (**)<br>*(In advance registration required, restricted to IAA members and Corresponding Members and their guests)* |

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|---|---|
| (*) | *Venue: China National Convention Center No.7 Tianchen East Road, Chaoyang District, Beijing 100105 China* |
| (**) | *Venue: Beijing Intercontinental Hotel, 8 Beichen West Road, Chaoyang District, 100105 Beijing, China (walking distance from CNCC)* |
| *Note:* | *Commission parallel Meetings are being held on Saturday 21 September 2013, 13:00-16:00 at CNCC* |



## 7.6 IAC Hosts Summit

**Date:** **Sunday 22 September 2013 (Inaugural Session)**

**Venue:** **China National Convention Center (CNCC), Beijing, China – Room 203 A/B**

**Time:** **13:00 – 18:00**

The IAC Hosts Summit is an international platform from which network with organizations that have successfully hosted the International Astronautical Congress (IAC) in the past, and to share experiences and best practices for the implementation of an IAC.

The Hosts Summit is dedicated to all IAF member organizations, representatives of potential host cities and professional Congress organizers that intend to host an IAC in the future, or that wish to acquire knowledge and information on the Congress.

The Summit programme will be organized in three sessions: The first session will address the IAC requirements; the second session will deal with the implementation of the Congress (incl. organizational and financial aspects). Finally, the last session will focus on the benefits from hosting an IAC. Each of these sessions will be organized around the same principle: one presentation on the given topic, followed by a discussion/Q&A.

We are inviting high-level representatives who have been involved in the organization of an IAC and who have first-hand experience in conducting such large-scale events. There will be a dedicated time slot in every session for representatives of previous hosts of IACs to make a short statement if they wish. Please indicate if you are interested in giving a statement on one of the proposed topics.

The IAC Hosts Summit is the perfect opportunity to gain an better understanding of what is required to host the world's premier space event. The meeting will be followed by a dinner starting at 18:30.

**Sessions and Speakers:**

IAC **Requirements and motivation** – presented by Jan Kolar
Czech Space Office, Director

IAC **Implementation and benefits –** presented by Geoffrey Languedoc
CASI, Executive Director

IAC **Development and Promotion –** presented by Peter Martinez
Council for Space Affairs, Chairman

## 7.7 Manfred Lachs Space Law Moot Court Competition of the IISL

**Thursday, 26 September 2013, Beijing Institute of Technology (BIT) – School of Law**

The Manfred Lachs Space Law Moot Court Competition is organized annually by the International Institute of Space Law (IISL). Preliminary regional competitions are organized each spring. The winning teams of the preliminaries meet in the World Finals held in conjunction with the annual IISL Colloquium, and traditionally have been judged by Judges of the International Court of Justice.

This year, for the 22th competition, four teams, from Africa, Asia Pacific, Europe and North America, will compete in the World Finals. These events will take place in Beijing during the IAC. The 2013 Problem is entitled the "Case concerning the Operation of a Lunar Station" (Lydios v. Endymion). This case raises issues concerning the establishment and use of a lunar facility, unilateral imposition of national environmental laws to protect the Moon, refusal to allow the docking at the lunar facility by a manned spacecraft, and liability for the failure in the deployment of scientific space probes.

The semi-finals will be held on Tuesday, 24 September in a closed session. The Final Round will be held in the afternoon of Thursday, 26 September and will be judged by three members of the International Court of Justice in The Hague.

Following the awards ceremony at the conclusion of the Final Round, the IISL will host its annual dinner. All who are interested to attend the Final Round are welcome, but the dinner is reserved for IISL Members and special guests, who will be provided with invitations. Those wishing to attend the Final Round are requested to contact the IISL. A Brochure including the names of all participating universities, judges, sponsors and a summary of the Problem will be available in advance for those attending the finals.

Exact timings and transportation arrangements will be announced at the start of the IAC.

Contacts details of the Co-chairs of the Manfred Lachs Moot Court Committee:
Dr. Martha Mejia-Kaiser, lachsmootchair2@iislweb.org
Dr. Les Tennen, lachsmootchair1@iislweb.org
Mr. James Rendleman, Ad Hoc Co-Chair, lachsmootchair3@iislweb.org

Website: http://www.iislweb.org/lachsmoot
Twitter: https://twitter.com/SpaceLawMoot
Facebook: http://www.facebook.com/spacemoot



## 7.8 World Space Week Celebration 2013 in China – Exploring Mars, Discovering Earth

**Location:** China National Convention Center, Room 309 A & B

**Organisers:** China National Space Administration(CNSA)
Chinese Society of Astronautics(CSA)

**Moderator:** LI Guoping

**Session 1: Wednesday, 25 September 2013,** 13:30 –15:10

### 1. Opening Ceremony

**Welcome Address**

- HU Yafeng, the Deputy Administrator of China National Space Administration
- Max Grimard, the Chair of World Space Week Association
- YANG Liwei, the first Chinese Astronaut
- The President/Executive Director of IAF
- Buzz Aldrin, former NASA astronaut

**The Award Ceremony**

Award the winners of "Celebration for WSW-National Space Painting Contest" and get photographed

**Session 2: Wednesday, 25 September 2013,** 14:10 – 15:10

### 2. Lectures

WANG Yue - Chinese member of MARS500
- Topic( TBD)

Speaker (TBD)- Mars Exploration

***Notes***

Participants will come from:
- China National Space Administration
- Board members of World Space Week Association
- Chinese Society of Astronautics
- Relevant Chinese space industries, academes & universities
- 500 Chinese students and IAC delegates
- Journalists

Language:
- The local speakers will speak in Chinese with presenting PPT in English.
- The foreign speakers will speak in English. It would be highly appreciated if the speakers give their speeches to the organisers, CSA, in advance. We think it's desirable to translate and prepare their speeches in Chinese PPT by us.

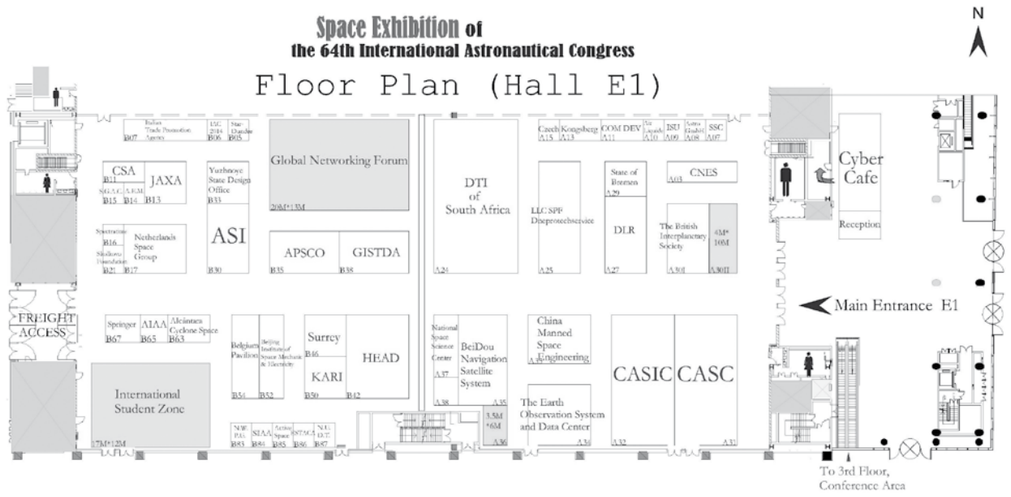
Contact :
Mrs. GONG Jinyu, Deputy Secretary General, CSA ; Email: gongjinyu@vip.sina.com
Mrs. LI Xiaoyu, Project Officer, CNSA; Email: Lee.xiaoy@gmail.com
Mrs. Liu Yang, Project Officer, CSA ; Email: doggrass_@126.com

# 8 Exhibition

## 8.1 General Information

| | | |
|---|---|---|
| ***Stand Set-up:*** *Delivery of Exhibits and Stand Construction* | | |
| | Saturday, 21 September | 08:30 – 17:30 |
| | Sunday, 22 September | 08:30 – 21:30 |
| ***Ribbon-cutting ceremony:*** | | |
| | Monday, 23 September | 11:30 – 12:00 |
| ***Exhibition Hours:*** | | |
| | Monday, 23 September | 12:00 – 18:00 |
| | Tuesday, 24 – Thursday 26 September | 10:00 – 18:00 |
| | Friday, 27 September | 10:00 – 16:00 |
| ***Public Day:*** | | |
| | Friday, 27 September | 10:00 – 12:00 |
| ***Stand Dismantling:*** | | |
| | Friday, 27 September | 14:00 – 21:30 |

## 8.2 Exhibition Hall Layout






## 8.3 Exhibitors in alphabetical order

| Exhibitors | Stand |
|---|---|
| Active Space Technologies | B85 |
| AEM - Mexican Space Agency | B14 |
| Agenzia Spaziale Italiana (ASI) | B30 |
| AIPAS-ITALIAN SPACE SMES ASSOCIATION | B07 |
| Air Liquide | A10 |
| Alcântara Cyclone Space | B63 |
| Ameriacan Institute of Aeronautics and Astronautics | B65 |
| AMOS SA | B54 |
| Asia-Pacific Space Cooperation Organization (APSCO) | B35 |
| Astrium GmbH | C23 |
| Astro- und Feinwerktechnik Adlershof GmbH | A08 |
| Barcelona Moon Team | A36 |
| Beijing Institute of Space Mechanics & Electricity | B52 |
| Beijing Sunwise Space Technology Ltd. | B42 |
| Bremeninvest | A29 |
| Canadian Space Agency - Agence Spatiale Canadienne | B11 |
| Cape Peninsula University of Technology/Africa Space Innovation Center | A24 |
| China Aerospace Science & Industry CORP. | A32 |
| China Aerospace Science and Technology Corporation | A31 |
| China HEAD Aerospace Technologies Co. | B42 |
| China Manned Space Engineering | A33 |
| CNES | A03 |
| "College of Aerospace Science and Engineering National University of Defense Technology" | B87 |
| COM DEV Ltd. | A11 |
| Commercial Space Technologies Ltd | A30I |
| CSL-University of Liege | B54 |
| Czech Space Office | A15 |
| Denel Dynamics | A24 |
| Department of Trade & Industry | A24 |
| DLR German Aerospace Center | A27 |
| DTM | B07 |
| ESTACA | B86 |
| FONDAZIONE ISTITUTO ITLLIANA DI TECNOLOGIA | B07 |
| GISTDA | B38 |
| Holland Pavilion: ISIS, SpaceNed; TROPOMI; Dutch Space; TNO; NLR; Netherlands Space Office; TU Delft; ASTRON; SystematIC; University of Twente | B17 |
| IAC2014 | B06 |
| ICE - Italian Trade Commision | B07 |
| Integrated dti Aerospace Programme (IDAP) | A24 |
| International Society for Digital Earth | A39 |
| International Space University (ISU) | A09 |
| Japan Aerospace Exploration Agency (JAXA) | B13 |
| KARI (Korea Aerospace Research Institute) | B50 |
| Kongsberg Satellite Services AS | A13 |
| LLC SPF "Dneprotechservice" | A25 |
| National Space Science Center, CAS | A35 |
| PLANETEK ITALIA SRL | B07 |
| QinetiQ Space | A30I |
| Reaction Engines Ltd | A30I |
| Reutech Radar Systems | A24 |
| Romanian Space Agency | A37 |
| Rutherford Appleton Laboratory | A38 |
| Shaanxi Engineering Laboratory for Microsatellites, Northwestern Polytechnical University | B83 |
| SITAEL | B07 |
| SKYWIN | B54 |
| South African Council for Space Affairs | A24 |
| South African National Space Agency | A24 |
| Space Commercial Services Holdings (Pty) Ltd. | A24 |
| Space Generation Advisory Council (SGAC) | B15 |
| Space Industry Association of Australia | B84 |
| Space Technologies&Telecommunications Cluster of Skolkovo Foundation | B21 |
| Spectratime & T4Science | B16 |
| Springer | B67 |
| SSC Space | A07 |
| STAR-Dundee Ltd | B05 |
| Surrey Satellite Technology LTD | B46 |
| Thales Alenia Space Belgium (ETCA) | B54 |
| The British Interplanetary Society | A30I |
| TOSCANA SPAZIO | B07 |
| Turkish Aerospace Industries, Inc. (TAI) | C01 |
| Wallonia Foreign Trade & Investment Agency (AWEX) | B54 |
| Yuzhnoye State Design Office | A30II |

## 8.4 Exhibitor List by Stand Number (Hall E1)

### Stand No: **A03** — **CNES French Space Agency**

*Contact:* ***Collot Philippe***

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75001 Paris
France

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**Web:** www.cnes.fr/web/CNES-en/7114-home-cnes.php

CNES is the French government agency responsible for shaping and implementing France's space policy. It is a pivotal player in Europe's space programme, and a major source of initiatives and proposals that aim to maintain France and Europe's competitive edge. Through its ability to innovate and its forward looking vision, CNES is helping to foster new technologies that will benefit society as a whole, focusing on: access to space; civil applications of space; Earth, environment and climate; space science and exploration; security and defence

**Event:** CNES intend to organize an event located on its stand. It will be a "get together" with the occasion to met with the French delegation (CNES ingeniors and Directors). It will be a typical French appetizer and will take place on Wednesday 25 6:30pm

### Stand No: **A07** — **SSC SPACE**

*Contact:* ***Annika Benson***

P.O. Box 4207
SE-171 04 Solna
Sweden

**Tel:** +46 8 627 62 00
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SSC's broad range of products and services − from satellite subsystems to launch and operation − and their worldwide availability, is unmatched in the market. And we systematically strive to extend our offer even further. We provide technology and services required to implement and manage advanced space projects in the best way possible. Our customer's specific needs are always in focus..

### Stand No: **A08** — **Astro-und Feinwerktechnik Adlershof GmbH**

*Contact:* ***Stephan Roemer***

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12489 Berlin,
Germany

**Tel:** +49 306 392 1000
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**Web:** www.astrofein.com

Small satellite busses (up to 200 kg), payloads and components for small satellites (from 1 to 400 kg) are the core business activities of Astro- und Feinwerktechnik Adlershof GmbH. In this area we focus on high reliable and smart systems for LEO and deep space applications. We are specialized in attitude control components (reaction wheels, IMUs, GPS systems, Magnetic Field Sensors) and complete AOC-subsystems, power subsystem components (PCU, PDU, solar generators), structures and mechanism (booms, solar panels or deployment mechanism), scientific and optical payloads (primary VIS and IR). Additional to that we offer ground support equipment (EGSE, MGSE, OGSE), like transport containers or AOCS test beds. The scope of services comprises not only the design, manufacturing and integration of space hardware but also the complete verification and environmental qualification of new space technologies and hardware (scientific and commercial), according to NASA/ESA/JAXA standards, which also includes vibration, pyro shock and thermal vacuum testing. Since 1993 we are a reliable partner of the international space industry as well as different space agencies (e.g. NASA, ESA, JAXA, CSA) and are certified by them for different technologies/processes and are also certified according to DIN EN ISO 9001:2008 and EN 9100:2009.



### Stand No: **A09** — **International Space University (ISU)**

*Contact:* ***Géraldine Moser***

1, rue Jean-Dominique Cassini
67400 Illkirch-Graffenstaden
France

**Tel:** + 33 3 88 65 54 30
**Fax:** +33 3 88 65 54 47
**Email:** extrelations@isu.isunet.edu
**Web:** www.isunet.edu

The International Space University is a private non-profit institution, formally recognized as an institute of higher education in France by the French Ministry of Education. It specializes in providing graduate-level training to the future leaders of the emerging global space community at its Central Campus in Strasbourg, France, and at locations around the world. In its two-month Space Studies Program and one-year Master's program, ISU offers its students a unique Core Curriculum covering all disciplines related to space programs and enterprises, space science, space engineering, systems engineering, space policy and law, business and management, and space and society. Both programs also involve an intense student research Team Project providing international graduate students and young space professionals the opportunity to solve complex problems by working together in an intercultural environment..

### Stand No: **A10** — **Air Liquide**

*Contact:* ***France Hamber, Jean-Michel Camus, Dominique Lecocq***

2, rue de Clémencière,
BP 15 – 38360
Sassenage,
France

**Tel:** +33 1 40 62 53 54 - F. Hamber
+33 4 76 43 61 41 - J-M. Camus
+33 4 76 43 64 97 - D. Lecocq
**Fax:** + 33 4 76 43 62 71
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jean-michel.camus@airliquide.com
dominique.lecocq@airliquide.com

World leader in gases for industry, health and the environment, and a specialist in the field of air gas technologies, Air Liquide has spent more than 50 years building a unique expertise in the area of space cryogenics. The Group has sought consistently to innovate and push back the frontiers of technology to meet institutional and industrial needs. Air Liquide is involved in the European launcher Ariane, in significant international scientific projects, such as Planck, Herschel, International Space station experiments, Curiosity… Our core expertise: Cryogenic tanks for Ariane 5 propulsion stages (H2&O2) and helium pressurization; Development of cryogenic equipment for the future European launcher; Cryogenic launch pad infrastructures and ground support equipment for launchers and satellites; On-board cryogenics for satellites and for the international space station (cryo coolers). On the occasion of this 64th International Astronautically Congress, Air Liquide will present its latest innovations in space such as the new technologies developed for future generations of the Ariane launcher and its latest cryo cooling solutions for orbital systems.

### Stand No: **A11** — **COM DEV Ltd.**

*Contact:* ***George Galatsis***

155 Sheldon Drive,
Cambridge, Ontario,
Canada
N1R 7H6

**Tel:** +1 519-622-2300
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**Web:** www.comdev.ca

COM DEV is an international company with diversified product lines focused exclusively on space, and our heritage is unmatched. With hardware on more than 900 satellites to date, our technologies are used in space for commercial communications, earth observation, remote sensing, space astronomy and search and rescue. We are world leaders in the design and production of space-qualified technologies ranging from passive microwave components and subsystems, rf and digital electronics, optical systems, to complete microsatellites for specific missions. Our customers are the spacecraft manufacturers – and our core capability is space engineering. We regularly apply the expertise acquired through more than three decades in this industry to the development of new and innovative space technologies. Historically, COM DEV's core strength has been building microwave filtering and switching products - in particular large, integrated multiplexing and switching assemblies, and passive microwave components for the commercial satellite market. Over 80 percent of all commercial communications satellites ever launched have had COM DEV technology on board. COM DEV employs over 1,300 people in four facilities located in Canada, the UK and California. We count all the major satellite prime contractors and many governments among our customers.

Stand No: **A13** | **Kongsberg Satellite Services AS**

*Contact:* ***Borre Pedersen***

P.O. BOX 6180,
9291 Tromso,
Norway

**Tel:** +47 776 00250
**Fax:** +47 776 00299
**Email:** borre@ksat.no
**Web:** http://ksat.no

Kongsberg Satellite Services AS (KSAT), a commercial Norwegian company and a world leading provider of satellite ground station services and satellite based maritime monitoring services. KSAT provides services such as: Telemetry, Tracking and Command (TT&C), Launch and early orbit phase support (LEOP), data acquisition, processing, distribution and archiving, Hosting and operation of CFE, maritime monitoring, and Multi-mission Rapid Response. KSAT support more than 80 satellites, including high resolution SAR and electro-optical satellites, and operates near 50 antennas. KSAT owns and operates a truly global cost-effective multi-mission Ground Station Network of both polar and mid-latitude stations. The three polar ground stations are located in Tromsø at 69° N, Svalbard Satellite Station (SvalSat) at 78° N and the Antarctic station (TrollStat) at 72 °S. The SvalSat is the only commercial ground stations in the world able to provide all-orbit-support (14 passes per day), and KSAT is the only company that can provide access to satellites from both the Arctic and the Antarctic. All KSAT ground stations are operated as one single interconnected service. KSAT's antennas are controlled from Tromsø Network Operations Centre (TNOC). TNOC is the single point of contact for KSAT ground station services. Operations at KSAT are executed on a 24/7-365 basis. The head office of KSAT is located in Tromsø, Northern Norway. KSAT is owned 50% by KONGSBERG and 50% by Norwegian Space Centre Properties, a company 100% owned by the Norwegian ministry of Trade and Industry, administered by Norks Romsenter (Norwegian Space Centre).

Stand No: **A15** | **Czech Space Office**

*Contact:* ***Michal Kunes***

Prvniho pluku 17
18600 Praha 8
Czech Republic

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**Fax:**
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**Web:** http://www.czechspace.cz/en

Czech Space Office is a non-profit organization created in 2003 to support development of the national space research and development infrastructure. To fulfill our mission, we provide professional administrative, consultation and networking support to research and industry actors interested in international space programs. We follow national capabilities in various space related fields and analyze opportunities for Czech academia and industry in international programs. We keep a database of the Czech industrial and academic organizations and their space projects. We promote education and outreach activities in space science and technology and support student projects. We also serve as an information point for general public and prepare promo materials about Czech space activities, their results and benefits. We organize conferences, seminars and workshops for professionals from various fields, as well as educational and public and media hearings on space related topics. We promote Czech organizations in space exhibitions, namely every year during the International Astronautical Congress. We have been heavily involved in the development of our country's relationship with the European Space Agency from its beginning. After the Czech Republic became an ESA member in 2008, CSO negotiated various projects and respective engagements of the Czech companies in the European space programs..

**Event:** Czech Space Office, booth A15, Thursday 26 September, 16:00, a happy hour with traditional Czech cuisine and drinks.

Stand No: **A24** | **Department of Trade & Industry**

*Contact:* ***Busiswa Simoyi***

Private Bag X84,
Pretoria,
Gauteng, 0001

**Tel:** +27 (12) 394 9500
**Fax:** +27 (12) 394 9501
**Email:** bsimoyi@thedti.gov.za
**Web:** http://www.thedti.gov.za

**Event:** We are planning to have a cocktail as part of our event; Wednesday, the 25th at 17:00

Stand No: **A24** | **Integrated dti Aerospace Programme (IDAP)**

*Contact:* ***Marie Botha***

c/o CSIR, PO Box 395,
Pretoria, 0001,
South Africa

**Tel:** +27 12 841 4947
**Fax:** 27 12 841 3037
**Email:** mbotha1@csir.co.za

The Integrated DTI Aerospace Programme (IDAP) was created through two of the South African DTI's initiatives, the Aerospace Industry Support Initiative (AISI), and the National Aerospace Center (NAC). IDAP is the vehicle to facilitate the DTI's aerospace sector industrialisation goals to achieve the South African Government's growth targets. These include improved competitiveness, development and commercialisation of new technologies, promotion of domestic and foreign investment, small, medium and micro-enterprise (SMME) and broad-based black economic empowerment development and promotion, industry-focussed skills development and associated R&D, and promotion of exports. IDAP facilitates the creation of linkages and strategic partnerships with the local aerospace sector as well as with global stakeholders to acquire skills and technologies. These alliances allow for the improvement of existing technologies whilst simultaneously mastering the production and process technologies needed to build new sustainable platforms.



Stand No: **A24** | **Space Commercial Services Holdings (Pty) Ltd.**

*Contact:* ***Jessie Ndaba***

Ground Floor, Block H, Capital House,
Neutron Street,
Techo Park,
Stellenbosch

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**Web:** http://scshgroup.com

Space Commercial Services was founded and is directed by experienced professionals who have successfully started and managed satellite programmes. The team was joined by regulatory, geospatial, telecoms and socioeconomic development specialists to offer a complete service package in support of small satellite programmes and other ICT infrastructure. Companies in the group act in the following sectors: the roll out of community based situational awareness system, support for census projects in Africa

Stand No: **A24** | **Denel Dynamics**

*Contact:* ***Sansuha Reddy***

PO Box 7412, Centurion,
0046, South Africa.

Nellmapius Drive, Irene, 0046

**Tel:** +27 12 671-1911
**Fax:** +27 12 675-1752
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**Web:** http://www.deneldynamics.co.za

Denel Dynamics is part of the Denel Group, South Africa's largest manufacturer of defence equipment,. A leader in advanced systems engineering technology, Denel Dynamics' core business covers tactical missiles, precision-guided weapons, unmanned aerial vehicle systems (UAVS), integrated air defence and related technology solutions. The business is situated in Irene, near Pretoria and employs approximately 800 people (64% of its employees are technically highly qualified and world-class experts in their specialised fields). Denel Dynamics has successfully developed, produced, integrated and supported electronic and mechanical engineering systems since 1963, establishing a sound technology base and infrastructure along the way. In terms of operations and execution, Denel Dynamics has reached a stage of maturity that international business consultants CapGemini consider to be 'reaching the level of international best practice, even best in class in some areas'. The organisation's wide range of products, world-class facilities, excellent customer support record and a formalised quality control system (Denel Dynamics is ISO-listed), add up to an impressive capability. The product range includes: Guided missile systems; Stand-off weapon systems; Unmanned aerial vehicle systems (UAVS); Integrated Air Defence and Related Technology Solutions.

Stand No: **A24** | **Cape Peninsula University of Technology/Africa Space Innovation Center**

*Contact:* ***Ian van Zyl***

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Bellville,
7535, South Africa

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**Fax:** +27 (21) 959 6117
**Email:** vanzyli@cput.ac.za
**Web:** http://www.cput.ac.za/

Stand No: **A24** | **South African National Space Agency (SANSA)**

*Contact:* ***Daniel Matsapola***

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The South African National Space Agency was created to promote the use of space and cooperation in space-related activities while fostering research in space science, advancing scientific engineering through developing of our human capital and provide support to industrial development in space technologies.

| Stand No: **A24** | **Reutech Radar System** |
|---|---|

*Contact:* ***Phumudzo Netangaheni***

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Stellenbosch

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Reutech Radar Systems is a Reunert Limited subsidiary. The company's products are incorporated into world-class systems. The company is an innovative product supplier and systems integrator, providing radar and radar-related system solutions in the ground and naval environments. It is involved in the supply of search and tracking radar systems to the South African National Defence Force as well as into specific niche areas in the international Ground and Naval Systems market. Products include: 3D Surveillance Systems; 2D Search & Surveillance Systems; Tracking Systems; Sub-Systems & Technology; System Integration.

| Stand No: **A24** | **South African Council for Space Affairs (SACSA)** |
|---|---|

*Contact:* ***Rabelani Ramakluvhathi***

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Pretoria,
0001

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SACSA is a statutory body under the Authority of the Minister of Trade and Industry, which is established in terms of Space Affairs Act No 84 of 1993, as amended in 1995. To create and maintain a regulatory and policy environment that enhances South African domestic and international space activities for ensuring the safety, reliability and sustainability of South African activities.

| Stand No: **A25** | **LLC SPF "Dneprotechservice"** |
|---|---|

*Contact:* ***Olexandr Kuznetsov***

21, Simferopolskaya Str.,
Office 615
Ukraine

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LLC SPF "Dneprotechservice" is the managing company of a number of machine-building enterprises of Ukraine, focusing on four core activities: heavy engineering, underground infrastructure, space-rocket hardware, prototyping and technology development, followed by the organization of production and sales. Among the main production assets of Dneprotechservice are: PJSC "Dneprotayzhmash" which produces the ground support equipment of technical and launching plants for the Space-Mission Vehicles; PJSC "Ukrainian Scientific-research Institute of Mechanical Engineering" (technology and equipment for manufacture of aerospace equipment); SPE "NIKE" (technology and manufacturing of honeycomb fillers and structures); PJSC "Joint Engineering Company" (technology and equipment manufacturing of nondestructive testing). Enterprises of the Group work intensely on development of ground equipment for advances space defense systems, technologies and separate parts of launch vehicles, as well as implement innovative approaches to solve various technological issues in the area of aerospace technology. Currently, we have developed a technology and a prototype model of a high-performance concentrator solar cell intended for space purposes on the basis of short linear Fresnel lenses, volume carbon-fiber, multistage galliumarsenide solar cells. Our specialists are working on development of the space propulsion-plant with the electric propulsion engine of quick start and direct power from high-voltage photovoltaic cells. Work is carried out on development and production of experimental prototypes of composite materials (CM) to attenuate the dose effects of ironizing radiation in outer space from onboard avionics of space crafts. LLC SPF. "Dneprotechservice" is a member of an international project on creation of mini-satellite of CubSat format – QB50. Since 012 LLC SPF "Dneprotechservice" is licensed by the State Space Agency of Ukraine for the development, testing, manufacture of components of launch vehicles, and components of ground control for space vehicles..

| Stand No: **A27** | **Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)** |
|---|---|

*Contact:* ***Klaus Gering***

51170 Cologne,
Germany

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**Web:** www.DLR.de

DLR is the national aeronautics and space research centre of the Federal Republic of Germany. Its extensive research and development work in aeronautics, space, energy, transport and security is integrated into national and international cooperative ventures. In addition to its own research, as Germany's space agency, DLR has been given responsibility by the federal government for the planning and implementation of the German space programme. DLR is also the umbrella organisation for the nation's largest project execution organisation.DLR has approximately 7400 employees at 16 locations in Germany: Cologne (headquarters), Augsburg, Berlin, Bonn, Braunschweig, Bremen, Goettingen, Hamburg, Juelich, Lampoldshausen, Neustrelitz, Oberpfaffenhofen, Stade, Stuttgart, Trauen, and Weilheim. DLR also has offices in Brussels, Paris, Tokyo and Washington D.C..

**Event:** We will host a small reception at our booth on Wednesday 25th from 16:00 to 17:30



| Stand No: **A29** | **Bremeninvest** |
|---|---|

*Contact:* ***Bianka Hanssen***

Langenstrasse 2-4,
28195 Bremen,
Germany

**Tel:** +49 421 9600 126
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**Web:** www.bremen-invest.com

The Bremen Invest office offers a single point of contact for international companies, entrepreneurs and institutions to find growth opportunities in Bremen, Germany and throughout Europe. If you are a company or individual looking for business expansion in Germany, or anywhere in Europe, let Bremen Invest help. Bremen is the Key to Germany and the rest of Europe. Besides our head office you will find Bremen Invest offices in Atlanta (USA), Izmir (Turkey) and Shanghai (China).

| Stand No: **A30I** | **The British Interplanetary Society** |
|---|---|

*Contact:* ***Suszann Parry***

27-29 South Lambeth Road
London SW8 1SZ
UK

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The British Interplanetary Society is an international society devoted to the promotion and development of astronautics. Its members include both professionals working on space systems, and members of the public interested in keeping in touch with ideas and developments in astronautics. Founded in 1933 by a group of spaceflight enthusiasts, it is now one of the longest established in its field with a reputation for being at the forefront of thinking about the exploration and utilization of Outer Space. It published a peer-reviewed technical Journal (JBIS), a monthly general-interest magazine (Spaceflight), an electronic newsletter (Odyssey) and a journal devoted to history papers (Space Chronicle), as well as promoting astronautics and space developments through meetings, symposia, lectures, books, visits and exhibitions. One of its earliest projects (before 1939) was to look at a realistic engineering design of a vehicle to reach the Moon. Subsequently it has provided pioneering studies on communications satellites, satellite launchers, the use of space for Earth observation and astronomy, nuclear power in space, planetary exploration and SETI. It was a founder member of the International Astronautical Federation in 1950 and has held four congresses, the most recent in Glasgow 2008.

| Stand No: **A30I** | **Commercial Space Technologies Ltd** |
|---|---|

*Contact:* ***Miss Mali Perera***

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Hanwell
London W7 1LU
UK

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**Fax:** +44 208 840 7776
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**Web:** www.commercialspace.co.uk

Since its foundation in 1983, Commercial Space Technologies Ltd. (CST) has retained the highest quality of management and consultancy services to help its partners and customers maintain a leading edge. This includes advice on technical problems in the insurance sector. CST's capabilities involve commerce, marketing, and trading technical equipment; management, representation and logistics; consultancy, space technologies and planning; resource prospecting by remote sensing; launcher services-brokering and launch services provision. CST has a proud record of launch solution brokerage which includes many firsts in the industry. The 30th satellite, ADS-1B, was brokered and managed by CST through to a successful launch on July 22nd 2012 onboard a Soyuz Fregat from Baikonur. The latest campaign will be of the UK government funded projects UKube-1 and TechDemoSat-1, together with the Com Dev satellite M3MSat.

| Stand No: **A30I** | **QinetiQ Space** |
|---|---|

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Belgium

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QinetiQ Space has activities in the UK and Belgium, and has over 30 years of experience in the industry. We offer small satellites, space subsystems and equipment, including advanced electric propulsion, on-board/payload computers, Proximity-1 radio transceivers and scientific instruments. In addition we provide downstream services such as satellite operations. As part of the wider QinetiQ group our business has access to an extensive technology base and know-how.

| Stand No: **A30I** | **Reaction Engines Ltd** |
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Reaction Engines Ltd ('REL') is a privately held company located in the United Kingdom and was formed in 1989 to develop the technologies needed for an advanced combined cycle air-breathing rocket engine class called SABRE that will enable aircraft to operate easily at speeds of up to five times the speed of sound or fly directly into Earth orbit. We have achieved a breakthrough in aerospace engine technology by developing ultra-lightweight heat exchangers 100 times lighter than existing technologies that allow the cooling of very hot airstreams from over 1,000 °C to minus 150°C in less than 1/100th of a second. Reaction Engines' technology has undergone extensive independent technical assessments, undertaken by the European Space Agency at the request of the UK Government, which have confirmed the viability of the engine technology and its vehicle applications. This integrated air-breathing and rocket propulsion technology enables the following vehicle applications: Mach 5 high altitude cruise: Fly anywhere in the world in 4 hours; Efficient sub-sonic and hypersonic cruise modes. Low-cost reusable space access: Aircraft-like access to space; Operates from runway to orbit and back; Order of magnitude reduction in cost vs. existing technology; 400 x improved reliability; Responsive access to space.

| Stand No: **A30II** | **Yuzhnoye State Design Office** |
|---|---|

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Yuzhnoye SDO is a powerful design company which in cooperation with its partners provides turnkey developments for complicated high-tech projects. The main directions of the Yuzhnoye's activities remain works associated with creation and operation of the space-rocket technology. Launch vehicles, spacecraft and rocket engines developed by Yuzhnoye meet the highest criteria of the modern science. Recent years, taking into account vital society's needs some conversion lines of activities have been developing. These lines are:creation of technology for power engineering including renewable energy sources; creation of some transport systems;creation of agricultural machinery.

| Stand No: **A31** | **China Aerospace Science and Technology Corporation** |
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Established on July 1, 1999, China Aerospace Science and Technology Corporation (CASA) is a large high-tech enterprise in China. As a leading force in China's aerospace industry, CASC is mainly engaged in research, manufacture, test and launch of rockets, man-made satellites, manned spaceships, lunar and deep space explorers, and strategic and tactical missile systems. CASC focuses on the development in such areas as satellite applications, information technology, new materials, new energy, special space technology applications, special vehicles and auto parts, and space biologies. CASC has made outstanding contributions to the national security, scientific and technical progress and socio-economic development.



| Stand No: **A32** | **China Aerospace Science & Industry CORP.** |
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China Aerospace Science and Industry Corporation, CASIC, is a large state-owned enterprise under direct administration of the central government. It has five academies, two scientific research and development bases and a number of specialized enterprises and research institutes, six public listed companies. CASIC takes information technology and equipment manufacturing as its backbone industries and build a complete system for developing, researching and manufacturing technologies. Its products cover various fields. Its technologies are among the most advanced technologies in the relevant fields in China, and some of which are also among the most cutting edge in the world. CASIC has made splendid achievements one after another in the national social and economic development. CASIC devotes itself to the development road of civilian sectors which features Chinese characteristics, and develops a serial of products in information industry and equipment manufacturing. The anti-counterfeiting tax controlled system, Olympic safety ensuring system, simulative system for the South-to-North Water Transfer Project, and emergency and rescue equipment developed by CASIC have generated great social and economic benefits.

| Stand No: **A33** | **China Manned Space Engineering** |
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China

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In September 1992, Chinese government made a decision to implement the manned space program and prescribed the "Three-step Strategy" of development. The first step is to launch a manned spaceship, set up primarily integrated experimental manned spacecraft engineering, and carry out space application experiments. The second step is to make technology breakthroughs in Extravehicular Activities (EVA) as well as space rendezvous and docking of manned spaceships and spacecrafts, launch a space lab, and provide a solution for space application of a certain scale with man-tending on a short-term basis. The third step is to establish a space station, and provide a solution for space application of larger scale with man-tending on a long-term basis.

| Stand No: **A35** | **National Space Science Center, CAS** |
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The National Space Science Center (NSSC) is the key institute in space science in China. It is responsible for planning, selecting, developing, and managing the operation of China's space science satellite missions. The center also takes a leading role in fields such as space engineering technology, space physics, space environment and microwave remote sensing. There are about 650 employees at NSSC by the end of August, 2012, 280 of whom are associate professors and professors.

| Stand No: **A36** | **Barcelona Moon Team** |
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Spain

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The Barcelona Moon Team (BMT) is a multidisciplinary joint venture bringing together entrepreneurial, industrial and academic capabilities representing the only Spanish based team at the GLXP. Among its objectives are (1) to take the leadership in an ambitious space project. This important project elevates the Spanish aerospace sector to a leadership position in all the aspects related with the management and execution of a highly complex space mission. Thanks to this leadership position the national industry can play a role as a main contractor using its demonstrated experience and capabilities, meaning a competitive advantage. It is foreseen that these capabilities will help win contracts for our companies in the future. And (2) to foster the scientific and technical vocations and to retain talent; thanks to an extensive communications program with the aim to stimulate the participation of the general public in the event. In one hand scientific and technical careers will be encouraged among the youth, developing specialized knowledge workers for the future. In the other hand the attraction of international talent will bring new professionals and researchers from abroad, stopping the exodus of professionals and young graduates and doctors to other countries.

| Stand No: **A37** | **Romanian Space Agency (ROSA)** |
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Established in 1991, ROSA became an independent, contract-financed public institution in 1995, under the authority of the Romanian Ministry of Education, Research, Youth and Sports. ROSA's mission is to promote space development, coordinate the national space research and applications programmes, and, as a government representative, promote international co-operation. ROSA serves as a project integrator and developer with the overall objectives of producing space science and technology, transferring results to users and generat ing physical and human infrastructure-capacity building. ROSA is authorised to develop specific project oriented research through its own centre and acts on behalf of the Romanian Government for ESA, EU – Space & Security Research, NATO - Science for Peace and Security and Spacerelated RTO issues. On 20 January 2011 Romania, represented by ROSA, signed its Accession Agreement to the ESA Convention, becoming the 19th ESA Member State

| Stand No: **A38** | **Rutherford Appleton Laboratory** |
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Operated by STFC and located on the Harwell Oxford Science and Innovation Campus in Oxfordshire, it provides a thriving and collaborative environment for research in: particle physics; space science; materials; astronomy; photon science; computational and e-science; biology; biomedicine; chemistry. Approximately 1,200 staff at RAL support the work of more than 10,000 scientists and engineers, chiefly from the university research community. RAL's pioneering research in areas such as energy, security, healthcare and the environment addresses important challenges facing society.

| Stand No: **A39** | **International Society for Digital Earth** |
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The International Society for Digital Earth was founded in May, 2006 in China, on the principles of the 1999 Beijing Declaration on Digital Earth. The ISDE promotes international cooperation in the Digital Earth Vision, and facilitates Digital Earth technologies to play key roles in, inter alia, economic and socially-sustainable development, environmental protection, early warning and disaster mitigation, natural resources conservation, education and improvement of the well-being of the society in general. The mission of the ISDE is to provide a framework for understanding evolving society-beneficial technologies, current and newly emerging, and to revise the Digital Earth vision in light of new developments.

The International Journal of Digital Earth (IJDE) is the academic journal of the International Society for Digital Earth, and jointly published by the Taylor & Francis Group. The IJDE was launched in March 2008, and accepted for coverage in the Science Citation Index Expanded (SCI-E) in August 2009. The ISDE Secretariat and the IJDE Editorial Office are hosted by the Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences.

| Stand No: **B05** | **STAR-Dundee Ltd** |
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STAR-Dundee Ltd specializes in supporting users and developers of SpaceWire. SpaceWire's speed, simplicity, flexibility and interoperability have contributed to its popularity, something which staff at STAR-Dundee has been instrumental in for more than 15 years. STAR-Dundee aims to support users of SpaceWire technology by providing: Unrivalled SpaceWire expertise; High-quality SpaceWire evaluation, development, test and EGSE products; Widely used, industry-leading, flight IP; First-class technical support, consultancy, training and design services.



| Stand No: **B06** | **IAC2014** |
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The Canadian Aeronautics and Space Institute (CASI) is a non-profit professional scientific and technical organization devoted to the advancement of the art, science and engineering of aeronautics, astronautics and associated technologies in Canada. It provides a focus for communications and networking among the aeronautics and space community in Canada, and assists members in developing skills, exchanging information, and sharing talents in their areas of interest. It promotes Canadian competence and international competitiveness in aeronautics and space and their applications, and fosters national pride and international esteem for Canada's accomplishments in these areas.

| Stand No: **B07** | **ICE - Italian Trade Commision** |
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**Web:** www.ice.gov.it

The ICE-Italian Trade Promotion Agency is the government organisation which promotes the internationalisation of the Italian companies, in line with the strategies of the Ministry for Economic Development. ICE provides information, support and advice to Italian and foreign companies. In addition to its Rome headquarters, ICE operates worldwide from a large network of Trade Promotion Offices linked to Italian embassies and consulates and working closely with local authorities and businesses. ICE provides a wide range of services overseas helping Italian and foreign businesses to connect with each other: identification of possible business partners; bilateral trade meetings with Italian companies; trade delegation visits to Italy; official participation in local fairs and exhibitions; forums and seminars with Italian experts

| Stand No: **B07** | **Planetek Italia s.r.l.** |
|---|---|

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Planetek Italia s.r.l. is an Italian SME with a sound experience in the definition and implementation of Software for Space and Ground Systems for Earth Observation and Space Exploration missions. Its sound knowledge in Geoinformation and space sector makes the company one of the main designer, developer and provider of real-time systems, on board processing software for the space segment, radar and optical data processing for the ground segment, mission planning and performance monitoring systems.

| Stand No: **B07** | **TOSCANA SPAZIO** |
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The not-for-profit association ToscanaSpazio (www.toscanaspazio.it) was established in December 2011 with the mission to create a wide network of companies and research institutions throughout Tuscany able to guide, promote and increase the value of cultural, training and research activities, share and develop the knowledge of its members, thus keeping the valuable technical, scientific and business know-how in the Aerospace sector within Tuscany, promote the development and growth of excellence within the sectors in Tuscany, enhance the complementary nature of groups and create synergies, encourage participation of members and affiliates in public and private funding instruments. In June 2013 ToscanaSpazio has 31 Full Members (21 SMEs, 6 Research organizations and 4 Large Industries) and 2 Affiliates. ToscanaSpazio comprises the 3 Universities in Tuscany (Firenze, Pisa, Siena), the National University Consortium for Telecommunications (CNIT), the Institute of Science and Technology for Information, the largest institute of the Italian National Council of Research (CNR-ISTI). ToscanaSpazio organization works on almost all the most important fields in the aerospace sector, including Telecommunication and Navigation, Space and Earth observation, Onboard systems and equipment, System integration in space and avionics, Microwave and radiofrequency systems, Production, testing, and maintenance, Mechanical Components, Electrical Power Supplies, Space Life Sciences, Aeronautical design, Propulsion/Motors, Special materials and Structures, Space transportation, Operational bases.

Stand No: **B07**

## DTM

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DTM since 1994 offers cost effective solutions in the design, manufacture, qualification and testing of mechanical systems for aerospace, biomedical and automotive fields. For aerospace DTM developed several components and structures for the International Space Station, sounding rockets, satellites, launchers and space re-entry vehicles. DTM design capabilities include 3D CAD drafting, structural analysis, thermal analysis and fluid dynamic analysis. DTM is specialised in the design, manufacture and testing of composite mechanical systems: an autoclave, and testing tools are available to cope with composite technologies from conception to qualification. Laboratory facilities include, among many others, machining tools, digital acquisition systems, testing equipment for quasi-static and dynamic tests, thermal vacuum chamber and ISO5 clean room certified according to ISO 14644. DTM know-how allowed to design, manufacture and qualify some of the high-purity high-pressure gas delivery systems for ISS (Astrium Prime), to qualify the Interstage 2/3 of Vega (RHI Prime) and to realize the IXV composite thrust structure cylinder (TAS Prime). DTM quality management system is certified according to the EN 9100 aerospace standard (AS 9100 for US). For more details please refer to DTM website www.dtm.it

Stand No: **B07**

## SITAEL S.p.A.

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SITAEL S.p.A. is able to cover all the processes needed for the Design, Development, Production and Qualification of Instruments, Electronics and Microelectronics Systems for High Reliability Applications. Furthermore, SITAEL is able to provide turn-key Microsatellites Based Solutions for Earth Observation Applications and Services. Description of products offered: Earth Observation Solutions based on Microsatellite Systems: Mission Analysis, Microsatellite Platform and Payload Design and Manufacturing, Launch Management, Services and Applications Management. Instruments and Advanced Sensors: Optical Payloads, SiPM, AOCS, Radiation Detection. Electric propulsion: Hall Effect Thusters (HET), Field Emission Electric Propulsion (FEEP). Spacecraft Electrical Power: High, Low and Medium Voltage Power Supplies, Specific Power Supplies. Control Electronics for Complex Systems: Thermal/Cryogenics, Gyro, Propulsion. Spacecraft Data and Communications: OBC, PDHU, PDP, TM/TC, MMU. Electrical Ground Support Equipment: SpW/CAN/1553 Multi-bus Boards, HW/SW Unit testers. Rad-tolerant Custom ASICs: AFE for sensors and actuators, Serial buses CTRL & TRX, Analog Receivers. IP Cores for Complex FPGAs: SpW Bridges, MCU, DSP, Cryptography, Radiation Mitigation.

Stand No: **B07**

## Fondazione Istituto Itlliana Di Tecnologia

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The Istituto Italiana di Tecnologia is a private law Foundation with the aim of promoting excellence in basic and applied research in the following platforms: Robotics, Energy, Environment Health Safety, Computing, Neuroscience, Smart Materials, Diagnostic Drug Discovery and Development. Genoa's headquarters is supported by 9 research centers located throughout Italy.



Stand No: **B07**

## AIPAS-ITALIAN SPACE SMEs ASSOCIATION

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AIPAS (Italian Space SMEs Association) was created in 1998 with the objective to serve the needs of Small and Medium sized companies operating in the space sector. AIPAS is a No-Profit Association and it aims at: promoting in the various national and international centres the general interests of Space SMEs; tackling the fundamental issues of the Aerospace market by implementing initiatives, monitoring and observing activities of the sector; informing and assisting Associate Members by promoting their activities coordination and their unity spirit; promoting the coordinated participation of Associate Members at most important national and international events of space sector; joining other national and international Associations or Agencies for the benefit of its Associate Members; facilitating the encounter and the collaboration between SMEs and Large Companies; making and encouraging research activities relative to space sector also with conferences and publications. AIPAS Associate Members are both upstream and downstream the space value chain. They are active in the principal technological domains: Many of AIPAS SMEs have a long experience with ESA and EU programs, as subcontractors but also as Prime Contractors of complex activities, in coordination of several partners (including large firms). AIPAS is the promoter and a founding member of SME4SPACE, the Panel of the European Space SME Associations (www.sme4space.org). AIPAS is a member of AFCEA (Armed Forces Communications & Electronics Association) - Chapter of Rome.

Stand No: **B11**

## Canadian Space Agency

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Since its creation in 1989, the Canadian Space Agency has been driving Canada's use and exploration of space; developing space assets, applications and services; and enabling space capacity, while meeting the nation's strategic priorities and growing need for scientific knowledge, innovation and information.

Stand No: **B13**

## Japan Aerospace Exploration Agency (JAXA)

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On October 1, JAXA—the only public aerospace R&D organization in Japan—will enter its 10th year. Amid the nations collaborating space development, the role and expectations for Japan are constantly on the increase. Under the new JAXA law enacted last June and the new Basic Plan for Space Policy re-evaluated in January, JAXA is expected to play a greater role than ever before as a core implementation organization to technologically support overall government space development and utilization, including safety and security areas, disaster preparation, and industrial development. By making the most of its world-leading technologies, JAXA has contributed to the realization of safe and comfortable society and the search for unknown frontiers. JAXA is involved in a variety of fields as follows: Satellites that have a variety of missions ranging from earth observation to planetary exploration, including the asteroid explorer HAYABUSA-2; Launch vehicles that are at the world's topmost level, such as H-IIA, H-IIB and EPSILON; Transfer vehicles (e.g., H-II Transfer Vehicle KOUNOTORI) that carry materials indispensable for manned space activities from the ground to the International Space Station (ISS); Astronauts engaged in the long-term mission in space aboard the ISS; Aviation technology to make the skies safer and more comfortable; Cooperation between the public and private sectors to develop industries utilizing aerospace technology. JAXA will continue to challenge to the skies and space to create prosperous opportunities for the future of the earth, while serving as a global leader.

| Stand No: **B14** | **AEM - Mexican Space Agency** |
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Established in 2010, the Mexican Space Agency (AEM) is a public and decentralized entity belonging to the transport and communications sector of Mexico's federal government. The AEM is responsible for planning and implementing Mexico's Space Policy, by designing and carrying out the National Space Activities Program. Its mission is to transform Mexico in a country with scientific activities and space technological developments of international class, articulated to industrialization programs and frontier-technology services, reflecting a meaningful impact on social development. The Mexican Space Agency represents the opportunity to stimulate a regional and national leadership by deploying scientific research programs, technological innovation strategies and policies for the development of an aerospace industry and the formation of highly qualified human resources. The AEM is integrated by five substantive areas: Human Capital Formation; Scientific Research and Space Technological Development; Industrial - Commercial Development and Competitiveness; International Affairs; and Financing. One of the AEM's main products is the Orbit Plan: Roadmap for Mexico's Space Industry, a document divided into five strategic milestones and processes that shape the ideas, opinions and proposals of a multidisciplinary group —represented by academy, industry and government— into a Development Plan for Mexico's Space Industry.

| Stand No: **B15** | **Space Generation Advisory Council (SGAC)** |
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Space Generation Advisory Council is a non-governmental organization and network which aims to represent university students and young space professionals to the United Nations, space agencies, industry and academia. It was created at the UNISPACE III, in 1999. SGAC organizes two mayor annual events: the Space Generation Congress and the Space Generation Fusion Forum. It has permanent observer status at the UNCOPUOS and has an active role on giving recommendations, and writing papers in seven project groups. Education and outreach is the main objective. More info: www.spacegeneration.org

**Event**

The New Gen Reception at the SGAC Booth (#B15) on the Wednesday 25th September from 4pm to 6pm. A brief explanation: It has become a special tradition for SGAC to hold a reception during the IAC. This year sponsored by the Space Foundation, please stop by the booth to network, and learn more about SGAC and the upcoming Fusion Forum at the 30th Space Symposium taking place in May 2014. Don't miss the opportunity to reunite with old friends and make new acquaintances at this informal gathering of young space professionals and SGAC supporters. Bring your colleagues along – we look forward to seeing you! Food & drinks will be served. SGAC is also organising an event at the GNF, but I believe this is something different and we are already in touch with Giulia. Felipe Arevalo, in CC, is this year's SGAC Booth Manager, so he might be able to give you further details if you need anything else.

| Stand No: **B16** | **Spectratime & T4Science** |
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SpectraTime (SpT) and T4Science (T4S) are space and ground clocks manufacturers of Rubidium Atomic Frequency Standard (RAFS) and Active & Passive Hydrogen Maser (HM) for various navigation systems (European, Chinese and Indian) and other programs. From Dec. 2005 to the beginning of 2012, both clock technologies have years of flight heritage through four Galileo and 11 Beidou satellites. Almost 90 SpT RAFS flight units and 25 Passive HM Physics Package flight units have been manufactured and characterized. As for ground application, more than 17 T4S Active HMs are involved in different ground segment worldwide, and one passive HM is in progress in the frame of a ground development program..



| Stand No: **B17** | **Holland Pavilion: ISIS, SpaceNed; TROPOMI; Dutch Space; TNO; NLR; Netherlands Space Office; TU Delft; ASTRON; SystematIC; University of Twente** |
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SpaceNed is the Association of Space companies in The Netherlands, rebranded from NISO in 2009. The objective of SpaceNed is to strengthen the position of its members in the international space market. Members cover Industry, SMEs, research institutes and universities, active in both the upstream and the downstream space markets. Through the Netherlands Space Office, SpaceNed represents its members in communication with the Dutch Government, in creating a well aligned strategy for space in The Netherlands, and the realization thereof.

Please visit www.spacened.nl for more information.

Participants of the Holland pavilion invite all attendees to come by and meet the representatives of the Netherlands space community.

Participating organizations are: ASTRON, Dutch Space, ISIS, National Aerospace Laboratory - NLR, Netherlands Space Office, SystematIC, TNO, TROPOMI, TU Delft – Aerospace Engineering and University of Twente.

| Stand No: **B21** | **SEAS Information Technology Co. Ltd.** |
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SEAS (Beijing) Information Technology Ltd. is a high-technology enterprise under the Institute of Electronics of Chinese Academy of Sciences, combining the Research & Development, Design, Production and Sales of Electronics Equipment and Vacuum Tubes. As the industrialization and promotion platform of the Institute of Electronics, SEAS undertakes the research and development mission of the electronics equipment and satellite application system of space use electronic equipment, airborne electronic equipment, satellite ground station, radar system and other aerospace product models. Relying on the Institute of Electronics' strength on cutting edge technology and research talents, SEAS successfully applies the programmable logic circuit chip-FPGA, space TWT, aviation traveling wave tube, Mini SAR, in ocean, weather forecasting and other civilian and military industry. It also applies a power amplifier, low noise amplifier, frequency spectrum source, high speed data acquisition card, high speed data memory card, inverter, demodulator, SAR target signal simulator, satellite measurement and control and the digital baseband signal test system, developed by SEAS's Research & Development team, which have been successfully applied in aerospace remote sensing, mapping, simulation test and other fields.

| Stand No: **B30** | **Agenzia Spaziale Italiana (ASI)** |
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The Italian Space Agency was founded in 1988. Its purpose was to coordinate all of Italy's efforts and investments in the space sector that had begun in the 1960s. Within twenty years' time, ASI became one of the most significant players in the world in space science, satellite technologies and the development of mobile systems for exploring the Universe. Today, ASI has a key role at the European level where Italy is the third contributor country to the European Space Agency. It also is involved at the international level. For example, ASI has a close working relationship with NASA, which has led to its participation in many of the most interesting scientific missions of recent years. One of the most fascinating projects has been the construction and activities of the International Space Station where Italian astronauts are by now at home. Thanks to ASI's efforts, the Italian scientific community has had unprecedented successes in recent years in astrophysics and cosmology, contributing among other things to reconstructing the first moments of life in the universe or making essential steps towards understanding the gamma ray bursts phenomenon. Furthermore, ASI has contributed significantly to space exploration by building scientific instruments that are aboard NASA and ESA probes bound for discovering the secrets of Mars, Jupiter and Saturn. In all of the major missions planned for future years-from Venus to the comets, up to the outer limits of our solar system-there will be a piece of Italy.

| Stand No: **B35** | **Asia Pacific Space Cooperation Organisation (APSCO)** |
|---|---|

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The Asia-Pacific Space Cooperation Organization (APSCO) is an inter-governmental organization with full international juridical personality. The Convention of APSCO was signed by nine countries in Beijing, China during the years of 2005-2006. APSCO starts its formal operation at its Headquarters in Beijing since December 2008, and has granted its permanent observer status to the Committee on Peaceful Uses of Outer Space of United Nations in 2009. The main objective of APSCO is to promote the peaceful uses of outer space in Asia-Pacific Region, and to carry out the cooperation in the fields of space science, space technology and space applications among Member States and regional countries. Currently, APSCO has eight Member States namely Bangladesh, China, Iran, Mongolia, Pakistan, Peru, Thailand and Turkey and one Signature State namely Indonesia which is under respective domestic procedures of its ratification on the Convention of APSCO. The responsibilities of APSCO will be promoting cooperation among Member States in space science, technologies and related applications; providing them with assistance in R&D, applications and training; improving their space capabilities; and promoting economic and social development for common prosperity of the region.

| Stand No: **B38** | **Geo-Informatics and Space Technology Development Agency (GISTDA)** |
|---|---|

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**Web:** www.gistda.or.th/gistda_n/en/

In 1982, the Thailand Ground Receiving Station was set up as first of its kind in Southeast Asia. Data are received from satellites such as LANDSAT, SPOT, NOAA, ERS and MOS. In 1993, the GIS Coordinating and Promotion Section was founded under the Information Center of Ministry of Science and Technology (MOST) in order to promote the use of GIS technology and to coordinate among users an attempt to set up GIS standards and a GIS Index Database for data exchange at national level. In order to enhance the utilisation of remote sensing and GIS, the Geo-Informatics and Space Technology Development Agency, GISTDA was established on 3 November, 2000 as a public organisation which assumes all responsibilities and activities for space technology and geo-informatics applications. The THailand Earth Observation Satellite (THEOS) is Thailand's first operational Earth observation satellite. The THEOS program was developed by GISTDA and EADS Astrium, the prime contractor, initiated work on the satellite in 2004. On October 1, 2008, THEOS was successfully launched by Dnepr launcher from Yasny, Russian Federation. Today, GISTDA is developing a worldwide network of distributors to allow the users to use and access all GISTDA products.

| Stand No: **B42** | **Beijing Sunwise Space Technology Ltd.** |
|---|---|

Beijing Sunwise Space Technology Ltd. is mainly involved in the research, development, manufacturing and testing of spacecraft attitude and orbit control system, propulsion system, spacecraft Guidance Navigation Control system and their components.

| Stand No: **B42** | **China Head Aerospace Technology Co.** |
|---|---|

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China HEAD Aerospace Technology Co. (HEAD AEROSPACE) is the leading space trading company in China engaged in introducing worldwide advanced space products & technology to domestic civilian space missions as well as marketing of Chinese space products to business space market world wide. HEAD procures space products and technologies worldwide and resells to China. HEAD team is working together with more than many space companies abroad marketing its products & service in China. Thanks to our suppliers and partners, HEAD is able to offer space products, service and technologies to our domestic customers in various fields. Encouraging the civilian application of space technology, HEAD is also being a distributor of Chinese commercial space products and service for satellite system and subsystem level companies or agencies outside China, actively promoting the sales of high quality and cost efficient satellite parts made in China. Taking the advantage of close contact with main space companies and organizations in China, HEAD offers off the shelf satellite parts with remarkable flight heritage as well as customaries space products and services



| Stand No: **B46** | **Surrey Satellite Technology Ltd** |
|---|---|

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We have been delivering small satellite missions for over 25 years - longer than anyone else in the world, giving us the experience to justify our reputation as the world's premier provider of operational and commercial satellite programmes. SSTL is an independent British company within the Astrium group. We can build and launch a satellite for any payload under 1,000 kilograms. Every SSTL customer will be offered a spacecraft solution designed for their needs. In fact, we believe that we are at our best when given the flexibility to advise customers on a complete solution. Whilst we mostly supply both the satellite and payload for our customers, we also undertake to integrate a customer supplied payload within an SSTL-built platform.

| Stand No: **B50** | **Korea Aerospace Research Institute (KARI)** |
|---|---|

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The Korea Aerospace Research Institute (KARI) was established as a government funded research institute in 1989 with the aim to contribute to the development of the national economy and improvement of the quality of life in Korea through research and development in the field of aerospace science and technology. KARI has made enormous strides in space field. As for satellite development, the projects include Korea Multipurpose Satellites (KOMPSAT-1,2,3,3A,5) and the Communications, Oceanography and Meteorology Satellite (COMS). In the area of launch vehicles, the KSLV-1 project developing the launch vehicle with the payload of 100 kg class small satellite was successfully completed in January 2013 and now the next project is underway for the purpose of the development of the launch vehicle capable of launching a 1.5ton class satellite into low-earth orbit. For the launch site, KARI built Naro Space Center in 2009. KARI will strive to continue in its ongoing mission to develop and use aerospace technology for the benefit of humanity with future plans to expand its search for knowledge to the Moon, the Solar System and beyond.

**Event:** Korean Day; Date: September 24th, 14:00 – 14:30; Place: Booth No. B50; Contents: Korea Network Reception for Space Research & Development

| Stand No: **B52** | **Beijing Institute of Space Mechanics & Electricity** |
|---|---|

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Beijing Institute of Space Mechanics & Electricity was founded on August 21, 1958, which is one of first institutes engaging in aerospace research, belonged to CAST, CASC. Beijing Institute of Space Mechanics & Electricity is the core strength of optical remote sensing and landing recovery in China and is also the leader in spacecraft composite materials and pyrotechnic area. The research of Beijing Institute of Space Mechanics & Electricity started with sounding rocket, and successively engaged in overall technology in carrier rocket, satellite and manned spacecraft. At present, it is focusing on the research of space optical remote sensing technology, landing recovery, space laser remote sensing technology, aviation optical remote sensing technology, composite materials structure molding technology, instantaneous execution mechanism (pyrotechnic technology), and the development and manufacture of corresponding products. Beijing Institute of Space Mechanics & Electricity has the country's leading R&D center, engineering center, production base and test center with first class facilities. The professional products are widely used in National Defense and National Economy Construction, and make great contributions to explore the universe and protect the earth.

Stand No: **B54** | **Wallonia Foreign Trade & Investment Agency (AWEX)**

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Part of a worldwide network of 105 commercial offices, AWEX Beijing has a special and diversified mission to assist Walloon companies to make their first steps in the Chinese market, promoting their products and technologies, searching for business partners, providing market analysis and intelligence, organizing business meetings, technical seminars and exhibitions, organizing business delegations to China and Chinese business and investment delegations to Belgium. Its team acts as a permanent bridge between businesses from both countries..

Stand No: **B54** | **SKYWIN**

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The Aerospace Cluster "SKYWIN" is a group of 120 companies, training centers and research units engaged in public and private partnership and building synergies around common innovative projects in the space and in the aeronautic sectors. SKYWIN represents some 6,400 jobs and €1 billion revenue, exporting 90% of its products.

Stand No: **B54** | **CSL-University of Liege**

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CSL is a high level Research Center of the University of Liège, devoted to applied research and managed as a profit center. CSL performs RTDI activities mainly related to the space science. CSL commits to be an actor of the economic development for the local industry. CSL animates a state of the art research tank throughout the University of Liège.

Stand No: **B54** | **Thales Alenia Space Belgium (ETCA)**

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THALES ALENIA SPACE BELGIUM (ETCA) is a Belgian Company in the forefront of space sector. World leader in Power Electronics for satellites, we are also the main supplier of Electronics for the European Launchers. Day after day, our staff of 500 offers quality products and services to our customers all over the world. Satellites: Thales Alenia Space Belgium is a world leader in Power Conditioning and Distribution for satellites. Our product range covers the needs of spacecraft electronics from micro satellites up to large geo-satcom (from 250W up to 20 kW). The company also enjoys a position at the forefront of several flight electronics products: flexible microwave power amplifiers with travelling wave tubes (LCTWTA), power supplies for plasma propulsion thrusters (PPU), motor drive electronics, DC/DC converters,.More than 150 satellites and spacecrafts, currently in orbit, feature equipment designed and built by Thales Alenia Space Belgium. Launchers: Thales Alenia Space Belgium is the main supplier of on-board electronics for Ariane 5 (we provide more than 50% of its electronics). Thales Alenia Space Belgium is also the European leader for the Checkout Systems and Control Benches for launchers. We are prime contractor (and manufacturer) for the Safeguard System of the Russian launcher Soyuz that are launched from French Guiana.



Stand No: **B54** | **AMOS SA**

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DESIGN AND MANUFACTURE OF MECHANICAL, OPTICAL AND OPTO-MECHANICAL SPACE SYSTEMS FOR ON BOARD AND GROUND APPLICATIONS. OUR SERVICES: Mechanical and optical engineering; Finite element method calculation (SAMCEF); CAD (CATIA V5); Optical design (ZEMAX, FRED); Optical manufacturing (Zerodur, SiC, Aluminium and other metallic alloys); AIV (Assembly Integration and Verification); Precision Optical Metrology. OUR EXPERTISE: Mechanical ground support equipment (MGSE); Optical ground support equipment (OGSE); Vacuum and thermal simulators; Test benches; On board mirrors, telescopes and earth observation instruments; Telescopes for professional astronomy.

Stand No: **B54** | **Alcântara Cyclone Space**

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Alcântara Cyclone Space is a bi-national Ukraine/Brazil launch service provider having exclusive rights to commercialize the Cyclone-4 launch vehicle launched from Alcântara Launch Center in Brazil. Cyclone-4 is a Ukrainian carrier rocket which is being developed for commercial satellite launches.

Stand No: **B65** | **American Institute of Aeronautics and Astronautics (AIAA)**

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AIAA is the largest aerospace professional society in the world, serving a diverse range of more than 35,000 individual and corporate members from 80 countries, whose innovative, high-value profession helps make the world safer, more connected, more accessible, and more prosperous. AIAA members have produced everything from the brilliant innovations that improve daily life to the major missions that exemplify the human drive to explore and to achieve amazing things. AIAA is dedicated to igniting and celebrating aerospace ingenuity and collaboration, and conveying the importance of aerospace to our way of life, to help inspire innovation and drive technological progress in the U.S. and throughout the world.

Event: The American Institute of Aeronautics and Astronautics (AIAA) invites all of its members to a cocktail reception in the AIAA exhibit booth B65 on Monday, 23 September, 1700-1800 hrs. This is an opportunity to meet the new AIAA Executive Director and former NASA astronaut Dr. Sandra Magnus, as well as learn about membership, events, and publications.

Stand No: **B67** | **Springer**

*Contact:* ***Maury Solomon***

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**Springer Science+Business Media or Springer is a global publishing company that publishes books, e-books and peer-reviewed journals in science, technical and medical (STM) publishing.[1] Springer also hosts a number of scientific databases, including SpringerLink, Springer Protocols, and SpringerImages. Book publications include major reference works, textbooks, monographs and book series; more than 88,000 titles are available as e-books in 18 subject collections.[2] Within STM, Springer is[when?] the largest book publisher and second-largest journal publisher worldwide after Elsevier, with around 55 publishing houses, almost 6,200 employees and around 2,000 journals and 7,000 new books published each year.[3] Springer has major offices in Berlin, Heidelberg, Dordrecht, and New York City.**

## Stand No: B83 — Shaanxi Engineering Laboratory for Microsatellites, Northwestern Polytechnical University

*Contact:*

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**Shaanxi Engineering Laboratory for Microsatellites (SELM), Northwestern Polytechnical University (NWPU), is engaged in designing, developing, and testing for microsatellites, as well as corresponding teaching and training services. The main research field is: Overall scheme for microsatellites; Design and development of GNC for microsatellites; Orbit planning and attitude control strategies for microsatellites; Development of on-board computers and control system components; Dynamics and simulation technologies for microsatellites; Data processing and data applications of satellites; Expanding researches for novel satellites and new fields for satellite application. SELM is a member of the International Astronautical Federation (IAF). A large number of domestic and international aerospace, aviation enterprises and scientific research institutes have established close ties with SELM. In recent years, it has participated in lots of Chinese key projects, including: Tiangong-1 space laboratory, Shenzhou series spacecraft, navigation satellites, FY serial satellites, and manned lunar landing practice series. SELM possesses high level experiment equipments for microsatellites. Such as Single-axis/Three-axis air-bearing satellite simulating system, spacecraft formation and relative navigation simulating system, satellite ground station, clean room, three axis table equipped with temperature box, vibration table, thermal vacuum ovens, etc. SELM currently has 26 permanent faculty members, including 18 members with doctor's degrees. In addition, the laboratory has a postgraduate team of about 50 to 70 members. Among them are 20 to 30 doctoral candidates.**

## Stand No: B84 — Space Industry Association of Australia

*Contact:*

c/- Institute for Telecommunications Research; Building W; University of South Australia; Mawson Lakes SA 5095; Australia

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**Web:** http://www.spaceindustry.com.au/

The Space Policy Unit coordinates Australia's national and international civil space activities, including partnerships with international space agencies and organisations. The Unit is Australia's central point of contact for all civil space activities and is developing an Australian national space policy.

## Stand No: B85 — Active Space Technologies

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Active Space Technologies offers high added-value products and services in the fields of thermo-mechanical engineering (thermal and structural analysis, fluid dynamics, design, high precision manufacturing and testing), electronics engineering (embedded systems, digital control), as well as Management Support services for technology transfer and development projects (project management, systems engineering, project coordination). Active Space Technologies is a European based company positioning its services in the global markets of aerospace, defence, automotive, nuclear fusion, and scientific sectors.

## Stand No: B86 — ESTACA

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Founded in 1925, ESTACA is a member of the "Conférence des Grandes Ecoles", a group of the most prestigious engineering schools in France. ESTACA is highly specialized in the fields of aeronautics, automotive, space and guided transport industries. The training courses constantly evolve to meet the requirements of compqnies and adapt to the emergence of new technologies or disciplines. ESTACA's graduates undertake the design, development and production of transport systems and components. The school's expertise is well recognized by industry, which has ranked it among the best engineering schools for the quality of its graduates.



## Stand No: B87 — College of Aerospace Science and Engineering

*Contact:* ***Yong Zhao***

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The exhibition products of National University of Defense Technology (NUDT) mainly include: (1) the first nano-satellite SpacePioneer-1 (TianTuo-1, TT-1) self-designed and developed by NUDT, which was launched into space from China Taiyuan Satellite Launch Center on 10 May 2012, and has successfully fulfilled its flight mission, including the feasibility validation of the Board Nanosat architecture and the satellite kernel system, the scientific experiments of atomic oxygen detection and visible spectrum earth imaging, and in-orbit demonstration of space-borne ship Automatic Identification System (AIS); (2) the self-developed space particle radiation detection instrument and the research achievements in space radiation protection theory, method, and test technology; (3) the multi-mode high-performance satellite navigation signal simulator, as well as the research achievements in the precision measurement and communication technology between multiple spacecrafts, the satellite tracking telemetry and command, and radio precision measurement technology.

## Stand No: C01 — Turkish Aerospace Industries, Inc. (TAI)

*Contact:* ***Bican Celik***

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TAI, ranking among the top hundred global players in aerospace and defense arena, is Turkey's center of technology in design, development, modernization, manufacturing, integration and life cycle support of integrated aerospace systems, from fixed and rotary wing air platforms to UAV and space systems. With the strategic investments made in recent years, TAI has established a respected and recognized presence in the global market as a reliable player known for its technologies and commitment to ultimate customer satisfaction. Being the Pioneer of Turkish Space Industries, TAI Space Systems focuses on the continuous improvement of its products and capabilities from subsystems to integrated systems including the technological infrastructure investments to ensure a sustainable strategic growth. TAI Space Systems takes part in national and international programs as prime contractor or risk sharing partner. Building expertise through the Turkish Space Programs since 2002, TAI offers: Access to time-efficient Assembly, Integration & Test Facilities (AIT), Satellite Subsystem/Equipment Design, High Resolution Remote Sensing Satellite Design. TAI is now offering its capabilities, products and AIT facilities to the international market.

## Stand No: C23 — Astrium GmbH

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Bremen is the European centre of excellence for manned space flight, launch vehicle stage integration and space robotics. With a workforce of around 1,000 highly qualified employees, this north German site is responsible for key European contributions to the International Space Station ISS, such as the Columbus space lab and the unmanned Automated Transfer Vehicle (ATV). Astrium Bremen is the industrial operator responsible for operating the European elements of the Space Station. In addition, the upper stage of the Ariane 5 launch vehicle is developed and built at the site. Other work and research areas include rendezvous and docking, automatic spacecraft landing, tank technology, zero-gravity research and mission planning.

# 8.5 Sponsors

## American Astronautical Society (AAS)

*President: Lyn D. Wigbels*

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Springfield, Virginia 22152-2370

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**Web:** http://www.astronautical.org/

Formed in 1954, the American Astronautical Society (AAS) is the premier independent scientific and technical group in the United States exclusively dedicated to the advancement of space science and exploration. We strongly support the U.S. Space Exploration Policy, and are members of the Coalition for Space Exploration and the Space Exploration Alliance. We are also committed to strengthening the global space program through cooperation with international space organizations.

We strive to fulfill these goals through service to our members: engineers, scientists, administrators, institutions and corporations on the cutting edge of the nation's space activities. In addition, many of us support these activities as military space specialists, physicians, lawyers, educators, historians, journalists, artists and other professionals.

