



Global Conference on Space  
and the Information Society

# FINAL PROGRAMME

**6 - 7 June 2016**

Geneva, Switzerland, ITU Headquarters

*Connecting the World via Space  
– Policies, Technologies,  
Applications*

[www.glis2016.org](http://www.glis2016.org)





和德宇航  
CHINA HEAD  
AEROSPACE TECHNOLOGY CO

HEAD is a professional space company dedicating in exploration of international cooperation, internationalization service and space technology application. After years of development, relying on the marketing system in Europe, excellent international relationships, and an international marketing and management team with high market sensitivity, special skills and skilled in business rules, we have accumulated rich experience in international business and joint R&D

We have participated in Chinese manned space project, lunar exploration project, Beidou and Gaofen project, etc. Satisfied the urgent needs of development and production for the key national space projects, With the Outstanding contribution we receive high praise from space community. HEAD is a leading company in international cooperation area for China Space.

Since 2014, we devoted to micro-satellite and its applications as our main strategy. In accordance with our development target, we established HEAD NL in Netherlands as advanced payload and application innovation center. We established a joint-venture with China Space Shanghai which dedicate in micro-satellite platform/constellation and launch services.

We are a company dedicate to space exploration and space application, we believe that space will change our life.

Tel : +86 10 82890174  
Fax : +86 10 82780152  
E-mail: info@head-aerospace.com  
Location: B-11A-02 Keshi Plaza,  
28# Shangdi Xinxu Road,  
Beijing, 100085



# GLOBAL SPACE EXPLORATION CONFERENCE (GLEX 2017)

6 - 8 June 2017  
Beijing, China

The GLEX 2017 programme is designed to bring together leaders and decision-makers within the science and human exploration community – engineers, scientists, entrepreneurs, educators, agency representatives and policy makers. It will provide a forum to discuss recent results, current challenges and innovative solutions and it will contain several opportunities to learn about how space exploration investments provide benefits as well as discuss how those benefits can be increased through thoughtful planning and cooperation.

[www.glex2017.org](http://www.glex2017.org)





SPONSORS AND PARTNERS

Sponsors



Media Partners



IAF Alliance Programme Partners



CONTENTS

1	Welcome Messages .....	4
1.1	Messages from the IAF .....	4
1.2	Message from ITU .....	5
1.3	Message from the IPC Co-Chairs .....	6
2	Organisers .....	7
2.1	International Astronautical Federation (IAF) .....	7
2.2	The International Telecommunication Union (ITU) .....	7
3	International Programme Committee .....	8
3.1	International Programme Committee Co-Chairs .....	8
3.2	International Programme Committee Members .....	8
4	Practical Information .....	9
4.1	Floor Plan .....	9
4.2	Locations and Opening Hours .....	10
4.3	Metro / Public transport .....	10
4.4	WiFi .....	11
4.5	Certificate of attendance .....	11
5	Conference Programme .....	12
5.1	Conference at a Glance .....	12
5.2	Day-by-day .....	13
	- Sunday, 5 June .....	13
	- Monday, 6 June .....	14
	- Tuesday, 7 June .....	20
6	Gala Dinner .....	23





## 1 WELCOME MESSAGES

### 1.1 Welcome Messages from the International Astronautical Federation

On behalf of the International Astronautical Federation (IAF), I welcome you to Geneva and to the Global Conference on Space and the Information Society (GLIS 2016). I am delighted to be jointly hosting this important international meeting with the International Telecommunication Union (ITU) on UN Sustainable Development Goals, Space Activities, Satellite Communications, Information Economy, Space Services and Security. The IAF and ITU are firmly committed to supporting the international cooperation that enables users worldwide to gain the maximum possible benefits from space business area interest, such as exploration or propulsion.

At GLIS 2016, collaborative solutions to how different space technologies can be employed to connect all the world's people – wherever they live and whatever their means – will be discussed.

The plenary sessions will cover the challenging impact of ITU on space activities, the contributions of satellite communications to disaster management and climate change, developments in military satellite programmes, the future of the orbit/spectrum resource, and the role of big data in satellite remote sensing.

I thank everyone who worked to develop and manage this joint event. I sincerely hope you enjoy your time at the conference, and thank you for your participation!



**Kiyoshi Higuchi**

*President*

International Astronautical Federation (IAF)

In my role as Bureau VP for Global Member Development and Global Conferences, it is my privilege to welcome you to this very important conference. At first glance you may consider GLIS to be more adjacent rather than directly aligned with your core business. In fact, you will find that GLIS will benefit all S&T organizations in the international space arena. The main purpose of GLIS 2016 will be to examine and discuss the different means by which space allows people to connect worldwide. GLIS 2016 will analyse in detail the impact that space policies, space technologies and space applications have on the daily life of people, organisations.



