



22nd UN/IAF International Workshop on

Space Technologies Applied to the Needs of Humanity: Experience from Cases in the Mediterranean Area

**28 - 30 September 2012, Naples, Italy,
in conjunction with the 63rd IAC**

**Organized in cooperation with International Academy of Astronautics (IAA) and
the Committee on Space Research (COSPAR)**

**Co-sponsored by European Space Agency (ESA) and by
Italian Space Agency (ASI)**

Programme

Venue of the Workshop: Meeting room “Sicilia”
1st floor, Palacongressi building,
Mostra d'Oltremare Convention Centre,
Viale Kennedy 54, 80125 Naples
Italy

Honorary Committee of the Workshop (in alphabetical order):

G. Brachet (Chairman, Committee for Liaison with International Organizations and Developing Nations, International Astronautical Federation (CLIODN/IAF))

B. Feuerbacher (President, International Astronautical Federation (IAF))

Y. Horikawa (Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), Japan)

M. Othman (Director, Office for Outer Space Affairs, United Nations (UNOOSA))

E. Saggese (President, Italian Space Agency (ASI))

Programme Committee of the Workshop (in alphabetical order):

G. Arrigo (ASI, Italy)

S. Chernikov (UNOOSA)

T. Doi (UNOOSA)

C. Feichtinger (IAF)

J.-L. Fellous (COSPAR)

A. Froehlich (DLR, Germany)

A. Ginati (ESA/IAA)

D. Kendall (CSA, Canada)

A. Moccia (LOC, Italy)

J. Ortner (Austria)

M.-E. de Vel (ESA)

Day 1, 28 September 2012

Registration - 08:00 – 09:00

Inaugural Session - 09:00 – 10:30

09:00 – 09:30 **Master of Ceremony – Mrs. Liliana Boccolini Napolitano**, Honorary President of LOC of IAC 2012

Welcome statements:

- **Prof. Antonio Moccia**, University of Naples and Co-Chair of the International Programme Committee (IPC) of IAC
- **Prof. Berndt Feuerbacher**, President, International Astronautical Federation (IAF)
- **Dr. Takao Doi**, Head, United Nations Programme on Space Applications, UN Office for Outer Space Affairs (UN-OOSA)
- **Prof. Amnon Ginati**, European Space Agency (ESA)
- **Dr. Jean-Louis Fellous**, Executive Director, Committee on Space Research (COSPAR)
- **Dr. Jean-Michel Contant**, Secretary General, International Academy of Astronautics (IAA)
- **Mr. Eugenio Carlucci**, Ministry of Foreign Affairs, Italy

09:30 – 09:50 Keynote Address I **Mr. Antonio Menè**
Director General, Italian Space Agency (ASI)

09:50 – 10:10 Keynote Address II - *The Committee on Space Research (COSPAR): Fifty Years of Service as a Platform for International Cooperation* **Dr. Jean-Louis Fellous**
Executive Director, COSPAR

10:10 – 10:30 Keynote Address III - *Space for Daily Life* **Prof. Amnon Ginati**
IAA/ESA

Coffee break 10:30 – 11:00

Technical Session 1 - 11:00 – 13:00

Space technology applications for discovery and preservation of cultural heritage

Co-chairs: Dr. Annette Froehlich, ESPI, Germany and Dr. S. Marchisio, CNR, Italy

Rapporteurs: Mr. B. Singh, Mr. D. Arakcheev, Ms. M. Sandoval (*Recipients of IAF Emerging Space Leader Grant*)

11:00 – 11:15	Space Science for Cultural Heritage: Potentialities, Limits and Future Perspectives	Dr. Rosa Lasaponara IMAA, Italy
11:15 – 11:30	Satellite Remote Sensing in Support to Archaeological Investigation in Egypt: Some Methodological Remarks	Dr. G. Capriotti Vittozzi, Dr. M. Fea, Dr. S. Gusmano, Dr. C. Stewart, Dr. R. Salzano CNR, Italy
11:30 – 11:45	A Network of Space Partners Assisting Natural and Cultural Heritage	Dr. Mario Hernandez International Society for Photogrammetry and Remote Sensing (ISPRS)
11:45 – 12:00	The Argentinean Space Agency (CONAE) and its Activities Related to Space for Heritage	Mr. Felix Menicocci CONAE, Argentina
12:00 – 12:15	Thailand Archaeological Atlas from Satellite Data	Ms. R Simking GISTDA, Thailand
12:15 – 12:30	World Heritage monitoring by Remote Sensing (WHERE), Monitoring UNESCO Sites in Urban Areas. A Project Supported by ASI	Mr. Fabrizio Battazza ASI, Italy
12:30 – 12:45	Microwave Remote Sensing Techniques Applied to Archeological Surveying	Dr. Francesco Vespe ASI, Italy
12:45 – 13:00	Workshop discussion	

