



20 Years UN/Austria Symposium - Objectives and Logistics of the 2013 Symposium

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**UN/Austria/ Symposium on "Space Weather Data, Instruments and Models:
Looking Beyond the International Space Weather Initiative (ISWI)"
16-18 September 2013**

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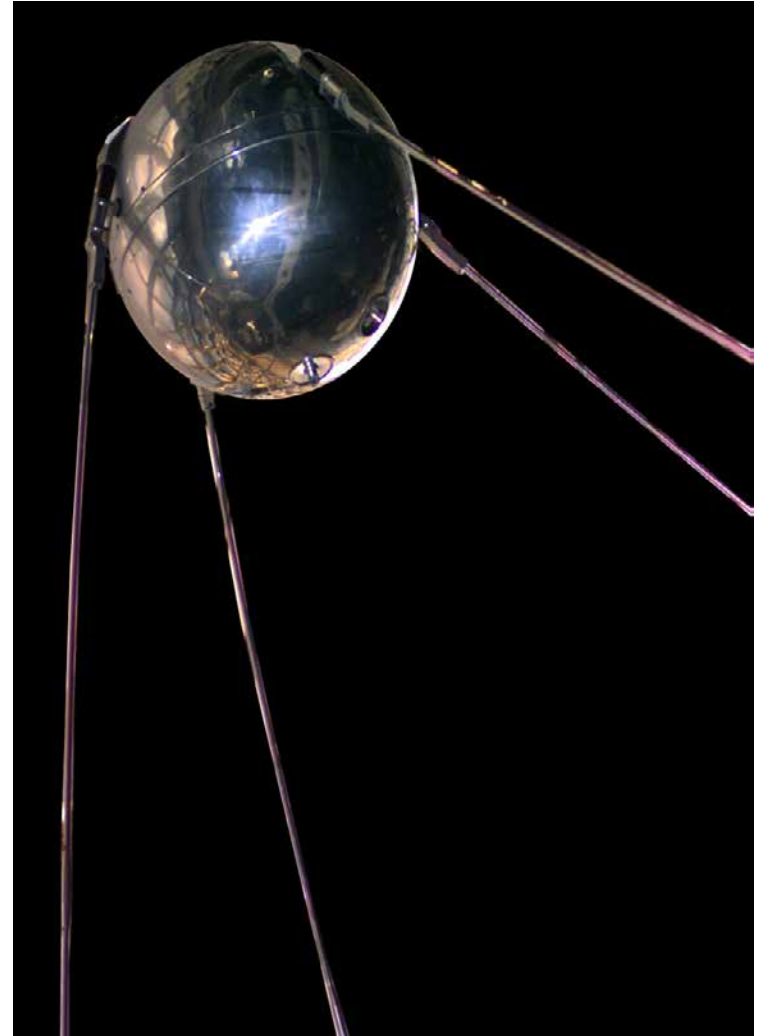


Part I:

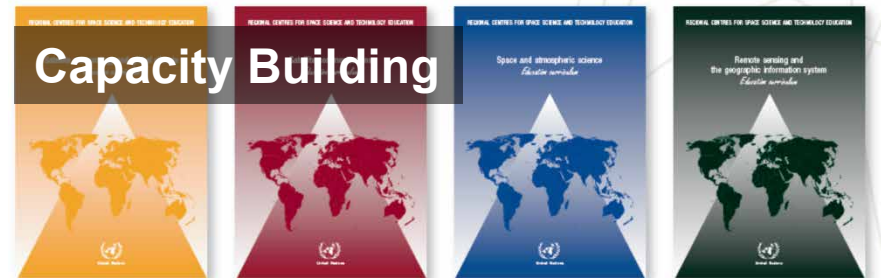
United Nations and Outer Space Activities