## Arianespace

*Chairman & Chief Executive Officer:* *Stéphane Israël*

*Contact:* *Jacques Denavaut*

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BP 177 91006 Evry-Courcouronnes CEDEX
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Arianespace was founded in 1980 as the world's first commercial satellite launch company. Its shareholders include the French space agency CNES, Astrium and all European space companies, representing 10 European countries. As of January 1, 2013, the company had 315 employees, at corporate headquarters in Evry, at the Guiana Space Center (CSG) – launch site for Ariane 5, Soyuz and Vega – and at local offices in Washington D.C., Singapore and Tokyo.
Since its creation, Arianespace has signed contracts with 81 customers worldwide carrying out 213 Ariane launches, 31 Soyuz launches (five at CSG and 26 at Baikonur via its subsidiary, Starsem) and the two first launches of Vega. More than half of the commercial satellites in service today were launched by Arianespace.

## Aviation Week

*President: Gregory Hamilton*

USA

*Contact:* *Erving Dockery*

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Serving over 1.2 million professionals in 185 countries, Aviation Week is the largest information and services provider to the global commercial, defense, maintenance/repair/overhaul (MRO), space and business aviation communities and plays a critical role in connecting industry professionals worldwide.

With the developments of higher value analytical tools - Aviation Week Intelligence Network (AWIN), MRO Prospector and Top Performing Companies (TPC) - markets and customers are empowered with the essential data they need. AviationWeek.com, along with the events series, enables communities of buyers and sellers to connect more frequently, providing marketers with new media opportunities. Aviation Week continues to expand in the defense sector as well as in emerging markets including India, the Middle East and Asia/Pacific.

## Dneprotechservice

*CEO: Oleksii Zinoviev.*

Scientific Production Firm
"Dneprotechservise" LLC
21 Simferopolskaya
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*POC:* *MarynaTraiduk*

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LLC SPF "Dneprotechservice" is a managing company of a number of machine-building enterprises of Ukraine, focusing on four core activities: heavy engineering, underground infrastructure, space-rocket hardware, prototyping and technology developing for private money, followed by the organization of production and sales. Among the main production assets of Dneprotechservice are such as: PJSC "Dneprotayzhmash" which produces the ground support equipment of technical and launching plants for the Space-Mission Vehicles; PJSC "Ukrainian Scientific-research Institute of Mechanical Engineering" (technology and equipment for manufacture of aerospace equipment); SPE "NIKE" (technology and manufacturing of honeycomb fillers and structures); PJSC "Joint Engineering Company" (technology and equipment manufacturing of nondestructive testing).

## EPFL - Ecole Polytechnique Fédérale de Lausanne

*President: Patrick Aebischer*

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Switzerland

*Contact:* *Volker Gass, Director*

**Web:** http://www.epfl.ch/

EPFL is Europe's most cosmopolitan technical university. It receives students, professors and staff from over 120 nationalities. With both a Swiss and international calling, it is therefore guided by a constant wish to open up; its missions of teaching, research and partnership impact various circles: universities and engineering schools, developing and emerging countries, secondary schools and gymnasiums, industry and economy, political circles and the general public.

## INSYEN AG

*CEO: Mr. Dave McMahon*

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82234 Wessling
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INSYEN AG's international team of professional and committed engineers, planners and developers have been contributing to manned space exploration, new technology breakthroughs and customer satisfaction for over 35 years. Our dedication to reliability, performance, proven solutions, and innovative concepts has been the cornerstone of our reputation. Insyen is a prime subcontractor on the Columbus Project, the European module of the International Space Station and is actively involved in the engineering and ground operations of the Columbus Control Center and flight operations of the Columbus module. We are also supporting the development and implementation of the Galileo ground facilities.

## JAXA - Japan Aerospace Exploration Agency

*President: Naoki Okumura*

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*Contact:* *Mami Sasamura*

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On October 1, JAXA—the only public aerospace R&D organization in Japan—will enter its 10th year. Amid the nations collaborating space development, the role and expectations for Japan are constantly on the increase. Under the new JAXA law enacted last June and the new Basic Plan for Space Policy re-evaluated in January, JAXA is expected to play a greater role than ever before as a core implementation organization to technologically support overall government space development and utilization, including safety and security areas, disaster preparation, and industrial development. By making the most of its world-leading technologies, JAXA has contributed to the realization of safe and comfortable society and the search for unknown frontiers. JAXA will continue to challenge to the skies and space to create prosperous opportunities for the future of the earth, while serving as a global leader.

## Kosmonauta.net

*President of the Board: Maciej Mickiewicz*

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Kosmonauta.net is a space-related portal about space missions, projects, launches, plans of agencies, conferences and local groups. The biggest Polish astronautical magazine.

## Lockheed Martin

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*Contact:* *Mary Snitch*

**Web:** http://www.lockheedmartin.com/

Headquartered in Bethesda, MD, Lockheed Martin is a global security and aerospace company that employs about 116,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

As a global security, aerospace, and information technology company, the majority of Lockheed Martin's business is with the U.S. Department of Defense and the U.S. federal government agencies. In fact, Lockheed Martin is the largest provider of IT services, systems integration, and training to the U.S. Government. The remaining portion of Lockheed Martin's business is comprised of international government and some commercial sales of our products, services and platforms.

## Northwestern Polytechnical University

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Northwestern Polytechnical University is a Chinese National Key University, directed by the Ministry of Industry and Information Technology of the People's Republic of China, located in Xi'an, Shaanxi, China. The university emphasizes on the education and research in aeronautical, astronautical and marine engineering. In February 2012, NPU has 13,736 graduate students (3,063 full-time doctorate candidates, 7,087 master candidates, 3,586 professional degree candidates) and 14,395 undergraduate students.

## Secure World Foundation

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Secure World Foundation is an endowed, private operating foundation that promotes cooperative solutions for space sustainability and the peaceful uses of outer space. The Foundation acts as a research body, convener and facilitator to promote key space security and other space related topics and to examine their influence on governance and international development.

## Spaceflight

*Contact: Suszann Parry*

British Interplanetary Society
27-29 South Lambeth Road,
London
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**Web:** http://www.bis-space.com/products-page/magazines-and-journals/spaceflight-magazine/

*Spaceflight* is the international magazine of space, published by the British Interplanetary Society. It first appeared in 1956 and has been at the forefront of space exploration ever since.

*Spaceflight* is published monthly with each volume of 12 issues having continuous pagination and an annual index included with the December issue.

Widely used as a magazine of authoritative reference, *Spaceflight* has long been recognised as a prime source of information on international space programmes and commercial space exploration.

Regular features, often written by those directly involved in a particular technology or project, cover all aspects of space technology and exploration, astronomy, satellites, commercial space, political activities, educational programmes and detailed space mission reports.

## Space News

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For over two decades, SpaceNews has been the only publication that space professionals throughout the world turn to first for the news that affects their jobs. Whether for the latest trends in military space capabilities, breaking developments in satellite communications, or the current status of a budget, our readers count on SpaceNews to keep them informed.

SpaceNews goes beyond print. We offer a distinct online information portal, delivering accurate, timely news and in-depth analysis, in addition to a variety of custom publishing options. In this ever-changing market, we know how important it is to provide a cost-effective way to send your company's advertising message to the right people.

## Space Safety Magazine

*Editor-in-Chief: Andrea Gini*

*Contact: Andrea Gini*

**Email:** info@spacesafetymagazine.com
**Web:** http://www.spacesafetymagazine.com/

Space Safety Magazine (SSM) is a quarterly print magazine and a daily news website, jointly published by the International Association for Advancement of Space Safety (IAASS) and the International Space Safety Foundation (ISSF). Space Safety Magazine is focused on safety related issues affecting space as well as safety on Earth from space events and objects. We regularly follows activities and threats in space debris and situational awareness, space weather and radiation impacts, nuclear safety, human spaceflight, launches, and reentries. SSM is highly international in nature, reporting on developments from around the globe, distributing content on multiple continents, and featuring an international staff.



## The Aerospace Corporation

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90245-4691 El Segundo, CA
United States

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The Aerospace Corporation has provided independent technical and scientific research, development, and advisory services to national security space programs since 1960. It operates a federally funded research and development center (FFRDC) for the United States Air Force and the National Reconnaissance Office and supports all national security space programs. It also applies more than 50 years of experience with space systems to projects for civil agencies like NASA and the National Oceanic and Atmospheric Administration, commercial companies, universities, and international organizations in the national interest.

## The Planetary Society

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**Email:** tps@planetary.org
**Web:** http://www.planetary.org

We create. We educate. We advocate.

With your support, The Planetary Society sponsors projects that will seed innovative space technologies, nurtures creative young minds, and is a vital advocate for our future in space.

Right now we are…

- Scanning the skies for dangerous asteroids,
- Hunting for Earthlike planets,
- Searching for life in the Universe,
- Advocating for needed science funding,
- And flying our very own solar sail spacecraft, Lightsail-1.

## Yuzhnoye State Design Office

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**Web:** www.yuzhnoye.com/?lang=en

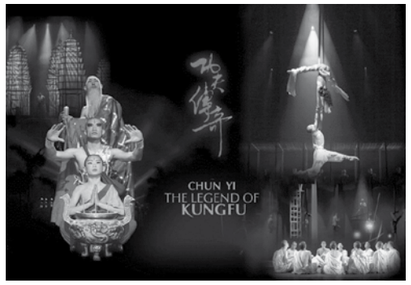
Yuzhnoye SDO is a powerful design company which in cooperation with its partners provides turnkey developments for complicated high-tech projects. The main directions of the Yuzhnoye's activities remain works associated with creation and operation of the space-rocket technology. Launch vehicles, spacecraft and rocket engines developed by Yuzhnoye meet the highest criteria of the modern science. Recent years, taking into account vital society's needs some conversion lines of activities have been developing. These lines are:creation of technology for power engineering including renewable energy sources; creation of some transport systems;creation of agricultural machinery.

# 9 Social Events

## 9.1 Social Events

### The Legend of Kung Fu

**Date:** Tuesday, 24 September 2013
**Time:** 18:30 – 21:30
**Departure:** CNCC
**Cost:** 28 - 90 EUR/person (based on different seats location)




China has a long history of martial traditions that includes hundreds of different styles. The Legend of Kung Fu combines Chinese martial arts and a touching narrative. It shows more than 20 kinds of Chinese martial arts and other forms of arts such as ballet, modern dance and acrobatics. The performance help you understand Chinese philosophies, religions and legends.

### Beijing Opera (maximum 300 delegates)

**Date:** Wednesday, 25 September 2013
**Time:** 18:30 – 21:30
**Departure:** CNCC
**Cost:** 25 - 80 EUR/person (based on different seats location)

Beijing Opera is a form of traditional Chinese theatre which combines music, vocal performance, mime, dance and acrobatics. Beijing Opera is regarded as one of the cultural treasures of China. With their elaborate and colorful costumes and skills of speech, song, dance, and combat in movements, performers tell stories from Chinese history and folklore. By appreciation of Peking Opera, you can have an in-depth understanding of Chinese culture.

### Beijing Night Tour

**Date:** Tuesday, 24 September 2013
**Time:** 18:30 – 21:30
**Departure:** CNCC
**Cost:** 25 EUR/person

**Route:** Beijing National Stadium — Hou Hai — Wang Fujing Street — Tian'anmen Square — Chang'an Avenue — Beijing CBD

Beijing is an ancient city with a history of over 3,000 years. It is also a vibrant modern metropolis that reflects China's rapid development since its reform and opening-up. Beijing Night Tour will invite you to appreciate the history of ancient city by strolling along Houhai, Wangfujing, Tiananmen, and let you feel the modern spirit of Beijing by rambling along Chang'an Avenue, CBD, Jianguomen and etc.



## 9.2 Gala Dinner

### Friday, 27 September 2013

**Time:** 19:00 – 21:30
**Departure:** CNCC
**Price:** 95 EUR /person
**Location:** Zhengyuan Dazhaimen

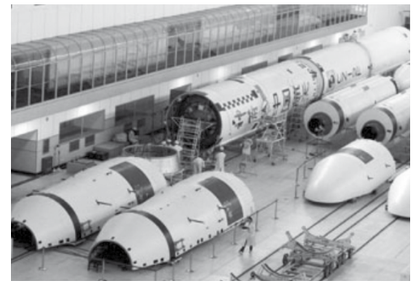
The more ethnic, the more global. The gala dinner will be held in the Beijing Zhengyuan Dazhaimen. It combines the culinary arts, environmental arts and stage arts perfectly, properly grasping traditional culinary culture. Zhengyuan Dazhaimen selects top-quality food materials, providing authentic traditional palace, Beijing, and Cantonese cuisine series. It has developed unique delicious dishes by drawing the essence and advantage of each Chinese cuisine.

The menu will be based traditional Chinese food. The evening will be enlivened by Chinese music.

# 10 Technical Tours

### China Academy of Launch Vehicle Technology (CALT)

**Date:** Wednesday, 25 September 2013
**Time:** 13:30 :
**Departure:** from CNCC
Duration of Site Visit: 14:30 – 16:00



As a subordinate of the China Aerospace Science and Technology Corporation (CASC), CALT plays an important role in the three milestones of China aerospace industry: LM-1 launch vehicle launches the first man-made satellite of our country successfully which means the opening of China aerospace industry; LM-2F launch vehicle makes a success of launching spaceship 10 times continuously which realizes the Chinese aspiring dream LM-3A launch vehicle launches "Chang E" lunar exploration satellite with success which means the beginning of deep-space exploration.

### China Centre for Resources Satellite Data and Application (CRESDA)

**Date:** Wednesday, 25 September 2013
**Time:** 13:30 :
**Departure:** from CNCC
Duration of Site Visit: 14:30 – 16:00

China Centre for Resources Satellite Data and Application (CRESDA) was founded on October 5th, 1+991. It is a scientific research and operational management institution. CRESDA has been dedicating to construct large-scale ground systems for remote-sensing satellites data acquiring, processing, archiving and distributing. With 22 years development, CRESDA has been constantly improving its capability in satellite ground system engineering construction, satellite operation management, satellite remote-sensing data procession, application technical research and development, and so on. CRESDA is advancing towards the construction of top-ranking international earth observation center.

## Aisino Corporation

**Date:** Wednesday, 25 September 2013
**Time:** 13:30 :
**Departure:** from CNCC
Duration of Site Visit: 14:30 – 16:00

Aisino is a listed IT company specializing in information safety. After first providing the China Tax Administration with an effective solution plan in 1994, Aisino has accumulated much experience and skill in completing large-scale and long-term projects. They also continued to innovate based on the needs of our clients, and increase our development and production abilities, extending our services to a broader range of fields, including finance, education, customs, public safety, and urban services. We currently provide more than 100 referenceable and executable system solution plans to almost five million industry and enterprise clients.

## China Academy of Space Technology (CAST)

**Date:** Thursday, 26 September 2013
**Time:** 13:30 :
**Departure:** from CNCC
Duration of Site Visit: 14:30 – 16:00

China Academy of Space Technology (CAST), subordinated to China Aerospace Science and Technology Corporation (CASC), was established on February 20, 1968. Through over 40 years' development, it has become the main development base for space technology and products in China and the most powerful backbone strength for China's space endeavor. It is mainly engaged in various fields such as development and manufacturing of spacecraft, international exchange and cooperation in space technology, satellite applications, etc. By the end of September 2012, CAST had successfully developed, launched and operated 140 spacecrafts. During the 12th Five-Year Plan (2011-2015), CAST will undertake three projects out of the 16 national important special scientific and technological projects and will develop about 100 satellites.

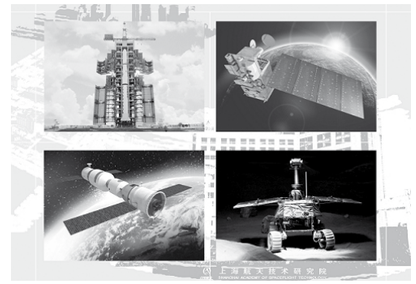
## China Satellite Communications Co. Ltd

**Date:** Thursday, 26 September 2013
**Time:** 13:30 :
**Departure:** from CNCC
Duration of Site Visit: 14:30 – 16:00

China Satellite Communications Co. Ltd. (China Satcom) is a core professional subsidiary of China Aerospace Science and Technology Corporation (CASC). Its main business covers the operation of satellites and the delivery of related services. With making satellite communications and broadcasting services accessible to more social groups as its mission, and a platform of integrated space/terrestrial satellite operation and service system, China Satcom is devoted to building itself into an integrated satellite service operator. China Satcom enjoys the richest satellite resources in China, well developed infrastructure and reliable measurement and control systems. The Company also has a professional team, outstanding system integration capacities providing 7X24 quality services.

## Shanghai Academy of Spaceflight Technology (SAST)

**Date:** Saturday, 28 September 2013
**Time:** 08:30:
**Departure:** from Shanghai Renji Hotel
Duration of Site Visit: 09:30 – 15:00



SAST (Shanghai Academy of Spaceflight Technology), founded in August 1961, is one of three systematic design academies of CASC (China Aerospace Science & Technology Corporation). The aerospace model products developed by SAST involve different fields of guided missile weapon, launch vehicle, application satellite, manned spaceship and deep space exploration, and the application products of space technology produced by it include PV, high-end auto parts, power lithium-ion batteries, compressed natural gas equipment for power transmission and distribution, electromechanical equipment manufacturing and new materials.

航天动力技术研究院
Academy of Aerospace Solid Propulsion Technology

http://www.sunvalor-casc.com

航天推进技术研究院
Academy of Aerospace Propulsion Technology

http://www.aalpt.com

四川航天技术研究院
Sichuan Academy of Aerospace Technology(SCAAT)

http://www.scaat.spacechina.com

中国航天电子技术研究院
China Academy of Aerospace Electronics Technology(CAAET)

http://www.caaet.cn

中国航天空气动力技术研究院
China Academy of Aerospace Aerodynamics(CAAA)

www.caaa-spacechina.com

中国长城工业集团有限公司
CHINA GREAT WALL INDUSTRY CORPORATION

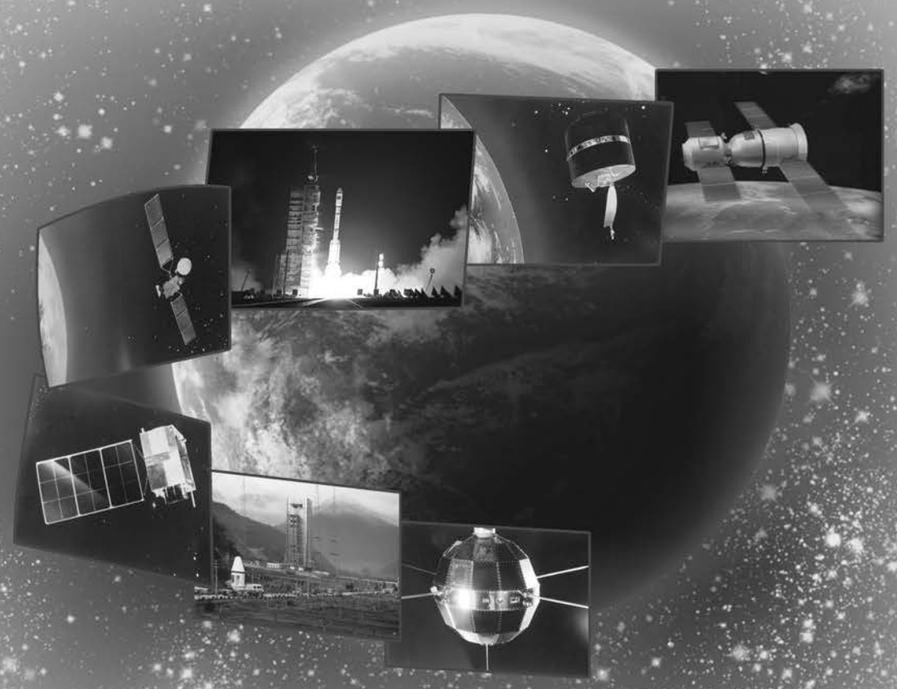
http://cn.cgwic.com/

中国卫通集团有限公司
China Satellite Communications Co. Ltd.

http://www.chinasatcom.com/cn/default.aspx

中国资源卫星应用中心
China Centre for Resources Satellite Data & Applicaiton

http://cresda.spacechina.com



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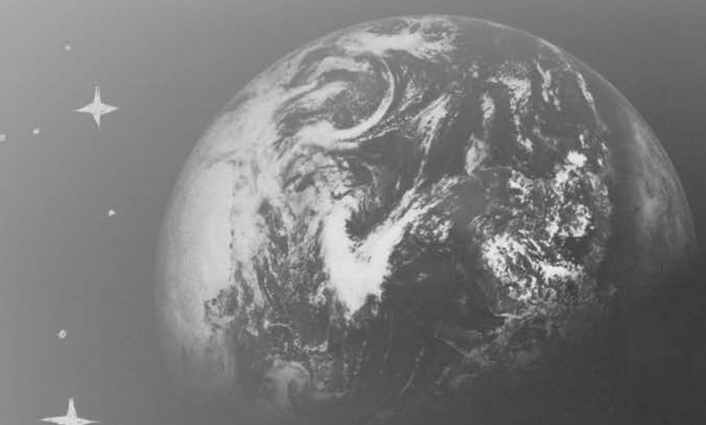
北京和德宇航技术有限公司
China HEAD Aerospace Technology Co.

http://en.satelliteshop.cn

中国科学院空间科学与应用研究中心
Center For Space Science and Applied Research, CAS

www.cssar.ac.cn

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| Andrenucci, Mariano | CA | IAC-13.C4.4.7 |
| Andrenucci, Mariano | CA | IAC-13.C4.6.2 |
| Andreutti, Giovanni | CA | IAC-13.D2.P.13 |
| Andrews, Dana G. | A | IAC-13.D1.4.10 |
| Andrews, Daniel | CA | IAC-13.A3.2A.8 |
| Andrews, Jason | CA | IAC-13.B4.5.6 |
| Andrews, Jason | A | IAC-13.B4.4.7 |
| Andrews, John | CA | IAC-13.A3.P.41 |
| Andreychuk, Peter | CA | IAC-13.A1.6.4 |
| Andrusenko, Roman | CA | IAC-13.C4.P.10 |
| Angadi, Chetan | A | IAC-13.E2.2.4 |
| Angelini, Roberto | CA | IAC-13.D2.6.1 |
| Angelone, Marcello | CA | IAC-13.C4.2.1 |
| Anih, Samuel | A | IAC-13.E1.2.3 |
| Anma, Kenichi | CA | IAC-13.D2.5.6 |
| Anselmo, Luciano | CA | IAC-13.A6.2.4 |
| Anselmo, Luciano | CA | IAC-13.A6.2.9 |
| Anselmo, Luciano | CA | IAC-13.A6.6.5 |
| Antoniou, Natassa | CA | IAC-13.E3.P.5 |
| Antoniou, Natassa | CA | IAC-13.B1.5.4 |
| Antoniou, Natassa | A | IAC-13.E5.5.3 |
| Antony, Abhinandan | CA | IAC-13.C3.P.18 |
| Aoki, Setsuko | A | IAC-13.E7.3.2 |
| Aoki, Yoshio | CA | IAC-13.D4.3.6 |
| Aprea, Julio | CA | IAC-13.D2.1.9 |
| Aprea, Julio | A | IAC-13.E1.5.3 |
| Aprea, Julio | CA | IAC-13.E1.5.4 |
| Aprea, Julio | A | IAC-13.E5.3.10 |
| Aprea, Julio | CA | IAC-13.D2.7.1 |
| Aprea, Julio | A | IAC-13.E6.2.7 |
| Aragno, Cesare | CA | IAC-13.B1.5.2 |
| Arbery, Mario | CA | IAC-13.E2.3-V.4.7 |
| Arce, Felipe | CA | IAC-13.E1.3.10 |
| Areshkina, Larysa | CA | IAC-13.B5.2.5 |
| Arestie, Steven | CA | IAC-13.D1.P.29 |
| Arevalo Yepes, Ciro | CA | IAC-13.E3.1.10 |
| ARIAS CAÑÓN, JUAN CARLOS | A | IAC-13.A7.2.7 |
| Aridon, Gwenaëlle | CA | IAC-13.A6.3.5 |
| Arifin, Bustanul | CA | IAC-13.D1.3.10 |
| Arifin, Bustanul | A | IAC-13.C2.6.12 |
| Arkhipov, Alexey | CA | IAC-13.C4.6.2 |
| Armellin, Roberto | CA | IAC-13.C1.4.13 |
| Armellin, Roberto | CA | IAC-13.A6.P.11 |
| Armellin, Roberto | CA | IAC-13.A3.4.11 |
| Armellin, Roberto | CA | IAC-13.C1.6.5 |
| Armellin, Roberto | CA | IAC-13.C1.9.8 |
| Armogathe, Fabien | A | IAC-13.B6.3.1 |
| Arnaud, Landragin | CA | IAC-13.A2.1.1 |
| Arnould, Jacques | A | IAC-13.A4.2.2 |
| Arnould, Jacques | A | IAC-13.D4.4.10 |
| Arnoux, Caroline | CA | IAC-13.D2.1.3 |
| Arora, Shivam | CA | IAC-13.E2.4.7 |
| Arratia, Juan | A | IAC-13.E1.P.4 |
| ARREOLA, MARIO | CA | IAC-13.E1.1.6 |
| ARREOLA, MARIO | CA | IAC-13.E3.P.3 |
| Arreola, Mario | A | IAC-13.E1.7.6 |
| Artola, Laurent | CA | IAC-13.D5.3.9 |
| Artyukhova, Anna | A | IAC-13.A1.1.3 |
| Arumugam, Indra | CA | IAC-13.B6.3.5 |
| Aslan, Alim Rustem | A | IAC-13.D1.5.6 |
| Atencio, Laura Ashley | A | IAC-13.E1.3.11 |
| Attie, Jean-Luc | CA | IAC-13.B1.P.6 |
| Attina, Primo | CA | IAC-13.A6.6.6 |
| Avariaskin, Denis | CA | IAC-13.C1.1.13 |
| Avdeev, Sergey V. | CA | IAC-13.B3.3.4 |
| Avdeev, Sergey V. | A | IAC-13.B3.3.5 |
| Avilés Rodrigálvarez, Marcos | CA | IAC-13.A3.2B.5 |
| Avraham, Oded | CA | IAC-13.E5.6.2 |
| Azriel, Merryl | CA | IAC-13.C4.8.9 |


## B


| Name | Role | Paper |
|---|---|---|
| B, Aravind | A | IAC-13.C1.3.3 |
| B, Aravind | A | IAC-13.B6.3.4 |
| B, Sathis kumar | A | IAC-13.C4.3.8 |
| B.N., Ramakrishna | CA | IAC-13.B6.3.4 |
| B.S., Chandrasekhar | CA | IAC-13.C1.3.3 |
| B.S., Chandrasekhar | CA | IAC-13.B6.3.4 |
| B.S., Chandrasekhar | CA | IAC-13.B6.3.5 |
| BABAGANA, ABUBAKAR | A | IAC-13.A6.P.43 |
| BABAGANA, ABUBAKAR | A | IAC-13.E5.P.1 |
| Babyn, Paul | CA | IAC-13.A1.P.20 |
| Bachtel, Rick | CA | IAC-13.A5.4-D2.8.3 |
| Bacsardi, Laszlo | CA | IAC-13.B2.2.12 |
| Badawy, Ahmed | A | IAC-13.C2.3.3 |
| Badsi, Radim | A | IAC-13.B4.7A.2 |
| Badsi, Radim | CA | IAC-13.D1.4.6 |
| BAE, Jonghee | CA | IAC-13.A3.2C.10 |
| Baevsky, Roman | CA | IAC-13.A1.2.3 |
| Baevsky, Roman | CA | IAC-13.A1.2.10 |
| Baevsky, Roman | CA | IAC-13.A1.8.2 |
| Baevsky, Roman | CA | IAC-13.A1.8.5 |
| Bagassi, Sara | CA | IAC-13.C2.9.7 |
| Baggett, Keithe | A | IAC-13.D1.P.25 |
| Baglioni, Pietro | CA | IAC-13.A3.3C.9 |
| Bagnasco, Giorgio | CA | IAC-13.A3.5.2 |
| Bahadori, Amir | CA | IAC-13.A1.4.2 |
| Bahrami, Mohsen | CA | IAC-13.E1.4.9 |
| Bahrami, Mohsen | CA | IAC-13.D1.P.6 |
| Bahrami, Mohsen | CA | IAC-13.D1.P.24 |
| Bahrami, Mohsen | CA | IAC-13.C2.8.2 |
| Bahrami, Mohsen | CA | IAC-13.C2.8.2 |
| Bai, Guie | CA | IAC-13.A1.2.4 |
| Bai, Jian | CA | IAC-13.B6.2.2 |
| Bai, Jianhui | CA | IAC-13.B1.5.6 |
| Bai, Jingying | CA | IAC-13.C2.P.64 |
| Bai, Mingsheng | A | IAC-13.B3.2.9 |
| BAI, Sijun | CA | IAC-13.D1.P.32 |
| BAI, Sijun | CA | IAC-13.D1.6.10 |
| Bai, Xueliang | CA | IAC-13.E2.4.1 |
| Bai, Yanqiang | CA | IAC-13.A1.1.2 |
| Bai, Yanqiang | CA | IAC-13.A1.1.5 |
| Bai, Yanqiang | CA | IAC-13.A1.1.6 |
| Bai, Yanqiang | CA | IAC-13.A1.1.9 |
| Bai, Yanqiang | CA | IAC-13.A1.2.1 |
| Bai, Yanqiang | CA | IAC-13.A1.3.6 |
| Bai, Yanqiang | CA | IAC-13.A1.3.7 |
| Bailey, Tim | CA | IAC-13.E1.8.4 |
| Bailey, Tim | CA | IAC-13.E1.9.2 |
| Bainum, Peter M. | CA | IAC-13.C2.3.6 |
| BAIOCCO, Paolo | CA | IAC-13.D2.5.1 |
| Bais, Lokeshsingh | CA | IAC-13.E2.3-V.4.9 |
| Baize, Lionel | A | IAC-13.D5.2.3 |
| Bajpai, Abhinav | A | IAC-13.E2.2.7 |
| Baker, Adam | CA | IAC-13.D2.7.3 |
| Baker, Robert | CA | IAC-13.D3.2.4 |
| Bakhtiari Mojaz, Sahar | CA | IAC-13.E1.4.8 |
| Bakirov, Rashid | CA | IAC-13.B2.6.4 |
| Bakken, Marianne | CA | IAC-13.B4.4.4 |
| Balado, Ana | CA | IAC-13.A3.P.51 |
| Balagurin, Oleksii | CA | IAC-13.B4.3.3 |
| Balat Pichelin, Marianne | CA | IAC-13.C2.4.6 |
| Balazs, Andras | A | IAC-13.A3.P.46 |
| Balducci, Paolo | CA | IAC-13.C4.P.37 |
| Balducci, Paolo | CA | IAC-13.C4.4.4 |
| Balinov, Spas | CA | IAC-13.B4.5.9 |
| Balint, Tibor | A | IAC-13.D1.3.3 |
| Balint, Tibor | A | IAC-13.E5.4.6 |
| Ballatré, Thomas | CA | IAC-13.A3.2B.8 |
| Balogh, Werner R. | A | IAC-13.B4.1.4 |
| Balucani, Marco | CA | IAC-13.C4.5.1 |
| Baluch, Abrar-Ul-Haq Khan | A | IAC-13.A6.P.20 |
| BALUCHAMY, SUDHAKAR | CA | IAC-13.A1.P.23 |
| Bande Firvida, Miguel | CA | IAC-13.A3.2B.8 |

| | | |
|---|---|---|
| Bandini, Flavio | CA | IAC-13.A5.4-D2.8.1 |
| Bang, Hyochoong | CA | IAC-13.E2.2.5 |
| Bang, Hyochoong | CA | IAC-13.C1.6.11 |
| Bangcheng, Ai | CA | IAC-13.A2.4.11 |
| Bangcheng, Ai | CA | IAC-13.C2.P.33 |
| Bangert, Philip | CA | IAC-13.B4.6B.3 |
| Bank, Cristian | A | IAC-13.D1.3.11 |
| Bannister, Nigel | CA | IAC-13.C4.7-C3.5.6 |
| Bannova, Olga | CA | IAC-13.E1.P.13 |
| Bannova, Olga | A | IAC-13.E5.3.11 |
| Baohai, Li | CA | IAC-13.C2.5.6 |
| Baoyin, Hexi | CA | IAC-13.C1.3.9 |
| Baoyin, Hexi | CA | IAC-13.C1.8.10 |
| Baoying, Luo | CA | IAC-13.D2.P.1 |
| Barabash, Stanislav | CA | IAC-13.A1.4.6 |
| Baranov, Andrey | CA | IAC-13.C1.6.14 |
| Barde, Sebastien | CA | IAC-13.A2.5.5 |
| Barde, Sebastien | CA | IAC-13.D5.2.5 |
| Barde, Sebastien | CA | IAC-13.B6.1.5 |
| Bareille, Marie-Pierre | CA | IAC-13.A1.2.11 |
| Barfoot, Timothy | CA | IAC-13.A3.2A.2 |
| Barker, Edwin S. | CA | IAC-13.A6.1.4 |
| Barliya, Avi | A | IAC-13.B4.8.7 |
| Barmin, Igor | CA | IAC-13.D5.1.5 |
| Barnett, Christopher | CA | IAC-13.E1.3.1 |
| Barnett, Christopher | A | IAC-13.E1.7.3 |
| Baross, John | CA | IAC-13.A1.5.11 |
| Barreau, François | CA | IAC-13.D2.1.3 |
| Barrena, Valentin | CA | IAC-13.A6.5.6 |
| Barros, Serge | A | IAC-13.B1.4.9 |
| Barschke, Merlin | A | IAC-13.B4.7A.4 |
| Bartalev, Sergey | CA | IAC-13.B1.6.8 |
| Bartenstein, Thomas | CA | IAC-13.B6.4-V.1.4 |
| Bartkowiak, Bartosz | CA | IAC-13.D2.6.9 |
| Bartkowiak, Hubert | CA | IAC-13.E3.1.4 |
| Bartkowiak, Hubert | CA | IAC-13.E1.7.1 |
| Barton, Andrew | A | IAC-13.A3.2A.5 |
| Barton, Andrew | A | IAC-13.B4.8.4 |
| Bartscher, Christoph | CA | IAC-13.B1.2.6 |
| Barucci, Maria Antonietta | CA | IAC-13.A3.4.5 |
| Bas, Mustafa Erdem | CA | IAC-13.D1.5.6 |
| Basov, Andrey | CA | IAC-13.C2.7.2 |
| Basso, Valter | CA | IAC-13.D3.4.12 |
| Bataleblu, Ali Asghar | CA | IAC-13.D1.P.24 |
| Batista Leite, Larissa | CA | IAC-13.E2.3-V.4.2 |
| Battista, Francesco | CA | IAC-13.C4.3.4 |
| Battler, Melissa M. | CA | IAC-13.B3.5.6 |
| Batzilis, Nikolaos | A | IAC-13.B2.1.2 |
| Bauer, Waldemar | A | IAC-13.A6.3.8 |
| Bauer, Waldemar | CA | IAC-13.A6.5.1 |
| Bauer, Waldemar | CA | IAC-13.A6.6.2 |
| Bauermeister, Anja | CA | IAC-13.A1.5.9 |
| Baumann, Jean-Pierre | CA | IAC-13.D2.1.9 |
| Baumann, Jean-Pierre | CA | IAC-13.D2.7.1 |
| Beattie, Alexander | A | IAC-13.B4.3.1 |
| Beaudette, David | CA | IAC-13.A3.P.22 |
| Beaudry, Catherine | CA | IAC-13.E6.4-D4.2.7 |
| BEAUMET, Grégory | CA | IAC-13.B6.2.10 |
| Becherini, Francesco | CA | IAC-13.D3.4.6 |
| Beck, Arnaud | CA | IAC-13.A1.2.11 |
| Beck, Beth | A | IAC-13.D4.1.6 |
| Beck, Beth | A | IAC-13.E1.P.10 |
| Beck, Beth | A | IAC-13.E1.P.16 |
| Beck, Beth | A | IAC-13.E5.3.6 |
| Beck, Beth | A | IAC-13.D5.2.11 |
| Beck, Beth | A | IAC-13.D4.4.3 |
| Beck, Beth | A | IAC-13.E1.9.1 |
| Becker, Christoph | CA | IAC-13.A6.P.17 |
| Becker, Christoph | CA | IAC-13.A6.P.38 |
| Becker, Christoph | CA | IAC-13.D2.7.7 |
| Becker, Kate | A | IAC-13.A6.7.8 |
| Becnel, Mark | A | IAC-13.C4.P.39 |
| Bei, Chao | CA | IAC-13.B2.3.15 |
| Bei, Chao | A | IAC-13.B4.3.12 |
| Bei, Zhou | A | IAC-13.C2.P.1 |
| Bekembayev, Arman | CA | IAC-13.D1.3.6 |
| Belakovskiy, Mark | CA | IAC-13.A1.8.4 |
| Belbis, Olivier | CA | IAC-13.D5.2.5 |
| Belbis, Olivier | CA | IAC-13.B6.1.5 |
| Belderrain, Mischel Carmen | CA | IAC-13.C4.5.8 |
| Belderrain, Mischel Carmen | CA | IAC-13.E6.2.10 |
| Belenguer, Tomás | CA | IAC-13.A3.3B.6 |
| Beliaev, Mikhail | CA | IAC-13.A2.6.8 |
| Belle, Carolyn | CA | IAC-13.B5.2.7 |
| Bellei, Gabriele | CA | IAC-13.B5.2.8 |
| Belliappa, Babita | A | IAC-13.E1.P.15 |
| Belliappa, Babita | CA | IAC-13.E1.8.6 |
| Bellini, Niccolò | CA | IAC-13.E2.3-V.4.4 |
| Bellini, Niccolò | A | IAC-13.A6.P.29 |
| Bellini, Niccolò | CA | IAC-13.C2.9.7 |
| Bellomo, Alessandro | CA | IAC-13.B6.1.9 |
| Belloni, Federico | CA | IAC-13.E1.3.4 |
| Belokonov, Igor V. | A | IAC-13.C1.1.13 |
| Belonozhko, Pavel | CA | IAC-13.C2.3.4 |
| Belozerskii, Leonid | A | IAC-13.B5.2.5 |
| Belyaev, Mikhail Yu. | CA | IAC-13.A2.5.6 |
| Belyaev, Mikhail Yu. | A | IAC-13.B3.5.7 |
| Belz, Stefan | A | IAC-13.A1.6.6 |
| Ben Hayoun, Nelly | CA | IAC-13.E1.8.1 |
| Benaroya, Haym | CA | IAC-13.A5.1.9 |
| Benfield, Michael | CA | IAC-13.E1.3.11 |
| Benner, Lance | CA | IAC-13.A3.4.5 |
| Bennett, Alan | CA | IAC-13.A1.5.11 |
| Bennett, Allan | CA | IAC-13.D3.2.4 |
| Bentum, Mark | CA | IAC-13.C3.3.3 |
| Bentum, Mark | CA | IAC-13.E1.3.3 |
| Bentum, Mark | CA | IAC-13.B2.3.6 |
| Bentum, Mark | CA | IAC-13.B4.7B.6 |
| Bentum, Mark | CA | IAC-13.B2.4.4 |
| Bentum, Mark | CA | IAC-13.B4.6B.7 |
| Bentum, Mark | CA | IAC-13.B4.6B.13 |
| Benvenuto, Riccardo | CA | IAC-13.A6.6.6 |
| Bequignon, Jérome | CA | IAC-13.E3.5-E7.6.2 |
| Berg, Marco | A | IAC-13.B3.3.7 |
| Berg, Marco | CA | IAC-13.A2.5.9 |
| Bergamasco, Alessandro | CA | IAC-13.A3.1.3 |
| Bergeon, Nathalie | CA | IAC-13.A2.5.5 |
| Bergmann, Michael | CA | IAC-13.B6.2.9 |
| Bergsrud, Corey | CA | IAC-13.C3.2.9 |
| Bergsrud, Corey | A | IAC-13.C3.P.1 |
| Bergsrud, Corey | A | IAC-13.C3.4.1 |
| Berioli, Matteo | CA | IAC-13.B5.1.11 |
| Berk, Josh | A | IAC-13.D3.1.8 |
| Berk, Josh | CA | IAC-13.B4.1.11 |
| Berk, Josh | CA | IAC-13.B4.5.5 |
| Berk, Josh | A | IAC-13.B3.4-B6.5.7 |
| Berk, Josh | CA | IAC-13.E1.P.7 |
| Berk, Josh | CA | IAC-13.B6.3.2 |
| Berk, Josh | A | IAC-13.D4.3.13 |
| Berkhout, Joris | CA | IAC-13.C1.4.6 |
| Bernabeu, Marc | CA | IAC-13.D1.1.2 |
| Bernabeu, Marc | CA | IAC-13.A6.5.1 |
| Bernabeu, Marc | CA | IAC-13.A6.6.2 |
| Bernasconi, Pietro | CA | IAC-13.A3.P.41 |
| Bernede, Noemie | CA | IAC-13.B1.2.8 |
| Bernede, Noemie | A | IAC-13.E3.3.10 |
| Bernede, Noemie | A | IAC-13.B1.5.4 |
| Bernede, Noemie | A | IAC-13.E5.5.1 |
| Bernelin, Marie-Christine | A | IAC-13.D6.1.5 |
| Bernelin, Marie-Christine | CA | IAC-13.D6.1.7 |
| Bernelli-Zazzera, Franco | CA | IAC-13.C1.3.11 |
| Bernelli-Zazzera, Franco | CA | IAC-13.A3.P.42 |
| Bernelli-Zazzera, Franco | CA | IAC-13.A6.P.11 |
| Bernelli-Zazzera, Franco | CA | IAC-13.A3.4.11 |
| Bernelli-Zazzera, Franco | CA | IAC-13.C1.6.5 |
| Bernelli-Zazzera, Franco | CA | IAC-13.C1.9.11 |
| Bernhart, Gérard | CA | IAC-13.C2.4.6 |
| Bersenev, Evgenii | A | IAC-13.A1.8.2 |
| Bersenev, Evgenii | CA | IAC-13.A1.8.5 |
| Berthe, Philippe | CA | IAC-13.A5.4-D2.8.5 |
| Berthiaume, François | CA | IAC-13.B1.3.11 |
| Berthoud, Lucy | A | IAC-13.B4.5.3 |
| Berthoud, Lucy | A | IAC-13.D3.2.4 |
| Berthoud, Lucy | CA | IAC-13.B4.6B.4 |
| Bertrand, Jacques | CA | IAC-13.D2.2.1 |
| Bertrand, Stanislas | CA | IAC-13.A2.3.3 |
| Betelin, Vladimir | CA | IAC-13.A2.2.2 |
| Betelin, Vladimir | CA | IAC-13.A2.P.5 |
| Betsurmath, C G | CA | IAC-13.B1.5.9 |
| Bettanini, Carlo | CA | IAC-13.A3.P.31 |
| Betti, Barbara | CA | IAC-13.C4.5.1 |
| Bettio, Davide | CA | IAC-13.A3.3B.8 |
| Beukelaers, Vincent | CA | IAC-13.B4.6B.10 |
| Bewick, Charlotte | CA | IAC-13.A2.3.3 |
| Bewick, Charlotte | CA | IAC-13.A6.4.5 |
| Bewick, Russell | CA | IAC-13.A2.3.3 |
| Beyermann, Ulrich | CA | IAC-13.E1.P.3 |
| Beyermann, Ulrich | A | IAC-13.B4.3.11 |
| Beysens, Daniel | CA | IAC-13.A2.5.5 |
| Beysens, Daniel | CA | IAC-13.A2.6.6 |
| Bhat, Sourabh | CA | IAC-13.A5.2.9 |
| Bhat, Sourabh | A | IAC-13.C2.7.1 |
| Bhat, Sourabh | CA | IAC-13.B3.7.8 |
| Bhattarai, Suresh | CA | IAC-13.E1.P.1 |
| Bhattarai, Suresh | CA | IAC-13.E1.6.9 |
| Bhide, Ojas | CA | IAC-13.E2.4.8 |
| Bi, Jingyuan | CA | IAC-13.D5.2.1 |
| Bi, Lei | CA | IAC-13.A1.P.61 |
| Bian, Wei | CA | IAC-13.D5.2.7 |
| Bian, Wenbin | CA | IAC-13.B3.7.1 |
| Bianchini Fulindi, Jonas | A | IAC-13.D1.6.8 |
| Bianchini Fulindi, Jonas | CA | IAC-13.D1.6.9 |
| Bianco, Paolo | CA | IAC-13.B4.6A.3 |
| Bibring, Jean-Pierre | A | IAC-13.A3.3A.1 |
| Bibring, Jean-Pierre | CA | IAC-13.A3.4.6 |
| Bibring, Jean-Pierre | A | IAC-13.A3.4.7 |
| Biele, Jens | CA | IAC-13.A3.4.2 |
| Biele, Jens | CA | IAC-13.A3.4.3 |
| Biele, Jens | CA | IAC-13.A3.4.6 |
| Bielicki, Damian M. | A | IAC-13.E7.P.2 |
| Bielicki, Damian M. | A | IAC-13.E1.8.5 |
| Biering, Bernd | CA | IAC-13.A2.1.4 |
| Bignon, Isabel | A | IAC-13.E1.5.5 |
| BIJABER, Noureddine | A | IAC-13.B1.5.12 |
| Bijac, Jerôme | CA | IAC-13.B6.2.10 |
| Billia, Bernard | CA | IAC-13.A2.5.5 |
| Bin, Huang | CA | IAC-13.C2.1.7 |
| Bin, Li | A | IAC-13.C4.P.11 |
| Bing, Hua | CA | IAC-13.B2.P.3 |
| Bing, Zhang | CA | IAC-13.E4.3.4 |
| BINGCUN, WANG | CA | IAC-13.C2.P.64 |
| Bingning, Jin | A | IAC-13.C4.2.4 |
| Bingxin, Yang | A | IAC-13.B1.3.5 |
| Binsted, Kim | A | IAC-13.A1.P.6 |
| Birkeland, Roger | CA | IAC-13.B4.4.4 |
| Birkeland, Roger | CA | IAC-13.E1.4.1 |
| Biryukov, Nikolay | CA | IAC-13.A1.7.5 |
| Biryukov, Nikolay | A | IAC-13.A1.7.6 |
| Bischof, Bernd | A | IAC-13.D3.1.2 |
| Bischof, Bernd | CA | IAC-13.A6.2.2 |
| Bisegna, Fabio | CA | IAC-13.C2.8.9 |
| Bisen, Harshit | A | IAC-13.C4.8.1 |
| Bisht, Ishita | CA | IAC-13.E2.3-V.4.10 |
| Biskup, Josefine | CA | IAC-13.A1.7.10 |
| Blaber, Andrew | CA | IAC-13.A1.2.11 |
| Blaber, Phillippa | A | IAC-13.A5.3-B3.6.4 |
| Black, Chuck | CA | IAC-13.A1.P.42 |
| Black, Darryl | CA | IAC-13.E2.3-V.4.2 |
| Blake, Curt | CA | IAC-13.B4.5.6 |
| Blake, John | CA | IAC-13.A5.P.1 |
| Blamont, Jacques | CA | IAC-13.B4.8.1 |
| Blancquaert, Thierry | CA | IAC-13.A3.3A.4 |
| BLAT, Stéphane | CA | IAC-13.E1.2.4 |
| Blazic, Saso | CA | IAC-13.B1.2.5 |
| Block, Joachim | CA | IAC-13.A3.4.3 |
| Blott, Richard | A | IAC-13.C4.7-C3.5.4 |
| Blount, PJ | A | IAC-13.E7.5.12 |
| Bo, Cong | A | IAC-13.D2.2.8 |
| Bo, Cong | CA | IAC-13.D2.P.10 |
| Bo, GAO | CA | IAC-13.C2.1.9 |
| Bo, Gao | CA | IAC-13.A1.4.14 |
| Bo, Lu | CA | IAC-13.B2.2.7 |
| Bo, Sun | CA | IAC-13.B2.5.8 |
| Bo, Xu | CA | IAC-13.A5.P.11 |
| Bo, Zhang | CA | IAC-13.B2.P.25 |
| Bo, Zhang | CA | IAC-13.B2.P.29 |
| Bobe, Leonid | A | IAC-13.A1.6.4 |
| Bober, Stanislav | CA | IAC-13.A3.5.8 |
| Boccia, Valentina | CA | IAC-13.B1.5.2 |
| Bodemann, Christian | A | IAC-13.B6.3.6 |
| Bodin, Per | A | IAC-13.C1.5.13 |
| Boehme, Matthias | CA | IAC-13.B3.3.7 |
| Bogacheva, Daria | CA | IAC-13.C4.5.4 |
| Boge, Toralf | CA | IAC-13.A6.6.11 |
| Bogomolov, Valeriy | CA | IAC-13.A1.6.4 |
| Bohe, Zhou | CA | IAC-13.B6.1.8 |
| Bohlmann, Ulrike M. | A | IAC-13.E7.2.7 |
| Boiron, Adrien | CA | IAC-13.C4.2.8 |
| Boissin, Benoit | CA | IAC-13.B1.5.7 |
| Bol, Hans | CA | IAC-13.B1.3.2 |
| Bolea Alamanac, Ana | CA | IAC-13.B4.4.11 |
| Bolle, Andrea | CA | IAC-13.B6.1.9 |
| Bolsee, David | CA | IAC-13.B3.4-B6.5.2 |
| Bondarenko, Sergiy | CA | IAC-13.C4.3.11 |
| Bonev, Boris | CA | IAC-13.E1.P.3 |
| Bongers, Edward | A | IAC-13.D1.2.3 |
| Bongs, Kai | CA | IAC-13.A2.1.1 |
| Bonin, Grant | A | IAC-13.A6.P.34 |
| Bonin, Grant | A | IAC-13.B4.7B.5 |
| Bonin, Grant | A | IAC-13.B4.8.2 |
| Bonnema, Abe | CA | IAC-13.B4.5.2 |
| Bonneville, Richard | A | IAC-13.A3.1.6 |
| Boonstra, Albert-Jan | CA | IAC-13.B4.7B.6 |
| Boratkar, Adheesh | CA | IAC-13.B4.2.9 |
| Boratkar, Adheesh | CA | IAC-13.E2.3-V.4.10 |
| Boratkar, Adheesh | CA | IAC-13.B5.1.9 |
| Borders, Kareen | A | IAC-13.E1.2.8 |
| Borders, Kyla | A | IAC-13.E1.1.4 |
| Borggräfe, Andreas | A | IAC-13.C2.5.4 |
| Borisov, Andrey | CA | IAC-13.A2.7.6 |
| Borovik, Igor Nikolaevich | A | IAC-13.C4.5.4 |
| Borowitz, Mariel | CA | IAC-13.E3.3.11 |
| Borowitz, Mariel | A | IAC-13.E1.5.1 |
| Borowitz, Mariel | A | IAC-13.B1.6.4 |
| Borrelli, Donato | CA | IAC-13.B1.3.10 |
| Borriello, Ciro | A | IAC-13.A3.P.35 |
| Borriello, Ciro | A | IAC-13.C1.6.1 |
| Borzou Esfahany, Kamal | CA | IAC-13.C2.P.4 |
| Borzou Esfahany, Kamal | CA | IAC-13.E1.8.8 |
| Bos, Remco | CA | IAC-13.A5.1.7 |
| BOSE, TRIDIB | CA | IAC-13.E7.P.6 |
| Bosquillon de Frescheville, Francois | CA | IAC-13.A5.3-B3.6.2 |
| Botteron, Cyril | CA | IAC-13.B2.1.3 |
| Botteron, Cyril | CA | IAC-13.B4.8.9 |
| Botti, Veronica | CA | IAC-13.A3.3B.8 |
| Botvinko, Alla | CA | IAC-13.D1.1.12 |
| Bougie, Vincent | CA | IAC-13.E2.3-V.4.4 |
| BOUILLY, Thibaut | CA | IAC-13.D2.5.1 |
| Bourassa, Matthew | A | IAC-13.C1.9.9 |
| Bourke, Paul | CA | IAC-13.A6.4.7 |
| Boury, Didier | A | IAC-13.C4.2.1 |
| Bousquet, Christophe | CA | IAC-13.B1.4.10 |
| Bousquet, Pierre W. | A | IAC-13.A3.3A.6 |
| Boussalis, Helen | CA | IAC-13.A3.2D.2 |
| Bouwmeester, Jasper | CA | IAC-13.D1.6.3 |
| Bouyer, Philippe | CA | IAC-13.A2.1.1 |
| Bove, Antonio | CA | IAC-13.B5.1.12 |
| Boxberger, Adam | CA | IAC-13.C4.P.33 |
| Boy, Guy | CA | IAC-13.E1.P.13 |
| Boyarchuk, Kirill A. | CA | IAC-13.B1.P.1 |

| | | |
|---|---|---|
| Boyd, Andrea | CA | IAC-13.B6.4-V.1.4 |
| Boyd, Andrea | CA | IAC-13.B3.4-B6.5.2 |
| Bozic, Ognjan | CA | IAC-13.C4.2.10 |
| Brady, Ken | CA | IAC-13.A1.2.2 |
| Brandt, Alexander | CA | IAC-13.B4.1.9 |
| Brandt, Pontus | CA | IAC-13.A1.4.6 |
| Brantschen, Ségolène | A | IAC-13.B3.1.9 |
| Branz, Francesco | CA | IAC-13.D1.2.7 |
| Branz, Francesco | CA | IAC-13.A6.6.5 |
| Brassard, Gilles | CA | IAC-13.B4.4.12 |
| Brauer, Uwe | CA | IAC-13.D1.3.11 |
| Braukhane, Andy | A | IAC-13.A3.2B.8 |
| Braun, Vitali | CA | IAC-13.A6.2.2 |
| Braun, Vitali | CA | IAC-13.A6.2.3 |
| Braun, Vitali | A | IAC-13.A6.4.4 |
| Braun, Vitali | CA | IAC-13.A6.P.8 |
| Braun, Vitali | CA | IAC-13.A6.P.14 |
| Braun, Vitali | CA | IAC-13.A6.P.38 |
| Braxmaier, Claus | CA | IAC-13.A2.1.1 |
| Braxmaier, Claus | A | IAC-13.A2.1.4 |
| Braxmaier, Claus | CA | IAC-13.C2.2.4 |
| Bray, Laëtitia | CA | IAC-13.B6.2.10 |
| Bremer, Stefanie | CA | IAC-13.A2.1.6 |
| Brendel, John | CA | IAC-13.C4.3.9 |
| Brethouwer, Martijn F. | CA | IAC-13.E1.3.3 |
| Brethouwer, Martijn F. | CA | IAC-13.B4.6B.7 |
| Brethouwer, Martijn F. | CA | IAC-13.B4.6B.13 |
| Bretschneider, Jens | CA | IAC-13.A1.6.6 |
| Brett, Michael | A | IAC-13.D6.1.9 |
| Brett, Michael | A | IAC-13.E6.2.12 |
| Breunig, Elias | CA | IAC-13.B4.2.6 |
| Breysse, Jacques | CA | IAC-13.A7.1.5 |
| Bridges, Jim | CA | IAC-13.A1.5.11 |
| Bridges, John | CA | IAC-13.D3.2.4 |
| Briess, Klaus | CA | IAC-13.D1.P.9 |
| Brieß, Klaus | CA | IAC-13.B4.7A.4 |
| Brisibe, Tare | A | IAC-13.E7.1.1 |
| Briskman, Robert D. | CA | IAC-13.B2.5.1 |
| Brito, André | CA | IAC-13.D3.1.3 |
| BROCA, Régine | CA | IAC-13.B6.2.10 |
| Brooker, Laure | CA | IAC-13.A6.4.7 |
| Brooker Lizon-Tati, Laure | A | IAC-13.B1.2.4 |
| Brooker Lizon-Tati, Laure | CA | IAC-13.B1.4.10 |
| Brooks, David | CA | IAC-13.E1.3.1 |
| Brooks, David | CA | IAC-13.E1.7.3 |
| Brown, Patrick | A | IAC-13.B4.6B.15 |
| Brown, Richard E. | CA | IAC-13.D2.P.15 |
| Brown, Roy | CA | IAC-13.A2.3.3 |
| Brownlie, Frazer | CA | IAC-13.E2.3-V.4.2 |
| Brun, Kammy | CA | IAC-13.B1.5.11 |
| Bruneau, Audrey | CA | IAC-13.B3.5.6 |
| Bruneau, Audrey | CA | IAC-13.A5.3-B3.6.11 |
| Bruno, Claudio | CA | IAC-13.C4.7-C3.5.4 |
| Bruno, Claudio | A | IAC-13.C4.7-C3.5.8 |
| Brunskill, Christopher | A | IAC-13.A5.3-B3.6.6 |
| BRUTIN, David | CA | IAC-13.A2.3.5 |
| BRUTIN, David | CA | IAC-13.A2.4.7 |
| Bryson, Caroline | CA | IAC-13.E1.3.1 |
| Bryson, Caroline | CA | IAC-13.E1.7.3 |
| Bryukhanov, Nikolay | CA | IAC-13.A5.4-D2.8.1 |
| Brûlé, Luc | A | IAC-13.B1.1.1 |
| Brûlé, Luc | CA | IAC-13.B4.4.12 |
| Bu, Huijiao | A | IAC-13.B6.3.3 |
| Bu, Yanlong | A | IAC-13.A3.4.9 |
| Bucharsky, Valery | A | IAC-13.C4.P.21 |
| Buchert, Melanie | CA | IAC-13.A1.6.6 |
| Buckley, Nicole | CA | IAC-13.B3.3.4 |
| Budianu, Alex | CA | IAC-13.C3.3.3 |
| Budianu, Alex | A | IAC-13.B2.3.6 |
| Budianu, Alex | CA | IAC-13.B4.7B.6 |
| Budianu, Alex | A | IAC-13.B2.4.4 |
| Budnik, Sergey | CA | IAC-13.C2.8.13 |
| Budyanskiy, Alexey | CA | IAC-13.C1.6.14 |
| Buffet, Anthony | CA | IAC-13.E2.3-V.4.4 |
| Buhl, Matthias | CA | IAC-13.B4.2.2 |
| Buist, Peter | A | IAC-13.B5.1.8 |
| Bujar, Marcin | CA | IAC-13.D4.1.1 |
| Bujar, Marcin | CA | IAC-13.B5.2.7 |
| Bulankin, Pavel | CA | IAC-13.C4.9.10 |
| Burattini, Chiara | A | IAC-13.C2.8.8 |
| Burdanov, Anton | A | IAC-13.C2.7.4 |
| Burg, Alexander | A | IAC-13.D3.4.2 |
| Burke, James | A | IAC-13.D4.1.1 |
| Burke, James | A | IAC-13.E5.5.6 |
| Burlton, Bruce | CA | IAC-13.C1.9.9 |
| Burns, Laura | CA | IAC-13.E5.5.6 |
| Burov, Alexander | CA | IAC-13.C1.1.6 |
| Busch, Michael | A | IAC-13.A3.4.5 |
| Busch, Stephan | A | IAC-13.B4.6B.3 |
| Buske, Ivo | CA | IAC-13.A6.1.8 |
| Butenko, Anton | CA | IAC-13.A3.5.8 |
| Buttron, Isabell | CA | IAC-13.A1.7.10 |
| Bytof, Jeff | A | IAC-13.A4.P.3 |
| Bätz, Bastian | CA | IAC-13.B4.7A.3 |
| Bédard, Donald | CA | IAC-13.A6.1.4 |
| Bérend, Nicolas | A | IAC-13.D2.7.8 |


## C


| Name | Role | Paper |
|---|---|---|
| Cabanas, Francisco | CA | IAC-13.B5.1.12 |
| Cabas, Ramiro | CA | IAC-13.A3.2B.4 |
| Cabrera, Juan | CA | IAC-13.D1.6.5 |
| Cabrera-Alvarado, Sandra | A | IAC-13.E3.P.5 |
| Cacciatore, Francesco | A | IAC-13.C1.7.11 |
| Cacciatore , Francesco | CA | IAC-13.A6.2.5 |
| Cai, Guobiao | CA | IAC-13.C4.2.6 |
| Cai, Guobiao | CA | IAC-13.C4.P.17 |
| Cai, Guobiao | CA | IAC-13.C4.P.19 |
| Cai, Guobiao | CA | IAC-13.C4.P.23 |
| Cai, Guobiao | CA | IAC-13.C4.P.26 |
| Cai, Hua | CA | IAC-13.E6.2.5 |
| Cai, Jingqi | CA | IAC-13.D2.3.9 |
| Cai, Jingqi | CA | IAC-13.C2.P.10 |
| Cai, Jingqi | A | IAC-13.C2.P.59 |
| Cai, Xiaodong | A | IAC-13.C3.3.8 |
| Cain, Jeff | CA | IAC-13.B4.4.10 |
| Caldwell, Bryan | CA | IAC-13.A1.P.6 |
| Calle, Luz | A | IAC-13.D2.2.11 |
| Calvo, Daniel | A | IAC-13.A2.6.11 |
| Calvo, Daniel | A | IAC-13.A2.7.3 |
| Calzada Diaz, Abigail | A | IAC-13.A3.2D.3 |
| Caminoa, André | A | IAC-13.D1.1.4 |
| Caminoa, André | A | IAC-13.D4.1.4 |
| Caminoa, André | A | IAC-13.D3.3.7 |
| Caminoa, André | A | IAC-13.D4.3.9 |
| Caminoa, André | A | IAC-13.D4.3.10 |
| Caminoa, André | A | IAC-13.D4.4.11 |
| Campa, Andrea | A | IAC-13.C1.9.12 |
| Campagnola, Stefano | A | IAC-13.C1.7.6 |
| Campan, Jérôme | A | IAC-13.B6.4-V.1.1 |
| Campana, Sharon | CA | IAC-13.A2.6.9 |
| Campenon, Philippe | CA | IAC-13.E3.3.9 |
| Cancedda, Ranieri | CA | IAC-13.A1.7.4 |
| Canchal, Rosario | CA | IAC-13.A3.2D.1 |
| Canchal, Rosario | CA | IAC-13.A3.3B.6 |
| Canestro, Antonella | CA | IAC-13.B1.3.10 |
| Cang, Huaixing | A | IAC-13.A2.7.2 |
| Cannella, Matthew | A | IAC-13.C4.3.9 |
| Cannelli, Federico | CA | IAC-13.C4.P.37 |
| Cannelli, Federico | CA | IAC-13.C4.4.4 |
| Cano, Juan L. | A | IAC-13.B5.2.8 |
| Cano Argamasilla, Raul | CA | IAC-13.D5.2.2 |
| Cantwell, Brian | CA | IAC-13.C4.2.8 |
| Cantwell, Brian | CA | IAC-13.C4.3.7 |
| Canuto, Enrico | A | IAC-13.B1.P.2 |
| Canuto, Enrico | A | IAC-13.C1.5.12 |
| CAO, Jianfeng | CA | IAC-13.C1.9.7 |
| Cao, Lijian | CA | IAC-13.B1.P.9 |
| Cao, Tingyou | A | IAC-13.D4.3.12 |
| Cao, Xibin | CA | IAC-13.D1.P.21 |
| Cao, Xibin | CA | IAC-13.C1.5.11 |
| Cao, Ying | A | IAC-13.E5.3.12 |
| Cao, Yu | A | IAC-13.E1.1.3 |
| Cao, Yu | CA | IAC-13.A3.P.45 |
| Cao, Yu | A | IAC-13.E5.3.5 |
| CAO, YUJING | CA | IAC-13.A1.P.66 |
| Capizzano, Francesco | CA | IAC-13.D2.P.13 |
| Cappaert, Jeroen | CA | IAC-13.E6.1.4 |
| Capria, Maria Teresa | CA | IAC-13.A1.5.12 |
| Capuano, Emanuele | CA | IAC-13.D1.2.10 |
| Capuano, Giuseppe | A | IAC-13.B1.P.10 |
| Capuano, Maurizio | CA | IAC-13.A3.3A.4 |
| Capuano, Vincenzo | A | IAC-13.B2.1.3 |
| Capuano, Vincenzo | A | IAC-13.B4.8.9 |
| Carandente, Valerio | A | IAC-13.D6.1.8 |
| Cardile, Diego | CA | IAC-13.D3.4.12 |
| Cardona, Tommaso | CA | IAC-13.A6.1.4 |
| CARDONE, Tiziana | CA | IAC-13.D2.5.1 |
| Carey, William | CA | IAC-13.A5.3-B3.6.2 |
| Carle, Florian | CA | IAC-13.A2.3.5 |
| Carle, Florian | A | IAC-13.A2.4.7 |
| Carmen, Christina | CA | IAC-13.E1.3.1 |
| Carmen, Christina | CA | IAC-13.E1.5.8 |
| Carmen, Christina | CA | IAC-13.E1.7.3 |
| Carmicino, Carmine | CA | IAC-13.C4.2.7 |
| Carnelli, Ian | CA | IAC-13.A6.2.3 |
| Carnelli, Ian | CA | IAC-13.A3.4.8 |
| Carotenuto, Luigi | CA | IAC-13.D5.2.5 |
| Carpanelli, Elena | A | IAC-13.E7.1.5 |
| Carrasco, Jose Antonio | CA | IAC-13.A3.2C.7 |
| Carrijo, Domingos | CA | IAC-13.D1.4.7 |
| Carroll, Joseph | CA | IAC-13.A6.8.9 |
| Carta, Riccardo | A | IAC-13.A3.4.11 |
| Carter, Mark | CA | IAC-13.A6.5.8 |
| Cartwright, Taylor | CA | IAC-13.B5.2.7 |
| Carvajal, Johan | CA | IAC-13.B4.1.8 |
| Casasco, Massimo | CA | IAC-13.C1.5.3 |
| Case, Anthony | CA | IAC-13.A5.P.1 |
| Casler, James | CA | IAC-13.C3.P.1 |
| Cassi, Carlo | A | IAC-13.A3.3A.4 |
| Cassibry, Jason | CA | IAC-13.C4.P.64 |
| Cassibry, Jason | CA | IAC-13.C4.8.3 |
| Castagnolo, Dario | A | IAC-13.A2.5.2 |
| Castaings, Thibaut | A | IAC-13.A6.P.42 |
| Castel, Didier | CA | IAC-13.A7.1.5 |
| Castorina, Michele | A | IAC-13.B5.1.11 |
| CASTRO, Jean-Paul | CA | IAC-13.E1.2.4 |
| Catalano, Pietro | CA | IAC-13.D2.3.1 |
| Catalano, Pietro | CA | IAC-13.D2.P.13 |
| Catalano, Pietro | A | IAC-13.D2.6.6 |
| Cataldo, Giuseppe | A | IAC-13.A5.3-B3.6.3 |
| Catalá-Espí, Alejandro | CA | IAC-13.A3.P.29 |
| Causse, Mickaël | CA | IAC-13.A1.1.1 |
| Cawthorne, Andrew | CA | IAC-13.B1.2.1 |
| Cazaubiel, Vincent | CA | IAC-13.A7.1.4 |
| Ceccarelli, Francesco | CA | IAC-13.C4.3.4 |
| Cecchini, Andrea | CA | IAC-13.B5.2.4 |
| Cecere, Anselmo | A | IAC-13.A2.6.4 |
| Cecere, Thomas | A | IAC-13.B1.1.3 |
| Cencetti, Michele | A | IAC-13.D3.4.6 |
| Cerezo, Fernando | CA | IAC-13.B1.1.4 |
| Ceriello, Antonio | CA | IAC-13.A2.5.2 |
| Ceriotti, Matteo | CA | IAC-13.C3.1.7 |
| Ceriotti, Matteo | CA | IAC-13.A6.2.7 |
| Ceriotti, Matteo | A | IAC-13.C1.4.3 |
| Ceriotti, Matteo | CA | IAC-13.C1.5.2 |
| Ceriotti, Matteo | CA | IAC-13.C2.5.4 |
| Ceriotti, Matteo | CA | IAC-13.C1.6.9 |
| Cerovac, Milorad | A | IAC-13.E1.2.2 |
| Ceruti, Alessandro | CA | IAC-13.A6.P.1 |
| Cervone, Angelo | CA | IAC-13.C4.2.3 |
| Cervone, Angelo | A | IAC-13.E1.3.9 |
| Cesari, Ugo | CA | IAC-13.C4.P.37 |
| Cesari, Ugo | CA | IAC-13.C4.4.4 |
| Cesaro, Michele | CA | IAC-13.A3.P.31 |
| Cestrone, Valerio | CA | IAC-13.A2.3.10 |
| Cestrone, Valerio | CA | IAC-13.E2.3-V.4.5 |
| Chacko, Tintu | A | IAC-13.C1.5.4 |
| Chae, Kyu-Sung | A | IAC-13.B4.6B.15 |
| Chalex, Remy | A | IAC-13.A3.4.4 |
| Chalex, Remy | CA | IAC-13.D2.1.9 |
| Chalex, Remy | CA | IAC-13.D2.7.1 |
| Challa, Murty | A | IAC-13.C1.5.7 |
| Chandler, Ashley | CA | IAC-13.C4.2.8 |
| Chandrasekaran, Vignesh | CA | IAC-13.C2.6.2 |
| Chandrasekaran, Vignesh | A | IAC-13.C2.7.7 |
| Chang, Byung Chul | A | IAC-13.A5.1.8 |
| Chang, Eva Yi-Wei | CA | IAC-13.E4.1.10 |
| Chang, Eva Yi-Wei | A | IAC-13.D6.1.2 |
| Chang, Guey-Shin | CA | IAC-13.B1.P.12 |
| Chang, Huai-Chien | A | IAC-13.D4.1.5 |
| Chang, Huai-Chien | A | IAC-13.E5.1.3 |
| Chang Diaz, Franklin | CA | IAC-13.A6.5.8 |
| Changhua, DENG | CA | IAC-13.C2.P.15 |
| Changming, Zhao | A | IAC-13.C3.2.7 |
| Changxi, Kang | CA | IAC-13.A3.P.24 |
| Channumsin, Sittiporn | A | IAC-13.A6.2.7 |
| Chao, Jiang | A | IAC-13.C1.5.5 |
| Chao, Tan | CA | IAC-13.V.3-B2.8.4 |
| Chao, Wang | A | IAC-13.C4.P.70 |
| Chaohui, Fu | A | IAC-13.A3.P.24 |
| Charles, John | A | IAC-13.A1.P.70 |
| CHARMEAU, MARIE-CLAIRE | CA | IAC-13.D1.4.1 |
| Chatterjee, Joyeeta | CA | IAC-13.E7.1.4 |
| Chaturvedi, Ipshita | A | IAC-13.E7.P.10 |
| Chaturvedi, Sudhir Kumar | CA | IAC-13.B2.P.16 |
| Chatzipanagiotis, Michail | A | IAC-13.D6.1.1 |
| Chaudhari, Pushkar | A | IAC-13.E2.3-V.4.9 |
| Chavagnac, Christophe | A | IAC-13.D6.1.4 |
| Chaves Jimenez, Adolfo | CA | IAC-13.B4.1.8 |
| Che, Zheng | CA | IAC-13.A3.P.17 |
| Chegaças, Jean | A | IAC-13.A2.6.9 |
| Chelaru, Adrian | CA | IAC-13.C4.5.2 |
| Chelaru, Adrian | CA | IAC-13.B4.8.10 |
| Chelaru, Teodor-Viorel | CA | IAC-13.C4.2.12 |
| Chelaru, Teodor-Viorel | A | IAC-13.C4.5.2 |
| Chelaru, Teodor-Viorel | A | IAC-13.B4.8.10 |
| Chen, Bing | CA | IAC-13.C4.9.7 |
| Chen, Bingyan | A | IAC-13.C2.7.8 |
| Chen, Changya | CA | IAC-13.C4.6.5 |
| Chen, Dexiang | CA | IAC-13.D1.P.30 |
| Chen, Dong | CA | IAC-13.B2.5.8 |
| Chen, Hailong | A | IAC-13.A1.P.61 |
| Chen, Hailong | CA | IAC-13.A1.3.8 |
| Chen, HongGuang | CA | IAC-13.V.3-B2.8.6 |
| Chen, Jiahong | A | IAC-13.D2.P.5 |
| CHEN, Jianhua | CA | IAC-13.C4.P.29 |
| CHEN, Jianhua | CA | IAC-13.C4.P.57 |
| CHEN, Jianhua | CA | IAC-13.C4.P.58 |
| Chen, Jing | A | IAC-13.B4.7B.8 |
| Chen, Jun | CA | IAC-13.C4.P.71 |
| Chen, Junjie | CA | IAC-13.C1.2.2 |
| Chen, Kaixian | A | IAC-13.A1.2.4 |
| Chen, Kan | CA | IAC-13.C4.7-C3.5.6 |
| Chen, Laura | A | IAC-13.A2.2.7 |
| Chen, Li | CA | IAC-13.A6.P.30 |
| Chen, Li | CA | IAC-13.C2.P.16 |
| Chen, Liang | A | IAC-13.C3.P.5 |
| Chen, Ling | A | IAC-13.B2.7.2 |
| Chen, Lue | CA | IAC-13.B2.P.14 |
| Chen, Lue | CA | IAC-13.B2.4.10 |
| Chen, Lue | A | IAC-13.B2.4.14 |
| Chen, Maoxin | A | IAC-13.D5.3.8 |

