



GLOBAL SPACE EXPLORATION CONFERENCE (GLEX 2017)

6 - 8 June 2017

Beijing, China



Final Programme

www.glex2017.org



Exploring Mars

We. Create. Space.

Whether there is, or has ever been, life on Mars is yet an unsolved mystery and remains an ongoing challenge for scientists worldwide. The programme ExoMars by ESA and Roscosmos aims at providing new insight. OHB System AG is involved to a considerable extent in both ExoMars missions to the Red Planet.

The ExoMars mission 2016 includes OHB's Core Module for the Trace Gas Orbiter designed, e.g., for scientific observations in the Martian atmosphere. This module represents Germany's largest contribution to the mission and was completed by OHB experts early in 2014.

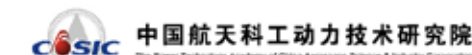
The ExoMars mission 2020 will rely on several contributions to the rover by OHB, giving the company a prominent role in finding, processing, distributing and analysing Mars samples. OHB is also realising the carrier designed to transport the descent and landing module and the rover to Mars.

Find out more about OHB - one of the leading space-system companies in Europe: www.ohb-system.de



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1 WELCOME MESSAGES

1.1 Welcome Message from the International Astronautical Federation (IAF)

Dear Delegates,

It is a great pleasure for the International Astronautical Federation (IAF) to be co-hosting this Global Space Exploration Conference (GLEX 2017) here in Beijing with the Chinese Society of Astronautics (CSA). The IAF and the CSA have a longstanding history of global cooperation. We together organized the 47th and 64th International Astronautical Congresses, in 1996 and 2013 respectively, as well as the Global Lunar Conference (GLUC) in 2010. We are also very proud to have CSA as one of our Alliance Partners.

These are exciting times for Space Exploration and we are glad to see international experts gathered here for the second Global Conference on Space Exploration, following the success of GLEX 2012 in Washington DC. A rich programme, full of Plenaries and Keynotes, Technical and GNF sessions, a dedicated SpaceUp unconference and much more await you. In addition to the main conference programme, various social events and extraordinary technical visits have been organized.

In line with its mission to encourage cooperation, promote international development and share knowledge, the IAF is committed to supporting the international relationships that enable the exploration of outer space. GLEX 2017 is designed to encourage the sharing of programmatic, technical and policy information, as well as collaborative solutions, challenges, lessons learnt, and paths forward for all nations with the desire to explore space.

We would like to thank everyone who has contributed to the development of this joint event. We sincerely hope that you will enjoy your time at the conference, and we thank you for your participation.



Jean-Yves Le Gall

President

International Astronautical Federation (IAF)



Pascale Ehrenfreund

Vice President for Communications, Publications and Global Conferences

International Astronautical Federation (IAF)

1.2 Welcome Message from the Chinese Society of Astronautics (CSA)

Dear Delegates,

The Global Space Exploration Conference (GLEX) is being held 5-9 June 2017 (including pre and post conference activities) in Beijing, China. On behalf of Chinese Society of Astronautics (CSA), we warmly welcome you to the Conference.

As the local host, CSA has coordinated the conference center and hotels to provide you with high quality meeting facilities and good accommodation conditions. As the most representative NGO of China's space community, CSA has worked with the local organizing committee (LOC) to mobilize our institutional members to organize meetings and arrange technical visits to share with and show to the world China's space achievements. At the same time, CSA has supported other countries to organize events during the conference to share their latest technical results.

GLEX 2017 consists of an opening ceremony with prominent speakers, a plenary programme with panel discussions and keynote lectures, a technical programme with sessions in several parallel technical streams, where authors have the opportunity to present their research either with oral presentations or in form of interactive posters, a Global Networking Forum programme offering interested parties the chances to focus discussions on topics of their specific concern, and an attractive social and networking programme, including technical visits, a welcome reception and a gala dinner.

With the platform of GLEX 2017, world space people will exchange ideas and build mutual trust to promote international space cooperation for a better future.

We are confident that the GLEX 2017 will be a big success with joint efforts of CSA and IAF, and with your participation.

Flowers bloom in Beijing in June. In this beautiful season, we are glad to meet with all of you at GLEX 2017!



LEI Fanpei

President

Chinese Society of Astronautics (CSA)



WANG Yiran

Vice President and Secretary General

Chinese Society of Astronautics (CSA)



1.3 Welcome Message from the IPC Co-Chairs

Dear Colleagues,

Following the very successful first Global Space Exploration Conference – GLEX 2012 in Washington five years ago, a decision has been taken to hold a follow-on event in Beijing next summer.

As Co-chairs of the International Program Committee we are excited to welcome you to the Global Space Exploration Conference - GLEX 2017 here in Beijing, China. A full and dynamic program has been prepared for you. GLEX 2017 is bringing together key Space Exploration stakeholders from around the world. Senior representatives of space agencies, captains of industry and leading academic researchers will all join us here to exchange information and to discuss collaboration in humanity's space exploration activities.

Space exploration programs around the world have evolved dramatically since the first GLEX five years ago and are presented with both challenges and exciting opportunities. Budgets need to be managed carefully at the same time as new technologies are making incredible discoveries possible. New commercial approaches to space exploration are redefining what is achievable, and the interest in exploration is growing in both space professionals and the general public. We encourage you to use GLEX 2017 as a platform to further peaceful international collaboration in space exploration for the benefit of all mankind.

Once again, it is our pleasure to welcome you to GLEX 2017 in the wonderful city of Beijing. We look forward to meeting all the delegates and together to turn space exploration dreams into reality!



Christian Sallaberger

*President & CEO, Canadensys Aerospace Corporation,
Chairman of the IAF Space Exploration Committee*

GLEX 2017 IPC Co-Chair



Li Ming

*Vice President,
China Academy of Space Technology (CASC)*

GLEX 2017 IPC Co-Chair

2 ORGANISER INFORMATION

2.1 The International Astronautical Federation (IAF)

Founded in 1951, the International Astronautical Federation is the world's leading space advocacy body with more than 320 members on six continents, including all leading agencies, space companies, societies, associations and institutes worldwide.

Following its theme "A space-faring world cooperating for the benefit of humanity" and its motto "**Connecting @II Space People**", the Federation advances knowledge about space and fosters the development and application of space assets by advancing global cooperation.

As the organiser of the annual International Astronautical Congress (IAC), and other meetings on specific space-related topics, the IAF actively encourages the development of astronautics for peaceful purposes and supports the dissemination of scientific and technical information related to space.

International Astronautical Federation (IAF)

3 rue Mario Nikis
75015 Paris
France

Phone: +33 1 45 67 42 60
Fax: +33 1 42 73 21 20

Email: info@iafastro.org
Website: www.iafastro.org



2.2 Chinese Society of Astronautics (CSA)

Chinese Society of Astronautics (CSA) was founded in 1979 and registered in Beijing, China. It is a non-government and non-profit academic organization. CSA has 179 institutional members, 39 technical committees and 23,451 individual members.

The main tasks of CSA include:

- to organize national or international meetings, symposium, forum, conferences to promote exchange and cooperation in space field.
- to conduct space policy research and provide consulting services for decision-making organizations.
- to carry out space popularization activities to enhance public's scientific awareness.
- to edit, publish and distribute *Journal of Astronautics* and *Space Exploration Magazine* in Chinese and *Journal of Advances In Aerospace Science and Technology* in English and other books and conference proceedings.
- to award space professionals and technicians.
- to offer the training and continuing education to space professionals and technicians.

CSA plays an active role in accelerating the development of space science and technology for the purpose of peaceful usage of outer space for the benefits of mankind.

Chinese Society of Astronautics (CSA)

No. 8, Fucheng Road, Haidian District, P.O. Box 838
100830 Beijing, China

Phone: +86 10-68768625
Fax: +86 10-68768624

Website: <http://www.csaspace.org.cn/>





3 INTERNATIONAL PROGRAMME COMMITTEE

3.1 International Programme Committee Co-Chairs



LI Ming

Vice President
China Academy of Space
Technology (CASC)



Christian Sallaberger

President & CEO
Canadensys Aerospace Corporation
Chairman
IAF Space Exploration Committee

3.2 International Programme Committee Members

Khaled Al Hashmi

UAE Space Agency, UAE

Pierre W. Bousquet

Centre National d'Etudes Spatiales
(CNES), France

CHEN Jie

Shanghai Academy of Spaceflight
Technology, China

Christian Feichtinger

International Astronautical Federation
(IAF), France

Bernard Foing

European Space Agency (ESA),
The Netherlands

Kevin Foley

The Boeing Company, USA

Nadeem Ghafoor

Canadensys Aerospace Corporation,
Canada

Mariella Graziano

GMV Aerospace & Defence SAU, Spain

Bernhard Hufenbach

European Space Agency (ESA) and
ISECG Outgoing Chair, The Netherlands

Gilbert Kirkham

National Aeronautics and Space
Administration (NASA), USA

David Korsmeyer

National Aeronautics and Space
Administration (NASA), USA

Sergey Krikalev

ROSCOSMOS, Russian Federation

Kathy Laurini

National Aeronautics and Space
Administration (NASA), USA

Gilles Leclerc

Canadian Space Agency (CSA), Canada

LI Shouping

Institute of Space Law, Beijing Institute
of Technology, China

LI Yinghui

China Astronaut Research and Training
Center, China

Sandy Magnus

American Institute of Aeronautics and
Astronautics (AIAA), USA

**Francisco Javier Mendieta
Jimenez**

Mexican Space Agency (AEM), Mexico

Fritz Merkle

OHB System AG, Germany

Carlo Mirra

AIRBUS Defence and Space, Germany

Masazumi Miyake

Japan Aerospace Exploration Agency
(JAXA), Japan

PENG Jing

Beijing Institute of Spacecraft System
Engineering, China

Maria Antonietta Perino

Thales Alenia Space Italia, Italy

Nicolas Peter

COSPAR/PEX, Germany

PING Jinsong

National Astronomical Observatories,
(CAS), China

Cheryl Reed

The Johns Hopkins University Applied
Physics Laboratory, USA

Naoki Sato

Japan Aerospace Exploration Agency
(JAXA), Japan

SHEN Lin

China Academy of Launch Vehicle
Technology (CALT), China

Igor Sorokin

S.P. Korolev Rocket and Space
Corporation Energia, Russian
Federation

Stephan Ulamec

German Aerospace Center (DLR),
Germany

Chris Welch

International Space University (ISU),
France

Pete Worden

Breakthrough Starshot, USA

XIE Yongchun

Beijing Institute of Control Engineering,
China

YANG Hong

China Academy of Space Technology
(CAST), China

4 ORGANISERS

4.1 GLEX 2017 Co-Chairs



LEI Fanpei

President
Chinese Society of
Astronautics (CSA)
Chairman
China Aerospace Science
and Technology
Corporation (CASC)



Jean-Yves Le Gall

President
International Astronautical
Federation (IAF)
President
Centre National d'Etudes
Spatiales (CNES)

4.2 Local Organising Committee

Chair



YANG Baohua

Vice President
China Aerospace
Science and Technology
Corporation (CASC)

Vice Chairs



LIU Shiquan

Vice President
China Aerospace Science
& Industry Corporation
(CASIC)



TIAN Yulong

Secretary General
China National Space
Administration (CNSA)



YU Dengyun

Vice President
International Astronautical
Federation (IAF)
Vice Director
Scientific and
Technologica Committee,
CASC

Members



DAI Shoulun

President
Shanghai Academy of
Spaceflight Technology,
CASC



DENG Ningfeng

Director
China Center for
Aerospace Science and
Technology International
Communications



DING Xuchang

President
The Kinetic Technology
Academy, CASIC



GUO Yong

President
The Vehicle Technology
Academy, CASIC



LI Feng

President
China Academy of
Aerospace Aerodynamics,
CASC



LI Guoping

Director General
Department of Systems
Engineering, CNSA



LI Hong
President
China Academy
of Launch Vehicle
Technology, CASC



LIU Jizhong
Director
Lunar Exploration and
Space Engineering
Center, CNSA



LIU Meixuan
President
China Academy of
Aerospace Electronics
Technology, CASC



LIU Zhirang
President
Academy of Aerospace
Propulsion Technology,
CASC



TIAN Weiping
President
Academy of Aerospace
Solid Propulsion
Technology, CASC



WANG Yiran
*Vice President and
Secretary General*
Chinese Society of
Astronautics (CSA)



XI Quansheng
President
Academy of Information
Technology, CASIC



XUE Huifeng
President
China Aerospace
Academy of Systems
Science and Engineering,
CASC



ZHANG Hongtai
President
China Academy of Space
Technology, CASC



ZHANG Hongwen
President
Winged Vehicle Research
Academy, CASIC



ZHANG Zhaoyong
President
Guizhou Aerospace
Technology Academy,
CASIC



ZHANG Zhongyang
President
Defense Technology
Academy, CASIC



ZHUO Chao
President
Sichuan Academy of
Aerospace Technology,
CASC

4.3 GLEX 2017 Secretaries General



Christian Feichtinger
Executive Director
International
Astronautical Federation
(IAF)



WANG Yiran
*Vice President and
Secretary General*
Chinese Society of
Astronautics (CSA)

4.4 GLEX 2017 Deputy Secretaries General



FU Min
Deputy Secretary General
Chinese Society of
Astronautics (CSA)
Deputy Director
General Office, CASC



GUO Jianping
Deputy Secretary General
Chinese Society of
Astronautics (CSA)
Deputy Director General
International Cooperation
Department, CASC



ZHOU Shunhua
Deputy Secretary General
Chinese Society of
Astronautics (CSA)
Director General
Space Engineering
Department, CASIC



5 PRACTICAL INFORMATION

5.1 Conference Venue and Transportation

Beijing International Convention Center

Location: No.8 Beichen Dong Road, Chaoyang District, Beijing P. R. China 100101

GLEX 2017 will take place in Beijing International Convention Center (BICC) situated in the flourishing Yayuncun area, close to the Olympic Village. This is a 5 star corporation that has over 20 meeting rooms and exhibition area of 3000m2 with direct connection to the Beijing North Star Continental Grand Hotel. It is located about 9 km from the city center and 20 km away from the airport.



Transportation from the Airport

1. Taxis

It is suggested to take a taxi from the Airport Taxi Station. A taxi from Beijing International Airport (BCIA) to Beijing International Convention Centre (BICC) is approximately RMB 100 (about \$ 16 USD) and takes about 30 minutes. We recommend that you print out the words and map below and give them to the taxi driver, so your destination is clear.

2. Airport Shuttle Bus

You can take Airport Shuttle Line 5 to BICC.

Airport Shuttle Line 5:

Beijing Capital International Airport - Zhongguancun



Route:

T3 -- T2 -- T1 -- Xiaoying -- **Asian Games Village (Anhui Bridge)** -- Xueyuan Bridge -- Zongguancun (Four Bridge)

Fare:

RMB 16 /person (single trip)

Ticket offices for shuttle bus at BCIA:

Terminal 1 (T1): Gate No. 7 (inside) on F1
Terminal 2 (T2): Gate No. 9 to No. 11 (outside) on F1
Terminal 3 (T3): Exit of Zone A, opposite of the exit of Zone C on F2; next to Gate 5, 7 & 11 on F1

Operation time of shuttle bus:

The first at 06:30. The second at 07:00, 07:00 - 24:00 every 20 minutes.

Please get off at the stop of **Asian Games Village (Anhui Bridge)** and either take a taxi or walk around 760 meters to get to BICC



A: The Stop of Asian Games Village (Anhui Bridge) 亚运村 (安慧桥)
B: Beijing International Convention Center (北京国际会议中心)
C: Beijing Continental Grand Hotel (五洲大酒店)
D: Crowne Plaza Hotel Park View Wuzhou (五洲皇冠大酒店)

3. Airport Express

Station Locations:

Terminal 2: B2 of Parking Garage No. 2
Terminal 3: F3 of Parking Garage No. 3

Fare: Single trip: RMB 25 /per person

Interval: 12 minutes

If you plan to take the airport express to BICC

- Please get off at the stop of **Sanyuanqiao**
- Then you can either take a taxi to BICC or change to Subway Line 10 heading to Bagou and get off at the stop of Beitucheng
- Then you can take a taxi to BICC, or change to Subway Line 8 and get off at the stop of Olympic Sports Centre, then exit from gate B2.
- And then you can either take a taxi or walk to BICC (around 850 meters)



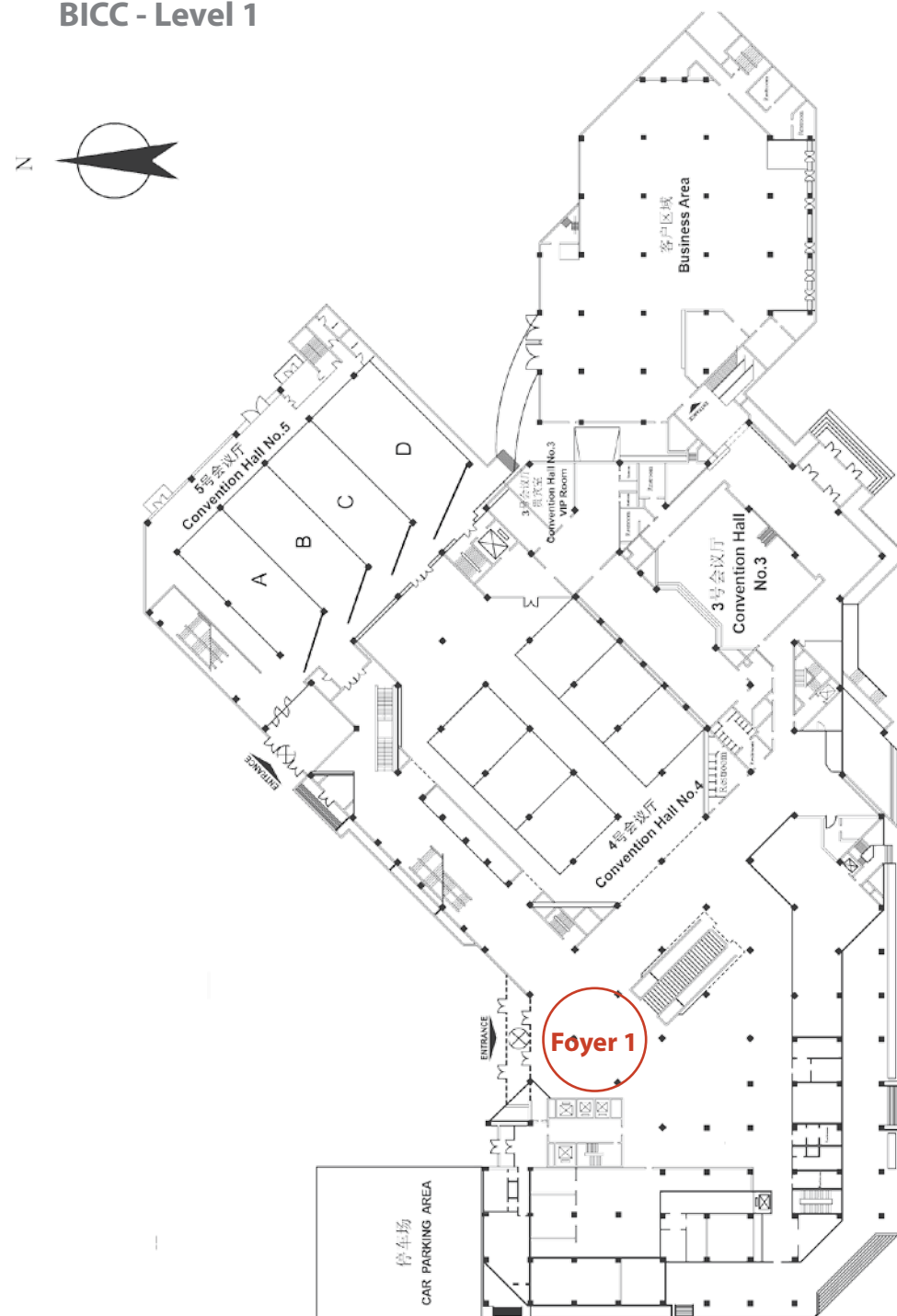
A: The stop of Olympic Sports Center (奥体中心)
B: Beijing International Convention Center (BICC)

Beijing Subway Map may help you take the airport express, which can be seen here: <http://jtcx.beijing.cn/upload/jtcx-bjdtfw-2013-1-5.jpg>

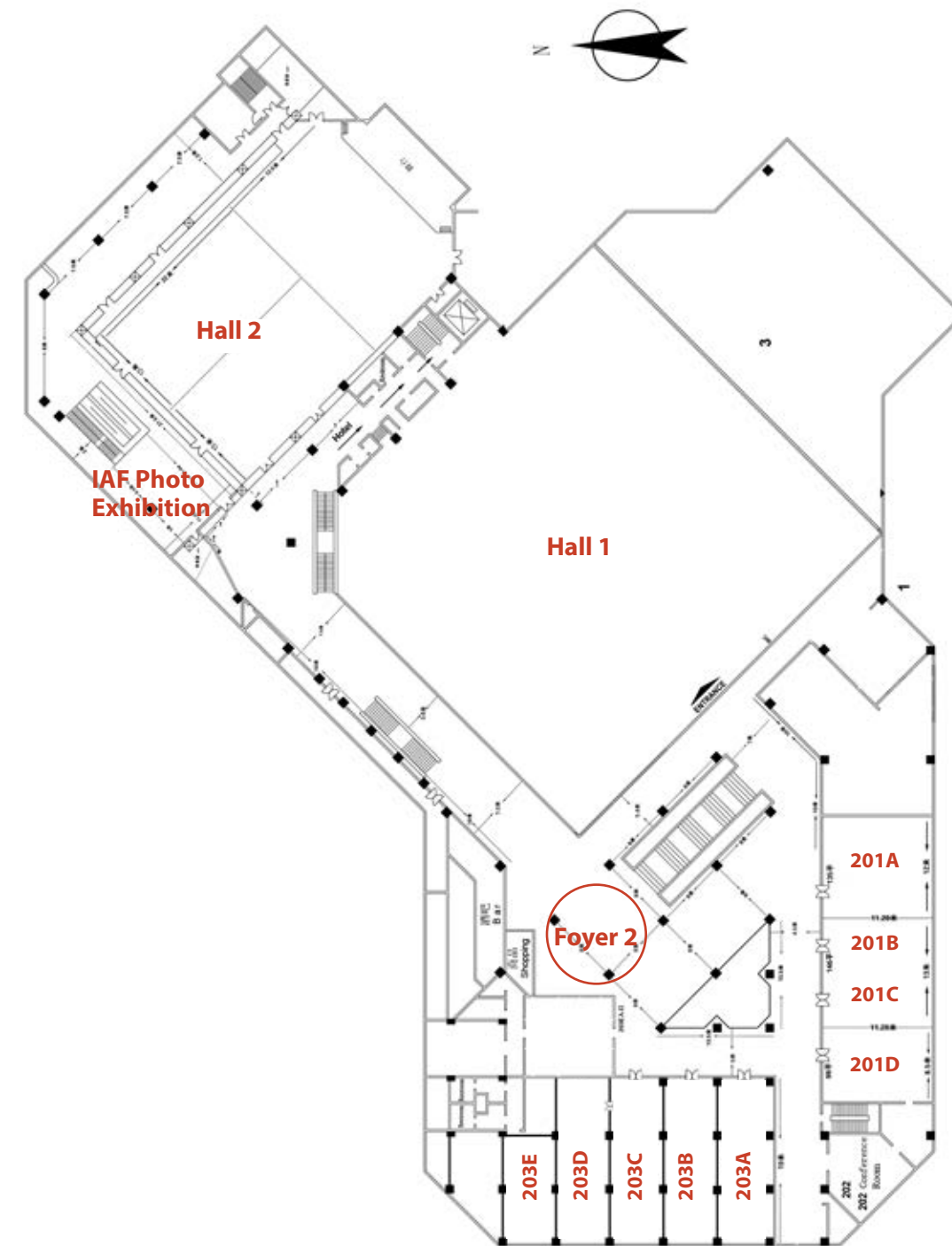
For more information about airport traffic, please visit <http://en.bcia.com.cn/traffic/>