**Mary Snitch**

*Vice President for Global Membership Development and Global Conferences,*

International Astronautical Federation (IAF)

### 1.2 Welcome Message from ITU

Ladies and gentlemen,

Dear GLIS 2016 participants,

It is a privilege for me to welcome you to Geneva, "la cité de Calvin", a city so full of history and tradition. It is also the host city of the oldest intergovernmental organization in the world and member of the United Nations – the International Telecommunication Union.

Indeed, last year we celebrated the 150<sup>th</sup> anniversary of the establishment of ITU in 1865, and this year we are celebrating the 110<sup>th</sup> anniversary of the treaty that governs radiocommunications – the Radio Regulations – the first edition of which was adopted by 109 participants representing 29 States in Berlin in 1906.

Some 110 years later, the World Radiocommunication Conference in 2015 attracted some 3275 participants, which was a record. It indicated emphatically the importance the world places on radiocommunications today.

However, whether it was a mere hundred or so participants in 1906 or several thousand in 2015, agreement reached at WRCs is invariably by consensus, and WRC-15 was no exception. Agreement was reached by consensus on all items on the agenda, with no need for a vote even on such sensitive and emotional issues as global flight tracking to improve aviation safety, IMT and fixed-satellite service spectrum sharing, mobility for stations in the FSS, improved access to Earth exploration-satellite services, and so on.

The ITU Radio Regulations – a binding intergovernmental treaty governing administrations' use of spectrum/orbit resources – are a success story in terms of international cooperation among ITU Members States backed by the tremendous support of the telecommunication industry represented by ITU Radiocommunication Sector Members, Associates and Academia.

The ITU Radiocommunication Sector is committed to maintaining right of access to the radio-frequency spectrum and satellite-orbit resources, and to ensuring their rational, equitable, efficient and economical use, free from harmful interference.

This mechanism, which is a global asset to communications worldwide, is supported by international regulations, global standards, and guidelines with the assistance of the ITU Radiocommunication Bureau.

Through our concerted efforts, we can help remove the obstacles that impede the development new satellite networks and applications and bringing them into operation to connect the unconnected around the world.

I am very pleased that GLIS 2016 is meeting here at ITU.

I wish you every success, and assure you that my colleagues in ITU and I will do everything we can to facilitate your work.



**Houlin Zhao**

*Secretary General*

International Telecommunication Union (ITU)







## 1.3 Welcome Message from the IPC Co-Chairs

Dear participants in GLIS 2016!

The International Programme Committee welcomes you to Geneva. We are confident that you will spend two exciting days at GLIS 2016. The International Programme Committee worked for you to engage top class experts as speakers and moderators and to shape a programme, which covers the most relevant and important issues related to space and the information society.

The International Astronautical Federation is partnering for GLIS 2016 with the International Telecommunication Union, the main international actor in this field. Together we would like to investigate with you how space applications are shaping the information society. Since space has entered practically all fields of society, a special focus on the information society is most appropriate, since it is one of the strategically and economically most relevant policy areas.

We wish you interesting panels, discussions and interactions during GLIS 2016, which has been prepared for you to receive the most up-to-date and authoritative insight in space and the information society.



**Yvon Henri**  
International Telecommunication  
Union (ITU)  
GLIS 2016 IPC Co-Chair



**Kai-Uwe Schrogl**  
European Space Agency (ESA)  
GLIS 2016 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 300 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", 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](mailto:info@iafastro.org)  
Website: [www.iafastro.org](http://www.iafastro.org)



### 2.2 The International Telecommunication Union (ITU)

ITU was founded in Paris in 1865 as the International Telegraph Union. It took its present name in 1934, and in 1947 became a specialized agency of the United Nations. ITU is the United Nations specialized agency for information and communication technologies – ICTs. ITU allocates global radio spectrum and satellite orbits, develops the technical standards that ensure networks and technologies seamlessly interconnect, and strives to improve access to ICTs to underserved communities worldwide. ITU is committed to connecting all the world's people. An organization based on public-private partnership since its inception, ITU currently has a membership of 193 countries and almost 800 private-sector entities and academic institutions. ITU is headquartered in Geneva, Switzerland, and has twelve regional and area offices around the world. Founded on the principle of international cooperation between governments (Member States) and the private sector (Sector Members, Associates and Academia), ITU is the premier global forum through which parties work towards consensus on a wide range of issues affecting the future direction of the ICT industry's.

