Follow us on

International Astronautical Federation News

Connecting Space People

2/2015 (June 2015)

President's Welcome

Dear colleagues,

This edition of our newsletter comes out just before one of the year's most important events: the Global Space Innovation Conference in Munich, organized in partnership with the Bavarian State Ministry for Economic Affairs and Media, Energy and Technology (MWMET) and the German Aerospace Center (DLR) and the European Space Agency (ESA). We are particularly pleased with the successful programme of this gathering, which is attracting huge interest from throughout the world space community. Meanwhile, preparations continue to advance for IAC 2015 in Jerusalem, Israel, as witnessed by the busy agenda of our technical committees and the number of papers selected at this year's Spring Meeting, the details of which you will find in this issue. We also take a look at the events that will be associated with the Congress such as the UN/IAF Workshop and many other events aimed at promoting space among students and young professionals.

We are also delighted to have received 3 full proposals for hosting IAC 2018. These come from Bremen, Germany – submitted by ZARM Drop Tower Operation and Service Company, Punta del Este, Uruguay – submitted by CIDAE-E and Vienna, Austria – submitted by FFG.

To end our newsletter we have a great interview with Dr Robie I. Samanta Roy Chairman of the CTO Conversations at GLIC 2015 and Vice President Technology and Innovation Lockheed Martin Corporation. The next IAF newsletter will be published in September and will bring our members' news as usual, and important last-minute updates on events at the IAC.

Best wishes for the summer and see you soon in Munich for #GLIC2015.

Kiyoshi Higuchi

President

IN THIS ISSUE

IMPORTANT DEADLINES:

- Deadline to get an early registration rate at the IAC 2015 – **15 June 2015**
- Nominations for the 2015 IPMC Young Professionals Workshop – **15 June 2015**
- Authors to confirm attendance and presentation at IAC 2015 – **15 June 2015**
- UN/IAF Workshop: Application Deadline – **12 July 2015**
- Call for abstracts for YPVF - **5 August 2015**
- Luigi G Napolitano Award nominations – **29 August 2015**

International Astronautical Federation

94bis, avenue de Suffren, 75015 Paris, France - Tel. +33 1 45 67 42 60 - E-mail: newsletter@iafastro.org

IAF Vice President for Industry Relations and CNES President Jean-Yves Le Gall awarded Order of the Rising Sun, Gold and Silver Star

Jean-Yves Le Gall has been awarded the highly prestigious Order of the Rising Sun, Gold and Silver Star, presented by Japanese Prime Minister Shinzō Abe in Tokyo on Friday 8 May. He was then given an audience with the Emperor of Japan, His Majesty Akihito.

The Order of the Rising Sun, Gold and Silver Star, is one of the highest distinctions bestowed in Japan. It was established in 1875 by Emperor Meiji to recognize civil or military service of exceptional merit. Few non-Japanese nationals have received this honour.

For almost 30 years, Jean-Yves Le Gall has maintained a close relationship with Japan, both professionally, as part of the various posts he has held, and personally, developing a real appreciation for the quality and diversity of Japanese culture. He first visited Japan in 1986, shortly after joining the French Directorate General for Industry, where he was in charge of relations with the space industry.

In 1996, then Deputy Managing Director of CNES, he was investigator for the first cooperation agreement between CNES and NASDA, the forerunner of JAXA, the Japan Aerospace Exploration Agency. In subsequent posts, he went on to establish close partnership relations with Japan, particularly in launch vehicles. As a result, a large proportion of Japanese commercial satellites are orbited by Ariane launchers today. Since his appointment as President of CNES, he has fostered closer dialogue with JAXA, helping to further strengthen the collaborative ties between France and Japan.

Jean-Yves Le Gall co-chaired the EU-Japan Business Round Table (EJBRT) for four years with Hiromasa Yonekura, Chairman of Keidanren. In this capacity, he played a major role in the development of trade and industrial cooperation between Europe and Japan. From 2012, he has also chaired the France-Japan business council of Medef International, the international arm of the French business confederation.

On leaving the Imperial Palace, Jean-Yves Le Gall stated: “I am hugely honoured and moved to receive such a high distinction from the Prime Minister of Japan and to have met His Majesty Emperor Akihito. I see this great honour as recognition of the excellent relations between France and Japan in space, which we have developed with a remarkable degree of success over the last 30 years.”

SPRING MEETINGS 2015

IAC 2015 Paper Selection: 2645 abstracts were received for the 66th IAC in Jerusalem. Abstracts were submitted from every continent, making it another truly global IAC. The International Programme Committee (IPC) met and presented the repartition of abstracts by country, symposium, category and session. This year 38.1% of abstracts submitted were from students, showing the strong involvement of the younger space generation in the IAC. The selection of papers then took place on Thursday 26 March.

This year's GNF focused on Space Exploration with a specific focus on: Unlocking the Mysteries of our Solar System with recent developments from the Dawn, Hayabusa and Rosetta Missions. Space programs around the globe are currently engaged in trying to unlock some of the mysteries of our Solar System by sending robotic spacecraft to some of its small bodies. During the GNF, James Graf presented the latest news of the Dawn Mission that has just achieved orbit around the dwarf planet CERES. Prof. Hitoshi Kuninaka explained how JAXA launched the Hayabusa2 mission to explore asteroid (162173) 1999 JU 3 and then return samples to the earth. And last, Prof. Mark McCaughrean and Prof. Berndt Feuerbacher showed the great achievement of ESA's Rosetta mission arrived at comet 67P/Churyumov-Gerasimenko and deployed the Philae lander to the surface. The lessons learned from the impact of communication and outreach were discussed as well to discover that once you get the public involved, you better deliver!

Watch the Complete video on the IAF Official YouTube Channel

During the GNF, Sierra Nevada Corporation (SNC) announced it has amended its current Space Act Agreement (SAA), adding a significant development milestone to the Commercial Crew Integrated Capability (CCiCap) partnership with NASA. The amendment, which extends the period of performance through March 2016, introduces Milestone 41, Design Analysis Cycle-6 Closeout Review – demonstrating the advancement of the Dream Chaser Space System design from a Preliminary Design Review (PDR) level of maturity toward a Critical Design Reviw (CDR) level.

Watch the Complete video of SNC Presentation at the GNF on the IAF Official YouTube Channel

SAVE THE DATE:

The Spring Meetings 2016 will take place 22 - 24 March 2016.

IAF CAPSULES

The IAF Secretariat continues to enhance its communication activities! A new communication tool – "IAF Capsules" – has been launched during the IAF Spring Meetings 2015.

IAF Capsules are 2/5 minutes videos where important IAF members or participants to IAF events/activities can explain why and how they support the Federation and its events and also explain the important role of the Federation in the space world. These IAF capsules will help IAF in promoting the exchange within and outside the IAF Community through Social Media (YouTube, Facebook, and Twitter): sharing knowledge with future space generations, get in touch with the IAF Community, discover colleagues' best practices, etc.

http://www.iafastro.org/iaf-capsules/

Check for more news on our Social Media

The IAF would like to thank the following Committees, Members, and IAF Friends.. you are the IAF Capsules Pioneers!

Click to enjoy watching the videos.

Astrodynamics Committee	Girard, Guillaume	Rochus, Pierre
Bartoe, John-David	Horack, John	Seward, Elizabeth
Battiston, Roberto	ISEB	Stube, Kevin
Davidian, Ken	Koudelka, Otto	Vasko, Chris
Di Pippo, Simonetta	Kuninaka, Hitoshi	Welch, Chris
Edgington, Stacey	Landeau-Constantin, Jocelyne	Yang, Junhua
Feuerbacher, Berndt	Le Gall, Jean-Yves	Yang, Yuguang
Feustel-Buechl, Joerg	Mathers, Naomi	
Giannopapa, Christina	Payson, Dmitry	

If you too want to have your IAF Capsule to explain your work within the IAF, and/or your academic research, and/or your vision for the future, and/or your message to the IAF community, and/or your preferred topic quickly summarized, please do not hesitate and contact IAF Communications manager at silvia.antolino@iafastro.org

GLIC 2015

Panel 1: THE VIEW FROM ENTREPRENEURS

Moderator: Mr. Frank Salzgeber, Head of Technology Transfer Programme Office at the Directore of Technical and Quality Management at the European Space Agency (ESA)
Panelists: Mr. Max Beaumont, Founder of Giaura, Mr. Scott Larson, CEO and Director of Urthecast, Dr. Sias Mostert, Group Managing Director of Space Commercial Services, Ms. Karin Nilsdotter, CEO at Spaceport Sweden AB, and Mr. Nobu Okada, CEO of Astroscale.

What makes a successful entrepreneur so special? Entrepreneurial success does not necessarily mean these specific individuals have knowledge, skills or abilities that exceed or are in any way “better” than those of less successful entrepreneurs.

Despite this, successful role models in activities of entrepreneurship and new venture creation have a very strong impact on other innovative minds thinking about creating an own business.

Therefore, panel 1 will bring together some prominent space industry entrepreneurs in order to discuss how they were able to start a successful enterprise. However, panel 1 also aims at showing obstacles, difficulties and lessons learned from the process of funding a company. As a result, it is the goal to identify truly meaningful ways of support for entrepreneurs in the space industry. The panelists have recent experience in the foundation of companies in this sector, which ensures that they will actually discuss realistic problems and give helpful insights on how a successful business can be created based on space technologies.

Panel 2: SOCIOECONOMIC ENVIRONMENT FOR ENTREPRENEURS

Moderator: Mr. Ken Davidian - AST Director of Research and Program Manager at FAA's Office of Commercial Space Transportation.
Keynote Speaker: Dr. Devi R. Gnyawal - Director of Graduate Programs at the Department of Management, Pamplin, College of Business of Virginia Tech
Panelists: Dr Gale Allen - Deputy Chief Scientist at NASA, Ms. Claire Jolly - Head of the OECD Space Forum, Dr. Alex MacDonald - Head of the Emerging Space Office at NASA, and Dr. Dmitry Payson - Director of Research and Analysis Center at URSC

GLIC Panel 2 will offer an interesting and uncommon discussion for the global space industry audience. The discussion will first center on common economic factors that differ around the world. For example, how does the proportion of small firms in an economy affect innovation? Less common topics will also be addressed, including the historic and current attitudes toward commerce. For example, how does farm life, that varies from country to country, affect innovation and entrepreneurship? Experts from Europe, Russia, and the U.S. will address these topics. The discussion will also ask how these factors influence innovation on the International Space Station.