5.2 Floor Plans

BICC - Level 1

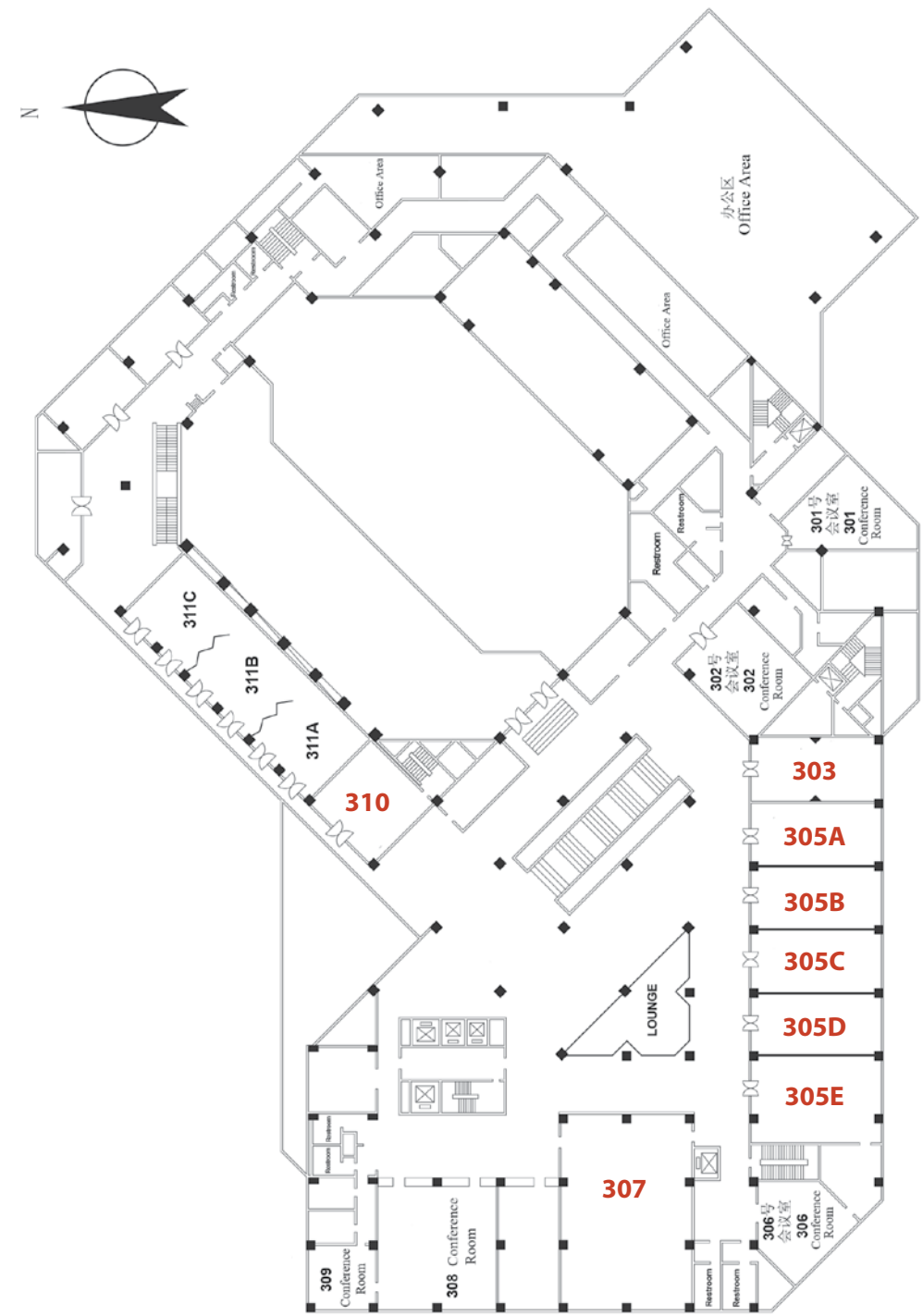


BICC - Level 2



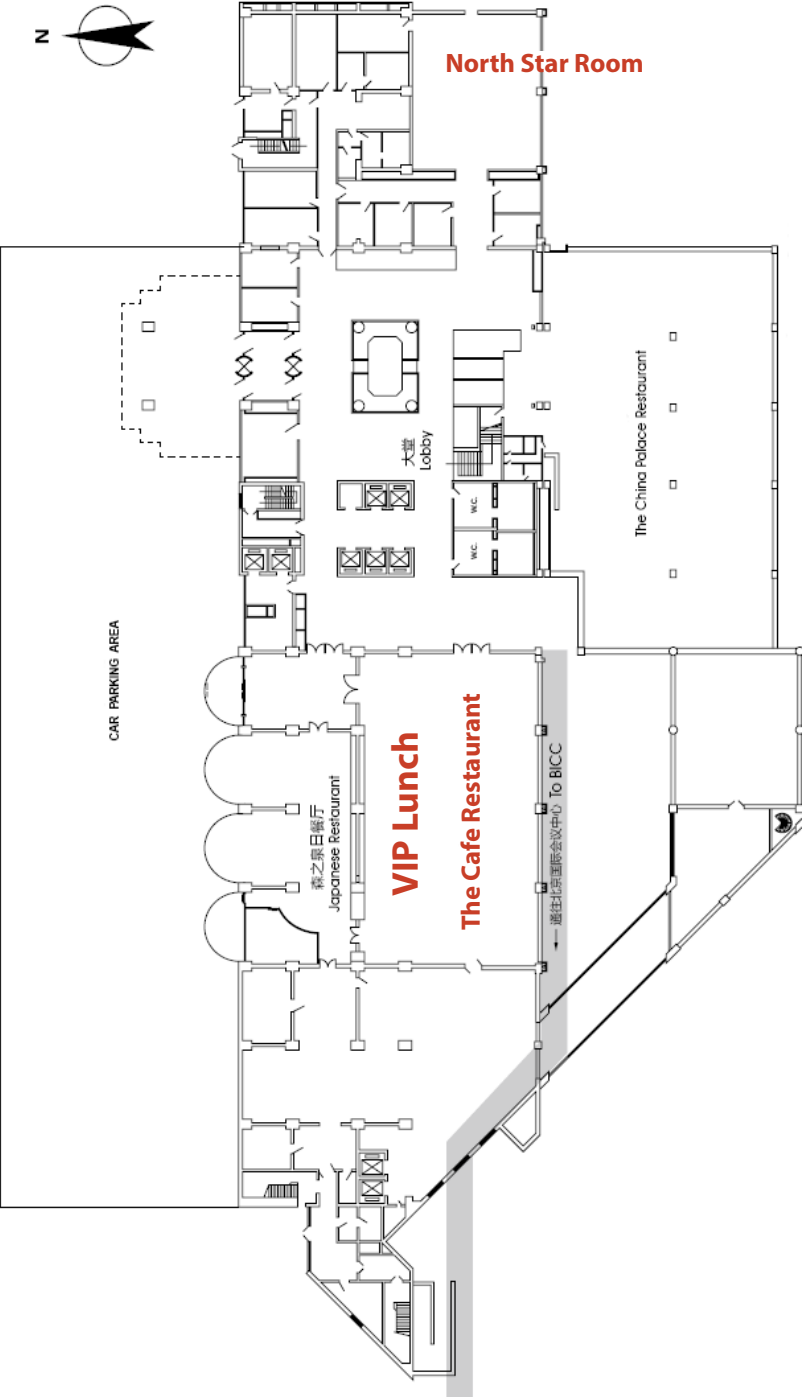


BICC - Level 3



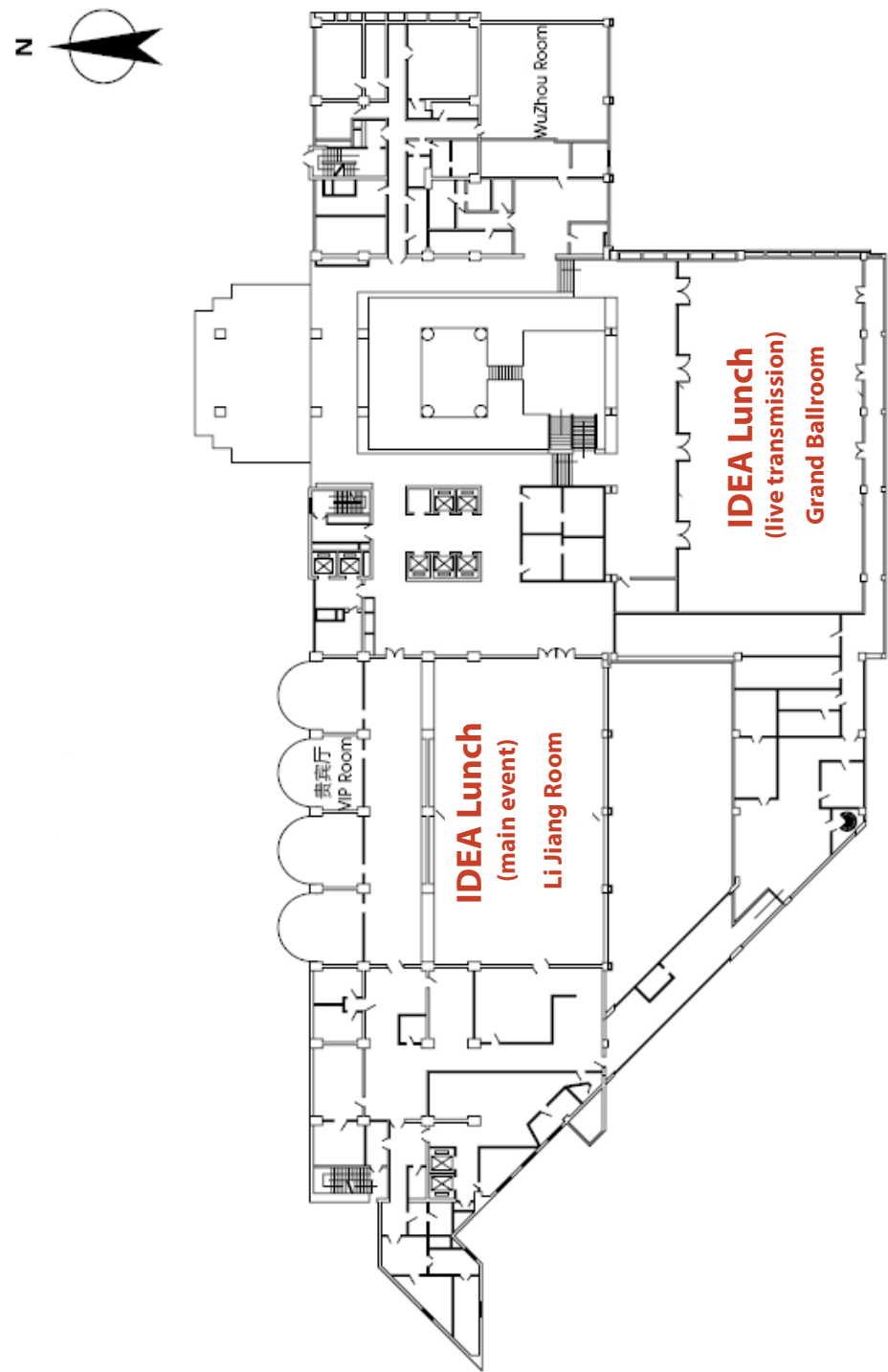
Beijing Continental Grand Hotel

Hotel - Level 1





Hotel - Level 2



5.3 Locations and Opening Hours

Registration

Location: Foyer 1, 1st Floor, Beijing International Convention Center

Monday 5 June, 13:00 - 17:00

Tuesday 6 June, 08:00 – 18:00

Wednesday 7 June, 08:00 – 18:00

Thursday 8 June, 08:00 – 13:00

On-Site Registration (From 03 June 2017)	RMB
Full-Paying Participants (Others)	3750¥
Full-Paying Members (IAF & CSA Members)	3225¥
Retired	2250¥
Young Professionals	2250¥
Full-Time Students	750¥
Media	Free
SpaceUp Only	188¥
Accompanying Person (Maximum 1 per Full-paying, Retired or Young Professional participants)	375¥

Registration payment on site can only be done in cash in Yuan (no credit cards accepted)

IAF Secretariat Office

Location: Room 303, 3rd Floor, Beijing International Convention Center

Monday 5 June – Thursday 8 June, 08:00 – 18:00

LOC Secretariat Office

Location: Room 203 E, 2nd Floor, Beijing International Convention Center

Monday 5 June – Thursday 8 June, 08:00 – 18:00

Catering

5 June 2017

SpaceUp Reception: 18:00-19:30 North Star Room, 1st Floor, Beijing Continental Grand Hotel

6 June 2017

IDEA 3G Diversity Luncheon: 13:30-15:00 Li Jiang Room (Main event) and Grand Ballroom (Live transmission), 2nd Floor, Beijing Continental Grand Hotel

Cafe Restaurant (Live transmission) 1st Floor, Beijing Continental Grand Hotel

Welcome Reception: 19:15-21:15 Hall 1, 2nd Floor, Beijing International Convention Center

7 June 2017

Delegates Lunch: 13:00-14:30 Grand Ballroom; 2nd Floor, Beijing Continental Grand Hotel

VIP Luncheon (upon invitation only): 13:00-14:30 Cafe Restaurant, 1st Floor, Beijing Continental Grand Hotel

Gala Dinner (Tickets available at registration): 20:00-21:30 Grand Mansion (Beijing) Restaurant

8 June 2017

Poster Presentations Lunch: 13:00-14:30, Foyer 2, 2nd Floor, Beijing International Convention Center



5.4 Useful information

Climate

June is one of the best months to visit Beijing. The average maximum temperature is 30° in the day time, and the average minimum temperature is 19° at night. The average precipitation is 74 mm.

Payment

Credit cards: Credit and debit cards can be used in ATMs (which are widespread) displaying the appropriate sign. Credits cards can also be used in most supermarkets, department stores, hotels and restaurants. When you withdraw money from an ATM, the amounts are converted and dispensed in local currency. Bank service charges might be required.

Currency

China's official currency is the Chinese RenMinBi or RMB for short. The basic unit is Yuan, which equals 10 Jiao, which is then divided into 10 Fen. Coin denominations are 1, 5 Jiao and 1 Yuan; the banknotes are 1, 5, 10, 20, 50, 100 Yuan. Currency can be exchanged at airport and most of local banks.

Apple Pay: Apple Pay can be used in some supermarkets, department stores and cafes.

Electricity

Most electrical outlets in China work on 220V/50Hz. Local outlets accept two flat plugs and three-pronged plugs. Foreign appliances may require an adapter that can be bought at supermarkets.

Time

Beijing is seven hours ahead of Greenwich Mean Time (GMT).

Health

Hospitals and pharmacies are available near the conference site. Hospitals near Beijing International Conference Center (BICC) include:

Anzhen Hospital, 0086-010-64412431

The 306th Hospital of PLA, 0086-010-66356729

Peking University Third Hospital, 0086-010-82266699

China-Japan Friendship Hospital, 0086-010-84205288

Telephone and Internet

The country code of China is +86. Free wired and wireless network will be provided at BICC.

Shops, Museums

Shops: Most department stores and supermarkets in Beijing have continuous opening hours and are generally open from 09:30 to 21:00 or 21:30 Monday to Sunday. Some supermarkets remain 24 hours open.

Museums: Most of scenic spots in Beijing such as museums, galleries and archaeological sites sell tickets from 08:00 till 16:00. Some are open much earlier like The Temple of Heaven, Beihai Park. Museums normally close on Monday.



6 CONFERENCE PROGRAMME

6.1 Conference at a Glance

	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	
Monday 5 June								ILOA Galaxy Forum : Astronomy from the Moon and International Human Moon Missions							
	Registration														
										IPC Meeting					
	SpaceUp										SpaceUp Reception				
Tuesday 6 June	Registration	Opening Ceremony	PE1 Heads of Agencies	Technical Session - Track1-1/2		IDEA Luncheon	PE2 The Development and Prospect of China's Space Activities	KL 1 ESA's Vision for The International Cooperation on The Moon	Networking Tea Break	Technical Session - Track1-2/2		Welcome Reception			
				Technical Session - Track 11-1/2						Technical Session - Track 11-2/2					
				Technical Session - Track 13-1/2						Technical Session - Track 13-2/2					
				Technical Session - Track 4-1/1						Technical Session - Track 3-1/5					
				Technical Session - Track 2-1/2						Technical Session - Track 2-2/2					
	Welcome Tea	GNF Technology Validations of Deep Space Exploration in the Space Station (CAST)	GNF Development Strategies of Deep Space Exploration in China before 2030 (CNSA)	GNF Global Partnership in Space Exploration and Innovation (UNOOSA/CNSA)		GNF ILOA Galaxy Forum Results									
Wednesday 7 June	Registration	KL 2 Recent Developments in LMC's Human Space Exploration Programs	PE 3 Fostering International Cooperation for Space Exploration – The Importance of The ISECG	Networking Tea Break	Technical Session - Track 12-1/1		Lunch Break	PE 4 The Role of African Space Nations in Global Space Exploration	KL 3 China's Chang'e- 5 Lunar Probe and China's Deep Space Exploration Mission	Networking Tea Break	KL 4 Cycling Pathways to Mars	Technical Session - Track 8-1/3		Transportation	Gala Dinner
					Technical Session - Track 5-1/1							Technical Session - Track 6-1/1			
					Technical Session - Track 3-2/5							Technical Session - Track 3-3/5			
					Technical Session - Track 7-1/2							Technical Session - Track 7-2/2			
	Welcome Tea	GNF Exploration and Space Economy: the new paradigm of forefront developments (ASI)		GNF Low Cost Access to Space (CALT)		GNF Convenient and Cheap Spatial Data Acquisition and Service Technology Communication and Display (CASIC)									
	Thursday 8 June	Registration	KL 5 - At the Crossroad of Space Exploration: the Thales Alenia Space Contributions	KL 6 Space Launch Vehicle's Development in China	KL 7 The Fabulous Journey of Interplanetary Exploration at Airbus	Networking Tea Break	Technical Session - Track 8-2/3		Poster Presentations & Lunch	KL 8 Prospect of China's Deep Space Exploration	KL 9 Open Experimental Resources of Serve Payloads for International Cooperation	Networking Tea Break	Technical Session - Track 8-3/3		Global Networking Forum (GNF) Sessions TBD
Technical Session - Track 9-1/2							Technical Session - Track 9-2/2								
Technical Session - Track 3-4/5							Technical Session - Track 3-5/5								
Technical Session - Track 10-1/1															
Welcome Tea		GNF Development and Prospects of China Small Satellite (DFH Sat)		GNF LEO - "Trending New Orbit"? (DLR)											
Friday 9 June		Technical Site Visits													



6.2 Technical Programme at a Glance

TUESDAY 6 JUNE												
Room	Floor	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	
201 D	2nd			Track 1 - (part 1)						Track 1 - (part 2)		
203 A	2nd			Track 11 - (part 1)						Track 11 - (part 2)		
203 B	2nd			Track 13 - (part 1)						Track 13 - (part 2)		
203 C	2nd			Track 4						Track 3 - (part 1)		
203 D	2nd			Track 2 - (part 1)						Track 2 - (part 2)		

WEDNESDAY 7 JUNE												
Room	Floor	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	
203 A	2nd			Track 12						Track 8 - (part 1)		
203 B	2nd			Track 5						Track 6		
203 C	2nd			Track 3 - (part 2)						Track 3 - (part 3)		
203 D	2nd			Track 7 - (part 1)						Track 7 - (part 2)		

THURSDAY 8 JUNE												
Room	Floor	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	
203 A	2nd			Track 8 - (part 2)					Track 8 - (part 3)			
203 B	2nd			Track 9 - (part 1)					Track 9 - (part 2)			
203 C	2nd			Track 3 - (part 4)					Track 3 - (part 5)			
203 D	2nd			Track 10								
Foyer	2nd					Poster Presentations Lunch						

Track 1 - Scientific Objective and Infrastructure of Space Exploration

Track 2 - Space Laboratory, Space Station and Space Exploration

Track 3 - Lunar Exploration

Track 4 - Exploration of Near Earth Asteroids

Track 5 - Mars Exploration

Track 6 - Exploration of Other Destination

Track 7 - Entering into Space and New Energy and Propulsion Technology

Track 8 - Key Technology of Space Exploration

Track 9 - Challenges of Life Support - Medical Support for Manned Space Exploration

Track 10 - Values and New Models for Space Exploration

Track 11 - Law Issues and Public Awareness Related to Space Exploration

Track 12 - International Cooperation for Space Exploration

Track 13 - Small Satellites

6.3 Day-by-day

Monday, 5 June - Pre-conference Day

13:00 – 17:00 Registration

Location: Foyer 1, 1st Floor, Beijing International Convention Center

14:00 – 17:00 ILOA Galaxy Forum, Astronomy from the Moon and International Human Moon Missions

Location: Room 305 B, C, D & E, 3rd Floor, Beijing International Convention Center

Organiser: International Lunar Observatory Association (ILOA)



Featured speakers include Andy Aldrin representing Buzz Aldrin's Sharespace Foundation, Steve Durst of International Lunar Observatory Association, Wang Jing of the Lunar Ultra-Violet Telescope program at National Astronomical Observatories of China, Gilles Leclerc, Director General at Canadian Space Agency (or representative) and Dr. Guo Linli of the Institute of Manned Space System Engineering at China Academy of Space Technology, among others.

The International Lunar Observatory effort to establish an observatory on the surface of the Moon is being conducted with support from spacecraft provider Moon Express of Cape Canaveral Florida, USA, and primary instrument contractor Canadensys Aerospace of Ontario, Canada, as well as National Astronomical Observatories of China, India Space Research Organization, the newly formed Southeast Asia Principal Operating Partnership, and others.

ILOA sponsors Galaxy Forums around the world to advance Galaxy 21st Century science, education, enterprise in every class. There have been 75 Galaxy Forums, with over 300 presentations, held in 26 locations worldwide including: Hawaii, Silicon Valley, Canada, China, India, Southeast Asia, Japan, Europe, Africa, Chile, Brazil, Kansas and New York. Partner organizations in each of these locations are being engaged to provide Scientific and Educational endorsements to enable fundraising for the mission.

14:00 – 18:00 SpaceUP GLEX 2017

Location: Room 307, 3rd Floor, Beijing International Convention Center



1. What is a SpaceUp?

A SpaceUp is a space-related ‘unconference’ in which the delegates themselves decide what is presented and talked about. Before the SpaceUp, a basic framework is decided on by the organisers. On the day of the SpaceUp, the participants arrive and propose talks, discussions and activities they think will be of interest and which will stimulate interaction and debate. SpaceUps usually feature intense use of social media and are frequently video-streamed live. SpaceUps are intended to be real-time, collaborative, engaging and innovative.

2. What is SpaceUp GLEX?

SpaceUp GLEX is a SpaceUp being organised by the IAF the day before GLEX. Potential IAF supporters include the IAF Space Education and Outreach Committee (SEOC), the IAF Workforce Development/Young Professionals Programme Committee (WD/YPP) and the Space Generation Advisory Council (SGAC). The outcomes of SpaceUp GLEX will be reported to the main conference to inform the delegates there.

Who should attend SpaceUp GLEX?

- Students and young professionals who are not GLEX delegates but who are interested/active in space exploration.
- GLEX delegates who want to take part in a dynamic and interactive activity.

It is expected that the IAF will issue certificates of attendance for all SpaceUp GLEX participants.

Sponsored by:



17:00 – 18:00 IPC General Meeting (upon invitation only)

Location: Room 310, 3rd Floor, Beijing International Convention Center

18:00 – 19:30 SpaceUp Reception

Location: North Star Room, 1st Floor, Beijing Continental Grand Hotel

Tuesday, 6 June

08:00 – 18:00 Registration

Location: Foyer 1, 1st Floor, Beijing International Convention Center

08:00 – 09:00 Welcome Tea

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

09:10 – 10:00 Opening Ceremony

Location: Hall 2, 2nd Floor, Beijing International Convention Center

The GLEX 2017 Opening Ceremony sees the participation of both Chinese and worldwide space leaders.

Lei Fanpei, the President of the Chinese Society of Astronautics and Jean-Yves Le Gall, the President of the International Astronautical Federation, will welcome all delegates on behalf of the two co-organising organisations, CSA and IAF. This will be followed with a speech by a prominent representative of the Chinese government addressing the audience. The Opening Ceremony also comprises some entertaining videos and sees the presence of Chinese Astronauts.