#### The International Telecommunication Union (ITU)

Place des Nations  
1211 Geneva 20 Switzerland

Phone: +41 22 730 5111 (ITU Switchboard)  
Fax: +41 22 733 7256  
Email: [itumail@itu.int](mailto:itumail@itu.int)







## 3 INTERNATIONAL PROGRAMME COMMITTEE

### 3.1 International Programme Committee Co-Chairs



**Yvon Henri**  
International  
Telecommunication  
Union (ITU)



**Kai-Uwe Schrogl**  
European Space Agency  
(ESA)

### 3.2 International Programme Committee Members



**Francisco Mendieta**  
Mexican Space Agency  
(AEM)



**Stéphane Berthet**  
University of Geneva



**Rob Briskman**  
Telecommunications  
Engineering Consultants  
LLC



**Christina Giannopapa**  
European Space Agency  
(ESA)



**Mahulena Hofmann**  
University of Luxembourg



**Otto Koudelka**  
Graz University of  
Technology



**Christiane Lechtenboerger**  
German Aerospace Center  
(DLR)



**Attila Matas**  
International  
Telecommunication  
Union (ITU)



**Peter Stubbe**  
German Aerospace Center  
(DLR)



**Morio Toyoshima**  
National Institute of  
Information and  
Communications  
Technology



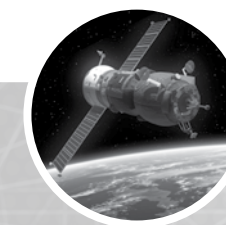
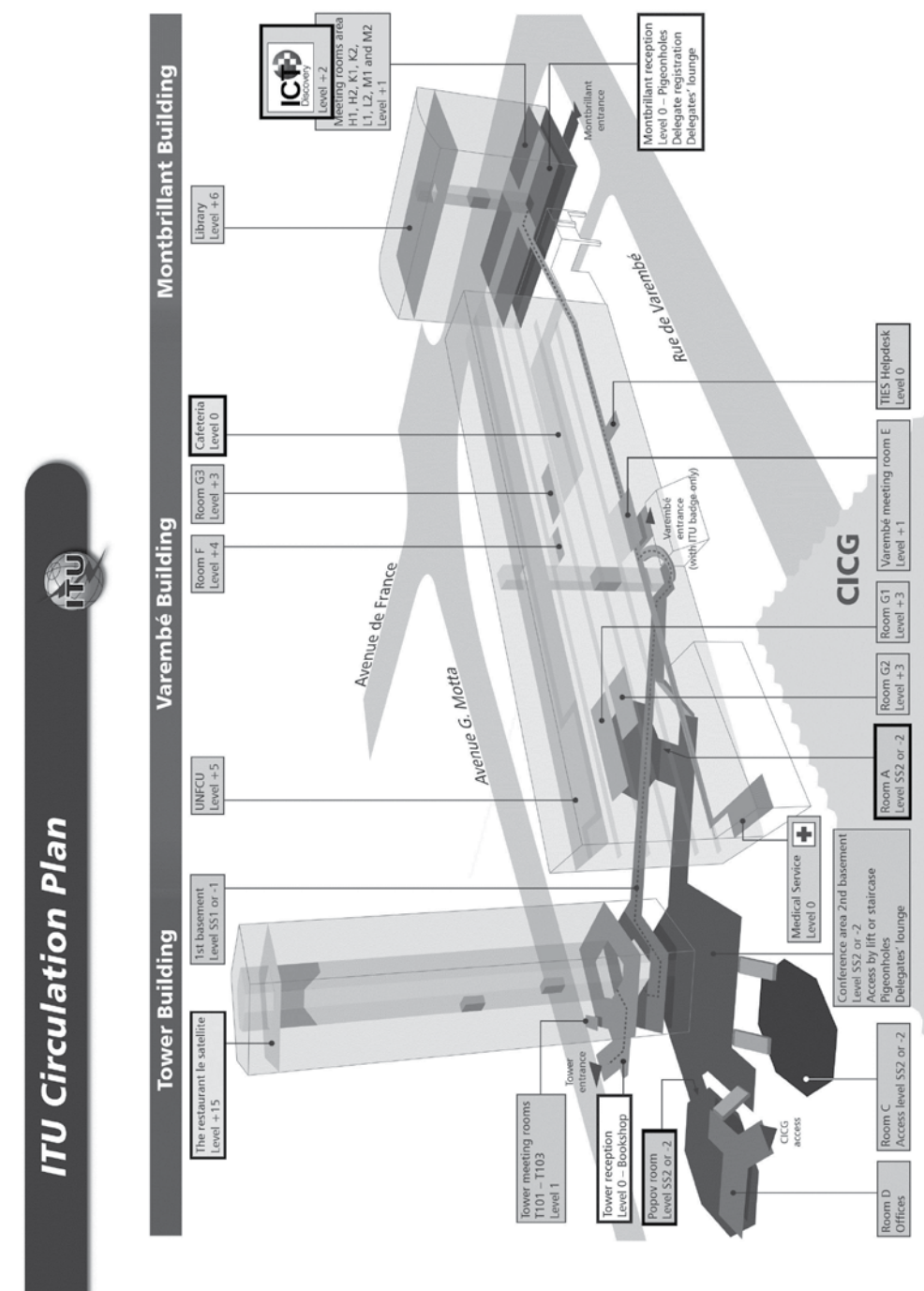
**Chris Welch**  
International Space  
University (ISU)



**Manfred Wittig**  
MEW-Aerospace

## 4 PRACTICAL INFORMATION

### 4.1 Floor Plan







## 4.2 Locations and Opening Hours

### Registration

Monday 6 June – 08:00 -12:30 and 13:30 - 17:00  
Tuesday 7 June – 08:30 - 12:30 and 13:30 - 15:30

The registration desk will be located at the Montbrillant entrance (2 rue de Varembe, extension 6788 or 6789).