Panel 3: ENTREPRENEURIAL EDUCATION AND TRAINING

Moderator: Dr. Michael K. Simpson - Executive Director of the Secure World Foundation.
Panelists: Dr. Devi R. Gnyawal - Director of Graduate Programs at the Department of Management, Pamplin, College of Business of Virginia Tech, Prof. Alessandro Golkar - Associate Director at SkolTech, Prof. G. Scott Hubbard - Director of Stanford Center of Excellence for Commercial Space Transportation, and Prof. Walter Peeters - President of ISU.

GLIC Panel 3 focuses on different approaches and topics of business training, reflecting a society's unique views, constraints, and requirements. What are these differences? Do the topics being taught and techniques being used differ greatly between the U.S., Europe, Asia, and Russia? Can some techniques and topics be used world-wide? Experts from the U.S., Russia, Europe, and Asia will discuss these topics and answer questions from the audience.

Panel 4: NON-FINANCIAL ASSISTANCE FOR VENTURE CREATION

Moderator: Mr. Niels Eldering - ESA Technology Transfer Officer
Keynote Speaker: Mr. John Freisinger - CEO and President of Technology Ventures Cooperation
Panelists: Mr. Alexey Belyakov - Vice President and Head of Space & Telecom Cluster at Skolkovo Foundation, Mr. Gian Gherardo Callini - Head at Market Development GSA, Mr. Amnon Ginati - Special Advisor to the Director General ESA, Mr. Takayuki Kawai - Counsellor of the New Enterprise Promotion Department at JAXA, Mr. Didier Lapierre - Responsible for the technology transfer at CNES, and Mr. Thorsten Rudolph - Managing Director at Anwendungszentrum GmbH Oberpfaffenhofen.

GLIC Panel 4 will focus on structured support to entrepreneurship and the stimulation of new ventures. There are many means of supporting the creation of new ventures, be it business plan support, incubation and acceleration, award schemes or coaching and networking opportunities. But which of these initiatives work best for whom? What can we learn from organisations who are already working with these measures, and how can the initiatives be improved? Are we really reaching out to the right target groups with our initiatives about the space industry? What is it that young start up companies really need? In how far is the space sector different, what are the particular needs of start ups working with space technologies? Panel 4 will discuss these questions with the goal to share knowledge and answer questions that, ultimately, benefit new start ups by creating more effective measures to support them.

Platinum Sponsor
LOCKHEED MARTIN
Silver Sponsor
OHB
Sponsors
cnes Space for Earth
ZARM
ASE
JAXA Japan Aerospace Exploration Agency
KARI 한국항공우주연구원 Korea Aerospace Research Institute

Panel 5: FINANCIAL SUPPORT FOR VENTURE CREATION

Moderator and Keynote speaker: Prof. Chris Zott - Professor of Entrepreneurship at IESE Business School
Panelists: Ms. Uli W. Fricke - Managing General Partner at Triangle Venture Capital Group, Mr. Pierre L. Godart - Chief Financial Officer at Airbus Safran Launchers, Dr. Naoto Matsuura - Director of New Enterprise Promotion Department at Japan Aerospace Exploration Agency (JAXA), and Ms. Rachel Villain - Principle Consultant at Euroconsult.

Panel 5 will focus on the financing of business start-ups. Here the necessary steps and conditions in preparation of a financial solution as well as financial issues in a wider context will be discussed. The financial model is a key factor and typically closely linked to the selected business model of an organisation. In addition, the panel will strive to identify start-up trends from outside the space sector and from across different world markets. Subtopics including the different financial models available, such as venture capital, corporate finance, government driven investment, and other seed and equity investments will be pursued. Innovative measures will also be addressed. Of particular note will be the question of how established space companies can strategically position themselves with regards to start-ups. Here the keyword corporate venture capital comes into play. The panel will include exchanges between the panel members and with the audience. The major theme of the panel will be the transfer of financial experience from within the space sector and also from other branches towards the financing of start-ups.

Panel 6: POLICIES AND LAWS FOR ENTREPRENEURSHIP

Moderator: Prof. Dr. Kai-Uwe Schrogl, Head of the ESA Policies Department at European Space Agency (ESA)
Panelists: Dr. Ingo Baumann - Legal Lawyer at BHO, Dr. Christina Giannopapa - Senior Advisor at European Space Agency (ESA), Mr. Philippe Glaesener - Senior Vice President, Business Development Europe, Middle East & Africa at SES, Prof. Dr. Bernd J. Hoefer - CEO A9C Capital, Ms. Kathryn L. Lueders - Program Manager at NASA's Commercial Crew Program
Dr. Francisco Javier Mendieta Jiménez - Director General at Agencia Espacial Mexicana (AEM)

The policies and law for entrepreneurship panel will focus on exchanging views on the role of governments, space agencies and industries in fostering entrepreneurship in order to promote space innovation for the benefit of society. Today there is no clear definition of what is space innovation and there is a lack of a comprehensive overview of the current policies and laws for entrepreneurship. The panel will include a keynote speech, presentations and a panels discussion. The keynote speech will focus on entrepreneurship in the United States providing an overview on on-going policies, regulations and initiatives. The panel discussion will provide a platform to exchange views on the presentations by the panellists providing i.a. definitions and instruments on entrepreneurship and innovation, the role of governments and private investors, the role of SMEs and large companies and synergies between different sectors. Particular focus will be given on the role of user pull, IPRs, procurement, funding and profit sharing instruments in established as well as in emerging space markets. The composition of the panel will see high-level representative and experts of various world regions, organisations and disciplines. Technological, legal, governmental and entrepreneurial expertise will meet to reflect on the status and identify future needs in the field of national, regional and global policies and laws for entrepreneurship.

Official Media Partner

AVIATION WEEK

Other Media Partners

SATELLITE Markets & Research

KOSMONAUTA.net

THE BRITISH INTERPLANETARY SOCIETY

space AGENDA

satnews

Space Safety Magazine

CLICK HERE to Register for GLIC 2015

SPACE UP GLIC 2015 Munich *at GLIC 2015*

Sponsored by

Andrea Jaime-Albalat and Andrea Boese from the SpaceUp GLIC Organising Team

1. When and Why Space Up was born and what is it all about?

Unconferences had been made for years on several topics, people had fun, and great outcome of these meetings were a fact. A group of space enthusiasts decided that there was the need for an Unconference to discuss the topic of their own interest: Space Exploration. And they decided to organise the first space Unconference; they called it SpaceUp.

It was done in San Diego, in February 2010, and followed by one in Washington DC. After the first successes, many other SpaceUps were organized around the USA. In September 2012, SpaceUp crossed the Atlantic, bringing the first event of this type in Europe to Belgium.

From that moment on, the fever really exploded, reaching even India! Only in 2014, 12 SpaceUps were organized in 12 different locations.

The best sign that the SpaceUps are truly a success? Please travel all around the world to attend SpaceUps again and again!

Visit http://www.spaceup.org, the official SpaceUp conferences website, to read more about the SpaceUp history and to check out other SpaceUp locations.

2. What is an unconference, why are there only participants and not spectators?

The term Unconference is created with the idea of an event that offers only topics of interest for the participant, and avoiding all conventional conference items, specially avoiding the tow-down organisation.

The Unconference aims to mirror those interesting conversations that professionals use to have during breaks and in the corridors of conventional events. An unconference offers those “corridors”, where people talk about their own interests, search for inputs, start debates, and openly and informally talk with each other.

That’s why SpaceUp, or any unconference have only participants, everybody is encouraged to start a topic, present a talk, initiate a debate… the same way a participant would discuss during a lunch networking event or a corridor in a bigger conference.

For further information visit http://spaceup.de/what-is-spaceup/

3. Do you have any suggestions so that participants can prepare beforehand?

There are many ways to participate at SpaceUp, and therefore preparations are also very dependent on this. Once the registration is done, it is important to reflect on which is that topic of the participant’s interest that would like to discuss with others in the sector. Actually, all attendees are expected to give a demo, present a talk, or participate in a panel or roundtable. It’s not as scary as it might sound, though. Sessions at SpaceUp are conversations, just like every conversation you’ve had (or wanted to have) at any other conference. The only difference is that the sessions are planned on the spot, which means we’re sure to be talking about topics we find interesting.

We understand if this is the first time you attend a SpaceUp you might be a bit lost, so the SpaceUp GLIC Organising team offers some ideas to the participants to prepare themselves in our website.

Visit http://spaceup.de/about-spaceup-glic/prepare-yourself/

4. How can participants be sure to hear topics they are interested in?

As mentioned above, in SpaceUp there are no spectators, only participants. It is for this reason that if a topic is of your interest, you bring it to the programme, and people will talk about it. Is there any best way to really get the topic of your interest in a conference?

In addition, the organising team shares a list of all participants and their presentations (if known) in the website of the event in advance. In this way everybody can already interact with each other, exchange ideas, check out the interests of the other participants, and perhaps even join others to start a topic/team/proposal. This is the magic of SpaceUp – nowhere else the participant will find a more suitable programme than here!

IAC 2015

We are very happy to announce that we have accepted over 2000 abstracts for this year's IAC! There were many high quality abstracts and the competition has been tough. The International Programme Committee has worked thoroughly with the abstracts to compose the very best technical program for you. All the notifications letters have been sent out to our authors confirming the status of their abstract. In case you have not yet received any letter please contact us as soon as possible and we will send a new one to you (it might have been rejected as spam). Remember that you have to confirm your presentation before the 15th of June and until this date you can also benefit from the early registration fee!

Regarding the Interactive presentations, this is an evolvement of the previous "Poster presentation". Instead of showing the presentation as a poster you will this year be able to show a digital presentation. This allows you greater possibilities, as to use different media and to create a more dynamic presentation. If you would like to gain more information about the IP session please see http://www.iafastro.org/info-for-interactive-presenters-of-iac-2015/. Of course please feel free to send us your questions on support@iafastro.org .

We are very much looking forward to hosting you on 12-16 October at IAC2015, and hope that you will have an amazing experience, a sense of personal fulfilment and enjoy a great adventure while visiting Jerusalem!

IAC 2015 Ambassadors Programme

In line with the IAC constant evolution and improvement, this year it was decided to introduce a new Congress feature: the IAC 2015 Ambassadors Programme. The aim of the Ambassadors Programme is to strengthen promotion and awareness of the IAC on national levels and also to reward these individuals that make a personal effort to actively promote the Congress.

For IAC 2015, the programme was open to all involved in the IAF, IAA and IISL communities, but few key individual in these groups were specifically invited to become an IAC 2015 Ambassador.

The main tasks of the IAC Ambassadors include:

- Promote the Congress within their space communities;
- Boost participation and abstract submissions to the scientific programme;
- Encourage potential participating companies to exhibit and sponsor at the IAC.

