



21st UN/IAF International Workshop on
Space for Human and Environmental Security

**30 September – 2 October 2011, Cape Town, South Africa,
in conjunction with the 62nd IAC**

**Co-sponsored by European Space Agency (ESA) and by
Secure World Foundation (SWF)**

Programme

(as of 23 September 2011)

Venue of the Workshop: **Rooftop Terrace meeting room
Cape Town International Convention
Centre (CTICC),
Convention Square, 1 Lower Long
Street, Cape Town 8001
South Africa**

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))

J.-J. Dordain (Director General, European Space Agency (ESA))

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

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

D. Prunariu (Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), Romania)

Programme Committee of the Workshop (in alphabetical order):

S. Chernikov (UNOOSA)

T. Doi (UNOOSA)

A. Froehlich (DLR, Germany)

A. Ginati (ESA/IAA)

J.-L. Fellous (COSPAR)

D. Kendall (CSA, Canada)

P. Martinez (LOC, South Africa)

F. Nordlund (ESA)

P. Willekens (IAF)

Day 1, 30 September 2011

Registration - 08:00 – 09:00

Inaugural Session - 09:00 – 10:30

09:00 – 09:30 Welcome statements:

- **Dr. Peter Martinez**, Chairman of the IAC Local Organizing Committee
- **Prof. Berndt Feuerbacher**, President, International Astronautical Federation (IAF)
- **Mr. Frederic Nordlund**, Head of International Relations, European Space Agency (ESA)
- **Dr. Takao Doi, Head**, United Nations Programme on Space Applications, UN Office for Outer Space Affairs (UN-OOSA)
- **Dr. Jean-Michel Contant**, Secretary General, International Academy of Astronautics (IAA)
- **Dr. Jean-Louis Fellous**, Executive Director, Committee on Space Research (COSPAR)

09:30 – 09:50 Keynote Address I

Dr. Phil Mjwara, Director General, Department of Science and Technology, South Africa

09:50 – 10:10 Keynote Address II - Space and Global Earth Observations

Dr. Jean-Louis Fellous, Executive Director, COSPAR

10:10 – 10:30 Keynote Address III – Space and Sustainable Development in Applications

Prof. Amnon Ginati, ESA/IAA/IAF

Tea break 10:30 – 11:00

Technical Session 1 - 11:00 – 13:00
Space and Climate Change

Co-chairs: Dr. J.-L. Fellous, COSPAR, and Dr. M. Walters, CSIR, South Africa
Rapporteur: TBA

11:00 – 11:20 ESA Climate Change Initiative

Dr. Mark Doherty
ESA

11:20 – 11:40 Biodiversity and Space Observations

Mr. Michele Walters
CSIR, South Africa

11:40 – 12:00 Ocean Remote Sensing and Southern African Climate

Dr. Mathieu Rouault
Department of oceanography,
UCT, South Africa

12:00 – 12:20 International Cooperation in Earth and Climate Observation from Space

Dr. Brent Smith and Mr. Jacob Sutherlun
NOAA, USA

12:20 – 12:40 CarbonSat Constellation - A German Initiative in Response to the Need for a International Integrated Carbon Observing System

Dr. Wei Sun
OHB, Germany

12:40 – 13:00 Workshop discussion

Lunch - 13:00 – 14:00

Technical Session 2 - 14:00 – 18:00
Space for Food and Water

Co-chairs: Dr. Driss El Hadani, CRTS, Morocco, and Dr. Annette Froehlich, DLR, Germany

Rapporteur: TBA

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| 14:00 – 14:20 | Space, Water, Food | <i>Mr. Jimmy Weir-Smit,</i> Department of Agriculture, Forestry and Fisheries, South Africa |
| 14:20 – 14:40 | Towards an Integrated Water Resources Management System: Geospatial Data and Land Surface Modelling for Assessing Water Availability in Different Water Contexts | <i>Dr. Ahmed Er Raji</i> CRTS, Morocco |
| 14:40 – 15:00 | GEONETCab: Capacity Building through Access to Earth Observation Data and Use for Water Resources Management | <i>Ms. Andiswa Mlisa,</i> Umvoto Africa, South Africa |
| 15:00 – 15:20 | Application of Remote Sensing and GIS Technology for Crop Area Estimation and Yield Forecast | <i>Dr. Imran Iqbal</i> SUPARCO, Pakistan |
| 15:20 – 15:40 | Space Technology for Food and Water | <i>Dr. Luis R. Alvarez Giron,</i> National Secretariat for Science and Technology, Guatemala |
| 15:40 – 16:00 | TBA | <i>Dr. Hamid Fazeli,</i> President, Iranian Space Agency, Iran |
| Tea break 16:00 – 16:30 | | |
| 16:30 – 16:50 | Towards Water Harvesting Using Space Technologies | <i>Dr. Yaha Hasan AL Tayeb,</i> Remote Sensing Authority, Sudan |
| 16:50 – 17:10 | Space-based Technology for Water Security in Urban Areas | <i>Prof. Kamal Narian Joshi,</i> Institute of Development Studies, India |
| 17:10 – 17:30 | Satellite Earth Observation Data for Flood Area Assessment | <i>Ms. Pirada Techavijit,</i> THEOS Control, GISTDA, Thailand |
| 17:30 – 18:00 | Workshop discussion | |