Lunch - 13:00 – 14:00

Technical Session 2 - 14:00 – 18:00
Maritime applications of space technologies

Co-chairs: Prof. A. Ginati, IAA and Dr. C. Matarazzi, ASI, Italy

Rapporteurs: Dr. O. de Oliveira Bittencourt Neto, Mr. D. Marceta, Mr. N. Silvernail
(Recipients of IAF Emerging Space Leader Grant)

14:00 – 14:20	Maritime Applications	Dr. L. Bal EMSA
14:20 – 14:40	IAP and SAT-AIS European Initiative	Dr. P. Mancini, Mr. C. Tobehn ESA
14:40 – 15:00	Dual Use Maritime Applications	Dr. Massimo Cavaliere Ambassador Platform for Dual-Use Space-based Services (APDUSS)
15:00 – 15:20	Russian Space Automatic Identification System (AIS) on Nano- and Micro-satellites Platform	Prof. Alexey Romanov Russian Space Systems, Russia
15:20 – 15:40	Advanced Space-Based Services for Navigation Safety and Security in Open Seas	Dr. Bernard Garnier BlueSolutions Consulting SAS
15:40 – 15:50	Cooperative Security Research and Pilot Projects in Integrated Maritime Surveillance	Mr. Agostino Longo Seabilla Project Technical Authority, Italy
Coffee break 15:50 – 16:10		
16:10 – 16:30	Potential Contribution of Synthetic Aperture Radars to Future Integrated Operational Services for Maritime Security	Dr. A. Renga, Prof. M. D'Errico University of Naples, Italy
16:30 – 16:50	Profumo: Preliminary Assessment of Route Optimisation for FUEL Minimisation and Safety of Navigation	Mr. Alessandro Schisano Vitrociset, Belgium
16:50 – 17:10	Maritime Applications, Supported by Inmarsat Services	Mr. Eyal Trachtman INMARSAT
17:10 – 17:30	Comparison and Complementarities of a European High Performance Sat AIS System with Medium Performance Existing Commercial Sat AIS Ones	Dr. Olivier Autran Thales Alenia Space
17:30 – 18:00	Workshop discussion	

19:00 – Reception organized by the Local Organizing Committee and Italian Space Agency (Venue - Palacongressi, Mostra D'oltremare Convention Centre)

Day 2, 29 September 2012

Technical Session 3 – 09:00 – 13:00

Space applications to desert environment monitoring

Co-chairs: Dr. Nadine Gobron, COSPAR and Prof. Carlo Ulivieri, Univ. of Rome, Italy

Rapporteurs: Ms. M. Zubairu, Mr. A. Khan, Dr. C. Hansson (Recipients of IAF Emerging Space Leader Grant)

09:00 – 09:20	Satellite Remote Sensing: Two Very Different Cases	Dr. L. Fusilli, Prof. G. Laneve, Dr. P. Marzialetti, Dr. G. Santilli, Dr. M. Jahjah, University of Rome, Italy), Dr. S. Pignatti, Dr. F. Santini CNR, Italy
09:20 – 09:40	Space Data Can Increasingly Contribute to Desertification Detection - Some Applications over Mediterranean Areas	Ms. Gabriella Scarpino Serco SpA, Italy
09:40 – 10:00	Integrating Satellite Based Phenology and Productive Variables for Land Degradation Assessment	Mr. Michael Cherlet JRC
10:00 – 10:20	When no Ground Observations Are Available: an Assessment of the Surface Energy and Water Budget in Mediterranean Desert Areas Based Only on Satellite Data	Mr. Lorenzo Campo Università degli Studi di Firenze, Italy
10:20 – 10:40	The Valencia and the Alicante Anchor Stations: a Water Cycle Observatory for Semi-arid Conditions	Mr. Ernesto Lopez-Baeza Universitat de Valencia, Spain
Coffee break 10:40 – 11:10		
11:10 – 11:30	Space Applications to Drylands Environment Monitoring	Mr. Marc Paganini ESA
11:30 – 11:50	National Map of Desertification Sensitivity by Using Satellite Data in Steppe Areas	Mr. Kamal Tichouiti Algerian Space Agency, Algeria
11:50 – 12:10	Use of MODIS and Vegetation Data for Monitoring of Biomass in the Sahel of Burkina Faso	Mr. Nicolas Kone Institute of Environment and Agricultural Research, Burkina Faso
12:10 – 13:00	Workshop discussion	