Speakers:



Jean-Yves Le Gall

President
International Astronautical
Federation (IAF)



LEI Fanpei

President
Chinese Society of Astronautics (CSA)
Chairman
China Aerospace Science and Technology
Corporation (CASC)



10:00 – 11:30 PLENARY 1: Heads of Agencies – HoA

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Speakers:



Moderator:
Christian Sallaberger
President & CEO
Canadensys Aerospace Corporation
Chairman
IAF Space Exploration Committee



Roberto Battiston
President
Italian Space Agency (ASI)



Pascale Ehrenfreund
Chair of the Executive Board
German Aerospace Center (DLR)



Yasuyuki Ito
Associate Director General
Japan Aerospace Exploration Agency (JAXA)



Sergey Krikalev
Executive Director for Piloted Spaceflights
ROSCOSMOS



Christian Lange
Deputy Director, Space Exploration Strategic Planning
Canadian Space Agency (CSA)



Jean-Yves Le Gall
President
Centre National D'Études Spatiales (CNES)



Valanathan Munsami
Chief Executive Officer
South African National Space Agency (SANSA)



Jan Woerner
Director General
European Space Agency (ESA)



WU Yanhua
Vice Administrator
China National Space Administration (CNSA)

11:30 – 13:30 Technical Sessions

No.	Description	Room
1.1	Scientific Objective and Infrastructure of Space Exploration	201 D
11.1	Law Issues and Public Awareness Related to Space Exploration	203 A
13.1	Small Satellites	203 B
2.1	Space Laboratory, Space Station and Space Exploration	203 D
4.1	Exploration of Near Earth Asteroids	203 C

11:30 – 12:30 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Research on Technology Validations of Deep Space Exploration in the Space Station

This panel mainly discusses how to use the LEO Space Station for key technology validation of deep space exploration . This presentation will focus on:

- Key technology validation requirements and technology selection methods;
- The feasibility of deep space technology validation in LEO space station, such as make sure the orbital altitude, attitude and environmental of space station is fit to testing new material;
- How to evaluate existing test projects in space station, such as mixed reality teleoperation robot project technology, and deep space radiation protection technology, and so on.

Organiser: China Academy of Space Technology (CAST)

Speaker:



GUO Linli
Director,
Institute of Manned Space System Engineering,
Manned Interplanetary Exploration Research Department
China Academy of Space Technology (CAST)

12:30 – 13:30 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Development Strategies and Scientific Objectives of Deep Space Exploration in China before 2030

In 2016, at the 60th anniversary of the establishment of China's space industry, CNSA has organized in-depth demonstration for deep space exploration and other major issues. The development strategies of China's space exploration in the next 20 years have also been established.

The demonstration circumstances for scientific objectives of China's Deep Space Exploration will be introduced in the global network forum, including the demonstration details for first Mars exploration mission being implemented, the Mars sample returning mission, asteroid exploration mission, the Jovian system mission and the subsequent Lunar exploration mission before 2030.

Organiser: Lunar Exploration and Space Program Center, National Astronomical Observatories, Chinese Academy of Sciences



Speakers:



Moderator:
Chan Kwing Lam
Director
Space Science Institute
Director
Lunar and Planetary
Science Laboratory,
MACAU University of
Science and Technology



Moderator:
Gerhard Schwehm
European Space Agency
(ESA), retired



LI Chunlai
Deputy Director
National Astronomical
Observatories, Chinese
Academy of Sciences
Deputy Chief Designer
of China's first Mars
exploration mission

13:30 – 15:00 IDEA 3G Diversity Luncheon

Location, Main event: Li Jiang Room, 2nd Floor, Beijing Continental Grand Hotel

Location, Live Transmission: Grand Ballroom, 2nd Floor, Beijing Continental Grand Hotel

Location, Live Transmission: Cafe Restaurant, 1st Floor, Beijing Continental Grand Hotel



One of the key objectives of IAF President Dr. Jean-Yves Le Gall's IAF Global Innovation Agenda 2016 – 2019 is the fostering of the principle of 3G (Geography – Generation – Gender) Diversity within the Federation and the space sector. To that end, an **International Platform for Diversity and Equality in Astronautics (IDEA)** has been created which allows the Federation to take a leading role in the effort to promote and advance diversity and equality principles amongst a global space community, become an exemplary organisation in terms of geographical, generational, gender and any other diversity aspects, and live up to its motto **Connecting @ll Space People**.

Following several very successful IAF IDEA "3G" Diversity events held during the past months, the IAF in close cooperation with the **Chinese Society of Astronautics (CSA)**, an IAF member and Alliance Partner, will hold an **IDEA 3G Diversity Luncheon** during the Global Space Exploration Conference GLEX 2017 in Beijing.



Jean-Yves Le Gall
President
International Astronautical
Federation (IAF)



YANG Baohua
Vice President
China Aerospace
Science and Technology
Corporation (CASC)

All GLEX 2017 delegates, including Chinese and international students, young professionals, engineers, scientists, space leaders and VIPs are invited to participate. The Luncheon will be moderated by **Dr. Jean-Yves Le Gall**, IAF President. Highlights of the event will be a Keynote by **Mr. YANG Baohua**, Chair of Local Organizing Committee, Vice President of Chinese Society of Astronautics and Vice President of China Aerospace Science and Technology Corporation on **"The 3G Contribution of China's Space Development"**, and remarks by

Speakers:



Roberto Battiston
President
Italian Space Agency (ASI)



Pascale Ehrenfreund
Chair of the Executive
Board
German Aerospace
Center (DLR)



Sergey Krikalev
Executive Director for
Piloted Spaceflights
ROSCOSMOS



Valanathan Munsami
Chief Executive Officer
South African National
Space Agency (SANSA)



Randall E. Sweet
Director of Strategy and
Business Development for
Civil Space
Lockheed Martin Space
Systems Company



Jan Woerner
Director General
European Space Agency
(ESA)



YANG Liwei
Deputy Director General
China Manned Space
Agency

IAF's first IDEA 3G Diversity video will be presented to the audience for the first time. Plenty of networking time and the opportunity to exchange with top-level space leaders will make this event an excellent opportunity to bring IAF's mission of **Connecting @ll Space People** to life.

15:00 – 16:15 HOST PLENARY 2: The Development and Prospect of China's Space Activities

Location: Hall 2, 2nd Floor, Beijing International Convention Center

China's space industry has developed rapidly and the space activities have played an increasingly important role in China's economic and social development. This plenary will introduce China's developments in major space programs, including manned spaceflight, lunar exploration, the Beidou Navigation System, high-resolution earth observation system, and achievements in space science and applications, and address areas for international cooperation. Before the plenary, China National Space Administration will launch the ceremony of Chang'e 4 lunar program international partnership establishment.

Speakers:



Moderator:
Steven Eisenhart
Senior Vice President
Space Foundation



LIU Jizhong
Director, China Lunar
Exploration and Space
Engineering Center
China National Space
Administration (CNSA)



LIU Shiquan
Vice President
China Aerospace Science &
Industry Corporation



WU Ji
Director General
National Space Center,
China Academy of
Sciences



WU Yansheng
President
China Aerospace
Science and Technology
Corporation (CASC)



YANG Liwei
Deputy Director General
China Manned Space
Agency

16:15 – 16:45 KEYNOTE 1: ESA’s Vision for the International Cooperation on the Moon

Location: Hall 2, 2nd Floor, Beijing International Convention Center

International cooperation means sharing views, joining forces, taking stock of complementarity and diversity, building on each other’s interests, strengths and capabilities.

The Moon is open to any and all interested parties and nations. All disciplines are concerned: from robotic to astronauts activities, from science to applications, from looking in to looking out at our Universe.

From a scientific perspective, the Moon is truly fascinating. Be it as the natural archive of Earth’s early history or be it as a viewing platform using its far side to stare deep into the Universe without any interference from human made signals. From a technological perspective, it offers a test bed for new methods and new technologies, such as additive manufacturing, that could potentially make use of locally available resources. The concept of a Moon Village should be a source of fascination and inspiration, an opportunity to awaken renewed interest in STEM subjects, with benefits being felt well beyond the world of space. International cooperation bring interested parties together seeking for coordination and exploitation of potential synergies.

Speaker:



Jan Woerner
Director General
European Space Agency
(ESA)

16:45 – 17:15 Networking Tea Break

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

17:15 – 19:15 Technical Sessions

No.	Description	Room
1.2	Scientific Objective and Infrastructure of Space Exploration	201 D
11.2	Law Issues and Public Awareness Related to Space Exploration	203 A
13.2	Small Satellites	203 B

2.2	Space Laboratory, Space Station and Space Exploration	203 D
3.1A	Lunar Mission updates	203 C
3.1B	Lunar Policy	203 C

17:15 – 18:45 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Global Partnership in Space Exploration and Innovation

This panel will be unique in that it will shine a light on a vision for a truly inclusive and global vision for exploration and innovation.

This panel discussion will bring together the Co-Chairs of the newly formed Action Team on Exploration and Innovation, the Director of the United Nations Office for Outer Space Affairs and the GLEX participants to discuss the work being undertaken on exploration and innovation in the context of the United Nations, namely in connection with the Committee on the Peaceful Uses of Outer space and in the lead up to UNISPACE+50.

It is foreseen that the panel will discuss the preparations for and the significance of UNISPACE+50, include the UNISPACE+50 roadmap, which is aimed at defining concrete deliverables of space for the development of nations under the following four pillars:

- Space Economy: Space for the development of the economy
- Space Society: Evolution of society and societal benefits stemming from space-related activities
- Space Accessibility: Strengthening of national space infrastructures and capacity-building
- Space Diplomacy: Building partnerships and strengthening international cooperation in space activities

The panel will also address the Action Team’s main goals, which are to:

- Raise awareness of and further advance space exploration and innovation, as essential drivers for opening up new domains in space science and technology;
- Trigger new partnerships and models of partnership;
- Consider a shared vision for space exploration, including non-governmental participation that is synergistic with that of existing international space exploration fora.
- Foster a dialogue between governmental and non-governmental entities engaged in space exploration;
- Promote cooperation, which allows space exploration activities to become open and inclusive on the global scale;
- Promote capacity-building, in connection with space exploration and innovation, in particular for developing countries and emerging space faring nations; and
- Promote the engagement of youth in science, technology, engineering and mathematics within the context of space exploration and innovation, while recognizing the benefits of such engagement extend far beyond the topic of space exploration and innovation.

Each of the Action Team Co-Chairs will also bring their unique national perspective to the topic.

Organiser: United Nations Office for Outer Space Affairs (UNOOSA)
China National Space Administration (CNSA)



Speakers:



Moderator:
XU Yansong

Director, International Cooperation Division
China National Space Administration (CNSA)



Simonetta Di Pippo

Director
The United Nations Office for Outer Space Affairs (UNOOSA)



Kenneth Hodgkins

Director, Office of Space and Advanced Technology
US Department of State



JIANG Hui

Director, International Cooperation Division
China National Space Administration (CNSA)



Awni Khasawneh

Director General
The Royal Jordanian Geographic Center



TIAN Yulong

Secretary General
China National Space Administration (CNSA)

18:45 – 19:15 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center

ILOA Galaxy Forum China 2017 - Results

Recap and Summary of the ILOA Galaxy Forum China 2017 on the themes "Astronomy from the Moon and International Human Moon Missions".

The main program takes place 14:00-17:00 on Monday 5 June at the Beijing International Convention Center. For full details please see p. 25

Organiser: International Lunar Observatory Association (ILOA)

Speaker:



Steve Durst

Director and Founder
International Lunar Observatory Association



19:15 – 21:15 Welcome Reception

Location: Hall 1, 2nd Floor, Beijing International Convention Center

Wednesday, 7 June

08:00 – 18:00 Registration

Location: Foyer 1, 1st Floor, Beijing International Convention Center

08:00 – 09:00 Welcome Tea

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

09:00 – 09:30 KEYNOTE 2: Recent Developments in Lockheed Martin's Human Space Exploration Programme

Location: Hall 2, 2nd Floor, Beijing International Convention Center

2017 is shaping up to be a pivotal year for human spaceflight efforts. SLS and Orion are producing hardware and getting ready for Exploration Mission 1 (EM-1). The Commercial Crew program may have its first test flights. NASA is studying designs for the next step in deep space exploration, the lunar orbiting space portal. But perhaps even more importantly, the new U.S. administration and new NASA administrator will be making decisions determining the future human spaceflight architectures in low earth orbit and in deep space. This keynote address will summarize the current efforts at Lockheed Martin on the different human spaceflight programs. It will include the latest status on the EM-1 mission, which is in full assembly and test. If results are available from the study to add crew to EM-1 or the Orion backup to ISS study, those will be presented. Progress for the first planned crewed mission for Orion, Exploration Mission 2 (EM-2) will be detailed. The current plans for the production phase of Orion, including the possibility of a 50% cost reduction for Orion, will be described. Lockheed Martin is also one of the organizations providing a cubesat for launch on EM-1. Sky Fire will demonstrate deep space cubesat operation and take scientific data as it flies by the moon. In addition to operational programs, Lockheed Martin is also studying future concepts for the exploration of the moon and Mars. Lockheed Martin is participating in NASA's NextSTEP program for cislunar orbital habitation concepts, and will be performing work as part of a phase II study contract. This public-private partnership study also includes internal research and development funding. Lockheed Martin's architecture for the orbital vehicle will be described, showing how it affordably provides NASA capability to meet exploration proving ground objectives. Progress on the development and research tasks will be provided. Progress on the Mars Base Camp concepts for human Mars exploration will also be described, including new innovative concepts for a reusable descent and ascent vehicle to enable short missions to the surface on follow-on missions to the initial orbital missions.

Speakers:



Robert Chambers

Program Strategy Lead for Orion Production
Lockheed Martin Space Systems Company



Danielle Richey

Advanced Programs Exploration Architect
Lockheed Martin Space Systems Company



09:30 – 10:30 **PLENARY 3: Fostering International Cooperation for Space Exploration – The Importance of The International Space Exploration Coordination Group (ISECG)**

Location: Hall 2, 2nd Floor, Beijing International Convention Center

15 Space Agencies (ASI, CNES, CNSA, CSA, CSIRO, DLR, ESA, ISRO, JAXA, KARI, NASA, NSAU, Roscosmos, UAESA, UKSA) are active participants in the International Space Exploration Coordination Group (ISECG), an inter-agency coordination forum to advance the implementation of individual and collective space exploration. The ISECG was formed in 2007 in response to the Global Exploration Strategy (GES). ISECG is best known for the development and maintenance of the Global Exploration Roadmap (GER). This roadmap describes a common view of participating agencies for advancing, in a step-wise manner, the implementation of the GES. The GER is used today as a reference document for international space exploration, providing common goals and objectives, information on plans for the near-term mission scenarios and the status of human exploration preparatory activities of ISECG participating agencies. The GER provides an important source of information for industry, academia and research institutions and has been taken note of at political level, including at the meetings of the International Space Exploration Forum (ISEF) which was last held in January 2014 upon the invitation of the US government. The plenary session will highlight past ISECG achievements and current activities and provide perspectives in fostering global cooperation for space exploration among participating ISECG space agencies. It will be structured in three parts:

- Introduction to the work of ISECG, recalling the publication of the GES, the establishment and scope of ISECG and its impacts after 10 years of operations.
- Introduction to the GER, including an outlook on its 3rd iteration to be published before end 2017.
- Panel discussion on themes to be reflected in the next GER, including on visions, enablers and barriers for future multi-lateral cooperation, and the role of private sector.

Speakers:



Lionel Baize
Space Exploration Manager
Centre National d'Etudes
Spatiales (CNES)



Silvia Ciccarelli
Italian Delegate to the
Human Spaceflight,
Microgravity and
Exploration ESA
Programme Board
Italian Space Agency (ASI)



Bernhard Hufenbach
Head of The ESA
Strategic Planning and
Outreach Office For Space
Exploration
European Space Agency
(ESA)



Sergey Krikalev
Executive Director for
Piloted Spaceflights
ROSCOSMOS



Christian Lange
Deputy
Exploration Strategic
Planning, Space
Exploration, Canadian
Space Agency (CSA)



Kathy Laurini
Senior Advisor for
Exploration and Space
Operations
National Aeronautics and
Space Administration
(NASA)



Naoki Sato
Manager, Human
Spaceflight Technology
Directorate
Japan Aerospace
Exploration Agency (JAXA)



XU Yansong
Director, International
Cooperation Division
China National Space
Administration (CNSA)

10:30 – 11:00 **Networking Tea Break**

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

11:00 – 13:00 **Technical Sessions**

No	Description	Room
12.1	International Cooperation for Space Exploration	203 A
3.2A	Lunar Missions planned	203 C
5.1	Mars Exploration	203 B
7.1	Entering into Space and New Energy and Propulsion Technology	203 D

11:00 – 13:00 **Global Networking Forum**

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Exploration and Space Economy: the New Paradigm of Forefront Developments

Space Exploration provides a fundamental contribution to crucial open questions, but it is also strictly connected to upstream activities, that are the core of space competencies, innovation and forefront developments.

The Space sector is now facing internal and external pressures (Mazzucato, Robinson, 2016), among which budgetary limits, new forms of innovation external to the space sector (spin-in), broad industrial transformations creating more interconnected industries, as well as greater needs from the demand side, often captured through societal grand challenges.

So far the activities in Space Exploration have been focused on habitation modules on the terrestrial orbit, while the challenge is to extend the effort towards deep space.

The Space Economy identifies the downstream sector as a key element to maximize the socio-economic impacts of space investments. To this purpose the effort should be oriented towards the full exploitation of the potentialities of the infrastructural assets. The Space Industry, including SMEs, should be among the most important candidates for this role and their activity will have a leverage effect for the development of new and more advanced space infrastructures, thus stimulating new technology solutions proposed by Large System Integrators.



A new approach between public and private should be investigated to explore new forms of strategic coordination in defining challenges, risks, costs and opportunities with the final objective to incorporate approaches that facilitate the market creation.

Organiser: Italian Space Agency (ASI)

Speakers:



Moderator:
Maria Cristina Falvella
Head of Strategies and Industrial Policy
Italian Space Agency (ASI)



Roberto Battiston
President
Italian Space Agency (ASI)



Pascale Ehrenfreund
Chair of the Executive Board
German Aerospace Center (DLR)



Bernhard Hufenbach
Head of The Esa Strategic Planning and Outreach Office For Space Exploration
European Space Agency (ESA)



Yasuyuki Ito
Associate Director General
Japan Aerospace Exploration Agency (JAXA)



Sergey Krikalev
Executive Director for Piloted Spaceflights
ROSCOSMOS



Jean-Yves Le Gall
President
Centre National D'Études Spatiales (CNES)



TIAN Yulong
Secretary General
China National Space Administration (CNSA)

around socio-economic benefits/challenges and development. As these African space nations advance, they draw experience and enthusiasm from the space faring nations, proving that international cooperation is key in advancing any space programme. The difference between space programmes of emerging space nations and those of space faring nations is evident in the maturity of their programmes and the progressive discussions on space exploration projects and the implementation thereof. Space exploration projects are capital-intensive! Heads of African Space Agencies shall share their views on the relevance of space exploration in a nation that is challenged with socio-economic ills. They shall share their space exploration plans and what they perceive their role to be in the broader scheme of things. The panel discussions will also highlight the following:

- The meaning of space exploration to an African space nation
- The socio-economic benefits of space exploration to an African space nation
- The value of African space nations in global space exploration

Speakers:



Moderator:
Asanda Sangoni
Space & Stakeholder Liaison Specialist
South African National Space Agency (SANSA)



Mohammed Bekhti
Head of the research department in space instrumentation
Algerian Space Agency



John Njoroge Kimani
Chief Executive Officer
Kenya National Space Secretariat



Seidu Onalo Mohammed
Director General / Chief Executive
Nigeria National Space and Development Agency (NASRDA)



Valanathan Munsami
CEO
South African National Space Agency (SANSA)



Mahama Ouedraogo
Acting Head: Human Resources, Science and Technology
African Union Commission

13:00 – 14:30 Lunch Break

Delegates Lunch

Location: Grand Ballroom, 2nd Floor, Beijing Continental Grand Hotel

VIP Luncheon (Upon Invitation only)

Location: Cafe Restaurant, 1st Floor, Beijing Continental Grand Hotel

14:30 – 15:30 PLENARY 4: The Role of African Space Nations in Global Space Exploration

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Winning the battle of convincing their governments to invest in space technology and applications has been a great achievement for African space nations. The governments of these space authorities continue to fund space programmes dependant on the support the programmes provide to government activities, more so to activities

15:30 – 16:00 KEYNOTE 3: The Engineering Plan of China's Lunar Exploration Program Phase III and Its Technological Progresses

Location: Hall 2, 2nd Floor, Beijing International Convention Center

This keynote lecture will focus on Chang'e-5 lunar probe. China will fulfill the three strategic steps of "orbiting, landing and returning" for the lunar exploration project by launching the Chang'e-5 lunar probe by the end of 2017 and realizing regional soft landing, sampling and return. Through the lunar exploration project, topographic and geological surveys will be implemented and laboratory research conducted on lunar samples; geological survey and research as well as low-frequency radio astronomy observation and research will be carried out targeting the landing area on the far side of the moon for a better understanding of the formation and evolution of the moon.



Speakers:



Moderator:
YU Dengyun
Vice President
International Astronautical
Federation (IAF)
Vice Director, Scientific and
Technological Committee
China Aerospace
Science and Technology
Corporation (CASC)



SUN Weigang
Chief Engineer
China Aerospace
Science and Technology
Corporation (CASC)

16:00 – 16:30 Networking Tea Break

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

16:30 – 17:00 KEYNOTE 4: Cycling Pathways to Mars

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Dr. Buzz Aldrin secured his place in history as a member of the Apollo 11 crew when he became one of the first two men to walk on the moon along with Neil Armstrong. Since retiring from NASA, Dr. Aldrin has remained a tireless advocate for space exploration, pushing boundaries through new technologies and using his orbital dynamics expertise planning Cycling Pathways to Mars.

Cycling Pathways to Mars is a space transportation system using gravity assist to swing between the Earth and the Moon and the Earth to Mars on continuous cycling orbits. Dr. Aldrin has a comprehensive plan to get people to Mars by 2039 to stay with a permanent human settlement.

Speaker:



Moderator:
Jean-Yves Le Gall
President
International Astronautical
Federation (IAF)



Buzz Aldrin
Astronaut, Gemini 12 &
Apollo 11
Buzz Aldrin Institute at
Florida Tech

17:00 – 19:00 Technical Sessions

No	Description	Room
13.2	Small Satellites	203 B
3.2B	Lunar Technologies	203 C
6.1	Exploration of Other Destination	203 B
7.2	Entering into Space and New Energy and Propulsion Technology	203 D
8.1	Key Technology of Space Exploration	203 A

17:00 – 18:00 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Low-Cost Access to Space

With the development of human society and economy, and aerospace technology and industry, the requirement access to space becomes larger and larger. Especially, micro and small satellites begin blowout in these years. How to meet this kind requirement of large scale access to space and how to launch thousands payloads with low cost are a tough problem we are facing.

Over the next 10 year period there is a dramatic increasing demand in the global commercial satellite launch market. The low cost access to space has also become a hot topic in recent years. Therefore, since the start of the 21st century, especially in the recent 5 years, the main space countries and companies have gradually adopted a low cost future development approach, making great efforts in system concept optimization and special technology (particularly reusable technology) development. Compared with the mainstream rockets in the world, new rockets like the Falcon 9, Vulcan and Ariane 6 have a reduced launch cost.

This even will focus this problem. And the corresponding technologies and strategy will be discussed.

Organiser: China Academy of Launch Vehicle Technology (CALT)

Speakers:



Moderator:
WANG Quoqing
Vice President
China Academy of Launch
Vehicle Technology
(CALT)



SHEN Lin
Deputy Chief Researcher
China Academy of Launch
Vehicle Technology
(CALT)



SONG Zhengyu
Deputy Chief Designer
China Academy of Launch
Vehicle Technology (CALT)



WANG Xiaojun
Chief Designer
China Academy of Launch
Vehicle Technology
(CALT)

18:00 – 19:00 Global Networking Forum

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Convenient and Cheap Spatial Data Acquisition and Service Technology Communication and Display

With the development of human society and economy, a lot of satellites are launched into the aerospace. Sending satellites is the means, data application is the purpose. So how to acquire and use the data effectively is extremely important. Independent intellectual property right softwares of TITAN integrates storage, working station and



data processing software and aims at providing a low cost and convenient image processing platform for industry users in the big data era.

With its high performance, easy to operate, low cost, expansibility, rapid deployment and other advantages, this product improves image processing ability of users in survey, agriculture, forestry, water conservancy, environment protection and other industries and reduces investment costs, deals with challenges of big data effectively and promotes business breakthrough and transformation. In a word, this event mainly introduce efficient and fast UAV acquisition system and 3D mapping system of satellite data link.