18:30 - Reception organized by the Local Organizing Committee

Day 2, 1 October 2011

Technical Session 3 – 09:00 – 13:00
Space for Health

Co-chairs: Prof. Amnon Ginati, ESA/IAA/IAF, and Prof. Sias Mostert, SAC, South Africa
Rapporteur: TBA

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| 09:00 – 09:20 | ESA IAP and Space for Health | <i>Prof. Amnon Ginati,</i> ESA/IAA/IAF |
| 09:20 – 09:40 | Building E-health Services for Sub-Saharan Region in Africa | <i>Prof. Alexander Horsch,</i> Institute for Medical Statistics (IMSE), Germany |

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| 09:40 – 10:00 | Climate and Health in Africa | Dr. Larry Paxton, Applied Physics Laboratory (APL), the Johns Hopkins University, USA |
| 10:00 – 10:20 | Tele-Epidemiology at the Gulich Institute and its Regional Scope | Prof. Mario Alberto Lanfri, CONAE, Argentina |
| 10:20 – 10:40 | Data, Information, and the Challenge of Reaching the End User | Mr. Ray Williamson Secure World Foundation, USA |
| 10:40 – 11:00 | Space and Epidemiology | Dr. M. Kruijff, ESA |
| Tea break 11:00 – 11:20 | | |
| 11:20 – 11:40 | Creating Sustainable Solutions in Health Care | Dr. Todd Park, Department of Health and Human Services, USA |
| 11:40 – 12:00 | TBA | Ms. Gretchen Birbeck, Chikankata Hospital, Mazabuka, Zambia |
| 12:00 – 12:20 | Space for Education, and its Relevance to Children Health | Ms. P. Richardson, Ms. I. Francis, South Africa |
| 12:20 – 12:40 | Space for Humanitarian Demining | TBA |
| 12:40 – 13:00 | Workshop discussion/round table with participation of the above speakers and moderated by Jeanne Holm, IAA/JPL | |

Lunch - 13:00 – 14:00

Technical Session 4 - 14:00 – 18:00
Space for Environment

Co-chairs: Dr. Larry Paxton IAA/APL, USA, and Dr. Mark Doherty, ESA
Rapporteur: TBA

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| 14:00 – 14:20 | The role of Earth Observation Sciences for Environmental Reporting and Management in Africa - the Perspective of an NGO | Mr. Sives Govender, EIS-Africa, South Africa |
| 14:20 – 14:40 | GMES - Europe's Environmental Monitoring Programme | Dr. Josef Aschbacher, GMES Space Office, ESA |
| 14:40 – 15:00 | Novel Sensors in Space for Environmental Protection | Dr. Fritz Merkle, CEO, OHB, Germany |
| 15:00 – 15:20 | Environmental Security and the Russian System of Satellite Ionosphere's Tomography (Title – TBC) | Prof. Alexey Romanov, Russian Space Systems, Russia |
| 15:20 – 15:40 | Overview of Regulatory Provisions and Frequency Bands for Active and Passive Space Sensors | Mr. Attila Matas, ITU, Switzerland |
| 15:40 – 16:00 | Overview of EO-based Projects in Africa - Focus on Darfur and Experiences in Northern and Central Africa | Mr Thomas Kukuk, GAF AG, Germany |
| Tea break 16:00 – 16:30 | | |
| 16:30 – 16:50 | Strategy Towards an Architecture for Climate Monitoring from Space | Dr. Wenjian Zhang, World Meteorological Organization (WMO) |
| 16:50 – 17:10 | Requirements for the Processing System of a Full Operational Earth Observation Based Forestry Monitoring and Management Application | Prof. Sias Mostert, Space Advisory Company, South Africa |

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| 17:10 – 17:30 | The Space Technology Applications for Human and Environmental Security in China | <i>Dr. Xiaorong Xue,</i> Anyang Normal University, China |
| 17:30 – 18:00 | Workshop discussion | |

Day 3, 2 October 2011

Working Groups Meeting – 10:00 – 16:00

Two or three Working Groups will be established to draw observations and recommendations of the workshop and to prepare for the Round Table discussion in addressing questions on critical issues/focal themes identified at the technical sessions

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| 10:00 – 10:20 | Introduction to the WG meeting and formation of Working Groups | |
| 10:20 – 16:00 | Working Groups Meeting | In parallel |
| Tea break | 16:00 – 16:30 | |

Round Table Discussion - 16:30 – 18:00 **Moderator: Dr. D. Prunariu, 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.