The United Nations and Outer Space

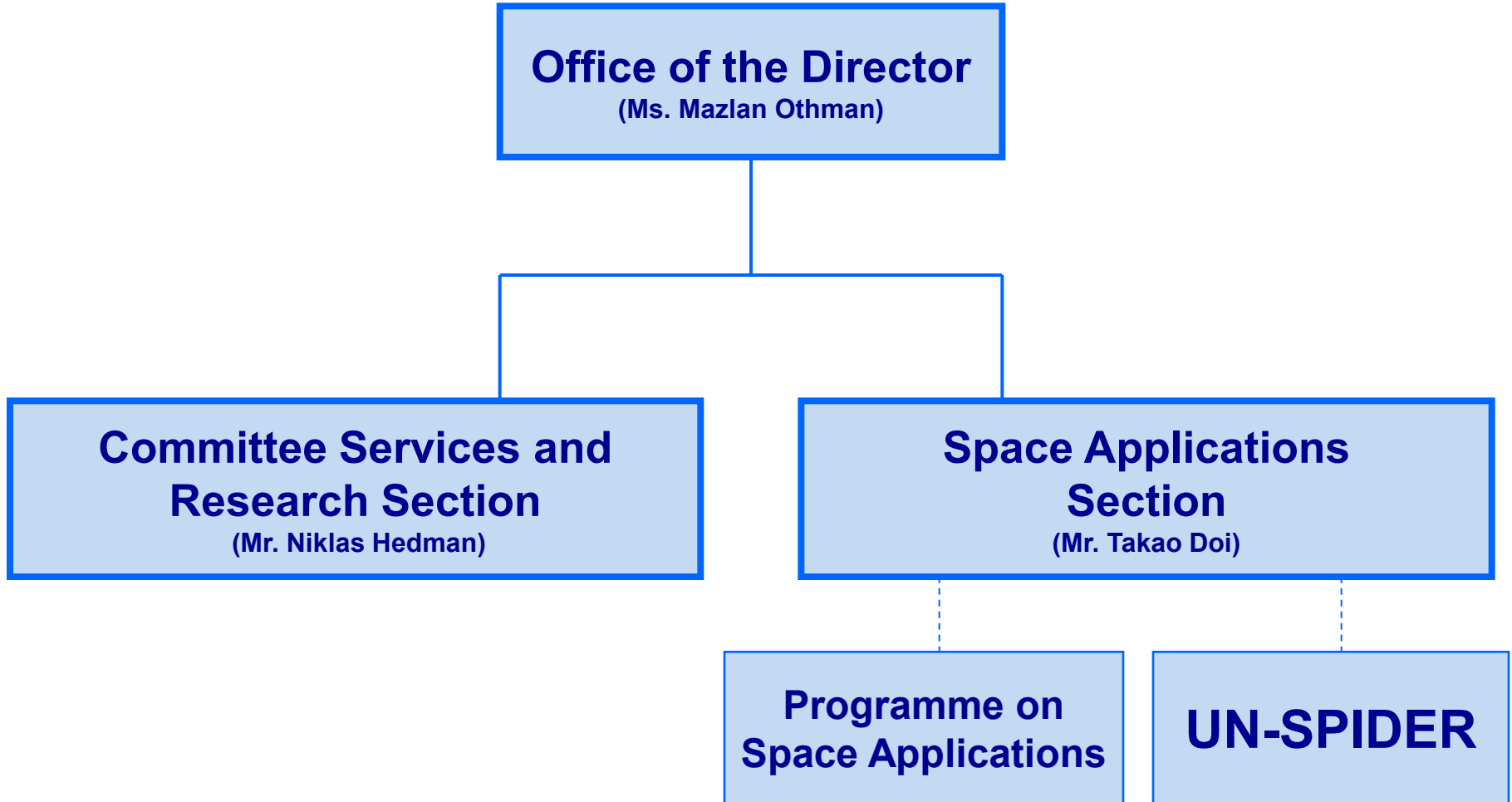
- Beginning of the space age with the launch of Sputnik I on 4 October 1957
- Rising concerns over an arms race in space, the fair sharing of space benefits and the need for rules to regulate activities of states in outer space
- UN General Assembly establishes the **Committee on the Peaceful Uses of Outer Space (COPUOS)** in 1958
- Serviced by the United Nations Office for Outer Space Affairs (UNOOSA)



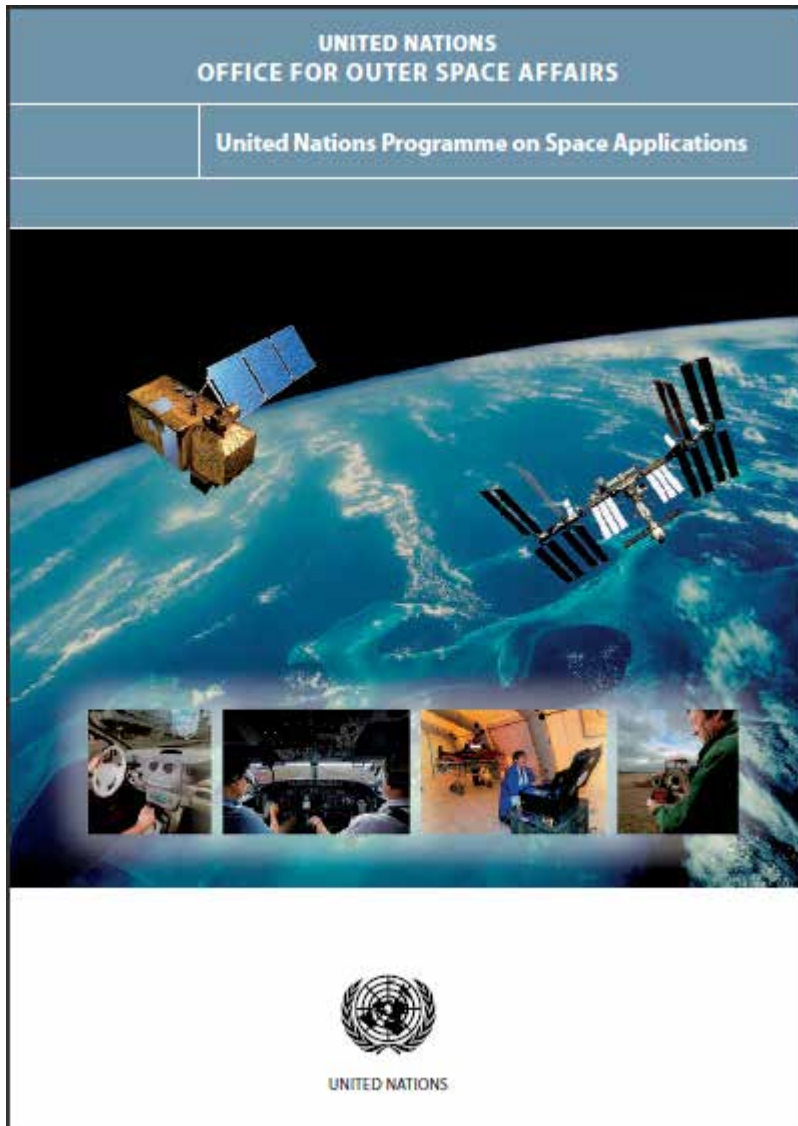
United Nations Office for Outer Space Affairs