Lunch - 13:00 – 14:00

Technical Session 4 - 14:00 – 18:00

Space applications to land management

Co-chairs: Mr. Marc Paganini, ESA and Dr. Vincenzo Fogliati, Telespazio, Italy

Rapporteurs: Ms. E. Blaber, Mr. V. Zmijanovic, Dr. R. M. Sese (*Recipients of IAF Emerging Space Leader Grant*)

14:00 – 14:20	Monitoring of Surface Deformations with Satellite Interferometric Techniques	Dr. G. Fornaro CNR, Italy
14:20 – 14:40	European Volcano Observatory Space Services (EVOSS) - a GMES Downstream Service for Volcanic Hazard Monitoring	Prof. G. Laneve, Dr. M. Jahjah, University of Rome, Italy, Dr. F. Ferrucci Inst. Physique du Globe, France
14:40 – 15:00	Daily Planet - The Next Generation of the Disaster Monitoring Constellation	Mr. Alex da Silva Curiel Surrey Satellite Technology Ltd., UK
15:00 – 15:20	CEOS Capacity Building and Data Democracy Activities	Dr. Jacob Sutherland NOAA, USA
15:20 – 15:40	Biomonitoring - from Space to Earth	Prof. Klaus Slenzka OHB, Germany
Coffee break 15:40 – 16:10		
16:10 – 16:30	Using Space-borne SAR Interferometry Technique for Eastern Mediterranean Sea Shores	Dr. Parviz Tarikhi Iranian Space Agency, Iran
16:30 – 16:50	The PRE-EARTHQUAKES Project: a Joint Russian-European Effort for Investigating Earthquakes Preparation Phases by Integrating Independent Ground and Satellite Based Observations	Dr. Alexander Romanovi Russian Space Systems, Russia
16:50 – 17:10	The Innovative Feature of COSMO-Skymed for Land Management	Dr. Mario Cosmo ASI, Italy
17:10 – 17:30	Application of Remote Sensing Technology in Climate Monitoring and Prediction for Agricultural Production in Kenya	Ms. Mary M. Githinji Meteorological Department, Kenya
17:30 – 18:00	Workshop discussion	

19:00 - Gala-dinner organized by the Local Organizing Committee and Italian Space Agency (Venue – Naples Chamber of Commerce, Palazzo della Borsa (Stock Exchange Palace) at Piazza Bovio, Naples)

Day 3, 30 September 2012

Working Groups Meeting – 10:00 – 15:30

Two Working Groups will be established to prepare for the Round Table discussion in addressing questions on critical issues/focal themes identified at the technical sessions

10:00 – 10:20	Introduction to the WG meeting and formation of Working Groups: - <i>WG1 “Space for maritime applications”</i> Chaired by Dr. Karl Doetsch - <i>WG2 “Space for land applications”</i> Chaired by Dr. Mario Hernandez	UN-OOSA, IAF
10:20 – 15:30	Working Groups Meeting	In parallel

Coffee break 15:30 – 16:00

Round Table Discussion - 16:00 – 17:30

Moderator: Dr. Yasushi Horikawa, Chairman of COPUOS

A concluding Round Table discussion will be organized with participation of heads/top managers of space agencies and other relevant national/regional/international institutions and organizations from both space faring and non-space faring countries in order to establish a direct dialogue with the Workshop participants on how space technologies and policies can contribute into enhancing human and environmental security in developing countries. The round table will also discuss issues and problems in participants’ countries as well as will open an exchange of pragmatic ideas between decision-makers and leaders from the above-mentioned organizations and participants of the Workshop.

Round Table Panellists: **Dr. Gerard Brachet**, CLIODN/International Astronautical Federation (IAF); **Prof. Amnon Ginati**, European Space Agency (ESA); **Dr. Mazlan Othman**, Director, United Nations Office for Outer Space Affairs (UNOOSA); **Dr. Conrado Franco Varotto**, Executive and Technical Director, National Commission for Space Activities (CONAE), Argentina; **Prof. Antonio Moccia**, Co-Chair of the International Programme Committee (IPC) of the 63rd IAC.