Once appointed, the IAC Ambassadors would benefit from some interesting benefits such as visibility on the IAC 2015 website, VIP status at the IAC 2015, private touristic tours in Jerusalem and many others.

You can see all our confirmed Ambassadors here: http://www.iac2015.org/iac-ambassadors/

Should you wish to know more about the programme or even become an IAC 2015 Ambassador yourself, please do not hesitate to get in touch with us at info@iafastro.org

CLICK HERE to Register for IAC 2015

UN/IAF Workshop at the IAC 2015

UNOOSA United Nations Office for Outer Space Affairs

The United Nations through its United Nations Office for Outer Space Affairs (UNOOSA) and the International Astronautical Federation (IAF) are jointly co-organizing a Workshop on the theme "Space Technology for Socio-Economic Benefits" to promote the use of space technology for benefits of the developing countries. The Workshop will be held in conjunction with the 66th International Astronautical Congress (IAC), which will take place from 12-16 October 2015 in Jerusalem, Israel (http://www.iac2015.org/). A limited number of Workshop participants from developing countries, selected by the United Nations and the IAF will be also invited to attend the IAC.

The theme for the Workshop in 2015 will be "Water Resources Management". Of our Planet's water resources 97.5 % are sea water, unfit for consumption, and the remaining 2.5 % fresh water. Two-thirds of the fresh water are confined to the planets Earth's polar caps and only one-third of the fresh water is available to us as usable ground- and surface water. Fresh water is a severely limited resource and more than 700 million people still have no access to clean fresh water. The Workshop will focus on the contributions of space science, technology and its applications to managing our limited water resources.

The Workshop will be co-sponsored by the European Space Agency (ESA), with contributions from the International Academy of Astronautics (IAA), the Committee on Space Research (COSPAR) and the International Institute of Space Law (IISL).

It will be the 25th in the series of Workshops jointly organised by the Office for Outer Space Affairs and by the International Astronautical Federation and has been endorsed by the United Nations General Assembly as part of the 2015 activities of the United Nations Programme on Space Applications.

For questions related to the Workshop programme, please contact Mr. Werner Balogh (werner.balogh@unoosa.org, Tel: +43-1-26060-4952).

Please frequently consult http://www.unoosa.org/oosa/en/SAP/act2015/un-iaf/index.html for the latest information on the Workshop.

2015 Awardees

2015 Young Space Leaders Award (YSL) Winners

The YSL Recognition Programme is targeted at exceptional students and young professionals (age 21-35) who demonstrate leadership in their academic or early careers. The YSL winners are presented with their award during the Closing Ceremony of the annual International Astronautical Congress (IAC). Awardees also attend the IAC Gala Dinner as guests of the IAF President and enjoy free IAC registration. Congratulations to the 2015 winners:

Christopher Vasko,
Space Generation Advisory Council

Yu Xiaozhou,
Shaanxi Engineering Laboratory for Microsatellites

Guillaume Girard,
INSYEN AG

Elizabeth Seward,
Airbus Defence and Space

Ryan L. Kobrick,
Yuri's Night

Lulu Makapela
Council for Scientific and Industrial Research (CSIR)

2015 IAF Emerging Space Leaders (ESL) Grant winners

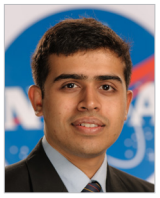
Fourteen young people have been selected to participate in the 2015 IAF ESL Programme, and attend the 66th International Astronautical Congress in Jerusalem, Israel from 12 to 16 October 2015. These participants will receive the following:

- Round trip air fare between the candidate's home country and Jerusalem, Israel.
- Funding for transportation, lodging and meals during the candidate's stay in Jerusalem, Israel.
- Free registration for the 66th International Astronautical Congress as well as the Space Generation Congress or the 2015 UN/IAF Workshop, the Cross Cultural Presentation Workshop and other associated activities.
- Mentors will provide advice on presentations at the IAC and on activities before and during the IAC to help grant recipients benefit fully from the Congress and related meetings and meet with the grant recipient during the IAC.

Jesus Gonzalez
Columbia,
University of Sergio Arboleda

Rene Michel
Bolivia,
Agencia Boliviana Espacial

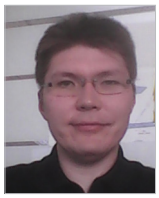
Luis Zea
Guatemala,
University of Colorado Boulder



Siddharth Pandey
India,
University of New South Wales

Dalin Li
China,
National Space Science Center

Kingsley O. Ukaegbu
Nigeria,
National Youth Service Corps Secretariat



Sultan Assipov
Kazakhstan,
Nazarbayev University

Hripsime Matevosyan
Russia,
Skolkovo Institute of Science and Technology in the Strategic Innovation Research Group

Suman Gautam
Nepal,
Pokhara Astronomical Society

Beza Tesfaye Zewdie
Ethiopia,
Space Generation Advisory Council

Milan Mijovic
Serbia,
University Union

Norah Patten
Ireland,
Irish Centre for Composites Research

Gabriel Lapilli
Argentina,
Florida Institute of Technology

Laura León Pérez
Spain,
Solar MEMS Technologies S.L

Allan D. Emil Memorial Award winner

Dr. Jha has over 42 years of experience in the Canadian Space Program ranging from in-depth engineering work to senior management positions in both the Private and the Public Sectors. Dr. Jha began his space career in 1972 when he joined the Aerospace group of RCA Limited Montreal, which later became Spar Aerospace Limited. In 1988, he became the Director of Engineering at Spar Aerospace Limited. In 1991 Dr. Jha joined the Canadian Space Agency as Director of the Space Mechanics Group. In 1996 he was promoted to the position of Director General, Space Technologies Branch of the CSA. From 2003 till 2008, he was the Vice-President responsible for Science, Technology and Programs at the Canadian Space Agency. As Vice President, Dr. Jha provided strategic direction, vision and leadership to all core technical sectors of the Agency. From November 2005 until February 2006, Dr. Jha also served as the Acting President of the Canadian Space Agency. He was Chief Engineering Adviser at the Canadian Space Agency until his retirement in 2014. Dr. Jha received his B. Tech. degree in Mechanical Engineering from the Indian Institute of Technology Delhi India, his Master's degree in Mechanical engineering from McMaster University, Hamilton, Canada, and his Ph.D. degree in Mechanical Engineering from Concordia University, Montreal, Canada and the C.Dir. (Chartered Director) Degree from McMaster University, Hamilton, Canada.

Dr. Jha's technical contributions in Canadian Space Program as well as in International Space activities have been significant. His initiatives in forging international partnerships led to CSA's cooperation with India in the form of Astrosat, with NASA on Cloudsat, with Argentina on SAC-D and SAOCOM project. His leadership and commitment to the profession is reflected by his recognition and active participation in many groups, committees and advisory boards. Some of his specific awards are: Queen's Jubilee Medal recipient in 2002 (this Medal is given to a few selected Canadians who have made a significant contributions to Canada), honorary member of the "Golden Key – International Honorary Society" since 2001 (this society promotes academic excellence amongst universities in North America); recipient of the Canadian Aeronautics and Space Institute (CASI)'s "Alouette Award" for 1999 (this award is given each year to one person who has made a very significant contribution to the Canadian Space Program), appointed full member of the International Academy of Astronautics(IAA) in 2004, and the recipient of the Professional Man of the Year award in 2004 from the Indo Canadian Chamber of Commerce. Some of the specific committee memberships are; Co-Chair of "International Program Committee" (IPC) in 2003-2004 and in 2013-2014, Vice President of International Astronautical Federation (IAF) from 2004 to 2008, Canadian representative on the Independent Assessment Panel for the International Space Station (1994-1999). Canadian delegate to the European Space Agency Council (1996-2006), Canadian representative for the Committee for Earth Observing Satellites (CEOS) (1997-2006), Canadian representative for Group on Earth Observation (GEO) (2003-2007) . Dr. Jha has published and presented more than twenty papers on space related subjects. Dr. Jha has also served as a Board member for five technology related non for profit organizations.

IAF Hall of Fame

Dr. Paolo Ferri

Paolo Ferri studied theoretical physics at the University of Pavia, Italy. He joined the European Space Agency in 1984, as visiting scientist in support of science operations for the EXOSAT X-ray astronomy satellite at the European Space Operations Centre (ESOC). He moved to the mission operations field in 1986, to work on the operations preparation of EURECA, the first ESA unmanned microgravity platform, which he supported throughout its flight operations until the retrieval from orbit by Space Shuttle Atlantis in 1993. He then was assigned to the CLUSTER mission, a fleet of four satellites for magnetosphere research, in his first assignment as Spacecraft Operations Manager. After the launcher failure in June 1996, exploded 37 seconds after lift-off, he started the preparation of the operations of the follow on mission., which was successfully launched in summer 2000. In November 1996 he was nominated Spacecraft Operations Manager for the Rosetta mission, the first historical mission to rendezvous with and land on a comet nucleus. ESA had at that time very limited experience and no infrastructure for the operations of interplanetary missions. Together with a small group of engineers, Dr. Ferri specified all the elements of the ground infrastructure required for this type of operations. As operations responsible, he designed the operations concept and selected and built up the flight control team which had to accompany Rosetta on its 10 years journey to the comet.

Thanks to the foundation work of the Rosetta team, within less than a decade, ESOC had a fully functional and operationally validated infrastructure of hardware and software tools for the operations of interplanetary missions, and a group of engineers and technicians with a unique in-flight experience operating interplanetary missions, very successfully operating the three ESA missions, Rosetta,

Mars Express and Venus Express. After the launch of Rosetta in March 2004 Dr. Ferri continued to lead the flight operations until August 2006, when he was nominated head of the newly created Solar and Planetary Mission Operations Division, in charge of ground segment management, mission operations preparation and execution for all ESA solar and planetary science missions (at that time Rosetta, Mars Express, Venus Express, Ulysses, Smart-1 and Cluster in flight, BepiColombo in preparation).

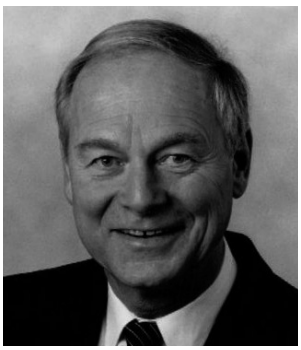
During his period as head of the Solar and Planetary Division, more missions were approved for future launch, ExoMars and Solar Orbiter, and the preparation activities on the ground segment side were assigned to the Division's responsibility. In the meantime he continued to support critical operations activities as Flight Director, e.g. for the launch (2005) and arrival at Venus (2006) of Venus Express, for the Rosetta Mars Swing-by (2007) and for the launch (2009) of the GOCE gravity mission of the Earth Observation programme.