Office for Outer Space Affairs



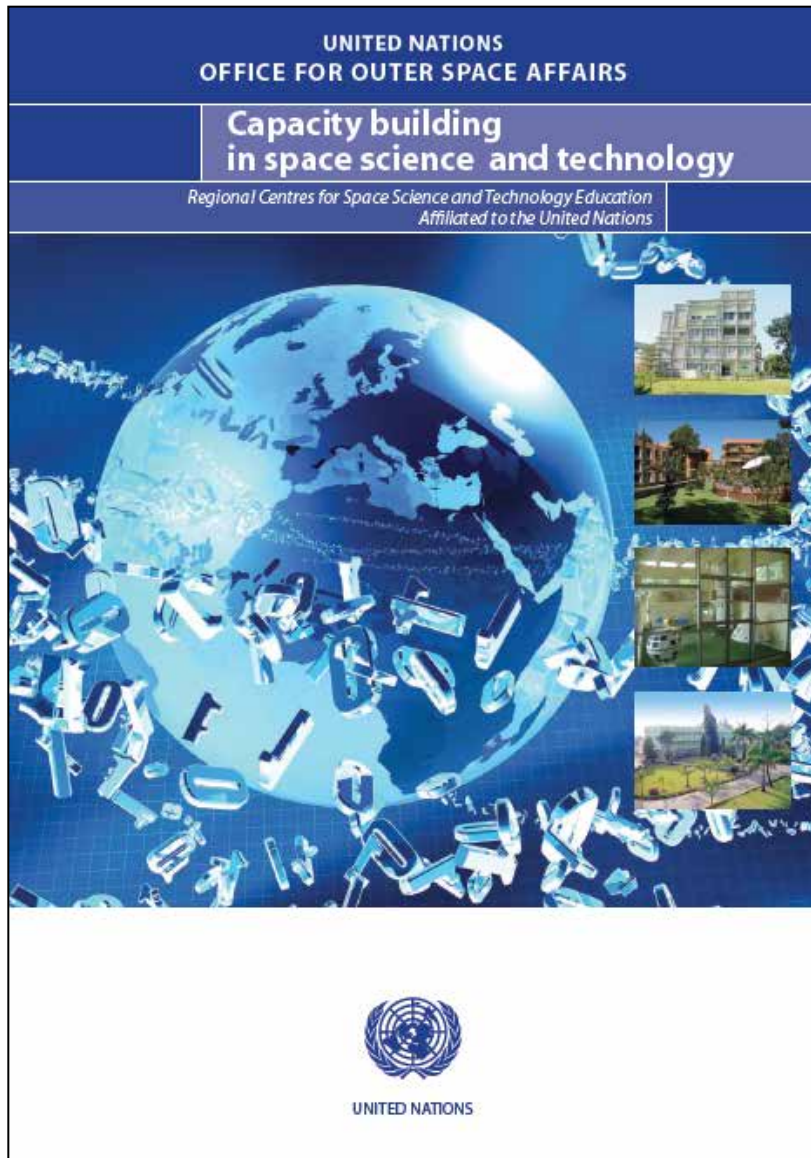
UN Programme on Space Applications



- Established in response to recommendations of the first UNISPACE conference in 1968
- Became operational in 1971
- Implemented by UNOOSA
- United Nations Expert on Space Applications
- UNISPACE'82 in 1982, and UNISPACE III in 1999, further expanded the mandate of the Programme