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|---|---|---|
| Chen, MengYun | CA | IAC-13.D1.P.22 |
| Chen, Ming | CA | IAC-13.B2.4.14 |
| Chen, Nong | A | IAC-13.D2.6.10 |
| Chen, Pei | CA | IAC-13.B2.1.11 |
| Chen, Pei | CA | IAC-13.B2.1.12 |
| Chen, Pei | CA | IAC-13.B2.P.15 |
| Chen, Pei | CA | IAC-13.B2.P.33 |
| Chen, Qing | CA | IAC-13.V.3-B2.8.4 |
| Chen, Qingsong | CA | IAC-13.B3.P.5 |
| Chen, Qingsong | CA | IAC-13.B3.7.1 |
| Chen, Rong | A | IAC-13.D2.2.6 |
| Chen, Rongbo | A | IAC-13.B2.P.17 |
| Chen, ShanGuang | CA | IAC-13.A1.2.1 |
| Chen, Shanguang | CA | IAC-13.A1.2.4 |
| Chen, ShanGuang | CA | IAC-13.A1.3.6 |
| Chen, Shaohua | CA | IAC-13.C1.3.5 |
| Chen, Shiyu | CA | IAC-13.A2.4.2 |
| Chen, Siyuan | CA | IAC-13.A2.4.11 |
| Chen, Ting | A | IAC-13.B5.2.11 |
| Chen, Wang | A | IAC-13.C3.3.6 |
| Chen, Wenxin | CA | IAC-13.B1.3.7 |
| Chen, Xianfeng | CA | IAC-13.A3.2A.3 |
| Chen, Xiao | A | IAC-13.B2.P.11 |
| Chen, Xiaoping | CA | IAC-13.A1.3.6 |
| Chen, Xin | A | IAC-13.C4.P.38 |
| Chen, Xueqiang | A | IAC-13.B2.2.2 |
| Chen, Xuesheng | CA | IAC-13.A3.P.55 |
| Chen, Xuesheng | CA | IAC-13.C4.P.68 |
| Chen, Xuesheng | CA | IAC-13.C4.5.6 |
| Chen, Xuyang | A | IAC-13.B2.P.21 |
| Chen, Yang | CA | IAC-13.C1.3.9 |
| Chen, Yi | CA | IAC-13.A3.P.55 |
| Chen, Yi | CA | IAC-13.C4.P.68 |
| Chen, Yi | CA | IAC-13.C1.7.1 |
| Chen, Yifeng | A | IAC-13.D5.3.11 |
| Chen, Ying | A | IAC-13.A3.3A.5 |
| Chen, Yonggang | CA | IAC-13.C3.P.7 |
| Chen, Yonggang | A | IAC-13.C3.P.10 |
| Chen, Yuan | CA | IAC-13.C2.P.64 |
| Chen, Zhao | CA | IAC-13.A5.4-D2.8.6 |
| Chen, Zhi | A | IAC-13.B2.3.15 |
| CHEN, Zhi | CA | IAC-13.A2.P.2 |
| Cheng, Andrew | CA | IAC-13.A3.P.41 |
| Cheng, Andy | A | IAC-13.A3.4.8 |
| Cheng, Hao | A | IAC-13.C2.P.12 |
| Cheng, Mei | CA | IAC-13.C2.5.3 |
| Cheng, Mousen | CA | IAC-13.C4.P.34 |
| Cheng, Mousen | CA | IAC-13.C4.P.43 |
| Cheng, Mousen | CA | IAC-13.C4.P.52 |
| Cheng, Mousen | CA | IAC-13.C4.4.6 |
| Cheng, Xiao | A | IAC-13.A3.2C.5 |
| Cheng, Xiao | CA | IAC-13.A3.2C.9 |
| Cheng, Xiaoli | CA | IAC-13.A3.P.32 |
| Cheng, Xin | CA | IAC-13.D2.2.4 |
| Cheng, Yuqiang | CA | IAC-13.C4.3.12 |
| Cheng, Zijing | CA | IAC-13.B2.P.19 |
| Cheng'an, Wan | CA | IAC-13.C3.3.10 |
| Cheng'an, Wan | CA | IAC-13.C3.P.7 |
| Chenghua, Tao | CA | IAC-13.B2.P.10 |
| Chengzhi, Zhang | A | IAC-13.C4.9.1 |
| Cherciu, Claudiu | CA | IAC-13.E2.3-V.4.8 |
| Cherkasova, Maria | CA | IAC-13.C4.4.11 |
| Chern, Rock Jeng-Shing | A | IAC-13.B4.2.1 |
| Chern, Rock Jeng-Shing | A | IAC-13.E4.1.9 |
| Chern, Rock Jeng-Shing | CA | IAC-13.D6.1.2 |
| Chern, Rock Jeng-Shing | A | IAC-13.B4.3.5 |
| Chernov, Nikita | CA | IAC-13.C1.6.14 |
| Chhajed, Pritesh | CA | IAC-13.E2.3-V.4.9 |
| Chhunchha, Aakash | A | IAC-13.D2.3.6 |
| Chi, Jidong | CA | IAC-13.B1.3.7 |
| Chiang, Choon Lai | CA | IAC-13.C4.P.6 |
| Chibing, Shen | CA | IAC-13.C4.9.9 |
| Chiesa, Sergio | CA | IAC-13.A6.6.5 |
| Chiesa, Sergio | CA | IAC-13.D2.7.5 |
| Chin, Jit Kai | CA | IAC-13.C4.P.6 |
| Chintalapati, Sunil | A | IAC-13.A2.7.4 |
| Chiodini, Sebastiano | CA | IAC-13.A3.3B.8 |
| Chirtu, Cris | CA | IAC-13.B3.4-B6.5.6 |
| Chishti, Arif Ali | A | IAC-13.A1.P.25 |
| Chitale, Ketan | CA | IAC-13.E2.3-V.4.9 |
| Chitu, Cristian Corneliu | A | IAC-13.A3.2B.5 |
| Cho, Dong-Hyun | A | IAC-13.A6.P.40 |
| Cho, Dong-Hyun | CA | IAC-13.E1.5.4 |
| Cho, Dong-Hyun | A | IAC-13.C1.6.11 |
| Cho, Mengu | CA | IAC-13.B4.1.4 |
| Cho, Mengu | CA | IAC-13.B4.6B.2 |
| Cho, Mengu | CA | IAC-13.D5.3.10 |
| Cho, Mengu | CA | IAC-13.D5.3.12 |
| CHO, Young-Min | A | IAC-13.B6.P.4 |
| Chognard, Jean-Pascal | CA | IAC-13.B6.2.10 |
| CHOI, Su-jin | CA | IAC-13.A3.2C.10 |
| Chong, Yean Joo | A | IAC-13.E5.3.3 |
| Chouker, Alexander | A | IAC-13.A5.2.8 |
| Chow, Tiffany | A | IAC-13.E3.4.2 |
| Chow, Tiffany | CA | IAC-13.E3.4.7 |
| Chow, Tiffany | CA | IAC-13.A6.7.8 |
| Chow, Tiffany | CA | IAC-13.B1.6.1 |
| Chow, Tiffany | CA | IAC-13.B1.6.2 |
| Chow, Tiffany | CA | IAC-13.A6.8.1 |
| Christensen, Carissa | CA | IAC-13.E6.2.2 |
| Christensen, Ian | A | IAC-13.E3.1.6 |
| Christensen, Ian | CA | IAC-13.E3.2.11 |
| Christensen, Ian | CA | IAC-13.E3.3.7 |
| Christensen, Ian | CA | IAC-13.E1.5.2 |
| Christensen, Ian | CA | IAC-13.D4.4.7 |
| Christensen, Philip | CA | IAC-13.A3.3B.1 |
| Christy, Julien | CA | IAC-13.A3.3C.10 |
| Chu, Jing | A | IAC-13.C1.7.3 |
| Chu, Kin Leung | CA | IAC-13.E1.2.1 |
| Chu, Yingzhi | CA | IAC-13.A3.3A.8 |
| Chuihai, Zeng | CA | IAC-13.C2.8.10 |
| Chukwude, Augustine | CA | IAC-13.A7.2.1 |
| Chuma, Constant | A | IAC-13.B5.1.1 |
| Chumachenko, Eugene | CA | IAC-13.C1.1.8 |
| Chumachenko, Eugene | CA | IAC-13.C4.P.46 |
| Chumachenko, Eugene | CA | IAC-13.C4.P.47 |
| Chumachenko, Eugene | CA | IAC-13.A3.5.8 |
| Chumachenko, Eugene | CA | IAC-13.A5.4-D2.8.8 |
| Chumachenko, Evgeny | CA | IAC-13.B1.6.8 |
| Chun, Li | CA | IAC-13.C4.9.13 |
| Chunchen, Yao | A | IAC-13.C2.8.10 |
| Chunhong, Li | CA | IAC-13.C4.P.29 |
| Chunhui, Wang | A | IAC-13.A1.P.3 |
| Chunhui, Wang | CA | IAC-13.B6.1.8 |
| Chunyong, Wang | CA | IAC-13.A3.P.24 |
| Chvanov, Vladimir | CA | IAC-13.C4.1.6 |
| Chvanov, Vladimir | CA | IAC-13.C4.P.31 |
| Châteauneuf, François | A | IAC-13.B1.3.11 |
| Chèoux-Damas, Philippe | A | IAC-13.B5.1.7 |
| Ciaramicoli, Mario | CA | IAC-13.E5.5.3 |
| Ciccarelli, Silvia | A | IAC-13.E3.3.2 |
| Cichocki, Filippo | CA | IAC-13.C1.7.11 |
| Cinquegrana, Davide | A | IAC-13.D2.3.1 |
| Cinquegrana, Davide | CA | IAC-13.D2.P.13 |
| Ciobanu, Ion | CA | IAC-13.E2.3-V.4.8 |
| Ciofani, Gianni | CA | IAC-13.A1.P.58 |
| Ciofani, Gianni | A | IAC-13.A1.P.59 |
| Circi, Christian | CA | IAC-13.A3.5.6 |
| Ciuca, Ioana | CA | IAC-13.E2.3-V.4.8 |
| Claasen, Friedhelm | CA | IAC-13.A3.1.9 |
| Claasen, Friedhelm | CA | IAC-13.A3.2A.9 |
| Claessens, Dirk | CA | IAC-13.B4.4.2 |
| Claessens, Dirk | A | IAC-13.A2.5.4 |
| Clancy, Paul | CA | IAC-13.B3.1.9 |
| Clarino, David | A | IAC-13.B4.6B.15 |
| Clark, Jonathan | CA | IAC-13.A1.2.2 |
| Clark, P.E. | CA | IAC-13.B4.8.3 |
| Clark, Ruaridh | A | IAC-13.E2.1.6 |
| Clark, Ruaridh | A | IAC-13.A2.3.3 |
| Claveau, Fabien | CA | IAC-13.B1.3.11 |



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| Clements, Rhys | A | IAC-13.A6.3.6 |
| Clerc, Philippe | A | IAC-13.E7.5.5 |
| Cliquet, Elisa | CA | IAC-13.C4.7-C3.5.1 |
| Clivio, Raffaella | CA | IAC-13.A5.3-B3.6.2 |
| Clormann, Ulrich | CA | IAC-13.D2.4.2 |
| Close, Sigrid | CA | IAC-13.A6.1.7 |
| Close, Sigrid | CA | IAC-13.B4.2.3 |
| Close, Sigrid | CA | IAC-13.D2.3.5 |
| Cloutet, Philippe | A | IAC-13.C4.2.2 |
| Cocuzza, Silvio | A | IAC-13.D1.2.10 |
| Cocuzza, Silvio | A | IAC-13.D3.2.8 |
| Cocuzza, Silvio | A | IAC-13.D3.2.10 |
| Cocuzza, Silvio | CA | IAC-13.C2.P.62 |
| Cocuzza, Silvio | CA | IAC-13.D1.P.18 |
| Cocuzza, Silvio | A | IAC-13.D3.3.4 |
| Cocuzza, Silvio | CA | IAC-13.A2.7.11 |
| Cohen, Brendan | CA | IAC-13.E7.1.5 |
| Cohen, Christina | CA | IAC-13.A1.4.6 |
| Cohendet, Partick | CA | IAC-13.E3.3.5 |
| Colaprete, Anthony | CA | IAC-13.A3.2A.8 |
| Colavolpe, Giulio | CA | IAC-13.V.3-B2.8.7 |
| Coleman, Kelvin | CA | IAC-13.E6.4-D4.2.5 |
| Collette, Jean-Paul | A | IAC-13.C2.8.7 |
| COLLOMB, Emilie | CA | IAC-13.E1.2.4 |
| Colmenarejo, Pablo | A | IAC-13.A6.5.6 |
| Colombatti, Giacomo | CA | IAC-13.A3.P.31 |
| Colombatti, Giacomo | CA | IAC-13.A3.3B.8 |
| Colombo, Camilla | CA | IAC-13.A6.2.4 |
| Colombo, Camilla | A | IAC-13.C1.3.2 |
| Colombo, Camilla | CA | IAC-13.A6.P.12 |
| Colombo, Camilla | A | IAC-13.A6.P.24 |
| Colombo, Camilla | CA | IAC-13.C1.6.9 |
| Colombo, Camilla | CA | IAC-13.C1.8.11 |
| Colombo, Camilla | CA | IAC-13.C1.9.1 |
| Colombo, Camilla | CA | IAC-13.C1.9.10 |
| Colombo, María | CA | IAC-13.A3.2D.1 |
| Colombo, María | A | IAC-13.A3.3B.6 |
| Condit, Matt | CA | IAC-13.E1.1.4 |
| Conglong, Wu | CA | IAC-13.C4.4.1 |
| Conley, Catharine | CA | IAC-13.E3.2.9 |
| Conley, Catharine | CA | IAC-13.A3.P.5 |
| Conley, Catharine | A | IAC-13.A1.5.10 |
| Conley, Catharine | A | IAC-13.A5.3-B3.6.5 |
| Contant, Felix | CA | IAC-13.E2.3-V.4.4 |
| Conticello, Simon Silvio | CA | IAC-13.B1.3.10 |
| Conticello, Simon Silvio | CA | IAC-13.C1.4.6 |
| Cook, Steve | CA | IAC-13.A5.4-D2.8.3 |
| Cooke, Brian | CA | IAC-13.A3.5.9 |
| Cooke, Douglas | CA | IAC-13.A5.4-D2.8.4 |
| Cooley, Vic | A | IAC-13.B1.1.8 |
| Coombe, Morgan | CA | IAC-13.A1.P.17 |
| Coombe, Nicholas | A | IAC-13.A1.P.17 |
| Copin, François | CA | IAC-13.B1.4.9 |
| Copin, François | CA | IAC-13.B5.1.7 |
| Corcoral, Nathalie | CA | IAC-13.B1.2.9 |
| Cordier, Bertrand | A | IAC-13.B4.2.5 |
| Corlay, Gilles | CA | IAC-13.A3.3B.5 |
| Cornale, Davide | CA | IAC-13.A3.3B.8 |
| Cornara, Stefania | CA | IAC-13.B4.3.2 |
| Corpino, Sabrina | CA | IAC-13.A3.5.6 |
| Corral Van Damme, Carlos | CA | IAC-13.B4.6B.4 |
| Correira de Oliveira, Joaquim | CA | IAC-13.A6.4.4 |
| Correira de Oliveira, Joaquim | CA | IAC-13.A6.P.13 |
| Correnti, Andrea | CA | IAC-13.D1.2.11 |
| Correnti, Andrea | CA | IAC-13.D3.2.10 |
| Correnti, Andrea | A | IAC-13.D1.P.18 |
| Correnti, Andrea | CA | IAC-13.D3.3.4 |
| Correnti, Andrea | A | IAC-13.A2.7.11 |
| Cortez, Ross | CA | IAC-13.C4.8.3 |
| Cosentino, Giovanni | CA | IAC-13.C2.7.13 |
| Costigan, Andrew P. | CA | IAC-13.A1.1.4 |
| Cosyn, Philippe | CA | IAC-13.E4.2.2 |
| Cougnet, Claude | A | IAC-13.A6.4.7 |
| Cougnet, Claude | CA | IAC-13.A6.3.5 |
| Cougnet, Claude | CA | IAC-13.A6.6.3 |
| Court, Andrew | CA | IAC-13.B1.3.2 |
| Coué, Philippe | CA | IAC-13.D6.1.5 |
| Cowardin, Heather | CA | IAC-13.A6.1.4 |
| Cox, R.G. | CA | IAC-13.B4.8.3 |
| Crahay, Jean | CA | IAC-13.C2.8.7 |
| Creech, Steve | A | IAC-13.D2.1.10 |
| Cremins, Tom | CA | IAC-13.E3.2.6 |
| Crescenzi, Rocco | CA | IAC-13.C4.5.1 |
| Crippa, Roberto | CA | IAC-13.A4.P.4 |
| Crock, Paula | CA | IAC-13.B3.5.6 |
| Crocker, Andy | CA | IAC-13.A5.4-D2.8.3 |
| Crook, Brian | CA | IAC-13.D3.2.4 |
| Cropp, Alexander | CA | IAC-13.A6.5.2 |
| Crosnier, Michael | CA | IAC-13.A3.2B.4 |
| Cross, William | CA | IAC-13.C2.6.4 |
| Crowl, Adam | CA | IAC-13.D1.1.1 |
| Crum, Ray | CA | IAC-13.A3.5.9 |
| Cruz, Carlos | CA | IAC-13.C4.3.5 |
| Cuccarese, Filomena | CA | IAC-13.B5.1.12 |
| Cuccato, Davide | CA | IAC-13.D3.2.8 |
| Cuccato, Davide | A | IAC-13.C2.P.62 |
| Cucciarrè, Francesca | A | IAC-13.A3.P.31 |
| Cucciarrè, Francesca | A | IAC-13.A3.3B.8 |
| Cuciniello, Giovanni | CA | IAC-13.D2.5.10 |
| Cui, Hongzheng | A | IAC-13.B2.1.1 |
| Cui, Jingzhong | CA | IAC-13.B2.P.17 |
| Cui, Naigang | CA | IAC-13.D2.P.7 |
| Cui, Pingyuan | CA | IAC-13.A3.P.48 |
| Cui, Rui | A | IAC-13.V.3-B2.8.3 |
| Cui, Xiaozhun | CA | IAC-13.B2.3.13 |
| Cui, Yue | CA | IAC-13.A2.5.11 |
| Cui, Yufu | CA | IAC-13.B4.1.7 |
| Cuiyun, Li | A | IAC-13.C2.P.61 |
| Cunha, Sergio | CA | IAC-13.B4.6B.9 |
| Curier, Lyana | CA | IAC-13.B1.P.6 |
| Cusinato, Emanuele | CA | IAC-13.A3.5.4 |
| Cutard, Thierry | CA | IAC-13.C2.4.6 |

## D

| Name | Role | Paper |
|---|---|---|
| D'Elia, Raffaele | A | IAC-13.C2.4.6 |
| D'Errico, Marco | A | IAC-13.B1.5.2 |
| D'Errico, Marco | A | IAC-13.B2.7.3 |
| D'Errico, Marco | A | IAC-13.B5.2.4 |
| D'Oriano, Vera | CA | IAC-13.D6.1.8 |
| D'Ottavio, Andrea | CA | IAC-13.D2.7.5 |
| D. S, Nithya | CA | IAC-13.A6.P.39 |
| da Costa, Rodrigo | CA | IAC-13.A5.4-D2.8.1 |
| Da Fonseca, Ijar M. | A | IAC-13.C2.3.6 |
| da Silva Curiel, Alex | A | IAC-13.B4.6A.9 |
| Dahiwal, Shyam | CA | IAC-13.E2.3-V.4.9 |
| Dahle, Kolbjørn | CA | IAC-13.E1.4.1 |
| Dai, Fei | CA | IAC-13.A3.3B.9 |
| Dai, Kesheng | CA | IAC-13.A1.P.73 |
| Dai, Kun | CA | IAC-13.C4.9.1 |
| Dai, Kun | CA | IAC-13.E3.2.10 |
| Dai, Yongchao | CA | IAC-13.D1.4.3 |
| Dai, Yongchao | CA | IAC-13.A6.5.7 |
| Dai, Zhongquan | CA | IAC-13.A1.2.1 |
| Dai, Zhongquan | A | IAC-13.A1.7.8 |
| Daigo, Kanako | CA | IAC-13.B4.5.4 |
| Daitx, Henrique | CA | IAC-13.D1.4.7 |
| Dajbych, Václav | A | IAC-13.E1.6.3 |
| Dakshayani, B.P. | CA | IAC-13.C1.4.4 |
| Dakshayani, Bannihatti Parameshwarappa | CA | IAC-13.C1.5.4 |
| Dali, Liu | A | IAC-13.C2.2.11 |
| Dalin, Yang | A | IAC-13.A5.P.11 |
| Damo La Rosa, Keysmer Enrique | A | IAC-13.D2.5.10 |
| Dan, Li | CA | IAC-13.D2.P.12 |
| Danaila, Sterian | A | IAC-13.C4.2.12 |
| Danaila, Sterian | CA | IAC-13.C4.5.2 |
| Dancuo, Zorana | A | IAC-13.A5.2.10 |
| Dang, Wei | A | IAC-13.D5.1.9 |
| Dang, Zhaohui | CA | IAC-13.D1.1.7 |

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|---|---|---|
| Dang, Zhaohui | CA | IAC-13.D4.3.11 |
| Daniaud, Frédéric | CA | IAC-13.B6.2.10 |
| Daniel, Quintart | CA | IAC-13.E3.P.2 |
| Danilkin, Vyacheslav | CA | IAC-13.E6.4-D4.2.3 |
| Danilkin, Vyacheslav | CA | IAC-13.A6.P.31 |
| Danilkin, Vyacheslav | CA | IAC-13.E4.2.3 |
| Danous, Patrick | A | IAC-13.C4.1.3 |
| Danous, Patrick | A | IAC-13.C4.3.5 |
| Daoyuan, Ma | CA | IAC-13.C2.P.10 |
| Daquin, Jerome | CA | IAC-13.A6.2.4 |
| Darnopykh, Valeriy V. | A | IAC-13.C1.6.6 |
| Darrach, Murray | A | IAC-13.A2.3.6 |
| Dasgupta, Upasana | A | IAC-13.E7.P.17 |
| Dash, Pramit | A | IAC-13.E2.3-V.4.10 |
| Dasiga, Sankar | CA | IAC-13.D1.4.8 |
| Dasiga, Sankar | CA | IAC-13.D1.4.11 |
| Dasiga, Sankar | CA | IAC-13.B2.4.5 |
| Datta, Lakshya | A | IAC-13.D4.1.2 |
| Datta, Lakshya | A | IAC-13.A1.3.2 |
| Datta, Lakshya | A | IAC-13.D3.2.7 |
| Datta, Lakshya | A | IAC-13.D4.4.9 |
| Datta, Soumitro | CA | IAC-13.E2.3-V.4.10 |
| Daubar, Ingrid | A | IAC-13.A3.3B.2 |
| David, Emmanuelle | CA | IAC-13.D2.1.9 |
| David, Emmanuelle | CA | IAC-13.A6.P.38 |
| David, Emmanuelle | CA | IAC-13.D2.7.1 |
| David, Matthieu | CA | IAC-13.A6.4.7 |
| David, Matthieu | CA | IAC-13.A6.3.5 |
| Davidian, Ken | A | IAC-13.E6.4-D4.2.8 |
| Davidian, Ken | A | IAC-13.E6.1.9 |
| Davidian, Ken | CA | IAC-13.E6.2.1 |
| Davidian, Ken | CA | IAC-13.E6.2.3 |
| Davidian, Ken | CA | IAC-13.E6.2.6 |
| Davis, April | CA | IAC-13.B3.5.6 |
| Davis, April | A | IAC-13.D3.3.6 |
| Davis, Jeffrey R. | A | IAC-13.A1.3.11 |
| Davis, Jeffrey R. | A | IAC-13.A1.8.9 |
| Davis, Michael | A | IAC-13.E1.4.7 |
| Davis, Michael | A | IAC-13.E3.3.1 |
| Dawen, Zeng | CA | IAC-13.C4.3.3 |
| Daxu, Zhang | CA | IAC-13.C2.6.1 |
| Dağdeviren, Ece Gülfem | A | IAC-13.E2.4.11 |
| De Angelis, Giovanni | A | IAC-13.A1.4.1 |
| de Biasi, ADAM | CA | IAC-13.E2.3-V.4.1 |
| De Boever, Patrick | A | IAC-13.A1.2.7 |
| de Boissezon, Helene | CA | IAC-13.B1.5.7 |
| de Bruijn, Ferdi | A | IAC-13.A6.4.5 |
| de Chambure, Daniel | A | IAC-13.D2.1.1 |
| De Cuyper, Steven | CA | IAC-13.D2.6.4 |
| De Filippis, Luigi | CA | IAC-13.A2.3.10 |
| De Filippis, Luigi | CA | IAC-13.E2.3-V.4.5 |
| de Franca Queiroz, Tiago | CA | IAC-13.E2.3-V.4.2 |
| de Groot, Zeger | CA | IAC-13.B1.2.1 |
| de la Mora, Juan | CA | IAC-13.C4.4.15 |
| De Man, Philip | A | IAC-13.E7.1.8 |
| de Matteis, Pier Paolo | CA | IAC-13.C4.3.4 |
| De Nino, Maurizio | CA | IAC-13.B1.P.10 |
| De Oliveira Bittencourt Neto, Olavo | A | IAC-13.E7.4.1 |
| De Paula, Ramon P. | A | IAC-13.B2.2.1 |
| De Perini, Veronica | A | IAC-13.V.3-B2.8.7 |
| de Raucourt, Sébastien | CA | IAC-13.A3.3A.6 |
| de Raucourt, Sébastien | CA | IAC-13.A3.3B.5 |
| De Simone, Valeria | CA | IAC-13.D2.3.1 |
| De Sio, Antonio | CA | IAC-13.A2.3.2 |
| De Stefano Fumo, Mario | CA | IAC-13.D2.3.1 |
| De Stefano Fumo, Mario | CA | IAC-13.D2.P.13 |
| De Stefano Fumo, Mario | CA | IAC-13.D2.6.8 |
| De Tata, Marco | CA | IAC-13.C1.7.4 |
| De Villa Bais, Emanuele | CA | IAC-13.A3.3B.8 |
| De Vries, Johan | A | IAC-13.B1.3.2 |
| De Vries, Rowan | CA | IAC-13.E1.3.3 |
| De Vries, Rowan | CA | IAC-13.B4.6B.7 |
| De Vries, Rowan | A | IAC-13.B4.6B.13 |
| Debei, Stefano | CA | IAC-13.A3.P.31 |
| Debei, Stefano | CA | IAC-13.A3.3B.8 |
| Dech, Stefan | CA | IAC-13.B1.4.4 |
| DeChiara, Giuseppe | CA | IAC-13.A2.5.2 |
| Decker, Robert | CA | IAC-13.A1.4.6 |
| DECONINCK, Florian | A | IAC-13.B4.6B.10 |
| Deerman, Clint | CA | IAC-13.E1.3.1 |
| Deerman, Clint | CA | IAC-13.E1.7.3 |
| Deerman, Drew | CA | IAC-13.E1.3.1 |
| Deerman, Drew | CA | IAC-13.E1.7.3 |
| Defoort, Sébastien | CA | IAC-13.D2.7.8 |
| Degtyar, Vladimir | CA | IAC-13.A6.P.31 |
| Degtyarev, Alexander | A | IAC-13.C4.7-C3.5.11 |
| Dekens, Erwin | CA | IAC-13.B3.3.7 |
| Dekens, Erwin | CA | IAC-13.A2.5.9 |
| Del Corto Baradel, Nadia | CA | IAC-13.A3.1.7 |
| del Monte, Luca | A | IAC-13.E3.4.8 |
| DeLatte, Danielle | A | IAC-13.E1.P.2 |
| DeLatte, Danielle | A | IAC-13.E1.6.1 |
| Delaurentis, Daniel | CA | IAC-13.D3.1.5 |
| Delawari, Anton | A | IAC-13.B2.2.10 |
| Deleflie, Florent | CA | IAC-13.A6.2.4 |
| Deleuze, Muriel | CA | IAC-13.A3.4.6 |
| Delfa Victoria, Juan Manuel | A | IAC-13.A7.2.4 |
| Delli Priscoli, Franscesco | CA | IAC-13.A3.2B.4 |
| DeLuca, Luigi T. | A | IAC-13.A6.6.5 |
| Demairé, Alain | CA | IAC-13.C1.7.4 |
| Deng, Hailiang | A | IAC-13.C2.4.3 |
| Deng, Li | A | IAC-13.D1.3.5 |
| Deng, Tao | CA | IAC-13.C2.9.9 |
| Deng, Xiaobin | CA | IAC-13.C3.3.10 |
| Deng, Yibing | CA | IAC-13.A1.2.1 |
| Deng, Yingli | CA | IAC-13.A3.2C.5 |
| Deng, Yingli | CA | IAC-13.A3.2C.9 |
| Deng, Yulin | A | IAC-13.A1.P.18 |
| Deng, Yulin | A | IAC-13.A1.P.27 |
| Deng, Yulin | A | IAC-13.A1.P.28 |
| Deng, Yulin | A | IAC-13.A1.P.31 |
| Deng, Yulin | A | IAC-13.A1.P.32 |
| Deng, Zhijun | CA | IAC-13.A3.P.2 |
| Deng, Zhijun | CA | IAC-13.B5.2.6 |
| DENG, ZHILI | CA | IAC-13.A1.P.66 |
| Denier van der Gon, Hugo | A | IAC-13.B1.5.8 |
| DENIS, Gil | A | IAC-13.E1.2.4 |
| DENIS, Gil | A | IAC-13.E6.2.4 |
| Denisova, M. O. | CA | IAC-13.A2.2.11 |
| Derz, Uwe | CA | IAC-13.D3.1.2 |
| Dessimoz, Jean-Daniel | CA | IAC-13.E1.7.10 |
| Dessinov, Lev | CA | IAC-13.B3.5.7 |
| Detsis, Emmanouil | CA | IAC-13.C4.7-C3.5.1 |
| Dev, Ankur | CA | IAC-13.C3.P.22 |
| Devezas, Tessaleno | CA | IAC-13.C4.5.8 |
| Devezas, Tessaleno | CA | IAC-13.E6.2.10 |
| Devy, Michel | CA | IAC-13.A3.3C.6 |
| Dextre, Roberto | A | IAC-13.C4.P.48 |
| Deying, Yi | A | IAC-13.C3.3.10 |
| Deying, Yi | CA | IAC-13.C3.P.7 |
| Di Benedetto, Sara | CA | IAC-13.D2.6.6 |
| Di Cintio, Andrea | CA | IAC-13.V.3-B2.8.7 |
| Di Lizia, Pierluigi | CA | IAC-13.E2.2.2 |
| Di Lizia, Pierluigi | CA | IAC-13.A6.P.11 |
| Di Lizia, Pierluigi | CA | IAC-13.A3.4.11 |
| Di Lizia, Pierluigi | CA | IAC-13.C1.6.5 |
| Di Lizia, Pierluigi | CA | IAC-13.C1.9.8 |
| Di Pentino, Frank | CA | IAC-13.A6.2.1 |
| Di Pippo, Simonetta | A | IAC-13.E6.2.1 |
| DIAO, Huafei | A | IAC-13.A6.P.5 |
| Diaz, Ana | A | IAC-13.A1.P.21 |
| Diaz, Carlos | CA | IAC-13.A3.2D.1 |
| Diaz, Carlos | A | IAC-13.A3.P.29 |
| Diaz, Carlos | CA | IAC-13.A3.3B.6 |
| Diaz, Eva | A | IAC-13.A3.2D.1 |
| Diaz, Eva | CA | IAC-13.A3.P.29 |
| Diaz, Eva | CA | IAC-13.A3.3B.6 |
| Dibrivny, Alexandr | CA | IAC-13.C4.P.10 |
| Dicaire, Isabelle | A | IAC-13.D3.3.10 |
| Dicaire, Isabelle | A | IAC-13.D4.4.5 |
| DiCostanzo, Giuseppe | CA | IAC-13.A2.5.2 |
| Didonè, Marco | CA | IAC-13.A3.3B.8 |
| Diedrich, Erhard | CA | IAC-13.B1.4.4 |
| Dietrich, Georg | CA | IAC-13.B4.3.10 |
| Dimare, Linda | CA | IAC-13.A6.P.24 |
| Dimitriadou, Ismini | CA | IAC-13.C4.7-C3.5.6 |
| Dimopoulou, Amalia | CA | IAC-13.D6.1.12 |
| Ding, Jie | A | IAC-13.B2.6.11 |
| Ding, Liwei | A | IAC-13.B2.3.10 |
| Ding, Nan | CA | IAC-13.A1.4.11 |
| Ding, Ran | CA | IAC-13.B2.P.15 |
| Ding, Ying | CA | IAC-13.D1.P.5 |
| Dingbo, ZHANG | CA | IAC-13.B3.P.7 |
| Dingjan, Jos | CA | IAC-13.B1.3.2 |
| Dinkelaker, Aline | CA | IAC-13.B6.4-V.1.5 |
| DiPierro, Stefano | CA | IAC-13.B2.5.1 |
| Dittus, Hansjörg | CA | IAC-13.A2.1.4 |
| Djojodihardjo, Harijono | A | IAC-13.C2.3.7 |
| Djojodihardjo, Harijono | A | IAC-13.C2.6.9 |
| Doering, Kimberly | A | IAC-13.A5.4-D2.8.3 |
| Doherty, Padraic | CA | IAC-13.B5.2.7 |
| Doi, Takao | CA | IAC-13.E3.2.5 |
| Dolan, Iain | CA | IAC-13.A2.3.3 |
| Doldirina, Catherine | A | IAC-13.E3.P.2 |
| Doldirina, Catherine | A | IAC-13.B1.6.3 |
| Dolgopolov, Vladimir P. | CA | IAC-13.A3.2C.4 |
| Domínguez, Diego | CA | IAC-13.D1.1.3 |
| Domínguez-González, Raúl | CA | IAC-13.A6.2.5 |
| Domínguez-González, Raúl | CA | IAC-13.A6.4.4 |
| Domínguez-González, Raúl | CA | IAC-13.A6.P.13 |
| Donaldson, Nathan | CA | IAC-13.A2.3.3 |
| Donati, Alessandro | A | IAC-13.A2.3.2 |
| Dong, Hui | A | IAC-13.D3.P.4 |
| Dong, Jingang | CA | IAC-13.C4.P.67 |
| Dong, Junlei | CA | IAC-13.A1.P.32 |
| Dong, Lei | CA | IAC-13.C2.P.42 |
| Dong, Peng | A | IAC-13.C2.P.63 |
| Dong, Qiaozhong | A | IAC-13.D3.P.1 |
| Dong, Qiuhuang | A | IAC-13.A6.P.30 |
| Dong, Rui | CA | IAC-13.C2.P.17 |
| Dong, Wang | A | IAC-13.C4.3.1 |
| Dong, Weidong | CA | IAC-13.D2.P.11 |
| Dong, Wenbo | A | IAC-13.A2.5.1 |
| Dong, Wenbo | CA | IAC-13.A2.7.5 |
| Dong, YAO | A | IAC-13.C2.1.9 |
| Dong, Yongwei | A | IAC-13.A7.1.3 |
| Dongli, Wang | CA | IAC-13.C2.P.39 |
| Dongsheng, Yang | A | IAC-13.C2.6.7 |
| Dongying, Ma | A | IAC-13.C4.P.29 |
| Dono Pérez, Andrés | A | IAC-13.C4.5.7 |
| Dono Pérez, Andrés | CA | IAC-13.B5.2.7 |
| Dornburg, Lars | CA | IAC-13.D3.3.5 |
| Dorrington, Graham | A | IAC-13.A7.2.3 |
| Dougherty, Kerrie | A | IAC-13.E4.2.1 |
| Dougherty, Kerrie | CA | IAC-13.E4.2.2 |
| Dougherty, Kerrie | A | IAC-13.E5.6.1 |
| Dougherty, Kerrie | A | IAC-13.E1.7.7 |
| Doule, Ondrej | A | IAC-13.D3.1.4 |
| Doule, Ondrej | A | IAC-13.A5.1.10 |
| Doule, Ondrej | A | IAC-13.E1.P.13 |
| Dragasanu, Claudiu Gabriel | CA | IAC-13.C1.3.6 |
| Dragomir, Dan | CA | IAC-13.E2.3-V.4.8 |
| Drake, Bret | CA | IAC-13.A5.2.3 |
| Drescher, Juergen | CA | IAC-13.A1.2.10 |
| Dreyer, Michael | A | IAC-13.A2.3.1 |
| Driesman, Andrew | CA | IAC-13.A3.P.49 |
| Drion, Sebastien | CA | IAC-13.D6.1.12 |
| Drolshagen, Gerhard | CA | IAC-13.A6.3.8 |
| Dropmann, Michael | A | IAC-13.A3.2B.6 |
| Du, Boqiang | CA | IAC-13.C2.P.48 |
| Du, Dacheng | CA | IAC-13.C1.7.1 |
| Du, Junpeng | A | IAC-13.D5.2.1 |
| Du, Mingliang | A | IAC-13.B2.P.27 |
| Du, Rong | A | IAC-13.E7.1.12 |
| Du, Wang-Fang | CA | IAC-13.A2.4.4 |
| Du, Xin | CA | IAC-13.C4.P.71 |
| Du, Yu | CA | IAC-13.E1.P.11 |
| DUAN, ENKUI | CA | IAC-13.A1.P.66 |
| Duan, Jixin | CA | IAC-13.B5.1.10 |
| DUAN, Li | CA | IAC-13.A2.2.10 |
| DUAN, Li | CA | IAC-13.A2.4.6 |
| DUAN, Li | CA | IAC-13.A2.4.8 |
| DUAN, Li | CA | IAC-13.A2.P.3 |
| Duan, Xun | A | IAC-13.A3.3B.10 |
| Duan, Yanjuan | A | IAC-13.A3.P.3 |
| Duarte, Carlos | A | IAC-13.E1.1.6 |
| Duarte, Carlos | CA | IAC-13.E3.P.3 |
| Duarte, Carlos | A | IAC-13.E1.7.6 |
| Duberti, Guillermo | A | IAC-13.E7.2.3 |
| Duering, Marcel | A | IAC-13.C1.8.4 |
| Duering, Ralf | CA | IAC-13.B1.2.8 |
| Duffy, Jim | CA | IAC-13.D5.1.4 |
| Duggan, Matthew | CA | IAC-13.A5.4-D2.8.1 |
| Duivenvoorde, Tom | CA | IAC-13.C1.4.6 |
| Dujols, Emmanuelle | A | IAC-13.C2.6.6 |
| Dunham, David | CA | IAC-13.C1.1.8 |
| Dunham, David | CA | IAC-13.A5.1.4 |
| Dunham, David | CA | IAC-13.A3.4.12 |
| Dunham, David | A | IAC-13.A5.4-D2.8.8 |
| Dunlop, David | A | IAC-13.B4.8.3 |
| Dunlop, Kathryn | A | IAC-13.D1.P.2 |
| Dunn, Jason | A | IAC-13.D3.3.1 |
| Dunstan, Martin | CA | IAC-13.D1.P.17 |
| Dunstan, Martin | CA | IAC-13.C1.5.10 |
| Duran, Juan | CA | IAC-13.B2.1.8 |
| Durand-Carrier, Franck | A | IAC-13.D1.3.2 |
| Durand-Carrier, Franck | A | IAC-13.D3.4.7 |
| Durante, Daniele | CA | IAC-13.A5.2.4 |
| Durkut, Murat | CA | IAC-13.C1.4.6 |
| Durrant, Stephen | CA | IAC-13.A3.3C.9 |
| Durst, Steve | A | IAC-13.A3.2A.6 |
| Dushin, Vladislav | CA | IAC-13.A2.2.2 |
| Dushin, Vladislav | CA | IAC-13.A2.4.9 |
| Dushin, Vladislav | CA | IAC-13.A2.P.5 |
| Duskalieva, Almira | CA | IAC-13.E7.1.7 |
| Duvaux-Bechon, Isabelle | CA | IAC-13.C3.1.3 |
| Duvaux-Bechon, Isabelle | A | IAC-13.E3.2.3 |
| Duvaux-Bechon, Isabelle | A | IAC-13.E3.5-E7.6.2 |
| Duvaux-Bechon, Isabelle | A | IAC-13.D4.4.1 |
| Duzellier, Sophie | CA | IAC-13.D5.3.9 |
| Dyczynski, Fatima | A | IAC-13.B4.3.8 |
| Dyukov, Vyacheslav | CA | IAC-13.D2.7.7 |
| Dyussenev, Simbaj | CA | IAC-13.B1.2.3 |

## E

| Name | Role | Paper |
|---|---|---|
| Easley, Ronald Blaine | CA | IAC-13.A1.2.2 |
| Easwar, Aditya | A | IAC-13.E2.2.1 |
| Ebert, Johannes | A | IAC-13.B2.5.3 |
| Ebrahimi, Masoud | CA | IAC-13.E1.4.9 |
| Ebrahimi, Masoud | CA | IAC-13.D1.P.6 |
| Ebrahimi, Masoud | A | IAC-13.D1.P.24 |
| Ebrahimi, Mohammad | CA | IAC-13.C1.2.13 |
| Ebrahimi, Mohammad | A | IAC-13.D1.5.2 |
| Ebrahimi, Mohammad | A | IAC-13.D1.6.11 |
| Eckert, Silke | CA | IAC-13.B4.3.13 |
| Edeline, Emmanuel | CA | IAC-13.C4.1.3 |
| Eenmäe, Tõnis | CA | IAC-13.B4.2.10 |
| Eerme, Tõnis | CA | IAC-13.E3.3.5 |
| Eggers, Thino | CA | IAC-13.D2.7.6 |
| Ehrenfreund, Pascale | CA | IAC-13.E3.2.1 |
| Ehrenfreund, Pascale | CA | IAC-13.E3.2.8 |
| Ehrenfreund, Pascale | A | IAC-13.E7.7-B3.8.2 |
| Eigenbrod, Christian | CA | IAC-13.A2.5.8 |
| Eilertsen, Baard | CA | IAC-13.B1.4.5 |
| Eismont, Natan | CA | IAC-13.C1.1.8 |
| Eismont, Natan | CA | IAC-13.A5.4-D2.8.8 |
| Elkin, Konstantin | CA | IAC-13.A2.7.6 |
| Ellery, Alex | CA | IAC-13.D1.4.5 |
| Elstak, Joost | A | IAC-13.B4.6B.1 |
| Emanuelli, Matteo | CA | IAC-13.D2.1.9 |
| Emanuelli, Matteo | A | IAC-13.A6.P.17 |
| Emanuelli, Matteo | CA | IAC-13.A6.P.38 |
| Emanuelli, Matteo | A | IAC-13.A6.8.1 |
| Emelyanov, Grigory | A | IAC-13.A2.7.6 |
| Emes, Michael | CA | IAC-13.D5.1.7 |
| Emmadi, Harisha | CA | IAC-13.D5.1.1 |
| Emmadi, Harisha | A | IAC-13.B6.3.7 |
| Emmadi, Harisha | CA | IAC-13.B6.1.10 |
| Emmadi, Harisha | A | IAC-13.E1.9.8 |
| Emmanuel, Achema | A | IAC-13.B1.4.8 |
| Endo, Kunio | CA | IAC-13.B2.6.6 |

| | | |
|---|---|---|
| Engelen, Steven | CA | IAC-13.C3.3.3 |
| Engelen, Steven | CA | IAC-13.B2.3.6 |
| Engelen, Steven | A | IAC-13.B4.7B.6 |
| Engeli, Stephanie | CA | IAC-13.A1.7.10 |
| Enjolras, Vivien | CA | IAC-13.B1.2.9 |
| Envall, Jouni | CA | IAC-13.B4.2.10 |
| Envall, Jouni | CA | IAC-13.C3.4.8 |
| Erasmus, Johan | CA | IAC-13.B4.6B.1 |
| Erb, Sven | A | IAC-13.D1.P.15 |
| Erb, Sven | A | IAC-13.C1.6.10 |
| ERDELYI, Zsuzsanna | CA | IAC-13.D6.1.6 |
| Erickson, Andrew | A | IAC-13.E4.3.6 |
| Erickson, James K. | A | IAC-13.A3.3A.2 |
| Eriksson, Katarina | CA | IAC-13.A5.1.10 |
| Ermolaev, Sergey | CA | IAC-13.B3.2.5 |
| Ernst, Carolyn | CA | IAC-13.A1.4.6 |
| Ernst, Sebastian M. | A | IAC-13.D3.3.2 |
| Eshete, Yilkal | CA | IAC-13.B5.2.7 |
| Esimbek, Jarken | CA | IAC-13.A7.2.1 |
| Eskes, Henk | A | IAC-13.B1.P.6 |
| Espano, Zarah | A | IAC-13.D1.2.6 |
| Espinasse, Sylvie | A | IAC-13.A3.1.4 |
| Espinasse, Sylvie | CA | IAC-13.B3.1.9 |
| Esposito, Francesca | CA | IAC-13.A3.P.31 |
| Esposito, Marco | A | IAC-13.B1.3.10 |
| Esposito, Marco | CA | IAC-13.C1.4.6 |
| Estublier, Denis | CA | IAC-13.C4.P.37 |
| Estublier, Denis | CA | IAC-13.C4.4.4 |
| Estupiñan, Juan Carlos | CA | IAC-13.E1.3.8 |
| Ettl, Josef | CA | IAC-13.A2.5.10 |
| Ettl, Josef | A | IAC-13.D1.4.7 |
| Ettl, Josef | CA | IAC-13.D1.6.8 |
| Evdokimov, Roman | CA | IAC-13.C3.2.8 |
| Eversmeyer, Timm | A | IAC-13.B4.3.11 |
| Evetts, Simon | CA | IAC-13.A5.2.6 |
| Ezeoke, Maurice | A | IAC-13. V2.B3.9.6 |
| Ezhilrajan, Elayaperumal | A | IAC-13.C4.1.11 |
| Ezquerro Navarro, José Miguel | CA | IAC-13.A2.6.11 |
| Ezquerro Navarro, José Miguel | CA | IAC-13.A2.7.3 |

## F

| Name | Role | Paper |
|---|---|---|
| F. Aymerich, Edu | CA | IAC-13.A5.3-B3.6.4 |
| Fa-cheng, Liu | CA | IAC-13.C2.P.41 |
| Fabacher, Emilien | A | IAC-13.E2.1.8 |
| Faber, Nicolas | A | IAC-13.A6.6.9 |
| Faber, Nicolas | CA | IAC-13.C4.8.9 |
| FABRICE, LEVY | CA | IAC-13.B5.1.2 |
| Fabrizi, Roberto | CA | IAC-13.B1.3.10 |
| Fabrizi, Roberto | A | IAC-13.B1.4.3 |
| Fahmy, Salma | A | IAC-13.A3.5.2 |
| Faith, G. Ryan | A | IAC-13.D3.1.1 |
| Faith, G. Ryan | CA | IAC-13.E3.3.11 |
| Falconi, Andrea | CA | IAC-13.A3.2B.8 |
| Faming, Guan | CA | IAC-13.A3.P.32 |
| FAN, Chunshi | A | IAC-13.C3.2.6 |
| Fan, Chunshi | CA | IAC-13.A3.5.5 |
| Fan, Fei | A | IAC-13.B2.4.10 |
| Fan, Guochao | CA | IAC-13.B3.P.2 |
| Fan, Jinpeng | CA | IAC-13.C2.P.24 |
| Fan, Jixiang | A | IAC-13.C3.3.2 |
| Fan, Li | CA | IAC-13.D1.1.8 |
| Fan, Li | CA | IAC-13.D4.1.7 |
| Fan, Quanchun | CA | IAC-13.A1.2.4 |
| Fan, Wei | CA | IAC-13.B4.2.8 |
| Fang, Baodong | A | IAC-13.C4.6.8 |
| Fang, Baodong | CA | IAC-13.C4.6.11 |
| Fang, Chuanbo | A | IAC-13.C4.P.69 |
| Fang, Guangqiang | CA | IAC-13.C2.6.1 |
| Fang, Hongzheng | A | IAC-13.D5.1.8 |
| Fang, Liang | CA | IAC-13.D5.1.9 |
| Fang, Liang | CA | IAC-13.D1.P.34 |
| Fang, Man | CA | IAC-13.D5.P.2 |
| Fang, Qun | CA | IAC-13.A3.P.56 |
| Fang, Qun | CA | IAC-13.A3.3B.10 |
| Fang, Yan | CA | IAC-13.C2.P.42 |
| Fang, Yang | CA | IAC-13.E1.5.7 |
| Fanpei, Lei | CA | IAC-13.C4.P.58 |
| Fanping, Kong | CA | IAC-13.C2.5.6 |
| Farine, Pierre-André | CA | IAC-13.B2.1.3 |
| Farine, Pierre-André | CA | IAC-13.B4.8.9 |
| Farquhar, Robert | A | IAC-13.A3.4.12 |
| Farquhar, Robert | CA | IAC-13.A5.4-D2.8.8 |
| Farquhar, Robert W. | CA | IAC-13.A5.1.4 |
| Farre-Ponsa, Roser | CA | IAC-13.E2.4.4 |
| Fasano, Giancarmine | CA | IAC-13.B2.7.3 |
| Fasoulas, Stefanos | CA | IAC-13.A1.6.6 |
| Fatuev, Igor | CA | IAC-13.C4.1.6 |
| Fatuev, Igor | A | IAC-13.C4.P.9 |
| FAURE, Pauline | CA | IAC-13.A6.1.9 |
| Fayose, Rufus | CA | IAC-13.B2.P.2 |
| Fazeli, mohammad hosein | A | IAC-13.A3.P.30 |
| Fearn, Heidi | A | IAC-13.C4.8.4 |
| Federico, Giulia | CA | IAC-13.A6.8.1 |
| Fedorov, Dmitry | CA | IAC-13.E5.4.5 |
| Fedorova, Natalia | CA | IAC-13.E5.4.5 |
| Fedorova, Yana | A | IAC-13.A3.2C.1 |
| Fedorova, Yana | CA | IAC-13.A6.7.5 |
| Fedoseev, Sergey | CA | IAC-13.A2.7.6 |
| Fehse, Wigbert | CA | IAC-13.C1.5.3 |
| Fei, Zhiting | CA | IAC-13.A3.P.2 |
| Fei, Zhiting | A | IAC-13.B5.2.6 |
| Felicetti, Leonard | CA | IAC-13.C1.1.9 |
| Felicetti, Leonard | CA | IAC-13.C2.2.6 |
| Feliciani, Francesco | A | IAC-13.B5.1.12 |
| Felix, Carmen | A | IAC-13.E5.3.8 |
| Felix, Carmen | A | IAC-13.D5.2.8 |
| Felix, Carmen | A | IAC-13.D6.1.11 |
| Fellinger, Gerhard | CA | IAC-13.B4.3.3 |
| Fellinger, Gerhard | A | IAC-13.B4.3.10 |
| Feng, Jing | CA | IAC-13.A1.1.5 |
| FENG, JING | CA | IAC-13.A1.1.9 |
| Feng, Li | A | IAC-13.D2.P.19 |
| Feng, Xian | A | IAC-13.D2.P.11 |
| Feng, Xuemei | CA | IAC-13.C2.P.17 |
| Feng, Yunkai | CA | IAC-13.D1.P.36 |
| Feng, Zhenhe | CA | IAC-13.C3.3.12 |
| Feng, Zhongwei | A | IAC-13.D1.4.12 |
| Fengge, Gao | A | IAC-13.C2.P.3 |
| Fengmei, He | CA | IAC-13.C2.4.10 |
| Fenoglio, Franco | CA | IAC-13.D3.1.3 |
| Ferguson, Dale | CA | IAC-13.A6.2.8 |
| Fergusson, Jennifer | CA | IAC-13.E1.7.7 |
| Fernandez, Juan | CA | IAC-13.A6.4.6 |
| Fernandez Fraile, Jose Javier | CA | IAC-13.A2.6.11 |
| Fernandez Fraile, Jose Javier | CA | IAC-13.A2.7.3 |
| Fernandez-Garcia, Juan | CA | IAC-13.C4.4.15 |
| Fernández, Marianela | CA | IAC-13.A3.3B.6 |
| Ferraioli, Giuseppe | A | IAC-13.A1.1.1 |
| Ferraioli, Giuseppe | A | IAC-13.E2.3-V.4.7 |
| Ferrari, Claudio | CA | IAC-13.C4.7-C3.5.4 |
| Ferrazzani, Marco | A | IAC-13.E7.4.6 |
| Ferreira da Silva, Luis Henrique | A | IAC-13.D1.6.9 |
| Ferrer, Albert | CA | IAC-13.B2.3.1 |
| Ferri, Paolo | CA | IAC-13.A3.4.1 |
| Festa, Giandomenico | CA | IAC-13.C4.2.7 |
| Feuerecker, Matthias | CA | IAC-13.A5.2.8 |
| Fichter, Walter | CA | IAC-13.C1.5.3 |
| Fidler, Chuck | A | IAC-13.E1.1.7 |
| Fiedler, Hauke | CA | IAC-13.A6.5.3 |
| Filip, Ales | CA | IAC-13.B5.1.11 |
| Filippelli, Andrea | CA | IAC-13.A3.5.4 |
| Findlay, Ross | CA | IAC-13.A3.4.6 |
| Findlay, Ross | CA | IAC-13.E5.5.5 |
| Findlay, Ross | CA | IAC-13.D1.6.2 |
| Fineschi, Silvano | CA | IAC-13.A3.5.6 |
| Fink, Martin | CA | IAC-13.A2.7.7 |
| Finkleman, David | A | IAC-13.A6.2.10 |
| Finkleman, David | A | IAC-13.A6.4.1 |
| Finnvik, Stephanie | A | IAC-13.E1.8.4 |
| Finnvik, Stephanie | CA | IAC-13.E1.9.2 |
| Finogenov, Sergey | A | IAC-13.C4.8.5 |
| Fioletov, Vitali | CA | IAC-13.B1.5.8 |
| Fisher, Scott | A | IAC-13.D2.1.9 |
| Fisher, Scott | CA | IAC-13.A6.P.38 |
| Fisher, Scott | A | IAC-13.D2.7.1 |
| Fishwick, Nicholas | A | IAC-13.E1.5.3 |
| Fitrianingsih, Ery | A | IAC-13.B6.2.6 |
| Flandin, Grégory | CA | IAC-13.B5.1.7 |
| Flegel, Sven Kevin | CA | IAC-13.A6.2.2 |
| Flegel, Sven Kevin | CA | IAC-13.A6.2.3 |
| Flegel, Sven Kevin | CA | IAC-13.A6.2.5 |
| Flegel, Sven Kevin | CA | IAC-13.A6.P.8 |
| Flegel, Sven Kevin | CA | IAC-13.A6.P.14 |
| Flemming, Hans-Curt | CA | IAC-13.A1.5.9 |
| Fletcher, Emmet | CA | IAC-13.A6.1.3 |
| Fleurinck, Nico | CA | IAC-13.D2.6.4 |
| Flohrer, Tim | CA | IAC-13.A6.7.2 |
| Flores Martinez, Claudio | A | IAC-13.A1.5.4 |
| Flores Martinez, Claudio | A | IAC-13.A4.2.6 |
| Foeckersperger, Stefan | CA | IAC-13.B4.3.13 |
| Foglia Manzillo, Pierluigi | CA | IAC-13.B1.3.10 |
| Foing, Bernard | CA | IAC-13.B3.5.6 |
| Fokov, Alexandr | CA | IAC-13.C2.3.4 |
| Folta, David C. | CA | IAC-13.C1.7.12 |
| Fomina, Elena | A | IAC-13.A1.3.5 |
| Fonseca Naranjo, Gustavo | CA | IAC-13.E1.3.10 |
| Fontannaz, Delphine | CA | IAC-13.B1.5.7 |
| FONTDECABA BAIG, JORDI | A | IAC-13.C1.7.2 |
| Force, Melissa K. | A | IAC-13.E7.4.10 |
| Forget, Francois | CA | IAC-13.D3.3.10 |
| Forshaw, Jason | CA | IAC-13.C1.2.3 |
| Fortezza, Raimondo | A | IAC-13.A2.3.4 |
| Fortov, Vladimir | A | IAC-13.A2.6.7 |
| Fortov, Vladimir | CA | IAC-13.A2.7.7 |
| Foster, Cyrus | CA | IAC-13.A6.6.9 |
| Foster, Cyrus | CA | IAC-13.C4.8.9 |
| Foster, James | A | IAC-13.C2.5.8 |
| Foulon, Bernard | CA | IAC-13.A2.1.5 |
| Fox, Nicola | CA | IAC-13.A1.4.6 |
| Fraas, Lewis | A | IAC-13.C3.1.4 |
| Fragola, Joseph | CA | IAC-13.A1.5.11 |
| Francesconi, Alessandro | CA | IAC-13.D1.2.7 |
| Francesconi, Alessandro | CA | IAC-13.A6.6.5 |
| Francesconi, Daniele | CA | IAC-13.C2.4.1 |
| Francis, Adesina | CA | IAC-13.B5.1.4 |
| Francis, Iris | CA | IAC-13.B5.1.12 |
| Franks, Erik | CA | IAC-13.B5.2.7 |
| Fraysse, Hubert | A | IAC-13.A6.4.3 |
| Frederic, Lacoste | A | IAC-13.B2.2.11 |
| Freeborn, Peter | CA | IAC-13.D2.2.3 |
| Freeland, Steven | CA | IAC-13.E7.5.3 |
| Freeman, Marsha | A | IAC-13.E4.3.3 |
| Frett, Timo | A | IAC-13.A1.P.16 |
| Frey, Anja | CA | IAC-13.E1.6.4 |
| Frey, Anja | A | IAC-13.E1.8.7 |
| Friederich, Fabian | CA | IAC-13.A6.1.8 |
| Friedman, Louis | A | IAC-13.A5.4-D2.8.10 |
| Frierson, Tiffany | CA | IAC-13.D1.1.1 |
| Frischauf, Norbert | A | IAC-13.B2.1.4 |
| Frischauf, Norbert | CA | IAC-13.B6.4-V.1.5 |
| Frischauf, Norbert | CA | IAC-13.D3.1.7 |
| Frischauf, Norbert | CA | IAC-13.A5.1.6 |
| Frischauf, Norbert | CA | IAC-13.E6.1.2 |
| Frischauf, Norbert | CA | IAC-13.A3.3B.3 |
| Frischauf, Norbert | CA | IAC-13.B2.4.1 |
| Frischauf, Norbert | CA | IAC-13.B2.4.2 |
| Frischauf, Norbert | CA | IAC-13.A3.2C.8 |
| Friso, Enrico | CA | IAC-13.A3.P.31 |
| Fritz, Wilfred | CA | IAC-13.B4.6B.12 |
| Froehlich, Annette | A | IAC-13.E7.7-B3.8.6 |
| Fry, Emma | A | IAC-13.D5.2.4 |
| Fröhlich, Hubert | CA | IAC-13.B1.2.5 |
| Früh, Carolin | CA | IAC-13.A6.2.7 |
| Früh, Carolin | A | IAC-13.A6.2.8 |
| Früh, Carolin | A | IAC-13.A6.P.10 |
| Fu, Hongyong | CA | IAC-13.D5.1.9 |
| Fu, Ming | A | IAC-13.C3.P.17 |
| Fu, Yuming | CA | IAC-13.A1.6.9 |
| Fu, Zhiheng | CA | IAC-13.D2.2.4 |
| Fuchao, Hu | CA | IAC-13.B6.3.8 |
| Fuchao, Hu | A | IAC-13.B6.3.9 |
| Fuglesang, Christer | A | IAC-13.A1.4.5 |
| Fuglesang, Christer | A | IAC-13.E1.7.2 |
| Fuji, Takayoshi | CA | IAC-13.E7.7-B3.8.8 |
| Fujii, Akiko | A | IAC-13.D5.2.6 |
| FUJII, Hironori | A | IAC-13.D1.5.1 |
| Fujii, Hironori | CA | IAC-13.D4.3.4 |
| FUJII, Hironori | A | IAC-13.D4.3.8 |
| Fujii, Hironori A. | CA | IAC-13.C3.3.2 |
| FUJIMOTO, Nobuyoshi | A | IAC-13.B3.3.3 |
| Fujino, Yoshiyuki | CA | IAC-13.B2.6.6 |
| Fujishita, Mitsumi | CA | IAC-13.A4.1.2 |
| Fujita, Daiki | CA | IAC-13.C4.4.2 |
| Fujita, Takeshi | CA | IAC-13.D2.1.7 |
| Fukuda, Kazufumi | A | IAC-13.E2.1.5 |
| Fukuda, Kazufumi | CA | IAC-13.B2.2.8 |
| Fukuda, Kazufumi | CA | IAC-13.A6.4.8 |
| Fukuda, Kazufumi | CA | IAC-13.B4.7A.1 |
| Fukuda, Kazufumi | CA | IAC-13.B4.6A.6 |
| Fukuda, Toru | A | IAC-13.E3.5-E7.6.4 |
| Fulford, Paul | CA | IAC-13.A5.4-D2.8.1 |
| Fuller, Joseph | CA | IAC-13.E3.2.11 |
| Fuller, Joseph | CA | IAC-13.E3.3.7 |
| Fuller, Joseph | CA | IAC-13.E1.5.2 |
| Fuller, Joseph | CA | IAC-13.D4.4.7 |
| Fumagalli, Alessandro | CA | IAC-13.A3.3B.11 |
| Fumagalli, Alessandro | A | IAC-13.A3.3C.9 |
| Fumenti, Federico | CA | IAC-13.A3.5.6 |
| Funase, Ryu | CA | IAC-13.B4.6A.4 |
| Funtova, Irina | CA | IAC-13.A1.2.3 |
| Funtova, Irina I. | CA | IAC-13.A1.2.10 |
| Fuqiang, Wang | CA | IAC-13.C2.P.26 |
| Furfaro, Roberto | CA | IAC-13.A5.4-D2.8.8 |
| Furukawa, Katsumi | CA | IAC-13.C4.3.2 |
| Furusawa, Yoshiya | CA | IAC-13.A1.4.11 |
| Furuya, Hiroshi | A | IAC-13.C2.2.9 |
| Furuya, Hiroshi | CA | IAC-13.C2.2.10 |
| Furuya, Hiroshi | CA | IAC-13.B4.6A.4 |
| Fuse, Tetsuharu | CA | IAC-13.B2.2.8 |
| Fuse, Tetsuhito | CA | IAC-13.A2.7.8 |
| Fuss, Sabina | CA | IAC-13.B1.5.3 |
| Futaana, Yoshifumi | CA | IAC-13.A1.4.6 |
| Fye, Shannon | CA | IAC-13.E6.2.2 |
| Föckersperger, Stefan | CA | IAC-13.B1.3.1 |
| Förstner, Roger | CA | IAC-13.D1.1.10 |
| Förstner, Roger | CA | IAC-13.D1.3.4 |
| Förstner, Roger | CA | IAC-13.A6.5.3 |
| Förstner, Roger | CA | IAC-13.A3.5.10 |
| Förstner, Roger | CA | IAC-13.D1.6.6 |
| Fürmetz, Maria | CA | IAC-13.B4.2.6 |