Since 2013 he is head of ESA's Mission operations Department, in charge of mission operations preparation and execution for all ESA unmanned missions (currently 9 missions - 14 satellites - in flight and other 20 in preparation, mainly interplanetary, astronomy and Earth observation missions). The Department is also responsible for operation ESOC's ground facilities, including the worldwide ground stations network.

Dr. Ferri is member of the Space Operations Committee of the International Astronautical Congress and has been supporting numerous IAC activities since 1999, initially as paper author, session chair, committee member and lecturer to students and young professionals.

He devoted throughout his career constant attention to education and training in the field of operations. He developed several lectures on ground segment and mission operations, which are given regularly as part of various ESA internal and external training courses. His lectures on interplanetary mission operations have recently been included in a book on spacecraft operations. He also regularly supports specialist conferences like SpaceOps, and published numerous articles on specialised journals. His passion for space is combined with his interest in education and outreach. Thanks to the popularity of the Rosetta mission, which has been the project of his life and on which he has worked for the past 20 years, he has been lecturing to a large number of Universities, schools and general public audiences, bringing the subjects of space exploration and operations closer to a large audience of enthusiastic people of all ages.

For the historical achievement of the Rosetta mission Dr. Ferri has been granted various awards, among which the Sir Arthur Clarke Award and the Galileo Medal of the City of Padova.



Hans E.W. HOFFMANN

With an aeronautical engineering degree (University of Aachen, 1961) and masters (University of Wichita, Kansas, 1962), Hans Hoffmann began his career in 1961, as project manager of the "Third Stage" European ELDO-I Launcher at Weser Flugzeugbau GmbH /ERNO Raumfahrttechnik GmbH in Bremen, Germany. In 1969, he became vice-president of the European Launcher Development Organisation (ELDO), in Paris, responsible for the development of a new launcher, „EUROPA-III", and for negotiations with NASA of the European contribution to the Post Apollo Programme. Four years later, Hoffmann returned to Bremen, as Managing Director and „Spacelab" Project Director at ERNO Raumfahrttechnik GmbH/MBB-ERNO.

In 1985, he created and became managing director of Intospace, an umbrella organisation of 90 European microgravity user organisations. Between 1989 to 1990, Hoffmann was Managing Director of Dornier International; Marketing Director of DASA, Munich, responsible for all international marketing and sales of aerospace products; and President of DASA(MBB) MSG in Bremen, in charge of UAV development, mine-hunting technology and simulator development.

As President of STN-Systemtechnik Nord GmbH in Bremen between 1990-1994, Hoffmann was responsible for the German/French development of the UAV „KZO Brevel" target location – a $200M contract. This UAV is now produced by the German DOD. He also managed the German torpedo developments and was prime contractor for 10 German fast Minesweepers and 12 German Minehunters.

Between 1994 and 2000, he was President of STN Atlas Elektronik GmbH in Bremen, a 5,200-employees merger of STN-Systemtechnik Nord GmbH and the former KRUPP-ATLAS ELEKTRONIK GmbH. In 1997, he also joined the Supervisory Board of STN Atlas Elektronik and became a full-time consultant for the company. After retirement in 2000, Hoffmann has held various consultant positions. He was much involved in ORBCOMM LLC, United States, initially as CEO and President, later as consultant and member of the Board of Directors, resigning from his duties in 2012. Hoffmann's other roles and functions included: membership and vice-presidency of the Senate Committee of the German Aerospace Centre (DLR) (1988-2000); chairmanship of the CALS Committee of the German Industry Association (1990-2000); and fellowship and membership of the American Institute for Aeronautics and Astronautics and the American

Astronautical Society. He was IAF Vice-President from 1992 to 1996 and has served as the Federation's Honorary Secretary since 2009.

Hoffmann received several awards including the IAF Allan D. Emil Memorial Award (1986), the Engineering Science Award by the International Academy of Astronautics (1993) and the Ordre National du Merit by French President for German/French cooperation (1997). He was named "Man of the Year" by Aviation Week for the creation of Intospace in 1987.

2015 Frank J. Malina Astronautics Medal

Boris Pschenichner began his space and astronomical education activity since 1955, when he was a teacher of astronomy in Moscow secondary school. Since 1958, when everybody was extremely interested in space due to launch of first satellites orbiting Earth, B. Pshenichner started working is Moscow Planetarium, where classes for astronomical education were organized.

In 1962 B. Pshenichner was invited to just opened "Moscow Palace of Pioneers" (today named "Moscow State Palace of Child and Youth Creativity") with task to organize the first in USSR Department of Astronomy and Cosmonautics for schoolchildren. Since that time he was the head of the Department for more than 40 years. In that Department he organized courses for Astronomy, Astrophysics, Space biology and medicine, Crew of young cosmonauts, and even Rocket constructing. Since the very beginning of the Department activity, he established a very productive cooperation with scientists, researchers and teachers of colleges and universities, scientific and industrial organizations. Lot of his students became astronomy teachers, space researchers, and engineers after they spent their school years at the Pshenichner classes at the «Pioneer Palace». From 1996 to 2003, B. Pshenichner took part in creation of the concept of the Russian National Program for Space Education. From 2004 till 2013, B. Pshenichner was the head of Open scientific-educational program "Space experiment", which was founded by Lomonosov Moscow State University, Space Corporation Energia and the Pioneer Palace. In framework of that program 13 projects proposed by schoolchildren have been realized onboard the International Space Station and Earth-orbiting satellites.

Up to now Boris Pshenichner is working as a consultant of the Department of Astronomy and Cosmonautics for schoolchildren.

IAF reports on its activities at 58th session of COPUOS in Vienna

IAF Vice President in charge of International Relations, Mr. Sergey Saveliev, reported to delegates and observers present at the 58th session of the Committee on the peaceful uses of outer space, on last year's achievements, with a particular focus on the topics relevant to the work of UNCOPUOS and on the IAF activities conducted together with UNOOSA. Mr. Saveliev also outlined the Federation upcoming activities including GLIC 2015, UN/IAF Workshop on "Space Technology for Socio-Economic Benefits: Water Resources Management" and the 66th IAC in Israel.

IAF also attended on 11 June 2015 in Vienna at UNOOSA HQ the signing ceremony of the framework agreement between the Government of the State of Israel and the United Nations. Ms. Simonetta Di Pippo, Director, United Nations Office for Outer Space Affairs and Ambassador Zvi Heifetz, Permanent Representative, Permanent Mission of Israel in Vienna were also there. After the signing ceremony, a successful reception attended by more than 100 people, was held in honor and celebration of the International Astronautical Congress IAC 2015 in Israel.

Mr. Sergey Saveliev's speech at IAF and ISA's reception in honor and celebration of IAC2015 in Israel (11 June, @UNOOSA, Vienna)

Watch here the video of the signing ceremony of the framework agreement between the Government of the State of Israel and the United Nations – 11 June 2015.

IAF Alliance Programme (AP)

Recently launched in April 2015, the IAF Alliance Programme (AP) provides additional opportunities for its member organisations to become more closely involved in the Federation's activities.

The IAF Alliance Programme is open to ALL IAF members: to deepen the involvement of key IAF members in the Federation; to enhance the prominence and visibility of their role within the Federation; to complement the traditional sponsorship opportunities with strategic long-term partnerships; to assure the sustainability of IAF operations in the interest of its members; to further improve the quality of the Federation's activities; and to strengthen the Federation by fortifying the one-to-one relationships with its key members.

Different Alliance Partnerships' levels are possible: Platinum, Gold, Silver, Bronze

Alliance Programme Platinum Partner | Alliance Programme Gold Partner | Alliance Programme Silver Partner | Alliance Programme Bronze Partner

Amongst the possible benefits for Alliance Partners are:

- Guaranteed enhanced visibility on IAF promotional tools (website, newsletters, Publications etc.)
- Enhanced Presence at IAF Events (IACs and Global Series Conferences, IAF/Alliance Partner joint events, exhibition space etc.)

For more information on benefits and types of contributions please click here

Members' Corner

American Astronautical Society

NOMINATIONS

are being accepted for the

ORDWAY AWARD

for Sustained Excellence in Spaceflight History

This award is named in memory of Frederick I. Ordway III (1927-2014), human spaceflight advocate and chronicler of the history of rocketry and space travel. The award is presented on an occasional basis by the American Astronautical Society (AAS) and recognizes exceptional, sustained efforts to inform and educate on Astronautical history through one or more media, such as (1) writing, editing, or publication of a ***book series*** (as opposed to a single title), (2) preparation and presentation of ***exhibits***; or (3) production for distribution through ***film, television, art, or other non-print media***. The award process is managed by the AAS History Committee.

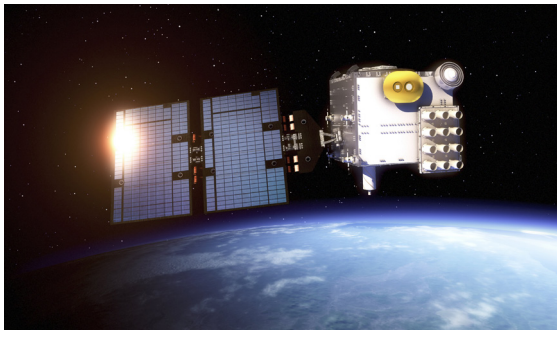
Nomination forms are available on the AAS website at www.astronautical.org/awards/ordway
Or contact aas@astronautical.org

SSTL delivers first of the FORMOSAT-7 constellation spacecraft to Taiwan

Surrey Satellite Technology Ltd (SSTL) has delivered the first spacecraft for the FORMOSAT-7/COSMIC-2 weather forecasting constellation to the National Space Organization (NSPO) in Taiwan, where it has successfully passed a series of systems checks.

The FORMOSAT-7 spacecraft has been designed by SSTL using heritage avionics and it has been assembled at the Company's cleanroom facilities in the United Kingdom, where SSTL is currently building the remaining FORMOSAT-7 platforms for the constellation. The payloads for the spacecraft are being supplied by NSPO's mission partner, the National Oceanic and Atmospheric Administration (NOAA) in the United States, and they will be integrated to the platforms in Taiwan where a full set of spacecraft system tests will be performed.