<http://www.unoosa.org/oosa/en/SAP/history.html>

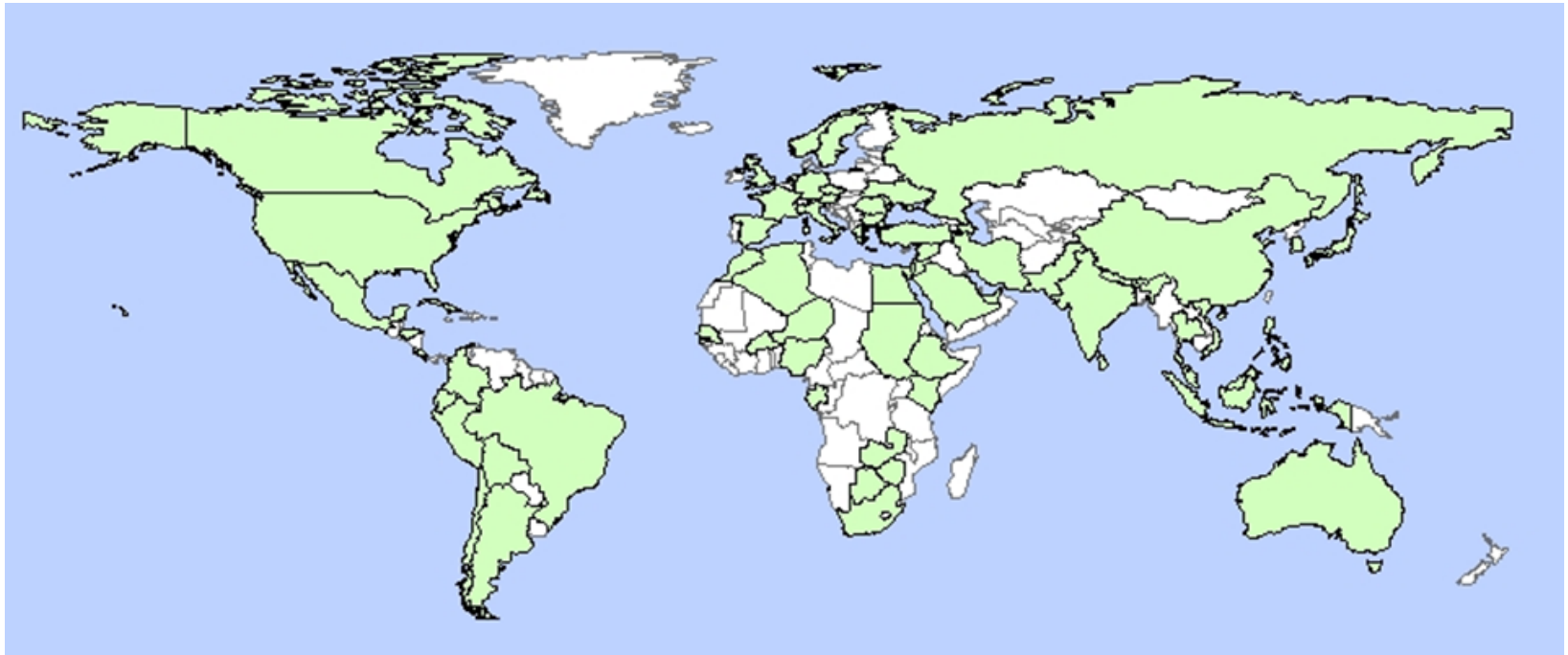
Programme Achievements



- >20,000 people participated in more than 300 activities (workshops, seminars, training courses...)
- ~300 specialists, selected from among ~1500 applicants, participated in various long-term fellowships programmes
- Establishment of four **Regional Centres for Space Science and Technology Education, affiliated to the United Nations**

