

The Fourteenth Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-14)
Space Education and Awareness Working Group
(21-22 November, Bangalore, India)

PROVISIONAL AGENDA

- 1. Opening of the session**
- 2. Adoption of the agenda**
- 3. General exchange of views on space education and awareness increase**
- 4. Joint educational activities for primary and secondary school students and teachers**
 - a. Water rocket event**
 - b. Poster contest**
 - c. Space education forum and seminar**
 - d. Other activities**
- 5. Joint educational initiatives for university and graduate students and young professionals**
- 6. Ways and means to promote collaborations among space scientists and engineers and educators in expanding space education activities for young people**
- 7. Other matters**

Annexes:

- 1. Indicative schedule of work**
- 2. Format for a written report under item 3 of the provisional agenda**

ANNOTATIONSⁱ

1. Opening of the session

Following the customary practice, the fourteenth session of the Asia-Pacific Regional Space Agency Forum (APRSAF) Space Education and Awareness Working Group would be co-chaired by Dr. S. Satish of Indian Space Research Organisation (ISRO), representing the Indian host institution, and Prof. T. Kubota of Japan Aerospace Exploration Agency (JAXA), representing the Japanese co-organizers of APRSAF. The co-chairs may make opening remarks, outlining the work of the Working Group.

2. Adoption of the agenda

The Working Group would be invited to review the provisional agenda for adoption.

3. General exchange of views on space education and awareness increase

The members of the Working Group are invited to submit reports containing information on: i) highlights of formal and informal education relating to space activities in the past year; ii) future plans for educational initiatives relating to space activities; and iii) proposals, if any, for activities to be undertaken by the Working Group in 2008. The format for submitting the reports is provided in Annex 2 of this document. The submission received by the Secretariat of the Working Group by 12 November 2007 would be compiled for distribution on the first day of the meetings of the Working Group during APRSAF-14.

Each participating member of the Working Group or his/her alternate would be invited to report on the major developments and activities in his/her country or international organization in the past year relating to space education and increase of awareness of the benefits of space activities, focusing on those developments and activities that are not covered in the above written reports. The maximum of 5 minutes each would be allocated.

ⁱ The annotations are not part of the agenda adopted by the APRSAF Space Education and Awareness Working Group.

4. Joint educational activities for primary and secondary school students and teachers

a. Water rocket event

Following the agreement of the Working Group at its last session, the third APRSAF Water Rocket Event will be held from 23 to 25 November 2007 with the participation of students at the age between twelve and eighteen years old from countries in Asia and the Pacific. The outline of the Water Rocket Event and the rules for the launch competition were circulated to the members of the Working Group on 4 October 2007. The Secretariat will brief the Working Group on the status of the preparations for the Event.

The Working Group should determine whether to continue the Water Rocket Event in 2008 as an annual regional activity for those school children and, if so, identify a venue and determine likely dates for the next Event.

Following the Second APRSAF Water Rocket Event, held in December 2006, in Jakarta, Indonesia, some teachers and leaders participating in the Event as well as members of the Working Group formed a group for the purpose of exchanging information and ideas on teaching methods and materials for further promoting water rocket activities for educational purposes. The Working Group may wish to consider holding, within the framework of APRSAF in 2008, an international seminar for teachers and instructors involved in space education to discuss and identify best methods and mechanisms to enable continuous exchange of information and ideas on teaching methods and materials for promoting water rocket activities for educational purposes.

At its last session, the Working Group noted that the Space Education Center of Japan Aerospace Exploration Agency (JAXA) distributed to members of the Working Group the publication entitled "Educator's Manual for Water Rockets" and the accompanying DVD. The Educator's Manual and DVD are currently available in Japanese and English, and the Spanish version is also being prepared for distribution in 2008 in cooperation with the United Nations Educational, Scientific and Cultural Organization (UNESCO).

In order to further promote water rocket activities in the region through a wider distribution of relevant information materials, consideration could be given to jointly developing a leaflet that provides basic information on water rocket activities, covering scientific principles behind and practical information on making and launching water rockets. That leaflet may also be made available in multiple languages spoken in the region.