Registration for Space-Up will be on Sunday 5 June 9:30 - 10:00 at Tower Entrance (Avenue Giuseppa-Motta 54).

### Session/Plenaries

Location: Popov Room

### Space Up

Location: Room A

### WIA-E Breakfast

Location: ICT Discovery

## 4.3 Metro / public transport

### From Cointrin Airport

Anyone arriving at Geneva Airport can obtain a free ticket (for immediate use) for 80 minutes' travel on the Geneva transport system. The ticket machine is located just before the customs control area in the luggage claim area.

Bus 5 (direction "Thônex-Vallard", get off at Nations)

Bus 28 (direction "Jardin botanique", get off at Nations)

Every 15-20 minutes until 19:00 hours, then less frequent; 17 minute journey.

### From the city center and railway station

Bus 5 (direction "Aéroport", get off at Nations)

Bus 8 (direction "OMS", get off at UIT)

Bus 11 (direction "Jardin Botanique", get off at UIT)

Bus 22 (direction "Nations", get off at UIT)

Tram 15 (direction "Nations", get off at Nations)

Frequent service all day and evening; 10 minute journey. The fare from town is CHF 3.00 (select the "Tout Genève" ticket at the machine, valid for one hour).

## Car rental and parking

Most major car rental companies are represented at the airport. Parking is available at the Parking des Nations, adjacent to ITU.

### Taxis

Taxis can be ordered online (<http://www.taxi-phone.ch/>) or by telephone (022 331 4133), or picked up at the 60 or so taxi ranks located around the city and at the airport.

The fare from the airport to the city center varies from CHF 30 to 35 and depends on traffic flow, time of day and number of passengers. Within Geneva, including the airport, the amount to be paid is as shown on the meter.

## 4.4 Wi-Fi

Fast and open Wi-Fi access will be provided in all ITU meeting rooms with the network ID: **ITUwifi**

The password will be clearly visible/posted in all meeting rooms.

## 4.5 Certificate of Attendance

Certificates of Attendance are available on request from the on-site registration desk. Claims of hours of applicability toward professional education requirements are the responsibility of the participant.

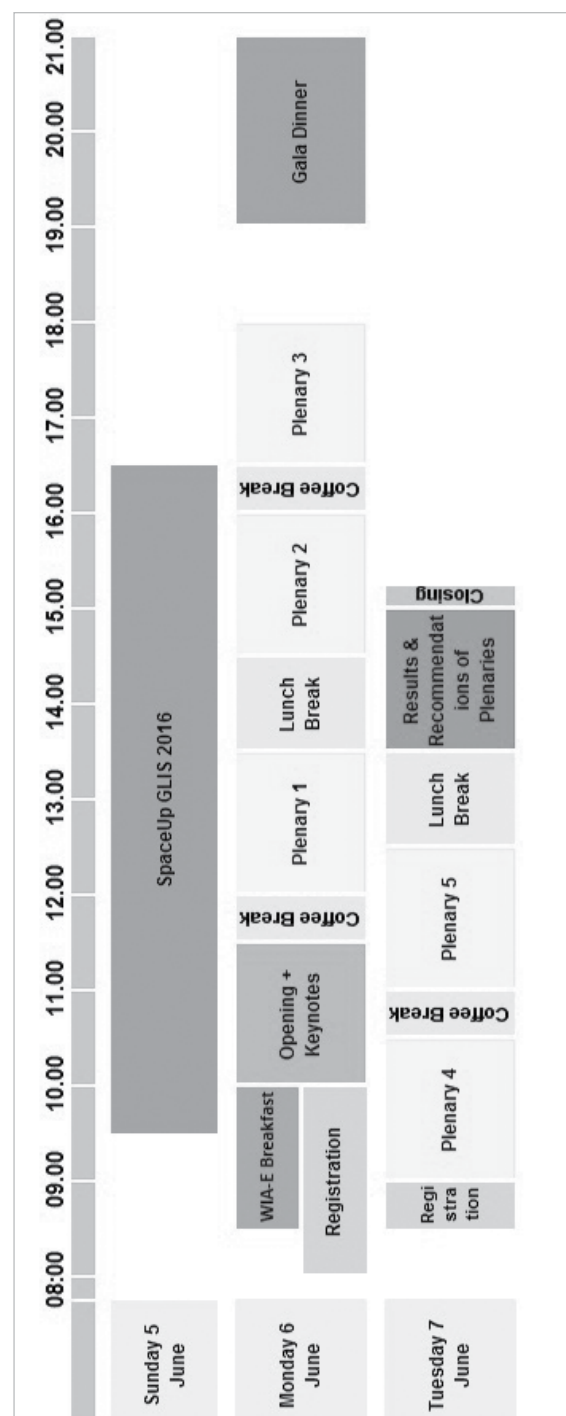






## 5 CONFERENCE PROGRAMME

### 5.1 Conference at a Glance



### 5.2 Day-by-day (Plenaries & Side Events)

#### Sunday, 5 June

09:30 – 16:30 Space Up GLIS2016

Room A



#### 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 real-time, collaborative, engaging and innovative.

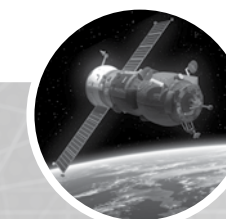
#### What is SpaceUp GLIS?

