



**United Nations / United Arab Emirates
Symposium on Basic Space Technology
“Small Satellite Missions for Developing Space Nations”**

Programme

Hosted by



Emirates Institution for Advanced Science and Technology (EIAST)
on behalf of the Government of the United Arab Emirates

**Zayed University Conference Center
Dubai Academic City**

20 - 23 October 2013

Honorary Committee (in alphabetical order):

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M. Othman	United Nations Office for Outer Space Affairs
Y. Al Shaibani	Emirates Institution for Advanced Science and Technology, UAE

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W. Balogh	United Nations Office for Outer Space Affairs
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J.-C. Bigot	European Space Agency
R. Kawashima	UNISEC, Japan
O. Koudelka	Joanneum Research and Graz University of Technology, Austria
P. Martinez	South African Astronomical Observatory, South Africa
A. Matas	International Telecommunication Union
J. Muylaert	Von Karman Institute, Belgium
S. Nakasuka	University of Tokyo, Japan
E. Pacheco	Agencia Espacial Mexicana, Mexico
F. Romero	Ministry of Foreign Affairs, Mexico
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14:10	Case Studies in Capacity Building for Space, Telecom and IT; Lessons Learned and Requirements for Success	<i>Bruce D. Kraselsky Space Partnership International USA</i>
14:30	Space Engineering Education through Nano-satellite Development and Testing for Capacity Building in Basic Space Technology Development	<i>John Polansky, Mohamed Ibrahim Kyushu Institute of Technology, Japan</i>
15:10	<i>Coffee/Tea Break</i>	
15:40	International Cooperation Potential in Pico-Satellite Networks - for Interesting Earth Observation and Telecommunication Applications	<i>Klaus Schilling University of Würzburg Germany</i>
16:00	Status of QB 50 – An International Network of Cubesats	<i>Jean Muylaert von Karman Institute, Belgium</i>
16:20	HUMSAT-D: First satellite of HUMSAT constellation	<i>Fernando Aguado-Agelet University of Vigo, Spain</i>
16:40	Panel Discussion: Requirements and Conditions for Enabling and Sustaining Space Technology Development Activities in Support of National and Regional Development Priorities	<i>Panel Members</i>
18:00	<i>Reception/Dinner on the Venue</i>	
20:30	<i>Transfer to the hotel</i>	

Monday, 21 October 2013

Morning

09:00 Session 2: Infrastructures for Basic Space Technology Development

Chairperson: Mohammed Al Harmi, EIAST

Rapporteur: Fernando Aguado-Agelet, University of Vigo, Spain

09:00	CubeSat: Entry Level to Space Development - Basic Infrastructure Requirements for Space Technology Development	<i>Jordi Puig-Suari California Polytechnic State University USA</i>
09:20	Supporting Customer for testing and the development of AIT-Centre for the benefit of small satellites programmes	<i>François Royer INTESPACE France</i>
09:40	Micro/Nano/Pico-satellite Activities in Japan - University Challenge towards New Space Education and Utilization	<i>Shinichi Nakasuka Graduate School of Engineering, The University of Tokyo, Japan</i>

10:00	What is the Infrastructure required for Basic Space Technology Development?	<i>James Barrington Brown NewSpace Systems South Africa</i>
10:20	Standardization Project of Environmental Tests of Small-scale Satellites Seeking Low-cost and Fast-delivery; Introduction of Standard Draft	<i>Mengu Cho Kyushu Institute of Technology Japan</i>
10:40	<i>Coffee/Tea Break</i>	
11.10	Panel Discussion: Best practices for establishing infrastructures for basic space technology development	<i>Panel Members</i>
12:30	<i>Lunch</i>	
<i>Afternoon</i>		
13:30	<u>Session 3: Launch Opportunities for Small Satellite Missions</u> <i>Chairperson: Jordi Puig-Suari, California Polytechnic State University, USA</i> <i>Rapporteur: Fernando Stancato, EMBRAER, Brazil</i>	
13:30	LauncherOne: Revolutionary Orbital Transport for Small Satellites	<i>Stephen Attenborough Virgin Galactic, USA</i>
13:50	S3: Enabling Affordable and Recurrent Access to Space	<i>Richard Joye Swiss Space Systems, Switzerland</i>
14:10	Economic Development of Commercial Spaceports	<i>Christopher Shove Montana Business Assistance Connection, USA</i>
14:30	Launch Opportunities and Separation Mechanisms for Satellites in 1-50kg Range	<i>Stanislaw Ostoja-Starzewski NovaNano S.A.S., France</i>
14:50	<i>Coffee/Tea Break</i>	
15:30	<u>Session 4: Small Satellite Platforms for Earth Observations</u> <i>Chairperson: Rainer Sandau, International Academy of Astronautics</i> <i>Rapporteur: Rei Kawashima, UNISEC, Japan</i>	
15:30	DubaiSat-1/-2: Experiences with Development and Operational Use	<i>Abdulla Harmoul EIAST United Arab Emirates</i>
15:50	Disaster Monitoring Constellation Evolution and Development	<i>Simon Jeremy Crouch Surrey Satellite Technology Ltd, UK</i>
16:10	The FIREBIRD Constellation	<i>Stephan Roemer Astro- und Feinwerktechnik Adlershof GmbH Berlin, Germany</i>
16:30	<i>Departure for Technical Tour</i>	

