



INFORMATION NOTE

United Nations/Austria
Symposium on Data Analysis and Image Processing for Space Applications
and Sustainable Development:
Space Weather Data, Instruments and Models

16 – 19 September 2013, Graz, Austria

1. Introduction

Since the organization of the Third United Nations Conference on the Peaceful Uses of Outer Space (UNISPACE III) in 1999 there has been considerable progress in the operational use of space technology and its applications for sustainable development in general. Space-based assets such as telecommunications, Earth Observation for environmental monitoring and navigation satellites support a wide range of applications and are increasingly integrated into public infrastructures and may contribute to policy- and decision making to improve people's lives. In practice all countries today are users of various space-based solutions.

More and more countries are interested in establishing own basic capacities in space technology development and also in access to- and use of diverse space-based data.

In this context, a new Graz Symposium series started in 2012. The new series attempts to address various space-based data analysis and workflows, review data availability and data sharing status as well as future opportunities, with a view to facilitate better and easier access to such data and resulting analytical products for general and wide-scale scientific benefit and also in support of decision making processes. The Symposium series also explores how space-based data and analysis could support the global development and help address or monitor the various sustainable development goals and targets set by the United Nations and its Member States in achieving a sustainable development of our Planet.

This year's Symposium, the second of this new series, will be again hosted and co-sponsored by the Government of Austria, the State of Styria and the City of Graz, as well as supported by the European Space Agency (ESA), and held in Graz, Austria. It will continue covering the Space Weather domain by addressing the global instrument network and related data collections as well as data modeling efforts making use of such data.

2. 2013 Symposium Objectives

Over the last few decades a wide range of scientific programmes and international initiatives have been conducted to study space weather. They have contributed to increase our understanding of space weather-related events and effects.

In 2012, at the conclusion of the ISWI initiative, a number of recommendations including regular interaction and continuation of international cooperative efforts were made in Ecuador (See A/AC.105/1030, http://www.unoosa.org/pdf/reports/ac105/AC105_1030E.pdf).

The purpose of this Symposium is therefore to address a need to follow up on the ISWI recommendations related to instrument availability and data modeling opportunities, by bringing together experts from developed and developing countries and most major instrument operators and data sources as well.

Participants will look at current availability and status updates of space weather instrument arrays (in-situ, space-borne), data collection and data access developments, as well as current modeling efforts, models availability and accuracy, better documentation on such data and models to improve access and scientific cooperation internationally.

Participating experts will also seek to identify synergies between various other ongoing projects and initiatives that address this domain as well, by sharing knowledge on such efforts, with a view to improving collaboration and access to data in general for the future.

Concrete objectives of the 2013 Symposium will be to:

- (a) Review as an expert group world-wide existing and planned space weather-related data collection and development activities (space-based and ground-based observations, modeling and forecast development) and identify any gaps
- (b) Review international cooperation activities and the role of international cooperation in addressing space weather-related issues, such as possible further cooperation towards a truly global space-weather monitoring capabilities
- (c) Identify opportunities for international cooperation in the standardization, sharing and wider, timely use of data, also for operational purposes; data interoperability and formats will be considered, as those are important aspects for any standardization
- (d) Review current models repositories and identify some 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
- (e) Identify concrete cooperation and knowledge sharing in this domain with other relevant initiatives or consortia. SCOSTEP was already proposed for presentation and discussion.
- (f) Offer hands-on training possibility for participants in using existing model repositories such as the NASA one in combination with open or own data sources for various applications

In line with the proposed objectives, the Symposium could present policy makers with a range of options and improved means for addressing space weather effects, as well as for provision of improved information to the public and press, particularly also in developing countries.

Expected outcomes:

It is anticipated that the conclusions reached by the Symposium participants will lead to a set of useful and important recommendations for the future cooperation between instrument arrays, data collection focal points and data users

The Symposium recommendations will be further strengthened and highlighted through their inclusion into an official United Nations report about the event, opening the way for continued international space weather collaboration, following the conclusion of the multi-year ISWI effort.

Several actions could be identified in terms of improved data sharing and standardization (interoperability), as well as for models sharing. The United Nations can also play a major role in encouraging and supporting such data and model sharing as needed. The hands-on training will expose participants to the possibilities offered by currently-existing models in exploiting data available and collected.