SpaceUp GLIS is a SpaceUp being organised by the IAF the day before GLIS. Organised by 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 GLIS will be reported to the main conference to inform the delegates there.

#### Who should attend SpaceUp GLIS?

- Students and young professionals interested/active in either the space or information domains in areas such as technology, policy, science, regulation, security, development, etc.
- GLIS delegates who want to take part in an activity that not only actively bridges space and the information society, but is also a prime example of the synergy between the two.

Sponsored by:







## Global Conference on Space and the Information Society

Geneva, Switzerland, ITU Headquarters

6 - 7 June 2016



### Monday, 6 June

#### 08:00 – 17:00 REGISTRATION

##### Montbrillant reception

Please note that the registration will be closed between 12:30 - 13:30

#### 08:30 – 10:00 WIA-E BREAKFAST

##### ICT Discovery

**WOMEN IN AEROSPACE EUROPE**

**'WIA-Europe Networking Breakfast'**  
Monday, 6<sup>th</sup> June 2016, 08:30 - 10:00  
Global Conference on "Space and the Information Society - GLIS 2016",  
ITU Headquarters (ICT Discovery), Place des Nations 1211, Geneva 20 Switzerland

At the occasion of the Global Conference on "Space and the Information Society - GLIS 2016", co-organized by the IAF and ITU in Geneva 6-7 June 2016, Women in Aerospace Europe kindly invites interested men and women to attend a WIA-E Networking Breakfast featuring prominent speakers. This is an exclusive networking opportunity to meet and exchange with colleagues and friends and support WIA-Europe's Vision of

**"A European aerospace sector with an inclusive representation on all levels".**

**Programme**

**Moderator:**  
Elena Feichtinger, WIA-Europe Executive Director

**08:30 - 08:50 Welcome:**  
Simonetta di Pippo, WIA-Europe President  
Houlin Zhao, Secretary General, ITU  
Kiyoshi Higuchi, President of the International Astronautical Federation

**08:50 - 09:30 Speakers:**  
Jennifer Warren, Lockheed Martin Corporation, Vice President, Technology Policy & Regulation  
Jean-Yves Le Gall, President, Centre National d'Études Spatiales CNES; IAF President Elect  
Roberto Battiston, President, Italian Space Agency ASI; IAF Vice-President

**09:30 - 10:00 Networking**

**GLIS 2016**  
Global Conference on Space and the Information Society  
6 - 7 June 2016  
Geneva, Switzerland,  
ITU Headquarters  
Connecting the World via Space -  
Politics, Technology, Applications  
www.glis2016.org

With strong support by the WIA-E Geneva Local Group  
Access is free but registration obligatory!  
RSVP by 1 June 2016 to [executive.director@wia-europe.org](mailto:executive.director@wia-europe.org)



#### 10:00 – 11:30 OPENING CEREMONY

##### Popov Room

The GLIS 2016 Opening Ceremony will outset the Conference and set the pace for the following five panels. Kiyoshi Higuchi, IAF President, and Houlin Zhao, ITU Secretary General, will welcome the international delegates and present the general scope and aim of the event. Chris Welch, IAF Vice President for Education and Workforce Development, will present the results of the SpaceUp GLIS, the unconference that took place on Sunday. To follow, prominent international speakers will deliver high-level keynotes: Jennifer Warren, Lockheed Martin's Vice President for Technology Policy & Regulation Trade & Regulatory Affairs will present the industry view on the conference topics while Badri Younes, NASA Deputy Associate Administrator for Space Communications, and Karsten Geier, Head of the Cyber Policy Coordination Office in Germany, will present an agency and government perspective. To conclude, Jean-Yves Le Gall, CNES President and IAF Incoming President, will deliver a talk on the COP21 results.