Luis Gomes, Director of Earth Observation at SSTL, commented "The delivery of the first of the FORMOSAT-7 spacecraft to our customer is an important milestone in the programme, and we were very pleased to hear that it has arrived safely and in full working order. SSTL is continuing to work on the assembly of an additional five platforms for the constellation at our cleanrooms here in the UK and at the NSPO site in Taiwan, where our engineers are involved in the next phase of payload integration and testing, so it's an extremely busy phase in the mission for the collaborative team."



The FORMOSAT-7 constellation is a joint civil mission between the Taipei Economic and Cultural Representative Office in the United States (TECRO) and the American Institute in Taiwan (AIT). NSPO and the National Oceanic and Atmospheric Administration (NOAA) in the United States are the designated representatives of TECRO and AIT respectively. The new constellation will collect atmospheric data at low and mid latitudes and improve both regional and global weather forecasting for over 5000 registered users of the data across the globe. It will also provide scientific data in support of climate studies and ionospheric science. Launch is targeted from 2016.

SSTL opens new Spacecraft Operations Centre

Patrick Wood, Peter Martin and Michael Boyd outside SSTL's new Spacecraft Operations Centre

Surrey Satellite Technology Ltd (SSTL) welcomed Michael Boyd, Managing Director of Investment, UK Trade and Investment, and Peter Martin, Deputy Leader of Surrey County Council, to the Company's Guildford Headquarters site on 27 May 2015. SSTL's Group Managing Director, Patrick Wood, hosted the visit which included a tour of The Kepler Building where SSTL is currently assembling more than 20 spacecraft.

The visit coincided with the completion of SSTL's new Spacecraft Operations Centre (SOC) and Michael Boyd was given the honour of cutting the ribbon on the new facility.

Michael Boyd cutting the ribbon to officially open SSTL's new Spacecraft Operations Centre

SSTL's MD, Patrick Wood, commented "I am delighted to host both Michael Boyd and Peter Martin for a tour of SSTL's facilities and, in particular, to showcase our new Spacecraft Operations Centre, which is going to be the focus of intense activity later this summer when we launch a further 4 satellites into orbit."

SSTL's Spacecraft Operations Centre is the control hub containing the infrastructure necessary to track, command, control and downlink data from SSTL's orbiting satellites, 24 hours a day, 7 days a week, 365 days a year. The new SOC offers a larger and significantly enhanced work environment for the operators as well a more efficient layout to better support SSTL's space missions. The SOC is also used to support several of SSTL customers' spacecraft operations, either by acting as a secondary SOC or as backup to their own SOCs when they carry out essential maintenance or upgrades.

SSTL's new Spacecraft Operations Centre

SSTL's SOC is connected primarily to the two ground stations operated by SSTL in the UK, but it is also designed to be able to securely communicate with the satellites through a number of ground stations located around the world. It is designed to operate in a highly efficient "lights-out" mode requiring minimal operator intervention by using automated computer-controlled routines to manage the exchange of data between the ground stations and the satellites, and to autonomously monitor the health of the satellites.

The SOC will become the focus of intense activity later this summer when another 4 SSTL satellites are due to be launched and the Operations team in Guildford will be manning the computer terminals to undertake the first phase of commissioning the satellites in-orbit – firstly establishing contact and then conducting a series of tests and operations designed to check that all the spacecraft's systems are working correctly.

Surrey County Council Deputy Leader Peter Martin said: "The facilities are really are out of this world and I have no doubt they will be the nerve centre for many successful missions. Our role is to help SSTL and all Surrey's other businesses succeed, whether that's here in Surrey, globally or indeed in space, and do what they do best – create jobs and promote growth."

AIDAA
ASSOCIAZIONE ITALIANA
DI AERONAUTICA E ASTRONAUTICA

17-19 November 2015 - TORINO - ITALY - AIDAA 2015

AIDAA2015 is the 23rd Conference of the Italian Association of Aeronautics and Astronautics and it will be held in Turin (Italy), 17-19 November 2015.

AIDAA 2015 will be exceptionally organized in cooperation with Aerospace & Defense Meetings Torino (A&DM) and Additive Manufacturing (AM) Meetings. A&DM is the only international business convention for the aerospace and defence industry organized in Italy, based on a program of pre-arranged meetings. AM Meetings focus on additive manufacturing technology and production.

Delegates registered for AIDAA 2015 will have free access to Aerospace & Defense Meetings and Additive Manufacturing Meetings, including plenary lectures and round tables on the most debated topics about aerospace.

The venues for these three important events will be *Politecnico di Torino* and *Oval Lingotto*.

More information are available from the website:
www.aidaa2015.it

A Time-Trip Project

A joint project, organized with participation of members of the Association of Space Museums of Ukraine, which was entitled "Space. The Time Machine" has been recently ended in Kiev Planetarium, Ukraine. It's very important that the space-related project united in such a challenging for Ukraine time the S.Korolev Space Museum in Zhitomir, the innovation commercial company Atmasfera 360, the public institution Kiev Planetarium, the Russian Centre of Culture and Science and a private person, collector of space rarities(all located in Kiev) to provide people with an opportunity to travel 50 years back in time and experience again the excitement of the world's first spacewalk endeavored by Alexei Leonov.

The project involved lectures on space related topics, including "space" fashion, meetings with outstanding personalities currently engaged in space sector, presentations, workshops, etc. Besides, the project, which was interesting both for children and adults, attracted lots of people both to the museum in Zhitomir and the Planetarium in Kiev, where it was implemented. And what is more important, the project has proved again practical usefulness of the Association and gave an idea of "how it works".

Sharing two famous Space missions currently underway:

Rosetta & Curiosity

Temporary exhibition: Extreme Exploration, until 1 November 2015

And enjoy extraordinary Space experiments

Entering unknown landscapes, a comet and Planet Mars and seeing up close the two full-size Philae and Curiosity robots, truly unique, to share today's two great adventures in Space.

With Cité de l'espace, everyone can share Space exploration: the new temporary **Extreme Exploration** exhibition simultaneously presents the two main Space adventures underway: Curiosity and Rosetta. This very sensory exhibition takes visitors to unknown landscapes, on a comet (Rosetta mission) and on Mars (Curiosity mission), to discover the origins of our Solar System and the emergence of Life. The progress of these two missions is shared with the public thanks to a programme monitoring the Rosetta probe and its Philae robot and Curiosity rover on Mars in real time.

Amazing sensory workshops to learn about the Planet Mars and comets and watch the Curiosity and Philae robots live and full size: Cuisiner sa comète (Grilling your comet) to differentiate comets and asteroids, Classe Mars (Mars workshop) to discover the Martian environment and Philae and Curiosity mediation for a close look at these robots and how they operate.

Facilities to play and discover the Solar System and share the challenges for Rosetta and Curiosity, the two great Space missions underway: video setup to scour the Universe, quizzes, many innovative games and experiments available to learn all about comets, planets and the Rosetta and Curiosity missions in Space at this time.

Events to experience the Rosetta probe and Curiosity robot's progress in real time: the Extreme Exploration exhibition offers a programme of events at Cité de l'espace and (www.enjoyspace.com/en/, Cité de l'espace space news website) to view the highlights of both missions until 1 November 2015.

Enjoy extraordinary Space experiments

2,500m² of changing exhibitions to (re)discover the wonders of the Universe and share the latest advances in Space science and astronomy through experiments, simulations, games and events for children and adults alike.

- **Genuine Space rocks**: a **Moon rock** brought back by Apollo 15 astronauts, a **Martian meteorite** and the **largest meteorite** discovered in France, the Caille meteorite weighing 625kg (National Museum of Natural History), a piece of Space on display for everyone.
- **The Training Hall:** experience some of the thrills of being in Space, like the rotating chair, the moonwalking simulator **Moon Runner**...
- **Amazing experiments:** "Space vacuum" workshop, weather station...
- **Launch Centre:** discover how people, rockets and satellites are sent into Space
- **Spaceship Earth:** where visitors can test the many uses of Space for fishermen, healthcare workers, farmers, the military, biologists, rescuers...
- **Weather Station:** meteorology in real time, presented by a forecaster from Météo-France
- **Embarking for the Solar System:** an original way to discover the ISS (International Space Station), the Solar System, planets, comets, asteroids and beyond!
- **Observatory:** understanding the Universe and its birth like an astrophysicist from an observatory

Astronomy shows: IMAX 3D and latest-generation Planetarium

An IMAX 3D theatre with the IMAX film *Hubble 3D* and Planetarium with the film *Cosmic Collisions.*

The Copernicus Masters innovation competition

New Ideas and Markets Emerging Based on Big Data from Space

The Copernicus Masters competition is inviting all interested participants to submit outstanding ideas, applications, and business concepts involving innovative uses of Earth observation data by 13 July 2015. Along with cash prizes, the winners will receive access to a leading international network, corresponding data, start-up funding, and other support valued at more than EUR 300,000 in total.

The tremendous amounts of data produced by the European Earth observation programme Copernicus and its Sentinel satellites hugely benefit science and public authorities and open the door to countless products and applications in a wide array of business sectors. The European Space Agency (ESA) and Anwendungszentrum GmbH Oberpfaffenhofen (AZO) have thus initiated the Copernicus Masters competition to aid visionary entrepreneurs in bringing their innovations to market.

The Copernicus Masters Cup
Copyright: Anwendungszentrum GmbH

Sentinel-2A
Copyright: ESA/ATG medialab

"Start-ups and SMEs in particular stand to benefit from the virtually limitless scope of the data Copernicus provides," affirms Prof Dr Volker Liebig, Director of Earth Observation Programmes and Head of ESRIN, European Space Agency (ESA). "The ideas submitted to previous editions of the Copernicus Masters have already demonstrated this to impressive effect, as has the constantly growing number of companies that are developing products and services based on Earth observation data in ESA's business incubation programme."

These companies operate in a diverse range of fields, where they address subjects like resource efficiency in agriculture, the construction industry, and renewable energy. The Copernicus Masters, meanwhile, is also looking for new services and products in forward-thinking segments such as big data, cloud computing, crowdsourcing, data visualisation, and mobile applications, to name just a few.

In this year's edition, prizes will be awarded in topic-specific challenges sponsored by a number of world-class partners, including: ESA, the German Aerospace Center (DLR), T-Systems International GmbH, Satellite Applications Catapult Ltd., Greece's National Cadastre and Mapping Agency (NCMA), CloudEO AG, and European Space Imaging GmbH. In addition,

the new University Challenge specifically addresses students and research assistants around the world.

"We and our partners are offering the participants space for innovation in areas that are already shaping the future – the Internet of Things, Industry 4.0, smart cities, and renewable energy, for example," states AZO managing director Thorsten Rudolph. "We want to support them in realising their creative solutions to these global challenges."