Organiser: Beijing Aerospace TITAN Technology Co., LTD - China Aerospace Science & Industry Corp (CASIC)

Speakers:



Moderator:
LI Yinong
Technical Support Engineer,
Beijing Aerospace TITAN
Technology Co. LTD.
China Aerospace Science &
Industry Corp



NI Jinsheng
General Manager,
Beijing Aerospace TITAN
Technology Co. LTD.,
Director, Global Aerospace
Data Integration Center
China Aerospace Science
& Industry Corp Vehicle
Technology

19:30 – 23:00 Gala Dinner

Location: Grand Mansion (Beijing) Restaurant

The Gala Dinner will take place at the Grand Mansion (Beijing) Restaurant and the transportation will depart from BICC, main entrance at 19:30.

Tickets can be bought on site in the registration area for a price of 600 Yuan in cash. (no credit cards accepted)



Thursday, 8 June

08:00 – 13:00 Registration

Location: Foyer 1, 1st Floor, Beijing International Convention Center

08:00 – 09:00 Welcome Tea

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

09:00 – 09:30 KEYNOTE 5: At the Crossroad of Space Exploration: the Thales Alenia Space Contributions

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center

Building upon a solid international cooperation experience in the field of robotic exploration and human spaceflights, Thales Alenia Space is involved in significant activities and programs meant to generate the needed new-generation systems and technologies that will enable the next steps in exploration. This keynote will present an overview of the major on-going and future developments and will show how they fit within the global challenge of space exploration

Speaker:



Roberto Provera
Director,
New Initiatives & Customer
Solutions Development
Thales Alenia Space

09:30 – 10:00 KEYNOTE 6: Space Launch Vehicle's Development in China

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Space transportation system is the foundation of developing space technology and ensuring the space activities, the carrier of large-scale development and utilization of space resources, as well as the important impetus to the development of national economy. China space transportation system started in 1960s and has made remarkable achievements with 50 years development. Currently, China space transportation system features with Long March (LM) series launch vehicles and Yuanzheng (YZ) series upper stages, including China's new generation launch vehicles: LM-5 and LM-7. The future heavy launch vehicle and reusable launch vehicle (RLV) are under development to further enhance the capability and lower the cost to access space. China has a long history of international cooperation in space exploration. China has been willing to carry out international cooperation, to develop space technology and share the fruits with the world.



Speakers:



Moderator:
SHEN Lin
Deputy Chief Researcher,
R&D Center
China Academy of Launch
Vehicle Technology
(CALT)



LU Yu
Director of Science and
Technology Committee
China Academy of Launch
Vehicle Technology
(CALT)

10:00 – 10:30 **KEYNOTE 7: The Fabulous Journey of Interplanetary Exploration at Airbus**

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Airbus Defence & Space has been extremely active over the last decade on developing unique robotic exploration missions which travel to every “corner” of the solar system, from the Sun itself to Mercury, Venus, Mars, Jupiter and the famous comet Churyumov-Gerisiamenko encountered by Rosetta and on which Philae landed, in a world premiere. This keynote will present an overview of the major interplanetary exploration missions developed by Airbus, from those already flown (Rosetta, Mars Express, Venus Express) to those in development: JUICE exploring the Jupiter Icy Moons Callisto, Ganymede and Europa, Bepi-Colombo travelling to Mercury, Solar Orbiter, ExoMars Rover. The technical and programmatic challenges of each mission, the characteristics of the spacecraft and the key technologies employed will be described for all these different satellites.

Speaker:



Didier Moranc ais
Head of Sales – Science &
Exploration
Airbus Defence & Space

10:30 – 11:00 **Networking Tea Break**

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

11:00 – 13:00 **Technical Sessions**

No	Description	Room
10.1	Values and New Models for Space Exploration	203 D
3.3	Lunar Concepts	203 C
8.2	Key Technology of Space Exploration	203 A
9.1	Challenges of Life Support - Medical Support for Manned Space Exploration	203 B

11:00 – 12:30 **Global Networking Forum**

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Development and Prospects of China Small Satellite

This GNF consists of 5 different presentation, Start with a general introduction on Gaojing-1 satellite, which is the first commercial satellite of DFH, the whole GNF will refer to the Chinese commercial satellite operation presented by China Siwei of CASC, and the Micro-nano satellites development in China will also be mentioned, besides, CGWIC will share their ideas on Hongyan-Satellite constellation as the only legal satellite exporter. Finally, there will be an outline on Chinese national future satellite plan of GF series and national Space infrastructure.

Organisers: DFH Satellite Co., Ltd and De-Sat

Speakers:



Moderator:
ZHANG Xiaomin
Vice President
DFH Satellite Co.,Ltd



BAI Zhaoguang
Director of Science and
Technology Council
DFH Satellite Co.,Ltd



JIA Mu
Vice President
China Great Wall Industry
Corporation



SHI Sihan
Manager of Product
Assurance
DFH Satellite Co.,Ltd



XU Liping
CEO
Beijing Space View
Technology Co.,Ltd.

12:30 – 13:00 **Global Networking Forum**

Location: Room 305 B,C,D & E, 3rd Floor, Beijing International Convention Center



Low-Earth Orbit (LEO) - The “Trending New Orbit” for the Future of Manned Spaceflight?

Considering recent developments and paradigm shifts within the space sector, with intensified participation from the private sector, and with financial feasibility in particular focus, the question of whether the Low Earth Orbit (LEO) is becoming the clear object of intensified space activities moving into the future, is posed. The presentation will consequently seek to address this question through identification and discussion of the trends within government organisations, as well as the private space sector, which has been expanding in recent years.

Using the ISS as a baseline example, the talk will also present the space strategy of the German Government, and will discuss views on ISS follow-on activities foreseen for the future.



Organiser: German Aerospace Center (DLR)

Speaker:



Andreas Rittweger
*Head of the Institute of
Space Systems
German Aerospace
Center (DLR)*

13:00 – 14:30 Poster Presentations Lunch

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

All the Poster presentations will be presented during this dedicated event alongside a Lunch reception. Almost 100 posters are expected to be presented. Besides discovering the posters this is a great opportunity to network, ask questions and to discuss directly with the authors.

This event is open to all delegates and we look forward for your presence.

14:30 – 15:00 KEYNOTE 8: Prospect of China's Deep Space Exploration

Location: Hall 2, 2nd Floor, Beijing International Convention Center

Briefly introduce China deep space future goals, principles, capacity, implementation plans, mission plans, and important scientific issues. This presentation focuses on engineering and technology problems which have to be overcome by China, as well as perspectives on China's deep space exploration mission design and engineering technology development.

Speakers:



Moderator:
ZHANG Xiamin
*Deputy General Manager
DFH Satellite Co. LTD*



ZHANG Rongquiao
*Chief Engineer,
Lunar Exploration and
Space Engineering Center
China National Space
Administration (CNSA)*

15:00 – 15:30 KEYNOTE 9: The Open Experimental Resources of Serve Payloads for International Cooperation Onboard Space Station

Location: Hall 2, 2nd Floor, Beijing International Convention Center

The China Manned Space Engineering Office, on behalf of Chinese government, has made a strategic framework with United Nations Office for Outer Space Affairs to offer opportunities on the application of Chinese Space Station to members of United Nations. In this framework, China will open the experimental resources on Chinese Space Station to serve payloads for international cooperation. The members of United Nations, especially developing countries, could conduct scientific and technical experiment on Chinese Space Station. Moreover, China will help astronauts and payload specialists from developing countries to enter into space. In this background, we introduce the open experimental resource to serve payloads on Chinese Space Station and propose the possible technical approach to develop international cooperation. It will help us to know what can be utilized to preform experiment on Chinese Space Station and make a good fundament for international cooperation.

Speakers:



Moderator:
YANG Hong
*Chief Designer of Chinese
Space Station
China Academy of Space
Technology (CAST)*



WEI Chuanfeng
*Deputy Chief Director
of Tiangong-2 Space
Laboratory
China Academy of Space
Technology (CAST)*

15:30 – 16:00 Networking Tea Break

Location: Foyer 2, 2nd Floor, Beijing International Convention Center

16:00 – 18:00 Technical Sessions

No.	Description	Room
3.4	Lunar Analysis & Simulation	203 C
8.3	Key Technology of Space Exploration	203 A
9.2	Challenges of Life Support - Medical Support for Manned Space Exploration	203 B

18:00 – 18:30 Closing Ceremony

Location: Hall 2, 2nd Floor, Beijing International Convention Center

The GLEX 2017 Closing Ceremony comprises conclusion remarks from Pascale Ehrenfreund, IAF Vice President for Global Conferences and YANG Baohua the GLEX 2017 Chair of the Local Organising Committee. To follow, reports on the several Plenaries, Keynotes, Global Networking Forums and Technical Sessions presented by the GLEX 2017 IPC Co-Chairs, Christian Sallaberger and LI Ming. A highlight video of the conference will also be presented. To finish,



CSA officially opens the Chang'e 5 Lunar Probe's Return -China's Lunar Exploration Program-VR/AR Competition. This competition is jointly organised by CSA and China Lunar Exploration and Space Engineering Center.

Speakers:



Pascale Ehrenfreund
Vice President for Global
Conferences
International
Astronautical Federation
(IAF)



Li Ming
GLEX 2017 IPC Co-Chair



Christian Sallaberger
GLEX 2017 IPC Co-Chair



YANG Baohua
Vice President
China Aerospace
Science and Technology
Corporation (CASC)

7 GALA DINNER

Wednesday, 7 June

The Gala Dinner will take place at the Grand Mansion (Beijing) Restaurant - A20, South Capital Stadium Road, Haidian District, Beijing.

The ticket price (including VAT) is € 80,00 or 600 Yuan on site.

During the conference you will be able to purchase a Gala Dinner ticket at the registration area.

If you wish to purchase your Gala Dinner ticket on site you will be able to do this in at the registration area. Please note that the payment must be done in Chinese Yuan.



8 TECHNICAL SITE VISITS

Friday, 9 June

If you have registered for one of our Technical Site Visits please pick up your ticket at the registration desk. Below you will find the basic schedule for each site visit.

China Academy of Launch Vehicle Technology (CALT)

09:00	Depart from BICC
10:00-11:00	Visit CALT
11:00-12:00	Return to BICC

China Academy of Space Technology (CAST)

09:00	Depart from BICC
10:00-11:00	Visit CAST
11:00-12:00	Return to BICC

Tianjin industrial park, China Academy of Launch Vehicle Technology

08:30	Depart from BICC
11:30-12:30	Lunch
12:30-13:30	Visit Industrialization Base of New Generation Launch Vehicles
13:30-15:00	Return to BICC



9 THE IAF PHOTO EXHIBITION

The International Astronautical Federation (IAF), is presenting its first photo exhibition devoted to its key activities and historical developments celebrating its community and noble mission.

The exhibition, organised in fifteen major sections –

- Members
- Bureau
- Committees
- Awards
- 3G IDEA Diversity platform
- Students and Emerging Space Leaders
- Young Professionals,
- Spring Meetings
- Global Networking Forum
- Technical Programme
- International Relations
- Global Conferences
- International Astronautical Congress
- Outreach Activities
- History

– reveals the uniqueness of this global organisation. It illustrates the diversity of its practices and its impact on space culture.



10 TECHNICAL PROGRAMME

10.1 Overview

For this year's Global Space Exploration Conference we have an exciting Technical Programme that awaits you. In total there are **329 accepted abstracts** from 22 different countries. These abstracts will either be presented in one of our 25 Technical Sessions or as a Poster presentation.

There will be a dedicated **Poster Presentations Lunch** on Thursday 8 June 13:00-14:30. Almost 100 posters are expected to be presented. This will be a great opportunity to network and to discuss with the authors.

TECHNICAL TRACKS:

1. Scientific Objective and Infrastructure of Space Exploration

Then novel scientific objective and method of space exploration have being suggested and discussed through the critical assimilation of the old. This session will cover the new ideas of near future manned missions of the Moon and deep space, as well as the new sciences and technologies. The results from long period demo experiments on the Earth are also the hot topics.

2. Space Laboratory, Space Station and Space Exploration

Space stations are a stepping stone for and key element of human space exploration. This session will cover technology developments for existing space stations and instrumentation development to further improve technologies and prepare for future exploration. This also includes operational aspects as well as future concepts for space stations in LEO and beyond.

3. Lunar Exploration

The Moon is a key destination in the near term plans for international and commercial space exploration over the coming decade. This track presents recent lunar mission results; upcoming planned robotic lunar missions; analyses, simulations & technology preparations; and views forward to near term human exploration of cislunar space and the lunar surface. The track illustrates an unprecedented diversity in lunar exploration today, from the growing number of national endeavours to the exciting emergence of commercial lunar enterprise that together promise to dramatically shape the future of modern lunar and planetary space exploration.

4. Exploration of Near Earth Asteroids

Near Earth Asteroids are of great interest for science, exploration, mitigation of possible threat to Earth and resources utilization (mining). They are explored now and in the coming years with multiple robotic missions from several nations. This session will cover science, instruments and technologies for Asteroid missions including expected experiments. Papers on exploration, impact mitigation, flight dynamics in the low-g environment and scientific topics are welcome.

5. Mars Exploration

The exploration of Mars is in the strategic agenda of all the spacefaring nations. Multiple robotic missions are on-going and others are planned in the years to come to prepare for the human exploration of the planet. This session will present the main results of the on-going missions and the scientific and technology missions' objectives and architectures of the near-term missions planned at international level.

6. Exploration of Other Destination

While more unknown worlds were explored, there are more new unknowns coming up for further exploration. New destinations including Venus, icy moons and planets beyond our solar system will need new methods and technologies. We expect that track 6 will inspire new ideas for future exploration and make that happen in the future.

7. Entering into Space and New Energy and Propulsion Technology

The ability of entering into space is the basis of space exploration. The new energy and propulsion technology are strong supports to entering space and space exploration. This track will cover expendable launch vehicles, reusable launch vehicles, new concepts of space transportation system, advanced propulsion and energy technologies. The innovative concepts are welcome particularly.

8. Key Technology of Space Exploration

The Track addresses examination and identification of key elements of space exploration missions, especially those driven by advanced technologies and innovations. Papers are solicited that address how to shape the future subsystems, technologies, innovations, logistics, processes, procedures, etc. to enable or significantly improve future human and robotic space mission objectives. Also, lessons learned from past missions and their application to future missions are essential topics in this Track.

9. Challenges of Life Support/Medical Support for Manned Space Exploration

The Technologies for Life Support and Medical Support is crucial for the Manned Space Exploration where the support or logistics from the ground is significantly difficult. In this session, the status of a variety of technologies for this area such as Technology and System for Life Support, Medical Support for the Passengers of Exploration Missions, Health and Efficiency of Mankind, Reduce the Risks of Flights, and Improve the Living Quality will be presented from the world-wide researchers.

10. Values and New Models for Space Exploration

The emergence of private sector initiatives in space exploration is triggering a debate on the role of public versus private sector in advancing the global space exploration undertaking. While commercial space is driven by profit-motivations and clearly established business cases, investments in public space exploration are generally justified by the generation of broader societal benefits. This track provides insights into benefit management practices implemented by space agencies and more broadly the economic dimension of space exploration. Future space exploration visions building on the co-existence and inter-relation between commercial, public and philanthropic initiatives are presented.

11. Law Issues and Public Awareness Related to Space Exploration

The session will discuss the international space cooperation and legal supervision concerning to space exploration, including space natural resources exploration, satellite navigation and low-orbit flight at the same time, the session will summarise the space technology development, (space) industry development and space ethic in 60 years' space exploration.

12. International Cooperation for Space Exploration

International Cooperation is increasingly prevalent in human and robotic space exploration endeavors. As missions become more complex, international cooperation is strengthening as a way to accomplish exploration objectives for a broader set of stakeholders. This session will explore how international cooperation can be used to further both government and private sector interests in space exploration.

13. Small Satellites

Compared with larger satellite, the features of small satellite are advanced, fast, cheap and responsive. Their use is very wide, and their commercial operation has been achieved in various domains such as communication, earth observation and science. Small satellites are now an efficient and attractive solution for space exploration, where they can either perform valuable missions autonomously, or be used as auxiliaries to enhance the results of a main – larger – spacecraft. This track will focus on new concepts of space exploration using small satellite, constellation or formation and related technologies, including missions for deep space exploration and manned space missions. The commercialization and application scenario will be also be discussed.





10.2 Information for Authors

All authors are asked to upload their manuscripts prior to the conference on the IAF website: www.iafastro.net. The powerpoint presentations should be uploaded onsite in the session room (6-8 June). Please bring presentations on a USB drive and upload it in your session room computer no later than 15 minutes before your session starts.

Please note that the name of your presentation file must be the one communicated to you in the information e-mails.

Should you need any assistance or support please ask an IAF Staff in the IAF Secretariat room 303, 3rd Floor, Beijing International Convention Center.

10.3 Posters

Bring your poster in printed format to the congress.

Your poster should fit within **841 mm - wide** and **1189 mm - long rectangular space**, use **portrait** layout.

- Selected participants will display an A0 portrait format poster throughout the duration of the conference in a dedicated poster area.
- There will be volunteers to help you to mount your poster. Stick pins will be available.
- Presenters will randomly select a board for their poster.
- The poster area will be available starting from Monday 6 June until Thursday 8 June.
- The official presentation time will be Thursday 8 June from 1:00 pm-2:30 pm at the Poster Presentation Lunch.
- Presenters are expected to stay during the official poster session time so that conference attendees have the opportunity to ask questions.
- The poster session is intended to be casual and conversational; there will be no formal presentations.
- Presenters are responsible for dismantling posters on Thursday 8 June after the Poster Session.

10.4 Conference Proceedings

The GLEX 2017 proceedings will be available after the conference on a password protected site. The Conference Participants will be provided in June with a link and online password to login and access the proceedings.

If you did not receive the password, please contact: support@iafastro.org

10.5 Certificates of Attendance

Certificates of Attendance are available on request at the IAF Secretariat. Claims of hours of applicability toward professional education requirements are the responsibility of the participant.

10.6 Technical Papers

(as of 19.05.2017). For latest updates, please consult <http://www.iafastro.net/iac/browse.lite/GLEX-2017/>

1. Scientific Objective and Infrastructure of Space Exploration

Coordinator(s): David Korsmeyer, National Aeronautics and Space Administration (NASA), United States; Jinsong Ping, National Astronomical Observatories, China;

1.1. Scientific Objective and Infrastructure of Space Exploration

June 6 2017, 11:30 — Room 201 D

GLEX-2017.1.1.1
SELF-PAYBACK MANNED EXPEDITION TO MARS AND ITS MOONS PHOBOS AND DEIMOS 2022
Oleg Aleksandrov, Private individual www.oleg.space, United States

GLEX-2017.1.1.2
INNOVATION INFRASTRUCTURE: THE CRITICAL ROLE OF CIVIL SPACE TO NATIONAL SECURITY AND ECONOMIC GROWTH
Patrick Besha, NASA, United States

GLEX-2017.1.1.4
EXPERIMENTAL STUDY ON THE AQUA PURA PRESSURE REDUCING VALVE FOR THE WATER SUBLIMATOR
Jialong Zhu, Beijing Research Institute, Sichuan Academy of Aerospace Technology, CASC, China

GLEX-2017.1.1.10
A NEW DEPLOYABLE AND LOCKABLE MECHANISM OF GOSSAMER SPACECRAFT
Liang Sun, Lanzhou Institute of Physics, China

GLEX-2017.1.1.11
SYSTEM LEVEL VERIFICATION OF COMPLEX INFORMATION FLOW FOR DEEP SPACE EXPLORATION PROBES
Xiaowei Fu, China Academy of Space Technology (CAST), China

GLEX-2017.1.1.13
THE METHOD OF LUNAR SAMPLE CURATION IN CHINA
Qipeng Wu, Lanzhou Institute of Physics, China

GLEX-2017.1.1.14
DETECTION METHOD FOR LOW-FREQUENCY GW BY EARTH-MOON SPACE RADIO DOPPLER AND RANGING MEASUREMENTS
Jinsong PING, National Astronomical Observatories, Chinese Academy of Sciences, China

GLEX-2017.1.1.17
DEVELOPMENT OF A TWO STAGE SOUNDING ROCKET SEPARATION MECHANISM
Shan Lu, The 41st Institute of the Fourth Academy of CASC, China

1.2. Scientific Objective and Infrastructure of Space Exploration

June 6 2017, 17:00 — Room 201 D

GLEX-2017.1.2.3
A NOVEL CONCEPT FOR INCREASING THE AMOUNT OF OXYGEN ON MARS WITH HELP OF ULTRAVIOLET LIGHT
Nadeem Alam, Department of Aeronautical Engineering, Babu Banarsi Das National Institute of Technology and Management, Lucknow,, India

GLEX-2017.1.2.5
WHEAT CULTIVATION AND NUTRIENT CONTROL FOR THE 180-DAY CELSS INTEGRATED EXPERIMENT
Nan Zhang, Space Institute of Southern China(Shenzhen), China

GLEX-2017.1.2.6
SOLID WASTE PROCESSING AND RESOURCE RECOVERY IN 180-DAY CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM INTEGRATED EXPERIMENT
Chongyang Wu, Space Institute of Southern China(Shenzhen), China

GLEX-2017.1.2.8
THE POTENTIAL ROLE OF LONG-DURATION DEEP SPACE HABITATION AND TRANSPORTATION IN THE EVOLUTION AND ORGANIZATION OF HUMAN SPACEFLIGHT AND SPACE EXPLORATION
Alexander MacDonald, NASA HQ, United States

GLEX-2017.1.2.9
SCIENTIFIC OPPORTUNITIES ENABLED BY HUMAN EXPLORATION BEYOND LEO
Juergen Schlutz, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany

GLEX-2017.1.2.12
GENERAL ARCHITECTURE AND KEY ENABLING TECHNOLOGIES FOR A CISLUNAR HABITAT
Abele Quaregna, Thales Alenia Space Italia, Italy

GLEX-2017.1.2.15
A VERSATILE APPROACH FOR ASSEMBLING LARGE APERTURE REFLECTORS IN SPACE
Ling-bin ZENG, Shanghai Aerospace System Engineering Institute, China

2. Space Laboratory, Space Station and Space Exploration

Coordinator(s): Carlo Mirra, Airbus Defence & Space, Germany; Hong Yang, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China;



2.1. Space Laboratory, Space Station and Space Exploration

June 6 2017, 11:30 — Room 203 D

GLEX-2017.2.1.3

DESIGN AND PRACTICE OF ERGONOMICS IN TIANGONG-2 MAN-MACHINE COOPERATION ON-ORBIT SERVICING TECHNOLOGY EXPERIMENT

Chao LUO, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.2.1.4

STUDY ON ENVIRONMENTAL REGULATION TECHNOLOGY OF LONG - PERIOD BIOLOGICAL CULTURE

Xu Zengchuang, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China

GLEX-2017.2.1.11

MODELING AND SIMULATION ON KEY PROCESSES OF PROPELLANT REFUELING FOR A SPACE STATION

Wei Sun, Institute of Manned Space System Engineering, CAST, China

GLEX-2017.2.1.12

THE APPLICATION PROSPECT OF RISK QUANTITATIVE ASSESSMENT IN CHINESE SPACE STATION AT BIG DATE ERA

Zhou Haocheng, China Academy of Space Technology (CAST), China

GLEX-2017.2.1.16

DEVELOPMENT OF 3D CLINOSTAT AND RANDOM POSITIONING MACHINE FOR STUDY OF BIOLOGICAL SYSTEMS UNDER SIMULATED WEIGHTLESSNESS/MICROGRAVITY

Muhammad Faisal uz Zaman, Pakistan

GLEX-2017.2.1.19

PILOTED ROVERS FOR EXPLORATION OF THE MOON, MARS AND OTHER PLANETS

Oleg Aleksandrov, Private individual www.oleg.space, United States

GLEX-2017.2.1.25

HIGH VOLTAGE SOLAR ARRAY TECHNOLOGY FOR LEO PLASMA ENVIRONMENT: LABORATORY TEST RESULTS

Zhibin Wang, China

GLEX-2017.2.1.32

DESIGN AND OPTIMIZATION FOR A FINNED HEAT PIPE-FLUID LOOP RADIATOR

Feng Maolong, Beijing Institute of Spacecraft System Engineering, China

2.2. Space Laboratory, Space Station and Space Exploration

June 6 2017, 17:00 — Room 203 D

GLEX-2017.2.2.1

EXPERIMENTAL STUDY OF EXTRUSION BASED ADDITIVE MANUFACTURING IN MICROGRAVITY

Yifei Liu, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China

GLEX-2017.2.2.2

DEVELOPMENT OF THE FLY-BY BUS FOR MANNED SPACE STATION IN LEO

Zhongqiu Gou, China Academy of Space Technology (CAST), China

GLEX-2017.2.2.8

STUDY ON A NEW TYPE OF SPACE DEBRIS PROTECTION STRUCTURE FOR SPACE STATION BASED ON GRADED WAVE IMPEDANCE MATERIALS

Guangming Song, China Academy of Space Technology (CAST), China

GLEX-2017.2.2.10

RESEARCH ON ANTENNA SWITCHING STRATEGY FOR CABIN TRANSLOCATION BASED ON MANNED SPACE STATION

Yi Yusheng, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.2.2.14

NEURAL NETWORK SLIDING MODE CONTROL AND VIBRATION SUPPRESSION OF FLEXIBLE JOINT MANIPULATOR OF THE SPACE STATION WITH FLEXIBLE ARMS