##### Speakers:



**Houlin Zhao**  
Secretary General  
International  
Telecommunication  
Union (ITU)



**Kiyoshi Higuchi**  
President  
International  
Astronautical Federation  
(IAF)



**Chris Welch**  
Vice President for  
Education and Workforce  
Development / SpaceUp  
GLIS Chair  
International Astronautical  
Federation (IAF)

##### Keynote Speakers:



**Karsten Geier**  
Head at Cyber Policy  
Coordination Office  
Germany's Federal  
Foreign Office



**Jennifer Warren**  
Vice President, Technology  
Policy & Regulation Trade  
& Regulatory Affairs  
Lockheed Martin  
Corporation (LMC)



**Jean-Yves Le Gall**  
President  
Centre National D'Études  
Spatiales (CNES)  
Incoming President  
International Astronautical  
Federation (IAF)



**Badri Younes**  
Deputy Associate  
Administrator for Space  
Communications and  
Navigation  
National Aeronautics and  
Space Administration  
(NASA)

#### 11:30 – 12:00 COFFEE BREAK

In front of the Popov Room







## Global Conference on Space and the Information Society

Geneva, Switzerland, ITU Headquarters

6 - 7 June 2016



### 12:00 – 13:30 PLENARY 1

#### Popov Room

Plenary 1 will be devoted to the influence of the International Telecommunication Union on Space Activities. Its main focus will be on the results of the 2015 World Radiocommunication Conference which adopted numerous decisions significant for activities in outer space. The panel discussing these results will be chaired by Yvon Henri, Chief of Space Department of the Radiocommunication Bureau. The expert speakers Khalid Al-Awadi (ITU), Daniela Genta (ESOA), Robin Geiss (Glasgow University), John Purvis (SES) and Badri Younes (NASA) – will analyse these developments and focus especially on the problems of the protection of C-Band for space communication, on the guarantee of spectrum for unmanned aircraft systems, and explain the consequences of the WRC Agreement on global flight tracking in civil aviation. As the end of one WRC means the beginning of the preparation for another one, the open issues for the next WRC will be presented.

#### The ITU and its Impact on Space Activities

- Results of the WRC-15
- Protection of C-band for Space Communication
- Guarantee of Spectrum for Unmanned Aircraft Systems
- WRC Agreement on the Global Flight Tracking in Civil Aviation
- Issues open for next WRC

#### Speakers:



**Khalid AL-Awadi**  
Manager Space Services  
Telecommunications  
Regulatory Authority



**Daniela Genta**  
Global Spectrum Policy  
EMEA Satellite Operators  
Association (ESOA)



**Robin Geiss**  
Professor  
Glasgow University



**John Purvis**  
Senior Legal Counsel  
SES Legal



**Badri Younes**  
Deputy Associate  
Administrator for Space  
Communications and  
Navigation  
National Aeronautics and  
Space Administration  
(NASA)



**Moderator:**  
**Yvon Henri**  
Chief, Space Services  
Department,  
Radiocommunication Bureau  
International  
Telecommunication Union  
(ITU)

### 13:30 – 14:30 LUNCH

#### Montbrillant Cafeteria

Paying participants will receive lunch vouchers in their GLIS bags.



### 14:30 – 16:00 PLENARY 2

#### Popov Room

#### Sustainable Development Goals (SDG) and the Contributions of Satellite Communications

2015 was a successful UN year of utmost importance to envision the upcoming 15 to 20 years' developments of society, environment and Earth:

- The Sendai Framework for Disaster Risk Reduction
- The Agenda 2030 with its Sustainable Development Goals
- The Paris Climate Change Agreement

Whereas the Sendai Framework focus on disaster management and reduction and the Paris Agreement concentrates on climate change issues the Agenda 2030 with its Sustainable Development Goals forms the overarching oeuvre in that context.

The international community agreed on 17 SDG with 169 associated targets.

Giving a first taste of the foci of the SDGs, here are some keywords: end poverty and hunger, ensure healthy lives, achieve gender equality, sustainable water and forest management, combat climate change, education and capacity-building.

You wonder now about the link of Satellite Communications and the SDGs?

There are many – be assured of that fact!

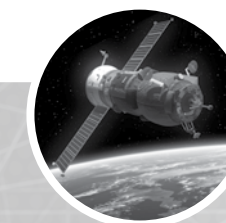
Satellite Communications as well as other space-based technologies like Navigation or Earth Observation satellites are one of the main backbones to facilitate not only daily lives but they are also indispensable for a successful implementation process of the SDGs in the upcoming 15 years – including the monitoring of progress made over the years.

This determined our selection of speakers and discussion partners for the panel.

We gather high ranking experts in the fields of disaster management, climate change, tele health and tele education. They will elaborate not only on technical aspects but rather on the benefits of satellite communications for all these fields of application. Especially the benefits for the SDGs will be highlighted, the secret on how satellite communications can contribute to the implementation of the SDGs will be disclosed.

Come and join the Director of the UN Office for Outer Space Simonetta di Pippo, the President of the French Space Agency CNES Jean-Yves Le Gall, the Director of eHealth and telemedicine at Geneva University Hospitals Professor Antoine Geissbuhler, the Vice President of Humanitarian Affairs Eutelsat Simon Gray as well as Professor Christian Heipke being Secretary General of ISPRS International Society for Photogrammetry and Remote Sensing.