The Working Group may wish to address the question of sponsorship to organize the Event and to support the participation of school children and their accompanying teachers.

b. Poster contest

Following the agreement of the Working Group at its last session, the Poster Contest is being held under the theme “50 Years in Space” for participation by students at the age between eight and eleven years old in Asia and the Pacific. The above theme selected for the Poster Contest is the same as the one for the World Space Week this year. The outline of the Poster Contest was distributed to the Working Group members on 4 October 2007.

The final selection of the winners will take place during APRSAF-14. Prior to the beginning of APRSAF-14, the members of the Working Group will be provided with further information on the awards to be announced, posters submitted and the methods and schedule of selecting the winners.

The Working Group should determine whether to continue the Poster Contest in 2008 as an annual regional activity and, if so, agree on a theme for the next Poster Contest and the schedule of associated work.

c. Space education forum and seminar

Pursuant to the agreements of the Working Group, the following forum and seminar were held in 2006:

- i) APRSAF/UNESCO Space Education Forum, 4 March 2006, Hanoi, Vietnam, co-organized by JAXA and the Ministry of Education, Culture, Sports Science and Technology (MEXT) of Japan in cooperation with UNESCO with the support of Vietnamese Academy of Science and Technology (VAST);
- ii) APRSAF/UNESCO/LAPAN Space Education Seminar on “Space Science and Technology and Their Applications”, 11-12 December 2006, Jakarta, Indonesia, co-organized by JAXA and the National Institute of Aeronautics and Space of Indonesia (LAPAN) in cooperation with UNESCO with the support of the Science Center, Taman Mini Indonesia Indah (PPIPTEK / TMII).

The Working Group may wish to solicit and review proposals from its members to organize future space education forums and seminars in other countries in Asia and the Pacific, bearing in mind the agreement of the Working Group to convene such forums and seminars in cooperation with UNESCO.

d. Other activities

The Working Group may wish to consider any proposal for other activities that might be undertaken within the framework of APRSAF for primary and secondary school students and teachers in Asia and the Pacific.

In view of the declaration of the year 2009 as the International Year of Astronomy (IYA) by the International Astronomical Union (IAU) and UNESCO, the Working Group may wish to consider joint educational activities in the area of astronomy to be undertaken in 2008 and 2009, with a view to presenting the results of such activities in 2009.

In view of increased awareness of the international community in the area of climate change and environment, the Working Group may also wish to consider joint educational activities using space-derived information for primary and secondary school students to address environmental issues.

5. Joint educational initiatives for university and graduate students and young professionals

At its last session, the Working Group agreed that the CanSat activities and the Ground Station Network (GSN) project as introduced by JAXA could be carried out within the framework of APRSAF.

As one of the action items agreed upon by the Working Group,ⁱⁱ JAXA organized together with the University Space Engineering Consortium (UNISEC) the International CanSat Workshop (23-24 February 2007, Tokyo). The Workshop was held within the frameworks of both APRSAF and the International Space Education Board (ISEB). JAXA will briefly report on the results of the Workshop. As a follow-up action resulting from the above Workshop, JAXA will make a proposal to convene within the framework of APRSAF in 2008 a regional

ⁱⁱ See para. 27 of the report of the Working Group adopted during APRSAF-13.

seminar for the purpose of training trainers for CanSat development and experiments.

As agreed upon by the Working Group,ⁱⁱ the Secretariat of the Working Group circulated the technical details of “CanSat Kit” to the Working Group members. Some countries subsequently acquired “CanSat Kit”. The Working Group may hear the experience of those countries on the use of “CanSat Kit” and might discuss its usefulness and utility in enhancing basic space engineering training for the benefit of university and graduate students in the region.

Following the offer made by the United Nations Office for Outer Space Affairs, interested members of the Working Group had received sets of information materials and model curricula developed by the Office for the UN-affiliated regional centres for space science and technology education. The Working Group may wish to discuss ways and means to enhance collaborations with the Office and the Regional Centre for Space Science and Technology Education in Asia and the Pacific (CSSTE-AP) to enhance education and training opportunities in basic space science and engineering.