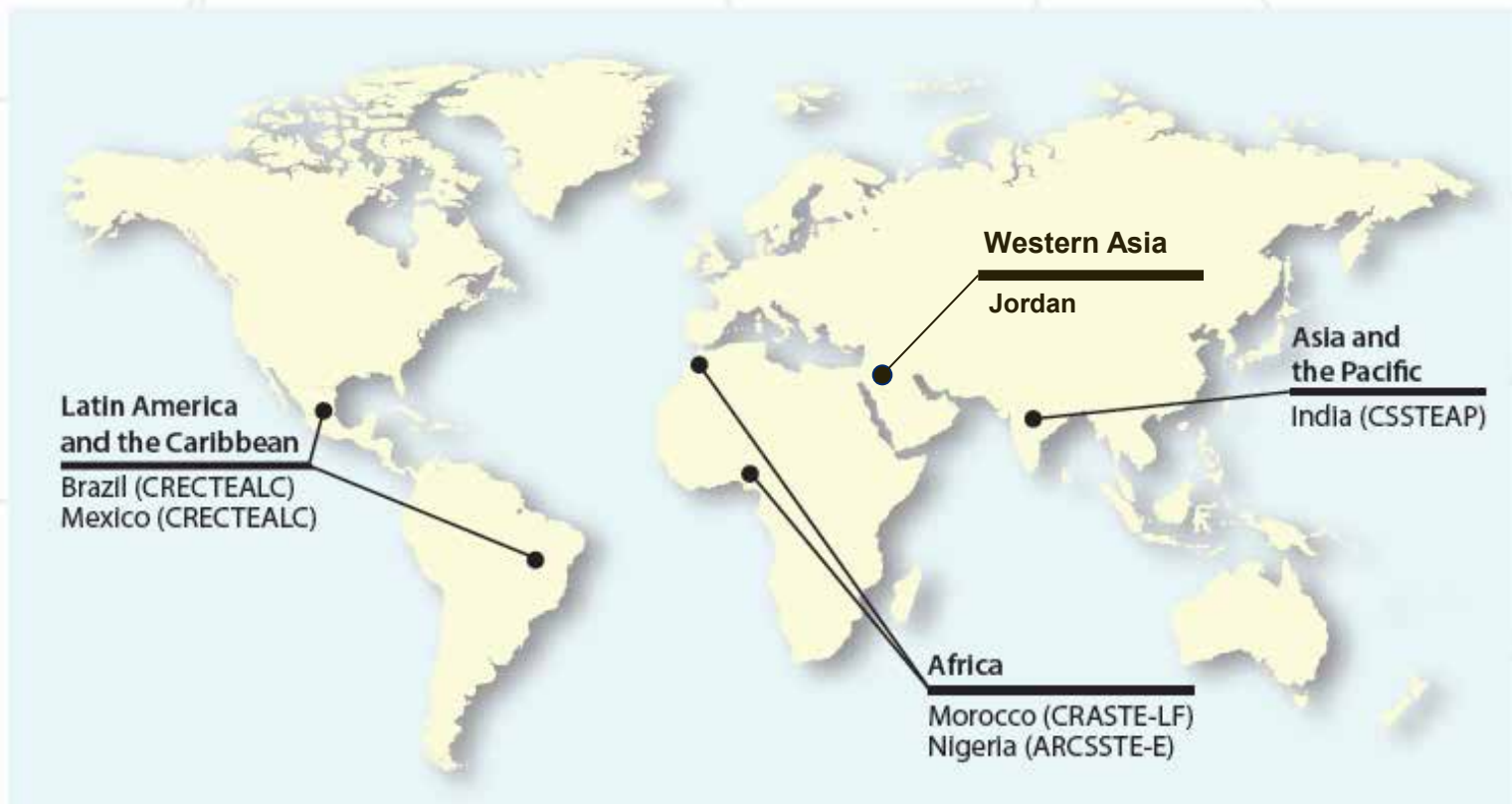
<http://www.unoosa.org/oosa/en/SAP/accompl.html>

Programme Activities 1971-2010



- 271 Expert Meetings/Seminars/Workshops/Conferences
- 67 countries, 18,251 participants
- Topics covered: COPSAS/SARSAST. Environmental Monitoring, Global Navigation Satellite Systems, Mountain Regions, Natural Resources Management, Socio-Economic Benefit, Space Law, Space Science, Tele-Health/Tele-Medicine