"Taking part in the Copernicus Masters gave us the chance to make some key contacts and gather valuable feedback," reports John Smedegaard, a co-founder of Ceptu, which won the CloudEO Farming Challenge in 2014. "The whole process was a huge help in advancing our idea and developing it into a commercial product through our new start-up."

Experts from the realms of research and industry will be tasked with selecting the winner of each challenge. The overall winner – the 2015 Copernicus Master – will receive (along with their challenge prize) EUR 20,000 in cash and a satellite data package worth a further EUR 60,000, which is being provided with the financial support of the European Commission.

All of the winners will be announced this autumn and recognised as part of a festive awards ceremony.

For all of the details on this year's prizes, partners, and terms of participation, please visit www.copernicus-masters.com.

Additional information on the Copernicus programme is available at:
http://www.esa.int/copernicus & www.copernicus.eu

Anwendungszentrum GmbH Oberpfaffenhofen – an experienced organiser

AZO has been carrying out the Copernicus Masters competition on behalf of ESA since 2011. By leveraging its extensive experience as a specialist in building and maintaining global innovation networks and organising related competitions, the company supports product innovations and the creation of new businesses, particularly in the field of commercial aerospace applications. www.anwendungszentrum.de

European Satellite Navigation Competition 2015

in cooperation with

EUROPEAN
SATELLITE NAVIGATION
COMPETITION 2015

ESNC to Reward Ideas for a Connected World

The Internet of Things and Industry 4.0 are currently top of the list for both the digital economy and traditional industrial sectors. Indeed, localisation technology has become essential for either of these realms. In an interconnected world, constant and reliable localisation is crucial to the communications taking place among countless "things". Satellite navigation is thus also an integral component of these forward-thinking areas.

The winners in 30 categories will be award prizes in a festive Awards Ceremony in autumn 2015

Each year, the European Satellite Navigation Competition (ESNC) recognises the best products, services, and innovations that leverage satellite navigation in our daily lives.

"Satellite navigation is an essential element of modern mobility and a key technology in particular, in the age of a data-driven economy. This is exactly where the European Satellite Navigation Competition (ESNC) comes in. It provides a public platform to the creative community in order to help promising ideas turn into solutions that are commercially mature and generate added value for society " affirms Alexander Dobrindt, Germany's Federal Minister of Transport and Digital Infrastructure (BMVI)." I was delighted to once again assume the patronage of the ESNC this year and I am glad that I can now play my part in continuing its success story.

In addition to taking home prizes worth a total of EUR 1 million, this year's winners will become part of the world's leading innovation network in global satellite navigation systems (GNSS). In addition to cash prizes, winners of the 30 prize categories in the ESNC 2015 profit primarily from the assistance they receive in implementing their business models. A jury of international research and industry experts will then select the year's overall champion from among the winners of these categories, which comes with an additional EUR 20,000 and access to a six-month incubation programme in the champion's preferred region.

"Those who enter the ESNC benefit in particular from our global network, which provides them with tailored support in developing their business concepts and bringing them to market," explains Thorsten Rudolph, managing director of Anwendungszentrum GmbH Oberpfaffenhofen.

Meanwhile, ESNC entrants particularly benefit from the chance to work closely with worldclass institutional and regional partners. The competition is geared toward individuals and teams from companies, research institutes, and universities across the globe. Those interested can participate from 1 April to 30 June 2015 at www.esnc.eu. "As the Galileo satellite constellation continues to expand, efforts to promote corresponding applications will become increasingly important. This is where the ESNC is already playing a key role," points out Matthias Petschke, the European Commission's director of satellite navigation programmes. "As such, the Commission is definitely looking forward to seeing the creative and innovative GNSS-based applications submitted this year."

ESNC 2015 participants can choose from more than 20 participating regions that stand ready to help them make their business ideas a reality. They also have the option of entering their ideas for one of the special topic prizes on offer, which will increase their chances of being named the overall champion. This year's special topic prizes are being sponsored by: the European GNSS Agency (GSA), the European Space Agency (ESA), the German Aerospace Center (DLR), and the Ministry of Transport and Digital Infrastructure (BMVI) in cooperation with the German Federal Ministry for Economic Affairs and Energy (BMWi). In addition, entrants are welcome to submit prototypes to the GNSS Living Lab Challenge, while the University Challenge specifically addresses students and research assistants.

All of the information on this year's prizes, partners, and terms of participation is available at the ESNC website, www.esnc.eu.

Joint international Kick-off event for the ESNC and Copernicus Masters on 21 April 2015 at the House of Commons in London

International kickoff scheduled for 21 April at the House of Commons in London

For the very first time, the starting signal for these two leading innovation competitions in satellite navigation and Earth observation is to be sounded at a combined kickoff event. This gathering, which is scheduled to take place on 21 April from 5:00 to 8:00 p.m. at the House of Commons in London, is expected to draw high-ranking representatives from both of the networks involved, including from the European Commission, ESA, GSA, BMVI, Airbus Defence & Space, T-Systems, Innovate UK, and SA Catapult (more information on programme). Meanwhile, numerous other national kickoff events will be taking place across Europe in April and May. For more information, please visit www.calendar.esnc.eu.

Anwendungszentrum GmbH Oberpfaffenhofen – an experienced organiser

Anwendungszentrum GmbH Oberpfaffenhofen (AZO) has been organising the ESNC in close cooperation with an international network of research, industry, and regional entities since 2004. By leveraging its extensive experience as a specialist in building and maintaining global innovation networks and organising related competitions, AZO supports product innovations and the creation of new companies, particularly in the field of commercial aerospace applications. www.anwendungszentrum.de

THE FOURTH EDITION OF THE EAST-EUROPEAN COPERNICUS CONFERENCE, 1-2 OCTOBER, BUCHAREST

The Romanian Space Agency (ROSA), together with the European Space Agency (ESA), the European Commission, EURISY and the Romanian Parliament, Chamber of Deputies will organise the forth edition of the Copernicus conference dedicated to the Eastern European Copernicus users and service providers.

The event will take place under the auspices of the Romanian Ministry of Education and Scientific Research between 1-2 October 2015 in Bucharest and will be hosted by the Romanian Parliament.

More information is available at: http://rosa.ro/index.php/en/news-menu/evenimente/1013-cea-de-a-patra-editie-a-conferintei-est-europene-copernicus-1-2-octombrie-bucuresti

ROSA BRINGS THE EUROPEAN SATELLITE NAVIGATION COMPETITION TO ROMANIA

in cooperation with

EUROPEAN SATELLITE NAVIGATION **COMPETITION 2015**

Romania Challenge

Following an agreement signed with Anwendungszentrum GmbH Oberpfaffenhofen (AZO), the Romanian Space Agency (ROSA) became the regional partner of the European Satellite Navigation Competition - ESNC 2015 and this year is organising the first national edition in Romania.
The competition will award the best ideas for innovative applications in satellite navigation, offering winners the necessary support and advice to open or develop a business based on their competition ideas.

More information is available here: http://rosa.ro/index.php/en/news-menu/stiri/908-rosa-aduce-in-romania-competitia-europeana-de-radionavigatie-prin-satelit

The Future Outlook of the Islamic Republic of Iran in the horizon of the next two decades

Ministry of I.C.T

Iranian Space Agency

Considering the importance and significant role of space technology in "the Future Outlook of the Islamic Republic of Iran in the horizon of the next two decades", the Islamic Republic of Iran's Government, for the purpose of appropriate and specialized policy-making for space research and taking advantage of all existing capacities of the country, has decided to make some changes to the Iranian Space Agency's position and organizational structure. In this regard, with the aim of making this organization agile for playing the role of coherence over all space activities needed in the country, in April 2015, Iranian Space Agency was affiliated to the Ministry of Communication and Information Technology and some of its subdivisions were transferred to the relevant ministries.

Iranian Space Agency, in its new position, expects to pursue its objectives through:

1. Developing peaceful uses of space technology by designing, integrating, testing, and operating space systems as an integral part of vital infrastructures of the country;
2. Maintaining and maximum use of the GEO orbital slots;
3. Participating in implementing national, regional and international satellite projects and planning regional and international space cooperation.
4. Supporting universities, research centers and knowledge-based companies relevant to the space field in order to carry out entrepreneurial activities defined in strategic objectives.

It should be noted that, His Excellency, Professor Mohsen Bahrami, who was appointed recently as the head of the Iranian Space Agency, is also Vice-Minister of Communication and Information Technology in the new structure. He is a prominent figure with outstanding academic background in the space field.

From 29 June to 3 July - Kraków – Poland

eucass 2015

The Committee is pleased to announce the 6th European Conference for Aeronautics and Space Sciences in Krakow, Poland.

The event will be held in the newly built ICE Krakow congress from 29 June to 3 July 2015.

EUCASS, the European Conference for AeroSpace Sciences, was created by European scientists and engineers to improve the vitality of their scientific communication, the quality of their technical activities and to stimulate exchanges between researchers and industry end-users worldwide. On July 6th, 2006, it became a non-profit association under Belgian law. It is a member of the International Astronautical Federation and is hosted by the von Karman Institute for Fluid Dynamics.

http://www.eucass2015.eu/

Michael López-Alegría, former NASA astronaut, will advise the Spanish company zero2infinity in both technical and business matters.

ZERO2INFINITY

After many years of friendship, an Agreement was formalized between Michael López-Alegría and zero2infinity. The former NASA astronaut will advise the company in both technical and business matters. Michael López-Alegría is a Spanish-American astronaut who flew to space four times and performed ten spacewalks. After retiring from NASA in 2012, he became President of the Commercial Spaceflight Federation in Washington, DC. His expertise in both American and Russian space programs will be an important asset in establishing human space travel in Europe. López-Alegría will put his years of experience and extensive knowledge in the field of commercial spaceflight to the service of zero2infinity, supporting its objectives and dreams of sustainable, near-space access for scientists, passengers and payloads.

One of the main objectives of zero2infinity's project "bloon", a manned high-altitude balloon, is to give the overview effect to the people flying it. During a Google hangout organized by zero2infinity on March 5th, 2012 (https://www.youtube.com/watch?v=HYnVGVvz05o), about this emotional shift in perspective that is known as the "overview effect," Lopez-Alegria said: "The Earth is covered by the atmosphere, which is analogous to the skin of an apple, that is pretty thin. Even in a balloon flight, you'd be outside this boundary just about; you'd be able to perceive what that's like, and that just in itself, with the curvature and the blackness of the sky, will give a very strong sense of the bigger picture".

