



UNITED NATIONS  
Office for Outer Space Affairs

## **INFORMATION NOTE**

### **UNITED NATIONS/MEXICO SYMPOSIUM ON BASIC SPACE TECHNOLOGY "Making Space Technology Accessible and Affordable"**

**Ensenada, Baja California, Mexico, 20 to 23 October 2014**

#### **1. Introduction**

Space technology and its wide range of applications contribute essential information and services to all aspects of sustainable development that is economic and social development and environmental conservation and protection. In 2009 the United Nations Programme on Space Applications, implemented by the United Nations Office for Outer Space Affairs, launched the Basic Space Technology Initiative (BSTI) (see <http://www.unoosa.org/oosa/en/SAP/bsti/index.html>) in support of capacity building for the development of basic space technology.

From 2009 to 2011 a series of three United Nations/Austria/European Space Agency Symposiums on Small Satellite Programmes for Sustainable Development were held in Graz, Austria. Starting from 2012, BSTI is organizing international symposiums on basic space technology in the regions that correspond to the United Nations Economic Commissions for Africa, Asia and the Pacific, Latin America and the Caribbean, and Western Asia.

The first Symposium was held as the United Nations/Japan Nano-Satellite Symposium, hosted by the University of Tokyo and co-hosted by the University Space Engineering Consortium (UNISEC) and held in Nagoya, Japan, in conjunction with the Japan Aerospace 2012, from 10-13 October 2012. The second Symposium was held as the United Nations/United Arab Emirates Symposium on Basic Space Technology, hosted by the Emirates Institution for Advanced Science and Technology (EIAST) at the Zayed University Conference Center in Dubai, United Arab Emirates, from 20-23 October 2013. The third and present Symposium for the Latin America and the Caribbean region will be held in Ensenada, Baja California, Mexico, hosted by the Center for Scientific Research and Higher Education (CICESE) and the Mexican Space Agency.

#### **2. Symposium Objectives**

The Symposium objectives will build on the outcomes of the aforementioned BSTI Symposiums held from 2009 to 2013. The relevant symposium reports, containing the objectives, symposium summaries, observations and recommendations made by participants are available from <http://www.unoosa.org/oosa/en/SAP/bsti/fundamentals.html>.

The objectives of the UN/Mexico Symposium will be to:

- (a) Review the status of capacity building in basic space technology including lessons learned from the past and on-going small satellite (<100 kg) development activities with a focus on regional and international collaboration opportunities for countries in Latin America and the Caribbean;
- (b) Examine issues relevant to the implementation of small satellite programmes, in particular organizational capacity building, development and testing infrastructure and launch opportunities;
- (c) Review state-of-the-art small satellite programmes in the field of Earth observation and disaster management;
- (d) Elaborate on regulatory issues of space technology development programmes, such as frequency allocation and space debris mitigation measures for long-term sustainability as well as import/export controls;
- (e) Review the current situation of the use of space technologies for early warning systems and explore future missions focusing on small satellite platforms;
- (f) Elaborate on legal issues and responsibilities related to space technology development programmes, such as those emanating from the relevant provisions in international space law;
- (g) Continue the development of an education curriculum for space engineering;
- (h) Discuss the way forward for the Basic Space Technology Initiative (BSTI).

### 3. Symposium Programme

The Symposium programme will be structured around a series of topical sessions. Presentations will be solicited through a Call for Papers. In addition, renowned experts in the field will be invited to make some of the presentations. The participants will consider specific topics and to discuss observations and recommendations on the basis of which a United Nations General Assembly report will be prepared for the Committee on the Peaceful Uses of Outer Space. Appropriate time will be set aside for discussions and for short presentations by the participants on their own relevant activities.

The following topics will be considered in dedicated sessions:

- **Capacity Building in Basic Space Technology Development**  
This session will address the latest developments of space technology in the field of capacity building and will present recent projects focused on, but not limited to, small satellite development including know-how transfer programmes, efforts to realize challenging missions beyond low-Earth orbit and development of ground infrastructures to enhance national/regional capacity.
- **Small Satellites for Earth Observations and Disaster Management**  
Over the last few years' affordable small satellite platforms have been developed, capable of delivering medium- to high-resolution imagery for a wide range of geospatial applications and those platforms can contribute to reinforce disaster management system in the country or region. This session will review the latest developments in the field.