Regional Centres, Affiliated to the United Nations

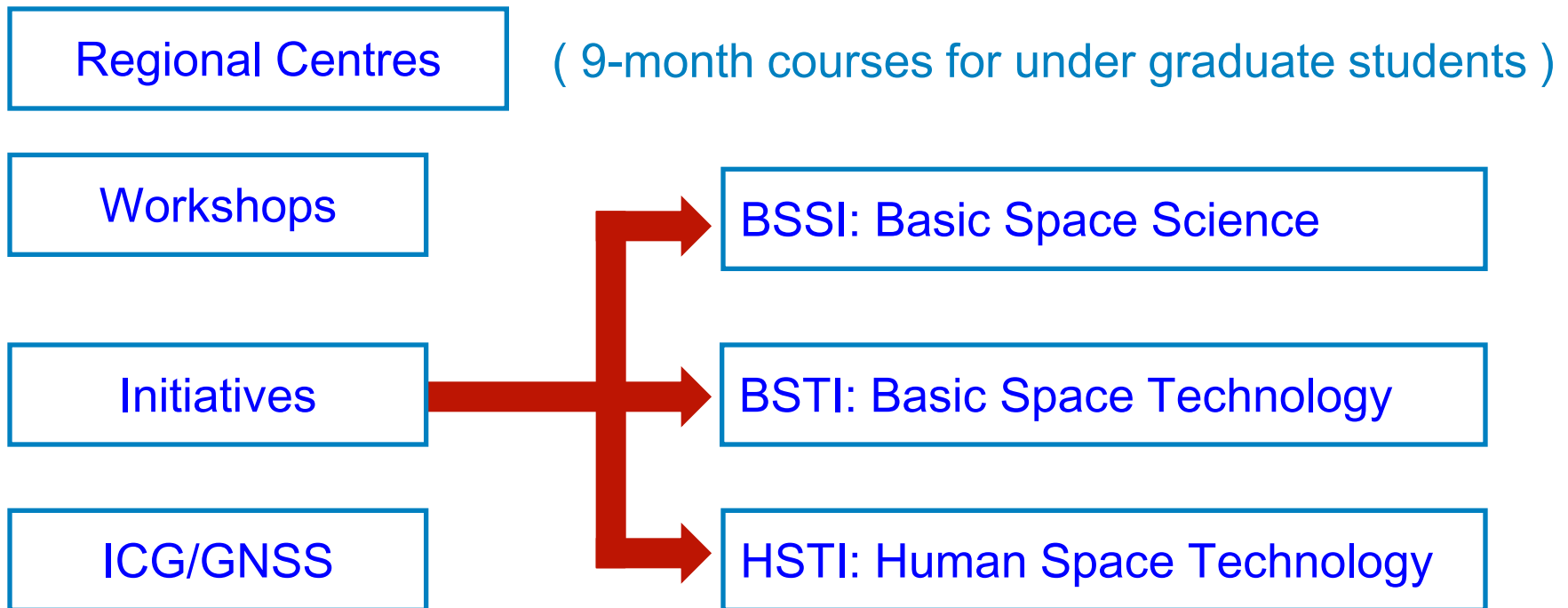


Present Programme Mandate and Activities

- Mandate

- A. International Cooperation
- B. Capacity Building
- C. Dissemination of Information
- D. Technical Advisory Services

- Activities



United Nations General Assembly Resolution 37/90 (§ 7), <http://www.unoosa.org/oosa/en/SAP/mandate.html>

UN/Austria/(ESA) Series of Symposiums

- International Astronautical Congress held in Graz in 1993
- Office for Outer Space Affairs re-located from New York to Vienna
- Supporters: Government of Austria, State of Styria, City of Graz, European Space Agency (ESA) and others

Years	Topics
1994-1998	Space technology and its applications enhancing social, economic and environmental security, improving life, and the role of space industry. Targeted towards policy- and decision makers
1999-2002	Supporting UNISPACE III follow-up on young people and space activities. Establishment of the Space Generation Advisory Council in support of the UN Programme on Space Applications (www.spacegeneration.org)
2003-2008	Supporting the World Summit on Sustainable Development (WSSD) Plan of Implementation (atmosphere, land, water)
2009-2011	Launching the Basic Space Technology Initiative (BSTI) – small satellite development
2012-2013	Space Weather and the International Space Weather Initiative (ISWI)

UN/Austria Symposium Themes 1994 to 2011

Date	Theme	Documents
1994	Enhancing Social, Economic and Environmental Security Through Space Technology	A/AC.105/586
1995	Space Technology for Improving Life on Earth	A/AC.105/615
1996	Space Technology Applications for the Benefit of Developing Countries	A/AC.105/646
1997	Space Industry Cooperation with the Developing World	A/AC.105/683
1998	Economic Benefits of Using Space Technology Applications in Developing Countries	A/AC.105/712
1999	UNISPACE III Space Generation Forum	A/CONF.184/L.14
2000	Enhancing the Participation of Youth in Space Activities	A/AC.105/743
2001	Enhancing the Participation of Youth in Space Activities – Implementing Recommendations of UNISPACE III	A/AC.105/774
2002	Enhancing the Participation of Youth in Space Activities	A/AC.105/793

UN/Austria Symposium Themes 1994 to 2011

Date	Theme	Documents
2003	Supporting the Plan of Implementation of the World Summit on Sustainable Development	
2004	Water for the World: Space Solutions for Water Management	A/AC.105/844
2005	Space Systems - Protecting and Restoring Water Resources	
2006	Space Tools for Monitoring Air Pollution and Energy Use for Sustainable Development	A/AC.105/877
2007	Space Tools and Solutions for Monitoring the Atmosphere in Support of Sustainable Development	A/AC.105/904
2008	Space Tools and Solutions for Monitoring the Atmosphere and Land Cover	A/AC.105/924
2009	Small Satellite Programmes for Sustainable Development	A/AC.105/966
2010	Payloads for Small Satellite Programmes	A/AC.105/983
2011	Implementing Small Satellite Programmes: Technical, Managerial, Regulatory and Legal Issues	A/AC.105/1005