- Disaster Management (Communication & Navigation)
- Climate Change
- Tele Health
- Tele Education
- Disaster Management (Earth Observation)







## Global Conference on Space and the Information Society

Geneva, Switzerland, ITU Headquarters

6 - 7 June 2016



### Speakers:



#### **Antoine Geissbuhler**

*Professor of Medical Informatics  
Geneva University School of Medicine*



#### **Simon Gray**

*Vice President of Humanitarian Affairs  
Eutelsat*



#### **Christian Heipke**

*Secretary General  
International Society for Photogrammetry and Remote Sensing (ISPRS)*



#### **Jean-Yves Le Gall**

*President  
Centre National D'Études Spatiales (CNES)  
Incoming President  
International Astronautical Federation (IAF)*



#### **Moderator:**

#### **Simonetta di Pippo**

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

### 16:00 – 16:30 COFFEE BREAK

**In front of the Popov Room**

### 16:30 – 18:00 PLENARY 3

**Popov Room**

#### **Space Economy meets Information Economy**

Space technologies and their applications are part of our everyday life. They vary from using mobile phones, watching live TV broadcasting, making banking transactions, weather forecasting, plain landing suing air traffic control systems, etc. Even though space activities are taking place already for more than half a century, there is no unified definition of what the space sector is, let alone space security. Today's information economy, increases the information use for all activities and industry.

This panel will discuss the transformation of today's economy to an information economy and the role of the space economy in this transformation. The opportunities and challenges will be addressed by experts from industry, academia, politics and agencies.

The panel will discuss

- Space and Internet
- Role of Operators
- Trade Issues/Markets for and Innovation in the Satellite Manufacturing Industry
- Status and Future of the Orbit/Spectrum Resource

### Speakers:



#### **Luca Del Monte**

*Space Economy Manager  
European Space Agency (ESA)*



#### **Aarti Holla**

*Secretary General  
EMEA Satellite Operators Association (ESOA)*



#### **Jeroen Rotteveel**

*CEO  
ISIS – Innovative Solutions In Space*



#### **Anne Sulling**

*Member of Estonian Parliament*



#### **Daria Tataj**

*CEO  
Tataj Innovation*



#### **Jennifer Warren**

*Vice President, Technology Policy & Regulation Trade & Regulatory Affairs  
Lockheed Martin Corporation (LMC)*



#### **Sias Mostert**

*CEO  
Space Commercial Services Holdings (Pty) Ltd*



#### **Moderator:**

#### **Kai-Uwe Schrogl**

*Vice President IISL  
European Space Agency (ESA)*

### 19:00 – 21:00 GALA DINNER

**Quai du Mont-Blanc 1**

For more information see 6. Gala Dinner on page 23.







## Tuesday, 7 June

### 08:30 – 15:30 REGISTRATION

#### Montbrillant reception

Please note that the registration will be closed between 12:30 - 13:30.

### 09:00 – 10:30 PLENARY 4

#### Popov Room

#### Space Services and Security

Space activities in the past were only the privilege of the governments of few faring nations. Over the past years there has been an increase in space activities, and the number of nation interested in space has increased. Space programs are designed around two main political arguments: access to independent information to support government interests and access to critical technologies and capabilities. Today, space technologies and applications are critical infrastructures and contribute in ensuring security in space and security on Earth. Space technologies and applications today are serving civil and defence needs.

This panel will cover a variety of topics on space and security and will illustrate the interconnection between space sector and security matters. The opportunities and challenges will be addressed by experts from industry, academia and agencies.

The panel will discuss

- Civil Security and satellite communications
- Developments in military satellite programmes
- Cyberspace security: protecting ground and space infrastructures
- Jamming and spoofing as a governance problem
- Space Traffic Management in the age of Mega-constellations

Speakers:



**Tony Azzarelli**  
VP International  
Regulatory and Policy  
Affairs  
One Web (Ltd)



**Amnon Ginati**  
Head of  
Telecommunication and  
Integrated Applications  
European Space Agency  
(ESA)



**Olga Volynskaya**  
Chief International Law  
Counsel at Federal Space  
Agency  
ROSCOSMOS



**Cath Westcott**  
Communications  
Regulation Specialist  
BBC World Service



**Mark Rawlins**  
Director of  
Communication System  
Operations / Chairman at  
Space Data Association  
Eutelsat / Space Data  
Association (SDA)



**Moderator:**  
**Christina  
Giannopapa**  
IAF CLIODN Chair  
European Space Agency  
(ESA)

### 10:30 – 11:00 COFFEE BREAK

In front of the Popov Room

### 11:00 – 12:30 PLENARY 5

#### Popov Room

#### Big Data – Information Society

Big data is a term for data sets which are so large or complex that traditional data processing applications are inadequate. The associated challenges include data analysis, capture, data curation, search, sharing, storage, transfer, visualisation, querying and information policy. The trend of storing more and more data in digital form is unbroken: While 1986 saw an amount of 2.6 Exabytes (= 2 600 000 000 000 000 bytes) being stored worldwide in the form of books, articles, film, videotapes (digital media had share of 1% by then), 2007 saw that number to increase to 299 Exabytes, whereby digital media make up for 94% of the global storage capacity.