Concluding Session – 17:30 – 18:00

Co-chairs: Dr. Gerard Brachet, CLIODN/IAF, and Mr. Sergei Chernikov, UNOOSA

17:30 – 17:50	Closing remarks	LOC, IAF, UN-OOSA
17:50 – 18:00	Briefing on the 2013 event	LOC – China

Presentations scheduled for poster sessions, 28 – 30 September 2012:

PS1 28 September PM	Next Generation Satellite AIS and its Effect on Comprehensive Global Vessel Monitoring	Mr. Simon Chesworth ExactEARTH Ltd., UK
PS1 28 September PM	Global Ships Traffic Monitoring Using Nano-Satellites Equipped with Space-Borne AIS Receivers	Mr. Thu Trong Vu FPT University, Vietnam
PS1 28 September PM	Automatic Identification System for Seafaring Vehicle Tracking in the ASEAN Region	Ms. Pirada Techavijit GISTDA, Thailand
PS1 28 September PM	Capacity Building for Space Technology in the Philippines: Applications in Maritime Transportation, Geo-hazard Monitoring and Disaster Management	Mr. Rogel M. Sese University of the Philippines, Philippines

PS1 28 September PM	International Initiatives, Programmes and Cooperation in the Country: Challenges and the Way Forward	Mr. Julius Kinyanjul MWANGI National Council for science and Technology, Kenya
PS1 28 September PM	Case Study: Space Policy and Activities of Mongolia	Dr. Otgonchimeg Buyanjargal Information, Communications Technology and Post Authority (ICTPA), Mongolia
PS2 29 September AM	Space Technologies Applied to the Needs of the Local Communities.	Dr. Mohamed G. Ibrahim University of Khartoum, Sudan
PS2 29 September AM	Coastal GIS for Shoreline Monitoring and Management: Case Study in Tunisia.	Mr. Iskander M. Tlili National School of Engineers, Tunisia
PS2 29 September AM	Environmental Risk Assessment of Rangelands Degradation in Kyzylkum Desert (Central Asia) by using of GIS and Remote Sensing Technologies	Ms. Lola Sichugova Astronomical Institute of the Academy of Science, Uzbekistan
PS2 29 September AM	How Students Can Contribute in Mapping and Monitoring of Wetlands by Using Remote Sensing Data and GIS Tools	Mr. Aafaque Khan Maulana Azad National Institute of Technology, India
PS3 29 September PM	Satellite Ecological Monitoring of Earth Surface	Ms. Larysa ARESHKINA United Institute of Informatics Problems of the National Academy of Sciences, Belarus
PS3 29 September PM	Application of Space Tools for Integral Development of Ecuador	Mr. Byron P. Puga Technical Chief, CLIRSEN, Ecuador
PS3 29 September PM	Space Applications for the Land Management-Effective Approach Towards Controlling Global Warming	Mr. Muhammad S. Khan Babu Banarasi Das National Institute of Technology and Management, Lucknow, India
PS3 29 September PM	Cyclone Tracking and Geographical Vulnerability Assessment for State of Gujarat (India)	Mr. Rushi R. Ghadawala Aryavarta Space Organization, India
PS3 29 September PM	Monitoring the Dust Storms and the Suspended Remnants in the East Mediterranean Region	Dr. A. Abd Ali Mohammed Directorate of Space Technology & Communication, Ministry of Science and Technology, Iraq
PS3 29 September PM	Space Technology Applications in Philippines - Aftermath of Typhoon Juaning 2011 (Albay, Bicol Region Experience)	Dr. Landrico U. Dalida, Jr. Regional Service Division, PAGASA, Philippines
PS3 29 September PM	Expansion of the urban area of the conurbation of Manta and its implications in the land management	Dr. Sandra P. Barriga Curillo CLIRSEN, Ecuador
PS3 29 September PM	Environment Monitoring for Farming Activity Predictions, Water Quality Monitoring and Disease Surveillance.	Ds. Julianne S. O. Sansa Makerere University, Uganda
PS4 30 September AM	MPTC Report on Telecommunication Market, Business, Policy and Strategy in Cambodia	Mr. Heng Touch Under Secretary of State, Ministry of Posts and Telecommunications of Cambodia (MPTC), Cambodia
PS4 30 September AM	Concept Note for Activities of the Ghana Space Science and Technology Center	Mr. Andoh M. Afful National Space Agency, South Africa
PS4 30 September AM	International Cooperation on Climate Monitoring via Satellite: Implications for Mediterranean States	Ms. Mariel M. J. Borowitz Space Foundation, USA
PS4 30 September AM	Space Science Education, Outreach Activities and Their Impact in Nepal	Mr. Suresh Bhattarai Space Generation Advisory Council, Nepal

PS4 30 September AM	The Libyan Experience in Space Camp for Universities Graduates and Students of Specialized Secondary Schools	Mr. Abdulkadre Ahmad Elnajdi Libyan Association for Science and Space, Libya
PS4 30 September AM	Space-Based Development of National Crisis Management Cente	Mr. Artur Movsesyan Ministry of Emergency Situations, Armenia
PS4 30 September AM	Use of Space Applications for Disaster Risk Management in Indian Coastal Areas	Mr. Balbir Singh Manipal Institute of Technology, Manipal, India