Jie Liang, China

GLEX-2017.2.2.27

USING SPECTROMETRY TO DIAGNOSE MOONMARS & ASTEROIDS ROCKS, WATER AND PLANTS

Heleen Vos, ESTEC, European Space Agency, The Netherlands

GLEX-2017.2.2.30

A METHOD OF NETWORK DATA TRANSFER FROM SPACE TO GROUND BASED ON DYNAMIC FLOW CONTROL

Song Chen, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.2.2.33

A COOPERATIVE CONTROL METHOD FOR A DISTRIBUTED SPACE TRANSPORTATION SYSTEM

Yunhe Meng, National University of Defense Technology, China

3. Lunar Exploration

Coordinator(s): Bernard Foing, ESA/ESTEC, ILEWG & VU Amsterdam, The Netherlands; Nadeem Ghafour, Canadensys Aerospace Corporation, Canada;

3.1A. Lunar Mission updates

June 6 2017, 17:00 — Room 203 C

GLEX-2017.3.1A.1

LUNAR RADIO RANGING AND THE PROSPECT OF MARTIAN RADIO RANGING

Li Wenxiao, Xinjiang Astronomical Observatory, China

GLEX-2017.3.1A.2

POSITION DETERMINATION OF CHANGE'3 LANDER BASED ON OCEL PROJECT

Songtao Han, 1)National Key Laboratory of Science and Technology on Aerospace Flight Dynamics, Beijing; 2)Beijing aerospace control center, Beijing, China

GLEX-2017.3.1A.3

MISSION ANALYSIS OF A LUNAR POLAR LANDING EXPLORATION

Ma Jinan, Beijing Institute of Spacecraft System Engineering, China

GLEX-2017.3.1A.4

AN OVERVIEW OF THE DESIGN AND ANALYSIS OF CHANG'E 4 MISSION

Zhang He, China Academy of Space Technology (CAST), China

GLEX-2017.3.1A.5

THE SOLUTION AND TECHNOLOGY OF THE GROUND TEST OF CHINA'S LUNAR ROVER-YUTU

Lei XiaoGuang, China

GLEX-2017.3.1A.6

INTERNATIONAL HUMAN MOON LANDER 2020-2025 & ILOA UPDATE 2017

Steve Durst, International Lunar Observatory Association, United States

3.1B. Lunar Policy

June 6 2017, 17:00 — Room 203 C

GLEX-2017.3.1B.7

THE PEAKS OF ETERNAL LIGHT: A NEAR-TERM PROPERTY ISSUE ON THE MOON

Martin Elvis, Harvard-Smithsonian Center for Astrophysics (CfA), United States

GLEX-2017.3.1B.8

THE LUNAR REFORMATION: A REFORMED PLAN FOR RETURNING TO THE MOON

Alexander MacDonald, NASA HQ, United States

3.2A. Lunar Missions planned

June 7 2017, 11:00 — Room 203 C

GLEX-2017.3.2A.1

A GLOBAL EXPLORATION ROADMAP CONCEPT FOR HUMAN EXPLORATION OF THE MOON

Ryan Whitley, NASA, United States

GLEX-2017.3.2A.2

ORION: EM-1 AND BEYOND STATUS

Timothy Cichan, Lockheed Martin Corporation, United States

GLEX-2017.3.2A.3

LUNAR SCIENCE ENABLED BY A CISLUNAR OUTPOST ARCHITECTURE

Timothy Cichan, Lockheed Martin Corporation, United States

GLEX-2017.3.2A.4

UTILIZATION OF RUSSIAN LUNA 25-28 MISSIONS FOR OBTAINING RESULTS DEMANDED BY FUTURE MANNED EXPLORATION OF THE MOON

George Karabadzha, Central Research Institute for Machine Building (FGUP TSNIMASH), Russian Federation

GLEX-2017.3.2A.5

A JOINT INTERNATIONAL EXPLORATION ARCHITECTURE

Matthew Duggan, The Boeing Company, United States

GLEX-2017.3.2A.7

TEAM HAKUTO'S 2017 GOOGLE LUNAR XPRIZE MISSION AND LONG TERM PLANS FOR LUNAR EXPLORATION

Kyle Acierno, Japan

GLEX-2017.3.2A.8

BACK TO APOLLO 17 WITH PTSCIENTISTS' MISSION-1

Karsten Becker, Germany

GLEX-2017.3.2A.9

DESIGN OF COMMUNICATIONS AND SYSTEM MANAGEMENT MODULE FOR AUTONOMOUS LUNAR LANDING MISSIONS

Adheesh Boratkar, Team Indus, Axiom Research Labs Pvt. Ltd., India

3.2B. Lunar Technologies

June 7 2017, 17:00 — Room 203 C

GLEX-2017.3.2B.1

DESIGN OF RELAY COMMUNICATION SYSTEM FOR LUNAR FAR SIDE EXPLORATION

Shi Liu, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology(CAST), China

GLEX-2017.3.2B.2

THE SYSTEM DESIGN OF THE COMMUNICATION RELAY SATELLITE FOR CHINESE LUNAR FAR SIDE EXPLORATION MISSION

Lihua Zhang, DFH Satellite Co. Ltd., China

GLEX-2017.3.2B.3

RESEARCH OF WIRELESS SENSOR NETWORK FOR EXPLORATION OF LUNAR ENVIRONMENT

Yin Long, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.3.2B.4

STRATEGIC PARADIGM SHIFTS ABOUT INESCAPABLE FINE DUST ON THE MOON: GROUND-TRUTH MEASUREMENTS FROM APOLLO 11 TO CHENG'E-4

Brian J. O'Brien, The University of Western Australia, Australia

GLEX-2017.3.2B.6

THE DESIGN OF A DUST SHIELDING MECHANISM FOR STAR SENSOR

Qiang Zhang, Beijing Institute of Control Engineering(BICE), China Academy of Space Technology(CAST), China

GLEX-2017.3.2B.10

TELEOPERATION SYSTEM CONSTRUCTION FOR CONTROLLING THE PLANETS-SAMPLING TELEROBOT WITH TACTILE AND VISUAL TELEPRESENCE CAPABILITIES

Jin Shengyi, Beijing Institute of Spacecraft System Engineering, China

3.3. Lunar Concepts

June 8 2017, 11:00 — Room 203 C

GLEX-2017.3.3.1

LUNAR POLAR SAMPLE RETURN MISSION

Antonella Ferri, Thales Alenia Space Italia (TAS-I), Italy



GLEX-2017.3.3.2

OHB INSTRUMENTS DEVELOPMENT FOR VOLATILE SCOUTING ON THE MOON

Lutz Richter, OHB System AG - Munich, Germany

GLEX-2017.3.3.3

SELECTION OF THE RELAY WAYS FOR LANDING ON THE FAR SIDE OF THE MOON

Jie Dong, Beijing Institute of Spacecraft System Engineering, China

GLEX-2017.3.3.4

A TT&C SYSTEM FOR LUNAR EXPLORER BASED ON GROUND STATION AND TDRS

Sheng Yang, China Academy of Space Technology (CAST), China

GLEX-2017.3.3.5

JOINTLY PROMOTING A VERY LONG WAVELENGTH RADIO MISSION FOR CHANG'E-4 LUNAR FAR-SIDE LANDING MISSION

Jinsong PING, National Astronomical Observatories, Chinese Academy of Sciences, China

GLEX-2017.3.3.6

LOW COST STRATEGIES FOR A MOON VILLAGE

Angeliki Kapoglou, Stanford d.school, United States

GLEX-2017.3.3.7

STUDY ON A KIND OF RECONFIGURABLE AND RESUABLE LUNAR PROBE

ZHANG Wangjun, Beijing Institute of Spacecraft System Engineering, China

GLEX-2017.3.3.8

PILOTED ROVERS FOR EXPLORATION OF THE MOON, MARS AND OTHER PLANETS

Oleg Aleksandrov, Private individual www.oleg.space, United States

GLEX-2017.3.3.9

LUNAR NAVIGATION SYSTEM DESIGN

Lei Huang, BITTT, China

GLEX-2017.3.3.10

LUNAR INDUSTRY&RESEARCH BASE CONCEPT

Mykhailo Kaliapin, Yuzhnoye State Design Office, Ukraine

GLEX-2017.3.3.11

RESEARCH ON THE CONCEPT OF REUSABLE AND LIGHTWEIGHT MANNED LUNAR LANDER FOR CREW TRANSPORTATION

Ping Wang, China Academy of Space Technology (CAST), China

GLEX-2017.3.3.12

DESIGN AND CONSTRUCTION OF MANNED LUNAR BASE HABITATION

Zhijie Li, China Academy of Space Technology (CAST), China

GLEX-2017.3.3.13

TECHNIQUE OF THE DESIGN-BALLISTIC ANALYSIS OF CONDITIONS OF TECHNICAL IMPLEMENTATION OF REUSABLE "LUNAR" RUNWAY SPACECRAFTS

Ilya Smorshko, Central Research Institute of Machine Building (FSUE TSNIMASH), Russian Federation

3.4. Lunar Analysis & Simulation

June 8 2017, 16:00 — Room 203 C

GLEX-2017.3.4.1

RESEARCH ON THE DISTRIBUTION OF WATER ICE BASED ON THE SVD METHOD USING CHANG'E-2 MRM DATA

Lian Yi, China

GLEX-2017.3.4.2

ANALYSIS OF THE INFLUENCE OF TERRAIN OF THE FAR SIDE OF THE MOON ON SOFT-LANDING

Fei Li, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.3.4.3

RESEARCH ON MOON-EARTH LINK COMMUNICATION ABILITY OF LUNAR DETECTOR

Wang Xiaonan, China Academy of Space Technology (CAST), China

GLEX-2017.3.4.4

SIMULATION OF LUNAR COMMUNICATION ENVIRONMENT AND RESEARCH & ANALYZING OF CHANNEL ON LUNAR EXPLORATION PROJECT

Wang Fengyu, China Academy of Space Technology (CAST), China

GLEX-2017.3.4.5

GNSS RECEIVER DESIGN AND FLIGHT DATA ANALYSIS FOR CIRCUMLUNAR RETURN MISSION

Meng Wang, Space Star Technology co., LTD, China

GLEX-2017.3.4.6

THE LUNAR FAR SIDE LANDER POSITIONING USING A FOUR-WAY RELAY TRACKING METHOD

Mao Ye, Wuhan University, China

GLEX-2017.3.4.7

METHOD OF DETERMINING THE PARAMETERS OF LONGITUDINAL MOVEMENT OF THE SPACECRAFT LANDING ON THE SURFACE OF A SMALL CELESTIAL BODY

Vsevolod Koryanov, Bauman Moscow State Technical University, Russian Federation

GLEX-2017.3.4.8

EXPLORING OBVIOUS LUNAR IONOSPHERE BASED ON THE SERVICE MODULE OF CIRCUMLUNAR RETURN AND REENTRY SPACECRAFT

Mingyuan Wang, National Astronomical Observatories, Chinese Academy of Sciences, China

GLEX-2017.3.4.9

ANALYSIS AND OPTIMUM DESIGN FOR EMERGENCY ESCAPE TRAJECTORY IN MANNED LUNAR LANDING MISSION

Chen Haiping, National University of Defense Technology, China

GLEX-2017.3.4.10

OPTIMAL FINITE THRUST LUNAR CAPTURE ORBIT OF NANO-SATELLITE

Chao Sun, Beijing Institute of Technology, School of Aerospace Engineering, China

GLEX-2017.3.4.11

INITIAL ORBIT OPTIMUM DESIGN FOR LOW-THRUST TRANSFER TRAJECTORY OF LUNAR EXPLORATION

Ran An, China Academy of Space Technology (CAST), China

GLEX-2017.3.4.12

VISUAL TELEMETRY TECHNOLOGY AND ITS APPLICATION IN DEEP SPACE EXPLORATION

Zheng Gu, CAST, China

4. Exploration of Near Earth Asteroids

Coordinator(s): Kevin D. Foley, The Boeing Company, United States; Stephan Ulamec, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany;

4.1. Exploration of Near Earth Asteroids

June 6 2017, 11:30 — Room 203 C

GLEX-2017.4.1.1

CHARACTERIZATION OF A POTENTIALLY HAZARDOUS ASTEROID BEFORE MITIGATION

Pierre W. Bousquet, Centre National d'Etudes Spatiales (CNES), France

GLEX-2017.4.1.3

CURRENT DESIGN SITUATION AND PROSPECTS OF THE CHINESE SMALL-BODY EXPLORATION

Jiangchuan Huang, China Academy of Space Technology (CAST), China

GLEX-2017.4.1.4

THE MASCOT CONCEPT – AN IN-SITU SCIENCE PLATFORM FOR SMALL BODIES EXPLORATION

Tra Mi Ho, DLR (German Aerospace Center), Germany

GLEX-2017.4.1.5

STUDY AND DESIGN OF THE BOINIT-ANT-ROBOTIC LANDING ON THE ASTEROID

ZHANG Wangjun, Beijing Institute of Spacecraft System Engineering, China

GLEX-2017.4.1.6

RESEARCH ON MICRO NEAR EARTH ASTEROID EXPLORATION MISSION DESIGN AND KEY TECHNOLOGIES

Zhe Zhang, Lunar Exploration and Space Engineering Center, China

GLEX-2017.4.1.7

STUDY ON MANNED DEEP SPACE EXPLORATION HABITATION CABIN BASED ON RIGID AND FLEXIBLE COMBINATION STRUCTURE

Lin Tian, China Academy of Space Technology (CAST), China

GLEX-2017.4.1.8

A ROBUST SPACE DEBRIS TRACKING STRATEGY BASED ON MULTIPLE-MODEL PARTICLE FILTER VIA APOSOS TELESCOPE.

PEERAPONG TORTEEKA, National Astronomical Observatories, Chinese Academy of Sciences, China

GLEX-2017.4.1.9

A LOW-COST EXPLORE MISSION FOR NEAR-EARTH ASTEROID

Yuming Peng, Shanghai Institute of Satellite Engineering, China

5. Mars Exploration

Coordinator(s): Cheryl Reed, The Johns Hopkins University Applied Physics Laboratory, United States; Maria Antonietta Perino, Thales Alenia Space Italia, Italy;

5.1. Mars Exploration

June 7 2017, 11:00 — Room 203 B

GLEX-2017.5.1.1

EXOMARS: THE HERITAGE OF 2016 MISSION FOR THE ROVER SURFACE PLATFORM MISSION TO BE LAUNCHED IN 2020

Carlo Cassi, Thales Alenia Space Italia, Italy

GLEX-2017.5.1.2

EXOMARS 2020 MISSION: PROGRESS REPORT ON SAMPLE PREPARATION AND DISTRIBUTION SYSTEM (SPDS) DEVELOPMENT

Lutz Richter, OHB System AG - Munich, Germany

GLEX-2017.5.1.3

MISSION DESIGN OVERVIEW FOR PROBE SYSTEM OF CHINA MARS EXPLORATION

Wei Rao, China Academy of Space Technology (CAST), China

GLEX-2017.5.1.4

EMIRATES MARS MISSION (EMM) 2020

Omran Anwar Alsayed Mohd Ali Sharaf, Mohammed Bin Rashid Space Centre (MBRSC), United Arab Emirates

GLEX-2017.5.1.5

MARS MISSIONS ENABLED BY CISLUNAR ARCHITECTURE AND TECHNOLOGY DEVELOPMENT

Matthew Duggan, The Boeing Company, United States

GLEX-2017.5.1.6

PHOBOS SAMPLE RETURN MISSION

Antonella Ferri, Thales Alenia Space Italia (TAS-I), Italy

GLEX-2017.5.1.8

FLOWING WATER ON MARS – EXTRACTING THE SIGN OF LIFE ON MARS

Nadeem Alam, Department of Aeronautical Engineering, Babu Banarsi Das National Institute of Technology and Management, Lucknow,, India

GLEX-2017.5.1.9

THE CONTRIBUTION OF SBI IN MARTIAN GRAVITY FIELD RECOVERY

Yan Jianguo, Wuhan University, China

GLEX-2017.5.1.10

DISCUSS ON INFLUENCE OF MARS ENVIRONMENT ON REMOTE SENSING DETECTION AND KEY TECHNOLOGIES

Wang Caiqin, China Academy of Space Technology (CAST), China

GLEX-2017.5.1.11

PILOTED ROVERS FOR EXPLORATION OF THE MOON, MARS AND OTHER PLANETS

Oleg Aleksandrov, Private individual www.oleg.space, United States

GLEX-2017.5.1.12

THE SALAR THE UYUNI AS A SIMULATED MARS BASE HABITAT IN SOUTH AMERICA

Natalia Indira Vargas-Cuentas, Beihang University (BUAA), China



6. Exploration of Other Destination

Coordinator(s): Jing Peng, Beijing Institute of Spacecraft System Engineering, China; Pete Worden, Breakthrough Starshot, United States;

6.1. Exploration of Other Destination

June 7 2017, 17:00 — Room 203 B

GLEX-2017.6.1.1

THE FEASIBILITY STUDY OF THE HOVERING EXPLORATION
Zhuoyi Xing, China

GLEX-2017.6.1.2

THE RADIATION DOSE AND ITS EFFECT ON THE MISSION OF THE JUPITER SYSTEM EXPLORATION
DAI TIAN, Institute of Spacecraft System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.6.1.3

MISSION SCENARIOS UTILIZING LOTUS: LANDER/ORBITER TRANS-UPPER STAGE
Chirshma Singh-Derewa, National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States

GLEX-2017.6.1.4

PROGRAM OPTIONS TO EXPLORE OCEAN WORLDS
Brent Sherwood, Caltech/JPL, United States

GLEX-2017.6.1.5

FEASIBILITY STUDY FOR A MANNED MISSION TO VENUS
Hamed Gamal, Space Generation Advisory Council (SGAC), Poland

GLEX-2017.6.1.6

"EXPLORING PROXIMA CENTAURI B"
Nour Abdelbaki, Egypt

GLEX-2017.6.1.8

MISSION SCENARIO OF EXOPLANET SEARCHING USING SPACE-BASED RADIAL VELOCITY MEASUREMENT
Wei Zhang, Shanghai Institute of Satellite Engineering, China

7. Entering into Space and New Energy and Propulsion Technology

Coordinator(s): Jie Chen, Shanghai Academy of Spaceflight Technology, China; Lin Shen, China Academy of Launch Vehicle Technology, China;

7.1. Entering into Space and New Energy and Propulsion Technology

June 7 2017, 11:00 — Room 203 D

GLEX-2017.7.1.1

SYSTEM SCHEME AND THROTTLING METHODS OF VARIABLE THRUST LIQUID ROCKET ENGINES FOR CHINA'S DEEP SPACE EXPLORATION
Ping LI, Xi'an Aerospace Propulsion Institute, China

GLEX-2017.7.1.2

RING ROCKETS
Oleg Aleksandrov, Private individual www.oleg.space, United States

GLEX-2017.7.1.3

DESIGN AND DEVELOPMENT OF P35 SOLID ROCKET MOTOR FOR LONG MARCH 11 LAUNCH VEHICLE
Xiaoqing WEI, Xi'an institute of aerospace propulsion technology, China

GLEX-2017.7.1.8

INTEGRATION OPTIMIZATION OF TRAJECTORY AND RBCC ENGINE SCHEME FOR SUBORBITAL LAUNCH VEHICLE
Hao Guo, Science and Technology on Space Physics Laboratory, China

GLEX-2017.7.1.10

RESEARCH ON THE DEVELOPMENT STATUS AND TECHNICAL REALIZATION OF HIGH SPEED TURBINE ENGINE
Jiyong Li, Academy of Aerospace Propulsion Technology (CASC), China

GLEX-2017.7.1.11

THE POLAR REEL, A NOVEL APPROACH FOR IMPLEMENTING A SPACE ELEVATOR
Jean-Yves Prado, PLATINEO, France

GLEX-2017.7.1.14

ON-ORBIT FLIGHT PERFORMANCE ANALYSIS OF THE LHT-100 HALL ELECTRIC PROPULSION SYSTEM ON SJ-17 SATELLITE
Licheng Tian, Science and Technology on Vacuum Technology and Physics Laboratory, Lanzhou Institute of Physics, China

GLEX-2017.7.1.15

RESEARCH ON THE KEY TECHNOLOGIES OF PRECISE MANUFACTURING AND MEASUREMENT OF CRYOGENIC VALVE FOR NEW GENERATION LAUNCH VEHICLE
Wang Xiao, CASC, China

GLEX-2017.7.1.18

RESEARCH AND IN-FLIGHT EXPERIMENT OF ADN-PROPULSION TECHNOLOGY FOR SATELLITE APPLICATION
Jialong Ji, Beijing Institute of Control Engineering(BICE), China Academy of Space Technology(CAST), China

GLEX-2017.7.1.19

EXPERIMENTAL INVESTIGATION ON NITROUS OXIDE/PROPANE ROCKET ENGINE
Wang Dong, Xi'an Aerospace Propulsion Institute, China

7.2. Entering into Space and New Energy and Propulsion Technology

June 7 2017, 17:00 — Room 203 D

GLEX-2017.7.2.5

DESIGN OF A THROTTLEABLE HYBRID ROCKET PROPULSION PLATFORM FOR PLANETARY SOFT LANDING
Sheng Zhao, China Academy of Launch Vehicle Technology, China

GLEX-2017.7.2.6

ORION EUROPEAN SERVICE MODULE PROPULSION SUBSYSTEM ON FIRE
Markus Jäger, Airbus Defence & Space, Space Systems, Germany

GLEX-2017.7.2.7

SIMPLE GUIDANCE SCHEME FOR LOW-THRUST GEOSTATIONARY ORBIT TRANSFERS
Xue Ma, Beijing Institute of Control Engineering, China

GLEX-2017.7.2.9

REUSABLE LAUNCH VEHICLE-CONCEPT OF MINIMIZING SPACE TRANSPORTATION COST
Nadeem Alam, Department of Aeronautical Engineering, Babu Banarsi Das National Institute of Technology and Management, Lucknow,, India

GLEX-2017.7.2.12

THERMODYNAMIC PERFORMANCE OF 250KW SPACE NUCLEAR POWER SYSTEM BASED ON LIQUID METAL RANKINE CYCLE
Haochun Zhang, Harbin Institute of Technology, China

GLEX-2017.7.2.13

LASER ABLATION PROPULSION LAUNCH SYSTEM (LAPLAS) POTENTIALITIES.
IOURI PIGULEVSKI, Switzerland

GLEX-2017.7.2.16

PARAMETRIC ANALYSIS OF A 30KN THRUST CLASS FOR NUCLEAR THERMAL ENGINE(NTE)SYSTEM
Haoze Wang, Beijing Aerospace Propulsion Institute, China

GLEX-2017.7.2.17

THE STUDYING OF NEUTRALIZER CHARACTERIZATION OF MULTI-THROTTLING POINT ION ENGINE
Yanhui Jia, Lanzhou Institute of Physics, China

GLEX-2017.7.2.20

RESEARCH ON ANODE POWER SUPPLY TECHNOLOGY WITH HIGH - GAIN AND WIDE - RANGE OUTPUT VOLTAGE FOR HALL ELECTRIC PROPULSION SYSTEM
Baolei Dong, State Key Laboratory of space power supply technology, China

8. Key Technology of Space Exploration

Coordinator(s): Igor V. Sorokin, S.P. Korolev Rocket and Space Corporation Energia, Russian Federation; Yong Chun Xie, Beijing Institute of Control Engineering, China;