UN/Austrian Symposium 2012-2013

Date	Theme	Documents
2012	Data Analysis and Image Processing for Space Applications and Sustainable Development: Space Weather	A/AC.105/1026
2013	Space Weather Data, Instruments and Models: Looking Beyond the ISWI	TBD

Part II:

2013 Symposium: Purpose and Objectives

Purpose of the 2013 Symposium

Follow up to the International Space Weather Initiative

Follow up to 2012 Symposiums

- UN/Austria Symposium on Space Weather Data (A/AC.105/1026)
- UN/Ecuador Workshop on the International Space Weather Initiative (A/AC.105/1030)

Contribute to discussions under the COPUOS STSC space weather agenda item in 2014

Prepare for 2014 STSC space weather workshop

International Space Weather Initiative (2010-2012)

- Coordinated by the ISWI Secretariat and OOSA
- Participation by >100 States (>80 developing countries)
- Three ISWI workshops organized by the UN, hosted by Egypt (2010), Nigeria (2011) and Ecuador (2012).
- Established ISWI Instrument Network
- Raised awareness on space weather issues among the space science and technology community and the general public, particularly in developing countries
- ISWI newsletter, published by ICSWSE of Kyushu University (Japan)
- ISWI website, maintained by the Bulgarian Academy of Sciences (www.iswi-secretariat.org)

UN/Ecuador Workshop Recommendations

- a) Continue the operation and development of existing arrays and deployment of new instrument arrays as appropriate;
- b) Examine data sets to determine data utility, develop connections with virtual observatories to make data more readily available, and facilitate collaborative modelling of regions of interest;
- c) Combine data from ISWI instrument arrays with space-based and other ground-based data to advance space weather science;
- d) Continue ISWI space science schools and the annual United Nations workshops;
- e) Effectively communicate new knowledge generated by ISWI activities to the public and the scientific community at large via the Initiative's newsletters, its website and other media.

UN/Austria Symposium Recommendations

- a) Explore in detail the costs and impact on infrastructure of space weather, in order to better define its overall societal impact;
- b) Work with existing virtual observatories, to improve data archiving and access;
- c) Continue to develop harmonized tools for data archiving and discovery;
- d) Promote networking of data collection stations and instruments for more real-time access and continuous data acquisition;
- e) Make available all data related to space weather to the scientific community as openly and freely as possible and through standard means of access services, which should include the development and provision of improved metadata, ultimately enabling better forecasts;

UN/Austria Symposium Recommendations

- f) Use solar power as an efficient power supply for continuous data collection and widen use of power-saving equipment for instrumentation;
- g) Train local scientists and space weather instrument operators to ensure that local expertise is available in a cost-efficient way;
- h) Ensure continuity of operation for important sensors and instrumentation, such as SOHO, GOES and NASA ACE;
- i) Develop online courses and e-learning tools for working with space-weather-related satellite imagery and other solar data;
- j) Consider low-cost spacecraft to carry more tools and sensors for calibration and increased observation capacity;
- k) Take inventory of existing models for data analysis for an easily accessible global “repository”;

UN/Austria Symposium Recommendations

- l) Test prediction accuracy as an intermediate step between research and operational models;
- m) Enlist reference stations of the African Geodetic Reference Frame (AFREF) project and the CTBTO for data collection;
- n) Compile a list of all web resources on data discovery and access, such as the ESA space weather data portal;
- o) Consider Iridium next-generation and other spacecraft payload opportunities for carrying new instruments for space weather observation;
- p) Explore donor mechanisms for supporting further global instrumentation expansion and maintenance work;
- q) Consider developing a database of damages resulting from solar weather events for awareness-raising and in support of further investment in observations.

Space Weather Agenda Item at STSC

- Became a regular STSC agenda from 2013 to exchange views on national, regional and international activities related to space weather research to promote greater international cooperation.
- Aim is to support efforts to close existing gaps in the space weather research field (A/AC.105/1001, para. 226):
 - a) To provide benchmark measurements of the responses of the magnetosphere, the ionosphere, the lower atmosphere and the Earth's surface in order to identify global processes and drivers that affected the terrestrial environment and climate;
 - b) To further the global study of the Sun-Earth system in order to understand the external and historical drivers of geophysical change;
 - c) To foster international scientific cooperation in the study of current and future space weather phenomena;
 - d) To communicate the unique scientific results of space weather research and societal impacts to interested members of the scientific community and to the general public.
- In 2014 a space weather workshop will be held during COPUOS STSC

Specific Objectives of the 2013 Symposium


- 1) Review world-wide existing/planned space weather-related data collection and development activities (space- and ground-based observations, modeling and forecast development) and identify gaps.
- 2) Review international cooperation activities and its role in addressing space weather-related issues, such as possible further cooperation towards operational global space-weather monitoring capabilities.
- 3) Identify opportunities for international cooperation in the standardization, sharing and wider, timely use of data, also for operational purposes; consider data interoperability and formats.
- 4) Review current model repositories and identify opportunities for international cooperation to identify, create and better share optimized models to produce accurate simulations and predictions, timely forecasts tailored to needs in each country or region of the world.
- 5) Identify concrete cooperation and knowledge sharing in this domain with other relevant initiatives or consortia, such as SCOSTEP.
- 6) Offer hands-on training in using existing model repositories.