## G

| Name | Role | Paper |
|---|---|---|
| G, Vinay | CA | IAC-13.B2.4.5 |
| G.N, Sri Vatsa | CA | IAC-13.B2.4.5 |
| Gaaloul, Naceur | A | IAC-13.A2.1.1 |
| Gaaloul, Naceur | CA | IAC-13.A2.1.2 |
| Gabrielli, Roland Antonius | CA | IAC-13.C4.P.33 |
| Gabrielli, Roland Antonius | CA | IAC-13.C4.7-C3.5.4 |
| Gagnon, Claude | CA | IAC-13.A3.2A.2 |
| Gaia, Enrico | CA | IAC-13.C4.7-C3.5.1 |
| Galaktionov, Alexey | A | IAC-13.C4.9.10 |
| Galand, Q. | CA | IAC-13.A2.6.5 |
| Galfetti, Luciano | CA | IAC-13.C4.P.22 |

| | | |
|---|---|---|
| Gallego, Miguel | A | IAC-13.E2.4.5 |
| Gallego, Paloma | CA | IAC-13.A3.2D.1 |
| Gallego, Paloma | CA | IAC-13.A3.3B.6 |
| Gallego Sanz, Jose Maria | CA | IAC-13.D2.6.2 |
| Gallina, Alessandro | CA | IAC-13.D6.1.8 |
| Galvez, Andres | CA | IAC-13.E6.1.6 |
| Galvez, Andres | CA | IAC-13.A3.4.8 |
| Gamgami, Farid | A | IAC-13.A5.1.7 |
| Gamgami, Farid | A | IAC-13.A3.2C.2 |
| Gamgami, Farid | A | IAC-13.B4.8.1 |
| Gancet, Jeremi | CA | IAC-13.D3.1.4 |
| Gang, Dun-dian | A | IAC-13.A2.P.2 |
| Gang, Li | CA | IAC-13.C2.1.7 |
| Ganga, Pier Luigi | CA | IAC-13.A2.3.2 |
| Ganry, Nicolas | CA | IAC-13.D1.2.8 |
| Gansmoe, Thomas | CA | IAC-13.E1.2.7 |
| Gantert, Steffen | CA | IAC-13.B1.2.8 |
| Gany, Alon | A | IAC-13.C4.9.11 |
| Gao, Chen | CA | IAC-13.A7.2.2 |
| Gao, Enyu | A | IAC-13.B6.2.7 |
| Gao, Feng | CA | IAC-13.A1.P.43 |
| Gao, Feng | CA | IAC-13.A1.P.45 |
| Gao, Feng | CA | IAC-13.A1.P.53 |
| Gao, Feng | CA | IAC-13.A1.P.54 |
| Gao, Feng | CA | IAC-13.D1.P.20 |
| Gao, Huili | CA | IAC-13.B6.2.2 |
| Gao, Ji | CA | IAC-13.A3.3C.2 |
| Gao, Jianyi | CA | IAC-13.A1.2.4 |
| Gao, Kaiyu | CA | IAC-13.A1.6.8 |
| Gao, Lijuan | CA | IAC-13.A1.P.45 |
| Gao, Ming | CA | IAC-13.B3.3.6 |
| Gao, Shiwen | A | IAC-13.E1.P.11 |
| Gao, Xin | CA | IAC-13.C2.P.43 |
| Gao, Yang | CA | IAC-13.C1.4.5 |
| Gao, Yuxing | CA | IAC-13.A1.5.1 |
| Gaponov, Valeriy | CA | IAC-13.C4.1.6 |
| Garbi, Giuliani | A | IAC-13.D1.P.13 |
| Garcia, Manuel | A | IAC-13.D1.2.6 |
| Garcia Burgos, Axel | A | IAC-13.D5.P.5 |
| Garcia Yarnoz, Daniel | CA | IAC-13.C1.7.8 |
| Garcia Yarnoz, Daniel | A | IAC-13.C1.9.6 |
| García Primo, Miguel Angel | CA | IAC-13.B1.1.4 |
| García Yárnoz, Daniel | CA | IAC-13.A2.3.3 |
| García-de-Quirós, Francisco | A | IAC-13.A3.2C.7 |
| Gardelle, Jean Paul | A | IAC-13.B1.1.5 |
| Gardi, Roberto | CA | IAC-13.D2.3.1 |
| Gargalis, Leonidas | CA | IAC-13.E5.2.1 |
| Gargalis, Leonidas | CA | IAC-13.B3.5.5 |
| Gargioli, Eugenio | CA | IAC-13.D2.4.3 |
| Gargioli, Eugenio | CA | IAC-13.A3.P.43 |
| Gargioli, Eugenio | CA | IAC-13.D3.4.12 |
| Garner, Greg | CA | IAC-13.A3.5.9 |
| Garrabos, Yves | CA | IAC-13.A2.5.5 |
| GARRABOS, Yves | A | IAC-13.A2.6.6 |
| Garrido, Basilio | CA | IAC-13.B1.1.4 |
| Garshin, Vladimir | CA | IAC-13.B3.2.5 |
| Gasbarri, Paolo | CA | IAC-13.C1.2.5 |
| Gasbarri, Paolo | CA | IAC-13.C2.2.6 |
| Gasbarri, Paolo | A | IAC-13.C2.3.5 |
| Gass, Volker | CA | IAC-13.E1.3.4 |
| Gass, Volker | CA | IAC-13.B4.6B.5 |
| Gathier, Laurent | CA | IAC-13.D6.1.5 |
| Gathier, Laurent | A | IAC-13.D6.1.7 |
| Gaudenzi, Paolo | CA | IAC-13.B4.5.10 |
| Gaudiano, Vito | CA | IAC-13.B5.1.12 |
| Gautam, Suman | A | IAC-13.E1.P.1 |
| Gauthey, Pierre-François | CA | IAC-13.E1.7.10 |
| Gaviraghi, Giorgio | A | IAC-13.D1.1.4 |
| Gaviraghi, Giorgio | A | IAC-13.D4.1.4 |
| Gaviraghi, Giorgio | A | IAC-13.D3.3.7 |
| Gaviraghi, Giorgio | A | IAC-13.D4.3.9 |
| Gaviraghi, Giorgio | A | IAC-13.D4.3.10 |
| Gaviraghi, Giorgio | A | IAC-13.D4.4.11 |
| Ge, Dongming | A | IAC-13.C1.1.7 |
| Ge, Gai | CA | IAC-13.C3.P.13 |
| Geens, Arno | CA | IAC-13.B5.2.7 |
| Gelhaus, Johannes | CA | IAC-13.A6.2.2 |
| Gelhaus, Johannes | CA | IAC-13.A6.2.3 |
| Gelhaus, Johannes | CA | IAC-13.A6.4.4 |
| Gelhaus, Johannes | CA | IAC-13.A6.P.8 |
| Gelhaus, Johannes | CA | IAC-13.A6.P.13 |
| Gelhaus, Johannes | CA | IAC-13.A6.P.14 |
| Gelhaus, Johannes | CA | IAC-13.A6.6.4 |
| Gelie, Paul | CA | IAC-13.D1.4.1 |
| Genchi, Giada | A | IAC-13.A1.P.58 |
| Genchi, Giada | CA | IAC-13.A1.P.59 |
| Geng, Hao | CA | IAC-13.B2.2.4 |
| Genta, Giancarlo | A | IAC-13.A5.P.8 |
| Genta, Giancarlo | A | IAC-13.A5.2.1 |
| Georges, Pierre | CA | IAC-13.D6.1.7 |
| Gerasimenko, Yury | CA | IAC-13.A1.P.74 |
| Gergonne, Bernard | CA | IAC-13.A6.4.7 |
| Gergonne, Bernard | CA | IAC-13.A6.3.5 |
| GERHARD, Michael | CA | IAC-13.D6.1.6 |
| Gerrits, Dennis | CA | IAC-13.B4.4.5 |
| Gerson, David | A | IAC-13.E1.3.7 |
| Gerstenmaier, William H. | A | IAC-13.B3.1.2 |
| Geurts, Koen | CA | IAC-13.A3.4.2 |
| Ghafoor, Nadeem | CA | IAC-13.A3.2A.2 |
| Ghafoor, Nadeem | CA | IAC-13.A5.4-D2.8.1 |
| Ghasemi Esfahani, Ata | CA | IAC-13.C2.P.47 |
| Ghasemzadeh, Leila | CA | IAC-13.B6.4-V.1.5 |
| Ghasemzadeh, Leila | CA | IAC-13.A6.P.17 |
| Ghasemzadeh, Leila | CA | IAC-13.A6.P.38 |
| Ghazanfarinia, Sajjad | A | IAC-13.E1.4.8 |
| Ghazarian, Sevak | CA | IAC-13.C2.P.4 |
| Ghazarian, Sevak | CA | IAC-13.E1.8.8 |
| Ghesquiers, Philippe | CA | IAC-13.B1.4.10 |
| Ghorashi, Alireza | A | IAC-13.A1.P.48 |
| Ghosh, Ashis | CA | IAC-13.E2.3-V.4.1 |
| Ghosh, Sanjoy | CA | IAC-13.A1.4.6 |
| Ghosh, Sujay | CA | IAC-13.C3.4.6 |
| Gi-Hyuk, Choi | CA | IAC-13.E1.7.12 |
| Giancotti, Marco | CA | IAC-13.C1.8.7 |
| Gianfiglio, Giacinto | CA | IAC-13.A3.3A.4 |
| Giannini, Fabio | CA | IAC-13.A3.5.4 |
| Giannopapa, Christina | CA | IAC-13.E3.1.2 |
| Giannopapa, Christina | CA | IAC-13.D4.1.9 |
| Giddens, Patrick | A | IAC-13.C4.8.3 |
| Giesen, Adolf | CA | IAC-13.A6.1.8 |
| Gil-Fernandez, Jesus | A | IAC-13.A3.5.1 |
| Gil-Fernandez, Jesus | A | IAC-13.A3.3C.10 |
| Gilbert, Chris | CA | IAC-13.B3.1.9 |
| Gill, Eberhard | CA | IAC-13.B4.7B.7 |
| Gill, Eberhard | CA | IAC-13.C1.7.3 |
| Gill, Eberhard | CA | IAC-13.D1.6.1 |
| Gillespie, Jonathan | CA | IAC-13.E2.3-V.4.2 |
| Gillon, Thomas | A | IAC-13.E7.7-B3.8.11 |
| Gily, Alessandro | CA | IAC-13.A3.3C.9 |
| Giménez, Belén | CA | IAC-13.A3.2D.1 |
| Ginati, Amnon | CA | IAC-13.B4.4.11 |
| Ginati, Amnon | CA | IAC-13.B5.1.12 |
| Ginesi, Alberto | CA | IAC-13.B4.4.11 |
| Ginesi, Alberto | CA | IAC-13.V.3-B2.8.7 |
| Ginsberg, Margery | CA | IAC-13.E1.2.8 |
| Giordano, Pietro | CA | IAC-13.A3.5.1 |
| Giorgini, Jon | CA | IAC-13.A3.4.5 |
| Giorgini, Jon | CA | IAC-13.A3.4.5 |
| GIOVANNINI, Anne | A | IAC-13.C2.2.7 |
| Giovannini, Mattia | A | IAC-13.A1.4.10 |
| Girard, Ralph | A | IAC-13.B4.2.7 |
| Girard, Ralph | A | IAC-13.B1.3.4 |
| Girard, Ralph | A | IAC-13.B4.4.12 |
| Giri, Dipak Kumar | A | IAC-13.C1.1.11 |
| Giridharadas, Radhashyam | A | IAC-13.E1.5.10 |
| Giusti, Nicola | CA | IAC-13.C4.P.37 |
| Giusti, Nicola | CA | IAC-13.C4.4.4 |
| Giusti, Nicola | CA | IAC-13.C4.4.5 |
| Gkologkina, Elli | CA | IAC-13.E5.2.1 |
| Gkologkina, Elli | CA | IAC-13.B3.5.5 |
| Glesnes-Ödegaard, Linn-Kristine | CA | IAC-13.B6.4-V.1.5 |
| GLEYZES, Alain | CA | IAC-13.E1.2.4 |
| GLEYZES, Alain | A | IAC-13.B1.2.2 |
| Gleyzes, Alain | CA | IAC-13.B1.5.7 |
| Glover, Tim | CA | IAC-13.A6.5.8 |
| Goel, Ashish | A | IAC-13.B4.2.3 |
| Gohlke, Martin | CA | IAC-13.C2.2.4 |
| Golemis, Adrianos | CA | IAC-13.A5.3-B3.6.4 |
| Gollu, Narendra | A | IAC-13.A3.P.4 |
| Golovanov, Evgeny | A | IAC-13.C3.3.5 |
| Golroo, Ali Akbar | A | IAC-13.A6.8.7 |
| Gomes, Luis | CA | IAC-13.B1.2.1 |
| Gomez, Gerard | CA | IAC-13.C1.3.10 |
| Gomez, Gerard | CA | IAC-13.C1.8.2 |
| Gomez, Gerard | CA | IAC-13.C1.8.6 |
| Gomez, Gerard | CA | IAC-13.C1.8.9 |
| Goncharenko, Marina | A | IAC-13.A2.P.8 |
| Gong, Jiancun | CA | IAC-13.A6.P.18 |
| Gong, Liang | A | IAC-13.D5.P.4 |
| Gong, Wei | CA | IAC-13.D3.P.4 |
| Gong, Xi | CA | IAC-13.D3.P.4 |
| Gong, Yongsheng | CA | IAC-13.B1.P.9 |
| Gontier, Justine | A | IAC-13.E2.2.8 |
| Gonzalez, Alberto | CA | IAC-13.B2.3.1 |
| Gonzalez Abeytua, Jose A. | CA | IAC-13.B1.4.6 |
| Gonzalo, Jesús | A | IAC-13.D1.1.3 |
| Gonzalo, Jesús | CA | IAC-13.B1.4.3 |
| Gonzalo, Jesús | A | IAC-13.B5.2.10 |
| GOORNAVAR, VIRUPAXI | A | IAC-13.A1.P.23 |
| Gopala Krishnan, V. | A | IAC-13.E7.4.8 |
| Gopinath, N.S. | CA | IAC-13.C1.4.4 |
| Gopinath, N.S. | CA | IAC-13.C1.5.4 |
| Gorodnichev, Ruslan | CA | IAC-13.A1.P.74 |
| Goropaev, Dmitry | A | IAC-13.D2.4.4 |
| Gorski, Jedrzej | A | IAC-13.E2.3-V.4.3 |
| Gosselin, Herman | CA | IAC-13.B3.4-B6.5.6 |
| Goswami, Nandu | A | IAC-13.A1.2.10 |
| Gourinat, Yves | CA | IAC-13.A1.1.1 |
| Govila, KanuPriya | A | IAC-13.C1.4.7 |
| Gołębiowska, Izabela | CA | IAC-13.B6.4-V.1.4 |
| Gołębiowska, Izabela | CA | IAC-13.B6.4-V.1.5 |
| Gracian, Rodney | CA | IAC-13.B4.2.9 |
| Gracian, Rodney | CA | IAC-13.E2.3-V.4.10 |
| Gracian, Rodney | CA | IAC-13.B5.1.9 |
| Grady, Monica | CA | IAC-13.D3.2.4 |
| Grande, Jøran | A | IAC-13.E1.2.7 |
| Grande, Jøran | A | IAC-13.E1.4.1 |
| Grande Olalla, Ignacio | CA | IAC-13.A6.7.6 |
| Grant, Cordell | CA | IAC-13.C1.1.4 |
| Grantier, Julie | CA | IAC-13.A5.4-D2.8.5 |
| Grassi, Michele | CA | IAC-13.A6.6.5 |
| Grasso, Alessandro | A | IAC-13.A3.3A.11 |
| Grasso, Alessandro | CA | IAC-13.A5.3-B3.6.4 |
| Grave, Julien | CA | IAC-13.E2.4.4 |
| Grayson, Kristian | A | IAC-13.A2.5.11 |
| Graziano, Maria Daniela | CA | IAC-13.B1.5.2 |
| Graziano, Maria Daniela | CA | IAC-13.B2.7.3 |
| Graziano, Mariella | CA | IAC-13.A6.5.6 |
| Graziola, Giancarlo | A | IAC-13.E3.3.6 |
| Greenland, Steve | CA | IAC-13.D1.P.23 |
| Greenland, Steve | CA | IAC-13.B4.3.4 |
| Greenland, Steve | CA | IAC-13.C3.4.4 |
| Gregnanin, Marco | CA | IAC-13.B1.3.10 |
| Gregory, Steve | CA | IAC-13.A6.1.5 |
| Gregucci, Stefan | CA | IAC-13.B4.6A.5 |
| Grenon, Marlene | CA | IAC-13.A1.8.7 |
| Grenouilleau, Jessica | CA | IAC-13.A5.3-B3.6.2 |
| Gridchina, Tatiana | A | IAC-13.A6.P.25 |
| Griffin, Joanna | CA | IAC-13.E1.P.15 |
| Griffin, Joanna | A | IAC-13.E1.8.6 |
| Grigoriev, Anatoly | CA | IAC-13.A1.3.4 |
| Grocott, Simon | CA | IAC-13.B1.2.5 |
| Grocott, Simon | CA | IAC-13.B4.4.10 |
| Groemer, Gernot | CA | IAC-13.B6.4-V.1.4 |
| Groemer, Gernot | CA | IAC-13.B6.4-V.1.5 |
| Groemer, Gernot | CA | IAC-13.A3.3B.3 |
| Groemer, Gernot | CA | IAC-13.A5.2.6 |
| Groenewald, Ben | A | IAC-13.E1.5.8 |
| Grootjans, Robert | CA | IAC-13.E1.3.3 |
| Grootjans, Robert | A | IAC-13.B4.6B.7 |
| Grootjans, Robert | CA | IAC-13.B4.6B.13 |
| Grootjans, Roelof | CA | IAC-13.E1.3.3 |
| Grootjans, Roelof | CA | IAC-13.B4.6B.7 |
| Grootjans, Roelof | CA | IAC-13.B4.6B.13 |
| Grotzinger, John | CA | IAC-13.A3.3A.2 |
| Groves, Keith | CA | IAC-13.B2.P.2 |
| Grzymisch, Jonathan | A | IAC-13.C1.5.3 |
| Gschwind, Benoit | CA | IAC-13.B1.5.3 |
| GU, Haibei | A | IAC-13.C2.P.54 |
| Gu, Haitao | A | IAC-13.C3.3.12 |
| Gu, Honghui | A | IAC-13.C3.P.12 |
| Gu, Xiaosong | A | IAC-13.B6.2.2 |
| GU, Yidong | CA | IAC-13.B3.3.6 |
| GU, Yidong | CA | IAC-13.A2.6.1 |
| Gu, Yin | CA | IAC-13.A1.3.7 |
| Gu, Zhenfeng | A | IAC-13.A2.P.1 |
| Guan, Gongshun | A | IAC-13.A6.P.19 |
| Guan, Gongshun | CA | IAC-13.A6.3.11 |
| Guan, Hong | A | IAC-13.C2.7.9 |
| GUAN, Peng | A | IAC-13.D1.P.1 |
| Guan, Shuanghong | CA | IAC-13.A1.4.13 |
| Guangheng, Zhao | CA | IAC-13.B3.3.6 |
| Guangying, Zhang | CA | IAC-13.D2.2.9 |
| Guariniello, Cesare | A | IAC-13.D3.1.5 |
| Guay, Alexandre | CA | IAC-13.E2.3-V.4.4 |
| Gubiev, Alan | CA | IAC-13.B4.5.2 |
| Guchenkov, Sergiy | A | IAC-13.D2.2.5 |
| Guembe, Valentina | CA | IAC-13.A3.3B.6 |
| Guerman, Anna | A | IAC-13.C1.1.6 |
| Guerrucci, Damiano | CA | IAC-13.D5.2.2 |
| Guest, Michael | CA | IAC-13.A3.3B.11 |
| Guest, Mike | CA | IAC-13.D3.2.4 |
| Gugliermetti, Franco | CA | IAC-13.C2.8.9 |
| Guhan, Sakthi | CA | IAC-13.C3.1.6 |
| Guhan, Sakthi | A | IAC-13.A3.P.36 |
| Guhan, Sakthi | CA | IAC-13.C4.P.49 |
| Guhan, Sakthi | CA | IAC-13.A3.3B.4 |
| Guhan, Sakthi | CA | IAC-13.A4.2.3 |
| Guhan, Sakthi | CA | IAC-13.A4.2.9 |
| Gui, Haichao | A | IAC-13.C1.4.12 |
| Guiberteau, Jean-christophe | CA | IAC-13.B1.3.10 |
| Guidotti, Giuseppe | CA | IAC-13.D2.6.2 |
| Guidotti, Giuseppe | CA | IAC-13.D2.6.8 |
| Guillen Salas, Alberto | CA | IAC-13.B4.6B.10 |
| Guilloud, Stéphane | CA | IAC-13.E1.7.10 |
| Guillén, Miguel | A | IAC-13.A3.3C.7 |
| Guitian, Zhang | CA | IAC-13.C4.P.66 |
| Guixe, Pol | A | IAC-13.D2.7.3 |
| Gullish, Jay | CA | IAC-13.E3.2.11 |
| Gullish, Jay | CA | IAC-13.E3.3.7 |
| Gullish, Jay | CA | IAC-13.E1.5.2 |
| Gullish, Jay | CA | IAC-13.D4.4.7 |
| Gump, David | A | IAC-13.A5.3-B3.6.12 |
| Gunga, Hanns-Christian | CA | IAC-13.A1.2.9 |
| Gunga, Hanns-Christian | CA | IAC-13.A1.3.8 |
| Guo, Botao | CA | IAC-13.D1.P.11 |
| Guo, Chaohui | A | IAC-13.B1.1.2 |
| Guo, Chengjun | CA | IAC-13.B2.1.6 |
| Guo, Chengjun | A | IAC-13.B2.4.11 |
| Guo, Chengjun | A | IAC-13.B2.7.5 |
| Guo, Heng | A | IAC-13.B2.P.31 |
| Guo, Jian | CA | IAC-13.D1.P.2 |
| Guo, Jian | CA | IAC-13.B4.7B.7 |
| Guo, Jian | CA | IAC-13.D3.3.12 |
| Guo, Jian | CA | IAC-13.C1.7.3 |
| Guo, Jian | CA | IAC-13.D1.6.1 |
| GUO, Lin-li | A | IAC-13.A5.1.3 |
| Guo, Linli | CA | IAC-13.B3.7.7 |
| Guo, Shuangsheng | CA | IAC-13.A1.P.30 |
| Guo, Shuangsheng | CA | IAC-13.A1.P.47 |

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|---|---|---|
| GUO, TINGWEI | CA | IAC-13.B5.2.7 |
| Guo, Yanping | A | IAC-13.A3.P.49 |
| Guo, Yinglong | CA | IAC-13.C4.5.3 |
| Guo cai, Li | A | IAC-13.C2.8.10 |
| Guo-chun, Liu | A | IAC-13.C2.P.8 |
| Guoai, Li | A | IAC-13.A3.1.11 |
| Guojian, Tang | CA | IAC-13.C1.8.6 |
| Guolong, He | A | IAC-13.A5.P.10 |
| Guoqiang, Xu | A | IAC-13.D2.9-D6.2.8 |
| Guozhu, Liang | CA | IAC-13.C4.3.1 |
| GUPTA, ALOK KUMAR | CA | IAC-13.B6.3.5 |
| Gupta, Charu Chandra | CA | IAC-13.A3.3A.7 |
| Gupta, Dinesh Kumar | CA | IAC-13.C1.2.8 |
| Gupta, Sonam | CA | IAC-13.B4.1.2 |
| Gupta, Sonam | CA | IAC-13.E2.3-V.4.6 |
| Gupta, Yash Vardhan | CA | IAC-13.C2.6.2 |
| Gupta, Yash Vardhan | CA | IAC-13.C2.7.7 |
| Gusev, Yuri | A | IAC-13.C4.1.9 |
| Gustetic, Jennifer | A | IAC-13.E5.1.5 |
| Gusynin, Vjacheslav | CA | IAC-13.C2.3.4 |
| Guthrie, Paul | A | IAC-13.E6.2.2 |
| Gutierrez, Andrea | CA | IAC-13.E2.4.4 |
| Gutierrez, Hector | CA | IAC-13.A2.7.4 |
| Gutierrez, Jordi L. | CA | IAC-13.B4.8.8 |
| Gutruf, Sven | CA | IAC-13.A2.7.9 |
| Guven, Ugur | CA | IAC-13.C3.1.6 |
| Guven, Ugur | CA | IAC-13.D3.1.9 |
| Guven, Ugur | CA | IAC-13.D4.1.2 |
| Guven, Ugur | CA | IAC-13.D4.1.3 |
| Guven, Ugur | A | IAC-13.D4.1.10 |
| Guven, Ugur | CA | IAC-13.A1.3.2 |
| Guven, Ugur | CA | IAC-13.A5.1.2 |
| Guven, Ugur | CA | IAC-13.C4.9.2 |
| Guven, Ugur | CA | IAC-13.D3.2.7 |
| Guven, Ugur | CA | IAC-13.D5.1.1 |
| Guven, Ugur | CA | IAC-13.E6.1.5 |
| Guven, Ugur | A | IAC-13.A3.P.15 |
| Guven, Ugur | CA | IAC-13.A3.P.25 |
| Guven, Ugur | A | IAC-13.A5.P.9 |
| Guven, Ugur | CA | IAC-13.A6.P.27 |
| Guven, Ugur | CA | IAC-13.B2.P.16 |
| Guven, Ugur | CA | IAC-13.D2.P.20 |
| Guven, Ugur | A | IAC-13.E1.P.6 |
| Guven, Ugur | A | IAC-13.E5.P.4 |
| Guven, Ugur | CA | IAC-13.A1.5.3 |
| Guven, Ugur | CA | IAC-13.A5.2.9 |
| Guven, Ugur | CA | IAC-13.A4.2.9 |
| Guven, Ugur | CA | IAC-13.B2.4.8 |
| Guven, Ugur | A | IAC-13.E4.2.9 |
| Guven, Ugur | CA | IAC-13.B6.3.7 |
| Guven, Ugur | CA | IAC-13.C2.7.1 |
| Guven, Ugur | CA | IAC-13.C4.6.6 |
| Guven, Ugur | A | IAC-13.C4.6.10 |
| Guven, Ugur | A | IAC-13.E5.5.2 |
| Guven, Ugur | CA | IAC-13.B3.7.8 |
| Guven, Ugur | CA | IAC-13.B6.1.10 |
| Guven, Ugur | CA | IAC-13.C4.7-C3.5.7 |
| Guven, Ugur | CA | IAC-13.D4.4.9 |
| Guven, Ugur | A | IAC-13.D5.3.4 |
| Guven, Ugur | A | IAC-13.E6.2.13 |
| Guven, Ugur | CA | IAC-13.A1.8.8 |
| Guven, Ugur | CA | IAC-13.C4.8.11 |
| Guven, Ugur | CA | IAC-13.E1.9.8 |
| Guzman, Camilo | A | IAC-13.E3.1.12 |
| Guzman, Camilo | A | IAC-13.E7.3.1 |
| Guzman, Michelle | A | IAC-13.C2.P.19 |
| Guédron, Sylvain | A | IAC-13.D2.1.6 |
| Gómez, Felipe | A | IAC-13.A1.5.12 |

## H

| Name | Role | Paper |
|---|---|---|
| H. M, Ravi Kumar | CA | IAC-13.C3.4.6 |
| H. Strenge, Joachim | CA | IAC-13.E2.4.4 |
| H.G., RANJITH | CA | IAC-13.C3.4.6 |
| Ha, Kong | CA | IAC-13.C1.3.1 |
| Ha, Yue | A | IAC-13.A6.3.11 |
| Haarmann, Richard | CA | IAC-13.A3.2A.9 |
| Habshee, jafar ali | CA | IAC-13.E2.2.1 |
| Hack, Kurt | CA | IAC-13.C4.6.4 |
| Hacke, Ewoud | A | IAC-13.E7.1.13 |
| Hackmann, Eva | CA | IAC-13.A2.1.8 |
| Hadadi, Reza | A | IAC-13.D4.3.3 |
| Hadaller, Adam | A | IAC-13.B4.5.6 |
| Haeuplik-Meusburger, Sandra | CA | IAC-13.E1.P.13 |
| Haeuplik-Meusburger, Sandra | A | IAC-13.A5.2.6 |
| Haggerty, Dennis | CA | IAC-13.A1.4.6 |
| Hagolle, Olivier | CA | IAC-13.B6.2.10 |
| Hahmann, Thomas | CA | IAC-13.B1.4.4 |
| Hahn, Inseob | CA | IAC-13.A2.5.5 |
| Hahn, Inseob | CA | IAC-13.A2.6.6 |
| Hai Tao, Nan | A | IAC-13.B2.4.13 |
| Hai-long, Liu | CA | IAC-13.C2.1.7 |
| Hai-qun, Chen | CA | IAC-13.C2.P.41 |
| Haicheng, Shao | A | IAC-13.C2.P.27 |
| Haicheng, Shao | CA | IAC-13.C2.P.28 |
| Haider, Olivia | CA | IAC-13.A3.3B.3 |
| Hailong, Li | A | IAC-13.B6.1.1 |
| Haipeng, Chen | A | IAC-13.E4.3.4 |
| Haixiao, Zhuang | A | IAC-13.A1.5.5 |
| Haiyang, Zhang | CA | IAC-13.C3.2.7 |
| Haiyun, Wang | CA | IAC-13.C2.8.10 |
| Hajialigol, Saeed | CA | IAC-13.A1.P.48 |
| Halim, Dunant | A | IAC-13.C2.5.1 |
| Hall, Selena | CA | IAC-13.A5.1.4 |
| Hallikainen, Martti | CA | IAC-13.B4.2.2 |
| Halloway, Lisa | CA | IAC-13.B5.1.12 |
| Halpern, Bruce | CA | IAC-13.A1.P.6 |
| Hamachi, Katsuya | CA | IAC-13.D4.3.6 |
| HAMADA-PORET, Shizuko | A | IAC-13.E4.2.8 |
| Hambloch, Patrick | A | IAC-13.D5.2.5 |
| Hamel, Jean-Francois | CA | IAC-13.A3.2B.3 |
| Hamel, Jean-Francois | CA | IAC-13.A3.P.22 |
| Hamm, Seung Beom (Bill) | CA | IAC-13.A5.3-B3.6.4 |
| Han, Chao | CA | IAC-13.B2.1.11 |
| Han, Chao | CA | IAC-13.B2.1.12 |
| Han, Chao | CA | IAC-13.B2.P.15 |
| Han, Chao | CA | IAC-13.B2.P.33 |
| Han, Daxiong | A | IAC-13.A1.P.35 |
| Han, Fei | A | IAC-13.C1.3.5 |
| Han, jia cen | A | IAC-13.B2.6.9 |
| Han, Lei | A | IAC-13.A6.P.18 |
| Han, Sang-Hyuck | CA | IAC-13.E1.7.12 |
| Han, Songtao | A | IAC-13.B2.P.6 |
| Han, Songtao | CA | IAC-13.B2.P.14 |
| Han, Songtao | CA | IAC-13.B2.4.14 |
| Han, Tong | A | IAC-13.B2.P.33 |
| Han, Yu | A | IAC-13.D2.P.7 |
| Hanada, Toshiya | CA | IAC-13.A6.1.9 |
| Hanlun, Lei | CA | IAC-13.A5.P.11 |
| Hansen, Rik | A | IAC-13.E7.P.9 |
| Hansen, Rik | CA | IAC-13.E7.7-B3.8.7 |
| Hao, Li | A | IAC-13.A1.3.9 |
| Hao, Li | A | IAC-13.B3.5.2 |
| Hao, Li | A | IAC-13.B6.1.3 |
| Hao, Ting | A | IAC-13.C1.4.9 |
| Hao, Tong | A | IAC-13.A1.P.60 |
| Hao, Xifan | CA | IAC-13.A3.3A.5 |
| Hao, Zhu | CA | IAC-13.C4.2.6 |
| Hao, Zhu | A | IAC-13.C4.9.4 |
| Haojun, Jiao | A | IAC-13.C2.P.60 |
| Haoliang, Ding | A | IAC-13.C2.5.11 |
| Haolin, Li | CA | IAC-13.A3.P.24 |
| Haoyu, Li | CA | IAC-13.C2.5.6 |
| Hara, Susumu | CA | IAC-13.C1.3.8 |
| Harada, Chikara | A | IAC-13.B3.1.4 |
| HARDY, CHARLES | CA | IAC-13.B4.6B.6 |
| Harle, Tom | CA | IAC-13.B4.6A.3 |
| Harlow, John | A | IAC-13.E4.1.3 |
| Harp, Gerald (Gerry) | CA | IAC-13.A4.1.2 |
| Harpur, James | CA | IAC-13.B5.2.7 |
| Harrington, Steve | CA | IAC-13.C4.3.9 |
| Harris, Robert | CA | IAC-13.D1.P.29 |
| Hartman, Birgit | CA | IAC-13.E1.5.4 |
| Haruta, Ishio | A | IAC-13.D5.3.12 |
| Hasegawa, Sunao | CA | IAC-13.A6.3.1 |
| Hasegawa, Yoichi | A | IAC-13.B3.3.8 |
| Hasegawa, Yoichi | A | IAC-13.E1.P.12 |
| Hasegawa, Yoshiyuki | A | IAC-13.B3.1.4 |
| Hashimoto, Tatsuaki | A | IAC-13.A3.2A.4 |
| HASHIMOTO, Tomoyuki | A | IAC-13.C4.1.8 |
| Hashimoto, Yasuaki | A | IAC-13.E7.4.13 |
| Haskamp, Christoph | CA | IAC-13.C1.3.12 |
| Hassani, Mahdi | CA | IAC-13.E1.4.9 |
| Hatcher, Richard | CA | IAC-13.C4.8.3 |
| Hatton, Jason | CA | IAC-13.B3.3.2 |
| Hattori, Maki | CA | IAC-13.A6.1.9 |
| Haubold, Hans | CA | IAC-13.E3.2.5 |
| Haumann, Lutz | CA | IAC-13.A2.5.9 |
| Hauschild, Swantje | CA | IAC-13.A1.7.10 |
| Hauser, Danièle | CA | IAC-13.B1.2.9 |
| Hauslage, Jens | CA | IAC-13.D4.4.4 |
| Hausmann, Gerrit | CA | IAC-13.A6.6.11 |
| Hay, Craig | A | IAC-13.E2.3-V.4.2 |
| He, Huan | A | IAC-13.D1.P.27 |
| He, Jia | A | IAC-13.A7.2.5 |
| He, Jiali | CA | IAC-13.C4.3.6 |
| He, Jialiang | A | IAC-13.A3.P.45 |
| He, Jinpeng | CA | IAC-13.A1.4.11 |
| He, Li | CA | IAC-13.A1.1.2 |
| He, Li | CA | IAC-13.A1.2.1 |
| He, Li | CA | IAC-13.A1.3.8 |
| He, Liang | CA | IAC-13.C1.3.5 |
| He, Liang | CA | IAC-13.A3.3A.9 |
| He, Shengmao | CA | IAC-13.C1.7.7 |
| He, Yanchao | CA | IAC-13.A3.3C.2 |
| He, Yu | CA | IAC-13.B3.2.10 |
| He, Yujian | A | IAC-13.A1.P.36 |
| He, Zhen | CA | IAC-13.C4.P.32 |
| He, Zhen | CA | IAC-13.C4.P.35 |
| He, Zhen | CA | IAC-13.C4.P.45 |
| He, Zhen | CA | IAC-13.C4.P.51 |
| He, Zhen | CA | IAC-13.C4.P.53 |
| He, Zhen | CA | IAC-13.C4.8.8 |
| Hebbale Narayana, Nagaraj | CA | IAC-13.B6.3.5 |
| Hegde, Sandesh Rathnavarma | A | IAC-13.E2.4.7 |
| Hegde, Uday | CA | IAC-13.A2.5.5 |
| Heidmann, Richard | CA | IAC-13.A5.4-D2.8.7 |
| Heiligers, Jeannette | CA | IAC-13.C2.5.4 |
| Heiligers, Jeannette | A | IAC-13.C1.8.3 |
| Heimonen, Hermanni | CA | IAC-13.E1.2.1 |
| Heldens, Jules | CA | IAC-13.D2.7.7 |
| Helleren, Øystein | CA | IAC-13.B4.3.1 |
| Hempsell, Mark | A | IAC-13.D2.4.6 |
| Hendriks, Kevin | CA | IAC-13.E1.P.3 |
| Heng, Gang | CA | IAC-13.A3.3A.8 |
| HengNian, Li | A | IAC-13.B2.1.10 |
| HengNian, Li | CA | IAC-13.B2.P.4 |
| HengNian, Li | CA | IAC-13.B3.P.7 |
| Henn, Norbert | CA | IAC-13.A3.1.9 |
| Henn, Norbert | CA | IAC-13.A2.7.9 |
| HENOCQUE, Johann | A | IAC-13.D2.3.2 |
| HENRI, Yvon | A | IAC-13.E7.3.4 |
| Henry, Andrew | CA | IAC-13.E1.P.2 |
| Henwood, Brienna | A | IAC-13.E6.2.3 |
| Herdrich, Georg | CA | IAC-13.A3.2B.6 |
| Herdrich, Georg | CA | IAC-13.C4.P.33 |
| Herdrich, Georg | CA | IAC-13.C4.7-C3.5.4 |
| Herman, Daniel | CA | IAC-13.C4.6.4 |
| Herman, Garth | CA | IAC-13.A3.2D.2 |
| Hermetz, Jean | CA | IAC-13.D2.7.8 |
| Hermosilla, Isaac | CA | IAC-13.A3.P.29 |
| Hernandez, J. Eduardo | CA | IAC-13.A3.P.51 |
| Herrmann, Nicole | A | IAC-13.E5.1.6 |
| Herrmann, Nicole | CA | IAC-13.E1.9.7 |
| Herrmann, Sven | CA | IAC-13.A2.1.1 |
| Herrmann, Sven | CA | IAC-13.A2.1.4 |
| Hertzfeld, Henry | CA | IAC-13.E3.2.8 |
| Hertzfeld, Henry | A | IAC-13.E7.2.1 |
| Hertzfeld, Michelle | CA | IAC-13.B1.6.3 |
| Herzog, Johannes | CA | IAC-13.A6.1.3 |
| Heslinga, Dick | CA | IAC-13.B1.5.3 |
| Hettrich, Sebastian | CA | IAC-13.B6.4-V.1.4 |
| Hettrich, Sebastian | A | IAC-13.B6.4-V.1.5 |
| Hew, Yayu Monica | A | IAC-13.C2.5.7 |
| Hibbins, Robert | CA | IAC-13.B4.4.4 |
| Hibbitts, Karl | CA | IAC-13.A3.P.41 |
| Hicks, Michael | CA | IAC-13.A2.5.5 |
| Higashide, Masumi | A | IAC-13.A6.3.1 |
| Hilbich, Daniel | CA | IAC-13.C2.5.2 |
| Hill, Hugh | CA | IAC-13.E1.P.2 |
| Hill, Juergen | CA | IAC-13.A3.1.2 |
| Hill, Juergen | CA | IAC-13.A3.1.3 |
| Hill, Juergen | A | IAC-13.A3.1.9 |
| Hill, Juergen | CA | IAC-13.B3.1.8 |
| Hill, Juergen | CA | IAC-13.A3.P.8 |
| Himeno, Takehiro | A | IAC-13.C4.P.28 |
| Hinghofer-Szalkay, Helmut | CA | IAC-13.A1.2.11 |
| Hinglais, Emmanuel | CA | IAC-13.A3.P.44 |
| Hipkin, Victoria | CA | IAC-13.E3.2.7 |
| Hiraiwa, Tetsuo | CA | IAC-13.C1.6.13 |
| Hirayama, Ryoichi | CA | IAC-13.A1.4.11 |
| Hirschmüller, Heiko | CA | IAC-13.A3.2A.9 |
| Hlatywayo, Dumisani John | CA | IAC-13.B5.1.1 |
| Ho, Tra-Mi | CA | IAC-13.A3.4.6 |
| Hobbs, Stephen | CA | IAC-13.C1.1.3 |
| Hobbs, Stephen | CA | IAC-13.A6.4.9 |
| Hobbs, Stephen | CA | IAC-13.D2.7.3 |
| Hobe, Stephan | A | IAC-13.E3.5-E7.6.1 |
| Hofer, Stefan | CA | IAC-13.B1.3.1 |
| Hoffman, Edward J. | A | IAC-13.E1.5.9 |
| Hoffman, Jeffrey | CA | IAC-13.A5.3-B3.6.3 |
| Hoffmann, Alexander | CA | IAC-13.A5.P.5 |
| Hofmann, Mahulena | A | IAC-13.E7.3.9 |
| Hofmann, Peter | A | IAC-13.B4.2.4 |
| Hofmann, Peter | A | IAC-13.A3.2A.9 |
| Hofmann, Peter | A | IAC-13.A3.3B.7 |
| Hofmann, Peter | A | IAC-13.A2.7.9 |
| Hofmann, Sven | CA | IAC-13.D4.1.9 |
| Hoheneder, Waltraut | CA | IAC-13.D3.1.4 |
| Holicker, Charles | CA | IAC-13.A2.7.4 |
| Holladay, Jon | A | IAC-13.D2.3.11 |
| Holotnak, Tristan | CA | IAC-13.B3.5.6 |
| Holschuh, Bradley | A | IAC-13.A1.6.3 |
| Homeister, Maren | CA | IAC-13.D3.2.5 |
| Hong, Cheng | CA | IAC-13.A3.P.24 |
| Hong, Cui | CA | IAC-13.C2.2.5 |
| Hong, Cui | CA | IAC-13.C2.P.26 |
| Hong, Gang | A | IAC-13.C4.7-C3.5.5 |
| Hong, Mi | CA | IAC-13.B2.3.13 |
| Hong, Xiaoyu | CA | IAC-13.A7.1.7 |
| Hong, Yanji | CA | IAC-13.C4.9.6 |
| Hongbao, Li | CA | IAC-13.B2.P.10 |
| Hongbin, SHI | CA | IAC-13.C2.4.7 |
| Hongbin, SHI | A | IAC-13.C2.4.9 |
| Hongdong, YANG | A | IAC-13.C3.P.4 |
| Hongfei, He | A | IAC-13.A3.3B.9 |
| Hongfeng, Wang | A | IAC-13.B2.P.26 |
| Hongfeng, Wang | A | IAC-13.D5.P.1 |
| Hongke, Ren | CA | IAC-13.B2.P.25 |
| Hongqi, Feng | CA | IAC-13.A1.6.5 |
| Hongxia, Liu | CA | IAC-13.A1.P.37 |
| Hongyu, Xie | A | IAC-13.C4.P.12 |
| Honne, Atle | CA | IAC-13.A2.7.9 |
| Hoofs, Raymond | CA | IAC-13.A3.5.4 |
| Hoogeveen, Ruud | CA | IAC-13.B1.3.2 |
| Hopkins, Josh | A | IAC-13.A5.1.4 |
| Hopkins, Josh | A | IAC-13.A5.4-D2.8.1 |
| Hopkins, Josh | CA | IAC-13.A5.4-D2.8.4 |

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|---|---|---|
| Horbury, Timothy S. | A | IAC-13.B4.6B.15 |
| Hori, Keiichi | CA | IAC-13.C4.2.9 |
| Hori, Keiichi | CA | IAC-13.C4.3.2 |
| Horiike, Takaya | CA | IAC-13.D4.3.6 |
| Horneck, Gerda | A | IAC-13.E3.2.1 |
| Horneck, Gerda | CA | IAC-13.A1.5.12 |
| Hornig, Andreas | A | IAC-13.D3.2.5 |
| Hornig, Andreas | A | IAC-13.E1.8.7 |
| Hornig, Andreas | A | IAC-13.B4.3.11 |
| Horowitz, Paul | CA | IAC-13.A4.1.6 |
| Horri, Nadjim Mehdi | CA | IAC-13.C1.2.3 |
| Hoshikawa, Riki | CA | IAC-13.B3.2.8 |
| Hoshino, Takeshi | CA | IAC-13.A3.2A.4 |
| Hosseni, Samira | CA | IAC-13.B4.3.9 |
| Hou, Chunyu | A | IAC-13.B2.P.23 |
| Hou, Jianwen | A | IAC-13.A3.3A.8 |
| Hou, Jianwen | A | IAC-13.A3.3A.9 |
| Hou, Jie | CA | IAC-13.E3.3.8 |
| Hou, Mingqiang | A | IAC-13.A6.3.9 |
| Hou, Xinbin | CA | IAC-13.C3.2.4 |
| Hou, Xinbin | CA | IAC-13.C3.2.5 |
| Hou, Xinbin | CA | IAC-13.C2.P.11 |
| Hou, Xiong | CA | IAC-13.D5.2.1 |
| Hou, Yanze | CA | IAC-13.B3.7.7 |
| Hou, Yunyi | CA | IAC-13.A3.3A.8 |
| Houdu, Guillaume | CA | IAC-13.A5.3-B3.6.4 |
| Houge, Torbjørn | CA | IAC-13.E1.4.1 |
| HOUPERT, Laurence | A | IAC-13.B6.2.10 |
| Howard, Diane | A | IAC-13.E7.5.2 |
| Howell, Kathleen | CA | IAC-13.C1.7.12 |
| Howells, Catherine | A | IAC-13.E3.2.8 |
| Hrabovský, Jan | A | IAC-13.C2.8.6 |
| Hu, Baojun | CA | IAC-13.C2.9.9 |
| Hu, ChangWei | A | IAC-13.D2.P.22 |
| Hu, Haijing | A | IAC-13.A3.P.48 |
| HU, Jianxin | A | IAC-13.C4.9.3 |
| HU, Jianxin | CA | IAC-13.C4.P.69 |
| Hu, Lifang | A | IAC-13.A1.7.3 |
| Hu, Min | A | IAC-13.D1.1.8 |
| Hu, Min | A | IAC-13.D4.1.7 |
| Hu, Quan | A | IAC-13.C2.P.18 |
| Hu, Shengchao | A | IAC-13.A2.P.4 |
| HU, Songjie | CA | IAC-13.B2.1.1 |
| HU, Songjie | CA | IAC-13.B2.4.14 |
| HU, Songjie | A | IAC-13.C1.9.7 |
| Hu, Tiancun | A | IAC-13.B2.5.11 |
| Hu, W.R. | A | IAC-13.A2.3.7 |
| Hu, Wentao | CA | IAC-13.A1.4.11 |
| Hu, Xuemei | CA | IAC-13.B2.1.9 |
| Hu, Zhenyu | CA | IAC-13.A3.P.21 |
| Hu, Zi-Jun | CA | IAC-13.C2.P.24 |
| Hu, Zi-Jun | CA | IAC-13.C2.P.29 |
| Hua, Yuan | CA | IAC-13.C4.3.3 |
| Hua, Zhao | CA | IAC-13.B1.P.8 |
| Huairong, Shen | CA | IAC-13.A6.P.16 |
| Hualan, Zhang | CA | IAC-13.C2.3.13 |
| Huan, Che | A | IAC-13.B2.P.24 |
| Huang, Bing | CA | IAC-13.D2.5.4 |
| Huang, Fuyou | A | IAC-13.D2.P.4 |
| Huang, Hai | CA | IAC-13.C2.3.1 |
| Huang, Hai | CA | IAC-13.V.3-B2.8.5 |
| Huang, Hao | CA | IAC-13.A3.2B.2 |
| Huang, Huan | A | IAC-13.D1.4.2 |
| Huang, Huan | CA | IAC-13.A6.6.8 |
| Huang, Hui | CA | IAC-13.A6.P.23 |
| Huang, Hui | CA | IAC-13.D2.5.4 |
| Huang, Jie | CA | IAC-13.A6.3.2 |
| Huang, Jie | CA | IAC-13.A6.3.7 |
| Huang, Jie | CA | IAC-13.A6.3.10 |
| Huang, Jun | A | IAC-13.A3.3B.1 |
| Huang, Li | CA | IAC-13.C3.3.12 |
| Huang, Lin | A | IAC-13.D1.6.1 |
| Huang, Liya | CA | IAC-13.C4.P.69 |
| Huang, Qiang | CA | IAC-13.C4.3.12 |
| Huang, Shiyong | A | IAC-13.C2.5.11 |
| Huang, Xiyuan | A | IAC-13.D2.9-D6.2.9 |
| Huang, Yuping | CA | IAC-13.C1.2.2 |
| Huang, Yuping | CA | IAC-13.C2.9.9 |
| Huayong, Qiu | A | IAC-13.C2.1.6 |
| Hubault, Armelle | CA | IAC-13.A3.4.1 |
| Hubbard, Scott | CA | IAC-13.C4.2.8 |
| Hubbard, Scott | CA | IAC-13.B4.5.7 |
| Hubbard, Scott | CA | IAC-13.C2.7.11 |
| Hubert, Guillaume | A | IAC-13.D5.3.9 |
| Huebner, Karl-Heinz | CA | IAC-13.B2.3.9 |
| Huesing, Jakob | A | IAC-13.D1.P.26 |
| Hufenbach, Bernhard | CA | IAC-13.A3.1.2 |
| Hufenbach, Bernhard | A | IAC-13.B3.1.8 |
| Hufenbach, Bernhard | CA | IAC-13.B3.1.9 |
| Hufenbach, Bernhard | CA | IAC-13.A3.P.8 |
| Hufenbach, Bernhard | CA | IAC-13.A5.4-D2.8.4 |
| Hui, Chen | A | IAC-13.C4.3.10 |
| Hui, Wang | CA | IAC-13.D2.9-D6.2.8 |
| Hui, Yang | A | IAC-13.B2.6.10 |
| Huilong, Wang | A | IAC-13.D2.P.1 |
| Hunter, Jean | CA | IAC-13.A1.P.6 |
| Huovelin, Juhani | CA | IAC-13.A3.5.1 |
| Hupfer, Jan | A | IAC-13.A6.3.5 |
| Hurley, Dana | CA | IAC-13.A1.4.6 |
| Huszak, Arpad | CA | IAC-13.B2.2.12 |
| Hutao, Cui | CA | IAC-13.A3.P.39 |
| Hutchinson, Ian | CA | IAC-13.A3.3B.6 |
| Hutchison-Johnston, Susan | CA | IAC-13.A2.6.9 |
| Huy, Le Xuan | A | IAC-13.C1.2.4 |
| Hwang, Yoola | CA | IAC-13.A6.7.7 |
| Hyde, Truell | CA | IAC-13.A3.2B.6 |
| Hyvönen, Petrus | A | IAC-13.B1.4.5 |
| Hörschgen-Eggers, Marcus | CA | IAC-13.A2.5.10 |
| Hürlimann, Eva | CA | IAC-13.A1.7.10 |

## I

| Name | Role | Paper |
|---|---|---|
| Iafolla, Valerio | CA | IAC-13.A3.P.50 |
| Ianelli, Samantha | CA | IAC-13.C2.4.1 |
| Ibarmia, Sergio | CA | IAC-13.A3.3B.6 |
| Ichimura, Shuichi | CA | IAC-13.B3.2.8 |
| Idarraga-Munoz, John | CA | IAC-13.A1.4.2 |
| Idziak, Luke | A | IAC-13.B2.7.4 |
| Idziak, Luke | CA | IAC-13.B5.2.7 |
| Iess, Luciano | A | IAC-13.A3.P.50 |
| Ignjatovic Stupar, Danijela | CA | IAC-13.D4.1.1 |
| Ignjatovic Stupar, Danijela | A | IAC-13.B1.2.10 |
| Ignjatovic Stupar, Danijela | CA | IAC-13.B5.2.7 |
| Ikenaga, Toshinori | A | IAC-13.C1.6.13 |
| Ilbis, Erik | CA | IAC-13.B4.2.10 |
| Ilbis, Erik | CA | IAC-13.C3.4.2 |
| Ilbis, Erik | CA | IAC-13.C3.4.8 |
| Iles, Peter | CA | IAC-13.A3.2B.3 |
| Ilin, Andrew | CA | IAC-13.A6.5.8 |
| Ilves, Taavi | CA | IAC-13.C3.4.8 |
| Ilzkovitz, Michel | CA | IAC-13.D3.1.4 |
| Imada, Takane | CA | IAC-13.D2.3.3 |
| Imai, Shigeru | A | IAC-13.B4.5.4 |
| Imaki, Kazuya | A | IAC-13.B3.2.7 |
| Imaki, Kazuya | CA | IAC-13.B4.5.4 |
| Imhof, Anna Barbara | CA | IAC-13.D3.1.4 |
| Immel, Thomas | A | IAC-13.B4.6B.15 |
| Imoto, Takayuki | CA | IAC-13.D2.1.2 |
| Impinna, Fabrizio | CA | IAC-13.A5.P.8 |
| Inbar, Tal | A | IAC-13.E1.6.6 |
| Inbar, Tal | A | IAC-13.E4.2.6 |
| Inbar, Tal | A | IAC-13.E4.2.7 |
| Inbar, Tal | A | IAC-13.E5.6.2 |
| Indrigo, Dennis | CA | IAC-13.A3.3B.11 |
| Ingala, Dominique | A | IAC-13.A4.1.3 |
| Ingley, Richard | CA | IAC-13.A3.3B.6 |
| Inguimbert, Christophe | CA | IAC-13.D5.3.9 |
| Innocenti, Luisa | CA | IAC-13.D1.P.26 |
| Inoue, Koichi | CA | IAC-13.B4.6A.2 |
| Inoue, Ryota | A | IAC-13.E2.2.3 |
| Inumoh, Lawrence | A | IAC-13.C1.2.3 |
| IRWIN, ERIN | CA | IAC-13.B4.6B.6 |
| Ishii, Nobuaki | CA | IAC-13.C1.6.13 |
| Ishikawa, Keitaro | CA | IAC-13.C4.P.28 |
| Ishikawa, Yoji | A | IAC-13.D4.3.6 |
| Istasse, Eric | CA | IAC-13.B3.3.2 |
| Ito, Atsuyo | A | IAC-13.E7.5.11 |
| Ito, Takashi | CA | IAC-13.D2.5.5 |
| Ito, Yuki | CA | IAC-13.C4.4.2 |
| Ivanov, Alexander | CA | IAC-13.A2.7.6 |
| Ivanov, Anton | CA | IAC-13.E2.1.1 |
| Ivanov, Anton | A | IAC-13.E1.3.4 |
| Ivanov, Anton | CA | IAC-13.B4.6B.5 |
| Ivanov, Gennady | CA | IAC-13.A1.8.5 |
| Ivanov, Nikolay | CA | IAC-13.C4.P.31 |
| Ivanov, Victor | CA | IAC-13.B6.2.3 |
| Ivanov, Victor | A | IAC-13.D3.P.2 |
| Ivanov, Victor | CA | IAC-13.A6.7.5 |
| Ivanov, Victor | CA | IAC-13.A3.3C.11 |
| Ivanova, Alevtina | A | IAC-13.A2.P.7 |
| Ivashkin, Vyacheslav V. | A | IAC-13.C1.7.10 |
| Iwai, Shunsuke | A | IAC-13.D5.3.10 |
| Iwaizumi, Daisuke | A | IAC-13.B2.1.7 |
| Iwaoka, Takeo | CA | IAC-13.D4.3.6 |
| Iwase, Satoshi | A | IAC-13.A1.2.6 |
| Iwase, Satoshi | A | IAC-13.A1.8.1 |
| Iwashita, Masashi | CA | IAC-13.C3.1.8 |
| Iwata, Minoru | CA | IAC-13.D5.3.10 |
| Izzo, Dario | CA | IAC-13.E6.1.6 |
| Izzo, Dario | CA | IAC-13.C1.7.13 |

## J

| Name | Role | Paper |
|---|---|---|
| J, Sadhana | CA | IAC-13.E1.6.8 |
| J, Spandana | CA | IAC-13.E1.6.8 |
| J. Espy, Patrick | CA | IAC-13.B4.4.4 |
| Jacobs, Carla | CA | IAC-13.B3.4-B6.5.2 |
| Jaegle, Martin | CA | IAC-13.C4.7-C3.5.6 |
| Jafar-Salehi, Elham | A | IAC-13.A2.2.6 |
| Jaffe, Paul | A | IAC-13.C3.2.1 |
| Jagannath, Sahana | CA | IAC-13.E1.6.8 |
| Jagannath, Shobha | CA | IAC-13.E1.6.8 |
| Jagtman, Ellen | CA | IAC-13.B5.1.8 |
| Jaguste, Rohan | CA | IAC-13.A5.3-B3.6.6 |
| Jah, Moriba | CA | IAC-13.A6.2.8 |
| Jah, Moriba | CA | IAC-13.A6.P.10 |
| Jain, Adesh | CA | IAC-13.E1.5.10 |
| Jain, Chirag | CA | IAC-13.E7.P.14 |
| JAISWAL, SUDHANSHU | CA | IAC-13.E2.3-V.4.6 |
| Jakhotia, Prerana | CA | IAC-13.E2.4.8 |
| Jakhu, Ram S. | A | IAC-13.E7.3.3 |
| Jakhu, Ram S. | A | IAC-13.E7.5.3 |
| Jakobsson, Björn | CA | IAC-13.C1.5.13 |
| Jakubek, Jan | CA | IAC-13.A1.4.2 |
| James, Philippe | CA | IAC-13.C4.3.5 |
| Janhunen, Pekka | CA | IAC-13.B4.2.2 |
| Janhunen, Pekka | CA | IAC-13.B4.2.10 |
| Janoth, Juergen | CA | IAC-13.B1.2.8 |
| Janovsky, Rolf | CA | IAC-13.D2.4.1 |
| Janovsky, Rolf | CA | IAC-13.A6.6.4 |
| Jansen, Frank | CA | IAC-13.C4.7-C3.5.1 |
| Jansen, Frank | CA | IAC-13.C4.7-C3.5.4 |
| Janus, Szymon | CA | IAC-13.E1.7.1 |
| Jaquet, Mathieu | A | IAC-13.E1.7.10 |
| JAREDSON, Daniel | CA | IAC-13.D2.5.1 |
| Jarvis, David | CA | IAC-13.B3.3.2 |
| Jaumann, Ralf | CA | IAC-13.A3.2A.9 |
| Jaumann, Ralf | CA | IAC-13.A3.4.6 |
| Jaus, Fabian | CA | IAC-13.E1.P.3 |
| Jazar, Reza | CA | IAC-13.C1.1.10 |
| Jazebizadeh, Hooman | A | IAC-13.V.3-B2.8.5 |
| Jazebizadeh, Hooman | CA | IAC-13.B2.5.4 |
| Jean, Sabbagh | CA | IAC-13.B3.3.4 |
| Jean, Sabbagh | CA | IAC-13.A3.P.8 |
| Jens, Elizabeth | A | IAC-13.C4.2.8 |
| Jensen, Arild José | CA | IAC-13.B1.1.9 |
| Jensen, Arild José | CA | IAC-13.B6.2.1 |
| Jeon, Moon-Jin | A | IAC-13.C3.3.4 |
| Jesus, Antonio Delson | A | IAC-13.A6.P.15 |
| Jethani, Henna | CA | IAC-13.A1.P.21 |
| Ji, Chen | A | IAC-13.D2.6.10 |
| Ji, Guohua | CA | IAC-13.A1.3.8 |
| JI, Jialong | A | IAC-13.C4.6.1 |
| JI, Zhiliang | A | IAC-13.A1.P.33 |
| Ji, Zhipo | CA | IAC-13.C3.P.9 |
| Jia, Wei | A | IAC-13.A3.3C.8 |
| Jia, Xianghong | A | IAC-13.A1.4.12 |
| Jia, Yinghong | CA | IAC-13.C2.P.18 |
| Jia, Yinghong | CA | IAC-13.C1.5.6 |
| Jian, Wang | CA | IAC-13.B5.2.3 |
| JIAN, YANG | CA | IAC-13.A5.3-B3.6.10 |
| Jian-qiang, Tu | A | IAC-13.C2.P.41 |
| Jianchao, Han | CA | IAC-13.A3.P.19 |
| Jianchao, Jiao | A | IAC-13.A3.1.10 |
| Jianfeng, Lu | CA | IAC-13.C3.3.1 |
| Jianfeng, Lu | CA | IAC-13.C3.P.6 |
| Jiang, Lijun | CA | IAC-13.A1.7.9 |
| Jiang, Rongpei | A | IAC-13.C4.9.12 |
| Jiang, Shengyuan | CA | IAC-13.A3.2C.3 |
| Jiang, Shichen | CA | IAC-13.A3.P.38 |
| Jiang, Xiuqiang | CA | IAC-13.C1.3.4 |
| Jiang, Xiuqiang | CA | IAC-13.A3.3C.4 |
| Jiang, Yaxiang | CA | IAC-13.B2.2.4 |
| Jiang, Yong | CA | IAC-13.B2.P.19 |
| Jiangchuan, Huang | A | IAC-13.A3.2B.2 |
| Jianguo, Huang | A | IAC-13.D5.3.13 |
| Jianhua, Zheng | CA | IAC-13.C1.6.12 |
| Jianjun, Bai | CA | IAC-13.C4.1.12 |
| Jianmin, WANG | A | IAC-13.D2.9-D6.2.5 |
| Jianping,Zhang Zhe,Xu Wenlong,He xingxing,Zhang Bin,Wei ming, Guo | CA | IAC-13.C2.P.45 |
| JIANWEI, ZHANG | CA | IAC-13.A5.3-B3.6.10 |
| Jianxi, Xu | CA | IAC-13.C2.8.10 |
| Jiao, Xinxin | CA | IAC-13.D2.P.8 |
| Jiawei, Ni | A | IAC-13.C3.3.1 |
| Jiawei, Ni | A | IAC-13.C3.P.6 |
| JIAXIAN, ZHANG | A | IAC-13.C4.P.7 |
| Jie, Cao | CA | IAC-13.D2.9-D6.2.8 |
| Jie, Chen | A | IAC-13.B4.6A.8 |
| Jie, Li | CA | IAC-13.A5.4-D2.8.6 |
| Jiménez, Jesús | CA | IAC-13.A2.6.9 |
| Jin, Ho | A | IAC-13.B4.6B.15 |
| Jin, Hongfei | CA | IAC-13.A2.5.11 |
| Jin, Lei | CA | IAC-13.C1.4.12 |
| Jin, Lei | CA | IAC-13.C1.5.6 |
| Jin, Lili | CA | IAC-13.A1.P.52 |
| Jin, Ya-Qiu | A | IAC-13.A3.2D.4 |
| Jin-wu, Xiao | CA | IAC-13.C2.9.10 |
| JinCheng, Tong | CA | IAC-13.B2.3.11 |
| Jindong, Li | CA | IAC-13.B1.2.11 |
| Jing, Meng | A | IAC-13.B5.2.2 |
| Jing, Wang | CA | IAC-13.A1.3.6 |
| Jing, Wuxing | CA | IAC-13.A3.P.12 |
| Jing, Wuxing | CA | IAC-13.A3.4.12 |
| Jing, Xiaolu | CA | IAC-13.A1.1.2 |
| Jing, Xiaolu | CA | IAC-13.A1.1.5 |
| Jing, Xiaolu | CA | IAC-13.A1.1.6 |
| Jing, Xiaolu | CA | IAC-13.A1.1.9 |
| Jing, Xiaolu | A | IAC-13.A1.P.2 |
| Jing, Xiaolu | CA | IAC-13.A1.P.5 |
| Jing, Yang | A | IAC-13.B2.P.3 |
| Jing, Yuan | CA | IAC-13.D2.P.11 |
| Jinghong, Zhong | A | IAC-13.C3.P.19 |
| Jinglang, Feng | A | IAC-13.C1.9.4 |
| Jingxin, Yang | CA | IAC-13.C2.4.10 |
| Jinjing, Yang | CA | IAC-13.C2.5.6 |

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|---|---|---|
| Jinsong, Chen | A | IAC-13.D2.P.9 |
| Jinwu, Xiao | CA | IAC-13.C4.3.3 |
| Jinxian, Liu | CA | IAC-13.C2.6.1 |
| Jinxiu, Zhang | CA | IAC-13.V.3-B2.8.4 |
| Joel, PELERIN | CA | IAC-13.E1.6.5 |
| Joglekar, Harish | A | IAC-13.A7.1.2 |
| Johann, Ulrich | CA | IAC-13.C2.2.4 |
| JOHN, OLUSOJI NESTER | A | IAC-13.E3.1.8 |
| JOHN, OLUSOJI NESTER | CA | IAC-13.E1.4.4 |
| JOHN, OLUSOJI NESTER | A | IAC-13.A6.8.3 |
| John, Thomas | CA | IAC-13.C3.P.22 |
| Johnson, Christopher | A | IAC-13.E7.1.4 |
| Johnson, Christopher | CA | IAC-13.A5.3-B3.6.6 |
| Johnson, Christopher | A | IAC-13.E7.7-B3.8.4 |
| Johnson-Green, Perry | CA | IAC-13.B3.3.4 |
| Johnston-Lemke, Bryan | A | IAC-13.C1.1.4 |
| Jones, Natalie | CA | IAC-13.B6.4-V.1.4 |
| Jones, Natalie | CA | IAC-13.B6.4-V.1.5 |
| Jones, Thomas | CA | IAC-13.A5.4-D2.8.10 |
| Jorden, Anthony | CA | IAC-13.C4.7-C3.5.6 |
| Jorgensen, Anders | A | IAC-13.D4.3.7 |
| Joshi, Kamal Narain | A | IAC-13.E1.4.6 |
| Joshi, Rohit | CA | IAC-13.E2.4.8 |
| Ju, Gwanghyeok | A | IAC-13.A3.2C.10 |
| Juang, Jyh-Ching | CA | IAC-13.B4.6B.14 |
| Jue, Wang | CA | IAC-13.D2.2.8 |
| Juhls, Andreas | CA | IAC-13.D2.1.5 |
| Jun, Gao | CA | IAC-13.C4.4.1 |
| Jun, Gu | A | IAC-13.A6.P.6 |
| Jun, Hu | A | IAC-13.C1.3.13 |
| JUN, WANG | A | IAC-13.C4.P.3 |
| Jun, Zhou | CA | IAC-13.C4.3.1 |
| Jung, Eun Sang | CA | IAC-13.C4.P.16 |
| Jung, Philippe | CA | IAC-13.E4.2.2 |
| Jung, Philippe | A | IAC-13.E4.2.5 |
| Jung, Wolfgang | CA | IAC-13.A2.5.10 |
| Junjie, Zhang | A | IAC-13.C2.1.1 |
| Junming, Lv | A | IAC-13.A3.P.32 |
| Junqiang, Liang | A | IAC-13.C4.1.12 |
| Junrong, Li | A | IAC-13.A1.P.44 |
| Jurado, Eric | CA | IAC-13.A3.4.2 |
| Jäger, Markus | A | IAC-13.C4.1.10 |
| Jäger, Markus | A | IAC-13.D2.7.4 |

## K

| Name | Role | Paper |
|---|---|---|
| K, Deepak | CA | IAC-13.D1.4.8 |
| K Jain, Akash Deep | A | IAC-13.C3.P.16 |
| K Jain, Akash Deep | A | IAC-13.C4.P.62 |
| K Jain, Akash Deep | A | IAC-13.A6.8.6 |
| Kaczmarczik, Ulrich | CA | IAC-13.A2.5.8 |
| Kadzhaev, Vadim | A | IAC-13.D5.1.5 |
| Kai, Caihong | A | IAC-13.B6.P.2 |
| Kaiser, Clemens | A | IAC-13.B1.2.6 |
| Kaiser, Clemens | A | IAC-13.A6.6.11 |
| Kaiser, Dustin | CA | IAC-13.E3.2.11 |
| Kaiser, Dustin | CA | IAC-13.E3.3.7 |
| Kaiser, Dustin | CA | IAC-13.E1.5.2 |
| Kaiser, Dustin | CA | IAC-13.D4.4.7 |
| Kakoi, Masaki | A | IAC-13.C1.7.12 |
| Kalde, Jaanus | CA | IAC-13.C3.4.8 |
| Kalinichenko, Dmitriy | A | IAC-13.D1.1.11 |
| Kalla, Girish | A | IAC-13.E7.P.14 |
| Kamal, Smit | CA | IAC-13.B4.2.9 |
| Kamaletdinova, Guzel | CA | IAC-13.E1.6.4 |
| Kamaletdinova, Guzel | A | IAC-13.E1.8.5 |
| Kamath, Shivaprasad | CA | IAC-13.D1.4.11 |
| Kamigaichi, Shigeki | CA | IAC-13.B3.3.4 |
| Kampen, Sytze | CA | IAC-13.B1.3.2 |
| Kampf, Dirk | CA | IAC-13.A2.7.9 |
| Kanawka, Krzysztof | A | IAC-13.E3.1.4 |
| Kanawka, Krzysztof | CA | IAC-13.E1.7.1 |
| Kandala, Shanti Swaroop | A | IAC-13.B4.1.2 |
| Kandala, Shanti Swaroop | CA | IAC-13.E2.3-V.4.6 |
| Kane, Megan | A | IAC-13.E6.1.4 |
| Kaneko, Akiko | CA | IAC-13.A2.2.3 |
| Kaneoka, Mitsuteru | CA | IAC-13.E7.7-B3.8.8 |
| Kang, Gaojian | A | IAC-13.B2.6.1 |
| Kang, Jay | A | IAC-13.C1.1.5 |
| KANG, Qi | CA | IAC-13.A2.2.10 |
| KANG, Qi | CA | IAC-13.A2.3.7 |
| KANG, Qi | CA | IAC-13.A2.4.6 |
| KANG, Qi | CA | IAC-13.A2.4.8 |
| KANG, Qi | CA | IAC-13.A2.P.3 |
| Kaniewski, Damian | CA | IAC-13.D2.6.9 |
| Kapil, Prashant | A | IAC-13.A2.1.10 |
| Kapoglou, Angeliki | A | IAC-13.D5.1.7 |
| Kapoglou, Angeliki | CA | IAC-13.B5.2.7 |
| Kapoglou, Angeliki | A | IAC-13.D3.4.4 |
| Kapranov, Vitaliy | A | IAC-13.C3.2.8 |
| Kaptein, Alexander | CA | IAC-13.B1.1.4 |
| Kaptein, Alexander | CA | IAC-13.B1.2.8 |
| Karabadzhak, George | CA | IAC-13.B3.3.4 |
| Karaki, Atsushi | CA | IAC-13.A6.1.9 |
| Karakotin, Ivan | CA | IAC-13.C4.9.10 |
| Karavaev, Dmitry | CA | IAC-13.B3.5.7 |
| Karchaev, Kharun | CA | IAC-13.C3.P.21 |
| Karelin, Alexander | CA | IAC-13.B1.P.1 |
| Kargl, Florian | A | IAC-13.A2.5.7 |
| Karim, Abdul | A | IAC-13.D1.3.10 |
| Karim, Abdul | CA | IAC-13.C2.6.12 |
| Karimian, Mohammad Hossein | CA | IAC-13.C2.P.47 |
| Karl, Alexander | CA | IAC-13.B6.4-V.1.5 |
| Karl, Alexander | CA | IAC-13.B3.4-B6.5.2 |
| Karl, Alexander | CA | IAC-13.A3.3B.3 |
| Karl, Alexander | A | IAC-13.E1.6.2 |
| Karlsson, Thomas | CA | IAC-13.C1.5.13 |
| Karma, Alain | CA | IAC-13.A2.5.5 |
| Karouia, Fathi | A | IAC-13.A1.P.39 |
| Karouia, Fathi | A | IAC-13.A1.5.7 |
| Karouia, Fathi | A | IAC-13.A1.7.1 |
| Karpov, Anatoly | CA | IAC-13.E6.4-D4.2.3 |
| Karpov, Anatoly | CA | IAC-13.A6.P.31 |
| Karpov, Anatoly | CA | IAC-13.E4.2.3 |
| Karumuri, Sukumar | CA | IAC-13.B5.1.9 |
| Kashanov, Olexandr | A | IAC-13.D2.1.8 |
| Kasper, Justin | CA | IAC-13.A5.P.1 |
| Kassel, Ronald | A | IAC-13.B4.4.2 |
| Kassel, Ronald | CA | IAC-13.A2.5.4 |
| Katiyar, Sunil Kumar | CA | IAC-13.B1.P.14 |
| Katiyar, Sunil Kumar | A | IAC-13.A4.2.5 |
| Kato, Nobuji | CA | IAC-13.C4.2.9 |
| Kato, Ryuichi | CA | IAC-13.C4.2.9 |
| Katsumata, Nobuhisa | CA | IAC-13.B4.6A.4 |
| Katsuyama, Satomi | CA | IAC-13.D4.3.6 |
| Kattiginalli Ramalingiah, Sangamesh | CA | IAC-13.B6.3.5 |
| Kauerhoff, Tilo | CA | IAC-13.B6.4-V.1.5 |
| Kaufmann, Ines | CA | IAC-13.A5.2.8 |
| Kaur, Harleen | CA | IAC-13.C4.8.1 |
| Kaushal, Sourabh | CA | IAC-13.E6.1.5 |
| Kaushal, Sourabh | CA | IAC-13.C4.P.50 |
| Kaushal, Sourabh | CA | IAC-13.C4.7-C3.5.9 |
| Kawabata, Nobuyoshi | CA | IAC-13.B4.6A.4 |
| Kawaguchi, Junichiro | CA | IAC-13.C1.5.1 |
| Kawaguchi, Junichiro | A | IAC-13.C1.9.2 |
| Kawakatsu, Yasuhiro | CA | IAC-13.C1.7.6 |
| Kawasaki, Hiroki | CA | IAC-13.A2.7.1 |
| Kawasaki, Osamu | CA | IAC-13.D2.5.6 |
| Kawashima, Rei | CA | IAC-13.C4.4.2 |
| Kawata, Tetsuya | CA | IAC-13.A1.4.11 |
| Kawato, Hiroshi | CA | IAC-13.D2.5.6 |
| Kay, Ritchie | CA | IAC-13.A3.4.1 |
| Kaya, Nobuyuki | A | IAC-13.C3.1.8 |
| Kayal, Hakan | CA | IAC-13.B4.3.3 |
| Kayal, Hakan | CA | IAC-13.B4.3.10 |
| Kayihan, Hasan Aziz | CA | IAC-13.E2.4.11 |
| Kayihan, Hasan Aziz | CA | IAC-13.E5.5.5 |
| Kazemi, Hamid | A | IAC-13.E7.4.5 |
| Kazennov, Ivan | CA | IAC-13.C4.5.4 |
| Ke, Du | CA | IAC-13.B1.P.7 |
| Ke, Fawei | CA | IAC-13.A6.3.2 |
| Ke, Fawei | CA | IAC-13.A6.3.10 |
| Ke, Wang | CA | IAC-13.C3.3.12 |
| Keane, Phillip | CA | IAC-13.B5.2.7 |
| Kebschull, Christopher | CA | IAC-13.A6.2.2 |
| Kebschull, Christopher | A | IAC-13.A6.2.3 |
| Kebschull, Christopher | CA | IAC-13.A6.4.4 |
| Kebschull, Christopher | CA | IAC-13.A6.P.8 |
| Kebschull, Christopher | CA | IAC-13.A6.P.14 |
| Keenan, Andrew | CA | IAC-13.B3.4-B6.5.6 |
| Keith, Adam | CA | IAC-13.E3.3.9 |
| Keith, Adam | A | IAC-13.B1.5.11 |
| Kelecy, Thomas | CA | IAC-13.A6.1.5 |
| Kelecy, Thomas | CA | IAC-13.A6.2.8 |
| Kelesidi, Anna | CA | IAC-13.E5.2.1 |
| Kelesidi, Anna | CA | IAC-13.B3.5.5 |
| Kendall, David | CA | IAC-13.E6.4-D4.2.7 |
| Kendrick, Dustin | A | IAC-13.A1.P.55 |
| Keny, Pramath | CA | IAC-13.B2.4.7 |
| Keravala, Jim | A | IAC-13.D3.1.7 |
| Keravala, Jim | A | IAC-13.A5.1.6 |
| Keravala, Jim | A | IAC-13.E6.1.2 |
| Keravala, Jim | A | IAC-13.A3.2C.8 |
| Kerber, Laura | CA | IAC-13.D3.3.10 |
| Kerrest, Armel | CA | IAC-13.A1.5.11 |
| Kerslake, Thomas | CA | IAC-13.C4.6.4 |
| Keshmiri, Mehdi | CA | IAC-13.D4.3.3 |
| Keßeler, Florian | CA | IAC-13.A2.5.9 |
| Kezerashvili, Roman Ya. | A | IAC-13.C2.6.8 |
| Khachan, Joe | CA | IAC-13.C4.P.36 |
| Khademi, Mohammad | CA | IAC-13.B4.3.9 |
| Khan, Aafaque | CA | IAC-13.B4.1.2 |
| Khan, Aafaque | A | IAC-13.E2.3-V.4.6 |
| Khan, Arifur Rahman | CA | IAC-13.D5.3.10 |
| Khan, Muhammad Shadab | A | IAC-13.A3.3A.7 |
| Kharchenko, Maxym | CA | IAC-13.C2.1.3 |
| Kharlamov, Maxim | CA | IAC-13.B3.5.3 |
| Khartov, Victor V. | CA | IAC-13.C3.P.21 |
| Khetawat, Vatsala | A | IAC-13.E3.4.9 |
| Khin Oo, Mon | A | IAC-13.C4.P.59 |
| Khokhlov, Alexey | CA | IAC-13.C4.5.4 |
| Khoroshylov, Serhii | CA | IAC-13.C2.3.4 |
| Khurana, Shashank | A | IAC-13.C2.7.5 |
| Khurshid, Osama | A | IAC-13.B4.2.2 |
| Khvostikov, Sergey | A | IAC-13.B1.6.8 |
| Kibler, Kathy | CA | IAC-13.A1.2.2 |
| Kidd Jr, John | CA | IAC-13.A5.4-D2.8.8 |
| Kim, Bang-Yeop | CA | IAC-13.A6.7.7 |
| Kim, Chun Gon | CA | IAC-13.A6.P.20 |
| Kim, Daryl | CA | IAC-13.A6.1.5 |
| Kim, Day-Young | CA | IAC-13.C3.3.4 |
| Kim, Gyu-Sun | CA | IAC-13.C3.3.4 |
| Kim, Hae-Dong | CA | IAC-13.A6.P.40 |
| Kim, Hae-Dong | CA | IAC-13.C1.6.11 |
| KIM, IN JUN | A | IAC-13.D1.P.28 |
| Kim, Kwang-Soo | A | IAC-13.C2.9.4 |
| Kim, Sangho | CA | IAC-13.D2.P.3 |
| Kim, Taegyu | A | IAC-13.C3.4.3 |
| Kimoto, Kenichi | CA | IAC-13.C4.1.7 |
| Kimoto, Yugo | CA | IAC-13.A6.1.9 |
| Kimura, Shinichi | CA | IAC-13.A6.P.37 |
| Kimura, Toshiya | CA | IAC-13.C4.1.8 |
| Kindracki, Jan | CA | IAC-13.D2.6.9 |
| Kingston, Jennifer | CA | IAC-13.C1.1.3 |
| Kink, Walter | CA | IAC-13.B4.2.6 |
| Kinnaird, Alexander | A | IAC-13.E1.5.6 |
| Kinnersley, Mark | CA | IAC-13.D3.1.2 |
| Kinnersley, Mark | A | IAC-13.A5.4-D2.8.5 |
| Kinnison, James | CA | IAC-13.A3.P.49 |
| Kinsner, Witold | CA | IAC-13.E2.4.10 |
| Kinsner, Witold | CA | IAC-13.E1.7.5 |
| Kio, Michael | A | IAC-13.C2.P.52 |
| Kiritani, Kotaro | A | IAC-13.A3.2C.6 |
| Kirk, Daniel | CA | IAC-13.A2.7.4 |
| Kirsch, Marcus G F | CA | IAC-13.B6.4-V.1.3 |
| Kirsch, Marcus G F | CA | IAC-13.C1.7.5 |
| Kishindo, Hiroyuki | CA | IAC-13.E7.4.9 |
| Kitazawa, Yukihito | A | IAC-13.A6.1.9 |
| Klai, Saliha | CA | IAC-13.B3.4-B6.5.2 |
| Klai, Saliha | CA | IAC-13.A5.3-B3.6.2 |
| Klein, Matthijs | A | IAC-13.C3.3.3 |
| Klein, Matthijs | CA | IAC-13.B2.3.6 |
| Klein, S. | CA | IAC-13.A2.5.7 |
| Klinkner, Sabine | CA | IAC-13.A3.2A.9 |
| Klothakis, Aggelos | CA | IAC-13.E5.2.1 |
| Klothakis, Aggelos | CA | IAC-13.B3.5.5 |
| Kminek, Gerhard | CA | IAC-13.A1.5.10 |
| Kminek, Gerhard | CA | IAC-13.A5.3-B3.6.5 |
| Knoll, Aaron | CA | IAC-13.B4.6A.3 |
| Ko, Hyun Chul | A | IAC-13.C1.4.2 |
| Kobayakawa, Toyonori | CA | IAC-13.B3.2.4 |
| Kobrick, Ryan L. | CA | IAC-13.E1.8.4 |
| Kobrick, Ryan L. | CA | IAC-13.E1.9.2 |
| Kochemasov, Gennady | A | IAC-13.A3.P.14 |
| Kochetkov, Alexey | CA | IAC-13.A1.6.4 |
| Kodachi, Yukiko | CA | IAC-13.E7.4.13 |
| Koeck, Charles | CA | IAC-13.B5.1.7 |
| Koenig, Jan | CA | IAC-13.C4.7-C3.5.6 |
| Kohl, Stefanie | A | IAC-13.B1.2.1 |
| Kohtake, Naohiko | CA | IAC-13.B2.1.7 |
| Kohtake, Naohiko | CA | IAC-13.B5.1.8 |
| Koizumi, Hiroyuki | CA | IAC-13.C4.4.2 |
| Koizumi, Hiroyuki | CA | IAC-13.C4.8.7 |
| Koji, Tanaka | CA | IAC-13.C3.1.5 |
| Koji, Tanaka | A | IAC-13.C3.2.3 |
| Kolasa-Sokolowska, Kinga | A | IAC-13.E7.P.2 |
| Kolasseri Kuttappan, Sairajan | A | IAC-13.C2.3.11 |
| Kolmas, Jan | A | IAC-13.C4.4.15 |
| Kolomentsev, Alexander | CA | IAC-13.C4.8.5 |
| Kolozezny, Anton | A | IAC-13.C2.1.5 |
| Kolyuka, Yury | CA | IAC-13.A6.P.25 |
| Kolyuka, Yury | CA | IAC-13.A3.2C.1 |
| Komurasaki, Kimiya | CA | IAC-13.C4.4.2 |
| Komurasaki, Kimiya | CA | IAC-13.C4.4.13 |
| Komurasaki, Kimiya | CA | IAC-13.C4.8.7 |
| Koncz, Alexander | CA | IAC-13.A3.2A.9 |
| Kondratiev, Andrey | CA | IAC-13.C2.1.3 |
| Konert, Anna | A | IAC-13.A6.8.5 |
| Kong, Lingchao | CA | IAC-13.D2.2.6 |
| Kong, Lingchao | CA | IAC-13.D2.9-D6.2.10 |
| Kong, Xianren | CA | IAC-13.C2.3.12 |
| Konishi, Ryusuke | A | IAC-13.E1.P.8 |
| Konrad, Alexej | A | IAC-13.B6.3.1 |
| Konstantinidis, Konstantinos | A | IAC-13.D1.1.10 |
| Konstantinidis, Konstantinos | A | IAC-13.A3.5.10 |
| Koo, Jaye | CA | IAC-13.A2.2.2 |
| Koosha, Morteza | CA | IAC-13.A1.P.48 |
| Koppel, Christophe | CA | IAC-13.C4.7-C3.5.4 |
| Kornienko, Youlia | CA | IAC-13.A3.3C.11 |
| Koroteev, Anatoliy | CA | IAC-13.C4.7-C3.5.1 |
| Korvald, Christoffer | CA | IAC-13.B4.1.11 |
| Korvald, Christoffer | CA | IAC-13.E1.P.7 |
| Koryanov, Vsevolod | A | IAC-13.C2.3.9 |
| Kosenko, Ivan | CA | IAC-13.C1.1.6 |
| Kostarev, K.G. | CA | IAC-13.A2.2.11 |
| Kostopolus, George | CA | IAC-13.A4.1.7 |
| Kostritsyn, Oleg | CA | IAC-13.D2.7.7 |
| Koti, Veeresha | CA | IAC-13.E2.4.7 |
| Kotov, Oleg | CA | IAC-13.B3.5.3 |
| Kotsopoulos, George | CA | IAC-13.B5.2.7 |
| Koudelka, Otto | CA | IAC-13.B2.1.4 |
| Koudelka, Otto | CA | IAC-13.B6.2.9 |
| Koudelka, Otto | A | IAC-13.B2.4.1 |
| Koudelka, Otto | CA | IAC-13.B2.4.2 |
| Koudelka, Otto | CA | IAC-13.B2.5.2 |
| Koujelev, Alexander | CA | IAC-13.B4.2.7 |
| Kouprianov, Vladimir | A | IAC-13.A6.1.6 |
| Kovalenko, Viktor | CA | IAC-13.C2.1.3 |