8.1. Key Technology of Space Exploration

June 7 2017, 17:00 — Room 203 A

GLEX-2017.8.1.1

NONLINEAR MODEL PREDICTIVE CONTROL FOR OBSTACLE AVOIDANCE IN PLANETARY LANDING
Dantong Ge, Beijing Institute of Technology, China

GLEX-2017.8.1.3

AERO SEKUR TECHNOLOGIES FOR EXPLORATION
Luciano Battocchio, Aero Sekur, Italy

GLEX-2017.8.1.7

PLANETARY ROVER VISION PROCESSING AND VISUALIZATION: PROVIV AND PRO3D
Gerhard Paar, Joanneum Research, Austria

GLEX-2017.8.1.8

RECURSIVE ADAPTIVE CONTROL FOR SPACE ROBOT: SPACECRAFT MOUNTED MANIPULATORS
Yunpeng Wang, Beijing Institute of Control Engineering, China

GLEX-2017.8.1.10

OPTIMIZED CONTACTLESS TARGET DE-TUMBLING STRATEGY USING ROBOT WITH EDDY-CURRENT BRAKE
Du BaoSen, China Academy of Launch Vehicle Technology(CALT), China

GLEX-2017.8.1.15

RESEARCH OF THE SVLBI SYSTEM FOR TRACKING OBSERVATION ON DEEP SPACE PROBES
Wei Quan, Information Engineering University, China

GLEX-2017.8.1.16

THE FULL DUPLEX EFFICIENT IMPLEMENTATION METHOD OF CCSDS PROTOCOL FOR MARS EXPLORATION
Jia Tian, China Academy of Space Technology (Xi'an), China

GLEX-2017.8.1.18

APPLICATION ANALYSIS OF TIME TRIGGERED ETHERNET FOR DISTRIBUTED AEROSPACE ELECTRONIC SYSTEM
Longfei Li, Xi'an Microelectronics Technology Institute, China Aerospace Science and Technology Corporation (CASC), China

GLEX-2017.8.1.20

EXPERIMENTAL RESULTS OF BUFFING PROPERTY FOR THE TWIP STEEL ROD AND ITS APPLICATION IN CHANG'E-3 PROBE
YANG JIANZHONG, China

GLEX-2017.8.1.23

THE WONDERS OF FOLDED METAMATERIALS AND ITS APPLICATION IN AEROSPACE
Jinxu Qiao, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology(CAST), China

8.2. Key Technology of Space Exploration

June 8 2017, 11:00 — Room 203 A

GLEX-2017.8.2.2

A COMPREHENSIVE STUDY OF THE DYNAMICS MOVEMENT FOR LANDING VEHICLES WITH INFLATABLE BRAKING DEVICE FOR MISSIONS LANDING IN MARS CONDITIONS
Vsevolod Koryanov, Bauman Moscow State Technical University, Russian Federation

GLEX-2017.8.2.4

IRENA : DEMONSTRATING AEROCAPTURE FOR EXPLORATION
Pierre W. Bousquet, Centre National d'Etudes Spatiales (CNES), France

GLEX-2017.8.2.5

SCALED-DOWN CREW CAPSULE FLIGHT TEST
Zhen Huang, Institute of Manned Space System Engineering, CAST, China



GLEX-2017.8.2.6

PERFORMANCE COMPARISON OF TYPICAL LIFTING MARS ENTRY VEHICLES

Zhongyu Liu, Institute of Spacecraft System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.8.2.11

STABILIZATION AND REMOVAL OF THE SPINNING DEBRIS USING SINGLE-TETHERED SPACE-TUG SYSTEM

Keying Yang, Beijing Institute of Technology (BIT), China

GLEX-2017.8.2.12

RESEARCH ON THE FAST ACQUISITION TECHNOLOGY OF MARS ORBITER'S TTC TRANSPONDER

Qin Fen, China

GLEX-2017.8.2.13

DESIGN AND ANALYSIS OF NETWORK PROTOCOL IN MARS-TO-EARTH COMMUNICATIONS

Yang Wang, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.8.2.14

INFORMATION CENTRIC NETWORKING FOR SPACE EXPLORATION

Wenfeng Li, Nanjing University, China

GLEX-2017.8.2.17

NEW SMOOTHING OPTIMIZATION TECHNIQUE FOR CONTINUOUS LOW-THRUST MISSION TO CAPTURE THE OUTER PLANET

Mohammadreza Saghamanesh, Tsinghua University, China

GLEX-2017.8.2.19

ADDITIVE MANUFACTURED AEROSPIKE REACTION CONTROL SYSTEM (AMARCS)

Eamon Hughes, United States

8.3. Key Technology of Space Exploration

June 8 2017, 16:00 — Room 203 A

GLEX-2017.8.3.9

RESEARCH ON THE SPACE ROBOT END-CAPTURING MECHANISM FOR NON-COOPERATIVE TARGET

ZHAO Ying, Shanghai Key Laboratory of Spacecraft Mechanism, Aerospace System Engineering Shanghai, China

GLEX-2017.8.3.21

ON ORBIT ASSEMBLY SEQUENCE PLANNING OF TRIANGULAR PLATE ELEMENTS BASED ON PARTITION METHOD

Jun Miao, China

9. Challenges of Life Support - Medical Support for Manned Space Exploration

Coordinator(s): Naoki Sato, JAXA, Japan; Yinghui Li, China Astronaut Research and Training Center, China;

9.1. Challenges of Life Support - Medical Support for Manned Space Exploration

June 8 2017, 11:00 — Room 203 B

GLEX-2017.9.1.2

ETHOLOGICAL TOOLS APPLICATION ON CREWMEMBERS OVER 6-MONTH PERIODS OF CONFINEMENT FOR SPACE EXPLORATION

Carole Tafforin, Ethospace, France

GLEX-2017.9.1.3

IS THERE A CRITICAL PERIOD OF ADAPTATION FOR EXPLORERS? -- THE THIRD-QUARTER PHENOMENON IN SPACE AND ANALOG ENVIRONMENTS

Xianghe Zhu, Beijing Normal University, China

GLEX-2017.9.1.11

EFFECTS OF SPACEFLIGHT AND SIMULATED MICROGRAVITY ON CELL SUB-MICROSTRUCTURE AND ANTIOXIDANT ENZYME ACTIVITY IN TOMATO

Yu Chen, China Academy of Space Technology (CAST), China

GLEX-2017.9.1.16

RESEARCH PROGRESS AND THE PLANS OF BIOREGENERATIVE LIFE SUPPORT SYSTEMS FOR LUNAR PALACE 1

Hong Liu, Beihang University, China

GLEX-2017.9.1.17

PLANT SPACE MUTATION AND APPLICATION IN SPACE BREEDING

Jinying Lu, China Academy of Space Technology (CAST), China

9.2. Challenges of Life Support - Medical Support for Manned Space Exploration

June 8 2017, 16:00 — Room 203 B

GLEX-2017.9.2.1

OVERVIEW OF HUMAN-ENVIRONMENT INTERACTIONS STUDY IN 180-DAY INTEGRATED EXPERIMENT ON CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM (CELSS)

Xu Zi, Space Institute of Southern China (Shenzhen), China Astronaut Research and Training Center, China

GLEX-2017.9.2.4

MINDFUL MEDITATION AND YOGA AS POSSIBLE COUNTERMEASURES FOR MAINTAINING OPTIMUM PSYCHOLOGICAL HEALTH IN MARS ANALOG ASTRONAUTS SIMULATION MISSIONS DURING ISOLATION AND CONFINEMENT

Susan Ip, Mars Academy USA, United States

GLEX-2017.9.2.5

DEVELOPMENT AND APPLICATION OF HEALTH DATA INTEGRATION AND MANAGEMENT SYSTEM IN HUMAN-ENVIRONMENT EXPERIMENT

Zhili Tang, Space Institute of Southern China (Shenzhen), China Astronaut Research and Training Center, China

GLEX-2017.9.2.6

SIMULATE MICROGRAVITY ON THE GROUND TO PREPARE MANNED SPACEFLIGHT

Philippe Hazane, Institute for Space Medicine and Physiology/MEDES, France

GLEX-2017.9.2.7

NONINVASIVE DIAGNOSIS OF BONE LOSS AND RISK OF FRACTURE AND ACCELERATION OF HEALING USING GUIDED ULTRASOUND TECHNOLOGY

Yi-Xian Qin, State University of New York, United States

GLEX-2017.9.2.14

OXYGENATED VOLATILE ORGANIC COMPOUNDS IN 4-PERSON-180-DAY CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM

Kun Dai, Astronaut Center of China, China

GLEX-2017.9.2.15

PRESENT STATUS AND PROSPECT FOR CONTROLLED ECOLOGICAL LIFE SUPPORT TECHNIQUE

Shuangsheng Guo, Astronaut Center of China, China

10. Values and New Models for Space Exploration

Coordinator(s): Bernhard Hufenbach, European Space Agency (ESA), The Netherlands; Christian Sallaberger, Canadensys Aerospace Corporation, Canada;

10.1. Values and New Models for Space Exploration

June 8 2017, 11:00 — Room 203 D

GLEX-2017.10.1.1

THE DEVELOPMENT OF COMMERCIAL SPACE AND SUGGESTION

Zhang Zhenhua, China

GLEX-2017.10.1.2

SPACE MISSION COLLABORATION FOR THE BENEFIT OF HUMANITY

Yalda Mousavinia, Space Cooperative Inc., United States

GLEX-2017.10.1.3

AN OPEN ARCHITECTURE FRAMEWORK FOR A LOW COST MOON VILLAGE

Angeliki Kapoglou, Stanford d.school, United States

GLEX-2017.10.1.4

ORGANISING AN EMERGENT MARS PROGRAMME BY EMBRACING THE SPACE ENTHUSIAST PUBLIC: AN UPDATE ON THE MARTIAN TRUST AHEAD OF ITS PUBLIC DEBUT

Charles Polk, United States

GLEX-2017.10.1.5

LOW-COST SPACE-BASED GEOENGINEERING – A NECESSARY ALBEIT UNWELCOME SOLUTION TO CLIMATE CHANGE

Alex Ellery, Space Exploration and Engineering Group, Carleton University, Canada

GLEX-2017.10.1.6

ECONOMIC CONSIDERATIONS OF NEO EXPLORATION

Yufeng Gao, CASC, China

GLEX-2017.10.1.7

BENEFIT MANAGEMENT IN THE NEW EUROPEAN SPACE EXPLORATION ENVELOPE PROGRAMME (E3P): ESA'S ANSWER TO THE EUROPEAN SPACE EXPLORATION VISION IN THE AREA OF SPACE 4.0.

Stefaan De Mey, European Space Agency (ESA), The Netherlands

GLEX-2017.10.1.8

EXPLORATION AND RESEARCH IN THE DEVELOPMENT OF SPACE TOURISM COMMERCIALIZATION

Qun Cao, China Academy of Launch Vehicle Technology R&D Center, China

GLEX-2017.10.1.9

RESEARCH ON THE PROMOTION OF SPACE CIVIL

Shen Zongyue, Institute of China Aerospace Times Electronics Corporation, China

GLEX-2017.10.1.10

THE "MOON VILLAGE" CONCEPT

Piero Messina, European Space Agency (ESA), France

GLEX-2017.10.1.11

TOWARDS A COMMERCIAL SPACE PLAN: INSTITUTIONAL CONDITIONS OF A DIALOGUE WITH THE PRIVATE SECTOR IN A TIME OF MULTIFACETED CHANGES

Julie Patarin-Jossec, University of Bordeaux, France

GLEX-2017.10.1.12

PUBLIC INTEREST AND THE STRATEGIC GEOGRAPHY OF THE SOLAR SYSTEM AND BEYOND

Alexander MacDonald, NASA HQ, United States

11. Law Issues and Public Awareness Related to Space Exploration

Coordinator(s): Gilbert Kirkham, National Aeronautics and Space Administration (NASA), France; Li Shouping, Beijing Institute of Technology, China;

11.1. Law Issues and Public Awareness Related to Space Exploration

June 6 2017, 11:30 — Room 203 A

GLEX-2017.11.1.3

INTERNATIONAL COOPERATION IN SPACE EXPLORATION - A LEGAL DUTY?

Eytan Tepper, Institute of Air and Space Law, McGill University, Canada

GLEX-2017.11.1.9

RESEARCH ON LEGISLATIVE DEMAND OF COMMERCIAL SUB-ORBITAL FLIGHT IN CHINA

Qun Cao, China Academy of Launch Vehicle Technology R&D Center, China

GLEX-2017.11.1.12

SPACE TECHNOLOGY PROGRAM FOR SAVEGUARD OF ECOLOGICAL ZONES IN MEXICO

Danton Iván Bazaldua Morquecho, Space Generation Advisory Council (SGAC), Mexico

GLEX-2017.11.1.13

OUTER SPACE ETHICS: STATUS QUO, URGENCY AND RESEARCH FRAMEWORK

Chunping Fan, Beijing Institute of Technology (BIT), China

GLEX-2017.11.1.14

THE PEAKS OF ETERNAL LIGHT: A NEAR-TERM PROPERTY ISSUE ON THE MOON

Martin Elvis, Harvard-Smithsonian Center for Astrophysics (CfA), United States



GLEX-2017.11.1.16

TOWARDS THE INCREASING GLOBAL SPACE EXPLORATION: THE SPACE GOVERNANCE AND SPACE SUSTAINABILITY

Sizhu Liu, China

GLEX-2017.11.1.19

RESEARCH ON THE STRATEGIC CHANGE PROCESS OF AEROSPACE ENTERPRISES FROM COGNITIVE PERSPECTIVE

Xuwen Li, China Aerospace Science and Technology Corporation (CASC), China

11.2. Law Issues and Public Awareness Related to Space Exploration

June 6 2017, 17:00 — Room 203 A

GLEX-2017.11.2.1

THE ESTABLISHMENT OF AN INTERNATIONAL REGIME FOR EXPLOITING NATURE RESOURCES OF THE ASTEROIDS: TAKING INTO PARTICULAR ACCOUNT THE NEEDS OF DEVELOPING COUNTRIES
Mingyan Nie, Faculty of Law, Nanjing University of Aeronautics and Astronautics, China

GLEX-2017.11.2.2

DOMESTIC AUTHORIZATION AND SUPERVISION OF PRIVATE MEGA-CONSTELLATIONS OF SATELLITES: CHALLENGING INTERNATIONAL SPACE LAW?

Fabio Tronchetti, University of Mississippi, China

GLEX-2017.11.2.4

JURISDICTION REGIME FOR SPACE EXPLORATION: A DOCTRINAL LABYRINTH

Wanlu ZHANG, Leiden University, The Netherlands

GLEX-2017.11.2.5

LIABILITY FOR GLOBAL NAVIGATION SATELLITE SERVICES: FROM THE PERSPECTIVE OF BEIDOU SYSTEM

Kuan Yang, Beijing Institute of Technology, Institute of Space Law, China

GLEX-2017.11.2.7

SPACE GENERATION ADVISORY COUNCIL ON PROMOTING FUTURE SPACE COLLABORATION AMONG NEXT GENERATION IN ASIA-PACIFIC
Zihua Zhu, Space Generation Advisory Council (SGAC), Australia

GLEX-2017.11.2.8

VIRTUAL AND LEGAL CHALLENGES OF SPACE LAW AND OVERCOMING THEM

Mahshid TalebianKiakalayeh, Iran

GLEX-2017.11.2.11

HUMAN CENTERED DESIGN: A STRATEGIC PLANNING TOOL FOR ENGAGING STAKEHOLDERS FOR GLOBAL LUNAR EXPLORATION
Angeliki Kapoglou, Stanford d.school, United States

GLEX-2017.11.2.15

A 21ST CENTURY EDUCATIONAL ACADEMY DEVELOPING EXPERIENTIAL INNOVATIVE PROGRAMS AND TRAINING NEXTGEN ANALOG ASTRONAUTS IN SIMULATION MARS-MOON MISSIONS
Susan Ip, Mars Academy USA, United States

GLEX-2017.11.2.17

FROM SPUTNIK TO EXOMARS AND BEYOND - THE MOVING FRONTIER OF SPACE EXPLORATION - A 60 YEARS OVERVIEW

Piero Messina, European Space Agency (ESA), France

12. International Cooperation for Space Exploration

Coordinator(s): *Christian Sallaberger, Canadensys Aerospace Corporation, Canada; Kathy Laurini, National Aeronautics and Space Administration (NASA), United States;*

12.1. International Cooperation for Space Exploration

June 7 2017, 11:00 — Room 203 A

GLEX-2017.12.1.3

SPACE EXPLORATION TECHNOLOGY ROADMAPING AT THE CANADIAN SPACE AGENCY: A CONCEPT FOR A CAPABILITY ANALYSIS BASED PLANNING METHOD

Christian Lange, Canadian Space Agency, Canada

GLEX-2017.12.1.4

THE TELEMATICS INTERNATIONAL MISSION TIM FOR 3D EARTH OBSERVATION BY PICO-SATELLITES

Klaus Schilling, University Wuerzburg, Germany

GLEX-2017.12.1.5

FEASIBLE ANALYSIS AND CONCEPTION OF INTERNATIONAL COOPERATION ON ASTEROID EXPLORATION

Heng Zhang, Shanghai Insitute of Satellite Engineering, China

GLEX-2017.12.1.6

COOPERATION FOR THE DEVELOPMENT OF A SPACE EXPLORATION PROGRAM IN THE LATIN AMERICAN AND CARIBBEAN REGION.

Camilo Andrés Reyes Mantilla, International Space University (ISU), Colombia

GLEX-2017.12.1.7

REFLECTIONS ON THE MODE OF INTERNATIONAL COOPERATION IN SPACE EXPLORATION

Wenyi CAI, China Academy of Launch Vehicle Technology(CALT), China

GLEX-2017.12.1.8

PRESENT SITUATION AND DEVELOPMENTAL DEMAND OF SPACE INTERNATIONAL COOPERATION IN CHINA

Qun Cao, China Academy of Launch Vehicle Technology R&D Center, China

GLEX-2017.12.1.9

UPDATE ON THE POSSIBLE ITALIAN CONTRIBUTION IN THE NASA ASTEROID REDIRECT ROBOTIC MISSION (ARRM)

Marco Tantarini, Italian Space Agency (ASI), Italy

GLEX-2017.12.1.10

DESIGNING A LOW COST MOON VILLAGE FOR ALL HUMANITY

Angeliki Kapoglou, Stanford d.school, United States

13. Small Satellites

Coordinator(s): *Ming Li, China Academy of Space Technology (CAST), China; Pierre W. Bousquet, Centre National d'Etudes Spatiales (CNES), France;*

13.1. Small Satellites

June 6 2017, 11:30 — Room 203 B

GLEX-2017.13.1.1

OVERALL DESIGN OF SMALL SATELLITE CONSTELLATION FOR MARS DATA TRANSMISSION

Danna Wang, Shanghai Institute of Spaceflight Control Technology, China

GLEX-2017.13.1.2

STUDY ON COMMUNICATION TECHNOLOGY OF MICRO-SATELLITE NETWORK

Wang Lisheng, Rocket Research Institute, Inc., China

GLEX-2017.13.1.3

RESEARCH ON WIRELESS AD-HOC NETWORK FOR INTELLIGENT SATELLITE CLUSTER IN SPACE EXPLORATION

Zhi Yang, DFH Satellite Co. Ltd., China

GLEX-2017.13.1.6

THE ANALYSIS ON SYSTEMATIC DESIGN METHODS USED FOR SMALL INTEGRATED AEROSPACE VEHICLE

Rong Sun, Beijing Institute of Astronautical Systems Engineering, China

GLEX-2017.13.1.7

RESEARCH ON THE APPLICATION OF SMALL SATELLITE

Shen Zongyue, Institue of China Aerospace Times Electronics Corporation, China

GLEX-2017.13.1.8

EXPLORATION OF SMALL SATELLITE DEVELOPMENT MODE

Xiaojuan Yan, Shanghai Engineering Center for Microsatellites; Key Lab of Microsatellite, Chinese Academy of Sciences, China

GLEX-2017.13.1.14

A SELF-FLIGHT SOLAR SAIL MICROSATELLITE SYSTEM IN DEEP SPACE

Zhang Di, Shenzhen Aerospace Dongfanghong HIT Satellite Lt, China

GLEX-2017.13.1.16

APOD OBSERVATIONS BY MULTIPLE TECHNIQUES

Jing Sun, Beijing Aerospace Control Center (BACC), China

GLEX-2017.13.1.20

THE RESEARCH ON ADN BASED NON-TOXIC MICRO PROPULSION TECHNOLOGY FOR DEEP SPACE EXPLORATION CUBESATS

Xuhui Liu, Beijing Institute of Control Engineering, China

GLEX-2017.13.1.21

MICRO-SATELLITE'S ENERGY BALANCE ANALYSIS BASED ON THERMAL-ELECTRICAL MODELING

Pedro Nogueira, Beihang University (BUAA), China

GLEX-2017.13.1.23

DESIGN OF THERMAL MODEL AND IMPLEMENTATION OF THERMAL SOLUTIONS FOR NANO SATELLITE

Hemant Ganti, Manipal Institute of Technology, Manipal University, India

13.2. Small Satellites

June 6 2017, 17:15 — Room 203 B

GLEX-2017.13.2.5

FEASIBILITY STUDIES ON EMERGING COUNTRIES TO EMBRACE SMALL SATELLITE REVOLUTION

Zihua Zhu, Space Generation Advisory Council (SGAC), Australia

GLEX-2017.13.2.9

REQUIREMENT AND CRITICAL DESIGN PARAMETER ANALYSIS OF A NEW GENERATION MICROSATELLITE PLATFORM

Yuchen Bai, University of Michigan, United States

GLEX-2017.13.2.10

THE EVALUATION OF ONBOARD ELECTRONICS MANUFACTURE WITH SOC AND SIP TECHNIQUES IN SATELLITES

Hui Cao, Xi'an Microelectronics Technology Institute, China Academy of Space Electronics Technology (CASET), China Aerospace Science and Technology Corporation (CASC), China

GLEX-2017.13.2.11

A NOVEL DESIGN FOR ON-BOARD SOFTWARE FOR A NANOSATELLITE
Abhishek Goel, Birla Institute of Technology and Science(BITS)-Pilani, India

GLEX-2017.13.2.12

FINDING NEWSPACE: MISSION SCENARIOS UTILIZING LOTUS: LANDER/ORBITER TRANS-UPPER STAGE

Chrishma Singh-Derewa, National Aeronautics and Space Administration (NASA)/Jet Propulsion Laboratory, United States

GLEX-2017.13.2.15

CONCEPTUAL DESIGN AND IMPLEMENTATION OF ELECTRIC SAIL DEPLOYMENT MECHANISM

Bin Wang, Beihang University (BUAA), China

GLEX-2017.13.2.17

RESEARCH ON ATTITUDE CONTROL OF LOW-ORBIT SATELLITE BASE ON AERODYNAMIC DRAG

Yang Ming, College of Aerospace Science and Engineering, National University of Defense Technology; Science and Technology on Space Physics Laboratory, China

GLEX-2017.13.2.19

ORBIT MANEUVERS STRATEGY OF TG-02'S CONCOMITANT SATELLITE

Gefei LI, 1)Science and Technology on Aerospace Flight Dynamics Laboratory, 2)Beijing Aerospace Control Center, China

GLEX-2017.13.2.22

NUMERICAL SIMULATION OF THERMAL AND POWER ORBITS OF NANO SATELLITES

Bikash Adhikari, Univ. L'Aquila, Italy

P. Poster Session

June 8 2017, 13:00 — Poster Area (Foyer 2)

GLEX-2017.P.1.1

APPLICATION OF HETEROGENEOUS IP NETWORK TECHNOLOGY IN CHINESE SPACE STATION REMOTE SCIENCE EXPERIMENT

Suzhi Cao, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China

GLEX-2017.P.1.2

THE STUDY OF MARTIAN ROVER INCHING LOCOMOTION FOR DEEP SINKAGE CLIMBING UP

Zhuo Tao, Beijing Institute of Spacecraft System Engineering, China



GLEX-2017.P.1.4

INFLUENCE OF STAR ACTIVITY ON THE PRECISION OF SPECTRAL VELOCITY MEASUREMENT NAVIGATION

Wei You, Shanghai Institute of Satellite Engineering, China

GLEX-2017.P.1.5

A SMALL AIT FLOW AND TEST SYSTEM STRUCTURE FOR SMALL SATELLITES

Ben Xu, Shanghai Institute of Satellite Engineering, China

GLEX-2017.P.1.6

RESEARCH ON TT&C AND DATA TRANSMISSION INTEGRATED SYSTEM OF THE TT&C SYSTEM OF SATELLITE

Xin rong WEI, Beijing Institute of Spacecraft System Engineering, China

GLEX-2017.P.1.7

RESEARCH ON FLEXIBLE INTERFERENCE SUPPRESSION TECHNOLOGY FOR LARGE SOLAR PANEL OF SPACECRAFT

Wu Pengfei, Shanghai Institute of Spaceflight Control Technology, China

GLEX-2017.P.1.8

RESEARCH ON CALIBRATION METHOD OF HIGH ORBIT STAR SENSOR LOW FREQUENCY ERROR

Bo Pang, Beijing Institute of Control Engineering, China

GLEX-2017.P.1.9

A RAPID AERODYNAMIC SHAPE DESIGN TOOL FOR ENTRY VEHICLES INTEGRATED WITH TRAJECTORY OPTIMIZATION

Haogong Wei, Institute of Spacecraft System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.10