Symposium Structure - Sessions

- **Introduction, Keynote Addresses:**
 - *Symposium Introduction and Objectives*
 - *Big picture view of space weather international cooperation*
- **Session 1: Worldwide Instrument Arrays, Data Products**
 - *Status of ISWI Instrument Arrays and their Data Products*
- **Sessions 2 & 3: Data Analysis and Models**
 - *Status of data exploitation and models*
- **Session 4: Discussions on Future Activities Beyond ISWI**
 - *Input for the 2014 STSC Space Weather Expert Meeting*
 - *Observations and recommendations for the UN GA report*

Report of the UN General Assembly

United Nations A/AC.105/1026

 **General Assembly** Distr.: General
6 December 2012
Original: English

**Committee on the Peaceful
Uses of Outer Space**

**Report on the United Nations/Austria Symposium on Data
Analysis and Image Processing for Space Applications and
Sustainable Development: Space Weather Data**

(Graz, Austria, from 18 to 21 September 2012)

I. Introduction

A. Background and objectives



1. The Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), in particular through its resolution entitled "The Space Millennium: Vienna Declaration on Space and Human Development", recommended that activities of the United Nations Programme on Space Applications should promote collaborative participation among Member States, at both the regional and international levels, in a variety of space science and technology activities, by emphasizing the development and transfer of knowledge and skills to developing countries and countries with economies in transition.¹

2. At its fifty-fourth session, in 2011, the Committee on the Peaceful Uses of Outer Space endorsed the programme of workshops, training courses, symposiums and expert meetings related to the socioeconomic benefits of space activities, small satellites, basic space technology, human space technology, space weather and global navigation satellite systems (GNSS) to be held in 2012.² Subsequently, the General Assembly, in its resolution 66/71, endorsed the report of the Committee on the work of its fifty-fourth session.

¹ Report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 19-30 July 1999 (United Nations publication, Sales No. E.00.1.3), chap. I, resolution 1, sect. I, para. 1 (e)(ii), and chap. II, para. 409 (d)(i).

² Official Records of the General Assembly, Sixty-sixth Session, Supplement No. 20 (A/66/20), para. 80.

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 Please recycle 

- Submitted to UN Member States through COPUOS and UN General Assembly
- Chairperson and Rapporteurs will help record discussions at the Symposium
- Report will include observations and recommendations made by participants
- Report may also reflect future plans for BSSI/ISWI

Symposium Structure – Panel Discussions

- Panel Discussion (Monday, 16 September, 16:30):
“Towards Reliable Space Weather Forecasts: Results of the ISWI”
 - Review ISWI achievements
 - Review progress towards operational space weather forecasts
 - Identify possible missing links
 - Identify possible (need for) actions
- Panel Discussion (Wednesday, 18 September 9:00):
“Recommendations for the Space Weather Expert Meeting at STSC in February 2014”
 - Proposals for Workshop agenda
 - Options for international space weather cooperation in follow-up to the ISWI
 - Observations and recommendations

Organizational Issues

- Sessions are chaired by a chairperson, supported by a rapporteur
- Looking for rapporteurs
- Time for presentations is indicated in the programme and includes time for questions and answers
- Assure that your presentation is being uploaded on time
- All presentations will be included in the Symposium proceedings (distribution on last day by memory stick)
- Working meeting on Wednesday to finalize the observations and recommendations of the Symposium
- We may be able to schedule ad-hoc presentations during the Symposium
- Poster presentations outside the meeting room

Organizational Issues - Staff

- JOANNEUM RESEARCH Local Organizers
 - Christina Legenstein (Conference Office)
 - Silvia Koch (Registration)
 - Birgit Koessler
 - Peter Ramspacher
 - Gerhard Krobath (Technical Support – Presentations, Internet)
 - Michael Reiterer (Technical Support – Presentations, Internet)

- United Nations
 - Werner Balogh
 - Hans Haubold
 - Kurian Maniyanipurathu

Organizational Issues - WLAN Access

SSID: fzg

User: uno1

Password: onu12345%

Closing Remarks

- Make good use of opportunities to network and to get to know each other!
- Consider the GA report as an opportunity to convey a message to UN Member States, i.e. to your own country representatives!
- Observations and recommendations for inclusion into the Symposium report to be discussed on Wednesday

Wishing you a productive Symposium
and a good time in Graz!

Thank you for participating and contributing!

Thank you for your attention!



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