Concluding Session – 18:00 – 18:30

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

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| 18:00 – 18:20 | Closing remarks | LOC, ESA, IAF, UN-OOSA, IAA |
| 18:20 – 18:30 | Briefing on the 2012 event | LOC – Italy |

Presentations scheduled for poster sessions, 30 September – 2 October 2011:

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| PS1 30 September AM | Configuration of Space Images for REDD Projects | <i>Prof. Solofo A. Rakotondraompiana,</i> University of Antananarivo, Madagascar |
| PS1 30 September AM | Impact of Climate Changes in the Development of Communities in Mozambique | <i>Mr. Samson Antònio Cuamba,</i> Ministry for Coordination of Environmental Affairs, Mozambique |
| PS1 30 September AM | Climate Change Management Based on Remote Sensing: Optimization of Solar Energy Resources | <i>Mr. Iskander Tlili,</i> Ministry of Environment and Infrastructure, Tunisia |

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| PS1 30 September AM | The Glaciers of Pakistan: Climate Scenarios and Water Availability | Mr. Muhammad Shafiq , Space Generation Advisory Council (SGAC), Pakistan |
| PS2 30 September PM | Tracking and Monitoring Dust Storms Using Satellite Meteosat 9 to Identify the Sources of dust storms in Iraq | Mr. Abdulkareem Abd Ali Mohammed , Ministry of Science and Technology, Iraq |
| PS2 30 September PM | Integrated Assessment of the Taninthayi Coastal Zone for the Sustainable Development in Myanmar | Dr. Myint Myint Khaing , Mandalay Technological University, Myanmar |
| PS2 30 September PM | International Initiatives, Programmes and Cooperation in the Country | Mr. Julius K. Mwangi , National Council for Science and Technology (NCST), Kenya |
| PS2 30 September PM | Space Science and Technology in Ghana: Emerging Initiatives | Ms. Nana A. K. Browne , University of Cape Coast, Ghana |
| PS3 1 October AM | The Need and the Implementation of a Policy of Telemedicine in the Andean Community, an Example for Other Developing Countries | Mr. Camilo Guzman Gomez , University Sergio Arboleda, Colombia |
| PS3 1 October AM | A Case Study on ISRO Telemedicine Initiatives | Mr. Aafaque Raza Khan , National Institute of Technology, Bhopal, India |
| PS3 1 October AM | Space Education for Everybody, Everywhere | Mr. Antonio Eduardo Gutiérrez Nava , CONACYT, Mexico |
| PS3 1 October AM | Initiation of Nation Human Settlement Policy for Bhutan | Mr. Thukten Choeda , Ministry of Works and Human Settlement, Bhutan |
| PS3 1 October AM | Capacity Building in Developing Countries - Human and Technical Resources Required for Successful Use of Space Technologies | Mr. Pavel Paces , Czech Technical University in Prague, Czech Republic |
| PS4 1 October PM | Capacity Building Related to Multilateral Environment Agreement (MEAs) | Mr. Hamidu Adakurugu , Ministry of Environment, Science and Technology (MEST), Ghana |
| PS4 1 October PM | New Satellite Technologies in Monitoring of the Environmental Changes | Mr. Parviz Tarikhi , Iranian Space Agency (ISA), Iran |
| PS4 1 October PM | The Geographic Information System as a Decision Making Tool in Order to Support the Planning and Development for Local Disaster Prevention | Dr. Javier A. Valdiviezo Ortiz , Universidad Del Pacifico Cuenca, Ecuador |
| PS4 1 October PM | Long Term Trend of Air Temperature and Landsat images over Ibadan, Nigeria | Dr. Olakunle Rufus Oladosu , African Regional Center for Space Science and Technology Education, Nigeria |
| PS4 1 October PM | Small Satellite Development in Vietnam, From Education to Potential Application | Mr. Thu Trong Vu , FPT Technology Research Institute, Viet Nam |
| PS5 2 October AM | Long-tem Sustainability of Space Activities and Azerbaijan: The way to Connection | Dr. Hikmat Qafar Hasanov , Azerkosmos OJS, Azerbaijan |
| PS5 2 October AM | Report on Recent Disaster Monitoring Constellation Activities | Mr. Alex Da Silva Curiel , Surrey Satellite Technology Ltd., United Kingdom |
| PS5 2 October AM | Space Science and Technology Applications in Kenya | Ms. Nancy Chepkemoi Kirui and Dr. John Kimani , Ministry of State for Defense, Kenya |
| PS5 2 October AM | Collective Safety, Security and Prosperity (CSSP) Using Shared Space Infrastructure | Dr. Milind Pimprikar , CANEUS International, Canada |

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| PS5 2 October AM | Validating the Auroral Zone Lower Ionosphere Model | Mr. Michael Afful, UCT, Ghana |
| PS6 2 October PM | Maritime Security System Using Nigeria Satellites and Unmanned Aerial Vehicles | Mr. Michael T. E. Kio, National Space Research and Development Agency, Nigeria |
| PS6 2 October PM | Myths and Legends of Space Events in Some Nigerian Cultural Groups | Ms. Lami Ali-Fadiora, African Regional Center for Space Science and Technology Education, Nigeria |
| PS6 2 October PM | Global Governance International Treaties - United Nations Endeavour of the 20 th and 21 st Centuries | Ms. Barbara King, Urban Brew Studios, South Africa |
| PS6 2 October PM | How Do We Use Satellite Images for Forecasting | Mr. Ali Kemal Bakir, Turkish State Meteorological Service, Turkey |