



UNITED NATIONS  
Office for Outer Space Affairs



**25<sup>th</sup> UN/IAF Workshop on  
Space Technology for Socio-Economic Benefits  
“Integrated Space Technologies and Applications  
for a Better Society”**

**in conjunction  
with the 67<sup>th</sup> International Astronautical Congress**

# Programme

Hosted By



Co-sponsored by



**Hilton Guadalajara, Room Oceania  
Ave. de la Rosas 2933, Guadalajara, Jalisco, 44530, Mexico**

**23 – 25 September 2016**

**Honorary Committee (in alphabetical order):**

S. Di Pippo	Director, Office for Outer Space Affairs, United Nations
K. Higuchi	President, International Astronautical Federation (IAF)
F.J. Mendieta Jiménez	Director General, Mexican Space Agency (AEM)
J.D. Woerner	Director General, European Space Agency (ESA)

**Programme Committee (in alphabetical order):**

W. Balogh	Office for Outer Space Affairs, United Nations
J.-C. Bigot	European Space Agency (ESA)
M. Cho	Kyushu Institute of Technology, Japan
K. Conole	National Aeronautics and Space Administration (NASA), United States of America
C. Feichtinger	International Astronautical Federation (IAF)
J.-L. Fellous	Committee on Space Research (COSPAR)
C. Giannopapa	ESA/IAF- Committee for Liaison with International Organisations and Developing Nations (CLIODN)
A. Ginati	ESA/International Academy of Astronautics (IAA)
C. Lechtenboerger	German Aerospace Center (DLR)/IAF-CLIODN
T. Masson-Zwaan	International Institute of Space Law (IISL)
J. Ortner	EURISY
E. Pacheco	Mexican Space Agency (AEM)
S. Saveliev	International Astronautical Federation/ROSCOSMOS
L. St-Pierre	Office for Outer Space Affairs, United Nations
C. Welch	IAF/International Space University (ISU)

**Local Organizing Committee:**

E. Pacheco	Mexican Space Agency (AEM)
D. Muñoz	Mexican Space Agency (AEM)
R. Ramírez de Arellano	Mexican Space Agency (AEM)
R. Torres	Mexican Space Agency (AEM)
H. Moreno	Mexican Space Agency (AEM)
J. Castillo	Mexican Space Agency (AEM)

**Focal Point UNOOSA:**

Office for Outer Space Affairs  
United Nations Office at Vienna  
P.O. Box 500  
A-1400 Vienna, Austria

Werner Balogh  
Email: [werner.balogh@unoosa.org](mailto:werner.balogh@unoosa.org)

Kurian Manianipurathu  
Email: [kurian.maniyanipurathu@unoosa.org](mailto:kurian.maniyanipurathu@unoosa.org)

**Focal Point Local Organizer:**

Mexican Space Agency  
Av. Insurgentes Sur 1685, 2<sup>nd</sup>, 3<sup>rd</sup> and 13th Floor  
Col. Guadalupe Inn, Deleg. Alvaro Obregon  
Mexico, D.F. C.P. 01020

Enrique Pacheco  
Email: [IAC2016@aem.gob.mx](mailto:IAC2016@aem.gob.mx)

**Focal Point International Astronautical Federation:**

International Astronautical Federation  
3 Rue Mario Nikis  
75015 Paris, France

Christian Feichtinger  
Email: [christian.feichtinger@iafastro.org](mailto:christian.feichtinger@iafastro.org)

Myriam Morabet  
Email: [myriam.morabet@iafastro.org](mailto:myriam.morabet@iafastro.org)

## Friday, 23 September 2016

*Morning*

08:00 *Arrival, Registration*

### **09:00 Opening Ceremony**

*Master of Ceremony: Marcela Torres, BTC-PCO*

### 9:00 **Welcome / Opening Remarks**

- *Francisco Javier Mendieta Jiménez, Mexican Space Agency*
- *Kiyoshi Higuchi, International Astronautical Federation*
- *Christina Giannopapa, European Space Agency*
- *Simonetta Di Pippo, United Nations Office for Outer Space Affairs*