3. 2013 Symposium Programme

The Symposium will consist of a series of invited technical presentations by selected experts in the field, with sufficient time set aside for discussions and for presentations by all participants on their own relevant activities. Experts will be primarily sought for covering the Instrument Array status and data collection topics as well as data modelling.

Sessions will cover:

- **Taking stock of existing space-borne and in-situ data collection networks and instrument arrays**
- **Data processing and data modeling tools, ongoing efforts review, model availability**
- **Data standardization, data interoperability and data formats**
- **Special sessions as identified (SCOSTEP, IAA study, etc)**

The sessions may be supplemented by any demonstrations or training on relevant software tools by various participants and instrument arrays lead scientists.

The co-sponsors will also be organizing an attractive programme of social events for all Symposium participants.

The detailed Symposium programme will be made available at the Symposium webpage at <http://www.unoosa.org/oosa/en/SAP/act2013/graz/index.html> .

4. Participants

Applicants must generally have a university degree and well-established professional working experience in a field related to the theme of the Symposium. Applicants should ideally be involved in the planning, implementation or operation of data arrays, in relevant organizations, international or national, research or academic institutions or industry. Applications from qualified female applicants are particularly encouraged. The co-sponsors of the Symposium will jointly select participants on a competitive basis. Successful applicants will be notified beginning from July 2012.

5. Financial Support to Selected Participants

Within the limited financial resources available to the co-sponsors, a number of qualified applicants from developing countries, who have expressed the need for financial support, will be offered financial support to attend the Symposium. This may include the provision of a round-trip air ticket between Graz and the applicant's international airport of departure and daily subsistence allowances to cover board and lodging for the duration of the Symposium. En-route expenses or any changes made to the air ticket must be borne by the participants.

Due to the limited availability of financial resources it is usually not possible to provide assistance to all qualified applicants that express the need for financial support. Applicants and their

nominating organizations are therefore strongly encouraged to find additional sources of sponsorship to allow them to attend the Symposium.

6. Dates and Location

The Symposium will be held from 18 to 21 September 2012 in Graz, Austria, at the Space Research Institute of the Austrian Academy of Sciences. Selected participants will receive information with details on board and lodging and other local arrangements.

7. Language of the Symposium

Applicants must have a working knowledge of English, which will be the only language of the Symposium. Selected participants who receive funding support from the co-sponsors might be required to make a 10 to 20 minutes presentation on their work related to the Symposium theme.

8. Life and Health Insurance

Life and major health insurance is the responsibility of each selected participant or his/her nominating institution or government. The co-sponsors will neither assume any responsibility for life and major health insurance, nor for any other expenses related to medical treatment or accidental events.

9. Deadline for Submission of Applications

The fully completed original of the application form should be mailed directly (or if necessary forwarded through the Resident Representative of the United Nations Development Programme, UNDP) to:

Office for Outer Space Affairs
United Nations Office at Vienna
Vienna International Centre
P.O. BOX 500
1400 Vienna, AUSTRIA
Fax: (+43-1) 26060-5830

The application must be received **no later than Sunday, 16th June 2013**. To accelerate the processing of your application, please e-mail an advance copy of the completed form (.pdf, .doc) to the Office for Outer Space Affairs (unpsa@unoosa.org). Only complete applications, with all the requested information and signatures, will be considered.

10. Points of Contact

For questions related to the application process, please contact **Mr. Kurian Maniyanipurathu** (kurian.maniyanipurathu@unoosa.org, Tel: +43-1-26060-4268).

For questions related to the local arrangements in Graz, please contact **Ms. Birgit Kössler** (birgit.koessler@joanneum.at; Tel: +43 316 876 1256; Fax: +43 316 876 1404).

For questions related to the Symposium programme and to co-sponsorship opportunities, please contact **Mr. Werner Balogh** (Werner.Balogh@unoosa.org, Tel: +43-1-26060-4952).

Please frequently check <http://www.unoosa.org/oosa/en/SAP/act2013/graz/index.html> where the latest information about the Symposium will be posted later.