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|---|---|---|
| Kovateva, Yulia | CA | IAC-13.C4.5.4 |
| Kovvuri, Vivekananda Reddy | CA | IAC-13.E2.3-V.4.6 |
| Kowalewski, Jedrzej | CA | IAC-13.E2.3-V.4.3 |
| Koyama, Yoshisada | CA | IAC-13.B2.3.4 |
| Kozlov, Nikolay | A | IAC-13.A2.2.8 |
| Kozlov, Pavel | A | IAC-13.C1.6.14 |
| Kozlov, Victor | CA | IAC-13.A2.2.8 |
| Kozlov, Victor | A | IAC-13.A2.4.10 |
| Kozlov, Victor | CA | IAC-13.A2.P.7 |
| Kozlov , Alexander Alexandrovich | CA | IAC-13.C4.5.4 |
| Kozlovskaya, Inessa | A | IAC-13.A1.P.74 |
| Kozuka, Souichirou | A | IAC-13.E7.4.9 |
| Kraft, Michael | CA | IAC-13.A3.3B.1 |
| Krag, Holger | CA | IAC-13.A6.2.3 |
| Krag, Holger | CA | IAC-13.A6.4.4 |
| Krag, Holger | CA | IAC-13.A6.P.8 |
| Krag, Holger | CA | IAC-13.A6.P.13 |
| Kramberger, Iztok | A | IAC-13.D1.P.12 |
| Kraska, Thorsten | CA | IAC-13.D4.4.4 |
| Krasnov, Alexey | A | IAC-13.B3.1.3 |
| Kreisel, Joerg | A | IAC-13.E6.4-D4.2.4 |
| Kremic, Tibor | CA | IAC-13.A3.P.41 |
| Kresken, Rainer | CA | IAC-13.B6.4-V.1.3 |
| Kresken, Rainer | CA | IAC-13.C1.7.5 |
| Kretzenbacher, Michael | A | IAC-13.D1.6.2 |
| Krikalev, Sergey | CA | IAC-13.B3.5.3 |
| Krikalev, Sergey | CA | IAC-13.B3.5.4 |
| Kring, Jason P. | CA | IAC-13.E5.2.2 |
| Krishnamoorthy, Siddharth | A | IAC-13.D2.3.5 |
| Krishnan, G.S. | CA | IAC-13.E1.5.10 |
| Krisko, Paula H. | A | IAC-13.A6.P.9 |
| KRM, Rao | CA | IAC-13.B5.1.3 |
| Krolikowski, Alanna | A | IAC-13.E3.1.5 |
| Krone-Martins, Alberto | CA | IAC-13.A6.1.10 |
| Kronig, Luzius | CA | IAC-13.E1.3.4 |
| Kropiunig, Christian | A | IAC-13.A1.5.6 |
| Kroupa, Martin | CA | IAC-13.A1.4.2 |
| Kroupnik, Guennadi | CA | IAC-13.B4.4.12 |
| Kruglov, A.V. | CA | IAC-13.A2.6.8 |
| Krusharev, Ivan | CA | IAC-13.D2.7.7 |
| Krylov, Igor V. | CA | IAC-13.C1.7.10 |
| Krynitz, Martin | A | IAC-13.B1.1.9 |
| Krynitz, Martin | CA | IAC-13.B6.2.1 |
| Kryuchkov, Boris I. | CA | IAC-13.B3.5.3 |
| Kryuchkov, Boris I. | CA | IAC-13.B3.5.4 |
| Kryuchkov, Boris I. | CA | IAC-13.A5.3-B3.6.7 |
| Krömer, Olaf | CA | IAC-13.A6.P.33 |
| Ku Chik, Tengku Farah Wahida | CA | IAC-13.C4.P.6 |
| Kuan, Ma | CA | IAC-13.D3.P.6 |
| Kubicek, Martin | A | IAC-13.C2.7.3 |
| Kubo-oka, Toshihiro | CA | IAC-13.B2.3.4 |
| Kubooka, Toshihiro | CA | IAC-13.B2.2.8 |
| Kudrin, Oleg | CA | IAC-13.C4.8.5 |
| Kuepers, Lisa | CA | IAC-13.E7.1.6 |
| Kuiper, JM (Hans) | CA | IAC-13.B4.3.8 |
| Kujanpää, Jukka | CA | IAC-13.B1.P.6 |
| Kukhta, Andrew | A | IAC-13.C4.P.10 |
| Kulas, Sascha | A | IAC-13.A2.1.3 |
| Kulesa, Tony | A | IAC-13.C2.6.4 |
| Kulkarni, Rahul | CA | IAC-13.E2.3-V.4.9 |
| Kulkarni, Rahul | A | IAC-13.E2.4.8 |
| Kulu, Erik | A | IAC-13.B4.2.10 |
| Kulu, Erik | CA | IAC-13.E1.3.5 |
| Kumar, Abhijeet | CA | IAC-13.D2.1.9 |
| Kumar, Abhijeet | CA | IAC-13.D2.7.1 |
| Kumar, Deepak | A | IAC-13.A3.P.11 |
| Kumar, Deepak | A | IAC-13.A3.P.52 |
| Kumar, Kartik | CA | IAC-13.B4.3.7 |
| Kumar, Mukesh | CA | IAC-13.E2.3-V.4.6 |
| Kumar, Praveen | CA | IAC-13.D3.3.8 |
| Kumar, Saroj | A | IAC-13.E2.1.4 |
| Kumar, Saroj | A | IAC-13.C1.2.8 |
| Kumar, Venkatesh | CA | IAC-13.B2.4.5 |
| Kumar, Vikhyath | CA | IAC-13.D1.4.11 |
| Kun, Li | CA | IAC-13.B2.P.25 |
| Kunihiro, Funakoshi | CA | IAC-13.A6.1.9 |
| Kunimori, Hiroo | A | IAC-13.B2.2.8 |
| Kunimori, Hiroo | CA | IAC-13.B2.3.4 |
| Kuninaka, Hitoshi | CA | IAC-13.A3.1.2 |
| Kunpeng, Lin | CA | IAC-13.B6.3.3 |
| Kunugi, Makoto | CA | IAC-13.A3.2C.6 |
| Kurihara, Junichi | CA | IAC-13.B2.2.8 |
| Kuritsyn, Andrey A. | CA | IAC-13.B3.5.4 |
| Kurkin, Igor | A | IAC-13.C4.7-C3.5.10 |
| Kurmazenko, Eduard | A | IAC-13.A1.P.42 |
| Kuschnig, Rainer | CA | IAC-13.B6.2.9 |
| Kushnirenko, Anatolii | CA | IAC-13.A2.P.5 |
| Kussmaul, Anna | CA | IAC-13.A1.8.4 |
| Kuuste, Henri | CA | IAC-13.B4.2.10 |
| Kuwahara, Toshinori | CA | IAC-13.B2.2.8 |
| Kuwahara, Toshinori | CA | IAC-13.B4.1.9 |
| Kuwahara, Toshinori | A | IAC-13.A6.4.8 |
| Kuwahara, Toshinori | A | IAC-13.B4.7A.1 |
| Kuwahara, Toshinori | CA | IAC-13.B4.6A.6 |
| Kuzin, Anatoly | A | IAC-13.D2.4.9 |
| Kuzkov, Sergii | A | IAC-13.B2.3.8 |
| Kuzkov, Volodymyr | CA | IAC-13.B2.3.8 |
| Kuzmina, Lyudmila | A | IAC-13.C2.3.2 |
| Kuznetsova, Anna | CA | IAC-13.A3.P.7 |
| Kvell, Urmas | CA | IAC-13.B4.2.10 |
| Kwon, Sejin | CA | IAC-13.C3.P.20 |
| Kwon, Sejin | CA | IAC-13.C4.P.5 |
| Kwon, Sejin | CA | IAC-13.C4.P.16 |
| Kwon, T. J. | CA | IAC-13.D2.P.3 |
| Köhne, Torsten | A | IAC-13.A2.5.9 |
| Könemann, Thorben | A | IAC-13.A2.5.8 |

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| Name | Role | Paper |
|---|---|---|
| La Regina, Veronica | A | IAC-13.E3.1.11 |
| La Regina, Veronica | A | IAC-13.E1.4.2 |
| La Regina, Veronica | CA | IAC-13.E6.1.3 |
| La Regina, Veronica | CA | IAC-13.E6.1.3 |
| La Torre, Simone | A | IAC-13.B4.5.10 |
| La Torre, Simone | A | IAC-13.B1.P.11 |
| La Torre, Simone | CA | IAC-13.B5.2.7 |
| La Torre, Simone | A | IAC-13.D3.4.3 |
| Laan, Erik | A | IAC-13.C1.4.6 |
| Labbé, Alexandra | CA | IAC-13.E2.3-V.4.4 |
| Labriet, Marc | CA | IAC-13.A5.1.5 |
| Lahoz, Carlos | CA | IAC-13.D5.2.10 |
| Lahoz, William | CA | IAC-13.B1.P.6 |
| Lai, Xiaoming | CA | IAC-13.A3.P.18 |
| Laird, Ryan | CA | IAC-13.D2.1.9 |
| Laird, Ryan | CA | IAC-13.D2.7.1 |
| Laithier, Corentin | CA | IAC-13.A5.3-B3.6.11 |
| Laizans, Kaspars | CA | IAC-13.B4.2.10 |
| Lakshmanan, Martin | CA | IAC-13.D1.1.9 |
| Lakshmanan, Martin | CA | IAC-13.D3.3.3 |
| LAMBERT, Catherine | A | IAC-13.E6.4-D4.2.6 |
| LAMBERT, Catherine | A | IAC-13.B5.1.2 |
| Lambert, Megan | CA | IAC-13.E1.6.1 |
| Lamboglia, Elisabetta | A | IAC-13.D1.3.1 |
| Lamour, Gilles | A | IAC-13.A3.3B.5 |
| Lamprou, Dimitrios | CA | IAC-13.B4.6A.3 |
| Lamy, Alain | CA | IAC-13.C1.7.2 |
| Lan, Kun | CA | IAC-13.B2.2.5 |
| Lan, Qiongqiong | A | IAC-13.B1.6.6 |
| LAN, Shengchang | A | IAC-13.V.3-B2.8.4 |
| Lancelle, Daniel | CA | IAC-13.C4.2.10 |
| Landgraf, Markus | CA | IAC-13.A6.P.24 |
| Landgraf, Markus | CA | IAC-13.C1.8.4 |
| Landgraf, Markus | CA | IAC-13.C1.8.5 |
| Landgraf, Markus | CA | IAC-13.C1.9.1 |
| Lang, Anqi | CA | IAC-13.C1.7.10 |
| Lang, Bian | A | IAC-13.B2.7.6 |
| Lange, Caroline | CA | IAC-13.A3.4.6 |
| Lange, Caroline | CA | IAC-13.C4.7-C3.5.3 |



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|---|---|---|
| Lange, Caroline | CA | IAC-13.D1.6.2 |
| Lange, Christian | A | IAC-13.A3.1.3 |
| Lange, Christian | CA | IAC-13.A3.1.8 |
| Lange, Christian | CA | IAC-13.B3.1.8 |
| Lange, Christian | CA | IAC-13.A3.P.8 |
| Langensteiner, Karl | CA | IAC-13.B2.4.1 |
| Langlois, Rob | CA | IAC-13.C1.9.9 |
| Langston, Sara | CA | IAC-13.E3.P.5 |
| Langston, Sara | A | IAC-13.A1.8.7 |
| Lanza, Piergiorgio | CA | IAC-13.A3.3C.10 |
| Lapilli, Gabriel | CA | IAC-13.A2.7.4 |
| Lappas, Vaios | CA | IAC-13.C1.2.3 |
| Lappas, Vaios | CA | IAC-13.C2.2.8 |
| Lappas, Vaios | CA | IAC-13.A6.4.6 |
| Lappas, Vaios | A | IAC-13.B4.6A.3 |
| Larch, Sascha | CA | IAC-13.D2.4.1 |
| Larch, Sascha | CA | IAC-13.D2.4.2 |
| LARDOT, Christian | CA | IAC-13.D2.2.1 |
| Lario, David | CA | IAC-13.A1.4.6 |
| Larsen, Paul | A | IAC-13.E7.5.4 |
| Larson, William | CA | IAC-13.A3.2A.8 |
| Larsson, Bengt | CA | IAC-13.C1.5.13 |
| Larsson, Robin | CA | IAC-13.C1.5.13 |
| Lau, Hayden | CA | IAC-13.E2.3-V.4.1 |
| Lau, Stephen | CA | IAC-13.E2.3-V.4.1 |
| Laudet, Philippe | CA | IAC-13.A3.3A.6 |
| Laudet, Philippe | CA | IAC-13.A3.3B.5 |
| Lauer, Charles | A | IAC-13.E6.4-D4.2.9 |
| Lauer, Charles | A | IAC-13.D2.7.2 |
| Lauer, Charles | A | IAC-13.D6.1.10 |
| Laufer, Rene | CA | IAC-13.A3.2B.6 |
| Laughmiller, Micah | A | IAC-13.C4.P.64 |
| Launius, Roger D. | A | IAC-13.E4.1.4 |
| LAURENS, André | CA | IAC-13.B1.2.4 |
| Laurent, Louis | CA | IAC-13.D2.1.3 |
| Laurin, Alexandre | A | IAC-13.A1.P.9 |
| Laurini, Kathy | A | IAC-13.A3.1.2 |
| Laurini, Kathy | CA | IAC-13.B3.1.8 |
| Laurini, Kathy | CA | IAC-13.B3.3.1 |
| Laurini, Kathy | CA | IAC-13.A3.P.8 |
| Lavagna, Michèle | CA | IAC-13.C1.4.13 |
| Lavagna, Michèle | A | IAC-13.A6.P.36 |
| Lavagna, Michèle | CA | IAC-13.A6.6.6 |
| Lavagna, Michèle | CA | IAC-13.C1.9.8 |
| LAVELLE, Florian | CA | IAC-13.D2.5.1 |
| Laveron-Simavilla, Ana | CA | IAC-13.A2.6.11 |
| Laveron-Simavilla, Ana | CA | IAC-13.A2.7.3 |
| Lawal, Abdul | A | IAC-13.B1.1.11 |
| Lawal, Abdul | A | IAC-13.B4.1.10 |
| Lawal, Abdul | CA | IAC-13.C1.7.9 |
| Lawrence, David | CA | IAC-13.A1.4.6 |
| Laxminarayan, Srikanth Ravi | CA | IAC-13.A2.1.10 |
| Layer, Liliana | CA | IAC-13.A1.7.10 |
| Laygo, Katrina | A | IAC-13.B1.1.6 |
| Laygo, Katrina | CA | IAC-13.B1.5.4 |
| Lazare, Bruno | A | IAC-13.D5.1.3 |
| Lazzarini, Andrea | A | IAC-13.A1.3.10 |
| Lecoutre, Carole | CA | IAC-13.A2.5.5 |
| Lecoutre, Carole | CA | IAC-13.A2.6.6 |
| Lederer, Susan M. | CA | IAC-13.A6.1.4 |
| Ledogar, Julie | CA | IAC-13.D2.7.8 |
| Lee, Andrew Chee Hau | CA | IAC-13.B5.2.7 |
| Lee, Bo | CA | IAC-13.D1.4.3 |
| Lee, Bo | CA | IAC-13.D1.5.4 |
| Lee, Bo | A | IAC-13.D3.4.11 |
| Lee, Byoung-Sun | CA | IAC-13.D1.P.28 |
| Lee, Byoung-Sun | A | IAC-13.A6.7.7 |
| LEE, Chang Jin | CA | IAC-13.A3.2C.10 |
| LEE, CHARLES | A | IAC-13.B4.6B.6 |
| Lee, Christopher | CA | IAC-13.A3.2A.9 |
| Lee, Dong | A | IAC-13.A6.P.4 |
| Lee, Dong-Hun | A | IAC-13.B4.6B.15 |
| Lee, Hyeon-Cheol | A | IAC-13.B1.4.1 |
| Lee, Jae-Woo | CA | IAC-13.D2.P.3 |
| Lee, Jaeho | CA | IAC-13.A5.1.8 |
| Lee, Jeong-Won | A | IAC-13.E1.7.12 |
| Lee, Jongkwang | CA | IAC-13.C4.P.5 |
| Lee, Minwoo | A | IAC-13.C4.P.16 |
| Lee, Nicolas | CA | IAC-13.B4.2.3 |
| Lee, Tai Sik | A | IAC-13.A3.2B.1 |
| Lee, Tai Sik | CA | IAC-13.A5.1.8 |
| Lee, Un-Seob | CA | IAC-13.A6.7.7 |
| LEE, Won Beom | CA | IAC-13.A3.2C.10 |
| Legros, Jean-Claude | CA | IAC-13.A2.4.5 |
| Legros, Jean-Claude | CA | IAC-13.A2.4.9 |
| Lei, Gang | A | IAC-13.A1.P.49 |
| Lei, Jing | CA | IAC-13.C4.9.8 |
| Lei, Runhong | CA | IAC-13.A1.P.28 |
| Lei, Weijun | CA | IAC-13.C3.P.7 |
| LEI, XIAOHUA | A | IAC-13.A1.P.66 |
| Lei, Yang | A | IAC-13.B1.P.7 |
| Lei, Yingjun | CA | IAC-13.C3.3.8 |
| Lei, Yu | CA | IAC-13.C3.3.10 |
| Lei, Zhan | CA | IAC-13.B2.P.9 |
| Lei, Zhang | CA | IAC-13.B2.2.7 |
| Leinmüller, Christoph | CA | IAC-13.E1.2.5 |
| LEITE FILHO, WALDEMAR | CA | IAC-13.D1.4.7 |
| Leitu, Ahto | CA | IAC-13.C3.4.8 |
| Lekchiri, Mouna | CA | IAC-13.B5.1.11 |
| LEKEUX, Anne | CA | IAC-13.C4.1.3 |
| Lemke, Norbert | CA | IAC-13.B4.2.4 |
| Lemke, Norbert M.K. | A | IAC-13.B4.3.13 |
| Lenard, Roger X. | A | IAC-13.C3.3.14 |
| Lentsch, Aron | CA | IAC-13.D2.4.5 |
| Leonangeli, Nazareno | CA | IAC-13.C1.2.5 |
| Leonangeli, Nazareno | CA | IAC-13.C2.3.5 |
| Letizia, Francesca | A | IAC-13.A6.P.12 |
| Letizia, Francesca | CA | IAC-13.A6.P.24 |
| Leve, Frederick | CA | IAC-13.A6.2.8 |
| Levi, Ram | CA | IAC-13.E6.4-D4.2.1 |
| Levin, Eugene | CA | IAC-13.A6.8.9 |
| Levit, Creon | CA | IAC-13.C4.8.9 |
| Levochkin, Petr | A | IAC-13.C4.1.6 |
| Levochkin, Petr | A | IAC-13.C4.P.2 |
| Levochkin, Petr | A | IAC-13.C4.P.31 |
| Levy, Agnes | A | IAC-13.A2.1.5 |
| Lewis, Hugh G. | CA | IAC-13.A6.2.4 |
| Lewis, Hugh G. | CA | IAC-13.A6.P.12 |
| Lewis, Hugh G. | CA | IAC-13.A6.P.24 |
| Lewis, Hugh G. | CA | IAC-13.A6.3.6 |
| Li, Alan | A | IAC-13.A6.1.7 |
| Li, Binchao | A | IAC-13.C2.P.15 |
| Li, Changjiang | A | IAC-13.B2.1.9 |
| Li, Chun | CA | IAC-13.B4.2.8 |
| Li, Chun | CA | IAC-13.B2.P.22 |
| Li, Congying | CA | IAC-13.A6.P.18 |
| Li, Da | CA | IAC-13.D3.4.8 |
| Li, Fan | CA | IAC-13.D1.P.20 |
| Li, Feng | CA | IAC-13.C2.P.15 |
| Li, Feng | A | IAC-13.D2.6.10 |
| Li, Gongnan | A | IAC-13.C4.P.25 |
| Li, Haiqing | A | IAC-13.C2.P.30 |
| Li, Hao | CA | IAC-13.B1.3.7 |
| Li, He | CA | IAC-13.A1.4.11 |
| Li, Hengnian | CA | IAC-13.A3.P.17 |
| Li, Honggui | A | IAC-13.E7.1.9 |
| Li, Hui | A | IAC-13.C4.3.6 |
| Li, Jian | CA | IAC-13.C4.3.6 |
| Li, Jian | A | IAC-13.B3.P.2 |
| Li, Jianguo | A | IAC-13.A3.P.39 |
| Li, Jianhui | CA | IAC-13.E4.3.7 |
| Li, Jianming | CA | IAC-13.C1.2.2 |
| Li, Jin | A | IAC-13.C2.2.5 |
| LI, Jindong | CA | IAC-13.C2.7.12 |
| Li, Jingzhu | A | IAC-13.D5.1.2 |
| Li, Jionghui | CA | IAC-13.V.3-B2.8.4 |
| Li, Jisheng | CA | IAC-13.C3.3.11 |
| Li, Jisheng | CA | IAC-13.A3.P.17 |
| Li, Jun | A | IAC-13.A3.P.19 |
| Li, Jun | CA | IAC-13.C2.P.46 |

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|---|---|---|
| Li, Junfeng | CA | IAC-13.A2.2.5 |
| Li, Junfeng | CA | IAC-13.C1.3.9 |
| Li, Junfeng | CA | IAC-13.A2.P.6 |
| Li, Junfeng | CA | IAC-13.B2.P.13 |
| Li, Junfeng | CA | IAC-13.C1.8.10 |
| Li, Junfeng | CA | IAC-13.A3.3C.12 |
| Li, Junhai | CA | IAC-13.C4.P.74 |
| Li, Kan | A | IAC-13.D1.P.8 |
| Li, Kuangdai | CA | IAC-13.D2.2.7 |
| Li, Li | CA | IAC-13.B2.P.14 |
| Li, Li | CA | IAC-13.B2.4.14 |
| Li, Lin | CA | IAC-13.B4.3.12 |
| Li, Ma | A | IAC-13.E3.P.7 |
| Li, Man | CA | IAC-13.A1.P.40 |
| Li, Mao | A | IAC-13.C4.P.8 |
| Li, Meng | A | IAC-13.B2.6.8 |
| Li, Ming | A | IAC-13.B3.1.1 |
| Li, Ming | CA | IAC-13.C3.2.4 |
| Li, Ming | A | IAC-13.E5.3.1 |
| Li, Mingtao | A | IAC-13.C1.6.12 |
| Li, Qiang | CA | IAC-13.D2.P.1 |
| Li, Qiang | A | IAC-13.C4.5.5 |
| Li, Qing | A | IAC-13.A3.P.37 |
| Li, Rui | CA | IAC-13.A1.P.32 |
| Li, Rui | CA | IAC-13.D1.P.5 |
| Li, Shuang | A | IAC-13.C1.3.4 |
| Li, Shuang | A | IAC-13.A3.P.59 |
| Li, Shuang | A | IAC-13.A3.3C.4 |
| LI, Siqing | A | IAC-13.E7.P.3 |
| LI, Suike | A | IAC-13.D1.P.32 |
| LI, Suike | CA | IAC-13.D1.6.10 |
| Li, Suping | CA | IAC-13.A1.P.73 |
| Li, Tan | A | IAC-13.B1.5.13 |
| Li, Tan | CA | IAC-13.E6.2.5 |
| Li, Tiecai | CA | IAC-13.C3.P.17 |
| Li, Tieying | CA | IAC-13.B2.6.10 |
| Li, Tingting | CA | IAC-13.D4.4.8 |
| Li, Tingzhong | CA | IAC-13.C3.P.10 |
| Li, Weipeng | A | IAC-13.C2.3.1 |
| Li, Wenqing | A | IAC-13.D2.P.25 |
| Li, Xiao | A | IAC-13.A3.P.2 |
| Li, Xiaoyan | A | IAC-13.C2.6.5 |
| Li, Xin | CA | IAC-13.D1.P.11 |
| Li, Xintian | A | IAC-13.C4.P.23 |
| Li, Xiongfei | CA | IAC-13.B2.P.32 |
| Li, Xuan | A | IAC-13.A3.P.3 |
| LI, Xudong | A | IAC-13.C2.P.51 |
| Li, Yanjun | CA | IAC-13.C4.3.12 |
| LI, Yanjun | A | IAC-13.A1.P.11 |
| Li, Yanmei | A | IAC-13.A1.P.34 |
| Li, Yefei | CA | IAC-13.B2.4.14 |
| Li, Yefei | CA | IAC-13.E4.3.5 |
| Li, Yi | CA | IAC-13.A6.3.2 |
| Li, Yi | A | IAC-13.D2.7.6 |
| LI, Yi-Fei | CA | IAC-13.B2.P.14 |
| Li, Yinghui | A | IAC-13.A1.2.1 |
| Li, Yinghui | CA | IAC-13.A1.3.7 |
| Li, Yinghui | CA | IAC-13.A1.3.8 |
| Li, Yinghui | CA | IAC-13.A1.4.11 |
| Li, Yinghui | CA | IAC-13.A1.P.61 |
| Li, Yinghui | CA | IAC-13.A1.7.8 |
| Li, Yinghui | CA | IAC-13.A1.7.9 |
| Li, Yingxian | CA | IAC-13.A1.7.9 |
| Li, Yong | CA | IAC-13.C3.2.6 |
| Li, Yong | CA | IAC-13.A3.5.5 |
| Li, Yongyuan | A | IAC-13.D2.6.11 |
| Li, Yongzhi | A | IAC-13.A1.2.4 |
| Li, Yuheng | CA | IAC-13.D1.P.1 |
| Li, Yuheng | CA | IAC-13.A1.7.9 |
| Li, Yunze | CA | IAC-13.A1.P.53 |
| Li, Yunze | CA | IAC-13.A1.P.54 |
| Li, Zhang-Guo | CA | IAC-13.A2.3.8 |
| Li, Zhe | CA | IAC-13.B5.2.6 |
| Li, Zhefeng | A | IAC-13.C3.P.9 |
| LI, Zhi | CA | IAC-13.A6.P.5 |
| Li, Zhihui | CA | IAC-13.C2.P.48 |
| Li, Zhizhuang | CA | IAC-13.B4.1.7 |
| Li, Zhongchi | CA | IAC-13.A1.6.8 |
| Li, Zongfeng | CA | IAC-13.A2.5.1 |
| Li, Zongfeng | A | IAC-13.A2.7.5 |
| Lian, Yijun | A | IAC-13.C1.8.6 |
| Lian-zhong, Chen | CA | IAC-13.C2.P.41 |
| Lianfeng, WEI | A | IAC-13.C2.P.26 |
| LIANG, Bin | CA | IAC-13.B6.P.3 |
| LIANG, Bin | CA | IAC-13.B6.P.5 |
| LIANG, Bin | CA | IAC-13.D1.P.10 |
| LIANG, Bin | CA | IAC-13.B4.7B.1 |
| Liang, HaoXiang | CA | IAC-13.V.3-B2.8.6 |
| Liang, Hong | A | IAC-13.E4.3.7 |
| Liang, Jie | A | IAC-13.D3.2.11 |
| Liang, Jie | A | IAC-13.C2.P.48 |
| Liang, JiQiu | A | IAC-13.D2.P.22 |
| Liang, Junlong | A | IAC-13.C4.P.66 |
| Liang, Ke | A | IAC-13.C1.8.8 |
| Liang, Lu | CA | IAC-13.A5.1.3 |
| Liang, Lu | CA | IAC-13.A5.P.2 |
| Liang, Pin | A | IAC-13.E2.1.3 |
| Liang, Ren | CA | IAC-13.C3.3.10 |
| Liang, Ren | A | IAC-13.C3.P.7 |
| Liang, Sihai | CA | IAC-13.B5.2.11 |
| Liang, Weiguang | A | IAC-13.B6.2.4 |
| Liang, Xianfeng | A | IAC-13.B2.2.4 |
| Liang, Xu | A | IAC-13.D2.5.7 |
| Liang, yan hui | A | IAC-13.D2.1.4 |
| Liang, Yuying | CA | IAC-13.A3.P.57 |
| Liang, Zeng | A | IAC-13.D2.3.9 |
| Liang, Zongchuang | CA | IAC-13.B2.6.5 |
| Liao, Ying-qiang | A | IAC-13.C2.4.5 |
| Liapi, Marianthi | A | IAC-13.B3.2.6 |
| Liapi, Marianthi | CA | IAC-13.E5.2.1 |
| Liapi, Marianthi | A | IAC-13.B3.5.5 |
| Liberatore, Danilo | A | IAC-13.B6.3.1 |
| Librantz, André | CA | IAC-13.C2.3.6 |
| Lier, Hartwin | CA | IAC-13.A1.7.10 |
| Lifshits, Jakob | A | IAC-13.B1.2.5 |
| Ligong, Zhang | CA | IAC-13.C2.P.64 |
| Lijie, Xu | A | IAC-13.D2.2.10 |
| Lijun, Liu | CA | IAC-13.B4.6A.8 |
| Lijun, Zhang | CA | IAC-13.B2.P.4 |
| Likhvantsev, Anatoly | CA | IAC-13.C4.P.9 |
| Likun, Liu | A | IAC-13.D1.P.3 |
| Lillestik, Oliver | CA | IAC-13.E3.3.5 |
| Lilley, David | A | IAC-13.A1.5.2 |
| Lillmaa, Henri | CA | IAC-13.C3.4.2 |
| Lillmaa, Henri | CA | IAC-13.C3.4.8 |
| Lim, Seong-Bin | CA | IAC-13.C3.3.4 |
| Lim, Seunghan | CA | IAC-13.E2.2.5 |
| Limonadi, Daniel | CA | IAC-13.A3.3A.2 |
| Lin, Airs | CA | IAC-13.A3.2D.2 |
| Lin, Chin | CA | IAC-13.A6.2.8 |
| Lin, Ganhong | A | IAC-13.C3.P.14 |
| Lin, Hai | CA | IAC-13.A2.3.8 |
| Lin, Hai | CA | IAC-13.A2.5.3 |
| LIN, Mo | CA | IAC-13.B5.1.10 |
| Lin, Qiuxia | A | IAC-13.A1.8.3 |
| Lin, Robert P. | A | IAC-13.B4.6B.15 |
| Lin, Shin-Fa | CA | IAC-13.B4.2.1 |
| Lin, Shin-Fa | CA | IAC-13.B4.3.5 |
| Lin, Yi | CA | IAC-13.B2.P.7 |
| Lin, Yi | CA | IAC-13.B2.P.18 |
| Lin, Yunlong | A | IAC-13.B1.3.6 |
| Linaraki, Despoina | CA | IAC-13.E5.2.1 |
| Linaraki, Despoina | A | IAC-13.E5.2.3 |
| Linaraki, Despoina | CA | IAC-13.B3.5.5 |
| Lindem, Torfinn | CA | IAC-13.E1.4.1 |
| LingXia, Wang | A | IAC-13.B2.3.11 |
| Link, Daniël Konrad | A | IAC-13.E7.P.5 |
| Linna, Wang | A | IAC-13.D2.5.9 |
| Linton, Greg | CA | IAC-13.E2.4.10 |
| Linton, Greg | CA | IAC-13.E1.7.5 |
| Liou, J.-C. | A | IAC-13.A6.4.2 |
| Liping , Tian | CA | IAC-13.A1.P.5 |
| Liqiang, Hou | A | IAC-13.C3.3.11 |
| List, Meike | CA | IAC-13.A2.1.6 |
| Little, Frank | A | IAC-13.C3.2.2 |
| Liu, Angus | CA | IAC-13.E2.3-V.4.1 |
| Liu, Bo | CA | IAC-13.B2.2.9 |
| Liu, Bo | A | IAC-13.B4.5.1 |
| Liu, Botao | CA | IAC-13.C2.P.42 |
| Liu, Chang | A | IAC-13.C4.5.6 |
| Liu, Changjun | A | IAC-13.C3.2.5 |
| Liu, Charles | CA | IAC-13.A3.2D.2 |
| Liu, Cheng | A | IAC-13.C3.3.7 |
| Liu, Chunlei | A | IAC-13.A1.P.7 |
| Liu, Cuihua | CA | IAC-13.A1.4.11 |
| Liu, Fang | CA | IAC-13.A1.1.5 |
| Liu, Fang | CA | IAC-13.A1.1.9 |
| Liu, Fang | CA | IAC-13.B2.3.10 |
| Liu, Fangwu | A | IAC-13.A1.P.13 |
| Liu, Feng | A | IAC-13.D3.P.5 |
| Liu, Guanglei | A | IAC-13.A1.P.73 |
| Liu, Haibin | CA | IAC-13.B5.2.9 |
| Liu, Haiping | A | IAC-13.C2.P.20 |
| Liu, Haitao | A | IAC-13.C3.2.4 |
| Liu, Haitao | A | IAC-13.A6.P.35 |
| LIU, Hao | A | IAC-13.B1.3.9 |
| Liu, Hao | CA | IAC-13.A1.P.46 |
| Liu, Haoting | A | IAC-13.D1.P.20 |
| Liu, Hong | A | IAC-13.A1.6.8 |
| Liu, Hong | A | IAC-13.A1.6.9 |
| Liu, Hongju | CA | IAC-13.A1.3.6 |
| Liu, Hongjun | CA | IAC-13.C4.P.57 |
| Liu, Hongying | CA | IAC-13.C2.P.17 |
| Liu, Houde | CA | IAC-13.B6.P.3 |
| Liu, Houde | A | IAC-13.D1.P.10 |
| Liu, Huan | A | IAC-13.B6.4-V.1.2 |
| Liu, Hui | A | IAC-13.A1.6.9 |
| Liu, Hui | CA | IAC-13.E6.2.5 |
| Liu, Huicui | CA | IAC-13.B2.P.14 |
| Liu, Huicui | CA | IAC-13.B2.4.14 |
| Liu, Huicui | CA | IAC-13.A3.2C.5 |
| Liu, Huicui | CA | IAC-13.A3.2C.9 |
| Liu, Jiangtao | CA | IAC-13.C3.P.14 |
| Liu, Jikui | CA | IAC-13.D1.P.5 |
| Liu, Junhu | CA | IAC-13.E1.1.3 |
| Liu, Junhu | CA | IAC-13.A3.P.45 |
| Liu, Junlian | CA | IAC-13.A1.2.4 |
| Liu, Kuo-Chia | CA | IAC-13.C1.3.1 |
| Liu, Lang | CA | IAC-13.C2.4.13 |
| Liu, Lei | CA | IAC-13.D1.P.5 |
| Liu, Ling | CA | IAC-13.B2.P.22 |
| Liu, Liu | CA | IAC-13.A1.5.1 |
| Liu, Mei | A | IAC-13.A1.6.7 |
| Liu, Na | A | IAC-13.C2.4.4 |
| Liu, Naijin | CA | IAC-13.B1.P.3 |
| Liu, Naijin | CA | IAC-13.B2.5.8 |
| Liu, Peijin | CA | IAC-13.C4.2.4 |
| Liu, Peijin | CA | IAC-13.C4.P.18 |
| Liu, Qiang | CA | IAC-13.B2.6.5 |
| Liu, Qinghui | CA | IAC-13.A7.1.7 |
| Liu, Qiu-Sheng | CA | IAC-13.A2.3.5 |
| Liu, Qiu-Sheng | A | IAC-13.A2.3.8 |
| Liu, Qiu-Sheng | A | IAC-13.A2.5.3 |
| Liu, Ruimin | CA | IAC-13.C4.P.8 |
| Liu, Sen | CA | IAC-13.A6.3.2 |
| Liu, Sen | CA | IAC-13.A6.3.7 |
| Liu, Sen | CA | IAC-13.A6.3.10 |
| Liu, Shang | A | IAC-13.C4.P.57 |
| Liu, Shengli | CA | IAC-13.A3.P.57 |
| Liu, Shengli | CA | IAC-13.C1.5.9 |
| Liu, Shengli | CA | IAC-13.B4.7B.3 |
| Liu, Shengli | CA | IAC-13.A3.3C.2 |
| Liu, Shengli | CA | IAC-13.D1.6.4 |
| Liu, Shengqian | CA | IAC-13.C2.P.32 |
| Liu, Shuang | A | IAC-13.C4.8.6 |
| Liu, Tao | CA | IAC-13.B2.1.9 |
| Liu, Tao | CA | IAC-13.B2.P.19 |
| Liu, Wanlong | A | IAC-13.C4.P.55 |
| Liu, Wei | CA | IAC-13.D2.2.6 |
| Liu, Wei | CA | IAC-13.D2.2.7 |
| Liu, Wei | CA | IAC-13.A6.P.28 |
| Liu, Wei | CA | IAC-13.D2.5.2 |
| Liu, Wei | CA | IAC-13.D2.9-D6.2.1 |
| Liu, Wugang | CA | IAC-13.A6.P.22 |
| Liu, Xiangnan | A | IAC-13.B2.P.7 |
| Liu, Xiangnan | CA | IAC-13.B2.P.18 |
| Liu, XiaoLei | A | IAC-13.D2.P.22 |
| Liu, Xin | CA | IAC-13.C4.2.4 |
| Liu, Xin | A | IAC-13.C4.P.18 |
| Liu, Xue | A | IAC-13.C4.5.3 |
| Liu, Xueyong | A | IAC-13.A1.1.5 |
| Liu, Xueyong | CA | IAC-13.A1.1.6 |
| Liu, Xueyong | CA | IAC-13.A1.1.9 |
| Liu, Xueyong | CA | IAC-13.A1.P.5 |
| Liu, Yan | CA | IAC-13.A1.5.1 |
| Liu, Yang | A | IAC-13.D2.2.9 |
| Liu, Yang | A | IAC-13.A5.4-D2.8.6 |
| Liu, Yang | A | IAC-13.D4.4.8 |
| Liu, Yihua | CA | IAC-13.C2.P.34 |
| Liu, Ying | A | IAC-13.C2.P.40 |
| Liu, Ying | A | IAC-13.A3.5.3 |
| Liu, Yu | CA | IAC-13.A1.2.4 |
| Liu, Yu | A | IAC-13.D3.4.8 |
| Liu, Yuelin | CA | IAC-13.E7.P.1 |
| LIU, Zhanguo | CA | IAC-13.C4.P.60 |
| Liu, Zhigang | CA | IAC-13.C3.3.8 |
| Liu, Zhou | CA | IAC-13.C2.7.8 |
| Liu, Ziqiang | A | IAC-13.D2.6.10 |
| Liyin, Wu | CA | IAC-13.C4.9.13 |
| Lizy-Destrez, Stéphanie | CA | IAC-13.A1.1.1 |
| Lizy-Destrez, Stéphanie | A | IAC-13.D3.1.6 |
| Lizy-Destrez, Stéphanie | A | IAC-13.E2.4.4 |
| Llorente, Salvador | A | IAC-13.B4.7B.4 |
| Lo, Martin | A | IAC-13.C1.8.1 |
| Locarini, Alfredo | CA | IAC-13.E2.3-V.4.4 |
| Locarini, Alfredo | CA | IAC-13.A6.P.29 |
| Locarini, Alfredo | CA | IAC-13.C2.9.7 |
| Lodiot, Sylvain | CA | IAC-13.A3.4.1 |
| Loeb, Horst | CA | IAC-13.C4.4.11 |
| Lognonné, Philippe | CA | IAC-13.A3.3A.6 |
| Long, cheng wu | A | IAC-13.D5.3.5 |
| Long, George Anthony | A | IAC-13.E7.2.10 |
| Long, George Anthony | A | IAC-13.E3.P.8 |
| Longfei, Hu | A | IAC-13.C2.6.3 |
| Lopes, Louise | CA | IAC-13.A3.P.44 |
| Lopez Risueno, Gustavo | CA | IAC-13.B2.1.2 |
| Lopez-Alegria, Michael | CA | IAC-13.E6.2.2 |
| Lopez-Reyes, Guillermo | CA | IAC-13.A3.2D.1 |
| Lopez-Reyes, Guillermo | CA | IAC-13.A3.P.29 |
| LORBER, Yann | CA | IAC-13.E1.9.3 |
| Losa, Damiana | CA | IAC-13.C1.5.3 |
| Losiak, Anna | A | IAC-13.B6.4-V.1.4 |
| Losiak, Anna | CA | IAC-13.B6.4-V.1.5 |
| Loughman, Joshua | CA | IAC-13.A6.8.1 |
| Loukakis, Andreas | A | IAC-13.E7.3.8 |
| Loupiak, Dmitry | A | IAC-13.D2.3.10 |
| Loupian, Evgeny | CA | IAC-13.B1.6.8 |
| Loureiro, Geilson | CA | IAC-13.D1.3.2 |
| Loureiro, Geilson | CA | IAC-13.D1.P.13 |
| Loureiro, Geilson | CA | IAC-13.D3.4.7 |
| Loureiro, Nuno | CA | IAC-13.A5.1.5 |
| Loures da Costa, Luis Eduardo | CA | IAC-13.D1.6.8 |
| Loures da Costa, Luis Eduardo | CA | IAC-13.D1.6.9 |
| Lousada, Joao | CA | IAC-13.D1.1.2 |
| Lousada, Joao | CA | IAC-13.A6.P.38 |
| Lousada, Joao | CA | IAC-13.A6.5.1 |
| Lousada, Joao | A | IAC-13.A6.6.2 |
| Lowe, Christopher | CA | IAC-13.A2.3.3 |
| Lowe, Christopher | A | IAC-13.D1.P.23 |
| Lowe, Christopher | A | IAC-13.B4.3.4 |

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|---|---|---|
| Lowe, Christopher | A | IAC-13.C3.4.4 |
| Lu, Bin | CA | IAC-13.C2.8.10 |
| Lu, Hua | CA | IAC-13.B2.P.19 |
| Lu, MingHui | A | IAC-13.E1.P.11 |
| Lu, Qiang | CA | IAC-13.C4.P.25 |
| Lu, Tianguang | CA | IAC-13.C4.P.65 |
| Lu, Wang | CA | IAC-13.A1.P.61 |
| LU, Wei | A | IAC-13.C1.4.10 |
| Lu, Weihong | A | IAC-13.A1.4.14 |
| Lu, Xi | A | IAC-13.C2.5.3 |
| Lu, Xi | CA | IAC-13.C4.6.8 |
| Lu, Yi | A | IAC-13.A3.P.17 |
| Lu, Zhongguo | CA | IAC-13.A1.P.41 |
| Lu, Zhuoyan | A | IAC-13.E7.1.10 |
| Lu, Zhuoyan | A | IAC-13.E3.3.8 |
| Lu, Zhuoyan | CA | IAC-13.E5.5.5 |
| Lu, Zhuoyan | A | IAC-13.E6.2.8 |
| Luan, Yu | CA | IAC-13.C2.1.7 |
| Lubniewski, Aleksander | CA | IAC-13.E2.3-V.4.3 |
| Lucarelli, Stefano | CA | IAC-13.C2.2.4 |
| Lucas, William | CA | IAC-13.E2.4.4 |
| Luchitskaya, Elena | A | IAC-13.A1.2.3 |
| Luchitskaya, Elena | CA | IAC-13.A1.2.10 |
| Luigi, Arione | CA | IAC-13.C4.3.4 |
| Lukaszczyk, Agnieszka | A | IAC-13.E3.4.4 |
| Lukaszczyk, Agnieszka | CA | IAC-13.E3.4.7 |
| Lukaszynski, Pawel | CA | IAC-13.C1.1.4 |
| Lukiyanchikov, Alexander | CA | IAC-13.A3.2C.4 |
| Lun, Jonathan | A | IAC-13.D4.1.8 |
| Lundquist, Charles | A | IAC-13.E4.1.2 |
| Lundquist, Charles | A | IAC-13.E4.3.2 |
| Lunghi, Paolo | A | IAC-13.C1.4.13 |
| LUO, Haiying | A | IAC-13.A1.7.11 |
| Luo, Jianjun | CA | IAC-13.C1.4.8 |
| Luo, Jianjun | CA | IAC-13.D1.4.4 |
| Luo, Jianjun | CA | IAC-13.B2.6.3 |
| Luo, Xi | CA | IAC-13.C2.5.1 |
| Luo, Ya-Zhong | CA | IAC-13.B6.3.3 |
| Luo, Yuejia | CA | IAC-13.A1.1.2 |
| Lupu, Elena Sorina | CA | IAC-13.B6.4-V.1.5 |
| Lupu, Elena Sorina | A | IAC-13.E2.3-V.4.8 |
| Luquet, Philippe | CA | IAC-13.B1.2.4 |
| Luraschi, Eleonora | CA | IAC-13.A6.6.6 |
| Lv, Hongqiang | A | IAC-13.C3.4.7 |
| Lv, Ke | CA | IAC-13.A1.2.1 |
| Lv, Ke | A | IAC-13.A1.3.8 |
| Lv, Ke | CA | IAC-13.A1.P.61 |
| Lv, Liangliang | A | IAC-13.C2.5.12 |
| Lv, Qiang | CA | IAC-13.B2.6.5 |
| LV, Wei | CA | IAC-13.C2.7.12 |
| Lv, Xuefei | CA | IAC-13.A1.P.31 |
| Lv, Xuefei | CA | IAC-13.A1.P.32 |
| Lyon, John | CA | IAC-13.A1.4.6 |
| Lysova, Natalya | CA | IAC-13.A1.3.5 |
| Lämmerzahl, Claus | CA | IAC-13.A2.1.1 |
| Lämmerzahl, Claus | CA | IAC-13.A2.1.4 |
| Lämmerzahl, Claus | CA | IAC-13.A2.1.8 |
| Lämmerzahl, Claus | CA | IAC-13.A2.5.8 |
| Lätt, Silver | CA | IAC-13.B4.2.10 |
| Lätt, Silver | CA | IAC-13.E1.3.5 |
| Lätt, Silver | CA | IAC-13.C3.4.2 |
| Lätt, Silver | CA | IAC-13.C3.4.8 |
| López, Deibi | CA | IAC-13.D1.1.3 |
| Löscher, Martin | CA | IAC-13.A5.P.13 |
| Lübberstedt, Hendrik | CA | IAC-13.C1.7.4 |
| Lübke-Ossenbeck, Bernard | CA | IAC-13.A6.4.5 |
| Lüthen, Christian | A | IAC-13.A1.3.1 |

## M

| Name | Role | Paper |
|---|---|---|
| M, Pitchaimani | CA | IAC-13.C1.3.3 |
| M, Pitchaimani | CA | IAC-13.B6.3.4 |
| M, Pitchaimani | CA | IAC-13.B6.3.5 |
| M, Radhakrishnan | CA | IAC-13.C4.3.8 |
| M Ganapathy, Rohan | A | IAC-13.C3.1.6 |
| M Ganapathy, Rohan | A | IAC-13.D3.1.9 |
| M Ganapathy, Rohan | A | IAC-13.D4.1.3 |
| M Ganapathy, Rohan | CA | IAC-13.D4.1.11 |
| M Ganapathy, Rohan | CA | IAC-13.E6.1.5 |
| M Ganapathy, Rohan | CA | IAC-13.A3.P.36 |
| M Ganapathy, Rohan | CA | IAC-13.A5.P.9 |
| M Ganapathy, Rohan | A | IAC-13.C4.P.49 |
| M Ganapathy, Rohan | A | IAC-13.C4.P.50 |
| M Ganapathy, Rohan | CA | IAC-13.E1.P.6 |
| M Ganapathy, Rohan | A | IAC-13.A1.5.3 |
| M Ganapathy, Rohan | A | IAC-13.A3.3B.4 |
| M Ganapathy, Rohan | A | IAC-13.A4.2.3 |
| M Ganapathy, Rohan | A | IAC-13.A4.2.9 |
| M Ganapathy, Rohan | A | IAC-13.D3.3.8 |
| M Ganapathy, Rohan | A | IAC-13.C4.6.6 |
| M Ganapathy, Rohan | A | IAC-13.C4.6.7 |
| M Ganapathy, Rohan | CA | IAC-13.C4.6.10 |
| M Ganapathy, Rohan | A | IAC-13.D4.3.1 |
| M Ganapathy, Rohan | A | IAC-13.C4.7-C3.5.9 |
| M Ganapathy, Rohan | A | IAC-13.A1.8.8 |
| Ma, Aijun | CA | IAC-13.A1.P.41 |
| Ma, Aijun | A | IAC-13.C2.P.17 |
| Ma, Gang | A | IAC-13.C2.P.64 |
| Ma, Handong | CA | IAC-13.C4.P.67 |
| Ma, Hong | CA | IAC-13.A1.P.18 |
| Ma, Hong | CA | IAC-13.A1.P.27 |
| Ma, Hong | CA | IAC-13.A1.P.28 |
| Ma, Kuan | CA | IAC-13.D3.4.8 |
| Ma, Nan | A | IAC-13.C4.P.60 |
| Ma, Shuhui | CA | IAC-13.D2.P.19 |
| Ma, Suhong | A | IAC-13.D1.6.7 |
| Ma, Weihua | CA | IAC-13.A3.3B.10 |
| Ma, Weihua | CA | IAC-13.D1.4.4 |
| Ma, Weihua | A | IAC-13.B2.6.3 |
| Ma, XiaoFei | A | IAC-13.B3.7.5 |
| Ma, Xue | A | IAC-13.C1.8.10 |
| Ma, Ye | CA | IAC-13.C2.P.10 |
| Ma, Ye | CA | IAC-13.C2.P.59 |
| Ma, Yuan | CA | IAC-13.D3.P.4 |
| Ma, Zhaoxia | CA | IAC-13.A6.3.10 |
| MA, Zhihao | CA | IAC-13.A6.P.5 |
| Ma, Zhonghui | CA | IAC-13.D2.P.12 |
| Maan, Cynthia | CA | IAC-13.D3.3.10 |
| Maass, Holger | CA | IAC-13.B1.4.4 |
| MacArthur, Jane | CA | IAC-13.B6.4-V.1.4 |
| MacArthur, Jane | CA | IAC-13.B6.4-V.1.5 |
| Maccone, Claudio | A | IAC-13.A4.P.4 |
| Maccone, Claudio | A | IAC-13.A4.2.10 |
| Macdonald, Malcolm | CA | IAC-13.A6.P.24 |
| Macdonald, Malcolm | CA | IAC-13.D1.P.23 |
| Macdonald, Malcolm | CA | IAC-13.C1.6.7 |
| Macdonald, Malcolm | CA | IAC-13.B4.3.4 |
| Macdonald, Malcolm | CA | IAC-13.C3.4.4 |
| Machut, Benoit | CA | IAC-13.A5.3-B3.6.11 |
| MacKay, Mark | CA | IAC-13.E1.7.9 |
| Madsnipour, Khosro | CA | IAC-13.C2.6.13 |
| Mafi, Mahsa | CA | IAC-13.A1.P.20 |
| Maggi, Filippo | A | IAC-13.C4.P.22 |
| Maggi, Filippo | CA | IAC-13.A6.6.5 |
| Maggiore, Paolo | CA | IAC-13.A1.4.10 |
| Magnani, Piergiovanni | A | IAC-13.A3.3B.11 |
| Magnani, Piergiovanni | CA | IAC-13.A3.4.11 |
| Magnani, Piergiovanni | CA | IAC-13.A3.3C.9 |
| Magner, Thomas | A | IAC-13.A3.5.9 |
| Mahapatra, Gourav | CA | IAC-13.B4.2.9 |
| Mahapatra, Gourav | A | IAC-13.B5.1.9 |
| Mahesh, Balabadra | A | IAC-13.C4.P.14 |
| Mahmoudi, Hadi | A | IAC-13.E7.5.13 |
| Mahoney, Erin | CA | IAC-13.E5.1.6 |
| Mahoney, Erin | A | IAC-13.E1.9.7 |
| Maier, Philipp | CA | IAC-13.D2.1.9 |
| Maier, Philipp | CA | IAC-13.E3.3.8 |
| Maier, Philipp | CA | IAC-13.D4.P.2 |
| Maier, Philipp | CA | IAC-13.D2.7.1 |
| Maier, Philipp | A | IAC-13.E6.2.9 |
| Maillet, Alain | CA | IAC-13.B6.1.5 |
| Mairopoulos, Dimitris | CA | IAC-13.E5.2.1 |
| Mairopoulos, Dimitris | CA | IAC-13.B3.5.5 |
| Maitrel, Steeve | CA | IAC-13.B6.2.10 |
| Maiwald, Volker | A | IAC-13.D1.1.2 |
| Maiwald, Volker | A | IAC-13.A5.1.1 |
| Maiwald, Volker | A | IAC-13.C3.3.15 |
| Maiwald, Volker | CA | IAC-13.A5.P.13 |
| Maiwald, Volker | A | IAC-13.A5.4-D2.8.9 |
| Majeedul H., Chowdhury | CA | IAC-13.A1.6.10 |
| Makarov, Alexander | A | IAC-13.A3.P.1 |
| Makarov, Yuriy | CA | IAC-13.B4.4.9 |
| Maki, Kenichiro | CA | IAC-13.C3.1.5 |
| Maki, Kenichiro | CA | IAC-13.C3.2.3 |
| Malaichamy, Saagar | CA | IAC-13.C4.7-C3.5.9 |
| Malekan, Mohammad | A | IAC-13.B4.3.9 |
| Maliet, Eric | CA | IAC-13.B1.1.10 |
| Maliet, Eric | CA | IAC-13.B1.2.4 |
| Maliet, Eric | CA | IAC-13.B1.4.9 |
| Maliet, Eric | A | IAC-13.B1.4.10 |
| Maliet, Eric | CA | IAC-13.A7.1.4 |
| Maliet, Eric | CA | IAC-13.A7.1.5 |
| Maliet, Eric | CA | IAC-13.B5.1.7 |
| Malik, Adeel | A | IAC-13.B2.4.6 |
| Malyshev, Veniamin V. | CA | IAC-13.C1.6.6 |
| Malysheva, Nataliya | A | IAC-13.E7.5.8 |
| Man, Fang | CA | IAC-13.C2.P.7 |
| Mancino, Fabrizio | A | IAC-13.A2.3.10 |
| Mancino, Fabrizio | CA | IAC-13.E2.3-V.4.5 |
| Maneiro, Mariana | A | IAC-13.E1.7.11 |
| Manieri, Pierfilippo | CA | IAC-13.B3.4-B6.5.2 |
| Manieri, Pierfilippo | CA | IAC-13.A5.3-B3.6.2 |
| Manjoo, Khalid | A | IAC-13.B4.1.3 |
| Mankavi, Faramarz | CA | IAC-13.C4.P.41 |
| Mankavi, Faramarz | CA | IAC-13.C4.4.8 |
| Mankins, John C. | A | IAC-13.C3.1.2 |
| Mankins, John C. | A | IAC-13.D3.4.1 |
| Manoliu, Laura | CA | IAC-13.E2.3-V.4.8 |
| Mantelet, Guy | CA | IAC-13.D1.2.8 |
| Manzella, David H. | A | IAC-13.C4.6.4 |
| Manzone, Santolo | CA | IAC-13.A2.3.10 |
| Manzone, Santolo | CA | IAC-13.E2.3-V.4.5 |
| Mao, Xiu | A | IAC-13.B5.1.10 |
| Marboe, Irmgard | A | IAC-13.E7.4.2 |
| Marceta, Dusan | A | IAC-13.A3.3C.3 |
| Marchand, Emilien | CA | IAC-13.A5.4-D2.8.9 |
| Marchese, Linda | CA | IAC-13.B1.3.11 |
| Marchetti, Mario | CA | IAC-13.C2.4.1 |
| Marchetti, Mario | CA | IAC-13.C2.4.11 |
| Marchetti, Mario | CA | IAC-13.C2.P.55 |
| Marchetti, Mario | CA | IAC-13.C2.8.9 |
| Marciacq, Jean-Bruno | A | IAC-13.D6.1.6 |
| Marciniak, Blazej | CA | IAC-13.D2.6.9 |
| Marcuccio, Salvo | A | IAC-13.D1.2.9 |
| Marcuccio, Salvo | A | IAC-13.C4.4.5 |
| Marcuccio, Salvo | A | IAC-13.B4.6A.5 |
| Margolles, Regina | CA | IAC-13.A3.P.29 |
| Marie, Aurélien | CA | IAC-13.A5.3-B3.6.11 |
| Marino, Giuliano | CA | IAC-13.D2.6.2 |
| Marino, Giuliano | CA | IAC-13.D2.6.6 |
| Marino, Michele | CA | IAC-13.C3.4.9 |
| Marins Chiaradia, Ana Paula | A | IAC-13.E4.1.7 |
| Markov-Vetter, Daniela | CA | IAC-13.A1.1.8 |
| Markov-Vetter, Daniela | CA | IAC-13.B6.1.2 |
| Marlar, Christopher | CA | IAC-13.E1.3.1 |
| Marlar, Christopher | CA | IAC-13.E1.7.3 |
| Marongiu, Andrea | CA | IAC-13.A3.5.4 |
| Marsetič, Aleš | CA | IAC-13.B1.2.5 |
| Marshall-Bowman, Karina | CA | IAC-13.A1.5.11 |
| Martin, Annie | A | IAC-13.E6.4-D4.2.7 |
| Martin, Iain | A | IAC-13.C1.5.10 |
| Martin, Jim | CA | IAC-13.B6.4-V.1.3 |
| Martin, Jim | CA | IAC-13.C1.7.5 |
| Martin, Sebastian | CA | IAC-13.A5.3-B3.6.2 |
| Martin-Salvador, Manuel | CA | IAC-13.B2.6.4 |
| Martinez, Larry | A | IAC-13.E7.3.6 |
| Martinez, Lisandro | A | IAC-13.E5.3.10 |
| Martinez, Peter | A | IAC-13.E3.1.9 |
| Martinez, Peter | A | IAC-13.E3.4.3 |
| Martinez, Roland | CA | IAC-13.B3.1.8 |
| Martinez, Roland | CA | IAC-13.A3.P.8 |
| Martinez Barrio, Alvaro | CA | IAC-13.D1.P.15 |
| Martinez-Tristancho, Juan | CA | IAC-13.D2.7.10 |
| Martinez-Tristancho, Juan | A | IAC-13.D3.4.5 |
| Martinot, Vincent | CA | IAC-13.C1.7.2 |
| Martynov, Maxim | A | IAC-13.A3.2C.4 |
| Martín, Javier | CA | IAC-13.B5.2.8 |
| Marwaha, Nikita | CA | IAC-13.B5.2.7 |
| Marx, Johan | CA | IAC-13.B4.7A.2 |
| Marx, Johan | CA | IAC-13.D1.4.6 |
| MAS, MIGUEL | CA | IAC-13.A3.P.51 |
| Mascetti, Gabriele | CA | IAC-13.A2.3.2 |
| Masdemont, Josep J. | CA | IAC-13.C1.3.10 |
| Masdemont, Josep J. | CA | IAC-13.C1.8.2 |
| Masdemont, Josep J. | CA | IAC-13.C1.8.6 |
| Masdemont, Josep J. | CA | IAC-13.C1.8.9 |
| Mase, Robert | CA | IAC-13.A3.4.10 |
| Mashtak, Igor | A | IAC-13.D2.P.16 |
| Maslyany, Mykola | CA | IAC-13.D2.7.7 |
| Mason, Glenn | CA | IAC-13.A1.4.6 |
| Massari, Mauro | CA | IAC-13.E2.2.2 |
| Massobrio, Federico | CA | IAC-13.D3.1.3 |
| Masuda, Daisuke | A | IAC-13.A1.4.7 |
| Masui, Hirokazu | CA | IAC-13.B4.6B.2 |
| Masui, Hirokazu | CA | IAC-13.D5.3.10 |
| Masui, Naoki | CA | IAC-13.D4.3.6 |
| MATAS, Attila | A | IAC-13.B4.3.6 |
| Mathee, Bertus | CA | IAC-13.B5.1.12 |
| Mathieu, Charlotte | A | IAC-13.A6.8.2 |
| Mathisen, Stian Vik | CA | IAC-13.E1.4.1 |
| Matko, Drago | CA | IAC-13.B1.2.5 |
| Matney, Mark | A | IAC-13.A6.6.10 |
| Matsak, Ivan | CA | IAC-13.C3.2.8 |
| Matsuda, Seiji | CA | IAC-13.E7.7-B3.8.8 |
| Matsumoto, Haruhisa | CA | IAC-13.A6.1.9 |
| Matsumoto, Jun | CA | IAC-13.C1.9.2 |
| Matsumoto, Kohtaro | A | IAC-13.A5.P.12 |
| Matsumoto, Satoshi | CA | IAC-13.A2.2.3 |
| Matsumoto, Satoshi | CA | IAC-13.A2.6.3 |
| Matsumoto, Satoshi | CA | IAC-13.A2.7.1 |
| Matsumoto, Yoshitaka | CA | IAC-13.A1.4.11 |
| Matsunaga, Yoshiki | CA | IAC-13.D5.2.6 |
| Matsuo, Tetsuya | A | IAC-13.C4.3.2 |
| Matsuo, Yutaro | CA | IAC-13.C2.2.9 |
| Matsushita, Akihiro | CA | IAC-13.C4.3.2 |
| Mattoli, Virgilio | CA | IAC-13.A1.P.58 |
| Mattoli, Virgilio | CA | IAC-13.A1.P.59 |
| Matunaga, Saburo | CA | IAC-13.C1.2.4 |
| Matunaga, Saburo | CA | IAC-13.C1.2.4 |
| Matunaga, Saburo | CA | IAC-13.C1.4.9 |
| Matveeva, Tatiana | A | IAC-13.A2.5.6 |
| Matveeva, Tatiana | A | IAC-13.B6.1.7 |
| Matvienko, Sergey | A | IAC-13.A2.1.9 |
| Matviyenko State DesOfficeign, Sergiy | A | IAC-13.A1.4.9 |
| Matyszewski, Jan | CA | IAC-13.D2.6.9 |
| May, Jackson | A | IAC-13.E2.4.2 |
| May, Todd | A | IAC-13.A5.4-D2.8.2 |
| Mayer, Tobias | A | IAC-13.C4.P.33 |
| Mayo, Susan | CA | IAC-13.B3.3.4 |
| Mayorova, Vera | A | IAC-13.E2.4.9 |
| Mayorova, Vera | CA | IAC-13.E5.3.11 |
| Mayorova, Vera | A | IAC-13.E1.7.4 |
| Mayrhofer, Michael | CA | IAC-13.A1.P.16 |
| Mazur, Joe | CA | IAC-13.A5.P.1 |
| Mazzaracchio, Antonio | A | IAC-13.C2.P.55 |
| Mazzolai, Barbara | CA | IAC-13.A1.P.59 |
| Mazzucchelli, Chiara | CA | IAC-13.A4.P.4 |
| Mc Guire, Nicholas | A | IAC-13.D1.2.2 |

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|---|---|---|
| McAdams, James | CA | IAC-13.A1.4.6 |
| McAuliffe, Jonathan | CA | IAC-13.A3.5.4 |
| McClements, Chris | CA | IAC-13.D1.2.8 |
| McClements, Chris | CA | IAC-13.B2.3.1 |
| McCoubrey, Ryan | A | IAC-13.A3.2A.2 |
| McFather, Jon | CA | IAC-13.A1.P.70 |
| McGowan, David | CA | IAC-13.A3.1.3 |
| McGuire, Melissa | CA | IAC-13.C4.6.4 |
| McInnes, Colin R. | CA | IAC-13.C1.3.2 |
| McInnes, Colin R. | CA | IAC-13.A3.P.59 |
| McInnes, Colin R. | CA | IAC-13.A6.P.12 |
| McInnes, Colin R. | CA | IAC-13.A6.P.24 |
| McInnes, Colin R. | CA | IAC-13.C2.5.4 |
| McInnes, Colin R. | CA | IAC-13.C1.6.9 |
| McInnes, Colin R. | CA | IAC-13.C1.7.8 |
| McInnes, Colin R. | CA | IAC-13.C1.8.3 |
| McInnes, Colin R. | CA | IAC-13.C1.8.11 |
| McInnes, Colin R. | CA | IAC-13.A3.3C.4 |
| McInnes, Colin R. | CA | IAC-13.C1.9.6 |
| McIntyre, Ross | CA | IAC-13.E1.1.1 |
| McIntyre, Ross | CA | IAC-13.E1.2.9 |
| McKenzie, Gordon | CA | IAC-13.C2.2.8 |
| McKnight, Darren | A | IAC-13.A6.2.1 |
| McLinden, Chris | CA | IAC-13.B1.5.8 |
| McNally, Ian | A | IAC-13.C3.1.7 |
| McNutt, Jr., Ralph L. | A | IAC-13.A1.4.6 |
| McRobb, Malcolm | CA | IAC-13.D1.5.3 |
| Mead, Curtis | A | IAC-13.A4.1.6 |
| Medenkov, Alexander | A | IAC-13.E4.1.8 |
| Meijerink, Arjan | CA | IAC-13.B2.3.6 |
| Meijerink, Arjan | CA | IAC-13.B4.7B.6 |
| Meijerink, Arjan | CA | IAC-13.B2.4.4 |
| Mejía, Álvaro | CA | IAC-13.E4.1.7 |
| Mejía Santamaría, Iván David | CA | IAC-13.E1.3.8 |
| Melchiorri, Julian | CA | IAC-13.E5.4.6 |
| Mellab, Karim | CA | IAC-13.B4.4.5 |
| Melo, Francisco | CA | IAC-13.C4.5.8 |
| Melo, Francisco | CA | IAC-13.E6.2.10 |
| Melton, Robert G. | A | IAC-13.C1.1.1 |
| Menciassi, Arianna | CA | IAC-13.A1.P.58 |
| Mendez, Natally | CA | IAC-13.E1.3.8 |
| MENG, CHEN | A | IAC-13.A5.3-B3.6.10 |
| Meng, Ding | CA | IAC-13.C4.9.9 |
| Meng, Guang | CA | IAC-13.C2.5.3 |
| Meng, Gui | CA | IAC-13.B3.7.1 |
| Meng, Lifei | CA | IAC-13.D5.3.13 |
| Meng, Linzhi | CA | IAC-13.A3.2B.2 |
| Meng, Xiangang | CA | IAC-13.D1.P.5 |
| Meng, Yansong | CA | IAC-13.B2.P.8 |
| Meng, Yansong | CA | IAC-13.B2.7.6 |
| Mengjiong, Chen | CA | IAC-13.A3.3C.8 |
| Menon, Arya | A | IAC-13.B2.4.7 |
| Mercer, Carolyn | CA | IAC-13.A5.2.3 |
| Mercier, Gaétan | CA | IAC-13.A3.P.22 |
| Merino, Mario | A | IAC-13.C4.4.12 |
| Merkin, Viacheslav | CA | IAC-13.A1.4.6 |
| Merkle, Fritz | CA | IAC-13.A2.1.8 |
| Merkov, Alecsander | CA | IAC-13.C4.7-C3.5.10 |
| Merrell, Phil | CA | IAC-13.A3.2A.6 |
| Merz, Klaus | CA | IAC-13.A6.2.4 |
| Merz, Klaus | CA | IAC-13.A6.2.5 |
| Merz, Klaus | CA | IAC-13.A6.P.8 |
| Merz, Klaus | CA | IAC-13.A6.7.6 |
| Meschede, Thomas | CA | IAC-13.D3.3.5 |
| Meskoob, Behnoosh | A | IAC-13.E1.6.7 |
| Meskoob, Behnoosh | CA | IAC-13.E7.7-B3.8.5 |
| Messerschmidt, Boris | CA | IAC-13.C2.2.4 |
| Messidoro, Andrea | CA | IAC-13.A1.4.10 |
| Messidoro, Piero | CA | IAC-13.D3.2.6 |
| Mest, Scott C. | CA | IAC-13.A3.2D.3 |
| Metris, Gilles | CA | IAC-13.A2.1.5 |
| Meulenberg, Andrew | A | IAC-13.D4.3.5 |
| Meurisse, Jean-Baptiste | CA | IAC-13.A3.3B.5 |
| Mewaldt, Richard | CA | IAC-13.A1.4.6 |
| Meyen, Forrest | CA | IAC-13.A1.P.55 |
| Meyer, Andreas | CA | IAC-13.A2.5.7 |
| Mi, Tao | CA | IAC-13.A1.2.4 |
| Miao, Jianyin | CA | IAC-13.C2.7.12 |
| Miao, Nan | CA | IAC-13.A2.2.5 |
| Miao, Nan | A | IAC-13.A2.P.6 |
| Michaelis, Harald | CA | IAC-13.A3.2A.9 |
| MICHALOUDIS, Ioannis | A | IAC-13.E5.4.7 |
| Michaud, Joel | CA | IAC-13.B4.8.1 |
| Michel, Alice | A | IAC-13.B3.4-B6.5.2 |
| Michel, Alice | CA | IAC-13.A5.3-B3.6.2 |
| Mickiewicz, Maciej | CA | IAC-13.E3.1.4 |
| Mickiewicz, Maciej | CA | IAC-13.E1.7.1 |
| Mignot, Jean | CA | IAC-13.E2.4.4 |
| Mihail, Valentin Laurentiu | CA | IAC-13.A3.2B.5 |
| Mikhail, Rudnykh | CA | IAC-13.C4.3.4 |
| Mikrin, Evgeny | A | IAC-13.B3.2.4 |
| Mikusch, Eberhard | CA | IAC-13.B1.4.4 |
| Milanov, Aleksandar | A | IAC-13.A4.2.8 |
| Miller, David | CA | IAC-13.D1.P.29 |
| Millour, Ehouarn | CA | IAC-13.D3.3.10 |
| Milova, Praskovia | CA | IAC-13.C4.P.22 |
| Milshteyn, Aleksander | A | IAC-13.A3.2D.2 |
| MIMOUN, David | CA | IAC-13.A3.3A.6 |
| Min, Tang | CA | IAC-13.C2.4.7 |
| Min, Tang | CA | IAC-13.C2.4.9 |
| Min, Wu | A | IAC-13.B1.1.7 |
| Min, Yuan | CA | IAC-13.A1.3.6 |
| Min, Yuan | CA | IAC-13.A1.P.68 |
| Ming, An | CA | IAC-13.B6.3.8 |
| Ming, An | A | IAC-13.B6.3.9 |
| Ming, An | CA | IAC-13.B6.1.8 |
| Ming, Ji | CA | IAC-13.A3.P.24 |
| Ming, Zhang | CA | IAC-13.A3.P.19 |
| Mingireanu, Florin | A | IAC-13.C4.P.61 |
| Mingotti, Giorgio | CA | IAC-13.C1.3.2 |
| Mingotti, Giorgio | A | IAC-13.C1.8.11 |
| Mingzhang, Tang | CA | IAC-13.A7.2.5 |
| Minisci, Edmondo | CA | IAC-13.C2.7.3 |
| Minnifield Cheeks, Nona | A | IAC-13.E5.3.7 |
| Minnifield Cheeks, Nona | A | IAC-13.E5.3.9 |
| Minster, Olivier | CA | IAC-13.B3.3.2 |
| Minteev, Grygory | CA | IAC-13.D2.7.7 |
| Minwen, LIAO | A | IAC-13.E7.7-B3.8.3 |
| Mirahmetoglu, Halit | CA | IAC-13.E1.9.3 |
| Miranda, Hector | A | IAC-13.A1.P.24 |
| Misra, Arun | CA | IAC-13.D4.3.2 |
| Misra, Arun | CA | IAC-13.D4.3.3 |
| Misra, Arun | CA | IAC-13.C1.9.3 |
| Misra, Gaurav | CA | IAC-13.A5.P.13 |
| MISRA, RADHIKA | A | IAC-13.E7.P.6 |
| Misuri, Tommaso | A | IAC-13.C4.6.2 |
| Mitin, Vadim | A | IAC-13.D2.2.2 |
| Mitra, Peetak | CA | IAC-13.B2.1.8 |
| Mitry, Mina | CA | IAC-13.E2.3-V.4.1 |
| Mittlboeck, Manfred | CA | IAC-13.B1.5.3 |
| Miura, Amane | A | IAC-13.B2.6.6 |
| Miura, Masashi | A | IAC-13.D2.4.11 |
| Miyake, Masazumi | A | IAC-13.B3.1.4 |
| Miyamoto, Keiichi | CA | IAC-13.A3.1.5 |
| Moccia, Antonio | CA | IAC-13.B1.5.2 |
| Moccia, Antonio | CA | IAC-13.B5.2.4 |
| Mochizuki, Brent | A | IAC-13.B4.6B.15 |
| Moeckel, MArek | CA | IAC-13.A6.2.5 |
| Moeckel, Marek | CA | IAC-13.A6.P.8 |
| Moeini, Esmaeil | A | IAC-13.C2.P.47 |
| Moens, Sarah | CA | IAC-13.E7.1.4 |
| Mogavero, Alessandro | CA | IAC-13.D2.P.15 |
| Mohammadi, Aidin | A | IAC-13.C1.2.13 |
| Mohd Harithuddin, Ahmad Salahuddin | A | IAC-13.C1.1.10 |
| Mohta, Gaurav | CA | IAC-13.B2.4.7 |
| Moitinho de Almeida, André | CA | IAC-13.A6.1.10 |
| Molazadeh, vahid reza | CA | IAC-13.A3.P.47 |
| Molchanov, Sergey | CA | IAC-13.A6.P.31 |
| Moldabekov, Meirbek | CA | IAC-13.B1.2.3 |
| Moll, Eckard | CA | IAC-13.A1.1.8 |