### **09:30 Keynote Addresses and Workshop Introduction**

*Chairperson: Karl Doetsch, Past President IAF, Canada*

*Rapporteur: Rei Kawashima, UNISEC, Japan*

09:30 Remote sensing payload development for CubeSats

*Julio Rolon  
Instituto Politécnico Nacional  
CITEDI Research Center  
Mexico*

10:00 Space in Support of Addressing Global Challenges

*Simonetta Di Pippo  
United Nations Office for Outer Space Affairs*

10:30-11:15 *Group Photo*

*All participants*

*Coffee/Tea Break*

11:15 25 Years of UN/IAF Workshops – A Review

*Sergey Chernikov  
Samara State Aerospace University  
Austria*

11:35 UN/IAF Workshop Objectives and Programme

*Werner Balogh  
United Nations Office for Outer Space Affairs*

12:00 Announcements and Practical Arrangements for the Workshop

*Rafael Torres  
Local Organizing Committee  
Mexican Space Agency*

12:15 *Lunch*

*Set-up of Poster Presentations*

*Afternoon*

**14:00**

**Session 1: Space and Sustainable Development**

*Chairperson: Julio Castillo, Mexican Space Agency*

*Rapporteur: Teresa Castillo, Mexican Space Agency*

14:00

Space Contributions to Implementing the 2030 Agenda for Sustainable Development

*Jose Eduardo De La Torre Barcena  
National Institute of Statistics and  
Geography (INEGI)  
Mexico*

14:15

Sustainable Development: Challenges and Opportunities for Space in Listening to the Field

*Stefano Ferretti  
European Space Policy Institute (ESPI)  
Austria*

14:30

ESA Programmes Supporting Global Challenges

*Isabelle Duvaux-Béchon  
European Space Agency (ESA)*

14:45

DLR Contributions to Face Global Challenges

*Christiane Lechtenboerger  
German Aerospace Center (DLR)*

15:00

Making Space for Earth: NASA Earth Science Applications and Capacity Building for Development

*Danielle Wood  
National Aeronautics and Space  
Administration (NASA)  
United States of America*

15:15

Cooperation in Space Activities in Latin America: a Need for Sustainable Development

*Camilo Guzman Gomez  
University Sergio Arboleda  
Colombia*

15:30

The Space Policy as a Factor to Strengthen the Scientific and Technological Development in Developing Countries

*Nickté Basurto  
Mexican Space Agency  
Mexico*

15:45

Industry Participation in India's Space Programme: Current Trends & Perspectives for Developing Countries

*Narayan Nagendra  
Friedrich-Alexander-Universität  
Erlangen-Nürnberg/Dhruva Space  
India*

16:00

**Poster Session**

*Coffee/Tea will be provided during the Poster Session*

18:00

*Adjourn*

18:30

*Departure to the UN/IAF Workshop Gala Dinner at Centro Cultural Refugio - Tlaquepaque  
Buses will be outside Hilton Hotel*

