IAF/IAA/ISU/UNESCO Expert Workshop
« Bridging Space and Education »
At UNESCO in Paris, 13-15 March 2003

1. Scope of the Workshop

1. Space is questioning and inspiring humanity since its origin. It is a fundamental topic of research and interest for humankind. Thanks to the scientific and technical progress achieved in the past century, Space is not only a topic of research and a subject of enlightenment, but also a place to perform research, and a tool that allows key activities on Earth. Space and Space related activities are part of our daily life. They belong to the culture of humankind, and as such, they have to be part of the education of all children. Space has to be more and more introduced in education: **Space in education** is the first aspect in bridging space and education

2. Furthermore, the maintenance and the development of Space research and space related activities for the benefit of humankind need the active work of enthusiast and motivated people who have to be properly educated. How to provide the most appropriate education for those who will become the professionals in Space and Space related activities is a key question to be looked at carefully: **Education in Space** is the second aspect in bridging space and education.

3. Last, but not least, Space is providing unique tools to improve education, such as Tele-education, via satellites, pedagogical material, etc: **Space: a tool for education** is the third aspect of bridging space and education.

Education in Space, Space in Education and Space for Education are the three components of the cross feeding between Space and Education. Although these three components are linked and enriched by each other, this workshop will focus on

"Space in Education, in the last few years of secondary education"

2. Goals and Rationale of the workshop

The three above components of Space and Education have already been addressed in several conferences, symposiums and workshops in most countries during the last years. They have been subject of several recommendations of UNISPACE III (see http://www.oosa.unvienna.org/unisp-3/index.html) and of the Space Generation Forum (SGF). These recommendations have been worked out by several committees, and particularly by the Action Team 17 on Capacity Building and Action Team 18 on Awareness Raising of the Committee for the Peaceful Uses of Outer Space of UN (COPUOS) and the subsequent SGF meetings. An important material has thus been prepared, experiences have been conducted and lessons have been learned in most countries of theworld.

It is timely to gather all what has been done and to give the opportunity to those who contributed to enhance the interactions between Space an Education to meet together, to share their experience, to identify the most promising experience and to prepare an action plan for the future.

The goals of this workshop are precisely:

1) To evaluate and prepare a synthesis of what has been done in the past on the three aspects of the interactions between Space and Education,
2) Based on this synthesis, to identify key points, successful experience, success stories, pilot projects regarding the introduction of Space in Education in the last few years of secondary education, as a subject of study and best practices, as an

illustration of the concepts presented in most disciplines and as a stimulation for international opening and for study in general;

3) To prepare a series of recommendations and an action plan for improving the introduction of Space in Education in the last few years of secondary education;
4) To prepare elements of a high-level Agreement regarding the introduction of Space in Education to be submitted to UNESCO in preparation of a document addressed to the relevant authorities in all the countries of the world;
5) To prepare a contribution to a plenary session for the next International Astronautical Congress which will be held in Bremen in October 2003, as well as for an information session during UNESCO's General Conference to be held in Paris in October 2003.

Presentation and discussion of the summary report prepared by the IAF/IAA Study Group on the basis of the reports of the splinter groups.

Review of Projects

- Commitment with local community leaders is a key, start with simple concept.

Next splinter (note: I do not understand this next splinter)

- Turn the negative points into positive through a pilot project exercise

Look into pilot projects criteria for selection, success assessment, phasing from idea to pilot phase up to fully labeled project

Pilot Proposal Proposals

- Space Festival concluding a series of space education projects. Youngsters have to design interdisciplinary projects, including hands on activities/projects. Forum for students and teachers open to public.
- Build a platform for space literacy that enables the collecting anddistribution of pedagogical materials and existing resources made available to all. Including a set of best practices and methods of successful projects
- Space on the road in developing countries. Traveling teachers or educators with teaching materials
- Developing space into the curriculum using both top down and bottom up approach (long term project)

Adoption of the elements of the high-level Agreement and of the action plan to be presented at Bremen and during the UNESCO conference

Summary: **Elements of High Level Agreement**

- Space is recognized for bringing in Education, interesting examples to enhance global education and to allow a better coverage of education to remote location, in particular to Developing countries.
- Space organizations are invited to commit through a charter to the following principle of sharing space education materials and to provide basic set for duplication
- International bodies such as UNESCO are invited to help promote the distribution of such information and pedagogical materials to interested countries and help duplication of it.

As a result of the various meetings held on the subject of "space and education", the question has been raised to propose a way to put the various recommendations in a real work within the countries. This "charter" could be endorsed by UNESCO and/or taken as a proposal of UNISPACE III action teams COPUOS work or IAA/IAF education team. Pilot projects have been identified to give concrete examples of implementation and show possible cooperation schemes.

Three ideas are developed:

First of all, to assess that Space is a good and useful tool to provide examples in most of the subjects taught to the young people. Because of its prestige it can attract the youngsters and enhance the interest to the scientific studies.

Secondly, education material already exists in some countries which have a space activity and we have to encourage them to provide it but without the charge of distribution to the other countries.

Thirdly, only international bodies can ensure this distribution charge because they know the potential needs and have this international mandate.

From these three key ideas a possible wording is as follow to be adopted as principles by the countries.

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- Space organizations are invited to commit to the principle of sharing space education materials and to provide basic set for duplication

- International bodies such as UNESCO are invited to help promote the distribution of such information and pedagogical materials to interested countries and help duplication of it.

After the endorsement of these basic ideas which gives a commitment from High Level academic and political decision-makers, each country with its own national education standards has to go ahead and can develop its own coordinated actions.

Four pilot projects have been identified as follow because they are recognized as the most efficient way to develop such activities:

- Space Festival concluding a series of space education projects. Youngsters have to design interdisciplinary projects, including hands on activities/projects. Forum for students and teachers open to public

- Space on the road in developing countries. Traveling teachers or educators with teaching materials

- Build a platform for space literacy that enables the collecting and distribution of pedagogical materials and existing resources made available to all. Including a set of best practices and methods of successful projects

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Finally, to contribute to the success of such activities in new countries, it is suggested that countries which already practice, could welcome for some months a representative who will have later on in charge to install the activity in his own country.

Organization of the follow-up work:

- **Report to the Plenary session in Bremen**
- **Report to the UNESCO General Conference through an information session**
- **Proceedings and Publications of the IAA/IAF Study Group**

- Results of this workshop should be brought into the current work of the UNISPACE III action teams

- From the Elements of the High Level Agreement, formulate recommendations adapted to the mandate of UNESCO, UN-COPUOS and IAA/IAF and related to the Pilot Projects proposed and their implementation