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| Molobye, Tebogo | A | IAC-13.E1.P.5 |
| Moloney, Michael | A | IAC-13.E3.2.4 |
| Molotov, Igor | A | IAC-13.A6.1.1 |
| Monge, Angel | A | IAC-13.B1.4.6 |
| Monici, Monica | CA | IAC-13.A1.P.58 |
| Monna, Bert | CA | IAC-13.C1.4.6 |
| Monserrat-Filho, José | A | IAC-13.E7.5.1 |
| Montanaro, Laura | CA | IAC-13.A1.4.10 |
| Montebugnoli, Stelio | A | IAC-13.A4.1.4 |
| Montebugnoli, Stelio | CA | IAC-13.A4.1.5 |
| Monti, Rodolfo | CA | IAC-13.D6.1.8 |
| Moore, Christopher | A | IAC-13.D3.2.2 |
| Moraes Jr., Paulo | A | IAC-13.C2.7.6 |
| Moral, Andoni | CA | IAC-13.A3.3B.6 |
| Moral, Andoni G. | CA | IAC-13.A3.2D.1 |
| Moral, Andoni G. | A | IAC-13.A3.P.58 |
| Moreau, Didier | CA | IAC-13.B3.4-B6.5.2 |
| Moreau, Didier | CA | IAC-13.A5.3-B3.6.2 |
| Moreno, Sabine | CA | IAC-13.A3.3C.6 |
| Morfill, Gregor | CA | IAC-13.A2.7.7 |
| Mori, Osamu | CA | IAC-13.C2.2.9 |
| Mori, Osamu | CA | IAC-13.C2.2.10 |
| Mori, Osamu | CA | IAC-13.B4.6A.4 |
| Mori, Yuji | CA | IAC-13.D2.1.7 |
| Morimoto, Hitoshi | CA | IAC-13.A3.2A.4 |
| Morita, Yasuhiro | A | IAC-13.D2.1.2 |
| Morita, Yasuhiro | CA | IAC-13.D2.4.12 |
| Morito, Toshiki | CA | IAC-13.B3.2.4 |
| Moroz, Michal | CA | IAC-13.E3.1.4 |
| Moroz, Michal | A | IAC-13.E1.7.1 |
| Morozova (Zaytseva), Elina | A | IAC-13.E7.2.4 |
| Morselli, Alessandro | A | IAC-13.A6.P.11 |
| Morukov, Boris | CA | IAC-13.A1.3.4 |
| Morukov, Boris | CA | IAC-13.A5.2.8 |
| Mosebach, Herbert | CA | IAC-13.B1.3.1 |
| Mosebach, Herbert | CA | IAC-13.A3.3B.7 |
| Moser, Linda | CA | IAC-13.B6.4-V.1.4 |
| Moser, Linda | CA | IAC-13.B6.4-V.1.5 |
| Moshnin, Alexander | CA | IAC-13.C1.6.14 |
| Moshonkina, Tatiana | CA | IAC-13.A1.P.74 |
| Mostert, Sias | CA | IAC-13.B4.1.3 |
| Motil, Brian | A | IAC-13.A2.6.2 |
| Motooka, Norizumi | A | IAC-13.C1.5.1 |
| Motsyk, Olga | CA | IAC-13.D2.7.7 |
| Mottaghi, Sohrob | A | IAC-13.A5.1.9 |
| Motzigemba, Matthias | A | IAC-13.B2.3.9 |
| MOULIN, Michel | CA | IAC-13.B6.2.10 |
| Moullec, Maud | CA | IAC-13.B5.2.7 |
| Mouriaux, Pierre-François | A | IAC-13.E4.1.1 |
| Movahedi, Zeinab | CA | IAC-13.B2.5.4 |
| Mu, Rongjun | CA | IAC-13.D2.P.7 |
| Muckenthaler, Florian | CA | IAC-13.A5.2.8 |
| Mudie, Stephen | CA | IAC-13.D1.P.17 |
| Muehlbauer, Quirin | CA | IAC-13.A6.6.11 |
| Mueller, Florian | CA | IAC-13.E5.1.4 |
| Mueller, Robert | CA | IAC-13.A5.1.5 |
| Mueller, Thomas | A | IAC-13.B3.4-B6.5.4 |
| Mugellesi-Dow, Roberta | A | IAC-13.D5.2.2 |
| Mughal, M.Rizwan | A | IAC-13.D1.3.7 |
| Mughal, M.Rizwan | A | IAC-13.B4.6A.7 |
| Mughal, M.Rizwan | CA | IAC-13.C3.4.5 |
| Mugnuolo, Raffaele | CA | IAC-13.A3.P.31 |
| Muhammad, Muddassir | CA | IAC-13.C2.8.5 |
| Muller, Adrien | A | IAC-13.B1.1.4 |
| Muller, Christian | CA | IAC-13.B3.4-B6.5.2 |
| Muller, Christian | CA | IAC-13.A1.5.12 |
| Muller, Florent | CA | IAC-13.A6.P.42 |
| Muneer, Javeria | A | IAC-13.B1.P.13 |
| Munoz, Miguel Angel | CA | IAC-13.C3.2.7 |
| Munusamy, Raja | A | IAC-13.B2.P.16 |
| Murakami, Keiji | CA | IAC-13.A2.7.8 |
| Murakami, Naomi | CA | IAC-13.B4.6A.2 |
| Muraki, Yusuke | A | IAC-13.D4.4.6 |
| Murcia Jaque, Walther Joseph | CA | IAC-13.E1.3.8 |
| Muresan, Camil Alexandru | CA | IAC-13.E2.3-V.4.8 |
| Murtazin, Rafail | A | IAC-13.B3.2.5 |
| Murthi, K.R. Sridhara | CA | IAC-13.B1.4.7 |
| Murthi, K.R. Sridhara | CA | IAC-13.B1.5.9 |
| Murthi, K.R. Sridhara | CA | IAC-13.E7.5.7 |
| Murugesan, Vivek | CA | IAC-13.D3.3.8 |
| Murushkin, S | CA | IAC-13.B1.2.3 |
| Murushkin, S | CA | IAC-13.D1.3.6 |
| Murzakulov, G.T. | CA | IAC-13.B1.2.3 |
| Murzakulov, G.T. | A | IAC-13.D1.3.6 |
| Murzionak, Piotr | CA | IAC-13.A5.3-B3.6.4 |
| Musabayev, Talgat A. | A | IAC-13.B1.2.3 |
| Mutalik Desai, Ashwini | CA | IAC-13.E2.3-V.4.9 |
| Mutalik Desai, Ashwini | CA | IAC-13.E2.4.8 |
| Muthuswamy, Loganathan | CA | IAC-13.C1.2.8 |
| Muthuswamy, Loganathan | CA | IAC-13.E2.4.7 |
| Muthuswamy, Loganathan | CA | IAC-13.D1.4.8 |
| Muthuswamy, Loganathan | CA | IAC-13.B2.4.5 |
| Muthuswamy, Loganathan | CA | IAC-13.C3.4.6 |
| Muñoz, Gisela A. | A | IAC-13.E5.2.2 |
| Möckel, Marek | CA | IAC-13.A6.2.2 |
| Möckel, Marek | CA | IAC-13.A6.2.3 |
| Möckel, Marek | A | IAC-13.A6.P.14 |

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|---|---|---|
| Na, Duan | A | IAC-13.C4.P.4 |
| Na, M. | A | IAC-13.C1.3.7 |
| Na, Wei | CA | IAC-13.C2.4.4 |
| Nachila, Costel | CA | IAC-13.E2.3-V.4.8 |
| Nachon, Marion | CA | IAC-13.D3.3.10 |
| Nader, Ronnie | CA | IAC-13.E1.1.2 |
| Nag, Sreeja | A | IAC-13.B4.7B.2 |
| Nagabhushana, Shruthi | CA | IAC-13.D1.4.11 |
| Nagai, Yuichiro | A | IAC-13.E7.5.6 |
| Nagalakshmi, Annkatattahalli | CA | IAC-13.C1.4.7 |
| Nagalakshmi, Annkatattahalli | CA | IAC-13.C1.5.8 |
| Nagarajan, Chandrasekhar | CA | IAC-13.C3.P.22 |
| Nagarajan, Vedachalam | CA | IAC-13.D2.5.3 |
| Nagendra, Narayan Prasad | A | IAC-13.E1.8.7 |
| Nagendra, Narayan Prasad | A | IAC-13.B4.3.7 |
| Naik, Kshitij | CA | IAC-13.B5.1.9 |
| Naik, Manasa Gajanan | CA | IAC-13.C3.4.6 |
| Nair, Raj | A | IAC-13.E6.2.6 |
| Naja, Geraldine | CA | IAC-13.A6.8.2 |
| Nakajima, Yuta | A | IAC-13.B4.6A.2 |
| Nakamiya, Masaki | A | IAC-13.A6.5.4 |
| Nakamura, Yasuhiro | CA | IAC-13.A2.7.8 |
| Nakano, Eiichiro | CA | IAC-13.D2.3.3 |
| Nakasuka, Shinichi | CA | IAC-13.C3.1.8 |
| Naldi, Stefano | CA | IAC-13.E2.3-V.4.4 |
| Naldi, Stefano | CA | IAC-13.A6.P.29 |
| Naldi, Stefano | CA | IAC-13.C2.9.7 |
| Nambiar, Harshad | CA | IAC-13.C3.1.6 |
| Nambiar, Harshad | A | IAC-13.E6.1.5 |
| Nambiar, Harshad | CA | IAC-13.A3.P.36 |
| Nambiar, Harshad | CA | IAC-13.A3.3B.4 |
| Nambiar, Harshad | CA | IAC-13.A4.2.3 |
| Nambiar, Harshad | CA | IAC-13.A4.2.9 |
| Nambiar, Harshad | CA | IAC-13.C4.6.7 |
| Nanduri, Pavan Kumar | CA | IAC-13.D4.1.11 |
| Nanduri, Pavan Kumar | CA | IAC-13.B2.P.16 |
| Nanduri, Pavan Kumar | A | IAC-13.B2.4.8 |
| Nanduri, Pavan Kumar | CA | IAC-13.D5.3.4 |
| Nania, Francesco | CA | IAC-13.C4.P.37 |
| Nania, Francesco | CA | IAC-13.C4.4.4 |
| Narasimhan, Arun | CA | IAC-13.A5.P.9 |
| Narasimhan, Arun | A | IAC-13.C4.7-C3.5.7 |
| Nardecchia, Luca | CA | IAC-13.D2.1.9 |
| Nardecchia, Luca | A | IAC-13.A5.2.4 |
| Nardecchia, Luca | CA | IAC-13.D2.7.1 |
| Narita, Shinichiro | A | IAC-13.A3.5.7 |
| Narita, Takanori | A | IAC-13.D2.5.6 |

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| Narlely, Judin | A | IAC-13.C2.5.10 |
| Narlely, Judin | A | IAC-13.C4.4.3 |
| Narumi, Tomohiro | A | IAC-13.A6.P.37 |
| Narumi, Tomohiro | CA | IAC-13.D5.3.10 |
| Naruo, Yoshihiro | CA | IAC-13.C4.1.8 |
| Narusawa, Shin-ya | A | IAC-13.A4.P.2 |
| Narusawa, Shin-ya | A | IAC-13.A4.1.2 |
| Nascetti, Augusto | CA | IAC-13.C1.1.12 |
| Nasseri, Seyed Ali | A | IAC-13.E1.2.10 |
| Nasseri, Seyed Ali | CA | IAC-13.D3.2.3 |
| Nasseri, Seyed Ali | A | IAC-13.A6.P.38 |
| Nasseri, Seyed Ali | A | IAC-13.D2.P.18 |
| Nasseri, Seyed Ali | A | IAC-13.D2.P.23 |
| Nasseri, Seyed Ali | A | IAC-13.V.2-B3.9.3 |
| Nasuti, Francesco | CA | IAC-13.C4.5.1 |
| Natalizio, Nicholas | CA | IAC-13.E1.P.4 |
| Natarajan, P. | CA | IAC-13.C1.4.7 |
| Nathanson, Emil | CA | IAC-13.A1.6.6 |
| Natori, M.C. | CA | IAC-13.C2.2.10 |
| Natori, M.C. | CA | IAC-13.B4.6A.4 |
| Naud-Dulude, Frédéric | CA | IAC-13.E2.3-V.4.4 |
| Naudet, Joris | A | IAC-13.B4.6B.4 |
| Navaneethan, Mansu | A | IAC-13.B3.P.3 |
| Nayak, C Gurudas | CA | IAC-13.D2.3.7 |
| Nayak, Shailesh | CA | IAC-13.B1.4.7 |
| Nayyar, Mollik | A | IAC-13.C2.6.2 |
| Nayyar, Mollik | A | IAC-13.C2.7.7 |
| Nazario, Margaret L. | CA | IAC-13.C4.6.4 |
| Nazirov, Ravil | CA | IAC-13.A3.5.8 |
| Nebergall, Kent | CA | IAC-13.B3.5.6 |
| Negoda, Sergiy | A | IAC-13.E7.5.14 |
| Negri, Andrea | CA | IAC-13.C3.4.9 |
| Negrin, Sandra | CA | IAC-13.B1.4.6 |
| Nekkanti, Sanjay Srikanth | A | IAC-13.E1.8.7 |
| Nekkanti, Sanjay Srikanth | CA | IAC-13.B4.3.7 |
| Nelson, George | CA | IAC-13.B3.3.1 |
| Nelson, Timothy | CA | IAC-13.E7.2.1 |
| Nemesure, Michael | CA | IAC-13.C1.3.1 |
| Nemetzade, Tanja | A | IAC-13.D1.3.4 |
| Nemetzade, Tanja | A | IAC-13.D1.6.6 |
| Nenarokomov, Aleksey V. | CA | IAC-13.C2.8.13 |
| Nerchenko, Valentina | CA | IAC-13.A2.P.5 |
| Nergaard, Kim | CA | IAC-13.A5.3-B3.6.2 |
| Neri, Alessandro | CA | IAC-13.B5.1.11 |
| Nerovnyy, Nikolay | CA | IAC-13.E2.4.9 |
| Nervold, Anders Kose | CA | IAC-13.D3.1.8 |
| Nervold, Anders Kose | CA | IAC-13.B4.1.11 |
| Nervold, Anders Kose | A | IAC-13.B4.5.5 |
| Nervold, Anders Kose | CA | IAC-13.B3.4-B6.5.7 |
| Nervold, Anders Kose | CA | IAC-13.E1.P.7 |
| Nervold, Anders Kose | A | IAC-13.B6.3.2 |
| Nervold, Anders Kose | CA | IAC-13.D4.3.13 |
| Nespoli, Paolo | CA | IAC-13.E1.7.9 |
| Netelev, Andrey V. | A | IAC-13.C2.8.11 |
| Neufeld, Daniel | CA | IAC-13.D2.P.3 |
| Neufeld, Michael | A | IAC-13.E3.2.12 |
| Neveu, David | A | IAC-13.A3.P.22 |
| Newman, Dava | CA | IAC-13.A1.P.21 |
| Newman, Dava | CA | IAC-13.A1.6.3 |
| Ng, Tsz Yu | CA | IAC-13.E1.2.1 |
| Ngai, Cheuk Yu | A | IAC-13.E1.2.1 |
| Ngo-Anh, Jennifer | CA | IAC-13.B3.3.2 |
| Ni, Jiangtao | CA | IAC-13.D2.9-D6.2.10 |
| Ni, Wei-Tou | CA | IAC-13.A2.1.7 |
| Nichiporuk, Igor | A | IAC-13.A1.3.4 |
| Nichiporuk, Igor | CA | IAC-13.A5.2.8 |
| Nicolas, Michel | A | IAC-13.A1.1.3 |
| Nie, Jingjing | A | IAC-13.E7.P.12 |
| Nie, Mingyan | A | IAC-13.E3.1.7 |
| Nield, George | A | IAC-13.E6.4-D4.2.5 |
| Nield, George | A | IAC-13.D5.1.4 |
| Niepel, Albert | A | IAC-13.A1.P.8 |
| Niezette, Marc | A | IAC-13.A5.P.5 |
| Niitsu, Mayuki | CA | IAC-13.D2.1.7 |
| Nijkerk, David | CA | IAC-13.C1.4.6 |
| Nikitin, Valeriy | CA | IAC-13.A2.2.2 |
| Nikitin, Valeriy | CA | IAC-13.A2.4.9 |
| Nikitin, Valeriy | CA | IAC-13.A2.P.5 |
| Nikolayev, Vadim | CA | IAC-13.A2.6.6 |
| Nilchiani, Roshanak | CA | IAC-13.D1.1.5 |
| Nilchiani, Roshanak | CA | IAC-13.D1.6.12 |
| Ning, Huanpo | CA | IAC-13.C4.7-C3.5.6 |
| Ning, Lina | CA | IAC-13.A1.P.66 |
| Ning, Xianwen | CA | IAC-13.C2.7.12 |
| Ning, Xin | A | IAC-13.D3.4.10 |
| Nishimura, Naoki | CA | IAC-13.A1.2.7 |
| NIU, Aimin | CA | IAC-13.E3.2.5 |
| Niu, Wenlong | CA | IAC-13.A7.2.2 |
| Niu, Zhenqi | A | IAC-13.A6.P.23 |
| Niu, Zhenqi | A | IAC-13.D2.5.4 |
| Niyogi, Shankho | A | IAC-13.A5.1.2 |
| Nizenkov, Paul | A | IAC-13.D1.2.1 |
| NKOGHE, Istovant | A | IAC-13.E7.P.11 |
| Noda, Atsushi | CA | IAC-13.C1.6.13 |
| Noelke, Daniel | CA | IAC-13.E6.4-D4.2.4 |
| Nogawa, Yuichiro | CA | IAC-13.B4.5.4 |
| Noghanian, Sima | CA | IAC-13.C3.P.1 |
| Noghanian, Sima | CA | IAC-13.C3.4.1 |
| Nohel, Ales | CA | IAC-13.D4.1.1 |
| Noma, Takashi | A | IAC-13.D2.1.7 |
| Nonaka, Satoshi | CA | IAC-13.C4.P.28 |
| Nonaka, Satoshi | A | IAC-13.D2.5.5 |
| Nonaka, Satoshi | CA | IAC-13.D2.5.6 |
| Noomen, Ron | CA | IAC-13.C1.9.4 |
| Noorma, Mart | CA | IAC-13.B4.2.10 |
| Noorma, Mart | A | IAC-13.E1.3.5 |
| Noorma, Mart | CA | IAC-13.C3.4.2 |
| Noorma, Mart | CA | IAC-13.C3.4.8 |
| Norberg, Carol | A | IAC-13.E1.2.6 |
| Noroozi, Arash | CA | IAC-13.B4.7B.6 |
| Norris, Scott | A | IAC-13.B3.1.6 |
| Nosanov, Jeffrey | A | IAC-13.C4.6.9 |
| Nosova, Christina | CA | IAC-13.B6.2.3 |
| Novelli, Alberto | A | IAC-13.B3.4-B6.5.5 |
| Novikov, A.V. | A | IAC-13.E1.3.6 |
| Novin zadeh, Alireza | CA | IAC-13.A3.P.47 |
| Nozue, Tatsuhiro | A | IAC-13.A3.1.5 |
| Nuns, Thierry | A | IAC-13.D5.3.9 |
| Nurguzhin, Marat | CA | IAC-13.D1.3.6 |
| Nurguzhin, Marat R. | CA | IAC-13.B1.2.3 |
| Nusbaum, Derek | A | IAC-13.A1.2.2 |
| Nutal, Nicolas | CA | IAC-13.C2.8.7 |
| Nyampong, Yaw | A | IAC-13.A6.8.4 |

## O

| Name | Role | Paper |
|---|---|---|
| O'Donnell, Declan | A | IAC-13.A3.P.28 |
| O'Donnell, James | A | IAC-13.C1.3.1 |
| O'Malley, Terence | CA | IAC-13.A3.P.41 |
| O. Ezekiel, Eguaroje | CA | IAC-13.B5.1.4 |
| Obropta, Edward | CA | IAC-13.A1.6.3 |
| Obukhov, Vladimir | CA | IAC-13.C4.4.11 |
| Ochiai, Mika | A | IAC-13.E3.2.5 |
| ODA, Hirohisa | A | IAC-13.B3.3.10 |
| Oda, Mitsushige | A | IAC-13.A5.3-B3.6.8 |
| Oddi, Guido | CA | IAC-13.A3.2B.4 |
| Odstrcil, Dusan | CA | IAC-13.D5.P.5 |
| Offiong, Etim | A | IAC-13.B2.1.5 |
| Ofosu, Joseph | CA | IAC-13.C4.8.7 |
| Ogasawara, Ko | CA | IAC-13.B3.2.4 |
| Ogasawara, Ko | CA | IAC-13.A5.4-D2.8.1 |
| Ogawa, Hiroyuki | CA | IAC-13.D2.5.5 |
| Ogneva, Irina | A | IAC-13.A1.7.5 |
| Ogrizovic, Vukan | CA | IAC-13.B1.2.10 |
| Ogunyanda, Kehinde | A | IAC-13.B4.6B.12 |
| Oh, Hyun-Ung | A | IAC-13.C2.1.11 |
| Ohkuma, Hayato | CA | IAC-13.A2.6.3 |
| Ohkuma, Hayato | CA | IAC-13.A2.7.8 |
| Ohndorf, Andreas | CA | IAC-13.A3.5.10 |
| Ohtani, Takashi | CA | IAC-13.B4.6A.2 |
| OHTSUKA, HIROHITO | CA | IAC-13.D2.1.2 |
| Oka, Noriaki | CA | IAC-13.C4.3.2 |
| Okada, Tatsuaki | CA | IAC-13.A3.4.6 |
| Okeke, Pius | CA | IAC-13.A7.2.1 |
| Okninski, Adam | A | IAC-13.D2.6.9 |
| Okoh, Daniel | A | IAC-13.A7.2.1 |
| Okudaira, Osamu | CA | IAC-13.A6.1.9 |
| Okuizumi, Nobukatsu | CA | IAC-13.C2.2.10 |
| Okuizumi, Nobukatsu | CA | IAC-13.B4.6A.4 |
| Okumura, Yuta | A | IAC-13.B4.6B.2 |
| Olabamiji, Olojo | A | IAC-13.B1.5.10 |
| Oladeinde, Adepero | CA | IAC-13.B1.5.10 |
| Olajide, Afolabi | CA | IAC-13.E1.4.5 |
| Olakunle, Oladosu | CA | IAC-13.E1.4.5 |
| Olakunle, Oladosu | A | IAC-13.B2.P.2 |
| Olberts, Bastian | CA | IAC-13.D1.2.1 |
| Olde, Martin Christiaan | CA | IAC-13.D2.7.7 |
| Oleson, Steven | A | IAC-13.A5.2.3 |
| Oliinykova, Angela | A | IAC-13.D2.5.8 |
| Olikara, Zubin | A | IAC-13.C1.8.2 |
| Olivares, Elizabeth | CA | IAC-13.E1.3.1 |
| Olivares, Elizabeth | CA | IAC-13.E1.7.3 |
| Oliveira, André | CA | IAC-13.A3.2B.4 |
| Oliveira, André | CA | IAC-13.B4.6B.9 |
| Oliver, Carol | CA | IAC-13.E1.7.7 |
| Olivieri, Monica | CA | IAC-13.B1.3.10 |
| Ollongren, Alexander | A | IAC-13.A4.2.4 |
| Olson, Aaron | A | IAC-13.A3.2B.7 |
| Oltheten, Dennis | CA | IAC-13.B3.5.6 |
| Olthof, Hein | A | IAC-13.C4.2.3 |
| Olthoff, Claas | A | IAC-13.E1.3.2 |
| Onodera, Takuo | CA | IAC-13.C4.1.8 |
| Onofri, Marcello | CA | IAC-13.C4.5.1 |
| Onuki, Misuzu | A | IAC-13.E6.1.1 |
| Opara, Fidelix | A | IAC-13.A3.P.40 |
| Opatz, Oliver | A | IAC-13.A1.3.3 |
| Orgel, Csilla | CA | IAC-13.B6.4-V.1.4 |
| Orlando, Giovanni | A | IAC-13.C1.3.12 |
| Orlov, Oleg | CA | IAC-13.A1.8.2 |
| Orlov, Oleg | A | IAC-13.A1.8.4 |
| Orlovsky, Igor | CA | IAC-13.B3.2.5 |
| Orr, Martin | CA | IAC-13.A1.1.4 |
| Orr, Nathan | A | IAC-13.B4.4.10 |
| Ortiz, Alvaro | CA | IAC-13.B1.4.6 |
| Osborne, Jeffrey R. | A | IAC-13.E2.3-V.4.1 |
| Ospina, Sylvia | A | IAC-13.E7.5 |
| Osterholz, Jens | CA | IAC-13.A6.3.3 |
| Ostoja Starzewski, Stanislaw | A | IAC-13.B4.5.9 |
| Oswald, Jean | CA | IAC-13.D2.7.8 |
| Otake, Hisashi | CA | IAC-13.A3.2A.4 |
| Othman, Mazlan | CA | IAC-13.E3.2.5 |
| Otsuka, Kiyotoshi | CA | IAC-13.D4.3.6 |
| Otsuki, Masatsugu | CA | IAC-13.A3.2A.4 |
| Otsuki, Masatsugu | CA | IAC-13.C1.3.8 |
| Ottaviani, Matthieu | CA | IAC-13.C1.9.12 |
| Ou, Yuan | CA | IAC-13.A1.P.32 |
| Ouellet, Alain | CA | IAC-13.A3.1.8 |
| Ouellet, Alain | CA | IAC-13.A3.P.8 |
| Oungrinis, Konstantinos-Alketas | A | IAC-13.E5.2.1 |
| Oungrinis, Konstantinos-Alketas | CA | IAC-13.B3.5.5 |
| Ovchinnikov, Michael | CA | IAC-13.C1.4.1 |
| Ovchinnikov, Michael | A | IAC-13.C1.6.4 |
| Ovchinnikova, Olga | A | IAC-13.E1.9.6 |
| Owe, Jan Ove | CA | IAC-13.A1.P.72 |
| Owens, Steven | A | IAC-13.C1.6.7 |
| Ozen, Okan Emre | CA | IAC-13.D1.5.6 |
| Oštir, Krištof | CA | IAC-13.B1.2.5 |

## P

| Name | Role | Paper |
|---|---|---|
| P, Pradeep Raja | CA | IAC-13.C4.P.49 |
| P, Pradeep Raja | CA | IAC-13.C4.P.50 |
| P, Pradeep Raja | CA | IAC-13.C4.6.6 |
| P, Pradeep Raja | CA | IAC-13.C4.6.7 |
| P, Sri Lakshmi | CA | IAC-13.B5.1.3 |
| P V, Arun | A | IAC-13.B1.P.14 |
| P V, Arun | A | IAC-13.A4.2.5 |
| Pace, Scott | A | IAC-13.E3.2.2 |
| Paces, Pavel | A | IAC-13.D1.6.5 |
| Pacros, Anne | CA | IAC-13.A3.5.2 |
| Padula, Maria Piera | CA | IAC-13.C1.9.8 |
| Paetzold, Kristin | CA | IAC-13.D1.6.6 |
| Paffett, John | CA | IAC-13.B4.5.2 |
| Paganucci, Fabrizio | CA | IAC-13.C4.4.7 |
| Paijmans, Bart | CA | IAC-13.B4.4.2 |
| Paita, Fabrizio | A | IAC-13.C1.3.10 |
| Paita, Luca | CA | IAC-13.C4.P.37 |
| Paita, Luca | CA | IAC-13.C4.4.4 |
| Pajas, Miriam | CA | IAC-13.A3.P.51 |
| Pajusalu, Mihkel | CA | IAC-13.B4.2.10 |
| Pajusalu, Mihkel | A | IAC-13.C3.4.2 |
| Pajusalu, Mihkel | A | IAC-13.C3.4.8 |
| Palacios, Leonel | A | IAC-13.C1.5.2 |
| Palacios, Leonel | A | IAC-13.C1.7.9 |
| Palkovitz, Neta | A | IAC-13.E7.1.11 |
| Palkovitz, Neta | A | IAC-13.A6.8.8 |
| Palla, Chiara | CA | IAC-13.A3.3B.8 |
| Pallaschke, Siegmar | CA | IAC-13.D5.2.2 |
| Pallikonda, Sireesh | CA | IAC-13.D4.1.1 |
| Palmerini, Giovanni B. | CA | IAC-13.C1.2.5 |
| Palmerini, Giovanni B. | CA | IAC-13.C2.2.6 |
| Palmerini, Giovanni B. | CA | IAC-13.C2.3.5 |
| Palmerini, Giovanni B. | A | IAC-13.D3.2.1 |
| Palumbo, Giuseppe | CA | IAC-13.A4.P.4 |
| Pan, Bing | CA | IAC-13.C2.P.57 |
| Pan, Bing | CA | IAC-13.C2.9.8 |
| Pan, Hu | CA | IAC-13.C4.9.6 |
| Pan, Xiaojun | CA | IAC-13.C4.P.67 |
| Pan, Xin | CA | IAC-13.B2.1.9 |
| Pancrati, Ovidiu | CA | IAC-13.B1.3.11 |
| Pande, Seetesh | CA | IAC-13.D4.1.11 |
| Pande, Seetesh | CA | IAC-13.A5.1.2 |
| Pande, Seetesh | CA | IAC-13.A5.P.9 |
| Pande, Seetesh | CA | IAC-13.D5.3.4 |
| Panerati, Jacopo | CA | IAC-13.E2.3-V.4.4 |
| Panfilova, Ekaterina | CA | IAC-13.B1.P.1 |
| Pang, Bao-jun | CA | IAC-13.A6.3.11 |
| Pang, Aimin | CA | IAC-13.C4.3.3 |
| Pang, Aimin | CA | IAC-13.C4.5.3 |
| Panichkin, Nikolai | CA | IAC-13.C2.1.5 |
| Panichkin, Nikolai G. | A | IAC-13.D2.4.8 |
| Panichkin, Nikolay | CA | IAC-13.A3.3C.11 |
| Panigrahi, Santoshkumar | CA | IAC-13.C4.P.14 |
| Panin, Giorgio | CA | IAC-13.A6.6.11 |
| Panjwani, Alisha | CA | IAC-13.E1.P.15 |
| Panjwani, Alisha | CA | IAC-13.E1.8.6 |
| Pannetier, Benjamin | CA | IAC-13.A6.P.42 |
| Pantaleoni, Mauro | A | IAC-13.B6.4-V.1.3 |
| Pantaleoni, Mauro | A | IAC-13.C1.7.5 |
| Pappalardo, Robert | CA | IAC-13.A3.5.9 |
| Paranicas, Christopher | CA | IAC-13.A1.4.6 |
| Pardini, Carmen | CA | IAC-13.A6.2.4 |
| Pardini, Carmen | A | IAC-13.A6.2.9 |
| Pardini, Carmen | CA | IAC-13.A6.6.5 |
| Parikh, Viraj | A | IAC-13.E7.P.15 |
| Park, Byeongseob | A | IAC-13.C3.P.20 |
| Park, Byeongseob | A | IAC-13.C4.P.5 |
| Park, Ji Hyun | CA | IAC-13.E1.5.4 |
| Park, Yurim | CA | IAC-13.A6.P.20 |
| Parkes, Steve | A | IAC-13.D1.2.8 |
| Parkes, Steve | A | IAC-13.B2.3.1 |
| Parkes, Steve | A | IAC-13.D1.P.17 |

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|---|---|---|
| Parkes, Steve | CA | IAC-13.C1.5.10 |
| Parkinson, Bob | CA | IAC-13.A7.2.3 |
| Parkinson, R. C. | CA | IAC-13.D2.7.3 |
| Parry, Thomas | CA | IAC-13.A2.3.3 |
| Paschidi, Mariana | CA | IAC-13.E5.2.1 |
| Paschidi, Mariana | CA | IAC-13.B3.5.5 |
| PASCO, Xavier | CA | IAC-13.E6.2.4 |
| PASQUIER, HELENE | A | IAC-13.D1.4.1 |
| Pastor Moreno, Daniel | A | IAC-13.D2.P.17 |
| Patamia, Steven | CA | IAC-13.D4.3.7 |
| Paternesi, Roberta | CA | IAC-13.A3.3B.3 |
| Paterson, Carrie | A | IAC-13.E5.4.4 |
| Pathak, Pooja | CA | IAC-13.E2.4.8 |
| Patil, Anand | A | IAC-13.V.3-B2.8.2 |
| Patrick, Castillan | CA | IAC-13.B1.2.9 |
| Patsievskiy, Anatoliy | A | IAC-13.C2.7.2 |
| Patten, Norah | A | IAC-13.E6.4-D4.2.1 |
| Patterson, G. W. | CA | IAC-13.A3.5.9 |
| Paul, Debashish | CA | IAC-13.B6.3.4 |
| Paulsen, Kathrin | CA | IAC-13.A1.7.10 |
| Paulsson, Magnus | CA | IAC-13.C1.5.13 |
| Paulsson, Magnus | A | IAC-13.A6.6.7 |
| Pavlov, Arseniy | A | IAC-13.E2.1.2 |
| Pavone, Rosario | CA | IAC-13.E3.3.2 |
| Payson, Dmitry | A | IAC-13.E3.3.3 |
| Pearson, Jerome | A | IAC-13.A6.8.9 |
| Pedersen, Borre | A | IAC-13.B6.2.1 |
| Pedrini, Alberto | CA | IAC-13.A3.3B.11 |
| Pedrini, Daniela | A | IAC-13.C4.4.7 |
| Peer M. Varman, Mohamed | A | IAC-13.A6.P.39 |
| Pei, Hailong | CA | IAC-13.A1.4.11 |
| Peille, Philippe | CA | IAC-13.E2.4.4 |
| Pelakauskas, Martynas | CA | IAC-13.C3.4.8 |
| Peldszus, Regina | CA | IAC-13.E5.1.1 |
| Peljhan, Marko | CA | IAC-13.B1.2.5 |
| Pell, Sarah Jane | A | IAC-13.E5.1.4 |
| Pell, Sarah Jane | A | IAC-13.E5.4.1 |
| Pellacani, Andrea | CA | IAC-13.A6.6.6 |
| Pelle, Stewart | CA | IAC-13.D3.1.3 |
| Pellegrino, Massimo | CA | IAC-13.B1.P.11 |
| Pellegrino, Massimo | CA | IAC-13.B5.2.7 |
| Pellon-Bailon, Jose-Luis | CA | IAC-13.A3.4.1 |
| Penent, Guilhem | A | IAC-13.E3.4.10 |
| Peng, Deyun | A | IAC-13.A3.2A.3 |
| Peng, Fujun | CA | IAC-13.C2.2.11 |
| Peng, Fujun | CA | IAC-13.C2.3.13 |
| Peng, Fujun | CA | IAC-13.A5.2.5 |
| Peng, Fujun | CA | IAC-13.C2.5.12 |
| Peng, Fujun | CA | IAC-13.C2.6.1 |
| PENG, Kun | CA | IAC-13.A5.1.3 |
| Peng, Li | A | IAC-13.C1.6.3 |
| PENG, Man | CA | IAC-13.A3.P.26 |
| Peng, Wu | CA | IAC-13.B2.1.6 |
| Peng, Xiaodong | A | IAC-13.D1.P.22 |
| Peng, Xiaodong | CA | IAC-13.D1.P.27 |
| Peng, Xiaohui | CA | IAC-13.C4.3.12 |
| Peng, Yongqing | CA | IAC-13.B3.P.5 |
| Peng, Yongqing | CA | IAC-13.B3.7.1 |
| Peng, Yuming | CA | IAC-13.A1.4.13 |
| Peng, Yuming | CA | IAC-13.A3.P.34 |
| Peng, Yuming | CA | IAC-13.A3.3C.4 |
| Pengxiang, Xu | CA | IAC-13.A1.P.37 |
| Pengyu, Zhang | CA | IAC-13.B5.2.1 |
| Peragin, Eric | A | IAC-13.B4.6B.8 |
| Peragin, Eric | CA | IAC-13 B2.2.11 |
| Peraudeau, Gilles | CA | IAC-13.C2.4.6 |
| Perczynski, Piotr | CA | IAC-13.D2.4.1 |
| Perczynski, Piotr | A | IAC-13.D2.4.2 |
| Perelli, Massimo | CA | IAC-13.C3.4.9 |
| Perello Gisbert, Jose Vicente | CA | IAC-13.B2.1.2 |
| Perera, Mali | CA | IAC-13.E4.1.4 |
| Perez, René | CA | IAC-13.A3.3B.5 |
| Perez-Jimenez, Rafael | CA | IAC-13.D2.7.10 |
| Perez-Mato, Javier | CA | IAC-13.D2.7.10 |
| Pergola, Pierpaolo | CA | IAC-13.C4.4.5 |
| Pergola, Pierpaolo | CA | IAC-13.B4.6A.5 |
| Perino, Maria Antonietta | A | IAC-13.D3.1.3 |
| Perino, Maria Antonietta | A | IAC-13.D3.2.6 |
| Perino, Maria Antonietta | CA | IAC-13.A5.4-D2.8.1 |
| Perkinson, Marie-Claire | CA | IAC-13.C4.7-C3.5.6 |
| Perren, Matthew | CA | IAC-13.B4.6A.3 |
| Perret, Lionel | CA | IAC-13.B1.2.2 |
| Pescetelli, Fabrizio | CA | IAC-13.D2.P.15 |
| Peter, Nicolas | CA | IAC-13.E3.2.3 |
| Peter, Nicolas | A | IAC-13.E3.2.6 |
| Peters, Achim | CA | IAC-13.A2.1.1 |
| Peters, Achim | CA | IAC-13.A2.1.4 |
| Peters, Susanne | A | IAC-13.A6.5.3 |
| Peters, Thomas Vincent | A | IAC-13.A6.6.6 |
| Petit, Jean-François | A | IAC-13.E3.5-E7.6.6 |
| Petkow, Dejan | CA | IAC-13.C4.P.33 |
| Petrat, Guido | CA | IAC-13.A1.P.16 |
| Petrosino, Francesco | CA | IAC-13.D2.3.1 |
| Petrosino, Francesco | A | IAC-13.D2.P.13 |
| Petrov, Oleg | CA | IAC-13.A2.7.7 |
| Petrova, Polina | CA | IAC-13.A5.2.6 |
| Petukhov, Viacheslav | A | IAC-13.C1.6.2 |
| Peura, Angela | CA | IAC-13.E5.5.6 |
| Peyrou-Lauga, Romain | CA | IAC-13.C2.8.7 |
| Peyvan, Kia | CA | IAC-13.A1.5.7 |
| Peyvan, Kia | CA | IAC-13.A1.7.1 |
| Pezzella, Giuseppe | CA | IAC-13.D2.3.1 |
| Pezzella, Giuseppe | CA | IAC-13.D2.P.13 |
| Pfeil, Isabella | CA | IAC-13.B6.4-V.1.5 |
| Pham, Anh Tuan | A | IAC-13.B4.1.6 |
| Pham Hong, Thai | A | IAC-13.B4.6B.11 |
| Phillip, Jason | CA | IAC-13.B4.5.3 |
| Philpot, Claudia | CA | IAC-13.A1.7.10 |
| Phong, Linh-Ngo | CA | IAC-13.B1.3.11 |
| Phylippov, Yuriy | CA | IAC-13.A2.2.2 |
| Phylippov, Yuriy | CA | IAC-13.A2.P.5 |
| Piattoni, Jacopo | A | IAC-13.A6.P.1 |
| Piattoni, Jacopo | CA | IAC-13.C4.5.1 |
| Pica, Udrivolf | A | IAC-13.D2.3.4 |
| Pica, Udrivolf | CA | IAC-13.A5.3-B3.6.4 |
| Picard, Martin | CA | IAC-13.A3.2A.2 |
| Picard, Martin | CA | IAC-13.A3.2A.8 |
| Pichkhadze , Konstantin M. | CA | IAC-13.A3.1.7 |
| Pichkhadze , Konstantin M. | CA | IAC-13.C3.P.21 |
| Pichkhadze , Konstantin M. | CA | IAC-13.A3.2C.4 |
| Pichon, Thierry | A | IAC-13.D2.6.3 |
| Pickard, Christopher | CA | IAC-13.D1.1.1 |
| Piech, Adam | CA | IAC-13.E3.1.4 |
| Piech, Adam | CA | IAC-13.E1.7.1 |
| Piedboeuf, Jean-Claude | CA | IAC-13.A3.1.2 |
| Piedboeuf, Jean-Claude | A | IAC-13.A3.1.8 |
| Piedboeuf, Jean-Claude | CA | IAC-13.B3.1.8 |
| Piedboeuf, Jean-Claude | A | IAC-13.A3.P.8 |
| Piergentili, Fabrizio | A | IAC-13.B6.2.5 |
| Piergentili, Fabrizio | CA | IAC-13.A6.P.29 |
| Piergentili, Fabrizio | A | IAC-13.C4.5.1 |
| Piergentili, Fabrizio | A | IAC-13.A6.7.1 |
| Piergentili, Fabrizio | A | IAC-13.C2.9.6 |
| Piergentili, Fabrizio | CA | IAC-13.C3.4.9 |
| Pierl, Christoph | CA | IAC-13.E2.4.4 |
| Pietrabissa, Antonio | CA | IAC-13.A3.2B.4 |
| Pietrobom, Hilton | CA | IAC-13.D1.4.7 |
| Pietronigro, Frank | A | IAC-13.E5.4.2 |
| Pietsch, Klaus | CA | IAC-13.A5.4-D2.8.5 |
| Pignataro, Salvatore | CA | IAC-13.B3.3.4 |
| Pignolet, Guy | CA | IAC-13.E1.6.5 |
| Pilchen, Guy | CA | IAC-13.D2.1.6 |
| PIN, Olivier | CA | IAC-13.C2.8.7 |
| Ping, Fu | A | IAC-13.C4.P.58 |
| Ping, Jin | CA | IAC-13.C4.P.26 |
| Ping, Tang | CA | IAC-13.A3.P.21 |
| Ping, Tang | CA | IAC-13.A5.3-B3.6.10 |
| Pinho, Raquel | CA | IAC-13.B4.6B.9 |
| Pinna, Gian Maria | CA | IAC-13.A6.7.2 |
| Pinsky, Lawrence | A | IAC-13.A1.4.2 |
| Pinzan, Giulio | A | IAC-13.A3.P.42 |
| Piperno, Osvaldo | CA | IAC-13.E3.3.2 |
| Piras, Annamaria | A | IAC-13.B6.1.6 |
| Pirondini, Fabrizio | CA | IAC-13.B4.3.2 |
| Pisculli, Andrea | A | IAC-13.C2.2.6 |
| Pisseloup, Aurelien | CA | IAC-13.A6.6.1 |
| Pisseloup, Aurelien | A | IAC-13.A6.6.3 |
| Platonov, Valery | CA | IAC-13.B3.2.5 |
| Platschek, Andreas | CA | IAC-13.D1.2.2 |
| Platt, Don | CA | IAC-13.A5.1.10 |
| Platzer, Peter | CA | IAC-13.E6.1.4 |
| Plecki, Marge | CA | IAC-13.E1.2.8 |
| Pletser, Vladimir | A | IAC-13.A2.3.11 |
| Pletser, Vladimir | A | IAC-13.A3.P.9 |
| Pletser, Vladimir | A | IAC-13.A2.7.10 |
| Ploner, Martin | CA | IAC-13.A6.1.3 |
| Pluchino, Salvatore | A | IAC-13.A4.1.5 |
| Pochuev, Vladimir | CA | IAC-13.B3.5.3 |
| Pochukaev, Vladimir | CA | IAC-13.C1.2.7 |
| Podhajsky, Sandra | A | IAC-13.A1.5.8 |
| Poetsch, Markus | A | IAC-13.D2.2.3 |
| Pogosyan, Dina | CA | IAC-13.E6.4-D4.2.3 |
| Pohorille, Andrew | CA | IAC-13.A1.5.7 |
| Pohorille, Andrew | CA | IAC-13.A1.7.1 |
| Poidomani, Gaetano | CA | IAC-13.C4.7-C3.5.1 |
| Poincheval, Catherine | A | IAC-13.D2.1.5 |
| Poletika, Artem | A | IAC-13.D1.1.12 |
| Polkko, Jouni | CA | IAC-13.B4.2.10 |
| Polyushkina, Tatyana | CA | IAC-13.A3.P.10 |
| Ponomarenko, Andrey | CA | IAC-13.C3.P.21 |
| Pons Lorente, Arnau | A | IAC-13.C4.2.5 |
| Pont, Gabriel | CA | IAC-13.A2.3.5 |
| Pont, Gabriel | A | IAC-13.A2.5.5 |
| Pont, Gabriel | A | IAC-13.B6.1.5 |
| Pontani, Mauro | A | IAC-13.C1.8.7 |
| Pop, Virgiliu | A | IAC-13.E7.7-B3.8.10 |
| Pope, Alistair | CA | IAC-13.D3.2.4 |
| Popoola, Temidayo | A | IAC-13.A1.8.6 |
| Popov, Alexander | CA | IAC-13.E2.1.2 |
| Popov, Alexander | CA | IAC-13.E2.4.9 |
| Porrmann, Dennis | A | IAC-13.C4.2.10 |
| Porta, Roberto | CA | IAC-13.A3.4.1 |
| Porter, Jamie | A | IAC-13.A5.P.1 |
| Pospisil, Stanislav | CA | IAC-13.A1.4.2 |
| Potapov, Alexander | A | IAC-13.A3.P.10 |
| Potter, Michael | CA | IAC-13.E6.4-D4.2.1 |
| Poulet, Lucie | A | IAC-13.A5.1.5 |
| Pozza, Maria | A | IAC-13.E7.1.2 |
| Pozza, Maria | A | IAC-13.E3.P.10 |
| Poļevskis, Juris | CA | IAC-13.C3.4.2 |
| Prabhuraj, D K | CA | IAC-13.B1.5.9 |
| Prado, Jean-Yves | A | IAC-13.A3.P.44 |
| Praks, Jaan | CA | IAC-13.B4.2.2 |
| Pramanik, Ananya | CA | IAC-13.C3.P.22 |
| Pranajaya, Freddy | CA | IAC-13.B1.2.5 |
| Prasad, Deva | CA | IAC-13.A6.8.1 |
| Prasad, MYS | CA | IAC-13.E7.4.8 |
| Prasad, Vishnu | CA | IAC-13.E2.4.7 |
| PRASHANT, JOHN VIVIAN | A | IAC-13.C4.P.24 |
| Prassinos, George | CA | IAC-13.A6.4.6 |
| Prater, Tracie | A | IAC-13.D3.3.9 |
| Pratt, William | CA | IAC-13.A5.1.4 |
| Predehl, Peter | CA | IAC-13.B4.2.6 |
| Preston, Aaron | CA | IAC-13.E2.3-V.4.1 |
| Prettyman, Thomas | CA | IAC-13.A1.4.6 |
| Priami, Leonardo | CA | IAC-13.C4.P.37 |
| Price, Laurence | CA | IAC-13.A5.4-D2.8.5 |
| Prieto-Llanos, Tomas | CA | IAC-13.A3.5.1 |
| Prieto-Llanos, Tomas | CA | IAC-13.A3.3C.10 |
| Prince, Simon | CA | IAC-13.D2.7.7 |
| Prockter, Louise M. | CA | IAC-13.A3.5.9 |
| Project, kyutech satellite | CA | IAC-13.B4.6B.2 |
| Prokopchuk, Alexandr | A | IAC-13.C4.1.5 |
| Protsan, Yulian | CA | IAC-13.C4.3.11 |
| Pu, Cheng | CA | IAC-13.B5.2.1 |
| Pu, Su | CA | IAC-13.B2.P.29 |
| Pugliese, Antonio | A | IAC-13.A2.3.10 |
| Pugliese, Antonio | CA | IAC-13.E2.3-V.4.5 |
| Puimege, Koen | A | IAC-13.D2.6.4 |
| Pulido, Juan Antonio | CA | IAC-13.A6.7.6 |
| Pulkkinen, Antti | CA | IAC-13.D5.P.5 |
| Pulyaev, Vasiliy | CA | IAC-13.A3.P.10 |
| Puppe, Frank | CA | IAC-13.B4.3.10 |
| Puri, Manpreet | A | IAC-13.C2.2.2 |
| Purpura, Carlo | A | IAC-13.C2.7.13 |
| Puschman, Nicholas Charles | A | IAC-13.E7.P.4 |
| Puscinska, Aleksandra | CA | IAC-13.E7.1.4 |
| Pushkarev, Dmitriy | CA | IAC-13.C4.P.2 |
| Pustylnik, Mikhail | CA | IAC-13.A2.7.7 |
| Puteaux, Maxime | CA | IAC-13.A5.1.5 |
| Puteaux, Maxime | A | IAC-13.D6.1.12 |
| Putzar, Robin | CA | IAC-13.A6.4.7 |
| Putzar, Robin | CA | IAC-13.A6.3.5 |
| Putzar, Robin | CA | IAC-13.A6.3.8 |
| Pérez, Bruno | CA | IAC-13.B1.4.3 |
| Pérez, Carlos | CA | IAC-13.A3.2D.1 |
| Pérez, Carlos | CA | IAC-13.A3.P.29 |
| Pérez, Carlos | CA | IAC-13.A3.3B.6 |
| Pérez-Palau, Daniel | A | IAC-13.C1.8.9 |
| Püttmann, Norbert | A | IAC-13.C4.4.9 |

## Q

| Name | Role | Paper |
|---|---|---|
| QI, Feng | CA | IAC-13.A2.2.5 |
| QI, Feng | CA | IAC-13.A2.P.6 |
| QI, Feng | A | IAC-13.C4.P.68 |
| QI, Feng | CA | IAC-13.C4.7-C3.5.5 |
| Qi, Guangping | A | IAC-13.D2.P.24 |
| Qi, Min | CA | IAC-13.D5.1.9 |
| Qi, Ming | A | IAC-13.B3.7.4 |
| Qi, Shengxiang | CA | IAC-13.C1.2.12 |
| Qian, Ai-Rong | CA | IAC-13.A1.7.3 |
| Qian, Lei | A | IAC-13.A4.P.1 |
| Qian, Shen-en | CA | IAC-13.B1.3.4 |
| Qian, Xiaoping | CA | IAC-13.B2.P.8 |
| Qian, Yingjing | A | IAC-13.A3.P.12 |
| Qian, Yingjing | CA | IAC-13.A3.4.12 |
| Qiang, Dou | A | IAC-13.B1.2.11 |
| Qiang, Wei | CA | IAC-13.D1.P.3 |
| Qiao, Guiyu | CA | IAC-13.C4.1.2 |
| Qiao, Xiajun | CA | IAC-13.D2.2.7 |
| Qin, Haibo | A | IAC-13.A1.1.6 |
| Qin, Haibo | A | IAC-13.A1.1.9 |
| Qin, Haibo | CA | IAC-13.A1.1.5 |
| QIN, Hui | CA | IAC-13.D1.P.36 |
| Qin, Kuiwei | CA | IAC-13.A1.P.32 |
| Qin, Lifeng | A | IAC-13.A1.P.30 |
| Qin, Lifeng | A | IAC-13.A1.P.45 |
| Qin, Lifeng | CA | IAC-13.A1.6.5 |
| Qin, Wang | CA | IAC-13.C2.P.41 |
| Qin, Yi-Xian | A | IAC-13.A1.2.5 |
| Qin, Yongming | CA | IAC-13.C4.P.67 |
| Qing, Hong | CA | IAC-13.A1.P.31 |
| Qing, Shi | A | IAC-13.C2.P.39 |
| Qingbo, Tang | CA | IAC-13.A6.P.28 |
| Qingbo, Tang | CA | IAC-13.D2.5.2 |
| Qingbo, Tang | CA | IAC-13.D2.9-D6.2.11 |
| Qinglian, Li | CA | IAC-13.C4.9.13 |
| QingLin, Wen | CA | IAC-13.D4.4.8 |
| Qingsong, Chen | CA | IAC-13.C2.P.39 |
| Qingya, Zhang | A | IAC-13.C2.1.10 |
| Qingzhan, Zhang | A | IAC-13.B6.P.1 |
| Qintuo, Zhang | A | IAC-13.D1.P.7 |
| Qiu, Hu | A | IAC-13.B1.P.4 |
| Qu, Lina | CA | IAC-13.A1.3.7 |
| Qu, Lina | CA | IAC-13.A1.3.8 |
| Qu, Lina | CA | IAC-13.A1.P.61 |

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|---|---|---|
| Qu, Qiang | CA | IAC-13.D1.P.5 |
| QUAN, Peng-cheng | CA | IAC-13.A2.P.2 |
| Quantius, Dominik | A | IAC-13.A5.P.13 |
| Quantius, Dominik | A | IAC-13.D4.4.4 |
| Quatmann, Michael | CA | IAC-13.C2.2.12 |
| Quillien, Kevin | CA | IAC-13.B4.7B.6 |
| Quinn, Jacqueline | A | IAC-13.A3.2A.8 |

## R

| Name | Role | Paper |
|---|---|---|
| R, Jayakrishnan | CA | IAC-13.D2.3.7 |
| Rabiu, Babatunde | CA | IAC-13.B2.P.2 |
| Race, Margaret | A | IAC-13.E3.2.9 |
| Race, Margaret | CA | IAC-13.E7.7-B3.8.2 |
| Rachkin, Dmitry | CA | IAC-13.E2.4.9 |
| Rad, Khosrow | A | IAC-13.D1.2.6 |
| Radcliff, Chris | A | IAC-13.E1.8.7 |
| Radha Krisha Reddiar, Remesh Kumar | A | IAC-13.D2.5.3 |
| Radice, Gianmarco | CA | IAC-13.C3.1.7 |
| Radice, Gianmarco | CA | IAC-13.A6.2.7 |
| Radice, Gianmarco | CA | IAC-13.B1.1.11 |
| Radice, Gianmarco | CA | IAC-13.B4.1.10 |
| Radice, Gianmarco | CA | IAC-13.C1.5.2 |
| Radice, Gianmarco | CA | IAC-13.C1.7.9 |
| Radice, Gianmarco | CA | IAC-13.A3.2C.7 |
| Radola, Didier | A | IAC-13.B1.1.10 |
| Radtke, Jonas | CA | IAC-13.A6.2.2 |
| Radtke, Jonas | CA | IAC-13.A6.2.3 |
| Radtke, Jonas | CA | IAC-13.A6.2.5 |
| Radtke, Jonas | A | IAC-13.A6.P.8 |
| Radtke, Jonas | CA | IAC-13.A6.P.14 |
| Raftery, Michael | A | IAC-13.B3.1.7 |
| Raftery, Michael | A | IAC-13.A5.4-D2.8.4 |
| Ragonig, Christoph | CA | IAC-13.B6.4-V.1.5 |
| Raig, Christiane | CA | IAC-13.A1.7.10 |
| Raikunov, Gennady G. | CA | IAC-13.D2.2.2 |
| Raissi-Charmakani, Kamran | CA | IAC-13.B4.3.9 |
| Rajan, Raj Thilak | CA | IAC-13.B2.2.10 |
| Rajan, Raj Thilak | CA | IAC-13.B4.7B.6 |
| Rajulu, Bheema | CA | IAC-13.D1.4.8 |
| Rajulu, Bheema | A | IAC-13.D1.4.11 |
| Ramachandran, Ragini | CA | IAC-13.A5.P.3 |
| Ramachandran, Ragini | A | IAC-13.C4.8.2 |
| Ramalingam, Pandiyan | CA | IAC-13.C1.5.8 |
| Ramamurthy, V S | CA | IAC-13.E7.5.7 |
| Ramasami, T | CA | IAC-13.B1.4.7 |
| RAMESH, GOVINDARAJAN | CA | IAC-13.A1.P.23 |
| Ramirez, Barbara | CA | IAC-13.B6.4-V.1.5 |
| Ramos, Fausto | CA | IAC-13.D1.4.7 |
| Ramos, Gonzalo | CA | IAC-13.A3.3B.6 |
| Ramos, Sylvain | CA | IAC-13.B6.2.10 |
| Rampey, Mike | CA | IAC-13.B6.4-V.1.4 |
| Ramusat, Guy | A | IAC-13.D2.5.1 |
| Ramusat, Guy | CA | IAC-13.C2.8.7 |
| Ran, Jinghong | A | IAC-13.D2.6.10 |
| Rank, Peter | CA | IAC-13.A6.6.11 |
| Rantsus, Ramon | CA | IAC-13.C3.4.8 |
| Rao, Ling | CA | IAC-13.A1.P.18 |
| Rao, Mukund Kadursrinivas | A | IAC-13.B1.4.7 |
| Rao, Mukund Kadursrinivas | A | IAC-13.B1.5.9 |
| Rao, Mukund Kadursrinivas | A | IAC-13.E7.5.7 |
| Rao, Muralidhara | CA | IAC-13.E2.4.7 |
| Rao, Nakul | CA | IAC-13.D1.4.11 |
| Rao, Nischal | CA | IAC-13.D1.4.11 |
| Rao, Srinivasa | A | IAC-13.C2.1.2 |
| Rao, Wei | CA | IAC-13.A3.2B.2 |
| Raouafi, NourEddine | CA | IAC-13.A1.4.6 |
| Raoul, Hervé | CA | IAC-13.A1.5.11 |
| Rasel, Ernst Maria | CA | IAC-13.A2.1.1 |
| Rasel, Ernst Maria | CA | IAC-13.A2.1.2 |
| Rashed, Irfan | A | IAC-13.E2.2.5 |
| Rasotto, Mirco | CA | IAC-13.C1.6.5 |
| Rastelli, Davide | CA | IAC-13.E2.3-V.4.4 |
| Rastelli, Davide | CA | IAC-13.A6.P.29 |
| Rastelli, Davide | CA | IAC-13.C2.9.7 |
| Rasuo, Bosko | CA | IAC-13.A5.2.10 |
| Rasuo, Bosko | CA | IAC-13.A3.3C.3 |
| Rathsman, Peter | A | IAC-13.C1.7.4 |
| Ratti, John | CA | IAC-13.A3.2A.2 |
| Raval, Siddharth | CA | IAC-13.A6.P.38 |
| Raviprasad, Srikanth | CA | IAC-13.C2.6.2 |
| Raviprasad, Srikanth | CA | IAC-13.C2.7.7 |
| Raykunov, Gennady | A | IAC-13.A6.7.5 |
| Rayman, Marc D. | A | IAC-13.A3.4.10 |
| Raynaud, Jean-Louis | CA | IAC-13.B6.2.10 |
| Rayner, James | CA | IAC-13.C2.3.8 |
| Razoumny, Vladimir | CA | IAC-13.C1.6.14 |
| Razoumny, Yury | CA | IAC-13.C1.6.14 |
| Re, Edoardo | CA | IAC-13.A3.4.11 |
| Re, Edoardo | CA | IAC-13.A3.3C.9 |
| Rebollar, Blanca | CA | IAC-13.E1.1.6 |
| Rebollar, Blanca | A | IAC-13.E3.P.3 |
| Rebollar, Blanca | A | IAC-13.E1.7.6 |
| Rebrov, Sergey | CA | IAC-13.C4.P.31 |
| Rebuffat, Denis | CA | IAC-13.A3.3C.10 |
| Recchia, Fabrizio | CA | IAC-13.B5.1.12 |
| Recoules, Joël | CA | IAC-13.B6.2.10 |
| Reddy, Pallavi | CA | IAC-13.E2.3-V.4.10 |
| Reddy Rajupalem, Pratesh Kumar | CA | IAC-13.E2.3-V.4.6 |
| Reece, Mike | CA | IAC-13.C4.7-C3.5.6 |
| Reed, Ben | CA | IAC-13.E1.6.1 |
| Reed, Cheryl | CA | IAC-13.A3.P.41 |
| Reed, Cheryl | CA | IAC-13.A3.4.8 |
| Reed, Cheryl L.B. | A | IAC-13.A3.2A.7 |
| Regoli, Leonardo | A | IAC-13.A6.P.32 |
| Rehman-Saad, Misbahur | CA | IAC-13.B6.1.4 |
| Reibaldi, Giuseppe | A | IAC-13.E3.1.10 |
| Reibaldi, Giuseppe | A | IAC-13.A5.3-B3.6.1 |
| Reichel, Florian | A | IAC-13.E2.2.6 |
| Reichel, Florian | CA | IAC-13.B4.6B.3 |
| Reijneveld, Johannes | A | IAC-13.E1.5.11 |
| Reimann, Bodo | CA | IAC-13.D2.7.6 |
| Reimerdes, Hans-G. | CA | IAC-13.D1.1.9 |
| Reimerdes, Hans-G. | CA | IAC-13.D3.3.3 |
| Reinumägi, Risto | CA | IAC-13.C3.4.8 |
| Reis, Norma | A | IAC-13.E1.9.9 |
| Reiter, Thomas | A | IAC-13.A3.1.1 |
| Reiter, Thomas | A | IAC-13.B3.1.5 |
| Reitz, Guenther | CA | IAC-13.A1.5.9 |
| Rekhate, Vaibhav | CA | IAC-13.E2.3-V.4.9 |
| Rembala, Richard | A | IAC-13.B3.4-B6.5.6 |
| Remilla, Murthy | A | IAC-13.B5.1.3 |
| Ren, Jin | CA | IAC-13.A1.P.30 |
| Ren, Leisheng | CA | IAC-13.A6.3.7 |
| REN, Tian-Peng | A | IAC-13.B2.P.14 |
| REN, Tian-Peng | CA | IAC-13.B2.4.14 |
| Ren, Weijia | A | IAC-13.B3.3.6 |
| Ren, Weijia | CA | IAC-13.A2.5.1 |
| Ren, Weijia | CA | IAC-13.A2.7.5 |
| REN, YI | A | IAC-13.B3.P.6 |
| Renard, Matthias | A | IAC-13.B4.3.2 |
| Renaud, Pierre Yves | CA | IAC-13.A3.3A.4 |
| Rendleman, James | A | IAC-13.E7.4.11 |
| Renga, Alfredo | CA | IAC-13.B1.5.2 |
| Renga, Alfredo | CA | IAC-13.B2.7.3 |
| Renga, Alfredo | CA | IAC-13.B5.2.4 |
| Rennie, Grant | CA | IAC-13.E2.3-V.4.2 |
| Repchenkov, Roman | CA | IAC-13.B3.4-B6.5.1 |
| Ressler, Gerhard | CA | IAC-13.B5.2.7 |
| Retat, Ingo | CA | IAC-13.A6.2.2 |
| Rettberg, Petra | A | IAC-13.A1.5.9 |
| Rettberg, Petra | CA | IAC-13.A1.5.11 |
| Rettberg, Petra | CA | IAC-13.A1.5.12 |
| Rey, Laurent | CA | IAC-13.B1.2.9 |
| Reynders, Martin | A | IAC-13.E7.1.6 |
| Reyneri, Leonardo M. | CA | IAC-13.D1.3.7 |
| Reyneri, Leonardo M. | CA | IAC-13.B4.6A.7 |
| Reyneri, Leonardo M. | CA | IAC-13.C3.4.5 |
| Rezaeiha, Abdolrahim | A | IAC-13.C4.P.41 |
| Rezaeiha, Abdolrahim | A | IAC-13.C4.4.8 |
| Rezaie, Mohammadreza | CA | IAC-13.E7.7-B3.8.5 |
| Riaz, Madiha | A | IAC-13.E7.4.12 |
| Ribeiro Gomes, Joana | CA | IAC-13.C4.5.8 |
| Ribeiro Gomes, Joana | A | IAC-13.E6.2.10 |
| Ricci, Nicola | CA | IAC-13.D1.P.29 |
| Ricco, Antonio J. | CA | IAC-13.A1.5.7 |
| Ricco, Antonio J. | CA | IAC-13.A1.7.1 |
| Richard, Muriel | CA | IAC-13.E1.3.4 |
| Richard, Muriel | CA | IAC-13.A6.6.3 |
| Richard, Muriel | CA | IAC-13.B4.6B.5 |
| Richards, Robert D. | A | IAC-13.B4.8.5 |
| Richardson, Pam | CA | IAC-13.B5.1.12 |
| RICHIELLO, CAMILLO | A | IAC-13.D2.6.8 |
| Richter, Lutz | CA | IAC-13.A3.3B.7 |
| Ricote Navarro, Carmen | A | IAC-13.D4.P.2 |
| Riede, Wolfgang | CA | IAC-13.A6.1.8 |
| Riesselmann, Jens | A | IAC-13.D1.P.9 |
| Riesselmann, Jens | CA | IAC-13.D3.3.5 |
| Rievers, Benny | CA | IAC-13.A2.1.6 |
| Rijal, Syamsu | CA | IAC-13.B6.2.6 |
| Rimbert, François | CA | IAC-13.B6.2.10 |
| Rinaldi, Gilberto | CA | IAC-13.C2.4.11 |
| Rinas, Karina | CA | IAC-13.A5.2.8 |
| RINNER, Anita | A | IAC-13.E7.P.7 |
| Rios-Georgio, Gabriella | A | IAC-13.A5.2.2 |
| Rique Garaizar, Orzuri | A | IAC-13.E2.4.3 |
| Rispoli, Francesco | CA | IAC-13.B5.1.11 |
| Riumina, Itta | A | IAC-13.E5.4.5 |
| Rizzi, Francesco | CA | IAC-13.A3.3C.9 |
| Robbins, Mark | CA | IAC-13.C4.7-C3.5.6 |
| Robert, Jean | CA | IAC-13.E4.2.5 |
| Roberts, Christopher | CA | IAC-13.D6.1.3 |
| Roberts, Peter | CA | IAC-13.C1.1.3 |
| Robinson, Julie A. | A | IAC-13.B3.3.4 |
| Robinson, Marc | CA | IAC-13.C2.6.4 |
| Rochus, Pierre | CA | IAC-13.C2.8.7 |
| Rodič, Tomaž | CA | IAC-13.B1.2.5 |
| Rodrigues, Manuel | CA | IAC-13.A2.1.5 |
| Rodrigues, Pedro | A | IAC-13.A3.2B.4 |
| Rodrigues, Pedro | A | IAC-13.B4.6B.9 |
| Rodriguez, Catalina | CA | IAC-13.E1.5.4 |
| Rodriguez, Jacobo | CA | IAC-13.A2.6.11 |
| Rodriguez, Jacobo | CA | IAC-13.A2.7.3 |
| Rodriguez, Jose Antonio | CA | IAC-13.A3.2D.1 |
| Rodriguez, Jose Antonio | CA | IAC-13.A3.P.51 |
| Rodríguez, Jose Antonio | CA | IAC-13.A3.3B.6 |
| Rodríguez Llorca, Pablo | CA | IAC-13.E2.3-V.4.7 |
| Rodríguez Reina, Andrés | CA | IAC-13.D2.P.17 |
| Rodway, Khaki | CA | IAC-13.E5.4.2 |
| Roedel, Henning | CA | IAC-13.E1.3.7 |
| Roelof, Edmond | CA | IAC-13.A1.4.6 |
| Rogers, Sarah | CA | IAC-13.E1.3.1 |
| Rogers, Sarah | CA | IAC-13.E1.7.3 |
| Rognant, Mathieu | CA | IAC-13.A3.3C.6 |
| Rohrbeck, Mathias | CA | IAC-13.A3.2C.2 |
| Rojas, Luis | A | IAC-13.E4.1.6 |
| Rokni, Kourosh | A | IAC-13.A6.7.3 |
| Roll, R. | CA | IAC-13.A3.4.3 |
| Romano, Patrick | CA | IAC-13.B6.2.9 |
| Romanov, Alexander | A | IAC-13.B4.4.9 |
| Romanov, Alexey | CA | IAC-13.B4.4.9 |
| Romanov, Sergey | CA | IAC-13.A1.6.4 |
| Romanov, Valery M. | A | IAC-13.A3.P.7 |
| Romanova, Anna | CA | IAC-13.A3.P.7 |
| Romashkin, Aleksey | A | IAC-13.D2.2.2 |
| Romashkin, Aleksey | A | IAC-13.D2.4.8 |
| Rombaut, Michele | CA | IAC-13.A6.P.42 |
| Romberg, Oliver | CA | IAC-13.C3.3.15 |
| Romberg, Oliver | CA | IAC-13.A6.3.8 |
| Romero, Nahum | A | IAC-13.E1.8.2 |
| Romero Arias, Diego Adolfo | A | IAC-13.E1.3.8 |
| Rominger, Kent | CA | IAC-13.D2.1.11 |
| Romstedt, Jens | CA | IAC-13.A3.3B.11 |
| Romstedt, Jens | CA | IAC-13.A3.4.4 |
| Rongchun, Zang | A | IAC-13.B2.2.7 |
| RONGIER, Isabelle | CA | IAC-13.D5.1.3 |
| Roshanian, Jafar | CA | IAC-13.E1.4.9 |
| Roshanian, Jafar | CA | IAC-13.D1.P.6 |
| Rossi, Alessandro | CA | IAC-13.A6.2.4 |
| Rossi, Alessandro | CA | IAC-13.A6.P.24 |
| Rossi, Stefano | A | IAC-13.E2.1.1 |
| Rossi, Stefano | A | IAC-13.B4.6B.5 |
| Roßkamp, Dirk | CA | IAC-13.A2.5.9 |
| Rossodivita, Angela | A | IAC-13.C4.P.37 |
| Rossodivita, Angela | A | IAC-13.C4.4.4 |
| Rosta, Roland | A | IAC-13.A6.P.33 |
| Rosta, Roland | A | IAC-13.C4.7-C3.5.3 |
| Roth, Tim Otto | A | IAC-13.E5.4.3 |
| Rothmund, Christophe | A | IAC-13.E4.1.6 |
| Rothmund, Christophe | A | IAC-13.E4.2.4 |
| Rothmund, Christophe | CA | IAC-13.E4.2.5 |
| Rotteveel, Jeroen | CA | IAC-13.A6.8.8 |
| ROTTMEIER, FABRICE | A | IAC-13.A1.7.2 |
| Rouanet-Labe,, Anne | CA | IAC-13.E2.4.4 |
| Roushanian, J. | CA | IAC-13.D1.P.24 |
| Roussel, Jean-François | CA | IAC-13.D5.3.9 |
| Roviera, Pier Michele | A | IAC-13.D2.2.1 |
| Rowan, Adam | CA | IAC-13.E2.3-V.4.2 |
| Rowan, Adam | CA | IAC-13.D1.5.3 |
| Rowell, Nicholas | CA | IAC-13.C1.5.10 |
| RU, XIAOQIN | A | IAC-13.C2.P.42 |
| RUAULT, Jean-Marc | CA | IAC-13.C4.7-C3.5.1 |
| Rubini, Giulio | CA | IAC-13.C2.4.11 |
| Rubinos-Lopez, Oscar | CA | IAC-13.D1.6.3 |
| Rudolph, Martin | A | IAC-13.A6.3.3 |
| Rudy, Richard | CA | IAC-13.A6.1.5 |
| Rueda Carazo, Alberto | CA | IAC-13.E3.P.9 |
| Ruff, Gary | A | IAC-13.A2.3.9 |
| Rufino, Giancarlo | CA | IAC-13.B1.5.2 |
| Rufino, Giancarlo | CA | IAC-13.B5.2.4 |
| Rufolo, Giuseppe | A | IAC-13.D2.6.2 |
| Rufolo, Giuseppe Carmine | CA | IAC-13.D2.6.6 |
| Rugescu, Radu | A | IAC-13.E4.3.1 |
| Ruggiero, Andrea | CA | IAC-13.C4.6.2 |
| Ruggiu, Alessandra | A | IAC-13.A1.7.4 |
| RUIMIN, LIU | CA | IAC-13.C4.P.7 |
| Ruimin, Zhang | A | IAC-13.E5.1.2 |
| Ruizhen, Li | CA | IAC-13.C2.2.5 |
| Rull, Fernando | CA | IAC-13.A3.2D.1 |
| Rull, Fernando | CA | IAC-13.A3.P.29 |
| Rull, Fernando | CA | IAC-13.A3.3B.6 |
| Rummel, John D. | A | IAC-13.E3.2.7 |
| Rummel, John D. | A | IAC-13.A3.P.5 |
| Rummel, John D. | CA | IAC-13.A1.5.10 |
| Rummel, John D. | CA | IAC-13.A1.5.11 |
| Rummel, John D. | CA | IAC-13.A5.3-B3.6.5 |
| Runge, William | CA | IAC-13.A2.3.10 |
| Runge, William | CA | IAC-13.E2.3-V.4.5 |
| Running, Zhang | A | IAC-13.B1.3.8 |
| Running, Zhang | CA | IAC-13.B1.P.15 |
| Rusanov, Vasily | A | IAC-13.A1.8.5 |
| Russ, R. Brice | CA | IAC-13.E1.8.4 |
| Russ, R. Brice | CA | IAC-13.E1.9.2 |
| Russell, Ray | CA | IAC-13.A6.1.5 |
| Russell, Tiffany | A | IAC-13.A3.P.53 |
| Russo, Annamaria | CA | IAC-13.C4.2.7 |
| Russo, Gennaro | CA | IAC-13.A2.3.4 |
| Russo, Gennaro | CA | IAC-13.D6.1.8 |
| Russomano, Thais | A | IAC-13.A1.P.69 |
| Rusu, Alexandru | A | IAC-13.A3.3C.6 |
| RUY, Ghislain | A | IAC-13.E5.5.4 |
| Ryaciotaki-Boussalis, Dr. Helen | A | IAC-13.D1.2.6 |
| Rykova, Marina | CA | IAC-13.A5.2.8 |
| Ryzenko, Jakub | A | IAC-13.B5.1.5 |
| Röser, Hans-Peter | CA | IAC-13.B4.2.6 |
| Rønning, Snorre Stavik | A | IAC-13.B4.4.4 |