- **Small Satellite Projects for Engineering Education**  
During the last decade, more than 200 small satellites have been launched worldwide. This session will provide a review of small satellite projects carried out as hands-on and other educational means mainly in academic institutions. Challenges such as testing facilities and launching opportunities will be also discussed.
- **Space Technology Development Activities in Latin America and the Caribbean**  
Latin America and the Caribbean is the region where shows rapid growth of space programmes. This session will demonstrate the status of space technology development in the region. Opportunities for collaboration will also be discussed in a panel discussion with international experts.
- **Education Curriculum on Space Engineering**  
The United Nations Office for Outer Space Affairs is developing an Education Curriculum on Space Engineering under the Basic Space Technology Initiative of the Programme on Space Applications. This session will invite international experts facilitating the curriculum development and, as a follow-up to its first meeting held at the BSTI symposium in 2012, the working group will be re-convened after the session.
- **Regulatory and Legal Issues**  
Regulatory and legal considerations play an important role in the implementation of small satellite programmes. The session will include discussions on the allocation and registration of frequencies with the International Telecommunications Union (ITU), the registration of satellites with the United Nations, launching State liabilities space debris mitigation guidelines in the context of long-term sustainability of outer space activities as well as import/export controls.
- **Use of Space Technologies for Early Warning Systems**  
Space technologies play significant role in early warning systems. The session will invite presentations on relevant current and planned activities making use of accessible and affordable small satellite missions.

In addition to the sessions described above, there will be panel discussions to share experiences and lessons learned through capacity-building activities in space technology development as well as to deliberate opportunities for international and regional collaborations among the participants.

The sessions will be supplemented by a **poster session** and may be demonstrations of relevant software tools, technical visits and by practical hands-on exercises. The co-sponsors will also organize an attractive programme of side-events for all Symposium participants. The detailed Symposium programme will be made available on the Symposium website at <http://www.unoosa.org/oosa/en/SAP/bsti/mexico2014.html>.

#### **4. Participation Requirements and Qualifications**

Symposium participants should be involved in the planning or implementation of space technology development activities in international or national space agencies, governmental or non-governmental organizations, research institutions, industry, universities or other academic institutions. Participants are expected to have obtained university degrees in relevant study fields or should be enrolled in relevant studies. Professional working experience in one of the fields related to the theme of the Symposium is desirable. Applications from qualified female applicants are particularly encouraged. Invited participants will receive a formal invitation letter.

## **5. Financial Support**

Applicants and their nominating organizations are strongly encouraged to find their own sources of sponsorship to participate in the Symposium. However, within the limited financial resources available to the co-sponsors, a number of qualified applicants from developing countries expressing 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 Ensenada, Baja California, and the applicant's international airport of departure and board and lodging for the duration of the Symposium. En-route and other expenses or any changes made to an air ticket provided by the co-sponsors must be borne by the participants.

Applicants expressing the need for funding support will be selected on a competitive basis based on their qualifications and expected contributions to the Symposium. All funded applicants are required to make a presentation related to the Symposium theme. Successful applicants will be notified from August 2014.

## **6. Dates and Location**

The Symposium will be held from 20 to 23 October 2014 at the Center for Scientific Research and Higher Education (CICESE) in Ensenada, Baja California, Mexico.

## **7. Language of the Symposium**

Applicants must have a good working knowledge of English, which will be the official working language of the Symposium. Invited participants will receive information with details on board and lodging and other local arrangements.

## **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 not assume any responsibility for life and major health insurance, nor for any expenses related to medical treatment or accidents.

## **9. Deadline for Submission of Applications**

Those interested in participating in the Symposiums are encouraged to use the online application form available from <http://www.unoosa.org/oosa/en/SAP/bsti/mexico2014.html>.

Alternatively, the fully completed application form and all other required documents shall be scanned and submitted in electronic format (.doc or .pdf) by email to the United Nations Office for Outer Space Affairs ([unpsa@unoosa.org](mailto:unpsa@unoosa.org)).

In exceptional cases where applicants do not have access to electronic mail, the completed application may also be sent by postal mail or forwarded through the Office of the Resident Representative of the United Nations Development Programme (UNDP) in the applicant's country to the United Nations Office for Outer Space Affairs, Vienna International Centre, P.O. Box 500, 1400 Vienna, Austria.

Applications must be received by the Office for Outer Space Affairs at the latest by Friday, **25 July 2014**. Only complete applications with all the requested information and signatures will be considered.

## **10. Further Information and 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 Symposium programme and to co-sponsorship opportunities, please contact **Mr. Werner Balogh** (werner.balogh@unoosa.org, Tel: +43-1-26060-4952).

For questions related to the local logistics, please contact **Ms. Elena Enriquez** (eenrique@cicese.mx, Tel: +52-1-646-175-0591).

Applicants selected for participation will receive further information with details on board and lodging and other local arrangements.

Please frequently check <http://www.unoosa.org/oosa/en/SAP/bsti/index.html> and <http://www.unoosa.org/oosa/en/SAP/bsti/mexico2014.html> for the latest information on the Symposium.