Anwendungszentrum GmbH Oberpfaffenhofen (AZO)'s business activities focus on supporting the foundation of companies and commercial applications based on aerospace technologies and infrastructures. On behalf of the European Space Agency, AZO oversees the operations of ESA BIC Bavaria, which is home to one of the most successful incubation programmes for the commercial use of aerospace technologies. Meanwhile, AZO has also developed comprehensive expertise in organising international innovation competitions through its coordination of the European Satellite Navigation Competition and Copernicus Masters (Earth observation). In addition to its participation in many projects that seek to support aerospace-related activities AZO organises international conferences and other events and conducts a series of developer workshops. www.anwendungszentrum.de

in cooperation with

EUROPEAN SATELLITE NAVIGATION **COMPETITION 2015**

The European Satellite Navigation Competition (ESNC) annually is looking for services, products, and business innovations that use satellite navigation in everyday life. This year prizes will be awarded by some of the most relevant institutional GNSS stakeholders, such as the European GNSS Agency (GSA), the European Space Agency (ESA), the German Aerospace Center (DLR), and the German Federal Ministry of Transport and Digital Infrastructure (BMVI) in association with the Federal Ministry for Economic Affairs and Energy (BMWi). In addition, more than 20 partner regions from all over the world will host regional challenges. The prize pool of the ESNC 2015 has a value of about EUR 1 million. Prizes include cash awards, business incubation, business coaching, patent consulting, technical support, access to testing facilities, prototype development, publicity, marketing support and much more. www.esnc.eu

Copernicus masters

Since 2011, the annual **Copernicus Masters** competition is awarding prizes to outstanding ideas, applications, and business concepts that utilise Earth observation data for commercial purposes and socially relevant projects. Participants can choose from various topic specific challenges, that will be awarded by an array of prominent partners. Along with cash prizes, the winners will receive technical support in realising their ideas, access to satellite data, and start-up support from a prize pool worth a total of more than EUR 300,000. Geared primarily toward start-ups and other companies, researchers, and students, the competition will require entrants to submit their applications from 15 April to 13 July 2015 at www.copernicus-masters.com.

Applications Now OPEN To Attend Space Generation Congress 2015

SGC15 Jerusalem · Israel

8 - 10 October 2015, Israel

SPACE GENERATION CONGRESS

The Global Space Congress for University Students and Young Professionals Interested in Today's Key Space Issues

SGAC is excited to announce that delegates can now apply to attend the 14th Space Generation Congress (SGC), taking place in Jerusalem, Israel from 8 – 10th October 2015 at The Bloomfield Science Museum, held in conjunction with the 66th International Astronautical Congress.

SGC is a global conference for university students and young professionals interested in today's key space issues. It is the only event of its kind to offer the next generation of space leaders the unique opportunity to network and work together on critical questions facing the international space community.

Delegates will gain exposure to perspectives on space issues

from the world's leading space organisations, including the International Astronautical Federation (IAF), the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS) and NASA. Leaders from space agencies, industry and academia within the space sector will join SGC over the three-day congress to share their passion and perspectives, as well as contribute to the Working Group discussions. Delegates will be assigned to a Working Group focusing on one of following areas: Exploration, Satellite Communication, Space Policy, and Entrepreneurship. The conclusions and recommendations from the five Working Groups will be formally collected in the form of a report, which will be shared at the United Nations, at conferences and with SGAC's partners and supporters.

In order to attend delegates must detail their experience in the space sector and their motivations for applying in their application. Special early-bird registration fees are available until 31st July, and reduced accommodation rates are available until 30th June.

Access the "How do I register" page through the SGC website to apply for this fantastic event:
http://www.spacegeneration.org/event/sgc.html

Funding Opportunities Available to Attend the Space Generation Congress (SGC) 2015 in Jerusalem, Israel

How would you like to win a trip to the Space Generation Congress (SGC) and International Astronautical Congress (IAC) in Jerusalem, Israel? SGAC is currently hosting a number of competitions and scholarships targeted to young professionals and students globally.

If you are interested in funding opportunities, please fill this form to be included on the Competitions & Scholarships Notification List:
https://docs.google.com/forms/d/1mQLqWtnMY17AgTicECCYy4TSF9IAo404ch9xlXsTCbc/viewform

We will inform you every time we have funding opportunity open and relevant to your profile.

If you have any further queries about competition or scholarships, please contact SGC 2015 Competitions and Scholarships Coordinator Michal Kunes (michal.kunes@spacegeneration.org).

Please find the list of current funding opportunities below:

Space Is Business 2015

The International Astronautical Federation's (IAF) Entrepreneurship and Investment Committee (EIC) in cooperation with the SGAC challenges young minds to think about the future, past and present of entrepreneurship and investment within the space sector and submit their views and analysis to this competition.

Rules: The competition is open for all SGAC members (students and young professionals) between 18 and 35 years old. They are asked to submit a paper with their ideas.
More information: www.spacegeneration.org/sib

Deadline: 15 June 2015

Space Solar Power 2015

The Space Solar Power Competition is being organized by SGAC in cooperation with the International Astronautical Federation's (IAF) Space Power Committee, Space Education and Outreach Committee (SEOC) and Workforce Development/ Young Professional Programme Committee (WD/YPP). The competition aims to challenge entrants to think about a new and innovative technical concept for Space Solar Power.

Rules: The competition is open for all SGAC members (students and young professionals) between 18 and 35 years old. They are asked to submit a paper with their ideas.
More information: www.spacegeneration.org/ssp

Deadline: 15 June 2015

Czech Space Competition 2015

The Czech Space Office, companies Gisat and Serenum in cooperation with SGAC are pleased to announce the Czech Space Competition 2015. Czech students are asked to prepare a paper and present it during the Czech Space Day 2015.

Rules: The competition is open for Czech students between 18 and 26 years.
More information: www.czechspace.cz/csc2015 (in Czech)

Deadline: 28 June 2015 - paper, 3 July 2015 - presentation

Innovative Earth Observation Missions 2015

OHB AG, one of Europe's prominent satellite developers, and SGAC are organizing the Innovative Earth Observation Mission Competition. This call for ideas seeks for new, advanced and disruptive ideas for missions, systems, concepts, and applications for Earth observation from space.
Rules: The competition is open for all SGAC members (students and young professionals) between 18 and 35 years old. They are

asked to submit a paper with their ideas.
More information: www.spacegeneration.org/ohb

Deadline: 1 July 2015

Bob Richards Scholarship 2015

Bob Richards, together with the Space Generation Advisory Council, would like to appreciate the talented students and young professionals who are promoting space as a means to deliver peaceful benefits to humanity.

Rules: The scholarship is open for all the SGAC members (students and young professionals) between 18 and 35 years old. They are asked to submit a one-to-two page essay and one-minute video presentation detailing their efforts to promote space for the peaceful benefit of humanity.
More information: www.spacegeneration.org/opportunities/scholarships/space-for-peace-2015

Deadline: 1 July 2015

SGAC Young Space Leaders Scholarship

A main goal of the Space Generation Congress is to provide firsthand international perspectives of today's space sector. Through the Young Space Leaders Scholarship, SGAC is providing the opportunity for top international applicants to attend the Space Generation Congress and the 66nd International Astronautical Congress. Scholarship winners must be SGAC members between the ages of 18-35. The scholarship will cover round trip travel to Jerusalem, lodging, visa costs, and the registration fees for both the Space Generation Congress and International Astronautical Congress.

The winners of the Young Space Leaders Scholarship will be tasked with the opportunity to participate as a Working Group moderator or rapporteur, and are expected to take an active role in the topic preparation.

To apply for the Young Space Leaders Scholarship, please fill out an application form for the Space Generation Congress. At the bottom of the application form, please check the box indicating that you are applying for the SGAC Young Space Leaders Scholarship.

Deadline: 31 July 2015

Submit your application including one-page letter of intent, CV with date of birth and head shot photo for the SGAC Young Space Leaders Scholarship to Michal Kunes (michal.kunes@spacegeneration.org).

Move an Asteroid 2015

The competition challenges students and young professionals worldwide to come up with original ideas relating to Near Earth Objects (NEOs).

Rules: The competition is open for all the SGAC members (students and young professionals) between 18 and 35 years old. They are asked to submit a paper with their ideas.

Deadline: 1 July, 2015

ASI Scholarship

Rules: The scholarship is open for Italian students.

DLR Scholarship

Rules: The scholarship is open for German students.

AYAA's Young Australian Space Leader Scholarship

SGAC, in conjunction with the Australian Youth Aerospace Association (AYAA), is organizing the Young Australian Space Leader Scholarship. The scholarship challenges Australian university students and young professionals who attend the AYAA's annual Aerospace Futures conference (held in Melbourne, 8-10 July) to demonstrate their potential in developing Australia's space sector over their careers.

Rules: The scholarship is open for Australian students and young professionals.

"New Ukrainian Space Generation: Lift-off to International Orbits" Scholarship

Rules: The scholarship is open for Ukrainian students.
Additional information concerning these scholarships can be found here:
http://www.spacegeneration.org/event/sgc/99-sgc/sgc-2015/1374-sgc-2015-funding-opportunities.html

http://www.spacegeneration.org/event/sgc/99-sgc/sgc-2015/1388-sgc-15-young-space-leaders-scholarship.html

ASTROSCALE To Unveil Its Active Debris Removal Solution Prototype At The Paris Air Show 2015

SINGAPORE, 8 JUNE 2015 – ASTROSCALE wi l l be showcasing its comprehensive plan to actively contribute to the safe and sustainable use of the space environment, at the Paris Air Show between 15 – 21 June 2015.

The company will present a selection of its capabilities and highlight some of its key technologies. A special focus will be made on the company's catcher satellite prototype that will be presented for the very first time to an international audience on ASTROSCALE booth, Hall 6 B36.

ADRAS, a 80kg microsatellite carrying a 20kg catcher satellite that is currently in the development phase, will be used to capture mid-to-large orbital debris and decommissioned spacecrafts.

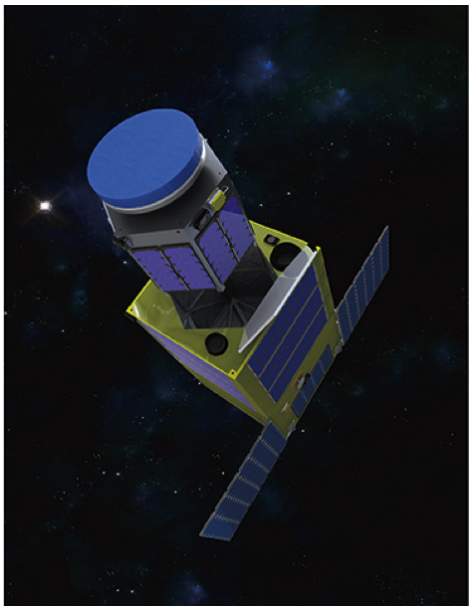
The demonstration mission, which is planned for 2017, will present the company's capability to conduct a successful non-cooperative approach, following by a debris capture and burn up during atmospheric reentry from one of the most congested area in Low Earth Orbit (LEO).