## S

| Name | Role | Paper |
|---|---|---|
| s, Basavarajaiah | CA | IAC-13.D1.4.11 |
| S, Mathavaraj | A | IAC-13.C1.5.8 |
| S, Ravishankar | CA | IAC-13.C2.1.2 |
| S, Sandhya | CA | IAC-13.B2.4.5 |
| S K, Yathin | CA | IAC-13.D1.4.11 |
| S. GRIDLEY, DAILA | CA | IAC-13.A1.P.23 |
| S.G, Girish | CA | IAC-13.B2.4.5 |
| Sabath, Dieter | A | IAC-13.B3.4-B6.5.3 |
| Sabatini, Marco | A | IAC-13.C1.2.5 |
| Sabatini, Marco | CA | IAC-13.C2.2.6 |
| Sabatini, Marco | CA | IAC-13.C2.3.5 |
| Sabirov, Rustam | CA | IAC-13.A2.4.10 |
| Sabogal, Aldo Esteban | CA | IAC-13.E1.3.8 |
| Saccani, Luciano | CA | IAC-13.A5.4-D2.8.1 |
| Sacks, Lia | CA | IAC-13.C1.3.1 |
| Sadhu, Chinmayee | CA | IAC-13.E2.3-V.4.9 |
| Safavi Hemami, Seyed Mostafa | CA | IAC-13.C2.6.13 |
| Sagath, Daniel | A | IAC-13.E3.1.2 |
| Saghir, Ziad | CA | IAC-13.A2.6.5 |
| Sahmani, Saeid | A | IAC-13.C2.8.2 |
| Saitto, Antonio | A | IAC-13.B2.3.3 |
| Sakagami, Keiichiro | A | IAC-13.A2.6.3 |
| Sakai, Ryoji | CA | IAC-13.B4.6A.4 |
| Sakai, Tomohiko | CA | IAC-13.D2.5.6 |
| Sakamoto, Hiraku | CA | IAC-13.C2.2.10 |
| Sakamoto, Hiraku | A | IAC-13.B4.6A.4 |
| Sakamoto, Norihiro | CA | IAC-13.E7.4.13 |
| Sakamoto, Yuji | CA | IAC-13.A6.4.8 |
| Sakamoto, Yuji | CA | IAC-13.B4.7A.1 |
| Sakamoto, Yuji | CA | IAC-13.B4.6A.6 |
| Sakurai, Akira | CA | IAC-13.A6.1.9 |
| Salado, Alejandro | A | IAC-13.D1.1.5 |
| Salado, Alejandro | A | IAC-13.D1.6.12 |
| Salajeghe, Somaie | CA | IAC-13.A1.P.20 |
| Salamanca Pardo, Diego Fernando | CA | IAC-13.E1.3.8 |
| Salem, David | CA | IAC-13.C2.6.4 |
| Saleny, Vratislav | CA | IAC-13.D3.1.4 |
| Saleny, Vratislav | CA | IAC-13.A5.1.10 |
| Salgado, Maria Cristina | A | IAC-13.C4.5.8 |
| Salgado, Maria Cristina | CA | IAC-13.E6.2.10 |
| Salminen, Mika | CA | IAC-13.A1.5.11 |
| Salmon, Thierry | CA | IAC-13.A6.6.3 |
| Salotti, Jean Marc | CA | IAC-13.A5.2.1 |
| Salotti, Jean Marc | A | IAC-13.A5.3-B3.6.11 |
| Salotti, Jean Marc | A | IAC-13.A5.4-D2.8.7 |
| Salvador, Lucas | CA | IAC-13.B4.1.2 |
| Salvatore, Vito | A | IAC-13.C4.3.4 |
| Salzgeber, Frank | CA | IAC-13.E6.1.6 |
| Samara-Ratna, Piyal | CA | IAC-13.C4.7-C3.5.6 |
| Samburov, Sergey | CA | IAC-13.E1.7.4 |
| Sample, John | A | IAC-13.B4.6B.15 |
| Samra, Harkirat Singh | CA | IAC-13.D2.3.6 |
| Samson, Claire | CA | IAC-13.D1.4.5 |
| Samson, Victoria | CA | IAC-13.E3.4.7 |
| Sanchez, Jesus | A | IAC-13.B4.6B.14 |
| Sanchez Cuartielles, Joan Pau | CA | IAC-13.C1.4.3 |
| Sanchez Cuartielles, Joan Pau | A | IAC-13.C1.7.8 |
| Sanchez Cuartielles, Joan Pau | CA | IAC-13.C1.9.1 |
| Sanchez Cuartielles, Joan Pau | CA | IAC-13.C1.9.6 |
| Sanchez Ortiz, Noelia | A | IAC-13.A6.2.5 |
| Sanchez Ortiz, Noelia | CA | IAC-13.A6.4.4 |
| Sanchez Ortiz, Noelia | A | IAC-13.A6.P.13 |
| Sanchez Ortiz, Noelia | A | IAC-13.A6.7.6 |
| Sandalinas, Jordi | A | IAC-13.E7.2.8 |
| Sandalinas, Jordi | A | IAC-13.B1.P.16 |
| Sanders, Gerald | CA | IAC-13.A3.2A.8 |
| Sandoval, Luis | A | IAC-13.A1.1.4 |
| Sandoval, Magaly | A | IAC-13.E1.3.10 |
| Sang, Chen | A | IAC-13.A1.7.7 |
| Sang, Jianxue | CA | IAC-13.B4.4.8 |
| Sang, Jianxue | A | IAC-13.D3.P.3 |
| Sanghavi, Harsh | CA | IAC-13.C2.5.10 |
| Sanghavi, Harsh | CA | IAC-13.C4.4.3 |
| Sango, Ryoutaro | CA | IAC-13.D4.3.4 |
| SANJEEVIRAJA, THANGAVEL | CA | IAC-13.A1.P.26 |
| Sanjuan, Jose | CA | IAC-13.C2.2.4 |
| Sanmartin, Juan R. | CA | IAC-13.C4.P.38 |
| Sans Fuentes, Sara Alejandra | CA | IAC-13.B6.4-V.1.5 |
| Sansano, Antonio | CA | IAC-13.A3.2D.1 |
| Sansano, Antonio | CA | IAC-13.A3.P.29 |
| Sansone, Francesco | A | IAC-13.D1.2.7 |
| Santamaría, Pilar | CA | IAC-13.A3.2D.1 |
| Santandrea, Stefano | CA | IAC-13.B4.4.5 |
| Santo, Loredana | CA | IAC-13.A2.3.2 |
| Santoni, Fabio | A | IAC-13.C1.1.9 |
| Santoni, Fabio | CA | IAC-13.B6.2.5 |
| Santoni, Fabio | CA | IAC-13.A6.P.1 |
| Santoni, Fabio | CA | IAC-13.C4.5.1 |
| Santoni, Fabio | CA | IAC-13.A6.7.1 |
| Santoni, Fabio | A | IAC-13.C3.4.9 |
| Santoro, Francesco | A | IAC-13.B6.1.9 |
| Santos, Filipe | A | IAC-13.A6.1.10 |
| Santos, Orlando | CA | IAC-13.A1.P.39 |
| Saoji, Sukhada | CA | IAC-13.E2.3-V.4.9 |
| Saprykin, Oleg | A | IAC-13.A5.3-B3.6.9 |
| Sarae, Wataru | CA | IAC-13.D2.1.7 |
| Saraf, Vipul | CA | IAC-13.C2.8.1 |
| SARDA, Jordane | CA | IAC-13.B6.2.10 |
| Sarda, Karan | CA | IAC-13.C1.1.4 |
| Sarkesian, Arpineh | A | IAC-13.D1.P.19 |
| Sarli, Bruno | CA | IAC-13.D2.1.9 |
| Sarli, Bruno | CA | IAC-13.D2.7.1 |
| Sarsfield, Mark | CA | IAC-13.C4.7-C3.5.2 |
| Sarty, Gordon | A | IAC-13.A1.P.20 |
| Sasaki, Susumu | A | IAC-13.C3.1.5 |
| Sato, Masaki | CA | IAC-13.C4.1.8 |
| Sato, Naoki | CA | IAC-13.A3.1.2 |
| Sato, Naoki | CA | IAC-13.B3.1.8 |
| Sato, Naoki | CA | IAC-13.A3.P.8 |
| Sato, Yutaka | CA | IAC-13.C4.1.7 |
| Satoh, Naoki | CA | IAC-13.B3.2.4 |
| Satoh, Naoki | CA | IAC-13.B3.7.3 |
| Satou, Yasutaka | CA | IAC-13.C2.2.9 |
| Satou, Yasutaka | CA | IAC-13.C2.2.10 |
| Satou, Yasutaka | CA | IAC-13.B4.6A.4 |
| Saura Carretero, Gemma | A | IAC-13.C1.1.3 |
| Sauvageau, Donald | A | IAC-13.D2.1.11 |
| Savelev, Igor | CA | IAC-13.A1.P.70 |
| Savino, Raffaele | CA | IAC-13.A2.3.4 |
| Savino, Raffaele | CA | IAC-13.A2.6.4 |
| Savino, Raffaele | CA | IAC-13.D6.1.8 |
| Savio, Giuseppe | CA | IAC-13.A4.P.4 |
| Sawai, Shujiro | CA | IAC-13.C4.3.2 |
| Sazonov, V.V. | CA | IAC-13.A2.6.8 |
| Scamardella, Gabriele | CA | IAC-13.A2.3.10 |
| Scamardella, Gabriele | CA | IAC-13.E2.3-V.4.5 |
| Scaramuzzino, Francesca | A | IAC-13.C4.2.7 |
| Scavuzzi, Juliana | A | IAC-13.E7.2.5 |
| Schaap, Martijn | A | IAC-13.B1.5.3 |
| Schaffner, Michael | CA | IAC-13.D1.P.29 |
| Scheeres, Daniel | CA | IAC-13.C3.1.7 |
| Scheeres, Daniel | CA | IAC-13.A6.2.6 |
| Scheeres, Daniel | CA | IAC-13.C1.4.2 |
| Scheeres, Daniel | CA | IAC-13.A3.4.5 |
| Schelling, Gustav | CA | IAC-13.A5.2.8 |
| Scheper, Marc | A | IAC-13.D2.4.1 |
| Scheper, Marc | CA | IAC-13.D2.4.2 |
| Scheper, Marc | A | IAC-13.A6.6.4 |
| Schervan, Thomas A. | CA | IAC-13.D1.1.9 |
| Schervan, Thomas A. | A | IAC-13.D3.3.3 |
| Schildknecht, Thomas | A | IAC-13.A6.1.3 |
| Schildknecht, Thomas | CA | IAC-13.A6.7.2 |
| Schilling, Klaus | A | IAC-13.D1.1.6 |
| Schilling, Klaus | CA | IAC-13.B4.6B.3 |
| Schimmerohn, Martin | CA | IAC-13.A6.3.3 |
| Schipitsyn, Vitalii | CA | IAC-13.A2.P.7 |
| Schirg, Florian | A | IAC-13.E6.1.7 |
| Schlabs, Thomas | CA | IAC-13.A1.2.9 |
| Schlacht, Irene Lia | CA | IAC-13.B3.5.6 |
| Schlemmer, Harald | A | IAC-13.B2.5.3 |
| Schmidt, Frederic | CA | IAC-13.B6.4-V.1.3 |
| Schmidt, Frederic | CA | IAC-13.C1.7.5 |
| Schmidt, George | CA | IAC-13.A5.2.3 |
| Schmidt, George | CA | IAC-13.C4.6.4 |
| Schmidt, Gerald | A | IAC-13.B6.3.1 |
| Schmidt, Marco | A | IAC-13.E2.4.6 |
| Schmidt, Michael | A | IAC-13.B2.5.3 |
| Schmitt, Denis | A | IAC-13.D2.1.3 |
| Schneider, Marvin | CA | IAC-13.E1.P.3 |
| Schoenenberg, Andreas | CA | IAC-13.B4.4.11 |
| Schoenmaker, Annelie | A | IAC-13.D6.1.3 |
| Schoonejans, Philippe | CA | IAC-13.A5.3-B3.6.2 |
| Schor, Dario | A | IAC-13.E2.4.10 |
| Schor, Dario | A | IAC-13.E1.7.5 |
| Schrage, Thomas | CA | IAC-13.B1.2.8 |
| Schreier, Gunter | A | IAC-13.B1.4.4 |
| Schroeder, Jan Walter | A | IAC-13.E1.2.5 |
| Schroeder, Jan Walter | A | IAC-13.B2.6.4 |
| Schroedter-Homscheidt, Marion | CA | IAC-13.B1.5.3 |
| Schroeven-Deceuninck, Hilde | CA | IAC-13.D3.2.4 |
| Schröder, Silvio | A | IAC-13.A3.4.3 |
| Schubert, Daniel | A | IAC-13.A5.2.7 |
| Schubert, Daniel | A | IAC-13.B3.7.2 |
| Schubert, Daniel | CA | IAC-13.D4.4.4 |
| Schubert, Kathleen | CA | IAC-13.A5.4-D2.8.5 |
| Schuldt, Thilo | CA | IAC-13.A2.1.1 |
| Schuldt, Thilo | CA | IAC-13.A2.1.4 |
| Schuldt, Thilo | CA | IAC-13.C2.2.4 |
| Schulman, Richard | CA | IAC-13.A2.7.4 |
| Schulte, Wolfgang | CA | IAC-13.A3.3B.7 |
| Schulze-Varnholt, Dirk | CA | IAC-13.B3.4-B6.5.3 |
| Schuster, Anja | A | IAC-13.E2.1.7 |
| Schutte, Adriaan | A | IAC-13.D2.4.10 |
| Schwadron, Nathan | CA | IAC-13.A5.P.1 |
| Schwandtner, Johann | CA | IAC-13.A1.P.16 |
| Schwanekamp, Tobias | CA | IAC-13.D2.4.5 |
| Schwarz, Egbert | CA | IAC-13.B1.4.4 |
| Schwarzwaelder, Achim | A | IAC-13.A1.P.22 |
| Schwarzwaelder, Achim | A | IAC-13.A1.P.64 |
| Schweizer, Andreas | CA | IAC-13.B5.1.11 |
| Schwendner, Jakob | CA | IAC-13.A3.2A.9 |
| Schäfer, Frank | CA | IAC-13.A6.3.3 |
| Schäfer, Frank | CA | IAC-13.A6.3.5 |
| Schönherr, Tony | A | IAC-13.C4.4.2 |
| Schönherr, Tony | A | IAC-13.C4.4.13 |
| Schüttemeyer, Dirk | CA | IAC-13.B1.P.6 |
| Sciberras, Lawrence | CA | IAC-13.B4.4.11 |
| Sciortino, Giacomo Primo | CA | IAC-13.E3.3.6 |
| Scognamiglio, Mariana | CA | IAC-13.A2.5.2 |
| Scornet, Quentin | CA | IAC-13.B6.4-V.1.4 |
| Scornet, Quentin | CA | IAC-13.B6.4-V.1.5 |
| Scott, Alistair | A | IAC-13.E5.6.3 |
| Scott, Andrew | CA | IAC-13.A5.1.4 |
| Sebastian, Linsu | A | IAC-13.C4.9.2 |
| Sebastian, Linsu | CA | IAC-13.A5.2.9 |
| Sebastian, Linsu | CA | IAC-13.C2.7.1 |
| Sebastian, Linsu | CA | IAC-13.B3.7.8 |
| Sebastian, Linsu | A | IAC-13.C4.8.11 |
| Secheli, Gabriel | A | IAC-13.C2.2.8 |
| Sedghi, Vafa | A | IAC-13.C2.6.13 |
| Sedghi, Vafa | CA | IAC-13.B4.3.9 |
| Seedhouse, Erik | CA | IAC-13.A1.P.72 |
| Seelan, Santhosh K. | A | IAC-13.E1.4.3 |
| Seetharaman, Badrinarayanan | CA | IAC-13.E7.P.15 |
| Segan, Stevo | CA | IAC-13.A3.3C.3 |
| Segato, Elisa | CA | IAC-13.A3.P.31 |
| Seguin, Guy | CA | IAC-13.B1.3.4 |
| Seidel, Stephan | A | IAC-13.A2.1.2 |
| Seidler, William | CA | IAC-13.C4.8.3 |
| Seidu O., Mohammed | CA | IAC-13.B5.1.4 |
| Sein, Emmanuel | CA | IAC-13.B1.2.4 |
| Sein, Emmanuel | A | IAC-13.A7.1.5 |
| Seitzer, Patrick | A | IAC-13.A6.1.4 |
| Sejkora, Nina | CA | IAC-13.B6.4-V.1.5 |
| Sekhula, Phetole | A | IAC-13.E3.P.4 |
| Sekula, Agnieszka | CA | IAC-13.B6.4-V.1.5 |
| Sela, Alejandro | CA | IAC-13.B3.4-B6.5.2 |
| Selig, Hanns | A | IAC-13.A2.1.6 |
| Semenkin, Alexander | CA | IAC-13.C4.7-C3.5.1 |
| Semenov, Sergey | CA | IAC-13.E6.4-D4.2.3 |
| Semenov, Vadim | CA | IAC-13.C4.P.2 |
| Semones, Edward J. | CA | IAC-13.A1.4.2 |
| Senese, Samuel | CA | IAC-13.A3.3B.11 |
| Senese, Samuel | CA | IAC-13.A3.3C.9 |
| Senesi, Fabio | CA | IAC-13.B5.1.11 |
| Senesky, Debbie | CA | IAC-13.E2.2.4 |
| Senske, David | CA | IAC-13.A3.5.9 |
| Seo, Yongmyung | A | IAC-13.B4.6B.15 |
| SEON, Jongho | A | IAC-13.B4.6B.15 |
| Sephton, Mark | CA | IAC-13.D3.2.4 |
| Sepp, Jüri | CA | IAC-13.E3.3.5 |
| Serdyuk, Anatoliy | A | IAC-13.C4.3.11 |
| Serikova, Alla | A | IAC-13.D2.2.2 |
| Serikova, Alla | A | IAC-13.D2.4.7 |
| Serra, Jean-Jacques | CA | IAC-13.E4.2.5 |
| Serrano, Miguel Angel | CA | IAC-13.B1.1.4 |
| Seshachalam, Shruthi A | CA | IAC-13.C3.4.6 |
| Seshadri, Anusha | CA | IAC-13.D1.4.8 |
| Severi, Mariano | CA | IAC-13.B1.P.10 |
| Sfantzikaki, Eirini Maria | CA | IAC-13.E7.1.4 |
| Sgambati, Antonella | CA | IAC-13.A1.5.8 |
| Sgobba, Tommaso | CA | IAC-13.D5.2.8 |
| Sgobba, Tommaso | A | IAC-13.D6.1.11 |
| Shaevich, Sergey K. | A | IAC-13.B3.2.2 |
| Shafieenejad, Iman | A | IAC-13.A3.P.47 |
| Shah, Neha | CA | IAC-13.E2.4.8 |
| Shaji Karapuzha, Amal | A | IAC-13.A5.P.3 |
| Shaji Karapuzha, Amal | CA | IAC-13.C4.8.2 |
| Shan, Li | CA | IAC-13.A6.3.4 |
| Shan, Luan | CA | IAC-13.B2.5.8 |
| Shan, QIAN | A | IAC-13.B2.P.4 |
| Shan, QIAN | CA | IAC-13.B3.P.7 |
| Shang, Desheng | CA | IAC-13.A3.2C.5 |
| Shang, Peng | CA | IAC-13.A1.3.8 |
| Shang, Yi | CA | IAC-13.B5.2.3 |
| Shang, Zhi | CA | IAC-13.D1.4.9 |
| Shanguang , Chen | CA | IAC-13.A1.1.2 |
| Shanguang , Chen | CA | IAC-13.B6.1.8 |
| Shankar, Divya | A | IAC-13.D1.1.1 |
| Shankar, Divya | A | IAC-13.B2.3.2 |
| Shankar, Divya | A | IAC-13.D1.4.8 |
| Shankar, Divya | A | IAC-13.B2.4.5 |
| Shanker, Aditya | A | IAC-13.C3.P.18 |
| Shanker, Aditya | CA | IAC-13.C3.P.22 |
| Shanmugam, Anand | CA | IAC-13.C4.P.50 |
| Shanmugam, Anand | CA | IAC-13.C4.6.6 |
| SHANSHAN, WANG | A | IAC-13.E1.6.10 |
| Shao, Lingzhi | A | IAC-13.A1.6.9 |
| Shao, ZhanWei | CA | IAC-13.A1.7.7 |
| Shaofei, Wang | CA | IAC-13.E3.2.10 |
| Shariati Qalehnou, Mohammad Hadi | A | IAC-13.D3.2.9 |
| Sharif, Helia | A | IAC-13.D1.4.5 |
| Sharif, Helia | CA | IAC-13.A5.3-B3.6.6 |
| Sharma, Tanay | A | IAC-13.E3.1.1 |
| Sharma, Tanay | A | IAC-13.D2.P.21 |
| Sharma, Tanya | CA | IAC-13.E7.P.6 |
| Sharma, Vishal | A | IAC-13.C2.8.1 |
| Sharp, Jonathan | CA | IAC-13.A1.P.20 |
| Shaw, Margaret | CA | IAC-13.D1.P.29 |
| Shaw, Peter | CA | IAC-13.B4.6A.3 |
| Shawyer, Roger | A | IAC-13.C4.P.44 |
| Shcherbak, Sergey | A | IAC-13.D2.7.9 |
| She, Pingjiang | CA | IAC-13.C2.P.34 |
| She, Wenxue | CA | IAC-13.D2.4.9 |
| Sheehan, Michael | A | IAC-13.E3.4.6 |

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| Sheikh Bahaee, Hamed | A | IAC-13.C2.P.4 |
| Sheikh Bahaee, Hamed | A | IAC-13.E1.8.8 |
| Shen, Lin | CA | IAC-13.D2.2.6 |
| Shen, Lin | CA | IAC-13.A6.P.28 |
| Shen, Lin | CA | IAC-13.D2.5.2 |
| Shen, Lin | CA | IAC-13.D2.9-D6.2.1 |
| Shen, Yin | CA | IAC-13.A3.2B.9 |
| Shen, Yin | CA | IAC-13.A3.P.18 |
| Shen, Yin | CA | IAC-13.A3.2C.3 |
| Shen, Yufei | CA | IAC-13.B2.6.5 |
| Shen, Zhiqiang | CA | IAC-13.A7.1.7 |
| Shen-yang, Li | CA | IAC-13.B2.5.6 |
| SHENGWEI, LAN | A | IAC-13.A6.3.2 |
| Shenoy, Prasad | CA | IAC-13.E2.4.7 |
| Shenyan, Chen | CA | IAC-13.C2.3.1 |
| Sheptun, Anatoliy | CA | IAC-13.D2.P.16 |
| Shergill, Satinder | A | IAC-13.A3.2C.11 |
| Sherkat Ghanad, Ehsan | CA | IAC-13.C2.P.4 |
| Sherkat Ghanad, Ehsan | CA | IAC-13.E1.8.8 |
| Shestakova, Ksenia | A | IAC-13.E7.1.7 |
| Shetab Boushehri, Sayedali | CA | IAC-13.D4.3.3 |
| Shi, Hongzhi | CA | IAC-13.A1.2.4 |
| Shi, Jimei | A | IAC-13.C2.P.56 |
| Shi, Lei | A | IAC-13.B2.P.30 |
| Shi, Meng | CA | IAC-13.C2.P.17 |
| Shi, Quanwei | CA | IAC-13.A1.P.73 |
| Shi, Tianyi | A | IAC-13.C4.8.10 |
| Shi, Weihuang | CA | IAC-13.A3.3C.1 |
| Shi, Xueshu | A | IAC-13.B2.2.6 |
| Shibasaki, Kohichi | CA | IAC-13.A2.7.8 |
| SHICHANG, LIANG | CA | IAC-13.A6.3.7 |
| Shihong, Zhou | CA | IAC-13.B4.6A.8 |
| Shihua, Zhou | A | IAC-13.A1.6.2 |
| Shijie, Xu | CA | IAC-13.C1.5.6 |
| Shimada, Toru | CA | IAC-13.C4.2.11 |
| Shimamura, Kohei | A | IAC-13.C4.8.7 |
| Shimizu, Tatsuo | CA | IAC-13.D5.3.12 |
| Shimmin, Rogan | A | IAC-13.D5.3.1 |
| Shinde, Shimoli | CA | IAC-13.E2.3-V.4.9 |
| Shioi, Hiroaki | CA | IAC-13.D4.P.2 |
| Shiraki, Kuniaki | A | IAC-13.B3.2.1 |
| Shirasawa, Yoji | CA | IAC-13.C2.2.9 |
| Shirasawa, Yoji | CA | IAC-13.C2.2.10 |
| Shirasawa, Yoji | CA | IAC-13.B4.6A.4 |
| Shireman, Kirk | CA | IAC-13.B3.1.7 |
| Shirin-zada, Alchin | A | IAC-13.B1.6.7 |
| Shirobokov, Maksim | CA | IAC-13.C1.4.1 |
| Shiroyama, Hideaki | CA | IAC-13.E7.5.6 |
| Shirran, Colin | CA | IAC-13.A6.4.9 |
| Shiwen, Gao | CA | IAC-13.C2.7.10 |
| Shiwen, Wu | CA | IAC-13.A1.P.68 |
| Shizhong, Jiang | CA | IAC-13.A1.P.68 |
| Shokod'ko, Sergey | CA | IAC-13.C4.P.10 |
| Shoufang, Chen | CA | IAC-13.C4.P.58 |
| Shougang, Du | A | IAC-13.D5.3.6 |
| Shouming, SUN | A | IAC-13.B3.P.7 |
| SHU, JUNG-IL | CA | IAC-13.D2.P.3 |
| Shu, Leizheng | CA | IAC-13.B2.1.11 |
| Shu, Leizheng | A | IAC-13.B2.1.12 |
| Shu, Zhang | CA | IAC-13.A1.P.68 |
| Shuai, Sang | CA | IAC-13.A1.P.37 |
| Shuangna, Zhang | CA | IAC-13.B1.2.11 |
| Shuangsheng, Guo | CA | IAC-13.A1.3.8 |
| Shuangsheng, Guo | CA | IAC-13.A1.P.43 |
| Shuangsheng, Guo | A | IAC-13.A1.6.5 |
| Shuch, H. Paul | A | IAC-13.A4.1.1 |
| Shuch, H. Paul | A | IAC-13.A4.2.1 |
| Shuguang, Liu | A | IAC-13.C2.P.31 |
| Shui-lin, Yuan | CA | IAC-13.C2.1.7 |
| Shukla, Prashant | A | IAC-13.B6.1.4 |
| Shumilin, Alexander | A | IAC-13.C4.P.47 |
| Shumilin, Nikolay | A | IAC-13.C4.P.46 |
| Shumilin, Vladimir | CA | IAC-13.C4.P.46 |
| Shumilin, Vladimir | CA | IAC-13.C4.P.47 |
| Shuo, Li | A | IAC-13.D2.9-D6.2.1 |
| Shuo, Liu | CA | IAC-13.A3.2B.9 |
| Shuying, Li | A | IAC-13.B2.P.25 |
| SI, Yuan | A | IAC-13.D2.2.4 |
| Sibei, Kang | CA | IAC-13.E3.2.10 |
| Siddappa, Madappa | CA | IAC-13.C1.2.8 |
| Siemion, Andrew | CA | IAC-13.A4.1.2 |
| Signorini, Carla | CA | IAC-13.C3.1.3 |
| Silva, Adolfo | CA | IAC-13.D1.4.7 |
| Silva, Glauco da | A | IAC-13.D5.2.10 |
| Silversides, Ian | CA | IAC-13.A5.3-B3.6.6 |
| Simanovskii, Ilya | CA | IAC-13.A2.4.5 |
| Simard, Mohammad Reza | CA | IAC-13.E1.4.8 |
| Simard-Bilodeau, Vincent | A | IAC-13.A3.2B.3 |
| Simpson, Kevin | CA | IAC-13.C4.7-C3.5.6 |
| Sims, Mark | CA | IAC-13.D3.2.4 |
| Singh, Balbir | A | IAC-13.D2.3.7 |
| Singh, Divye | CA | IAC-13.D2.3.6 |
| Singh, Sumeet | CA | IAC-13.A2.5.11 |
| Singh, Vivek | CA | IAC-13.E2.4.7 |
| Singh-Derewa, Chrishma | CA | IAC-13.A5.1.5 |
| Singh-Derewa, Chrishma | CA | IAC-13.D2.3.4 |
| Singh-Derewa, Chrishma | A | IAC-13.E6.1.3 |
| Singh-Derewa, Chrishma | A | IAC-13.A4.1.7 |
| Singh-Derewa, Chrishma | CA | IAC-13.D3.4.3 |
| Sinha, Manoranjan | CA | IAC-13.C1.1.11 |
| Sinn, Thomas | CA | IAC-13.A2.3.3 |
| Sinn, Thomas | CA | IAC-13.E2.3-V.4.2 |
| Sinn, Thomas | CA | IAC-13.D4.P.2 |
| Sinn, Thomas | A | IAC-13.C2.5.2 |
| Sinn, Thomas | A | IAC-13.D1.5.3 |
| Sinyak, Juriy | CA | IAC-13.A1.6.4 |
| Sippel, Martin | A | IAC-13.D2.4.5 |
| SIRBI, Adriana | CA | IAC-13.D2.5.1 |
| Sivakumar, R | CA | IAC-13.B1.4.7 |
| Sivanesan, Chan | CA | IAC-13.A5.2.6 |
| Sjöberg, Fredrik | CA | IAC-13.C1.7.4 |
| Skinner, Mark | A | IAC-13.A6.1.5 |
| Slade, Richard | CA | IAC-13.C4.7-C3.5.6 |
| Slanbusch, Rune | CA | IAC-13.E1.4.1 |
| Slavinskis, Andris | CA | IAC-13.B4.2.10 |
| Slenzka, Klaus | CA | IAC-13.A1.5.8 |
| Sliski, Alan | CA | IAC-13.A4.1.6 |
| Sloan, John | CA | IAC-13.E6.4-D4.2.5 |
| Sloan, John | CA | IAC-13.D5.1.4 |
| Slyvynskyi, Volodymyr | A | IAC-13.C2.1.3 |
| Small-Pennefather, Lauren | A | IAC-13.E3.5-E7.6.3 |
| Smirnov, Nickolay N. | A | IAC-13.A2.2.2 |
| Smirnov, Nickolay N. | A | IAC-13.A2.4.9 |
| Smirnov, Nickolay N. | A | IAC-13.A2.P.5 |
| Smith, Caroline | CA | IAC-13.D3.2.4 |
| Smith, David | CA | IAC-13.E3.2.4 |
| Smith, David | CA | IAC-13.B4.7B.6 |
| Smith, Katharine | CA | IAC-13.A7.2.3 |
| Smith, Lesley Jane | A | IAC-13.E7.3.7 |
| Smith, Milton | A | IAC-13.E7.2.9 |
| Smith, Stephen | CA | IAC-13.E7.2.9 |
| Smith, Timothy | CA | IAC-13.C4.6.4 |
| Smolensky, Dmitriy | A | IAC-13.A2.2.12 |
| Smyth, Mark | A | IAC-13.E2.3-V.4.4 |
| Snitch, Thomas | A | IAC-13.E5.3.4 |
| So, Tsz Yan | CA | IAC-13.E1.2.1 |
| So, Tsz Yan | A | IAC-13.C1.7.13 |
| Soares, Tiago | A | IAC-13.D1.2.11 |
| Soares, Tiago | CA | IAC-13.D1.P.26 |
| Soares, Tiago | A | IAC-13.A6.5.9 |
| Sodnik, Zoran | CA | IAC-13.B2.3.8 |
| Sofyali, Ahmet | CA | IAC-13.D1.5.6 |
| Soh, Jeremy | A | IAC-13.E2.4.1 |
| Sohail, Muhammad Amjad | A | IAC-13.A3.3C.5 |
| Sojka, John | A | IAC-13.B5.2.12 |
| Sokhin, Igor G. | A | IAC-13.B3.5.3 |
| Sokhin, Igor G. | A | IAC-13.B3.5.4 |
| Sokhin, Igor G. | A | IAC-13.A5.3-B3.6.7 |
| Sokolov, Nikolay | A | IAC-13.B6.2.3 |
| Sokolov, Nikolay | CA | IAC-13.D3.P.2 |
| Sokolov, Nikolay | CA | IAC-13.A6.7.5 |
| Sokolov, Nikolay | A | IAC-13.A3.3C.11 |
| Sokolov, Oleg | CA | IAC-13.A6.P.31 |
| Sokolov, Oleg | CA | IAC-13.E4.2.3 |
| Solano, Fabian | CA | IAC-13.E1.3.10 |
| Solberg, Margot | A | IAC-13.E1.1.2 |
| Soldini, Stefania | CA | IAC-13.A6.P.24 |
| Soldini, Stefania | A | IAC-13.C1.9.10 |
| Solorzano, Esteban | CA | IAC-13.B4.1.8 |
| Somalwar, Utpreksha | CA | IAC-13.D3.2.3 |
| Sommer, Bernd | CA | IAC-13.E6.4-D4.2.4 |
| Song, Baiyan | CA | IAC-13.B2.1.1 |
| Song, Dan | CA | IAC-13.B3.P.2 |
| Song, Jian | CA | IAC-13.A3.5.5 |
| Song, Jinping | A | IAC-13.A1.7.9 |
| Song, Junling | A | IAC-13.C4.9.6 |
| Song, Lei | CA | IAC-13.B2.P.22 |
| Song, Liquan | CA | IAC-13.C1.2.12 |
| Song, Rui | CA | IAC-13.B2.2.5 |
| Song, Rui | CA | IAC-13.B2.6.1 |
| Soni, Pramod Kumar | CA | IAC-13.C1.4.4 |
| Sonney, Anatta | CA | IAC-13.C1.4.4 |
| Sood, Ishaan | A | IAC-13.B4.2.9 |
| Sop Njindam, Thierry | CA | IAC-13.D1.6.6 |
| Soppa, Uwe | CA | IAC-13.C1.3.12 |
| Sorokin, Igor V. | CA | IAC-13.B3.3.4 |
| Sors Raurell, Daniel | CA | IAC-13.D2.P.17 |
| Soucek, Alexander | CA | IAC-13.B6.4-V.1.5 |
| Soucek, Alexander | CA | IAC-13.A3.3B.3 |
| Sousa Ribeiro, Rafael | CA | IAC-13.A6.P.15 |
| Soyer, Baptiste | CA | IAC-13.B4.7A.2 |
| Soyer, Baptiste | A | IAC-13.D1.4.6 |
| Spannagel, Ruven | CA | IAC-13.A2.1.4 |
| Spannagel, Ruven | A | IAC-13.C2.2.4 |
| Spark, Joel | CA | IAC-13.E6.1.4 |
| Spence, Harlan | CA | IAC-13.A5.P.1 |
| Spencer, David B. | CA | IAC-13.C1.8.8 |
| Speser, Phyl | A | IAC-13.E6.4-D4.2.2 |
| Speser, Phyl | A | IAC-13.E6.1.8 |
| Spiero, François | CA | IAC-13.B3.1.8 |
| Spiero, François | CA | IAC-13.A3.P.8 |
| Squire, Jared | CA | IAC-13.A6.5.8 |
| Sridharan, Saish | CA | IAC-13.D2.7.7 |
| Staadt, Oliver | CA | IAC-13.A1.1.8 |
| Staadt, Oliver | CA | IAC-13.B6.1.2 |
| Stackebrandt, Erko | CA | IAC-13.A1.5.11 |
| Stahn, Alexander Christoph | A | IAC-13.A1.3.8 |
| Stambouli, Moncef | CA | IAC-13.A2.P.7 |
| Stamminger, Andreas | A | IAC-13.A2.5.10 |
| Stanislaus Ogechukwu, Nnadih | A | IAC-13.E1.4.5 |
| Starkey, Ryan | CA | IAC-13.C4.3.9 |
| Steel, Robin | CA | IAC-13.A5.P.5 |
| Steele, Paul | CA | IAC-13.A5.3-B3.6.2 |
| Stefanescu, Raluca | CA | IAC-13.A3.2B.5 |
| Stefano, Joseph | CA | IAC-13.E2.4.1 |
| Steffens, Heike | CA | IAC-13.E3.2.5 |
| Steffes, Stephen | CA | IAC-13.C1.4.6 |
| Steinberg, Alan | A | IAC-13.E1.9.2 |
| Steinicke, Leif | CA | IAC-13.B3.4-B6.5.2 |
| Steinicke, Leif | CA | IAC-13.A5.3-B3.6.2 |
| Steinmetz, Fabian | CA | IAC-13.E1.P.3 |
| Stelmakh, Olga S. | A | IAC-13.E7.4.3 |
| Stelmakh, Olga S. | CA | IAC-13.E7.5.8 |
| Steltzner, Adam | A | IAC-13.A3.3A.3 |
| Stelwagen, Frank | CA | IAC-13.C1.4.6 |
| Stenvot, Christophe | CA | IAC-13.A3.3B.5 |
| Stephan, Hubertus | CA | IAC-13.A2.6.9 |
| Stephenson, Haley | CA | IAC-13.E1.5.3 |
| Stephenson, Haley | CA | IAC-13.E1.5.4 |
| Stephenson, Keith | CA | IAC-13.C4.7-C3.5.2 |
| Stephenson, Keith | CA | IAC-13.C4.7-C3.5.6 |
| Sternberg, David | A | IAC-13.D1.P.29 |
| Stilson, Stephanie | CA | IAC-13.A3.1.3 |
| Stoffle, Nicholas | CA | IAC-13.A1.4.2 |
| Stohlman, Olive | A | IAC-13.A6.4.6 |
| Stoica, Adrian Mihail | CA | IAC-13.B4.8.10 |
| Stoica, Adrian-Mihail | A | IAC-13.C1.3.6 |
| Stokes, Hedley | CA | IAC-13.A6.4.7 |
| Stokes, Hedley | CA | IAC-13.A6.3.6 |
| Stokes, Taylor | A | IAC-13.E1.3.1 |
| Stokes, Taylor | CA | IAC-13.E1.7.3 |
| Stolbunov, Valentin | A | IAC-13.C1.6.9 |
| Stone, William | CA | IAC-13.D3.1.7 |
| Stone, William | CA | IAC-13.A5.1.6 |
| Stone, William | CA | IAC-13.E6.1.2 |
| Stone, William | CA | IAC-13.A3.2C.8 |
| Stras, Luke | CA | IAC-13.B1.2.5 |
| Stras, Luke | CA | IAC-13.B4.4.10 |
| Straub, Jeremy | CA | IAC-13.D3.1.8 |
| Straub, Jeremy | A | IAC-13.B4.1.11 |
| Straub, Jeremy | A | IAC-13.C3.2.9 |
| Straub, Jeremy | CA | IAC-13.B4.5.5 |
| Straub, Jeremy | CA | IAC-13.B3.4-B6.5.7 |
| Straub, Jeremy | CA | IAC-13.C3.P.1 |
| Straub, Jeremy | A | IAC-13.E1.P.7 |
| Straub, Jeremy | CA | IAC-13.B6.3.2 |
| Straub, Jeremy | CA | IAC-13.D4.3.13 |
| Straub, Jeremy | CA | IAC-13.C3.4.1 |
| Strewe, Claudia | CA | IAC-13.A5.2.8 |
| Strižik, Lukáš | CA | IAC-13.C2.8.6 |
| Strømsholm, Birgit | CA | IAC-13.E1.2.7 |
| Stube, Kevin | CA | IAC-13.E1.5.4 |
| Stuffler, Timo | CA | IAC-13.B4.2.4 |
| Stuffler, Timo | CA | IAC-13.B1.2.6 |
| Stuffler, Timo | A | IAC-13.B1.3.1 |
| Stuffler, Timo | CA | IAC-13.A2.7.9 |
| Stuffler, Timo | CA | IAC-13.B4.3.13 |
| Stumptner, Willibald | CA | IAC-13.A3.3B.3 |
| Stupl, Jan | CA | IAC-13.A6.6.9 |
| Stupl, Jan | CA | IAC-13.C4.8.9 |
| Stuttard, Matthew | CA | IAC-13.C4.7-C3.5.6 |
| SU, Jinyuan | A | IAC-13.E7.1.3 |
| Su, Junming | CA | IAC-13.C2.4.13 |
| Su, Miao | A | IAC-13.D5.2.7 |
| Su, Zhe | CA | IAC-13.B2.P.8 |
| Subbotin, Stanislav | CA | IAC-13.A2.2.8 |
| Subramanian, Srikrishnan | A | IAC-13.A6.P.27 |
| Suer, Murat | CA | IAC-13.D1.5.6 |
| Suess, Martin | CA | IAC-13.B2.3.1 |
| Suffredini, Michael | A | IAC-13.B3.3.1 |
| Sugimoto, Yohei | CA | IAC-13.C1.7.9 |
| Sugimura, Nobuo | CA | IAC-13.A6.4.8 |
| Sugimura, Nobuo | CA | IAC-13.B4.7A.1 |
| Sugimura, Nobuo | CA | IAC-13.B4.6A.6 |
| Suide, Wang | A | IAC-13.A2.2.4 |
| Sulitzer, David | CA | IAC-13.B5.2.7 |
| Sulla, Joseph | CA | IAC-13.A3.2A.6 |
| Sullivan, Patrick | CA | IAC-13.E6.4-D4.2.7 |
| Suming, Zhang | A | IAC-13.D5.P.3 |
| Summerer, Leopold | A | IAC-13.C3.1.1 |
| Summerer, Leopold | A | IAC-13.C3.1.3 |
| Summerer, Leopold | A | IAC-13.C3.1.9 |
| Summerer, Leopold | A | IAC-13.E6.1.6 |
| Summerer, Leopold | CA | IAC-13.D3.3.10 |
| Summerer, Leopold | CA | IAC-13.D4.4.5 |
| Sun, Chao | A | IAC-13.C3.P.11 |
| Sun, Chencheng | CA | IAC-13.C2.P.29 |
| Sun, Fengju | CA | IAC-13.D2.P.1 |
| Sun, Hongyi | CA | IAC-13.A1.P.5 |
| Sun, JianBo | CA | IAC-13.B2.1.11 |
| Sun, Jiantao | A | IAC-13.C2.P.36 |
| Sun, Jiaqi | CA | IAC-13.B2.6.9 |
| Sun, Jing | CA | IAC-13.A3.2C.3 |
| Sun, Jingjing | A | IAC-13.C2.P.29 |
| Sun, Jun | CA | IAC-13.A3.2C.9 |
| Sun, Kexin | CA | IAC-13.C4.6.8 |
| Sun, Kongqian | CA | IAC-13.C4.P.73 |
| Sun, Mu | A | IAC-13.D2.9-D6.2.2 |
| Sun, Risi | A | IAC-13.C2.9.10 |
| Sun, Rong-Yu | A | IAC-13.A6.P.7 |

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|---|---|---|
| Sun, Shujiang | CA | IAC-13.C4.P.55 |
| Sun, Xin | A | IAC-13.B1.3.3 |
| Sun, Xingliang | A | IAC-13.C4.2.6 |
| Sun, Xiucong | A | IAC-13.B2.1.11 |
| Sun, Xiucong | CA | IAC-13.B2.1.12 |
| Sun, Xiucong | CA | IAC-13.B2.P.15 |
| Sun, Xiucong | CA | IAC-13.B2.P.33 |
| Sun, Xun | A | IAC-13.D1.2.5 |
| Sun, Xun | CA | IAC-13.E2.4.1 |
| Sun, Yeqing | CA | IAC-13.A1.4.3 |
| Sun, Yeqing | CA | IAC-13.A1.4.13 |
| Sun, Yeqing | CA | IAC-13.A1.4.14 |
| Sun, Yi | CA | IAC-13.A1.6.8 |
| Sunakawa, Hideo | A | IAC-13.C4.1.4 |
| Sundaramoorthy, Guhan | A | IAC-13.A3.P.25 |
| Sundaramoorthy, Guhan | CA | IAC-13.A5.P.9 |
| Sundaramoorthy, Prem | CA | IAC-13.E2.2.4 |
| Sundaramoorthy, Prem | CA | IAC-13.E1.3.9 |
| Sundaramoorthy, Prem | CA | IAC-13.B4.7B.6 |
| Sundaravadivelu, G. | A | IAC-13.C4.P.30 |
| Sundarraj, Karthik | A | IAC-13.A5.2.9 |
| Sundarraj, Karthik | CA | IAC-13.C2.7.1 |
| Sundarraj, Karthik | A | IAC-13.B3.7.8 |
| Sundlisæter, Tale | CA | IAC-13.B2.1.8 |
| Sundlisæter, Tale | A | IAC-13.A1.P.72 |
| Susumu, Sasaki | CA | IAC-13.C3.2.3 |
| Sutherlun, Jacob | A | IAC-13.B1.6.1 |
| Sutherlun, Jacob | A | IAC-13.B1.6.2 |
| Suto, Hiroshi | A | IAC-13.B1.2.7 |
| Sutton, Jeffrey | CA | IAC-13.A1.2.2 |
| Suzuki, Yusuke | A | IAC-13.D2.3.3 |
| Svendsen, Åse | CA | IAC-13.B3.5.6 |
| Svoboda, Jan | CA | IAC-13.E3.3.8 |
| Sweeting, Martin | CA | IAC-13.B1.2.1 |
| Sychev, Vladimir N. | CA | IAC-13.A1.8.4 |
| Sylvander, Sylvia | CA | IAC-13.B6.2.10 |
| SYLVESTRE-BARON, Annick | CA | IAC-13.D1.5.5 |
| Sysoev, Valentin | A | IAC-13.C3.P.21 |
| Szajnfarber, Zoe | CA | IAC-13.E3.1.3 |
| Szajnfarber, Zoe | CA | IAC-13.E1.5.5 |
| Szajnfarber, Zoe | CA | IAC-13.D3.4.2 |
| Szczurek, Andrzej | CA | IAC-13.E2.3-V.4.3 |
| Szeile, Aliz | A | IAC-13.B2.2.12 |
| Szwarc, Timothy | A | IAC-13.C2.7.11 |
| Söllner, Gerd | CA | IAC-13.B3.4-B6.5.3 |


## T


| Name | Role | Paper |
|---|---|---|
| Tacca, Stefano | A | IAC-13.E2.2.2 |
| Tadini, Pietro | CA | IAC-13.A6.6.5 |
| Taheran, Mahsa | CA | IAC-13.E1.4.8 |
| Tai, Hu | CA | IAC-13.D5.2.7 |
| Takada, Satoshi | CA | IAC-13.C4.1.8 |
| Takahashi, Yasuyuki | CA | IAC-13.B4.6A.2 |
| Takahashi, Yukihiro | CA | IAC-13.B2.2.8 |
| Takai, Moto | CA | IAC-13.B4.6A.4 |
| Takaya-Umehara, Yuri | A | IAC-13.E7.7-B3.8.8 |
| Takayama, Yoshihisa | CA | IAC-13.B2.3.4 |
| Takemae, Toshiaki | A | IAC-13.E1.P.14 |
| Takenaka, Hideki | CA | IAC-13.B2.2.8 |
| Takenaka, Hideki | CA | IAC-13.B2.3.4 |
| Takeuchi, Yu | A | IAC-13.E7.7-B3.8.9 |
| Taktakishvili, Aleksandre | CA | IAC-13.D5.P.5 |
| Talebzadeh, Ahmad | A | IAC-13.B2.5.4 |
| Tallineau, Julien | A | IAC-13.B4.5.8 |
| Tallineau, Julien | A | IAC-13.D1.3.9 |
| Tallineau, Julien | A | IAC-13.B4.7A.5 |
| Tallineau, Julien | A | IAC-13.B4.7A.6 |
| Tamaru, Haruka | CA | IAC-13.A2.7.8 |
| Tamura, Masami | CA | IAC-13.D5.2.6 |
| Tamura, Tatsuhito | CA | IAC-13.D4.3.6 |
| Tan, Shujun | A | IAC-13.C2.1.8 |
| Tan, Yingjun | CA | IAC-13.A1.2.1 |
| Tan, Yingjun | CA | IAC-13.A1.3.7 |
| Tanaka, Kunihiko | CA | IAC-13.A1.2.7 |
| Tanaka, Rui | CA | IAC-13.A2.2.3 |
| Tanaka, Satoshi | CA | IAC-13.A3.2A.4 |
| Tanaka, Yoko | CA | IAC-13.D5.2.6 |
| Tanaka, Yuri | A | IAC-13.E1.8.3 |
| Tanbakouei, Safoora | A | IAC-13.A1.4.8 |
| Tanbakouei, Safoora | A | IAC-13.E7.7-B3.8.5 |
| Tanbakouei, Safoura | CA | IAC-13.E1.6.7 |
| Tancredi, Urbano | CA | IAC-13.A6.6.5 |
| Tang, Biwei | A | IAC-13.A3.P.56 |
| Tang, Bo | CA | IAC-13.A6.P.23 |
| Tang, Bo | CA | IAC-13.D2.5.4 |
| Tang, Chao | A | IAC-13.A6.P.28 |
| Tang, Chao | CA | IAC-13.D2.9-D6.2.11 |
| Tang, Chengzhi | CA | IAC-13.C4.5.3 |
| Tang, Chuan | CA | IAC-13.C1.6.8 |
| Tang, Geshi | CA | IAC-13.B2.1.1 |
| Tang, Geshi | CA | IAC-13.B2.P.14 |
| Tang, Geshi | CA | IAC-13.A3.4.9 |
| Tang, Geshi | CA | IAC-13.B2.4.14 |
| Tang, Guo | CA | IAC-13.A1.5.1 |
| Tang, Xindi | CA | IAC-13.A7.2.1 |
| Tang, Yongan | A | IAC-13.C2.8.3 |
| Tang, Yongkang | CA | IAC-13.A1.P.30 |
| Tang, Yongkang | A | IAC-13.A1.P.43 |
| Tang, Yongkang | CA | IAC-13.A1.6.5 |
| Tang, Yuhua | CA | IAC-13.A3.3A.5 |
| Taniguchi, Fuki | A | IAC-13.E7.7-B3.8.1 |
| Tank, Jens | CA | IAC-13.A1.2.3 |
| Tank, Jens | A | IAC-13.A1.2.9 |
| Tao, Chen | CA | IAC-13.C4.P.26 |
| Tao, Chen | A | IAC-13.C2.9.9 |
| Tao, He | CA | IAC-13.C3.2.7 |
| Tao, Song | CA | IAC-13.C4.1.12 |
| Tao, Wang | CA | IAC-13.A1.P.37 |
| Tao, Xiaofeng | A | IAC-13.B2.P.32 |
| Tao, Yangzi | A | IAC-13.V.2-B3.9.5 |
| Tao, Ying | A | IAC-13.B2.6.5 |
| Taraba, Michael | CA | IAC-13.A3.3B.3 |
| Tashev, Vitaliy | CA | IAC-13.C4.5.4 |
| Tauber, Svantje | CA | IAC-13.A1.7.10 |
| Tauhid Ahmad, Noor Hidayah | A | IAC-13.B2.3.5 |
| Tavana, Mina | CA | IAC-13.C1.3.7 |
| Tavella, Sara | CA | IAC-13.A1.7.4 |
| Taya, Kohei | A | IAC-13.C4.1.7 |
| Tayefi, Morteza | CA | IAC-13.C1.2.13 |
| Taylor, Charles | CA | IAC-13.D3.2.4 |
| Teichert, Sandra | A | IAC-13.E3.P.9 |
| Tellis, Jane | CA | IAC-13.E2.4.7 |
| Tempesta, Stefano | CA | IAC-13.A2.5.2 |
| Ten, Vladimir | CA | IAC-13.B1.2.3 |
| Ten, Vladimir | CA | IAC-13.D1.3.6 |
| Tenenbaum, Stepan | CA | IAC-13.E2.4.9 |
| Tengli, prahalad N | CA | IAC-13.C4.P.14 |
| Teofilatto, Paolo | CA | IAC-13.C1.1.12 |
| Teofilatto, Paolo | CA | IAC-13.C1.8.7 |
| Tepper, Eytan | A | IAC-13.E3.3.4 |
| Tereshkova, Valentina | A | IAC-13.B3.5.1 |
| Terhes, Claudia | CA | IAC-13.D1.1.2 |
| Terhes, Claudia | CA | IAC-13.A6.5.1 |
| Terhes, Claudia | CA | IAC-13.A6.6.2 |
| Terlevic, Robert | CA | IAC-13.B6.4-V.1.4 |
| Terribile, Antonio | CA | IAC-13.A3.3B.11 |
| Teschl, Franz | A | IAC-13.B2.5.2 |
| Teselkin, Sergey | CA | IAC-13.E6.4-D4.2.3 |
| Teselkin, Sergey | CA | IAC-13.A6.P.31 |
| Testani, Paride | A | IAC-13.C1.1.12 |
| Teule, Frits | CA | IAC-13.B1.3.2 |
| Tewari, Brij | A | IAC-13.A1.P.29 |
| Thaeter, Joachim | CA | IAC-13.D3.1.3 |
| Thakore, TejaL | A | IAC-13.B2.1.8 |
| Thaller, Michelle | CA | IAC-13.E1.1.4 |
| Thaller, Michelle | CA | IAC-13.E1.2.8 |
| Tham, Dung | CA | IAC-13.D3.3.5 |





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|---|---|---|
| Theelen, Bas | CA | IAC-13.E1.5.11 |
| Theil, Stephan | CA | IAC-13.C1.4.6 |
| Theodorou, Theodoros | CA | IAC-13.A6.4.6 |
| Thepot, Rémi | CA | IAC-13.D2.7.8 |
| Thiel, Cora S. | A | IAC-13.A1.7.10 |
| Thirunarayanan, Parimalarangan | A | IAC-13.B6.3.5 |
| This, Nadia | CA | IAC-13.B3.4-B6.5.2 |
| Thoma, Markus | CA | IAC-13.A2.7.7 |
| Thompson, Lachlan | CA | IAC-13.E2.4.2 |
| Thomsen, Patrick | CA | IAC-13.A6.P.14 |
| Thumm, Tracy | CA | IAC-13.B3.3.4 |
| Tian, Guohua | CA | IAC-13.C4.P.55 |
| Tian, Hui | CA | IAC-13.C4.2.6 |
| Tian, Hui | CA | IAC-13.C4.P.15 |
| Tian, Hui | CA | IAC-13.C4.P.17 |
| Tian, Hui | CA | IAC-13.C4.P.19 |
| Tian, Hui | CA | IAC-13.C4.P.23 |
| Tian, Jifeng | CA | IAC-13.A1.P.50 |
| Tian, Jinwen | CA | IAC-13.C1.2.12 |
| Tian, Li | CA | IAC-13.E5.3.1 |
| Tian, Liang | A | IAC-13.C4.9.5 |
| Tian, Lin | CA | IAC-13.B3.7.7 |
| Tian, Yang | CA | IAC-13.A3.P.39 |
| Tian, Yu | A | IAC-13.A1.1.7 |
| Tian, Zhong | CA | IAC-13.B2.4.11 |
| Tian, Zhong | CA | IAC-13.B2.7.5 |
| Tiankun, Huang | A | IAC-13.C4.4.14 |
| Tianping, Zhang | A | IAC-13.C4.P.54 |
| Tianping, Zhang | A | IAC-13.C4.4.10 |
| Tiedemann, Lars | A | IAC-13.B4.2.6 |
| Tietz, Dale | CA | IAC-13.D3.1.7 |
| Tietz, Dale | CA | IAC-13.A5.1.6 |
| Tietz, Dale | CA | IAC-13.E6.1.2 |
| Tietz, Dale | CA | IAC-13.A3.2C.8 |
| Timmermans, Renske | CA | IAC-13.B1.5.6 |
| Timoshin, Dmitry | A | IAC-13.C1.2.7 |
| Timoshin, Dmitry | CA | IAC-13.A3.2C.1 |
| Tinel, Claire | A | IAC-13.B1.5.7 |
| Ting ting, Wang | A | IAC-13.D3.P.6 |
| Tinghui, Li | CA | IAC-13.A1.3.6 |
| TingMei, Wang | CA | IAC-13.A1.P.61 |
| Tinsley, Tim | CA | IAC-13.C4.7-C3.5.1 |
| Tinsley, Tim | A | IAC-13.C4.7-C3.5.2 |
| Tintore, Oriol | CA | IAC-13.B4.6B.10 |
| Tison, Céline | A | IAC-13.B1.2.9 |
| Tlustos, Reinhard | A | IAC-13.A3.3B.3 |
| Tobehn, Carsten | A | IAC-13.B4.4.11 |
| Todd, Ben | CA | IAC-13.E1.3.7 |
| Tokhunts, Arvid | CA | IAC-13.E6.4-D4.2.3 |
| Tokhunts, Arvid | CA | IAC-13.E4.2.3 |
| Tokudome, Shinichiro | CA | IAC-13.D2.1.2 |
| Tolyarenko, Nikolai | CA | IAC-13.D2.4.11 |
| Tomanek, Boguslaw | CA | IAC-13.A1.P.20 |
| TOMASELLO, Filippo | CA | IAC-13.D6.1.6 |
| TOMASINI, Linda | CA | IAC-13.B1.2.4 |
| Tomassini, Davide | A | IAC-13.B5.1.12 |
| Tomilovskaya, Elena | CA | IAC-13.A1.P.74 |
| Tomioka, Yoshihiro | CA | IAC-13.B2.2.8 |
| Tomioka, Yoshihiro | CA | IAC-13.A6.4.8 |
| Tomioka, Yoshihiro | CA | IAC-13.B4.7A.1 |
| Tomioka, Yoshihiro | A | IAC-13.B4.6A.6 |
| Tonetti, Stefania | CA | IAC-13.B4.3.2 |
| Tong, Feizhou | A | IAC-13.A1.P.5 |
| Tong, Qingwei | A | IAC-13.A2.4.1 |
| Topputo, Francesco | CA | IAC-13.C1.3.11 |
| Topputo, Francesco | A | IAC-13.A3.P.42 |
| Topputo, Francesco | A | IAC-13.C1.9.11 |
| Torisaska, Ayako | CA | IAC-13.B4.6A.4 |
| Torres, Carlos | A | IAC-13.A3.P.6 |
| Touboul, Pierre | CA | IAC-13.A2.1.5 |
| Tough, Allen (deceased) | CA | IAC-13.A4.2.1 |
| Tovo, Giovanni | CA | IAC-13.A3.3B.8 |
| Townsend, Lawrence W. | CA | IAC-13.A5.P.1 |
| Toyoda, Kazuhiro | CA | IAC-13.D5.3.10 |
| Toyoda, Kazuhiro | CA | IAC-13.D5.3.12 |
| Toyoshima, Morio | CA | IAC-13.B2.2.8 |
| Toyoshima, Morio | A | IAC-13.B2.3.4 |
| Toyoshima, Morio | CA | IAC-13.B2.6.6 |
| Tracino, Emanuele | CA | IAC-13.A1.4.10 |
| Trani, Gabriele | CA | IAC-13.A3.P.35 |
| Tribot, Jean-Pierre | A | IAC-13.D2.6.5 |
| Trifoni, Eduardo | CA | IAC-13.C2.7.13 |
| Trigg, Chris | CA | IAC-13.A1.P.19 |
| Trigg, Chris | CA | IAC-13.A1.P.21 |
| Tristancho, Joshua | CA | IAC-13.D2.7.10 |
| Tristancho, Joshua | CA | IAC-13.B4.8.8 |
| Tristancho, Joshua | CA | IAC-13.D3.4.5 |
| Tritchler, Stephanie | CA | IAC-13.A1.P.21 |
| Trivailo, Olga | CA | IAC-13.D2.4.5 |
| Trivailo, Pavel M. | CA | IAC-13.C1.1.10 |
| Trivailo, Pavel M. | A | IAC-13.B6.2.8 |
| Trivailo, Pavel M. | A | IAC-13.C2.3.8 |
| Trivailo, Pavel M. | CA | IAC-13.C2.5.1 |
| Trivedi, Rohit | CA | IAC-13.A2.5.5 |
| Trofimov, Sergey | A | IAC-13.C1.4.1 |
| Trofimov, Sergey | CA | IAC-13.C1.6.4 |
| Tronchetti, Fabio | A | IAC-13.E7.2.6 |
| Trosper, Jennifer H. | CA | IAC-13.A3.3A.2 |
| Truglio, Marco | CA | IAC-13.C1.1.12 |
| Trur, Aurélie | A | IAC-13.E3.4.5 |
| Trushlyakov, Valery | A | IAC-13.A6.4.10 |
| Tsai, Evan | CA | IAC-13.A3.2D.2 |
| Tsakyridis, Georgios | CA | IAC-13.C4.7-C3.5.3 |
| Tsuji, Hiroyuki | CA | IAC-13.B2.6.6 |
| Tsuji, Norihito | CA | IAC-13.D2.3.3 |
| Tsujioka, Mitsutoshi | A | IAC-13.B3.2.3 |
| Tsygankov.ru, Alexander | CA | IAC-13.A1.6.4 |
| Tu, Jianhui | CA | IAC-13.B2.P.17 |
| Tugaenko, Vjatcheslav | CA | IAC-13.C3.2.8 |
| Tumanov, Mikhail | A | IAC-13.B1.P.1 |
| Tumino, Giorgio | A | IAC-13.D2.6.1 |
| Tumino, Giorgio | A | IAC-13.D2.6.7 |
| Turconi, Andrea | CA | IAC-13.A6.P.38 |
| Turecek, Daniel | CA | IAC-13.A1.4.2 |
| Turek, Jan | A | IAC-13.A5.P.6 |
| Turek, Krzysztof | CA | IAC-13.A1.P.20 |
| Turk, Michael | CA | IAC-13.A6.6.11 |
| Turk, Michael | CA | IAC-13.B4.3.13 |
| Turner, Matthew | CA | IAC-13.E1.3.11 |
| Turner, Peter | CA | IAC-13.A2.5.10 |
| Tzevelecos, Wassilis | A | IAC-13.A2.3.10 |
| Tzevelecos, Wassilis | A | IAC-13.E2.3-V.4.5 |
| Türkyilmaz, Eral | A | IAC-13.B2.5.3 |


## U


| Name | Role | Paper |
|---|---|---|
| Uchitomi, Motoko | CA | IAC-13.E7.4.9 |
| Uchitomi, Motoko | CA | IAC-13.E7.5.6 |
| Uddin, Sardar Zia | CA | IAC-13.A1.2.5 |
| UDOM, INNOCENT | A | IAC-13.D4.P.1 |
| Uehara, Nariaki | CA | IAC-13.A3.2C.6 |
| Uemura, Yoshihiko | CA | IAC-13.A3.1.5 |
| Ueno, Hiroshi | CA | IAC-13.A3.1.3 |
| Ueno, Hiroshi | CA | IAC-13.B3.2.4 |
| Ueno, Hiroshi | A | IAC-13.B3.7.3 |
| Ueno, Ichiro | CA | IAC-13.A2.7.1 |
| Ueta, Atsushi | A | IAC-13.C2.2.3 |
| Ugo Henry, Okeke | A | IAC-13.B5.1.4 |
| Uhlig, Thomas | CA | IAC-13.B6.1.4 |
| Ulamec, Stephan | A | IAC-13.A3.4.2 |
| Ulamec, Stephan | CA | IAC-13.A3.4.3 |
| Ulamec, Stephan | CA | IAC-13.A3.4.6 |
| Ulamec, Stephan | CA | IAC-13.A3.4.8 |
| Ullrich, Oliver | CA | IAC-13.A1.7.10 |
| Uludağ, Mehmet Şevket | CA | IAC-13.D1.5.6 |
| Umemura, Sayaka | CA | IAC-13.B3.3.4 |
| Umit, Ertan | CA | IAC-13.D1.5.6 |
| Unterberger, Manuela | A | IAC-13.B6.2.9 |

| | | |
|---|---|---|
| Upmanyu, Ankita | CA | IAC-13.B4.1.2 |
| Urama, Johnson | CA | IAC-13.A7.2.1 |
| Urban, David | CA | IAC-13.A2.6.2 |
| Urbanek, Jakub | CA | IAC-13.A3.4.1 |
| Urbanowicz, Maciej | A | IAC-13.D1.5.7 |
| Urbanska, Katarzyna | CA | IAC-13.B2.1.8 |
| Urbas, Ana | CA | IAC-13.B1.2.5 |
| Urquijo, Enrique | CA | IAC-13.E3.P.5 |
| Usachev, Alexander | A | IAC-13.A2.7.7 |
| Usov, Vitali | CA | IAC-13.A5.3-B3.6.7 |
| Utashima, Masayoshi | CA | IAC-13.C1.6.13 |
| Utley, Dawn | CA | IAC-13.E1.3.11 |
| Uvarova, Inna | CA | IAC-13.D1.5.7 |