STUDY OF INFLUENCE OF CONTROL AND STOP CONTROL FOR SPACE STATION DURING TRANSFER

XuePing Hu, Shanghai Institute of Aerospace Technology, China

GLEX-2017.P.1.11

RESEARCH ON THE CELESTIAL SPHERE STELLAR IDENTIFICATION METHOD BASED ON DATA COMPRESSION

Lv Shaojie, N/A, China

GLEX-2017.P.1.12

A SELF-STABILIZING FAULT-TOLERANT TIME SYNCHRONIZATION ALGORITHM FOR MULTIPLE MODULAR REDUNDANCY ON-BOARD COMPUTER

KAI ZHANG, Beijing Institute of Control Engineering(BICE), China Academy of Space Technology(CAST), China

GLEX-2017.P.1.13

NUMERICAL CALCULATION ON ENERGY LOSS IN DISCHARGE CHANNEL OF HALL THRUSTER

Jianfei Long, Science and Technology on Vacuum Technology and Physics Laboratory, Lanzhou Institute of Physics, China

GLEX-2017.P.1.14

IMPROVING THE MECHANICAL PROPERTIES OF HIGH-EFFICIENCY IMPACTING ENERGY ABSORPTION ALLOY BY MODIFICATION OF MICROSTRUCTURES

Fusheng Han, China

GLEX-2017.P.1.15

THE ANALYSIS TO AVOID POTENTIAL COLLISION FOR SMALL AND MICRO SATELLITES THROUGH ATTITUDE CHANGE

Xu YANG, National Astronomical Observatories, Chinese Academy of Sciences, China

GLEX-2017.P.1.16

A SIMPLIFIED SERIES-PARALLEL STRUCTURE AND CONTROL STRATEGY FOR THE REGULATED PEAK POWER TRACKING SYSTEM

Huiying Liu, State Key Laboratory of Space Power Sources, China

GLEX-2017.P.1.17

A ROTATING LONG BASELINE INTERFEROMETER-BASED ALGORITHM FOR ELAVATION AND AZIMUTH ESTIMATION BASED ON STFT-IRT

Jingtao Ma, Shanghai Engineering Center for Microsatellites, China

GLEX-2017.P.1.18

HIGH-TEMPERATURE OXIDATION EQUIPMENT FOR SOLID WASTE TREATMENT IN A CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM EXPERIMENTAL PLATFORM

Pan Li, Space Institute of Southern China(Shenzhen), China

GLEX-2017.P.1.19

RESEARCH ON HIGH TEMPERATURE SIMULATION AND CONTROL FOR MULTILAYER INSULATION OF LUNAR LANDER

Xi Zhu, Beijing Institute of Spacecraft Environment Engineering, China

GLEX-2017.P.1.20

PATH PLANNING AND ANALYSIS FOR SPACE ROBOT TO APPROACH A TUMBLING SATELLITE

Xinglong Wang, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.21

THE REAL REASON FOR THE EARTH TO MOVE AWAY FROM THE SUN AND THE MOON TO MOVE AWAY FROM THE EARTH AS WELL AS THE FORMATION AND EVOLUTION OF GALAXIES

Cui-xiang Zhong, China

GLEX-2017.P.1.22

THE APPLICATION PROSPECT OF AIR-CORE PHOTONIC-BANDGAP FIBER-OPTIC GYROSCOPE ON SPACE EXPLORATION

Wenshuai Feng, China Academy of Aerospace Electronics Technology, China

GLEX-2017.P.1.23

DUAL VECTOR QUATERNIONS BASED FAULT TOLERANT POSE AND INERTIAL PARAMETERS ESTIMATION OF AN UNCOOPERATIVE SPACE TARGET USING TWO FORMATION FLYING SMALL SATELLITES

Xianghao Hou, National Key Laboratory of Aerospace Flight Dynamics, Northwestern Polytechnical University, NPU, China

GLEX-2017.P.1.24

A SERIES OF SOC DESIGNS FOR SPACE APPLICATIONS

Hui Cao, Xi'an Microelectronics Technology Institute, China Academy of Space Electronics Technology (CASET), China Aerospace Science and Technology Corporation (CASC), China

GLEX-2017.P.1.25

RECENT PROGRESSES ON RADIATION EFFECTS IN ELECTRONICS AND THE APPLICATIONS OF VARIOUS MANUFACTURING TECHNOLOGIES FOR RELIABILITY IN SPACE ELECTRONICS

Hui Cao, Xi'an Microelectronics Technology Institute, China Academy of Space Electronics Technology (CASET), China Aerospace Science and Technology Corporation (CASC), China

GLEX-2017.P.1.26

STUDY ON COMPOSTING OF SOLID WASTE IN 180-DAY INTERGRATED EXPERIMENT ON CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM (CELSS)

Chengxian Li, Space Institute of Southern China(Shenzhen), China

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LIGHT AND HIGH BENDING STIFFNESS SUPER THIN BIONIC STRUCTURE AND ITS SPACE APPLICATION PROSPECT

Shuqing Zhang, Beijing Institute of Control Engineering, China

GLEX-2017.P.1.28

A METHOD FOR CORRECTING THE IMAGE FUSION ERROR OF THREE NO-COLLINEAR CCD CHIPS SCANNING SENSOR

Tianyuan Yang, Beijing Institute of Space Mechanics&Electricity, China

GLEX-2017.P.1.29

DESIGN AND REALIZATION OF A VERY MINIATURIZED LOW-COST WIRELESS SUN SENSOR FOR MICROSATELLITE

Xiang Meng, Northwestern Polytechnical University, China

GLEX-2017.P.1.30

RELATIVE STATES DETERMINATION FOR SMALL SATELLITES FORMATION USING VIRTUAL SATELLITE BASED ON ANTENNA ARRAYS

Jiao Wang, National Key Laboratory of Aerospace Flight Dynamic, Northwestern Polytechnical University, China

GLEX-2017.P.1.32

THE DEVELOPMENT OF RADIATION CALIBRATION FOR SPACE REMOTE SENSING IN-FLIGHT

Chengguang Cui, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.33

THERMAL DESIGN AND ANALYSIS OF A MICRO ROTARY ACTUATOR FOR MARS EXPLORATION

Chunxu Yu, Beijing Institute of Control Engineering, China Academy of Space Technology, China

GLEX-2017.P.1.34

THE OPEN EXPERIMENTAL RESOURCES TO SERVE PAYLOADS FOR INTERNATIONAL COOPERATION ONBOARD SPACE STATION

Hong Yang, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.35

THE IMPACT OF SPACE ENVIRONMENT ON GENE EXPRESSION IN ARABIDOPSIS THALIANA SEEDLINGS

Huasheng Li, China Academy of Space Technology (CAST) Shenzhen Space Biotechnology Group, China

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TELEMETRY DATA OF SPACE STATION OUTLIER DETECTION BASED ON KPCA AND NAIVE BAYES

Wang Yan, China

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THE INTESTINAL MICROBIOTA CONTRIBUTES TO COLONIC EPITHELIAL CHANGES IN SIMULATED MICROGRAVITY MOUSE MODEL

Qing Ge, Peking University Health Science Center, China

GLEX-2017.P.1.38

INVESTIGATIONS ON SPACE TRANSPORTING SYSTEM SERVED FOR LONG-TERM ON-ORBIT SPACE STATION

Kouan Hao, Aerospace System Engineering Shanghai, China, China

GLEX-2017.P.1.39

RESEARCH ON 6-DOF MOTION MEASUREMENT BASED ON RADAR FOR SPACE RENDEZVOUS AND DOCKING

Haiqiang Wang, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.40

RESEARCH ON DIGITAL MODELING AND VERIFICATION OF SPACECRAFT BASED ON MBSE

Li Naihai, China

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A SOLVING METHOD FOR THE INVERSE KINEMATICS OF 7DOF SPACE MANIPULATOR

Zhenhua Lv, Beijing Institute of Control Engineering, China

GLEX-2017.P.1.43

RESEARCH ON NEW MODE OF MANNED LUNAR MISSION BASED ON IN-SITU RESOURCE UTILIZATION

Guo Linli, Institute of Manned Space System Engineering, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.44

RESEARCH ON DEMONSTRATION OF SPACE-BASED SATELLITES CAPTURE AND TRACKING

Jianyang Wang, Beijing Institute of Space Mechanics & Electricity, CAST, China

GLEX-2017.P.1.45

A STAR IDENTIFICATION ALGORITHM BASED ON FOCUS TRIANGLE OF ELLIPSE

Lingling Wu, China

GLEX-2017.P.1.46

EARTH-MOON L2 LIBRATION POINT RELAY SATELLITE LONG-TIME SHADOW ANALYSIS AND AVOIDANCE

Weiguang Liang, Beijing Aerospace Control Center, China

GLEX-2017.P.1.47

SPACE LABORATORY MISSION RELAY SATELLITE SYSTEM SUN OUTAGE EFFECT AND COUNTERMEASURE

Weiguang Liang, Beijing Aerospace Control Center, China

GLEX-2017.P.1.48

APPLICATION AND DEVELOPMENT OVERVIEW OF SIMULATION TECHNOLOGY IN AEROSPACE

Zhihua Chen, Beijing Institute of Control Engineering, China

GLEX-2017.P.1.49

EFFECT ANALYSIS OF CASCADE SOLIDITY ON INDUCER PERFORMANCE

Zhuang Suguo, Xi'an Aerospace Propulsion Institute, China

GLEX-2017.P.1.51

DEVELOPMENT OF MINIATURE CONTROL MOMENT GYROSCOPE FOR SMALL SATELLITES

Lin Lai, Beijing Institute of Control Engineering, China

GLEX-2017.P.1.52

THE STUDY OF ALGORITHM BASED ON SPACE ROUTER

Xiuhua Li, Shanghai Aerospace Electronic Co.,LTD, China

GLEX-2017.P.1.53

SPACE LONG-RANGE DETECTION TECHNOLOGY BASED ON SINGLE-PHOTON

Fu Lianxiao, Shanghai Aerospace Control Technology Institute, China



GLEX-2017.P.1.54

AERODYNAMIC CONFIGURATION DESIGN AND NUMERICAL SIMULATION OF A NEW MARS REENTRY HYPERSONIC VEHICLE
Zi-han Jiao, China Academy of Launch Vehicle Technology, China

GLEX-2017.P.1.55

AN ARCHITECTURE DESCRIPTION LANGUAGE FOR ON-ORBIT SPACECRAFT DISTRIBUTED STORAGE SYSTEM BASED ON ADL
Lei Yan, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China

GLEX-2017.P.1.56

A BIBLIOMETRIC ANALYSIS OF INTERNATIONAL SCIENTIFIC COOPERATION IN THE FIELD OF SPACE EXPLORATION FROM 2000 TO 2016
Yu Shang, Beijing institute of aerospace testing technology, China

GLEX-2017.P.1.57

DYNAMIC ANALYSIS OF SMALL SATELLITE SEPARATION SYSTEM
Shipeng KANG, Aerospace System Engineering Shanghai, China, China

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RESEARCH ON PLASMA-DISCHARGING PROTECTION TECHNIQUE FOR FLEXIBLE SOLAR ARRAYS OF CHINA'S SPACE STATION AND ON-ORBIT EXPERIMENT VERIFICATION
Botao DUAN, , China

GLEX-2017.P.1.59

BASIC STUDY ON THIXO-FORMING OF THIN-WALLED ELECTRONIC PACKAGING SHELL WITH SEMI-SOLID ALUMINUM ALLOY
Chenyang Zhang, Beijing Institute of Space Mechanics and Electricity, China

GLEX-2017.P.1.60

THE CONSTRUCTION PLANNING FOR SPACE STATION OF FLIGHT CONTROL CENTER COMPUTER SYSTEM
Xia Wang, , China

GLEX-2017.P.1.61

MANNED SPACECRAFT SAFELY NONDESTRUCTIVE INSPECTION WITH TERAHERTZ WAVES
Xuling Lin, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.62

IN-FLIGHT ABSOLUTE RADIOMETRIC CALIBRATION VERIFICATION METHOD OF SOLAR BLIND ULTRAVIOLET CAMERA BASED ON ULTRAVIOLET STARS
Hhui ting G ao, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.63

DEVELOPMENT OF A LOW-RESISTIVITY DIELECTRIC TO ENHANCE SATELLITE EPDS RELIABILITY
Rui Li, Beijing Institute of Control Engineering, China Academy of Space Technology, China

GLEX-2017.P.1.65

DEVELOPMENT OF THE SPACE ROBOTS IN THE SPACE FLIGHTS
Wang Youyu, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology, China

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RESEARCH ON THE MICRO-THRUST MEASUREMENT METHOD BASED ON THE PRINCIPLE OF ELECTROMAGNETIC TORSION BALANCE
Bingtao Gao, , China

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HYBRID PEAK POWER TRACKING STRATEGY FOR SMALL SATELLITE
Longlong Zhang, Shandong Aerospace Electro-technology Institute, China Academy of Space Technology, China

GLEX-2017.P.1.68

THE DEVELOPMENT SITUATION AND ORBITAL LIFETIME ANALYSIS OF MICRO-SATELLITE
Shi Qiu, , China

GLEX-2017.P.1.69

USED IN THE LUNAR SOIL SAMPLES OF HIGH VACUUM SEALING TECHNOLOGY RESEARCH
Kecheng Wang, Lanzhou Institute of Physics, China

GLEX-2017.P.1.70

STUDY ON RANDOM EXPLORATION PLAN USING GYROPLANE BASED ON MARS ATMOSPHERIC CIRCULATION
Yanzhi Li, Shanghai Institute of Satellite Engineering, China

GLEX-2017.P.1.71

ADAPTIVE MULTIPLE FADING FACTORS THREE-STAGE KALMAN FILTER FOR STATE AND FAULT ESTIMATION OF LINEAR SYSTEMS WITH UNKNOWN INPUTS
Qiang Xiao, Beijing Institute of Space Launch Technology, China

GLEX-2017.P.1.72

CONNECTION DESIGN FOR PROPULSION SYSTEM MODULE ADAPTED FOR PROPELLANT REFUELING OF THE SERVICE MODULE OF TIANGONG-2 SPACE LABORATORY
Lichun Li, Shanghai Aerospace Systems Engineering Institute, China

GLEX-2017.P.1.74

RESEARCH ON SUNGLINT POINT POSITIONING ACCURACY BASED ON GREENHOUSE GAS DETECTOR
Jianjie Yin, , China

GLEX-2017.P.1.75

PHASING STRATEGY OF LUNAR ORBIT RVD OPERATION: DESIGN AND FLIGHT TEST
Zhong-Sheng Wang, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.76

RESEARCH ON AUTOMATIC CONTROL SYSTEM OF MULTI-XENON LAMPS FOR SIMULATED SOLAR RADIATION IN SPACE ENVIRONMENT
Juan Ning, Beijing Institute of Spacecraft Environment Engineering, China

GLEX-2017.P.1.77

RESEARCH AND APPLICATION FOR NEW DEPLOYABLE RE-ENTRY AND ENTRY TECHNOLOGY
Xiangyang Hou, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.78

PRELIMINARY DESIGN OF MANNED LUNAR EXPLORATION MISSION BASED ON HUMAN-ROBOT COMBINATION
Lin Tian, China Academy of Space Technology (CAST), China

GLEX-2017.P.1.79

NUMERICAL SIMULATION OF GRAIN'S DYNAMIC REGRESSION PROCESS FOR N2O/HTPB HYBRID ROCKET MOTORS
Yu Zhao, Shanghai Academy of Spaceflight Technology, China

GLEX-2017.P.1.80

DATA-BASED RESEARCH OF STAR SENSOR EFFICIENCY
Xiaohong Fu, Beijing Aerospace Control Center (BACC), China

GLEX-2017.P.1.81

OPTIMAL DESIGN AND ANALYSIS OF MULTI-IMPULSE HOVERING ORBIT FOR EARTH SATELLITE
Yamin Wang, Shanghai Engineering Center for Microsatellites; Key Lab of Microsatellite, Chinese Academy of Sciences, China

GLEX-2017.P.1.82

THE RISK DECISION-MAKING BEHAVIORS IN AN ISOLATED AND CONFINED ENVIRONMENT: A SMALL SAMPLE STUDY
Qianying Ma, Beihang University (BUAA), China

GLEX-2017.P.1.83

IONOSPHERE ELECTRIC FIELD DETECTION TECHNOLOGY
Cheng Li, Lanzhou Institute of Physics, China

GLEX-2017.P.1.84

A NEW ROUTING PROTOCOL FOR DEEP SPACE COMMUNICATION BASED ON NETWORK CODING
Liye Zhao, DFH Satellite Co. Ltd., China

GLEX-2017.P.1.85

TECHNICAL DEVELOPMENT OF HIGH-PRECISION TEMPERATURE CONTROL TECHNOLOGY FOR SPACECRAFT
Dong La, Shanghai Institute of Satellite Engineering, China

GLEX-2017.P.1.86

STUDY ON EFFECTS OF THE COMBINED RED LED LIGHT WITH BLUE AND GREEN LIGHT ON GROWTH AND OXYGEN-RELEASING CAPACITY OF SPIRULINA PLATENSIS
Rui Xin Mao, Astronaut Center of China, China

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Mao, Rui Xin	CA	GLEX-2017.P.1.86
Maolong, Feng	CA	GLEX-2017.2.1.32
Marshall, Paul	CA	GLEX-2017.3.2A.2
Mascetti, Gabriele	CA	GLEX-2017.12.1.9
Massobrio, Federico	CA	GLEX-2017.5.1.6
Massobrio, Federico	CA	GLEX-2017.3.3.1
Mastrogioseppe, Marco	CA	GLEX-2017.12.1.9
McGrath, Michael	CA	GLEX-2017.5.1.4
Meng, Linzhi	CA	GLEX-2017.4.1.3
Meng, Linzhi	A	GLEX-2017.5.1.3
Meng, Qiao	CA	GLEX-2017.3.1A.1
Meng, Xiang	CA	GLEX-2017.P.1.29
Meng, Xiangang	CA	GLEX-2017.P.1.63
Meng, Yunhe	CA	GLEX-2017.2.2.33
Meng, Zhanfeng	CA	GLEX-2017.P.1.75
Merrell, Phil	CA	GLEX-2017.3.1A.6
Messina, Piero	CA	GLEX-2017.11.2.17
Messina, Piero	CA	GLEX-2017.10.1.10
Miao, Jun	CA	GLEX-2017.1.2.15
Miao, Jun	CA	GLEX-2017.8.3.21
Miao, Xin	CA	GLEX-2017.P.1.63
Milligan, Tony	CA	GLEX-2017.11.1.14
Milligan, Tony	CA	GLEX-2017.3.1B.7
Ming, Liu	CA	GLEX-2017.13.2.17
Ming, Shen	CA	GLEX-2017.4.1.8
Ming, Yang	CA	GLEX-2017.13.2.17
Moseman, Travis	CA	GLEX-2017.5.1.5
Mousavinia, Yalda	CA	GLEX-2017.10.1.2
Muehlbauer, Quirin	CA	GLEX-2017.5.1.2
Mugnolo, Raffaele	CA	GLEX-2017.12.1.9
Musetti, Bruno	CA	GLEX-2017.5.1.1

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Name	Role	Paper
Naderi, Firouz	CA	GLEX-2017.6.1.4
Naihai, Li	A	GLEX-2017.P.1.40
Naletto, Giampiero	CA	GLEX-2017.12.1.9
Narita, Shinichiro	CA	GLEX-2017.3.2A.1
Nie, Mingyan	CA	GLEX-2017.11.2.1
Ning, Juan	CA	GLEX-2017.P.1.76
Ning, Zhengzhi	CA	GLEX-2017.9.2.5
Nogueira, Pedro	A	GLEX-2017.13.1.21
Norris, Scott	CA	GLEX-2017.3.2A.2

O

Name	Role	Paper
O'Brien, Brian J.	CA	GLEX-2017.3.2B.4
Oliveira, Renan Felipe	A	GLEX-2017.13.1.21
Ortner, Thomas	CA	GLEX-2017.8.1.7
Osinovyy, Gennadiy	CA	GLEX-2017.3.3.10

P

Name	Role	Paper
Paar, Gerhard	CA	GLEX-2017.8.1.7
Pan, Li	CA	GLEX-2017.1.2.6
Pan, Zhanchun	CA	GLEX-2017.9.2.1
Pan, Zhanchun	CA	GLEX-2017.9.2.5
Pang, Bo	CA	GLEX-2017.P.1.8
Patarin-Jossec, Julie	CA	GLEX-2017.10.1.11
Paul, Robert	CA	GLEX-2017.5.1.2
Pei, Guo	CA	GLEX-2017.2.2.10
Pelle, Stewart	CA	GLEX-2017.5.1.6
Pelle, Stewart	CA	GLEX-2017.3.3.1
Peng, Yuming	CA	GLEX-2017.4.1.9
Peng, Yuming	CA	GLEX-2017.12.1.5
Pengfei, Wu	CA	GLEX-2017.P.1.7
Pengmei, Xu	CA	GLEX-2017.P.1.74
Perino, Maria Antonietta	CA	GLEX-2017.5.1.6
Perino, Maria Antonietta	CA	GLEX-2017.3.3.1
Perret, Alain	CA	GLEX-2017.7.1.11
Petraz, Stefano	CA	GLEX-2017.5.1.1
Picard, Martin	CA	GLEX-2017.3.2A.1
PIGULEVSKI, IOURI	CA	GLEX-2017.7.2.13
Ping, Fu	CA	GLEX-2017.7.1.1
PING, Jinsong	CA	GLEX-2017.1.1.14
Ping, Jinsong	CA	GLEX-2017.13.1.16
Ping, Jinsong	CA	GLEX-2017.3.1A.1
PING, Jinsong	CA	GLEX-2017.3.3.5
PING, Jinsong	CA	GLEX-2017.3.4.8
Pisseloup, Aurelien	CA	GLEX-2017.8.2.4
Piña López, Yair Israel	CA	GLEX-2017.11.1.12
Piña López, Yair Israel	CA	GLEX-2017.12.1.6
Polk, Charles	CA	GLEX-2017.10.1.4
Powell, Stefan	CA	GLEX-2017.13.2.12
Powell, Stefan	CA	GLEX-2017.6.1.3
Prado, Jean-Yves	CA	GLEX-2017.4.1.1
Prado, Jean-Yves	CA	GLEX-2017.7.1.11
Pramann, Brian	CA	GLEX-2017.5.1.4
Pratt, William	CA	GLEX-2017.3.2A.3

Q

Name	Role	Paper
Qi, Rui	CA	GLEX-2017.8.2.11



Qi, Xin	CA	GLEX-2017.2.2.30
Qian, Haipeng	CA	GLEX-2017.1.2.15
Qian, Haipeng	CA	GLEX-2017.8.3.21
Qiang, Huiping	CA	GLEX-2017.P.1.87
Qiao, Dong	CA	GLEX-2017.3.4.10
Qiao, Jinxiu	CA	GLEX-2017.8.1.23
Qiao, Kuangyi	CA	GLEX-2017.P.1.1
Qin, Yi-Xian	CA	GLEX-2017.9.2.7
Qingxiang, Zhang	CA	GLEX-2017.6.1.2
Qiu, Chengbo	CA	GLEX-2017.P.1.81
Qiu, Shi	CA	GLEX-2017.P.1.68
Qu, Guangji	CA	GLEX-2017.P.1.20
Qu, Lina	CA	GLEX-2017.9.2.1
Quan, Wei	CA	GLEX-2017.8.1.15
Quaregna, Abele	CA	GLEX-2017.1.2.12