## Saturday, 24 September 2016

*Morning*

08:30 *Arrival, Registration*

### **9:00 Session 2: Space Technology Capacity Building**

*Chairperson: Chris Welch, IAF/International Space University*

*Rapporteur: Rodrigo Dibildox, Mexican Space Agency*

- 9:00 Capacity Building at the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean (CRECTEALC) *Sergio Camacho  
CRECTEALC  
Mexico*
- 9:15 Capacity Building in Space Technology Development – The United Nations/Japan Long-term Fellowship Programme *Mengu Cho  
Kyushu Institute of Technology  
Japan*
- 9:30 International Satellite Program in Research and Education (INSPIRE): A new international academic program for collaborative small satellite development *Amal Chandran  
University of Colorado at Boulder  
United States of America*
- 9:45 Space Capacity Building in Mexico *Rafael Torres  
Mexican Space Agency  
Mexico*
- 10:00 University Space Engineering Consortium (UNISEC)-Global *Rei Kawashima  
UNISEC-Global Secretariat  
Japan*
- 10:15 Capacity Building in Human Space Technology – Utilising the Chinese Manned Space Station *Luc St-Pierre  
United Nations Office for Outer Space Affairs*
- 10:30 Capacity Building in Human Space Technology – Spaceflight Opportunities Using Dreamchaser *Luciano Saccani  
Sierra Nevada Corporation  
United States of America*
- 10:45 *Coffee/Tea Break*
- ### **11:15 Session 3: Disaster Management and Early Warning**
- Chairperson: Luc St-Pierre, United Nations Office for Outer Space Affairs*
- Rapporteur: Lourdes García, Mexican Space Agency*
- 11:15 OOSA's Work in Disaster Management/Emergency Response, UN-SPIDER-10 *Luc St-Pierre  
United Nations Office for Outer Space Affairs*
- 11:30 Impacts of OOSA's Technical Assistance Missions *Xavier Rodriguez  
EIEGO  
Dominican Republic*

11:45	Regional Coordination for Transboundary Hazards	<i>Julio Castillo Mexican Space Agency</i>
12:00	Innovative Approach in Early Warning Systems - Tsunami Early Warning Using GPS Data	<i>Gerald Bawden National Aeronautics and Space Administration (NASA) United States of America</i>
12:15	FATMAP - Knowledge Management for Preparedness	<i>Misha Gopaul FATMAP United Kingdom</i>
12:30	Use of GIS Technology on Measuring Impacts of Flooding on People's Livelihood	<i>Shantosh Karki UNOCHA</i>
12:45	Disaster Management of Remote Areas by Constellation of CubeSats	<i>Giancarlo Santilli University of Brasilia Brazil</i>
13:00	<i>Lunch</i>	
<i>Afternoon</i>		
<b>14:00</b>	<b><u>Session 4: Space for Global Health and Education</u></b>	
	<i>Chairperson: Chiaki Mukai, Japan Aerospace Exploration Agency (JAXA)</i>	
	<i>Rapporteur: Suresh Bhattarai, Space Generation Advisory Council/Nepal Astronomical Society, Nepal</i>	
14:00	Space and Global Health	<i>Ramesh Krishnamurthy World Health Organization (WHO)</i>
14:15	NASA Education: Challenging Students to Become Our Future Innovators	<i>Donald James National Aeronautics and Space Administration (NASA) United States of America</i>
14:30	Mexican Space Agency Approach to Space Medicine Development	<i>David Muñoz Mexican Space Agency</i>
<b>15:00</b>	<b><u>Session 5: Space Solutions for Managing Growing Cities and Populations</u></b>	
	<i>Chairperson: Sanath Panawennage, Arthur C Clarke Institute for Modern Technologies, Sri Lanka</i>	
	<i>Rapporteur: Camilo Guzman Gomez, University Sergio Arboleda, Colombia</i>	
15:00	Creating a Resilient City Using Space Data	<i>Jeanne Holm City of Los Angeles United States of America</i>
15:15	Intelligent City Management - Based on Land Cover Feature Changes	<i>Wei Sun Twenty First Century Aerospace Technology Co. Ltd. China</i>

- 15:30 Precision Agriculture in Mexico *Gustavo Arriaga  
Mexican Space Agency*
- 15:45 *Coffee/Tea Break*
- 16:30 Panel Discussion** *Panel participants*  
Building Capacity for Space Science, *Moderator: Gustavo Medina (AEM)*  
Technology and its Applications to Contribute *Participants*  
to Economic, Social and Environmental *Participants*  
Sustainable Development  
  - *Sergio Camacho, CRECTEALC, Mexico*
  - *Mengu Cho, Kyutech, Japan*
  - *David Muñoz, Mexican Space Agency*
  - *Fernando Stancato, Embraer, Brazil*
  - *Luc St-Pierre, United Nations Office for Outer Space Affairs*
- 18:00 *Adjourn*
- 18:30 *Cocktail Reception at the Solarium, Hilton Hotel*