## V

| Name | Role | Paper |
|---|---|---|
| V V S, Sasi Kiran | CA | IAC-13.E2.1.4 |
| V V S, Sasi Kiran | CA | IAC-13.C1.2.8 |
| Vaccaro, David | CA | IAC-13.E3.1.6 |
| Vaccaro, David | A | IAC-13.E3.2.11 |
| Vaccaro, David | A | IAC-13.E3.3.7 |
| Vaccaro, David | A | IAC-13.E1.5.2 |
| Vaccaro, David | A | IAC-13.D4.4.7 |
| Vahter, Andres | CA | IAC-13.B4.2.10 |
| Vaidya, Naman | A | IAC-13.C3.P.22 |
| Vaillon, Ludovic | A | IAC-13.A7.1.4 |
| Vakoch, Douglas | A | IAC-13.E7.3.5 |
| Vakoch, Douglas | CA | IAC-13.A4.1.2 |
| Vakoch, Douglas | A | IAC-13.A4.2.7 |
| Valcarce, Fernando | CA | IAC-13.B1.3.10 |
| Valcarce, Fernando | CA | IAC-13.B1.4.3 |
| Valdatta, Marcello | CA | IAC-13.E2.3-V.4.4 |
| Valdatta, Marcello | CA | IAC-13.A6.P.29 |
| Valdatta, Marcello | CA | IAC-13.C2.9.7 |
| Valentian, Dominique | CA | IAC-13.C4.7-C3.5.4 |
| Valenzano, Giuseppe | CA | IAC-13.D2.6.2 |
| Vallot, Nicolas | CA | IAC-13.D6.1.12 |
| Valsecchi, Giovanni | CA | IAC-13.A6.2.4 |
| van der A, Ronald | A | IAC-13.B1.5.6 |
| van der Pas, Niels | CA | IAC-13.D1.1.2 |
| van der Pas, Niels | A | IAC-13.A6.5.1 |
| van der Pas, Niels | CA | IAC-13.A6.6.2 |
| van der Veen, Alle-Jan | CA | IAC-13.B4.7B.6 |
| van der Wal, Len | CA | IAC-13.B1.P.6 |
| van der Wal, Len | CA | IAC-13.B1.5.3 |
| van der Wal, Len | CA | IAC-13.B1.5.6 |
| van der Wal, Len | CA | IAC-13.B1.5.8 |
| van der Weg, Willem | CA | IAC-13.A6.P.24 |
| van der Weg, Willem | A | IAC-13.C1.8.5 |
| Van Dijk, Peter | CA | IAC-13.E1.3.3 |
| Van Dijk, Peter | CA | IAC-13.B4.6B.7 |
| Van Dijk, Peter | CA | IAC-13.B4.6B.13 |
| Van Hoof, Denis | CA | IAC-13.B3.4-B6.5.2 |
| Van Hoof, Denis | A | IAC-13.A5.3-B3.6.2 |
| van Langen, Sven Kevin | A | IAC-13.E1.3.3 |
| van Langen, Sven Kevin | CA | IAC-13.B4.6B.7 |
| van Langen, Sven Kevin | CA | IAC-13.B4.6B.13 |
| Van Vaerenbergh, Stefan | CA | IAC-13.A2.6.4 |
| Van Vaerenbergh, Stefan | CA | IAC-13.A2.6.5 |
| van Zoest, Tim | CA | IAC-13.A3.1.9 |
| van Zoest, Tim | CA | IAC-13.A6.P.33 |
| van Zoest, Tim | CA | IAC-13.C4.7-C3.5.3 |
| Van Zyl, Robert | CA | IAC-13.B4.6B.12 |
| Vananti, Alessandro | CA | IAC-13.A6.1.3 |
| Vananti, Alessandro | A | IAC-13.A6.7.2 |
| Vance, Steve | CA | IAC-13.A3.5.9 |
| Vangen, Scott | CA | IAC-13.A3.1.3 |
| Vargas Bustos, Edwin Alfonso | CA | IAC-13.E1.3.8 |
| Varinois, Arnaud | A | IAC-13.D1.5.5 |
| Varnoteaux, Philippe | CA | IAC-13.E4.1.1 |
| Vashishtha, Ankita | A | IAC-13.D3.1.10 |
| Vasile, Massimiliano | CA | IAC-13.A6.2.4 |
| Vasile, Massimiliano | CA | IAC-13.C1.4.11 |
| Vasile, Massimiliano | CA | IAC-13.A6.P.24 |
| Vasile, Massimiliano | CA | IAC-13.D1.P.16 |
| Vasile, Massimiliano | CA | IAC-13.C2.5.2 |
| Vasile, Massimiliano | CA | IAC-13.C1.8.4 |
| Vasile, Massimiliano | CA | IAC-13.C1.8.5 |
| Vasilogeorgi, Isavella Maria | A | IAC-13.E7.P.13 |
| Vasko, Christopher | A | IAC-13.D4.1.9 |
| Vassalli, Carlo | A | IAC-13.C2.4.11 |
| Vecchione, Ludovico | CA | IAC-13.D2.6.8 |
| Veefkind, Pepijn | CA | IAC-13.B1.3.2 |
| VELAYUDHAN, SNEHA | A | IAC-13.C3.4.6 |
| Velidi, Gurunadh | CA | IAC-13.D3.1.9 |
| Velidi, Gurunadh | CA | IAC-13.D4.1.11 |
| Velidi, Gurunadh | A | IAC-13.D5.1.1 |
| Velidi, Gurunadh | CA | IAC-13.A3.P.25 |
| Velidi, Gurunadh | CA | IAC-13.A5.P.9 |
| Velidi, Gurunadh | CA | IAC-13.D2.P.20 |
| Velidi, Gurunadh | CA | IAC-13.E1.P.6 |
| Velidi, Gurunadh | CA | IAC-13.A1.5.3 |
| Velidi, Gurunadh | CA | IAC-13.E4.2.9 |
| Velidi, Gurunadh | CA | IAC-13.B6.3.7 |
| Velidi, Gurunadh | CA | IAC-13.C4.6.10 |
| Velidi, Gurunadh | A | IAC-13.B6.1.10 |
| Velidi, Gurunadh | CA | IAC-13.D5.3.4 |
| Velidi, Gurunadh | CA | IAC-13.A1.8.8 |
| Velidi, Gurunadh | CA | IAC-13.E1.9.8 |
| Venkat, Ramkiran | CA | IAC-13.C1.4.7 |
| Venkataramaiah, Jagannatha | A | IAC-13.E1.6.8 |
| Veratti, Rubes | CA | IAC-13.B1.3.10 |
| Verga, Antonio | CA | IAC-13.A2.5.4 |
| Verhoeven, Chris | CA | IAC-13.C3.3.3 |
| Verhoeven, Chris | CA | IAC-13.B4.7B.6 |
| Verhoeven, Chris | CA | IAC-13.D2.7.7 |
| Verlan, Alexander | CA | IAC-13.C3.P.21 |
| Verma, Rishi | A | IAC-13.C4.P.36 |
| Veshchunov, Victor | CA | IAC-13.E7.2.4 |
| Veske, Mihkel | CA | IAC-13.C3.4.8 |
| Vetrisano, Massimo | A | IAC-13.C1.4.11 |
| Vetrisano, Massimo | CA | IAC-13.A6.P.24 |
| Veverka, Joseph | CA | IAC-13.A3.4.12 |
| Viberti, Carlo | A | IAC-13.A1.P.12 |
| Viberti, Carlo | A | IAC-13.E1.7.8 |
| Vibha, Vibha | A | IAC-13.C4.6.3 |
| Vibha, Vibha | CA | IAC-13.B5.2.7 |
| Viceira, Jose A. | A | IAC-13.A3.P.51 |
| Vidali, Ireneo | CA | IAC-13.A3.3B.8 |
| Viertel, York | CA | IAC-13.D2.2.3 |
| Vighnesam, Narayanasetti Venkata | A | IAC-13.C1.4.4 |
| Vighnesam, Narayanasetti Venkata | CA | IAC-13.C1.5.4 |
| Vijayatha, Monika | CA | IAC-13.D4.3.1 |
| Vila, Jérôme | CA | IAC-13.D2.1.5 |
| Vilhena de Moraes, Rodolpho | CA | IAC-13.E4.1.8 |
| Villa, Alberto | CA | IAC-13.A4.P.4 |
| Villié, Charles | CA | IAC-13.B2.1.4 |
| VINTENAT, Lionel | CA | IAC-13.B6.2.10 |
| Viola, Nicole | CA | IAC-13.D2.4.3 |
| Viola, Nicole | CA | IAC-13.A3.P.43 |
| Viola, Nicole | CA | IAC-13.A3.5.6 |
| Viola, Nicole | CA | IAC-13.A6.6.5 |
| Viola, Nicole | A | IAC-13.D2.7.5 |
| Viola, Nicole | CA | IAC-13.D3.4.12 |
| Viotto, Roberto | CA | IAC-13.C2.4.1 |
| Virgili Llop, Josep | CA | IAC-13.C1.1.3 |
| Visagie, Lourens | CA | IAC-13.A6.4.6 |
| Viscio, Maria Antonietta | A | IAC-13.D2.4.3 |
| Viscio, Maria Antonietta | A | IAC-13.A3.P.43 |
| Viscio, Maria Antonietta | A | IAC-13.A3.5.6 |
| Viscio, Maria Antonietta | A | IAC-13.D3.4.12 |
| Visentin, Gianfranco | CA | IAC-13.A6.5.2 |
| Visschedijk, Antoon | CA | IAC-13.B1.5.8 |
| Vittori, Roberto | CA | IAC-13.B6.1.9 |
| Vivet, Emmanuel | CA | IAC-13.D2.1.5 |
| Viviani, Antonio | CA | IAC-13.C4.2.7 |
| Viviani*, Antonio | A | IAC-13.A2.2.11 |
| Viviani*, Antonio | A | IAC-13.A2.4.5 |
| Vjatkin, Aleksey | CA | IAC-13.A2.4.10 |
| Vladimir, Petrov | CA | IAC-13.C4.1.9 |
| Vladimirova, Tanya | CA | IAC-13.A3.2B.4 |
| Vlasea, Mihaela | CA | IAC-13.A5.3-B3.6.6 |
| Voelker, Uwe | A | IAC-13.A6.1.8 |
| Voersmann, Peter | CA | IAC-13.A6.2.2 |
| Voersmann, Peter | CA | IAC-13.A6.2.3 |
| Voersmann, Peter | CA | IAC-13.A6.4.4 |
| Voersmann, Peter | CA | IAC-13.A6.P.8 |
| Voersmann, Peter | CA | IAC-13.A6.P.14 |
| Voersmann, Peter | CA | IAC-13.A6.3.8 |
| Volynskaya, Olga | A | IAC-13.E7.4.4 |
| von der Dunk, Frans | A | IAC-13.E7.5.9 |
| von Kampen, Peter | CA | IAC-13.A2.5.8 |
| Voormansik, Kaupo | CA | IAC-13.B4.2.10 |
| Voors, Robert | CA | IAC-13.B1.3.2 |
| Vorobiev, Alexey Gennadievich | CA | IAC-13.C4.5.4 |
| Vorontsov, Viktor A. | A | IAC-13.A3.1.7 |
| Vorontsov, Viktor A. | CA | IAC-13.A3.P.6 |
| Vorontsov, Viktor A. | CA | IAC-13.A3.P.7 |
| Vrancken, Davy | A | IAC-13.B4.4.5 |
| Vrolijk, Ademir | A | IAC-13.E3.1.3 |
| Vrolijk, Ademir | CA | IAC-13.E7.1.4 |
| Vrublevskis, John | CA | IAC-13.D3.2.4 |
| Vtorushin, Nikolai | CA | IAC-13.D2.2.2 |
| Vyas, Shruti | A | IAC-13.E6.2.11 |
| Vykydal, Zdenek | CA | IAC-13.A1.4.2 |
| Vázquez Vázquez, Miriam | A | IAC-13.D1.6.3 |
| Võõras, Madis | A | IAC-13.E3.3.5 |

## W

| Name | Role | Paper |
|---|---|---|
| Wachtl, Oldrich | CA | IAC-13.A5.1.10 |
| Wada, Yutaka | CA | IAC-13.C4.2.9 |
| Waghmare, Nandini | CA | IAC-13.E2.3-V.4.9 |
| Wagner, C. | CA | IAC-13.A3.2A.9 |
| Walker, Scott | CA | IAC-13.A6.3.6 |
| Walker, Scott | CA | IAC-13.C1.9.10 |
| WALTER, Jean-marc | CA | IAC-13.B6.2.10 |
| Walter, Nicolas | CA | IAC-13.A1.5.11 |
| Walter, Nicolas | CA | IAC-13.C4.7-C3.5.1 |
| Walter, Ulrich | CA | IAC-13.C1.2.9 |
| Walter, Ulrich | CA | IAC-13.C1.4.8 |
| Walter, Ulrich | CA | IAC-13.D1.4.4 |
| Walter-Range, Micah | A | IAC-13.E3.3.11 |
| Walther, Stephan | CA | IAC-13.A5.4-D2.8.1 |
| Wan, Chengan | CA | IAC-13.C3.P.10 |
| Wan, Li | CA | IAC-13.B5.2.11 |
| Wan, Stephanie | CA | IAC-13.B2.1.8 |
| Wan, Stephanie | A | IAC-13.B2.7.1 |
| Wan, Wei | A | IAC-13.B1.4.2 |
| Wan, Yue | CA | IAC-13.A3.P.20 |
| Wan, Yumin | CA | IAC-13.A1.2.1 |
| Wan, Yumin | CA | IAC-13.A1.3.7 |
| Wan, Yumin | CA | IAC-13.A1.3.8 |
| Wan, Yumin | CA | IAC-13.A1.7.8 |
| Wanatabe, Yoko | CA | IAC-13.A3.3C.6 |
| WANG, Baofeng | CA | IAC-13.A3.2B.10 |
| WANG, Baofeng | CA | IAC-13.A3.P.26 |
| WANG, BENLI | CA | IAC-13.C2.P.21 |
| Wang, Chen | A | IAC-13.B2.5.5 |
| Wang, Chenghua | CA | IAC-13.B2.2.2 |
| Wang, Chenghua | CA | IAC-13.V.3-B2.8.3 |
| Wang, Chenghua | CA | IAC-13.B2.4.9 |
| Wang, Chun-Chieh | CA | IAC-13.D4.1.5 |
| Wang, Chun-Chieh | CA | IAC-13.E5.1.3 |
| Wang, Chunming | CA | IAC-13.C1.2.2 |
| Wang, Chunyan | CA | IAC-13.A1.2.1 |
| Wang, Chunyan | A | IAC-13.A1.3.7 |
| Wang, Dongxia | A | IAC-13.C1.5.6 |
| Wang, Dongzhe | A | IAC-13.D1.P.21 |
| Wang, Fei | CA | IAC-13.C2.4.4 |
| Wang, Fengyan | CA | IAC-13.A1.P.52 |
| Wang, Fengyu | CA | IAC-13.B2.2.2 |
| Wang, Gong | CA | IAC-13.C2.P.7 |
| Wang, Gong | CA | IAC-13.D5.P.2 |
| Wang, Gong-Tao | A | IAC-13.B5.2.9 |
| Wang, Guangyu | CA | IAC-13.C4.9.6 |
| WANG, Guo-hui | CA | IAC-13.C4.P.68 |
| Wang, Guoxin | CA | IAC-13.A3.P.18 |
| Wang, Guoxin | CA | IAC-13.A3.2C.3 |
| Wang, Guoyu | A | IAC-13.E7.4.7 |
| Wang, Hailong | CA | IAC-13.A1.P.18 |
| Wang, Hailong | CA | IAC-13.A1.P.27 |
| Wang, Haitao | A | IAC-13.A3.P.38 |
| Wang, Haiyan | CA | IAC-13.A1.P.35 |
| Wang, Haiyan | A | IAC-13.A1.P.50 |
| Wang, Hongchao | CA | IAC-13.A1.P.52 |
| Wang, Honghui | CA | IAC-13.A1.2.1 |
| Wang, Honghui | CA | IAC-13.A1.7.8 |
| Wang, Hua | CA | IAC-13.A3.P.2 |
| Wang, Huihui | CA | IAC-13.D1.P.11 |
| Wang, Huijun | CA | IAC-13.C2.9.9 |
| WANG, Jia | CA | IAC-13.A3.2B.10 |
| WANG, Jia | CA | IAC-13.A3.P.26 |
| Wang, Jianwei | A | IAC-13.C2.1.4 |
| Wang, Jilian | A | IAC-13.E7.5.10 |
| Wang, Jin-Fu | A | IAC-13.A1.P.65 |
| Wang, Jing | CA | IAC-13.B4.3.12 |
| Wang, Jingyu | CA | IAC-13.A1.3.6 |
| Wang, Jingyu | A | IAC-13.A1.P.68 |
| Wang, Jinsheng | CA | IAC-13.A1.P.46 |
| Wang, Jufang | CA | IAC-13.A1.4.11 |
| Wang, Jun | CA | IAC-13.A1.1.5 |
| Wang, Jun | CA | IAC-13.A1.1.6 |
| Wang, Jun | CA | IAC-13.A1.1.9 |
| Wang, Junwei | CA | IAC-13.C2.P.42 |
| Wang, Junyan | CA | IAC-13.C3.P.9 |
| WANG, LEI | A | IAC-13.A6.P.2 |
| Wang, Li | CA | IAC-13.C3.2.4 |
| Wang, Li | CA | IAC-13.A3.3A.5 |
| Wang, Li | CA | IAC-13.C2.P.11 |
| WANG, LILI | CA | IAC-13.B4.4.6 |
| Wang, Lin-Jie | CA | IAC-13.A1.2.1 |
| Wang, Lin-Jie | CA | IAC-13.A1.3.8 |
| Wang, Lin-Jie | A | IAC-13.A1.P.1 |
| Wang, Liuping | CA | IAC-13.B6.2.8 |
| WANG, Mei | CA | IAC-13.B2.P.14 |
| WANG, Mei | CA | IAC-13.B2.4.14 |
| Wang, Meng | A | IAC-13.A3.P.55 |
| Wang, Mingming | A | IAC-13.C1.2.9 |
| Wang, Mingming | A | IAC-13.C1.4.8 |
| Wang, Mingming | A | IAC-13.D1.4.4 |
| Wang, Mingzhe | CA | IAC-13.A3.P.55 |
| Wang, Minjuan | CA | IAC-13.A1.6.9 |
| Wang, Moge | CA | IAC-13.C4.P.34 |
| Wang, Moge | CA | IAC-13.C4.P.43 |
| Wang, Moge | CA | IAC-13.C4.P.52 |
| Wang, Moge | CA | IAC-13.C4.4.6 |
| Wang, Naiwei | CA | IAC-13.B2.4.10 |
| Wang, Ning | CA | IAC-13.D1.P.22 |
| Wang, Peng | A | IAC-13.E7.P.1 |
| Wang, Peng | A | IAC-13.B2.4.12 |
| Wang, Pengfei | CA | IAC-13.C4.P.15 |

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|---|---|---|
| Wang, Pengfei | A | IAC-13.C4.P.17 |
| Wang, Ping | A | IAC-13.B3.7.7 |
| Wang, Qing-wei | CA | IAC-13.C2.1.8 |
| Wang, Qingzhe | CA | IAC-13.B3.7.7 |
| Wang, Rongguo | CA | IAC-13.C2.P.46 |
| Wang, Ronghui | A | IAC-13.C2.P.5 |
| Wang, Ronglan | CA | IAC-13.A6.P.18 |
| Wang, Ru | CA | IAC-13.C3.P.9 |
| Wang, Ruijie | CA | IAC-13.B2.6.3 |
| Wang, Shengnan | CA | IAC-13.A1.P.53 |
| Wang, Shengnan | CA | IAC-13.A1.P.54 |
| Wang, Shuang-Feng | CA | IAC-13.A2.4.3 |
| Wang, Shuyan | A | IAC-13.E1.5.7 |
| Wang, Sui_De | A | IAC-13.A2.4.3 |
| Wang, Tianshu | CA | IAC-13.A2.2.5 |
| Wang, Tianshu | CA | IAC-13.A2.P.6 |
| Wang, Tingting | CA | IAC-13.D3.4.8 |
| Wang, Wei | A | IAC-13.A1.4.13 |
| Wang, Wei | CA | IAC-13.D5.1.9 |
| Wang, Wei | CA | IAC-13.A1.P.46 |
| Wang, Wei | CA | IAC-13.B2.P.11 |
| Wang, Wei | A | IAC-13.C2.P.7 |
| Wang, Wei | CA | IAC-13.D1.P.20 |
| Wang, Wei | A | IAC-13.D5.P.2 |
| Wang, Wei | A | IAC-13.C4.6.11 |
| Wang, Weibin | A | IAC-13.C4.1.2 |
| Wang, Wenli | A | IAC-13.C2.P.32 |
| Wang, Xianran | CA | IAC-13.B3.P.5 |
| Wang, Xianran | CA | IAC-13.B3.7.1 |
| Wang, Xiaoding | A | IAC-13.D2.9-D6.2.11 |
| Wang, Xiaogang | CA | IAC-13.A1.7.9 |
| Wang, Xiaojun | CA | IAC-13.E4.3.4 |
| Wang, Xiaoliang | A | IAC-13.B2.P.8 |
| Wang, Xiaoting | CA | IAC-13.C2.P.29 |
| Wang, Xidong | A | IAC-13.B1.P.8 |
| Wang, Xin | A | IAC-13.D3.3.11 |
| Wang, Xingfeng | A | IAC-13.D1.P.36 |
| Wang, Xinglai | CA | IAC-13.B2.6.1 |
| Wang, Xinrong | CA | IAC-13.B5.1.10 |
| Wang, Xinrong | CA | IAC-13.B5.2.3 |
| Wang, Xinsheng | A | IAC-13.D1.4.3 |
| Wang, Xinsheng | CA | IAC-13.V.3-B2.8.5 |
| Wang, Xinsheng | A | IAC-13.A6.5.7 |
| Wang, Xinsheng | A | IAC-13.D1.5.4 |
| Wang, Xinsheng | CA | IAC-13.D3.4.11 |
| WANG, Xubo | CA | IAC-13.D1.P.32 |
| WANG, Xubo | A | IAC-13.D1.6.10 |
| Wang, Xuemei | CA | IAC-13.A2.P.4 |
| Wang, Xuemei | CA | IAC-13.C4.P.68 |
| Wang, Xuemei | CA | IAC-13.C4.5.6 |
| WANG, Xueqian | A | IAC-13.B4.2.8 |
| WANG, Xueqian | CA | IAC-13.B6.P.3 |
| WANG, Xueqian | CA | IAC-13.B6.P.5 |
| WANG, Xueqian | CA | IAC-13.D1.P.10 |
| WANG, Xueqian | A | IAC-13.B4.7B.1 |
| WANG, Yan | CA | IAC-13.C2.7.12 |
| Wang, Yanan | A | IAC-13.C4.9.8 |
| Wang, Yanli | CA | IAC-13.A1.3.8 |
| Wang, Yanli | A | IAC-13.B4.4.8 |
| Wang, Yanli | CA | IAC-13.A1.P.61 |
| Wang, Yanli | CA | IAC-13.D3.P.3 |
| Wang, Yanning | CA | IAC-13.D1.P.11 |
| Wang, Ying | CA | IAC-13.C4.P.72 |
| Wang, Yongjin | CA | IAC-13.B2.3.10 |
| Wang, Youping | CA | IAC-13.D1.P.5 |
| Wang, Yuan | A | IAC-13.A2.2.9 |
| Wang, Yuansheng | A | IAC-13.A2.6.10 |
| Wang, Yue | A | IAC-13.A1.1.2 |
| Wang, Yue | CA | IAC-13.C2.P.10 |
| Wang, Yue | CA | IAC-13.C2.P.58 |
| Wang, Yue | CA | IAC-13.C2.P.59 |
| Wang, Yue | A | IAC-13.D1.4.9 |
| Wang, Yue | A | IAC-13.C1.9.5 |
| Wang, Yuewu | CA | IAC-13.C2.P.57 |
| Wang, Yuewu | CA | IAC-13.C2.9.8 |
| Wang, Yuexuan | A | IAC-13.C1.2.2 |
| Wang, Yuexuan | A | IAC-13.C2.9.8 |
| WANG, Yuying | A | IAC-13.C2.7.12 |
| Wang, Zhaokui | CA | IAC-13.D1.1.7 |
| Wang, Zhaokui | CA | IAC-13.C1.5.5 |
| Wang, Zhaokui | CA | IAC-13.D4.3.11 |
| Wang, Zhibin | A | IAC-13.C3.P.3 |
| Wang, Zhicheng | CA | IAC-13.A1.P.73 |
| Wang, Zhugang | A | IAC-13.B2.2.3 |
| Wang, Ziyu | A | IAC-13.D2.P.6 |
| WANLI, GAO | CA | IAC-13.C4.P.7 |
| Wardak, Karina | CA | IAC-13.E7.1.4 |
| Wardak, Karina | A | IAC-13.E7.P.18 |
| Wargo, Michael | CA | IAC-13.B3.1.8 |
| Wasser, Kai | CA | IAC-13.D4.4.4 |
| Watanabe, Akihito | CA | IAC-13.B4.6A.4 |
| Watanabe, Hirotaka | CA | IAC-13.E7.4.13 |
| WATANABE, Takeo | CA | IAC-13.D1.5.1 |
| Watanabe, Tsubasa | A | IAC-13.C1.3.8 |
| Watanabe, Yasuhide | CA | IAC-13.D2.3.3 |
| Watts, Patricia | CA | IAC-13.E6.4-D4.2.8 |
| Webb, Alan | CA | IAC-13.B4.5.2 |
| Webb, Gerald | A | IAC-13.B4.5.2 |
| Weber, Hans | CA | IAC-13.B1.4.4 |
| Weber-Steinhaus, Luise | A | IAC-13.E1.9.4 |
| Webert, Detlef | CA | IAC-13.B6.4-V.1.3 |
| Webert, Detlef | CA | IAC-13.C1.7.5 |
| Wedler, Armin | CA | IAC-13.A3.2A.9 |
| Weeden, Brian | CA | IAC-13.E3.4.2 |
| Weeden, Brian | A | IAC-13.E3.4.7 |
| Weeks, Edythe | A | IAC-13.D4.4.2 |
| Wegeng, Robert | CA | IAC-13.D3.2.2 |
| Wei, Baoxi | CA | IAC-13.C4.9.7 |
| Wei, Chuanfeng | A | IAC-13.B3.P.1 |
| Wei, He | A | IAC-13.C2.1.7 |
| Wei, Huang | A | IAC-13.D2.3.8 |
| Wei, Huang | CA | IAC-13.A7.2.5 |
| Wei, Jianyan | CA | IAC-13.B4.2.5 |
| WEI, Kunlong | A | IAC-13.C2.4.7 |
| WEI, Kunlong | CA | IAC-13.C2.4.9 |
| Wei, Miao | CA | IAC-13.C2.9.13 |
| Wei, Min | A | IAC-13.B1.5.5 |
| Wei, Ran | A | IAC-13.A3.P.21 |
| Wei, Shaojuan | CA | IAC-13.C4.P.18 |
| Wei, Su | A | IAC-13.A3.P.33 |
| Wei, Yan | A | IAC-13.C1.1.2 |
| Wei, Yan | CA | IAC-13.C1.5.9 |
| Wei, Yi | A | IAC-13.A1.P.67 |
| Wei, Yiyin | A | IAC-13.D2.4.8 |
| Wei-kong, Qi | A | IAC-13.B1.P.3 |
| Weibin, Peng | A | IAC-13.C2.P.6 |
| Weidang, Ai | CA | IAC-13.A1.P.30 |
| Weidang, Ai | A | IAC-13.A1.P.47 |
| Weidong, Liu | CA | IAC-13.C4.P.70 |
| Weidong, Yun | A | IAC-13.A5.2.5 |
| Weifen , Huang | CA | IAC-13.A1.1.2 |
| Weifen , Huang | CA | IAC-13.A1.1.5 |
| Weifen , Huang | CA | IAC-13.A1.P.5 |
| Weiguang, Wang | CA | IAC-13.C4.3.10 |
| Weijie, Meng | CA | IAC-13.A3.P.19 |
| Weijie, Wang | CA | IAC-13.A6.P.16 |
| Weinberger, Bernhard | CA | IAC-13.E1.2.5 |
| Weise, Dennis | CA | IAC-13.C2.2.4 |
| Weise, Jana | CA | IAC-13.D1.P.9 |
| Weise, Jana | A | IAC-13.D3.3.5 |
| Weiss, Karine | A | IAC-13.A1.1.3 |
| Weiss, Peter | CA | IAC-13.D3.1.4 |
| Weissmann, Uwe | CA | IAC-13.B6.4-V.1.3 |
| Weissmann, Uwe | CA | IAC-13.C1.7.5 |
| Weisz, Adam | A | IAC-13.A6.5.5 |
| Weiwei, Liu | A | IAC-13.C2.P.14 |
| Weixu, Dai | A | IAC-13.D1.3.8 |
| Welch, Chris | CA | IAC-13.D3.1.4 |
| Welch, Chris | A | IAC-13.E1.8.1 |
| Wen, Huiyun | CA | IAC-13.A1.P.46 |
| Wen, Qiang | CA | IAC-13.B5.2.11 |
| Wen, Xuezhong | A | IAC-13.A6.3.10 |
| Wen, Zhang | A | IAC-13.C4.P.40 |
| Wenbing, Li | CA | IAC-13.C4.3.3 |
| Wenbo, Miao | CA | IAC-13.C2.P.33 |
| Wenhe, Liao | CA | IAC-13.C2.7.10 |
| Wenjie, Shan | A | IAC-13.E3.2.10 |
| Wenzhong, Zhang | A | IAC-13.D2.9-D6.2.4 |
| Weppler, Johannes | CA | IAC-13.A3.1.9 |
| Weppler, Johannes | A | IAC-13.B3.3.9 |
| Werner, Andreas | A | IAC-13.A1.2.8 |
| Werner, Robert | CA | IAC-13.D2.7.7 |
| Wheeler, Michael | CA | IAC-13.B6.2.10 |
| Whelan Kotkas, Samantha | A | IAC-13.E1.1.1 |
| Whelan Kotkas, Samantha | A | IAC-13.E1.2.9 |
| Whitlock, Caleb | CA | IAC-13.D1.P.29 |
| Wiedemann, Carsten | A | IAC-13.A6.2.2 |
| Wiedemann, Carsten | CA | IAC-13.A6.2.3 |
| Wiedemann, Carsten | CA | IAC-13.A6.4.4 |
| Wiedemann, Carsten | CA | IAC-13.A6.P.8 |
| Wiedemann, Carsten | CA | IAC-13.A6.P.14 |
| Wiedemann, Carsten | CA | IAC-13.A6.3.8 |
| Wiedenbeck, Mark | CA | IAC-13.A1.4.6 |
| Wiegand, Andreas | CA | IAC-13.D1.P.15 |
| Wilkinson, Ray | CA | IAC-13.D2.7.7 |
| Williams, Frank L. | CA | IAC-13.E4.1.2 |
| Williams, Hugo | CA | IAC-13.C4.7-C3.5.6 |
| Williamson, Ray A. | A | IAC-13.E3.4.1 |
| Williamson, Ray A. | CA | IAC-13.E3.4.9 |
| Willnecker, Rainer | CA | IAC-13.D5.2.5 |
| Wilson, Colin | CA | IAC-13.A7.2.3 |
| Wilson, Thomas | CA | IAC-13.A5.3-B3.6.4 |
| Wiltberger, Michael | CA | IAC-13.A1.4.6 |
| Winetraub, Yonatan | CA | IAC-13.B4.8.7 |
| Winglee, Robert | CA | IAC-13.E1.1.4 |
| Winglee, Robert | CA | IAC-13.E1.2.8 |
| Winter, Frank H. | A | IAC-13.E4.2.2 |
| Winter, Othon | CA | IAC-13.E4.1.8 |
| Wirth, Kristin | CA | IAC-13.A3.5.2 |
| Wise, Brian | CA | IAC-13.A2.7.4 |
| Wishart, Alex | CA | IAC-13.B4.4.2 |
| Wislez, Jean-Marc | CA | IAC-13.B3.1.9 |
| Wislez, Jean-Marc | CA | IAC-13.B3.4-B6.5.2 |
| Witte, Lars | CA | IAC-13.A3.4.3 |
| Witte, Lars | CA | IAC-13.A3.4.6 |
| Wittek, Steffen | CA | IAC-13.B6.4-V.1.4 |
| Wittig, Manfred | CA | IAC-13.B2.1.4 |
| Wittig, Manfred | CA | IAC-13.B2.4.1 |
| Wittig, Manfred | A | IAC-13.B2.4.2 |
| Wojtkowiak, Harald | A | IAC-13.B4.3.3 |
| Wolahan, Andrew | CA | IAC-13.C1.1.3 |
| Wolahan, Andrew | A | IAC-13.A6.4.9 |
| Wolanski, Piotr | CA | IAC-13.C4.P.65 |
| Wolanski, Piotr | CA | IAC-13.D2.6.9 |
| Wolanski, Piotr | CA | IAC-13.D1.5.7 |
| Wolfe, Jasper | CA | IAC-13.B4.6B.10 |
| Wong, David | A | IAC-13.E5.1.1 |
| Wong, Kwok Yee | CA | IAC-13.E1.2.1 |
| Wong, Nathan | CA | IAC-13.A3.2A.5 |
| Wong, Nathan | CA | IAC-13.B4.8.4 |
| Woo, Pamela | A | IAC-13.D4.3.2 |
| Woo, Pamela | A | IAC-13.C1.9.3 |
| Wood, Danielle | A | IAC-13.B4.1.1 |
| Wood, Steven | A | IAC-13.E7.P.8 |
| Woodward, James | CA | IAC-13.C4.8.4 |
| Wormnes, Kjetil | A | IAC-13.A6.5.2 |
| Worms, Jean-Claude | A | IAC-13.C4.7-C3.5.1 |
| Wouters, Jan | CA | IAC-13.E7.7-B3.8.7 |
| Wu, An-Ming | A | IAC-13.A2.1.7 |
| Wu, An-Ming | CA | IAC-13.B4.2.1 |
| Wu, An-Ming | A | IAC-13.B1.P.12 |
| Wu, An-Ming | CA | IAC-13.B4.3.5 |
| Wu, Baoyuan | CA | IAC-13.C4.P.66 |
| Wu, Bin | CA | IAC-13.A1.1.2 |
| Wu, Bin | CA | IAC-13.A1.1.5 |
| Wu, Bin | CA | IAC-13.A1.1.6 |
| Wu, Bin | CA | IAC-13.A1.1.9 |
| Wu, Bin | CA | IAC-13.A1.P.5 |
| Wu, Bin | CA | IAC-13.A1.P.7 |
| WU, Chao | A | IAC-13.A7.1.1 |
| Wu, Chongyang | CA | IAC-13.A1.P.50 |
| Wu, Chunqing | CA | IAC-13.B2.2.9 |
| Wu, Dafang | A | IAC-13.C2.P.57 |
| Wu, Dafang | A | IAC-13.C2.9.7 |
| Wu, Dengyun | CA | IAC-13.B3.7.4 |
| WU, Di | A | IAC-13.A2.2.10 |
| Wu, Di | A | IAC-13.C2.P.10 |
| Wu, Di | CA | IAC-13.C2.P.59 |
| Wu, Feng | CA | IAC-13.A1.7.8 |
| Wu, Fenglei | CA | IAC-13.A3.2A.3 |
| Wu, Guoqiang | CA | IAC-13.C1.2.6 |
| Wu, Haisheng | A | IAC-13.C2.5.9 |
| WU, HONGLU | CA | IAC-13.A1.P.23 |
| Wu, Ji | CA | IAC-13.B1.3.9 |
| Wu, Ji | CA | IAC-13.A3.5.3 |
| Wu, Jianjun | A | IAC-13.C4.3.12 |
| Wu, Jianjun | CA | IAC-13.C4.P.32 |
| Wu, Jianjun | CA | IAC-13.C4.P.35 |
| Wu, Jianjun | CA | IAC-13.C4.P.45 |
| Wu, Jianjun | CA | IAC-13.C4.P.51 |
| Wu, Jianjun | CA | IAC-13.C4.P.53 |
| Wu, Jianjun | CA | IAC-13.C4.8.8 |
| Wu, Junfeng | CA | IAC-13.C4.P.15 |
| Wu, Kui | CA | IAC-13.D1.6.7 |
| Wu, Marcus | CA | IAC-13.A5.3-B3.6.3 |
| Wu, Rui | CA | IAC-13.C1.3.5 |
| Wu, Shaojun | CA | IAC-13.D5.1.9 |
| Wu, Shaojun | A | IAC-13.B1.P.9 |
| Wu, Shengbao | A | IAC-13.D2.9-D6.2.3 |
| Wu, Shi Tsan | CA | IAC-13.E4.3.2 |
| Wu, Shikun | CA | IAC-13.A1.P.46 |
| Wu, Shufan | A | IAC-13.B4.1.5 |
| Wu, Shunan | A | IAC-13.C1.2.6 |
| Wu, Weijie | CA | IAC-13.A2.5.1 |
| Wu, Xia | CA | IAC-13.A7.1.6 |
| Wu, Xianyu | CA | IAC-13.C4.P.70 |
| Wu, Xiaodan | CA | IAC-13.B1.P.5 |
| Wu, Xiaodan | A | IAC-13.E7.4.14 |
| Wu, Xiaofeng | CA | IAC-13.D1.2.5 |
| Wu, Xiaofeng | CA | IAC-13.E2.4.1 |
| Wu, Xiaofeng | CA | IAC-13.C4.P.36 |
| Wu, Yansen | A | IAC-13.D2.6.10 |
| Wu, Yile | CA | IAC-13.A1.5.1 |
| WU, Yu | CA | IAC-13.A2.P.2 |
| Wu, Yunhua | A | IAC-13.C1.4.5 |
| Wu, Zhaoping | A | IAC-13.A6.P.3 |
| Wu, Zhigang | CA | IAC-13.C2.1.8 |
| Wu, Zhigang | CA | IAC-13.C1.2.6 |
| Wuerl, Melissa | CA | IAC-13.B4.4.7 |
| Wuilbercq, Romain | A | IAC-13.D2.P.15 |
| Wujun, Chen | A | IAC-13.C2.6.1 |
| Wágner, Tomáš | CA | IAC-13.C2.8.6 |

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|---|---|---|
| Xi, Long | CA | IAC-13.A2.5.1 |
| Xia, Guojiang | A | IAC-13.B2.2.5 |
| Xia, Qiang | A | IAC-13.C4.P.71 |
| Xia, Weiqiang | A | IAC-13.D2.2.7 |
| Xia, Zhixun | CA | IAC-13.C4.9.3 |
| Xia, Zhixun | CA | IAC-13.C4.P.69 |
| Xian, Kuicheng | CA | IAC-13.C2.5.12 |
| Xian-rui, Zhang | CA | IAC-13.C2.9.10 |
| Xianbin, Chi | CA | IAC-13.C1.6.3 |
| Xiang, Bin | A | IAC-13.D2.P.22 |
| Xiang, Cheng | CA | IAC-13.D2.P.1 |
| Xiang, Gao | CA | IAC-13.A1.P.37 |
| Xiang, Kaiheng | A | IAC-13.A5.P.2 |
| Xiang-meng, ZHANG | CA | IAC-13.C2.3.12 |
| Xiang-meng, ZHANG | A | IAC-13.C2.P.21 |
| Xiangli, Meng | A | IAC-13.C2.4.2 |
| XianQiang, Yang | CA | IAC-13.B2.3.11 |
| Xianyang, Shang | CA | IAC-13.D2.P.12 |
| Xianyu, Wu | A | IAC-13.C4.9.9 |
| Xiao, Chong | A | IAC-13.C4.P.63 |
| Xiao, Han | A | IAC-13.C2.4.12 |
| Xiao, Li | A | IAC-13.B4.4.1 |
| Xiao, Liming | CA | IAC-13.A2.P.4 |
| Xiao, Long | CA | IAC-13.A3.3B.1 |
| XIAO, YI | A | IAC-13.A1.P.4 |
| Xiao, Yingying | CA | IAC-13.A3.P.12 |
| Xiao, Yongxuan | CA | IAC-13.B2.5.8 |
| Xiao, Zhichao | CA | IAC-13.C2.4.13 |
| Xiao, Zhijun | CA | IAC-13.E4.3.7 |
| Xiao-han, Tang | CA | IAC-13.C2.1.7 |
| XiaoBing, Ma | A | IAC-13.B3.2.9 |
| Xiaofei, Wang | A | IAC-13.B2.5.9 |
| Xiaofeng, Cen | CA | IAC-13.B5.2.6 |
| Xiaoguang, Lei | CA | IAC-13.A3.P.24 |
| Xiaoguang, Luo | A | IAC-13.C2.P.33 |
| Xiaokang, Li | CA | IAC-13.C4.P.43 |
| Xiaokang, Li | CA | IAC-13.C4.P.52 |
| Xiaokang, Li | CA | IAC-13.C4.4.6 |
| Xiaokang, Liang | A | IAC-13.C2.9.11 |
| Xiaoli, Chen | CA | IAC-13.A3.1.10 |
| Xiaoli, Chen | CA | IAC-13.B1.3.5 |
| Xiaolu, Lu | CA | IAC-13.C2.8.10 |
| Xiaoming, Gao | CA | IAC-13.C4.9.1 |
| Xiaoping, Zhang | CA | IAC-13.C4.P.29 |
| XiaoQun, Chen | CA | IAC-13.B2.3.11 |
| Xiaosha, Zhang | CA | IAC-13.C4.P.27 |
| Xiaowei, Wang | CA | IAC-13.D2.2.6 |
| Xiaowei, Wang | A | IAC-13.D2.5.2 |
| Xiaowei, Wang | CA | IAC-13.D2.9-D6.2.10 |
| Xiaoyi, Li | CA | IAC-13.C2.5.6 |
| Xiaozhu, Yu | A | IAC-13.B4.4.3 |
| Xie, Chao | CA | IAC-13.C2.2.11 |
| Xie, Chao | A | IAC-13.C2.3.13 |
| Xie, Chaoxiang | CA | IAC-13.C3.3.12 |
| Xie, Jing-Chang | CA | IAC-13.A2.3.5 |
| Xie, Jingchang | CA | IAC-13.A2.3.8 |
| Xie, Jingchang | CA | IAC-13.A2.5.3 |
| Xie, Jingying | CA | IAC-13.C3.3.12 |
| Xie, Jun | A | IAC-13.B2.3.13 |
| Xie, Limin | CA | IAC-13.C2.P.16 |
| Xie, Pan | A | IAC-13.A3.P.34 |
| XIE, QIAOFENG | A | IAC-13.C4.P.65 |
| Xie, Wenming | CA | IAC-13.D1.P.22 |
| Xie, Wenming | CA | IAC-13.D1.P.27 |
| Xie, Yongfeng | A | IAC-13.C1.7.1 |
| Xie, Yu | A | IAC-13.D1.P.11 |
| Xin, Chen | A | IAC-13.B2.5.6 |
| XIN, Zhekui | A | IAC-13.D2.9-D6.2.6 |
| Xing, Guo | A | IAC-13.A1.P.71 |
| Xing, Qiaorui | CA | IAC-13.A1.P.32 |
| Xing, Qiujun | A | IAC-13.A1.P.46 |
| XingBin, Ye | A | IAC-13.D1.P.31 |
| Xingli, Huang | CA | IAC-13.B5.2.1 |
| Xinping, Xie | CA | IAC-13.C2.7.10 |
| Xiong, Weiming | CA | IAC-13.B2.2.4 |
| Xiu, Yunle | CA | IAC-13.A3.P.59 |
| Xiuqing, Zhu | CA | IAC-13.B6.1.1 |
| Xiuqing, Zhu | CA | IAC-13.B6.1.8 |
| Xu, Chengdong | CA | IAC-13.B3.P.2 |
| Xu, Dan | A | IAC-13.A1.4.3 |
| Xu, K. Gabriel | CA | IAC-13.C2.6.6 |
| Xu, Kanyan | A | IAC-13.A1.P.62 |
| Xu, Liang | CA | IAC-13.C2.5.3 |
| Xu, Ming | CA | IAC-13.C1.1.2 |
| Xu, Ming | CA | IAC-13.C1.3.2 |
| Xu, Ming | A | IAC-13.A3.P.57 |
| Xu, Ming | A | IAC-13.C1.5.9 |
| Xu, Ming | CA | IAC-13.B4.7B.3 |
| Xu, Ming | CA | IAC-13.C1.8.11 |
| Xu, Ming | A | IAC-13.A3.3C.2 |
| Xu, Ming | CA | IAC-13.D1.6.4 |
| Xu, Qibing | CA | IAC-13.B2.P.8 |
| Xu, Qinghua | CA | IAC-13.C2.9.1 |
| Xu, Qiu | CA | IAC-13.B4.2.8 |
| Xu, Rui | CA | IAC-13.D1.P.30 |
| Xu, Shijie | CA | IAC-13.C1.4.12 |
| Xu, Shijie | CA | IAC-13.C2.P.18 |
| Xu, Shijie | CA | IAC-13.C2.7.9 |
| Xu, Shijie | CA | IAC-13.C1.9.5 |
| Xu, Shuihong | CA | IAC-13.A1.P.41 |
| Xu, Xiaojing | CA | IAC-13.C2.P.22 |
| Xu, Xiaoping | CA | IAC-13.B2.2.9 |
| Xu, Xin | CA | IAC-13.C4.P.55 |
| Xu, Xin | A | IAC-13.D2.P.26 |
| Xu, Xin | A | IAC-13.B2.5.10 |
| Xu, Xu | CA | IAC-13.C4.9.7 |
| Xu, Yixiang | CA | IAC-13.C2.2.2 |
| Xu, Yongsheng | A | IAC-13.B6.P.5 |
| Xu, Yongsheng | CA | IAC-13.B4.7B.1 |
| XUAN, WEN LING | A | IAC-13.B1.5.1 |
| Xue, Chen | A | IAC-13.C3.3.9 |
| Xue, Kai | CA | IAC-13.B2.P.22 |
| XUE, Yong | CA | IAC-13.B1.P.3 |
| XUE, Yong | A | IAC-13.B2.5.8 |
| Xue, Yuxiong | CA | IAC-13.C2.8.4 |
| Xue, Zhihu | A | IAC-13.A2.4.11 |
| Xue-song, Ma | CA | IAC-13.C2.P.41 |
| Xuefu, Chen | CA | IAC-13.C4.9.9 |
| Xueji, Wu | CA | IAC-13.A1.P.37 |
| Xuekun, Wang | CA | IAC-13.C2.4.7 |
| Xuekun, Wang | CA | IAC-13.C2.4.9 |
| Xuewen, Chen | A | IAC-13.B6.3.8 |
| Xuewen, Chen | A | IAC-13.B6.3.9 |
| Xujin, Ren | CA | IAC-13.E3.P.6 |
| Xuyan, Hou | CA | IAC-13.A3.2B.9 |

## Y

| Name | Role | Paper |
|---|---|---|
| Yadav, Rajesh | A | IAC-13.C2.P.49 |
| Yadav, Rajesh | A | IAC-13.D2.P.20 |
| Yadav, Rajesh | A | IAC-13.C2.6.10 |
| Yagci, Bulent | CA | IAC-13.D1.5.6 |
| YAGISHITA, Tsuyoshi | CA | IAC-13.C4.1.8 |
| Yaglioglu, Burak | CA | IAC-13.E5.5.5 |
| Yam, Chit Hong | CA | IAC-13.E1.2.1 |
| Yam, Chit Hong | CA | IAC-13.C1.7.13 |
| Yamanaka, Shota | A | IAC-13.C4.2.11 |
| Yamasaki, Ayumu | CA | IAC-13.C2.2.9 |
| Yamasaki, Ayumu | A | IAC-13.C2.2.10 |
| Yan, Bo | A | IAC-13.B2.P.15 |
| Yan, Chao | CA | IAC-13.C2.P.48 |
| Yan, Chaoxing | CA | IAC-13.B2.6.9 |
| Yan, Cheng | A | IAC-13.B4.1.7 |
| Yan, Fei | CA | IAC-13.C1.2.12 |
| Yan, Jun | CA | IAC-13.A6.3.4 |
| Yan, Lei | A | IAC-13.D1.P.34 |
| Yan, Li | CA | IAC-13.A1.P.41 |
| Yan, Rong | CA | IAC-13.A1.P.73 |
| Yan, Shen | A | IAC-13.C4.4.1 |
| Yan, Tinggui | CA | IAC-13.D2.2.7 |
| Yan, Wenyi | CA | IAC-13.D1.6.2 |
| Yan, Yan | A | IAC-13.A3.P.54 |
| Yan, Zhang | A | IAC-13.C4.9.7 |
| Yanbin, Zhao | CA | IAC-13.B4.6A.8 |
| Yanfeng, Gu | A | IAC-13.A6.P.26 |
| Yang, Baoe | A | IAC-13.C4.8.12 |
| Yang, Biao | A | IAC-13.B3.P.1 |
| Yang, Biao | A | IAC-13.D5.3.3 |
| Yang, Bo | A | IAC-13.D1.2.4 |
| Yang, Chi | CA | IAC-13.C2.4.4 |
| Yang, Chun | CA | IAC-13.A1.P.63 |
| YANG, GAO | A | IAC-13.C1.7.7 |
| Yang, Hong | A | IAC-13.B3.P.1 |
| Yang, Hongliang | CA | IAC-13.C2.P.46 |
| YANG, Hongwei | A | IAC-13.C1.3.9 |
| YANG, Jianzhong | A | IAC-13.C2.9.1 |
| Yang, Jinhui | A | IAC-13.C4.P.26 |
| Yang, Jiyun | A | IAC-13.A6.P.21 |
| Yang, Keyuan | A | IAC-13.B2.P.22 |
| Yang, Le-ping | CA | IAC-13.A6.6.8 |
| Yang, Lei | CA | IAC-13.A5.P.2 |
| Yang, Leping | CA | IAC-13.A6.P.35 |
| Yang, Leping | CA | IAC-13.D1.4.2 |
| Yang, Lingfei | CA | IAC-13.D2.P.26 |
| Yang, Linhua | A | IAC-13.A3.P.23 |
| Yang, Qiuhao | CA | IAC-13.D5.2.1 |
| Yang, Ruihong | CA | IAC-13.C2.P.42 |
| YANG, Shangrong | A | IAC-13.C4.P.20 |
| Yang, Sheng-Sheng | A | IAC-13.C2.P.43 |
| Yang, Shengsheng | CA | IAC-13.C2.8.4 |
| Yang, Songlin | CA | IAC-13.A1.P.50 |
| Yang, Tong | A | IAC-13.B2.3.14 |
| Yang, Xiantao | A | IAC-13.B3.P.5 |
| Yang, Xiaokun | CA | IAC-13.B2.3.15 |
| Yang, Xin | A | IAC-13.C2.9.12 |
| Yang, Xuerong | CA | IAC-13.D1.1.8 |
| Yang, Xuerong | CA | IAC-13.D4.1.7 |
| YANG, YANG | CA | IAC-13.A2.6.1 |
| YANG, YANG | CA | IAC-13.C1.6.3 |
| Yang, Yike | A | IAC-13.E6.2.5 |
| Yang, Yuguang | CA | IAC-13.B2.4.12 |
| Yang, Yunfei | CA | IAC-13.C2.1.8 |
| Yang, Yunjun | CA | IAC-13.C2.7.8 |
| Yang, Yuxin | CA | IAC-13.A3.P.3 |
| Yang, Zhen | A | IAC-13.A7.2.2 |
| Yang, Zuye | CA | IAC-13.A1.P.18 |
| Yang Yang, Fan | CA | IAC-13.A6.6.9 |
| Yang Yang, Fan | A | IAC-13.C4.8.9 |
| Yanhua, Lu | A | IAC-13.A1.P.51 |
| Yanhua, Zhao | A | IAC-13.D2.9-D6.2.7 |
| Yanli, XIONG | CA | IAC-13.C2.P.58 |
| Yanming, Wei | CA | IAC-13.C4.4.1 |
| Yano, Hajime | CA | IAC-13.A3.4.6 |
| Yao, Shiqiang | CA | IAC-13.C4.3.6 |
| YAO, WEI | CA | IAC-13.C3.2.6 |
| YAO, WEI | A | IAC-13.A3.5.5 |
| Yao, Yi | CA | IAC-13.B5.2.3 |
| Yarım, Cuma | CA | IAC-13.D1.5.6 |
| Yasaka, Tetsuo | CA | IAC-13.A6.1.9 |
| Yasaka, Tetsuo | A | IAC-13.C2.2.1 |
| Yat Fei, Cheung | CA | IAC-13.E1.2.1 |
| Yazdani, Shabnam | A | IAC-13.E1.4.9 |
| Yazdani, Shabnam | A | IAC-13.D1.P.6 |
| Ye, Chengmin | CA | IAC-13.A2.P.4 |
| Ye, Shuichi | CA | IAC-13.C1.5.11 |
| Ye, Yong | A | IAC-13.A1.P.40 |
| Ye, Zhuang | CA | IAC-13.D1.P.5 |
| Yeh, Jack | CA | IAC-13.E5.5.5 |
| Yejun, Zhou | CA | IAC-13.B1.P.3 |
| Yemets, Mykhaylo | CA | IAC-13.D2.7.7 |
| Yemets, Taras | CA | IAC-13.D2.7.7 |
| Yemets, Vitaly | A | IAC-13.D2.7.7 |
| Yeung, Nick | A | IAC-13.B4.6B.15 |
| Yi, Buqing | CA | IAC-13.A5.2.8 |
| YI, Hang | CA | IAC-13.C1.4.10 |
| YI, ShiHe | CA | IAC-13.A2.P.2 |
| Yi, Zhang | A | IAC-13.B2.P.29 |
| Yi xian, Chen | CA | IAC-13.D3.P.6 |
| Yiheng, Tong | A | IAC-13.C4.9.13 |
| Yihong, Wang | CA | IAC-13.D1.P.3 |
| Yim, Scott | CA | IAC-13.B5.2.7 |
| YIM, YAN | A | IAC-13.E7.P.16 |
| Yin, Jie | A | IAC-13.B2.P.19 |
| Yin, Jun | A | IAC-13.B5.2.3 |
| Yin, Pei | CA | IAC-13.C4.P.40 |
| Yin, XueMin | A | IAC-13.B3.P.4 |
| Yin, Zhengshuai | A | IAC-13.C2.P.34 |
| Yin, Zhongyi | CA | IAC-13.C2.4.3 |
| Ying, Liu | CA | IAC-13.D4.4.8 |
| Ying, Wei | CA | IAC-13.C2.4.4 |
| YING, ZHAO | CA | IAC-13.A5.3-B3.6.10 |
| Yingchun, Liu | A | IAC-13.A2.6.1 |
| YINGCHUN, ZHANG | CA | IAC-13.B6.P.5 |
| Yingshan, Xu | CA | IAC-13.D2.4.9 |
| Yiwei, Liu | A | IAC-13.B4.6A.1 |
| Yixin, Liu | CA | IAC-13.A3.P.24 |
| Yiyong, Li | A | IAC-13.A6.P.16 |
| Yoda, Shinichi | A | IAC-13.A2.7.1 |
| Yokoyama, Tetsuro | A | IAC-13.B3.1.4 |
| Yong, Yang | CA | IAC-13.A3.P.24 |
| Yong-jun, Lei | CA | IAC-13.C2.1.7 |
| Yonggen, Han | A | IAC-13.B5.2.1 |
| Yonghong, Yang | CA | IAC-13.C4.P.58 |
| YongJian, Shen | A | IAC-13.B2.P.9 |
| Yongjun, Li | CA | IAC-13.C2.P.27 |
| Yongjun, Li | A | IAC-13.C2.P.28 |
| Yongliang, Zhang | A | IAC-13.C2.5.6 |
| Yongping, Wang | A | IAC-13.C4.P.13 |
| Yongqiang, Li | CA | IAC-13.A2.P.3 |
| Yoon, Seyoung | A | IAC-13.B4.6B.15 |
| Yoon, Zizung | CA | IAC-13.B4.7A.4 |
| Yoshida, Kazuya | CA | IAC-13.B2.2.8 |
| Yoshida, Kazuya | CA | IAC-13.A6.4.8 |
| Yoshida, Kazuya | CA | IAC-13.B4.7A.1 |
| Yoshida, Kazuya | CA | IAC-13.B4.6A.6 |
| Yoshikawa, Makoto | CA | IAC-13.C1.6.13 |
| Yoshino, Kazuyoshi | A | IAC-13.D4.3.4 |
| You, Wei | CA | IAC-13.A3.P.34 |
| You, Wei | A | IAC-13.A3.3C.1 |
| Young, Eliot | CA | IAC-13.A3.P.41 |
| Young, Laurence R. | A | IAC-13.A1.P.19 |
| Youxing, Wu | CA | IAC-13.D2.2.8 |
| Yu, Guo | CA | IAC-13.C2.7.10 |
| Yu, Jingyuan | CA | IAC-13.E5.3.2 |
| Yu, Kai | A | IAC-13.B4.7B.3 |
| YU, LIU | A | IAC-13.C2.P.37 |
| Yu, Lixin | CA | IAC-13.D1.P.36 |
| Yu, Nanjia | CA | IAC-13.C4.2.6 |
| Yu, Nanjia | CA | IAC-13.C4.P.15 |
| Yu, Nanjia | CA | IAC-13.C4.P.17 |
| Yu, Nanjia | CA | IAC-13.C4.P.19 |
| Yu, Nanjia | CA | IAC-13.C4.P.23 |
| Yu, Nanjia | CA | IAC-13.C4.P.25 |
| Yu, Nanjia | A | IAC-13.C4.P.74 |
| Yu, Qiang | CA | IAC-13.A2.5.3 |
| Yu, Tianyi | CA | IAC-13.A3.2C.5 |
| Yu, Tianyi | A | IAC-13.A3.2C.9 |
| Yu, Wanrong | A | IAC-13.B2.2.9 |
| Yu, Xiaoyan | A | IAC-13.C2.P.16 |
| Yuan, Jianping | CA | IAC-13.A2.4.2 |
| Yuan, Jianping | CA | IAC-13.D3.4.10 |
| Yuan, Jianping | CA | IAC-13.C1.8.8 |
| Yuan, Jun-xia | A | IAC-13.A1.P.56 |
| Yuan, LIU | CA | IAC-13.C2.P.21 |
| Yuan, Ming | A | IAC-13.A1.3.6 |

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| Yuan, Ming | CA | IAC-13.A1.P.68 |
| Yuan, Minhui | CA | IAC-13.E5.3.1 |
| Yuan, Shunning | CA | IAC-13.C2.3.1 |
| YUAN, Ye | CA | IAC-13.D2.2.4 |
| Yuan-yuan, Wang | CA | IAC-13.C2.9.10 |
| Yuanli, Cai | CA | IAC-13.C3.3.11 |
| Yuanxin, Qu | A | IAC-13.D2.P.10 |
| Yue, Chen | A | IAC-13.C4.P.1 |
| Yue, Hui | CA | IAC-13.A3.3B.9 |
| Yue, Lipeng | A | IAC-13.B2.6.2 |
| Yue, Xiaokui | CA | IAC-13.B4.7B.8 |
| Yue, Xiaokui | CA | IAC-13.C1.6.3 |
| Yue, Xiaokui | CA | IAC-13.D3.4.10 |
| Yufei, Li | CA | IAC-13.A6.P.28 |
| Yuguo, Cheng | A | IAC-13.C4.P.34 |
| Yuguo, Cheng | A | IAC-13.C4.P.43 |
| Yuguo, Cheng | A | IAC-13.C4.P.52 |
| Yuguo, Cheng | A | IAC-13.C4.4.6 |
| Yuhua, Yao | A | IAC-13.C2.P.45 |
| Yukizono, Satoshi | CA | IAC-13.A2.7.8 |
| Yulin, Zhang | CA | IAC-13.A2.P.1 |
| Yuming, Liu | A | IAC-13.C4.P.42 |
| Yun, Su | CA | IAC-13.A3.1.10 |
| YUNFEI, DENG | CA | IAC-13.C2.P.58 |
| Yungang, Zhang | A | IAC-13.C4.3.3 |
| Yunhua, Yang | CA | IAC-13.C2.4.10 |
| Yunze, Shen | CA | IAC-13.A1.P.30 |
| Yunze, Shen | CA | IAC-13.A1.6.5 |
| Yuqing, Liu | CA | IAC-13.B6.3.8 |
| Yuqing, Liu | A | IAC-13.B6.3.9 |
| Yuqing, Liu | CA | IAC-13.B6.1.1 |
| Yuqing, Liu | A | IAC-13.B6.1.8 |
| Yuranev, Oleg | CA | IAC-13.C2.1.5 |
| Yuxin, Chen | A | IAC-13.E3.P.6 |

## Z

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|---|---|---|
| Zaballa Camprubi, Marc | A | IAC-13.B4.8.6 |
| Zaccariotto, Mirco | CA | IAC-13.A3.P.31 |
| Zagreev, Boris | CA | IAC-13.B3.3.5 |
| Zagreev, Boris | A | IAC-13.B3.4-B6.5.1 |
| Zaihua, Yang | A | IAC-13.A3.P.13 |
| Zainal, Dasimah | CA | IAC-13.B2.3.5 |
| Zaitseva, Olga N. | CA | IAC-13.A3.2C.4 |
| Zajac, Joe | CA | IAC-13.A4.1.6 |
| Zakharchuk, Yevgeniy | A | IAC-13.E3.P.1 |
| Zandbergen, Barry | CA | IAC-13.A5.1.7 |
| Zappoli, Bernard | CA | IAC-13.A2.3.5 |
| Zappoli, Bernard | CA | IAC-13.A2.5.5 |
| Zarankevich, Ilya | CA | IAC-13.C4.5.4 |
| Zavalishin, Denis | A | IAC-13.A2.6.8 |
| Zee, Robert | CA | IAC-13.C1.1.4 |
| Zee, Robert E. | CA | IAC-13.B1.2.5 |
| Zee, Robert E. | CA | IAC-13.B4.4.10 |
| Zee, Robert E. | CA | IAC-13.B4.8.2 |
| Zee, Robert E. | CA | IAC-13.B4.3.1 |
| Zeil, Peter | CA | IAC-13.B1.5.3 |
| Zelenov, Denis | CA | IAC-13.B6.2.3 |
| Zelenov, Denis | CA | IAC-13.D3.P.2 |
| Zelenov, Denis | CA | IAC-13.A3.3C.11 |
| Zeleznyakov, Alexander | CA | IAC-13.A1.6.4 |
| Zeljkovic, Vladimir | CA | IAC-13.A5.2.10 |
| Zell, Martin | A | IAC-13.B3.3.2 |
| Zell, Martin | CA | IAC-13.B3.3.4 |
| Zeng, Fuming | CA | IAC-13.C2.9.1 |
| Zeng, Peng | A | IAC-13.C4.P.19 |
| Zeng, Yao | CA | IAC-13.B3.2.10 |
| Zeng, Zhao | CA | IAC-13.A3.2B.9 |
| Zglinski, Matthias | CA | IAC-13.A3.2B.8 |
| Zhai, Huijuan | CA | IAC-13.D2.2.7 |
| Zhai, Jiqiang | CA | IAC-13.B2.P.32 |
| Zhan, Huiling | CA | IAC-13.C2.7.8 |
| Zhan, Zhong | CA | IAC-13.C4.P.70 |
| Zhang, Ang | A | IAC-13.D1.6.4 |
| Zhang, Bainan | CA | IAC-13.B6.4-V.1.2 |
| Zhang, Bing | CA | IAC-13.A6.P.23 |
| Zhang, Bo | A | IAC-13.B6.P.3 |
| Zhang, Bo | CA | IAC-13.D1.P.10 |
| Zhang, Bo | CA | IAC-13.B4.7B.1 |
| Zhang, Bolin | CA | IAC-13.C3.3.10 |
| Zhang, Bolin | CA | IAC-13.C3.P.7 |
| Zhang, Chen | A | IAC-13.C1.3.11 |
| Zhang, Cheng | A | IAC-13.A7.1.6 |
| Zhang, ChenHui | A | IAC-13.A2.P.3 |
| Zhang, Chunze | CA | IAC-13.B6.2.2 |
| Zhang, Congxiao | CA | IAC-13.A1.P.31 |
| Zhang, Daixian | CA | IAC-13.C4.P.32 |
| Zhang, Daixian | CA | IAC-13.C4.P.35 |
| Zhang, Daixian | CA | IAC-13.C4.P.45 |
| Zhang, Daixian | CA | IAC-13.C4.P.51 |
| Zhang, Daixian | CA | IAC-13.C4.P.53 |
| Zhang, Daixian | A | IAC-13.C4.8.8 |
| Zhang, Dayou | A | IAC-13.D2.P.8 |
| Zhang, Di | CA | IAC-13.A1.P.40 |
| Zhang, Donglai | CA | IAC-13.C3.P.17 |
| Zhang, Fan | A | IAC-13.C2.P.58 |
| Zhang, Fan | CA | IAC-13.C4.P.35 |
| Zhang, Fenggui | CA | IAC-13.B4.4.8 |
| Zhang, Gang | CA | IAC-13.D1.P.21 |
| Zhang, Gang | CA | IAC-13.C1.5.11 |
| Zhang, Guangxi | CA | IAC-13.B5.2.7 |
| Zhang, Hao | CA | IAC-13.D1.5.4 |
| Zhang, Hao | CA | IAC-13.D3.4.11 |
| Zhang, Hongliang | A | IAC-13.C2.3.12 |
| Zhang, Hua | A | IAC-13.C2.P.44 |
| Zhang, Hua | A | IAC-13.C4.P.32 |
| Zhang, Hua | CA | IAC-13.C4.P.35 |
| Zhang, Hua | A | IAC-13.C4.P.45 |
| Zhang, Hua | A | IAC-13.C4.P.51 |
| Zhang, Hua | CA | IAC-13.C4.P.53 |
| Zhang, Hua | CA | IAC-13.C4.8.8 |
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| Zhang, Jin | CA | IAC-13.B6.3.3 |
| Zhang, Jinhai | CA | IAC-13.B2.P.17 |
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| Zhang, Kaifeng | A | IAC-13.C2.P.53 |
| Zhang, Leena | A | IAC-13.C2.P.2 |
| Zhang, Lei | A | IAC-13.B4.4.6 |
| Zhang, Li | A | IAC-13.A2.4.8 |
| Zhang, Liang | CA | IAC-13.A2.2.1 |
| Zhang, Liang | CA | IAC-13.B2.P.7 |
| Zhang, Liang | A | IAC-13.B2.P.18 |
| Zhang, Lixin | CA | IAC-13.B2.P.8 |
| Zhang, Lixin | CA | IAC-13.B2.7.6 |
| Zhang, Lu | A | IAC-13.C2.P.46 |
| Zhang, Mao | A | IAC-13.A5.P.7 |
| Zhang, Mao | A | IAC-13.A1.6.10 |
| Zhang, Mao | A | IAC-13.B3.7.6 |
| Zhang, Meiting | A | IAC-13.B2.P.10 |
| Zhang, Meng | CA | IAC-13.A1.4.13 |
| Zhang, Meng | A | IAC-13.A1.P.14 |
| Zhang, Meng | A | IAC-13.A1.P.15 |
| Zhang, Ming | CA | IAC-13.C3.3.8 |
| Zhang, Mingtao | A | IAC-13.B2.3.12 |
| Zhang, Mou | CA | IAC-13.A3.P.20 |
| Zhang, Nan | A | IAC-13.C4.1.1 |
| Zhang, Peng | CA | IAC-13.A1.3.6 |
| Zhang, Peng | A | IAC-13.B2.P.13 |
| Zhang, Peng | A | IAC-13.A3.3C.12 |
| Zhang, Qiang | CA | IAC-13.D1.P.5 |
| Zhang, Qiang | CA | IAC-13.B1.5.6 |
| Zhang, Qingbin | CA | IAC-13.A6.P.35 |
| Zhang, Ren | CA | IAC-13.C4.P.1 |
| Zhang, Renyong | A | IAC-13.A3.P.27 |
| Zhang, Renyong | CA | IAC-13.C1.9.11 |
| Zhang, Rui | CA | IAC-13.C4.P.32 |
| Zhang, Rui | A | IAC-13.C4.P.35 |
| Zhang, Rui | CA | IAC-13.C4.P.45 |
| Zhang, Rui | CA | IAC-13.C4.P.51 |
| Zhang, Rui | A | IAC-13.C4.P.53 |
| Zhang, Rui | CA | IAC-13.C4.8.8 |
| Zhang, Shu | CA | IAC-13.C4.9.1 |
| Zhang, Shujie | CA | IAC-13.C2.P.9 |
| Zhang, Shujie | CA | IAC-13.C2.6.11 |
| Zhang, Wei | A | IAC-13.C1.2.12 |
| Zhang, Wei | CA | IAC-13.B2.P.11 |
| Zhang, Wei | CA | IAC-13.V.3-B2.8.5 |
| Zhang, Wei | CA | IAC-13.D5.2.1 |
| Zhang, Wei | CA | IAC-13.C4.6.11 |
| Zhang, Wei | CA | IAC-13.A3.3C.1 |
| Zhang, Wen | CA | IAC-13.D5.1.9 |
| Zhang, Xi | A | IAC-13.A2.2.5 |
| Zhang, Xi | CA | IAC-13.A2.P.6 |
| Zhang, Xia | CA | IAC-13.D2.9-D6.2.11 |
| Zhang, Xiangyu | A | IAC-13.C1.5.11 |
| Zhang, Xiangyu | CA | IAC-13.V.3-B2.8.4 |
| Zhang, Xiaodi | A | IAC-13.B2.P.28 |
| Zhang, Xiaogong | CA | IAC-13.B2.1.9 |
| Zhang, Xiaohu | CA | IAC-13.C2.4.3 |
| Zhang, Xiaoping | CA | IAC-13.C4.5.3 |
| Zhang, Xiaoqiang | CA | IAC-13.B2.3.15 |
| Zhang, Xin | CA | IAC-13.D2.P.7 |
| ZHANG, XUAN | A | IAC-13.C2.P.38 |
| Zhang, Xubin | A | IAC-13.D2.P.14 |
| Zhang, Xudong | A | IAC-13.D1.P.33 |
| Zhang, Xudong | CA | IAC-13.V.3-B2.8.6 |
| Zhang, Ya | A | IAC-13.C3.P.8 |
| Zhang, Yan | A | IAC-13.C2.9.2 |
| Zhang, Yang | A | IAC-13.C1.6.8 |
| Zhang, Yao | A | IAC-13.C2.3.10 |
| Zhang, Yao | CA | IAC-13.B4.4.3 |
| ZHANG, Yingnan | A | IAC-13.C3.P.2 |
| Zhang, Yining | CA | IAC-13.C4.P.73 |
| Zhang, Yiteng | A | IAC-13.A5.P.4 |
| Zhang, Yong | A | IAC-13.C2.5.11 |
| Zhang, Yonghui | CA | IAC-13.C2.4.13 |
| Zhang, Youmin | CA | IAC-13.A3.P.4 |
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# Notes

## Notes



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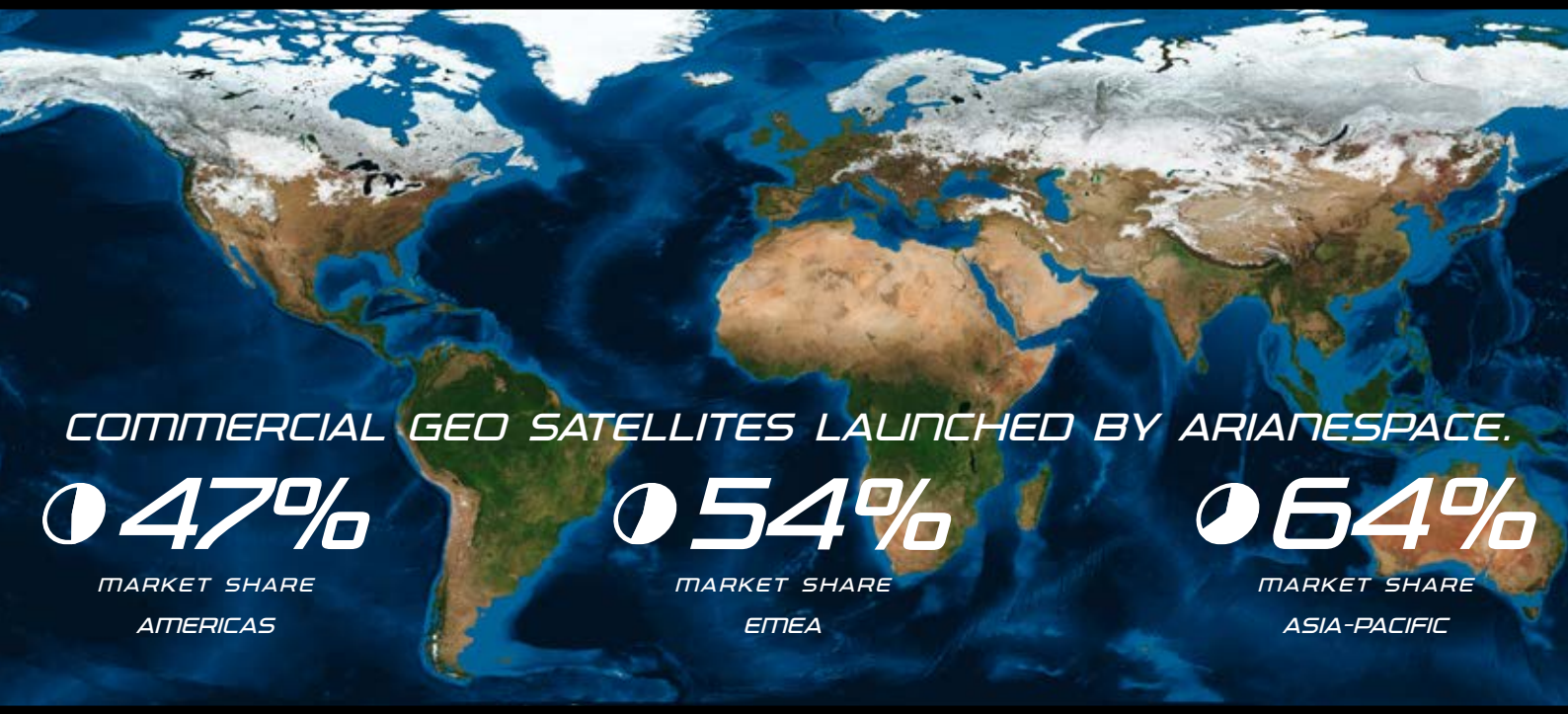

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