- 17:00 *Technical Tour of EIAST
Free Time at Dubai Mall*
- 22:00 *Return to Zayed University/Holiday Inn Express*

Tuesday, 22 October 2013

Morning

- 9:00** **Session 5: Regulatory and Legal Issues**
*Chairperson: Norman Fitz-Coy, University of Florida, USA
Rapporteur: Olusoji Nester John, National Space Research and Development Agency, Nigeria*
- 9:00 Regulatory and Legal Issues of Small Satellites *Werner Balogh
United Nations Office for Outer Space Affairs*
- 9:20 Long-term Sustainability of Outer Space Activities *Peter Martinez
Chairman, COPUOS Working Group LTS
South Africa*
- 9:40 Frequency Registration for Small Satellite Missions – ITU Workshop *Chuen Chern Loo
International Telecommunication Union (ITU)*
- 10:30 *Coffee/Tea Break*
- 11:00 Continuation of ITU Workshop and Discussion *Chuen Chern Loo
International Telecommunication Union (ITU)*
- 12:30 *Lunch*

Afternoon

- 13:30** **Session 6: Space Technology Development Activities in Western Asia**
*Chairperson: Ayman El-Sherbiny, UN-ESCWA
Rapporteur: Mohamed Ibrahim, KIT, Egypt/Japan*
- 13:30 International activities of UNISEC and Proposal of UNISEC-Global *Rei Kawashima
University Space Engineering Consortium
UNISEC, Japan*
- 14:00 Prospects for Turkish UNISEC and International Cooperation *Alim Rustem Aslan
Istanbul Technical University, Turkey*
- 14:10 Building a University Consortium in Space Technology in Tunisia *Kamel Besbes
Faculty of Sciences Monastir, Tunisia*
- 14:20 Improving Aerospace Students Learning at Cairo University using CanSat Related Teaching Modules *Ayman Hamdy Kassem
Cairo University, Egypt*
- 14:30 Arab Countries and Space Technology - Requirements and applications *Alaa El Din Hassan Mohamed Elnahry
National Authority for Remote Sensing and Space Science (NARSS), Egypt*

14:50	Prospects of capacity building in Space Technology Program, Egypt	<i>Soha Badry Ibrahim Planetarium Science Center Bibliotheca Alexandrina, Egypt</i>
15:10	Arab Small Satellites Programmes for Capacity Building and Sustainable Development	<i>Marwan Moustafa Koudmani Environment Protection & Sustainable Development Society (NGO), Syria</i>
15:30	<i>Coffee/Tea Break</i>	
16:00	A Synopsis of Small Satellite Activities in India	<i>Narayan Prasad Nagendra Dhruva Space, India</i>
16:20	Turkish Satellite Capabilities	<i>Esra Senel Turkey</i>
16:40	Panel Discussion: Prospects for Space Technology Development Activities and Regional and International Cooperation in Western Asia	<i>Panel Members</i>
18:00	<i>End of Symposium Day and Free Time</i>	

Wednesday, 23 October 2013

Morning

9:00 Session 7: Working Groups - Education Curriculum on Space Engineering and Basic Space Technology Initiative

Chairperson: Mengu Cho, Kyushu Institute of Technology, Japan

Rapporteur: United Nations Office for Outer Space Affairs

9:00	Horyu-V: The Space Environment Explorer	<i>Mohamed Ibrahim Kyushu Institute of Technology, Japan</i>
9:20	Educate Utilizing CubeSat Experience: Systematic Approach to Deliver STEM Content	<i>Norman Fitz-Coy University of Florida, USA</i>
9:40	Status of Education Curriculum Development	<i>Chisato Kobayashi United Nations Office for Outer Space Affairs</i>
9:50	Building Space Capabilities in Venezuela Based on Satellite Technology	<i>Gustavo González Bolivarian Agency for Space Activities</i>
10:05	Nano Satellite Development Issues in Developing Countries - Case Study Sudan	<i>Amal Elsamani Ahmed Taha University of Khartoum</i>
10:20	Space Technology Capacity Development in Southern Africa – Case Study: South Africa/Namibia collaboration	<i>Smita Anil Francis Namibian Institute of Space Technology, and Robert van Zy French South African Institute of Technology</i>
10:30	<i>Poster Sessions / small group discussion for future collaboration</i>	

12:30 *Lunch*

Afternoon

13:30 Session 8: Way Forward

Chairperson: Werner Balogh, United Nations Office for Outer Space Affairs

13:30 Symposium Review, discussion of forthcoming future activities under the Basic Space Technology Initiative and on the observations and recommendations to be included in the report to the United Nations Committee on the Peaceful Uses of Outer Space *All Symposium Participants*

14:45 UN/Mexico Symposium on Basic Space Technology 2014 *Enrique Pacheco Cabrera
Mexican Space Agency (AEM)
Mexico*

15:00 *Coffee/Tea Break*

15:30 Closing Session

15:30 Closing Remarks

- *EIAST*
- *United Nations Office for Outer Space Affairs*

16:30 *Transfer to the Hotel and End of the Symposium*