Following the agreement of the Working Group at its last session, the Asian Institute of Technology (AIT) circulated a survey to the members of the Working Group, among others, to seek for suggestions and ideas to enhance the content of the course to be established at AIT with specialization in the “Space Applications and Utilization Technology”. As agreed at its last session, the Working Group may wish to invite AIT to report on the results of its discussions with interested members of the Working Group who had provided suggestions and ideas.

The Working Group may wish to consider any proposals that might be presented by its members to undertake joint educational initiatives within the framework of APRSAF for the benefit of university and graduate students and young professionals.

6. Ways and means to promote collaborations among space scientists and engineers and educators in expanding space education activities for young people

At its last session, the Working Group recalled the recommendations of the Space Science Education Workshop, which was held immediately preceding the APRSAF/UNESCO Space Education Forum (see annotation for agenda item 4-c above), in Hanoi, Vietnam, as follows:

- 1) Closer links should be established between the members of the Working Group and researchers in space science and engineering within each of the countries participating in APRSAF, to exchange ideas and views on how the efforts made by those researchers to enhance educational activities could be better supported by the Working Group;
- 2) The Working Group could give consideration to establishing an informal group of researchers in space science and engineering and educators that could serve as resource persons to assist the Working Group in carrying out joint space education activities within the framework of APRSAF.

The Working Group may wish to consider practical ways and means to implement the above recommendations.

Some countries in the region are strengthening their efforts to integrate subjects relating to space science and technology and their application into the education curricula for primary and secondary schools. Such efforts are being made often through collaborations between researchers in space science and technology and educators. The Working Group may wish to consider compiling a report on the efforts made and approaches taken by various countries in the region of Asia and the Pacific to integrate space-related subjects into the education curricula and the extent to which space-related subjects are included in the existing curricula for the primary and secondary schools.

The Working Group may wish to hear any reports by its members on the efforts made in their countries to promote collaborations among space scientists and engineers and educators to expand space education activities for young people.

7. Other matters

At its last session, the Working Group noted the project conducted by the International Astronautical Academy (IAA) to develop database of space terminologies in multiple languages.ⁱⁱⁱ The Working Group will be provided with a report by Prof. Y. Matogawa, IAA member responsible for Asian region, on the progress made in the project and the participation of members of the Working Group in the project.

ⁱⁱⁱ See paragraph 35 of the report of the Working Group adopted during APRSAF-13.

Some members of the Working Group suggested that the name of the Working Group might be modified, as “space education” in some countries means “space applications to provide tools to enhance education”, which are not within the scope of the activities of the Working Group. The Working Group may wish to consider reviewing its name to more accurately reflect its activities conducted.

Time permitting, additional matters that may come to the attention of the Working Group will be discussed.

**Annex 1: Indicative schedule of work of the Space Education and Awareness Working Group
(21-22 November 2007, Bangalore, India)**

Co-Chairs: S. Satish (Indian Space Research Organisation, India)

Takashi Kubota (Japan Aerospace Exploration Agency, Japan)

<i>Date</i>	<i>Time</i>	<i>Agenda Item(s)</i>
21 November, Wednesday	9:30 11:00	1. Opening of the session <ul style="list-style-type: none"> • Remarks by the Co-Chairs
		2. Adoption of the agenda <ul style="list-style-type: none"> • APRSAF/SEA-WG/2007/1
		3. General exchange of views ⁱ <ul style="list-style-type: none"> • XXXXX (India) "TITLE TO BE ANNOUNCED" • E. Hirohama (Japan) "TITLE TO BE ANNOUNCED" [SPEAKERS TO BE ADDED UPON REQUEST]
	11:00	<i>Coffee/tea break</i>
	11:20	4. Joint educational activities for primary and secondary school students <ul style="list-style-type: none"> 4-a. Water rocket event <ul style="list-style-type: none"> • Briefing by the Secretariat of the Working Group • Preparations for APRSAF Water Rocket Event <ul style="list-style-type: none"> ➢ B. R. Guruprasad (India) • Possible international seminar for teachers and instructors on water rockets for educational purposes • Possible multilingual leaflet with basic information on water rockets • Discussion 4-b. Poster contestⁱⁱ <ul style="list-style-type: none"> • Briefing by the Secretariat of the Working Group • Preparations for the APRSAF Poster Contest <ul style="list-style-type: none"> ➢ B. R. Guruprasad (India) • Theme for 2009 • Discussion 4-c. Space education forum and seminar <ul style="list-style-type: none"> • Discussion 4-d. Other activities <ul style="list-style-type: none"> • Possible educational activities in astronomy in preparations for the International Year of Astronomy in 2009 • Possible educational activities in the area of environmental protection • Discussion
	13:00	<i>Lunch break</i>