## **Sunday, 25 September 2016**

### *Morning*

- 08:30 *Arrival, Registration*
- 9:00 Session 6: Environment and Biodiversity**  
*Chairperson: Christiane Lechtenboerger, DLR, Germany*  
*Rapporteur: Rogel Mari Sese, Regulus SpaceTech/National Space Development Program, Philippines*
- 9:00 Group on Earth Observations *Barbara Ryan  
Group on Earth Observations*
- 9:15 Report on the United Nations/Kenya Conference on Space Technology and Applications for Wildlife Management and Protecting Biodiversity *Remi Chandran  
National Institute for Environmental Studies (NIES), Japan*
- 9:30 The IPSP Mexico Project: Earth Observation Products to Address Environmental Problems in the Bacalar Area *Pasquale Iervolino  
University of Surrey, Surrey Space Centre  
United Kingdom*
- 9:45 The China-Brazil Earth Resources Satellites Program Revisited *Olavo de O. Bittencourt Neto  
Catholic University of Santos/IISL  
Brazil*
- 10:00 Architecture for Monitoring Water Basins, Water Pollution and Illegal Deforestation in Guatemala *Juan Esteban Gramajo Gonzalez  
International Space University  
France*

10:15	<i>Coffee/Tea Break</i>	
<b>10:45</b>	<b><u>Session 7: Connectivity for Reducing Social Divide</u></b> <i>Chairperson: Attila Matas, International Telecommunication Union (ITU)</i> <i>Rapporteur: Milan Mijovic, Union University Belgrade, Serbia</i>	
10:45	ITU's Contributions for Reducing Social Divide	<i>Attila Matas</i> <i>ITU</i>
11:00	Mexican Regulation for Small Satellites	<i>Estephania Flores</i> <i>Mexico</i>
11:15	Present and Future of HUMSAT Programme: from Demonstration to Application	<i>Fernando Aguado Agelet</i> <i>University of Vigo</i> <i>Spain</i>
11:30	Space Technology Development at UNAM	<i>Gustavo Medina</i> <i>UNAM</i> <i>Mexico</i>
11:45	Coordination of Mexico Conectado Program	<i>Carmen Rodriguez</i> <i>University of Guadalajara</i> <i>Mexico</i>
12:00	Connectivity from Research Institutions in Mexico	<i>Jorge Preciado</i> <i>Center for Scientific Research and Higher Education at Ensenada (CICESE)</i> <i>Mexico</i>
12:15	<b><u>Special Presentations on KiboCube Programme</u></b> <i>Chairperson: Werner Balogh, Office for Outer Space Affairs</i> <i>Rapporteur: Fernando Aguado Agelet, University of Vigo, Spain</i>	
12:15	KiboCUBE – Supporting Space Technology Capacity Building in Developing Countries	<i>Koichi Wakata</i> <i>Japan Aerospace Exploration Agency (JAXA)</i>
12:30	1st Kenyan University Nano Satellite Precursor Flight (1KUNS-PF)	<i>Mwangia Mbutia</i> <i>University of Nairobi</i> <i>Kenya</i>
12:45	<i>Lunch</i>	

*Afternoon*

**13:30**

**Session 8: Observations and Recommendations and the Way Forward**

*Chairperson and Moderator: Simonetta Di Pippo, Office for Outer Space Affairs*

*Rapporteur: Narayan Nagendra, Dhruva Space, India*

13:30

Round Table Discussion

The round-table will link the Workshop to the preparations for UNISPACE+50 and how UNISPACE+50 will act as a catalyst to optimizing the future use of space-based solutions to contribute to addressing the World's challenges.