Space is affected by big data in numerous ways; in that it is:

- a producer of big data sets - e.g. the European Earth Observation and Monitoring System Copernicus;
- confronted with the transmission of big data sets - e.g. Satellite Communication Systems - and
- itself a user of big data sets - e.g. by multi-temporal data analysis, data management and information extraction technologies.

Finally space systems are the only systems that can readily offer ubiquitous communication - e.g for the Internet of Things, Industry 4.0 and Machine to Machine Communications - and are often the only way of ensuring a cost-effective access to global communication - especially in rural areas. Under such conditions, issues like data availability, privacy and security become extremely important.

This panel is to address the opportunities and challenges that come along with the use of big data from, with and for space systems. Renowned experts from the EC, ESA, the Italian Space Agency, EUTELSAT, the University of Vienna and a well-known law firm in Cologne will provide insights into the ongoing discussions and will present options and ways ahead to better utilise the benefits of big data for the human society.

- The role of satellite communications in the information society
- Big Data and Satellite Remote Sensing
- Privacy
- Security

Speakers:



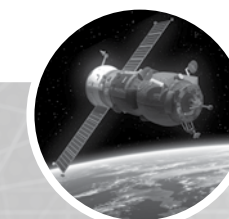
**Josef Aschbacher**  
Head of Programme  
Planning and Coordination  
in the Directorate of Earth  
Observation Programmes  
European Space Agency  
(ESA/ESRIN)



**Roberto Battiston**  
President  
Agenzia Spaziale Italiana  
(ASI)



**Ingo Baumann**  
BHO Legal







## Global Conference on Space and the Information Society

Geneva, Switzerland, ITU Headquarters

6 - 7 June 2016



**Hector Fenech**

Director of Future Satellite Systems  
Eutelsat



**Irmgard Marboe**

Professor  
University of Vienna



**Andreas Veispak**

Head of Unit for Space Data for Societal Challenges and Growth  
European Commission



**Moderator:**

**Norbert Frischauf**

SpaceTec Capital Partners

### 12:30 – 13:30 LUNCH

**Montbrillant Cafeteria**

Paying participants will receive lunch vouchers in their GLIS bags.

### 14:30 – 15:00 RESULTS AND RECOMMENDATIONS OF PLENARIES

**Popov Room**

Speakers:



**Moderator & Plenary 1**  
**Yvon Henri**

Chief, Space Services Department,  
Radiocommunication Bureau  
International Telecommunication Union (ITU)



**Plenary 2**  
**TBC**



**Plenary 3**  
**Sias Mostert**

CEO  
Space Commercial Services Holdings (Pty) Ltd



**Plenary 4**  
**Christina Giannopapa**

IAF CLIODN Chair  
European Space Agency (ESA)



**Plenary 5**  
**Otto Koudelka**

Head of Institute  
Graz University of Technology

### 15:00 - 15:15 CLOSING

**Popov Room**

IAF President, Kiyoshi Higuchi, and the Director of the Radiocommunication Bureau at ITU, François Rancy will deliver the closing remarks for the conference.

To follow, the IAF will have the pleasure to show for the first time the new IAF corporate video.

Speaker:



**Kiyoshi Higuchi**

President  
International Astronautical Federation (IAF)



**François Rancy**

Director of the Radiocommunication Bureau  
International Telecommunication Union (ITU)

## 6 GALA DINNER

**Monday, 6 June**

The gala dinner will take place on the boat Henry-Dunant which will take you around the beautiful Lake Geneva.

Cruise Schedule:

- Embarking from Genève Mont-Blanc at 18:45
- Departure at 19:00
- Return at 22:00

The Ticket price (including VAT) is €90,00

If you wish to purchase your Gala dinner ticket, please contact: [abed.aldaas@iafastro.org](mailto:abed.aldaas@iafastro.org).

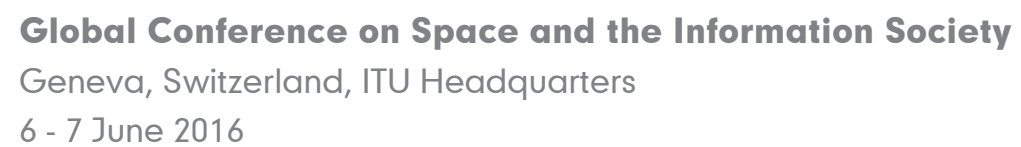
**Location:**

Quai du Mont-Blanc 1, 1201 Genève, Switzerland

Sponsored by:







# 67<sup>th</sup> IAC

## International Astronautical Congress

## Making space accessible and affordable to all countries

September 26<sup>th</sup> - 30<sup>th</sup> 2016  
Guadalajara, Mexico







**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

[info@iafastro.org](mailto:info@iafastro.org)

[www.iafastro.org](http://www.iafastro.org)