Future versions of ADRAS will provide scalable and cost-effective On-Orbit Servicing (OOS) solutions for Geostationary Earth Orbit (GEO), responding to the growing need expressed by the satellite industry.

IDEA, a 20kg microsatellite will collect key information characterizing small-size debris from 100µm or larger in LEO's most congested areas. The objective is to contribute to the global effort of cataloguing small-size orbital debris and to improve future manned and un-manned space missions' safety.

ABOUT ASTROSCALE

ASTROSCALE is a Singapore-based private space company that was founded in 2013 with the objective of developing innovative solutions against the growing number of space debris. The company's mission is to actively contribute to the sustainable use of the space environment by crafting scalable and cost effective on-orbit technologies, and to safely remove the most threatening pieces of debris. It is also incubating technologies to accurately collect essential data about small-size debris that cannot be tracked using existing technologies. With its HQ located in downtown Singapore and a brand new manufacturing facility in Tokyo, the company is actively preparing for its first capabilities demonstration planned for 2017.



WOMEN IN AEROSPACE EUROPE

DLR

INVITATION to

'WIA-Europe Breakfast at Paris Airshow 2015'

16th June 2015, 10:00 - 11:00

Le Bourget Exhibition Centre
180 Esplanade de l'Air et de l'Espace, 93350 Le Bourget

GERMAN AEROSPACE CENTER DLR

Hall 2c C357

*This WIA-Europe networking event is hosted and sponsored by the **German Aerospace Center DLR** at its booth at the Paris Airshow 2015. **Prof. Jan Wörner**, Chair of the DLR Board will address the participants. **Andrea Boese**, WIA-Europe Director of International Relations will represent the WIA-Europe President, Simonetta di Pippo.*

*Participants will also receive a brief presentation of the **Space Girls, Space Women** exhibition. Two of WIA-Europe's corporate members, the photojournalism agency **Sipa Press** and the **European Space Agency ESA**, are proud to present a series of 18 original reportages exploring the way three generations of women view space in a photographic exhibition at the Musée des Arts et Métiers and on the fence of the Jardin de l'Observatoire in Paris, from 18 June to 1 November, 2015.*

More info: http://wia-europe.org/news/space-girls-space-women/ or contact Fiorella Coliolo at fcoliolo@exoworld.net

INTERNATIONAL ASTRONAUTICAL FEDERATION

66th International Astronautical Congress – Jerusalem, Israel 12 - 16 October, 2015

CALL FOR ABSTRACTS

2015 Young Professionals Virtual Forums

Join the IAC from anywhere in the world!

If you would like to present your work at the largest astronautical congress and/or if you can't make it to the IAC venue this year, the Young Professionals Virtual Forum (YPVF) technical sessions are the answer.

With a computer & internet connection, you can present your paper at the IAC. You don't have to register for the conference and it's free to attend.

The YPVF sessions are held at IAC and are an integrated element of the IAC schedule. Therefore, if you are able to join the IAC in Jerusalem, you can also present your work in the session room directly from the congress and have your presentation broadcasted in real-time around the world!

We are currently accepting abstracts for the following YPVFs:

- **YPVF.1-B6.4 - Flight Control Operations**
- **YPVF.2-B3.9 - Human Space Flight (HSF)**
- **YPVF.3-B2.8 - Space Communications and Navigation (SCAN)**
- **YPVF.5-A6.10 - Space Debris**

To see the topic descriptions, please visit: 2015 YPVFs

Everyone is welcome regardless of your age or location. You do not have to be a young professional to participate.

To submit your abstract, please email your abstract to YPVF@iafastro.org by **5th August!**
Abstracts must be 400 words or less.

Top Management Participate (NASA Associate Administrator for Human Exploration and Operations: William H. Gerstenmaier seen above).

The IAF/IAA/IISL Advisory Committee on History Activities participates in the UNESCO World Heritage Initiative Astronomy-Space

On January 17, 2014 the UNESCO World Heritage Centre Director Kishore Rao invited IAF to participate in the UNESCO World Heritage Centre Thematic Initiative "Astronomy and World Heritage - Studies and research on technological heritage connected with space exploration" (short "UNESCO WHC Astronomy –Space Initiative"). The IAF President Prof. Higuchi accepted this invitation and forwarded the mandate to the IAF/IAA/IISL Advisory Committee on History Activities (ACHA) to represent IAF in this collaboration with UNESCO.
UNESCO's Astronomy and World Heritage Initiative exists to help identify, safeguard and promote cultural properties connected with astronomy. In 2003 UNESCO World Heritage Centre initiated a pilot activity for the identification of sites connected with astronomy, the Thematic Initiative on Astronomy and World Heritage, aimed to establish a link between Science and Culture towards recognition of the monuments and sites connected with astronomical observations. Today some 12 astronomical heritages are on the UNESCO World Heritage List, but none connected with space exploration.

In 2007, during the celebration of the 50th anniversary of the Sputnik organized by ESA/CNES, the World Heritage Centre launched a new research proposal « Odyssey of human creative genius: towards protection of space technological heritage connected with space exploration ».

At its 36th Session (St. Petersburg, 2012), the World Heritage Committee welcomed financial and technical support provided by States Parties and the International Astronomical Union for the Thematic Initiative "Astronomy and World Heritage", and also encouraged cooperation between the UNESCO World Heritage Centre, specialized agencies and relevant interdisciplinary scientific initiatives towards the elaboration of a Global Thematic Study on Heritage of Science and Technology, including studies and research on technological heritage connected with space exploration. The cooperation with "specialized agencies and relevant interdisciplinary scientific initiatives" now includes IAF and COSPAR, which met with the UNESCO WHC Astronomy – Space Initiative for the first time in August 2014 in Moscow during the 40th Scientific Assembly of COSPAR. At this meeting in Moscow the participants agreed on the main issues which should be raised in conjunction with the identification of potential technological sites connected with space exploration.

Since the decision in St. Petersburg 2012 to include the technological heritage connected with space exploration into the "UNESCO WHC Astronomy – Space Initiative" a number of nations have set up, or are organising, special groups to prepare for case studies and nominations in this particular field (e.g. Russia, Kazakhstan, Canada, USA, Germany, France, Egypt and China). As mentioned above a number of historical astronomical sites are on the World Heritage List with a large number of sites nominated for the list. When it comes to space exploration sites of historical and culture value only when case is under preparation right now, the Baikonur Cosmodrome.

It was proposed by COSPAR and IAF to organize special meetings within the framework on this topic during their respective Scientific Assemblies/ Congresses, annually alternating between IAC and COSPAR SA, in order to further progress in the implementation of this initiative. The 2015 IAC could be a platform for the next working meeting and then Astronomy-Space and World Heritage related events could take place at COSPAR Scientific Assemblies at two years intervals, starting in 2016 in Istanbul.

Clearly IAF (and also COSPAR) will have a special role in this initiative as non-governmental, international organisations without any stakeholder position to potential heritage sites.

The ACHA on behalf of IAF will serve as an independent advisor to the WHC initiative and provide reviews of and comments on Case Studies. The ACHA could take the initiative (i.e. with COSPAR) to initiate and conduct a Global Thematic Study on the Space Exploration Heritage (similar to the one for astronomy in 2006) to come up with a list of potential sites for further consideration by the UNESCO WHC Astronomy –Space Initiative and national governments. For this the ACHA would gather the expertise from the IAF, IAA and IISL historical community and from national representatives of IAF members. Such a study would have to be conducted in close cooperation with the UNESCO WHC.

Interview with Dr. Robie Samanta Roy, Vice President of Technology and Innovation, Lockheed Martin Corporation

Dr. Robie Samanta Roy is responsible for Lockheed Martin's enterprise-level technology innovation strategy, including the development and adoption of new technologies to address evolving customer challenges. Dr. Samanta Roy also works with Lockheed Martin's university program to transition research from leading research universities and serves as a liaison to government organizations critical to the formation of science and technology policy. This month, he will moderate a CTO Conversation panel during the IAF Global Innovation Conference in Munich, Germany.

1. How does Lockheed Martin see technological innovation as the key driver of global productivity?

To keep pace with evolving technology, we must focus on staying ahead of the curve and providing solutions that are adaptable for tomorrow. We are looking closely at fields like data analytics to capture, manage and analyze huge and complex data sets. Working across industry and academia, we are bringing multidisciplinary methods to an area that has the potential to transform the way businesses make decisions and deliver goods and services to customers around the globe. Advanced manufacturing is another area we see driving global productivity. With innovations in areas like additive manufacturing and advanced materials, we are tapping into the creative possibilities of the mind, encouraging our engineers to manufacture components quickly and affordably with complex design geometries that have never been possible before.

2. What kind of critical issues will you explore at the CTO Conversation during GLIC 2015?

We will be looking at innovation ecosystems and the growing need to accelerate technology from the laboratory to production. The CTO Conversation is an opportunity to bring together forward-thinking private and public sector leaders to explore new understandings of exponential and transformative innovation, cross-sector business strategies to drive new value creation for organizations and society, and public policy recommendations supportive of regional, national and international innovation ecosystems. It will take continued public-private partnerships to spur new markets and create an environment that is conducive to innovation.

3. In your experience what are the major influencing dimensions of entrepreneurship and innovation?

The evolution of crowdsourcing impacts key dimensions of entrepreneurship, and the government continues to increasingly look at open-source and commercial-off-the shelf solutions as a way to drive affordability. This is where we can elevate the role of small business and encourage the sharing of ideas and best practices that spark new solutions. Through the U.S. Government's Small Business Innovation Research program, Lockheed Martin is empowering small businesses to participate in federal research and development. We partnered with small businesses on many of the innovations being used on programs across our corporation – from the Orion Multi-Purpose Crew Vehicle to the F-35 Joint Strike Fighter.

4. Why is it important to attend such a forum for exchange of experiences in innovation management and technology transfer?

Through innovation management and technology transfer, there's limitless potential. We can connect different pieces of information and deliver insights that will address some of the toughest challenges facing of our industries – whether it is workforce development or cyber security. Not to mention, innovation and technology transfer are increasingly important in light of the continuing focus on budgets and affordability. Every day, our customers face tough choices on where to allocate resources, and we have to help drive affordability efforts in order to ensure their continued investment in future technology.