*Moderator:*

○ *Simonetta Di Pippo, Office for Outer Space Affairs*

*Participants*

○ *Pascale Ehrenfreund, DLR*

○ *David Kendall, Chairman COPUOS*

○ *Javier Mendieta, AEM*

○ *Chiaki Mukai, JAXA*

○ *Johann-Dietrich Woerner, ESA*

15:00

Discussion and Finalization of Workshop Observations and Recommendations and the Way Forward

*Office for Outer Space Affairs*

**16:00**

**Closing Session**

*Master of Ceremony: Arturo Serrano, CICESE, and Office for Outer Space Affairs*

16:00

Closing Remarks

○ *David Muñoz, AEM, Mexico*

○ *Christiane Lechtenboerger, International Astronautical Federation*

○ *Simonetta Di Pippo, United Nations Office for Outer Space Affairs*

16:30

*Adjourn*

## Poster Session Presentations

Chairperson: TBD

No.	First Name	Last Name	Institution	Country	Poster Title
UN-01	Reuben	Umunna	Kyushu Institute of Technology	Japan	Data Application Driven Satellite Technology Development In Technology-disadvantaged Space Emerging Nations
UN-02	Avid	Roman Gonzalez	Universidad de Ciencias y Humanidades (UCH)	Peru	The Importance of the Aerospace Technology in Peruvian Society
UN-03	Antonio	Cassiano Julio Filho	National Institute for Space Research (INPE)	Brazil	An Architecture for Dynamic Management of the SLE Services to Reduction the Cost of the Space Missions
UN-04	Camilo	Reyes Mantilla	Space Generation Advisory Council	Colombia	Collaboration and Policy for Environmental Security in the Latin American and Caribbean Region from the Space Perspective
UN-05	Ronny Antoine	Nader	Ecuadorian Space Agency	Ecuador	Deployable Multi Panel Solar Array for Low Cost IU Cubesat Missions
UN-06	Rogel Mari	Sese	Regulus SpaceTech/National Space Development Program	Philippines	Crafting a National Space Policy and Space Program for Developing Countries: An Ongoing Case Study of the Philippines
UN-07	Natalia Indira	Vargas-Cuentas	Universidad de Ciencias y Humanidades - UCH	Bolivia	The Importance of the Aerospace Technology in Bolivia
UN-08	Fernando	Stancato	Embraer	Brazil	Space application in Brazil: a tool for social-economic sustainable development
UN-09	Preethi	Panawennage	Arthur C Clarke Institute for Modern Technologies	Sri Lanka	Space Technology as an important Enabler of Sustainable Development: Perspectives of a Developing Nation - Sri Lanka
UN-10	Suresh	Bhattarai	Nepal Astronomical Society	Nepal	Space Science Outreach, Education and Research Practices: Impacts and Challenges in Nepal
UN-11	Rushi	Ghadawala	Aryavarta Space Orgainzation	India/Canada	Integrated Space Applications for Socio-Economical Analysis and resource planning (Pilot study - Gujarat, India)

<b>No.</b>	<b>First Name</b>	<b>Last Name</b>	<b>Institution</b>	<b>Country</b>	<b>Poster Title</b>
UN-12	Milan	Mijovic	Law school, Union University Belgrade	Serbia	Establishment of Space agency in developing countries: reasons, challenges and justification (example of Serbia)
UN-13	Ganiyu	Agbaje	African Regional Centre for Space Science & Technology Education	Nigeria	UN-OOSA Regional Centres for Space Science and Technology Education as Vehicles for Strengthening Regional Cooperation in integrated Space Technologies and Applications
UN-14	Luis	Alfaro	El Salvador Aerospace Institute (ESAI)	El Salvador	The Necessity of Public-private Partnership Projects and Cooperation Development Framework to Execute Aerospace Initiatives in Central America
UN-15	Ramirez	Sandra	Universidad Autonoma del Estado de Morelos	Mexico	Adaptation Strategies from Halophilic Bacteria help to Understand Habitability Aspects of the Solar System
UN-16	Oswaldo	Garcia	Skysset	Mexico	Atmospheric Microorganism Sampling Probe
UN-17	Sam	Harrison	International Space University	United Kingdom	Laws Relating to Space Resources to Ensure the Benefit for all Nations as well as Commercial Viability
UN-18	LeRoy	Larry	University of Costa Rica	Costa Rica	Successful Outreach Results of the National Workshop on Astronomy for Teachers: a Global Outreach Template for our Global Community
UN-19	Akagi	Hiroki	JAXA	Japan	Small Satellite Deployment Mission by using the Unique Capability of Kibo Exposed Facility