ⁱ The participating members of the Working Group are invited to indicate their intention to make brief presentations under this agenda item by [14 November 2007]. The time allocated to each presentation is 5 minutes at maximum.

ⁱⁱ The item will be closed after the review and approval of the selection of the winners for APRSAF-14 Poster Contest, which is tentatively scheduled for 22 November 2007, from 15:00 hrs.

<i>Date</i>	<i>Time</i>	<i>Agenda Item(s)</i>
21 November, Wednesday	14:00	5. Joint educational initiatives for university and graduate students and young professionals <ul style="list-style-type: none"> • Report on the International CanSat Workshop (23-24 February 2007, Tokyo) <ul style="list-style-type: none"> ➢ T. Chiku (Japan) • Report(s) on the use of “CanSat Kit” <ul style="list-style-type: none"> ➢ [Thailand <i>(TBC)</i>] ➢ [Malaysia <i>(TBC)</i>] • Discussion <ul style="list-style-type: none"> ➢ CanSat training seminar for trainers
	15:00	<i>Coffee/tea break</i>
	15:20 – 17:00 ⁱⁱⁱ	5. Joint educational initiatives for university and graduate students and young professionals (continued) <ul style="list-style-type: none"> • Collaborations with UN/OOSA and CSSTE-AP in basic space science and technology <ul style="list-style-type: none"> ➢ [UN/OOSA and/or CSSTE-AP <i>(TBC)</i>] • Results of the survey on “Space Applications and Utilization Technology” course <ul style="list-style-type: none"> ➢ [AIT <i>(TBC)</i>] • Discussion 6. Collaborations among space scientists and engineers and educators <ul style="list-style-type: none"> • Implementation of the recommendations of the Space Science Education Workshop in March 2006 • Possible report on the integration of space-related subjects into the education curricula • Discussion 7. Other matters <ul style="list-style-type: none"> • Report on IAA project on space terminologies in multiple languages <ul style="list-style-type: none"> ➢ Written report to be presented by Y. Matogawa • Name of the Working Group • Discussion
[22 November, Thursday] <i>TBC</i>	[15:00 – 16:30] <i>TBC</i>	4-b. Poster contest <ul style="list-style-type: none"> • Report by the Secretariat of the Working Group on the results of the selection of winners • Review and approval of the results Observations and recommendations <ul style="list-style-type: none"> • Review of the draft and discussion Adoption of the conclusions and recommendations of the Working Group

ⁱⁱⁱ The reception hosted by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan follows at 19:30 hrs. at XXXXX.

Annex 2: Format for report on space education and awareness activities

APRSAF-14 Space Education and Awareness Working Group

REPORT BY MEMBER

Item 3 of the Provisional Agenda: "General Exchange of Views"

<i>Country / Organization:</i> [Insert the name of the country/international organization]
<i>Report prepared by:</i> [Insert the name of the drafter of this report]
<i>1. Highlights of formal and informal education relating to space activities in the past year:</i>
[INSERT THE TEXT]
<i>2. Future plans for educational initiatives relating to space activities:</i>
[INSERT THE TEXT]
<i>3. Proposal(s), if any, for initiatives to be undertaken by the Working Group in 2008:</i>
[INSERT THE TEXT]

<NOTE: The submission should be limited to 2 pages at maximum, using Century-11point fonts.>