R

Name	Role	Paper
Raje, Saurabh	CA	GLEX-2017.13.2.11
Ramesh, Rakshith	CA	GLEX-2017.3.2A.9
Rao, Wei	A	GLEX-2017.5.1.3
Redlich, Daniel	CA	GLEX-2017.5.1.2
Reed, Heather	CA	GLEX-2017.5.1.4
Regnier, Marine	CA	GLEX-2017.8.2.4
Reiss, Philipp	CA	GLEX-2017.3.3.2
Reyes Mantilla, Camilo Andrés	CA	GLEX-2017.11.1.12
Reyes Mantilla, Camilo Andrés	CA	GLEX-2017.12.1.6
Richter, Lutz	CA	GLEX-2017.5.1.2
Richter, Lutz	CA	GLEX-2017.3.3.2
Roman-Gonzalez, Avid	CA	GLEX-2017.5.1.12
Ryan, Sean	CA	GLEX-2017.5.1.4

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Name	Role	Paper
Saghamanesh, Mohammadreza	CA	GLEX-2017.8.2.17
Sato, Naoki	CA	GLEX-2017.3.2A.1
Schilling, Klaus	CA	GLEX-2017.12.1.4
Schlacher, Kurt	CA	GLEX-2017.12.1.4
Schlutz, Juergen	CA	GLEX-2017.1.2.9
Schrogl, Kai-Uwe	CA	GLEX-2017.10.1.10
Shang, Mingyou	CA	GLEX-2017.P.1.77
Shang, Yu	A	GLEX-2017.P.1.56
Shaobo, Wang	CA	GLEX-2017.P.1.84
Shaojie, Lv	CA	GLEX-2017.P.1.11
Sharaf, Omran Anwar Alsayed Mohd Ali	CA	GLEX-2017.5.1.4
Sharma, Shubham	CA	GLEX-2017.13.2.11
Shen, Bin	CA	GLEX-2017.P.1.19
Shen, Dan	CA	GLEX-2017.10.1.6
SHEN, Zhenghui	CA	GLEX-2017.P.1.57
Shengyi, Jin	CA	GLEX-2017.3.2B.10
Sherwood, Brent	CA	GLEX-2017.6.1.4
Shi, Guang	CA	GLEX-2017.1.1.11
Shi, Junxiu	CA	GLEX-2017.P.1.37
Shi, Pingyan	CA	GLEX-2017.8.1.16
Sihao, Zhao	CA	GLEX-2017.2.2.10
Simioni, Emanuele	CA	GLEX-2017.12.1.9
Singh-Derewa, Chrishma	CA	GLEX-2017.13.2.12
Singh-Derewa, Chrishma	CA	GLEX-2017.6.1.3
Smith, Phil	CA	GLEX-2017.10.1.12
Smorshko, Ilya	CA	GLEX-2017.3.3.13
Song, Guangming	CA	GLEX-2017.2.2.8
Song, Jinping	CA	GLEX-2017.9.2.1
Song, Juan	CA	GLEX-2017.P.1.90
SONG, Jun	CA	GLEX-2017.13.2.19
SONG, Linyu	CA	GLEX-2017.P.1.57

Song, Xiaohui	CA	GLEX-2017.P.1.63
Song, Xu	CA	GLEX-2017.P.1.53
Sotin, Christophe	CA	GLEX-2017.6.1.4
Spiero, François	CA	GLEX-2017.1.2.9
Stephenson, Keith	CA	GLEX-2017.3.2A.1
Steyn, Willem (Herman)	CA	GLEX-2017.12.1.4
Sudars, Martins	CA	GLEX-2017.8.2.4
Suguo, Zhuang	CA	GLEX-2017.P.1.49
Sulla, Joseph	CA	GLEX-2017.3.1A.6
Sun, Chao	CA	GLEX-2017.3.4.10
Sun, Jing	CA	GLEX-2017.13.1.16
Sun, Liang	CA	GLEX-2017.1.1.10
Sun, Qiao	CA	GLEX-2017.9.1.11
Sun, Qiao	CA	GLEX-2017.P.1.35
Sun, Rong	CA	GLEX-2017.13.1.6
Sun, Wei	CA	GLEX-2017.2.1.11
Sun, Yukun	CA	GLEX-2017.P.1.81
Sun, Zezhou	CA	GLEX-2017.5.1.3

T

Name	Role	Paper
Tafforin, Carole	CA	GLEX-2017.9.1.2
TalebianKiakalayeh, Mahshid	CA	GLEX-2017.11.2.8
Tang, Geshi	CA	GLEX-2017.13.1.16
TANG, Jie	CA	GLEX-2017.P.1.57
Tang, Yongkang	CA	GLEX-2017.1.2.5
Tang, Yuhua	CA	GLEX-2017.3.4.10
Tang, Zhili	CA	GLEX-2017.P.1.82
Tang, Zhili	CA	GLEX-2017.9.2.1
Tang, Zhili	CA	GLEX-2017.9.2.5
Tantardini, Marco	CA	GLEX-2017.12.1.9
Tao, Deng	CA	GLEX-2017.8.1.10
Tao, Zhuo	CA	GLEX-2017.P.1.2
Tepper, Eytan	CA	GLEX-2017.11.1.3
TIAN, DAI	CA	GLEX-2017.6.1.2
Tian, Jia	CA	GLEX-2017.8.1.16
Tian, Jifeng	CA	GLEX-2017.P.1.18
Tian, Licheng	CA	GLEX-2017.7.1.14
Tian, Lin	CA	GLEX-2017.4.1.7
Tian, Lin	CA	GLEX-2017.3.3.12
Tian, Lin	CA	GLEX-2017.P.1.78
Tinjod, Nathalie	CA	GLEX-2017.11.2.17
Tong, Jiao	CA	GLEX-2017.P.1.53
TORTEEKA, PEERAPONG	A	GLEX-2017.4.1.8
Traxler, Christoph	CA	GLEX-2017.8.1.7
Tronchetti, Fabio	CA	GLEX-2017.11.2.2
Trucco, Roberto	CA	GLEX-2017.12.1.9
Tzschichholz, Tristan	CA	GLEX-2017.12.1.4

U

Name	Role	Paper
Ulamec, Stephan	CA	GLEX-2017.4.1.4

V

Name	Role	Paper
Vargas, André	CA	GLEX-2017.7.1.11
Vargas-Cuentas, Natalia Indira	CA	GLEX-2017.5.1.12
Vekinis, Giorgios	CA	GLEX-2017.8.2.4
Vos, Heleen	CA	GLEX-2017.2.2.27

W

Name	Role	Paper
Wali, Mohammad Abdulrahim Mtaher Mohd	CA	GLEX-2017.5.1.4
Wan, Yumin	CA	GLEX-2017.9.2.1
Wang, Bin	CA	GLEX-2017.13.2.15
Wang, Danna	CA	GLEX-2017.13.1.1
Wang, Daqing	CA	GLEX-2017.8.1.16
Wang, Gong	CA	GLEX-2017.2.2.1
Wang, Haiqiang	CA	GLEX-2017.P.1.39
Wang, Haiyan	CA	GLEX-2017.P.1.18
Wang, Haoze	CA	GLEX-2017.7.2.16
Wang, Huamao	CA	GLEX-2017.1.1.11
Wang, Jianfeng	CA	GLEX-2017.8.1.18
Wang, Jianyong	CA	GLEX-2017.P.1.44
Wang, Jiao	CA	GLEX-2017.P.1.30
Wang, Kecheng	CA	GLEX-2017.P.1.69
Wang, Lishi	CA	GLEX-2017.9.2.1
Wang, Meng	CA	GLEX-2017.3.4.5
Wang, Mingyuan	CA	GLEX-2017.3.1A.1
Wang, Mingyuan	CA	GLEX-2017.3.4.8
Wang, Peng	CA	GLEX-2017.4.1.6
Wang, Ping	CA	GLEX-2017.3.3.11
WANG, Quan	CA	GLEX-2017.P.1.57
Wang, Senlin	CA	GLEX-2017.9.2.1
Wang, Wei	CA	GLEX-2017.6.1.8
Wang, Wei	CA	GLEX-2017.8.1.16
Wang, Xia	CA	GLEX-2017.P.1.60
Wang, Xinglong	CA	GLEX-2017.P.1.20
Wang, Xinsheng	CA	GLEX-2017.13.1.21
Wang, Yamin	CA	GLEX-2017.P.1.81
Wang, Yang	CA	GLEX-2017.2.2.10
Wang, Yang	CA	GLEX-2017.2.2.30
Wang, Yang	CA	GLEX-2017.3.2B.3
Wang, Yang	CA	GLEX-2017.8.2.13
Wang, Yiwu	CA	GLEX-2017.P.1.5
Wang, Yunpeng	CA	GLEX-2017.8.1.8
Wang, Zhibin	CA	GLEX-2017.2.1.25
Wang, Zhong	CA	GLEX-2017.7.2.17
Wang, Zhong-Sheng	CA	GLEX-2017.P.1.75
Wangjun, ZHANG	CA	GLEX-2017.4.1.5
Wangjun, ZHANG	CA	GLEX-2017.3.3.7
Wei, Chuanfeng	CA	GLEX-2017.2.1.3
Wei, Chuanfeng	CA	GLEX-2017.2.1.11
Wei, Chuanfeng	CA	GLEX-2017.P.1.34
Wei, Haogong	CA	GLEX-2017.P.1.9
Wei, Rao	CA	GLEX-2017.13.1.14
WEI, Xiaoqing	CA	GLEX-2017.7.1.3
WEI, Xin rong	CA	GLEX-2017.P.1.6
Weidang, Ai	CA	GLEX-2017.P.1.18
Weihs, Hendrik	CA	GLEX-2017.8.2.4
Wen, Wen	CA	GLEX-2017.P.1.27
Wenxiao, Li	CA	GLEX-2017.3.1A.1
Wenze, Yu	CA	GLEX-2017.2.2.10
Whitley, Ryan	CA	GLEX-2017.3.2A.1
Withnell, Pete	CA	GLEX-2017.5.1.4
Worms, Jean-Claude	CA	GLEX-2017.1.2.9
Wu, Andong	CA	GLEX-2017.9.2.1
Wu, Andong	CA	GLEX-2017.9.2.5
Wu, Chongyang	CA	GLEX-2017.1.2.6
Wu, Chongyang	CA	GLEX-2017.P.1.18
Wu, Dengyun	CA	GLEX-2017.P.1.51
Wu, Ke	CA	GLEX-2017.3.1A.3
Wu, Lingling	CA	GLEX-2017.P.1.45
Wu, Qipeng	CA	GLEX-2017.1.1.13
Wu, Ruilin	CA	GLEX-2017.P.1.82

Wu, Weiren	CA	GLEX-2017.4.1.6
Wu, Xue Ying	CA	GLEX-2017.3.1A.3
Wu, Xue Ying	CA	GLEX-2017.3.4.2
Wu, Xueying	CA	GLEX-2017.3.1A.4

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Name	Role	Paper
Xiao, Han	CA	GLEX-2017.13.1.2
Xiao, Qiang	CA	GLEX-2017.P.1.71
Xiao, Wang	CA	GLEX-2017.7.1.15
XiaoGuang, Lei	CA	GLEX-2017.3.1A.5
Xiaonan, Wang	CA	GLEX-2017.3.4.3
Xie, Yong Chun	CA	GLEX-2017.8.1.8
Xie, Yong Chun	CA	GLEX-2017.P.1.48
Xie, Yong Chun	CA	GLEX-2017.P.1.93
Xing, Mailing	CA	GLEX-2017.P.1.28
Xing, Zhuoyi	A	GLEX-2017.6.1.1
Xiong, Jianghui	CA	GLEX-2017.P.1.82
Xiong, Jianghui	CA	GLEX-2017.9.2.1
Xiong, Jianghui	CA	GLEX-2017.9.2.5
Xu, Ben	CA	GLEX-2017.P.1.5
Xu, Chunling	CA	GLEX-2017.7.1.8
Xu, Kunbo	CA	GLEX-2017.2.2.8
Xu, Liang	CA	GLEX-2017.6.1.8
Xu, Yingqiao	CA	GLEX-2017.4.1.3
Xuemei, Ma	CA	GLEX-2017.11.1.19

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Name	Role	Paper
Yamada, Tetsuya	CA	GLEX-2017.8.2.4
Yan, Jindong	CA	GLEX-2017.1.1.11
Yan, Lei	CA	GLEX-2017.P.1.55
Yan, Li	CA	GLEX-2017.2.2.10
Yan, Shen	CA	GLEX-2017.13.1.20
Yan, Wang	CA	GLEX-2017.P.1.36
Yan, Xiaojuan	CA	GLEX-2017.13.1.8
Yanbo, Wang	CA	GLEX-2017.8.1.10
Yang, Biao	CA	GLEX-2017.P.1.34
Yang, Da-tao	CA	GLEX-2017.4.1.8
Yang, Fanglin	CA	GLEX-2017.P.1.52
Yang, Hong	CA	GLEX-2017.2.2.10
Yang, Hong	CA	GLEX-2017.8.2.13
Yang, Hong	A	GLEX-2017.P.1.34
Yang, Jiaxin	CA	GLEX-2017.2.2.30
Yang, Juntai	CA	GLEX-2017.7.2.17
Yang, Keying	CA	GLEX-2017.8.2.11
Yang, Kuan	CA	GLEX-2017.11.2.5
Yang, Liang	CA	GLEX-2017.13.2.10
Yang, Liang	CA	GLEX-2017.P.1.24
Yang, Mei	CA	GLEX-2017.3.3.3
Yang, Sheng	CA	GLEX-2017.3.3.4
Yang, Tianyuan	A	GLEX-2017.P.1.28
Yang, Wei	CA	GLEX-2017.7.2.17
YANG, Xu	CA	GLEX-2017.P.1.15
Yang, Xuan	CA	GLEX-2017.P.1.91
Yang, Xuan	CA	GLEX-2017.3.4.6
Yang, Zhi	CA	GLEX-2017.13.1.3
Yanming, Wei	CA	GLEX-2017.13.1.20
Yao, Fei	CA	GLEX-2017.1.1.11
Yao, Zhaopu	CA	GLEX-2017.13.1.20
Yao, Zhengping	CA	GLEX-2017.P.1.85
Ye, Mao	CA	GLEX-2017.P.1.91
Ye, Mao	CA	GLEX-2017.3.4.6
Yi, Lian	CA	GLEX-2017.3.4.1
Yifan, Liu	CA	GLEX-2017.P.1.40



Yin, Jianjie	CA	GLEX-2017.P.1.74
Ying, Chen	CA	GLEX-2017.9.2.1
Ying, ZHAO	CA	GLEX-2017.8.3.9
You, Wei	CA	GLEX-2017.P.1.4
Youyu, Wang	CA	GLEX-2017.P.1.65
Yu, Chunxu	CA	GLEX-2017.P.1.33
Yu, Guoqing	CA	GLEX-2017.3.2B.6
Yu, Huan-Huan	CA	GLEX-2017.4.1.8
Yu, Qingni	CA	GLEX-2017.1.2.5
Yu, Qingni	CA	GLEX-2017.1.2.6
Yu, Qingni	CA	GLEX-2017.P.1.18
Yu, Qingni	CA	GLEX-2017.9.2.14
Yu, Xiaozhou	CA	GLEX-2017.P.1.29
Yu, Zhengshi	CA	GLEX-2017.4.1.6
Yuan, Yanhong	CA	GLEX-2017.9.2.5
Yuan, Yuan	CA	GLEX-2017.7.2.5
Yusheng, Yi	CA	GLEX-2017.2.2.10
Yusheng, Yi	CA	GLEX-2017.8.2.13
Yuwei, Ma	CA	GLEX-2017.6.1.1

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Name	Role	Paper
Zaman, Muhammad Faisul uz	CA	GLEX-2017.2.1.16
ZENG, Ling-bin	CA	GLEX-2017.1.2.15
ZENG, Ling-bin	CA	GLEX-2017.8.3.21
Zengchuang, Xu	CA	GLEX-2017.2.1.4
Zhai, Baichen	CA	GLEX-2017.P.1.51
Zhai, Zaiteng	CA	GLEX-2017.P.1.85
Zhang, Baoping	CA	GLEX-2017.7.1.14
Zhang, Chenyang	CA	GLEX-2017.P.1.59
Zhang, Haochun	CA	GLEX-2017.7.2.12
Zhang, He	CA	GLEX-2017.3.3.3
Zhang, He	CA	GLEX-2017.3.4.2
Zhang, Heng	CA	GLEX-2017.12.1.5
Zhang, Jianjun	CA	GLEX-2017.8.1.15
Zhang, Jianqin	CA	GLEX-2017.P.1.16
Zhang, Jianxin	CA	GLEX-2017.P.1.79
Zhang, Jingrui	CA	GLEX-2017.8.2.11
ZHANG, KAI	CA	GLEX-2017.P.1.12
Zhang, Lihua	CA	GLEX-2017.4.1.6
Zhang, Lihua	CA	GLEX-2017.3.2B.2
Zhang, Longlong	CA	GLEX-2017.P.1.67
Zhang, Nan	A	GLEX-2017.1.2.5
Zhang, Peng	CA	GLEX-2017.P.1.77
Zhang, Pinliang	CA	GLEX-2017.2.2.8
Zhang, Qiang	CA	GLEX-2017.3.2B.6
Zhang, Qiao	CA	GLEX-2017.2.1.3
Zhang, Ruonan	CA	GLEX-2017.P.1.30
Zhang, Shuqing	CA	GLEX-2017.P.1.27
Zhang, Tianping	CA	GLEX-2017.7.1.14
Zhang, Tianping	CA	GLEX-2017.7.2.17
Zhang, Ting	CA	GLEX-2017.P.1.87
ZHANG, Wanlu	CA	GLEX-2017.11.2.4
Zhang, Wei	CA	GLEX-2017.6.1.8
Zhang, Xiangyu	CA	GLEX-2017.6.1.2
Zhang, Xubin	CA	GLEX-2017.13.1.6
Zhang, Yalin	CA	GLEX-2017.3.2B.3
Zhang, Yichao	CA	GLEX-2017.13.1.6
Zhang, Yonghe	CA	GLEX-2017.P.1.81
Zhang, Yutu	CA	GLEX-2017.12.1.4
Zhang, Zhe	A	GLEX-2017.4.1.6
Zhao, Chengren	CA	GLEX-2017.7.1.14
Zhao, Kanglian	CA	GLEX-2017.8.2.14
Zhao, Liye	CA	GLEX-2017.P.1.84
Zhao, Sheng	A	GLEX-2017.7.2.5
Zhao, Yang	CA	GLEX-2017.6.1.1

Zhao, You	CA	GLEX-2017.4.1.8
Zhao, Yu	CA	GLEX-2017.P.1.79
Zheng, Mengxing	CA	GLEX-2017.P.1.45
Zheng, Yuzhan	CA	GLEX-2017.6.1.2
Zhenhua, Zhang	CA	GLEX-2017.10.1.1
Zhijun, Tu	CA	GLEX-2017.13.1.2
Zhong, Cui-xiang	CA	GLEX-2017.P.1.21
Zhou, Feng	CA	GLEX-2017.P.1.28
Zhou, Jun	CA	GLEX-2017.P.1.29
Zhou, Wei-ping	CA	GLEX-2017.4.1.8
Zhou, Wenyan	CA	GLEX-2017.3.3.3
Zhou, Xiaodong	CA	GLEX-2017.P.1.27
Zhou, Yongqi	CA	GLEX-2017.8.2.14
Zhou, Zhicheng	CA	GLEX-2017.P.1.20
Zhu, Jialong	CA	GLEX-2017.1.1.4
Zhu, Xi	CA	GLEX-2017.P.1.19
Zhu, Xianghe	CA	GLEX-2017.9.1.3
Zhu, Zihua	CA	GLEX-2017.11.2.7
Zhu, Zihua	CA	GLEX-2017.13.2.5
Zi, Xu	CA	GLEX-2017.P.1.82
Zi, Xu	CA	GLEX-2017.9.2.1
Ziach, Christian	CA	GLEX-2017.4.1.4
Ziyan, Xie	CA	GLEX-2017.P.1.36
Zongyue, Shen	CA	GLEX-2017.13.1.7
Zongyue, Shen	CA	GLEX-2017.10.1.9

Next IAF Global Conference:

GLOBAL SPACE APPLICATIONS CONFERENCE 2018 (GLAC 2018)

The International Astronautical Federation (IAF) and the Centro de Investigación y Difusión Aeronáutica Espacial (CIDA-E) are pleased to announce that the next instalment in the IAF Global Series Conference, the Global Space Applications Conference 2018 (GLAC 2018), will take place in Punta del Este Uruguay on 14 – 16 May 2018. More information on the event will be published soon on www.glac2018.org.



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| ✓ Aerial Imagery/Photography | ✓ Earth Observation | ✓ INSPIRE | ✓ Risk Management |
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| ✓ Data Capture/Collection | ✓ GIS | ✓ Municipal GIS | ✓ Topographic Mapping |
| ✓ DEM- Digital Elevation Model | ✓ GIS in Agriculture & Forestry | ✓ Navigation | ✓ Total Station |
| ✓ DGPS - Differential GPS | ✓ GLONASS | ✓ Network Topology | ✓ Tracking & Route Planning |
| ✓ Digital City Models | ✓ GMES | ✓ NSDI | ✓ Transport |
| ✓ Digital Mapping | ✓ GNSS | ✓ Open GIS | ✓ Utilities GIS |
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| ✓ Disaster Management/Monitoring | ✓ GSDI | ✓ Photogrammetry | ✓ VRS - Virtual Reference Station |
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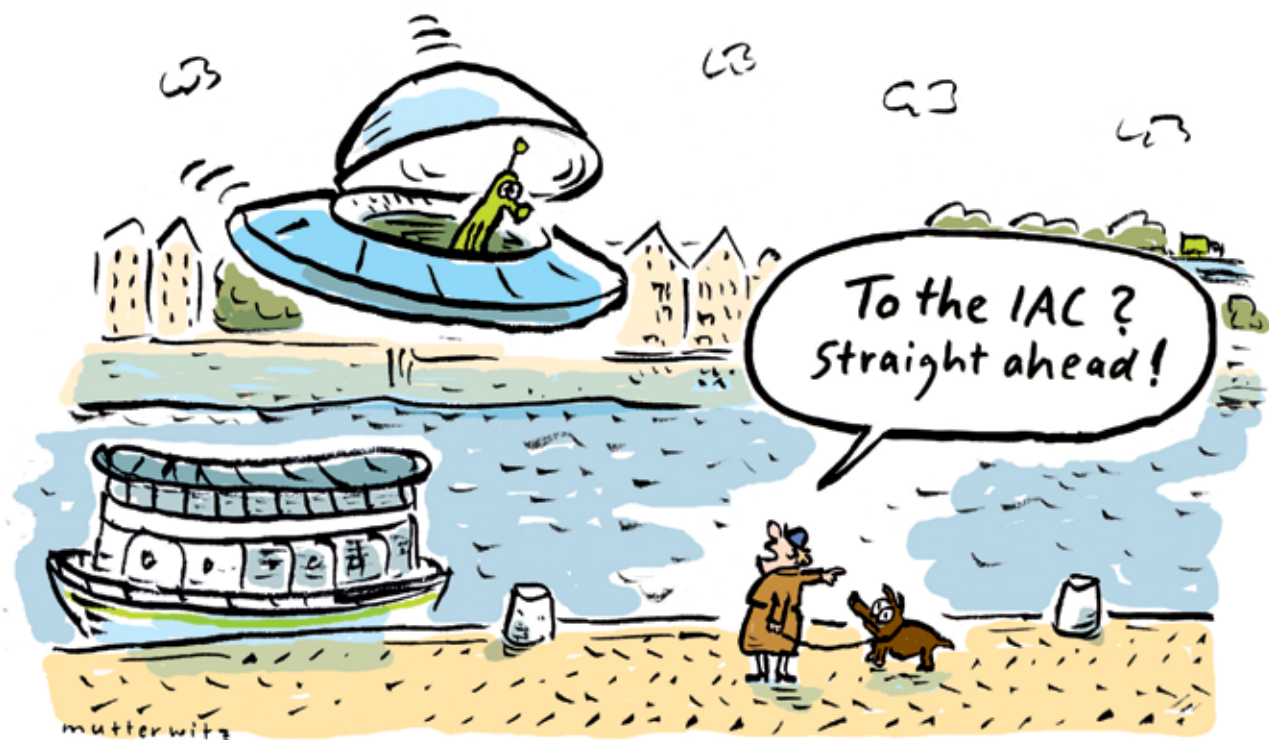


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