UNESCO’s Science Education and Space Activities

United Nations/Malaysia Expert Meeting on Human Space Technology

14-18 November 2011

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UNESCO appreciates the efforts of UNOOSA of bringing together UN Agencies to take advantage of the wonderful opportunity of using the ISS

Special thanks to Mr. Takao Doi for his strong interest in having UNESCO onboard
UNESCO works in the area of education with the following space members of the ISS: NASA, ESA (World Heritage sites), JAXA (World Heritage sites).

And on Education related to Earth Observation within GEO/GEOSS, CEOS, Geologic Application of Remote Sensing (GARS), Space Education Programme.
Current situation at UNESCO (36th General Conference)

22% of UNESCO’s budget is ‘frozen’

Strong need to focus on and reinforce UNESCO’s current activities

As a conclusion, UNESCO proposes to this meeting to work on the use of the ISS for education, reinforcing current partner activities, avoiding to enter into completely new activities.
UNESCO’s main areas where the ISS / education could be applied

Peace
World Heritage
Biosphere reserves
Geoparks
Natural disasters
Biodiversity
Ecosystems
Climate change
Basic sciences
Earth Sciences education
Oceans

UNESCO labeled sites

Mount Etna as seen by ISS
UNESCO’s PEACE mandate:  
*building peace in the minds of men and women*

The International Space Station is an excellent example:  
- Peaceful uses of space  
- Scientific and technological research cooperation for the well being of humankind

UNESCO suggests to highlight these aspects through educational activities being implemented jointly
Examples of activities suggested by UNESCO

Using current UNESCO network of universities and the Associated Schools Network to encourage the use of the ISS as educational means

Targeting:
- Undergraduate and graduate students
- Teachers and researchers
- With priority Africa

Mount McKinney as seen by ISS
For example:
• Inviting university students to work on UNESCO labeled-sites
• They would collect \textit{in-situ} data and will take notes on local observations
• Back to class they will activate the ISS EarthKam to take images of the UNESCO-site on which they did the field visit
• They will then correlate their field observations with the ISS-image
• They will write a report of their conclusions
• Finally they will share their observations, conclusions and recommendations with the UNESCO site-manager
There is a tremendous amount of educational potential using the ISS.

On account of limited resources, UNESCO suggests therefore to focus on current working areas of partners.

Additional funds will be sought through fund raising.

Current educational material about the ISS developed by ISS space partners could be used by UNESCO.

In addition UNESCO will mobilize its current educational networks to make further use of the ISS as applied to UNESCO themes of work.

UNESCO could also work in close cooperation with other UN sister organizations in order to use their associated results using the ISS as additional educational material.
About UNESCO Jakarta

The UNESCO Office, Jakarta serves two dimensions.

• As a Regional Bureau for Science, covering the Asia and Pacific Region, with programmes in Natural Sciences including Geology, Ecology, Basic and Engineering Sciences, and Disaster Preparedness.

• As a Cluster Office, representing UNESCO in Malaysia, Brunei Darussalam, Indonesia, the Philippines, and Timor Leste in all UNESCO fields of competence: Education, Culture, Communication and Information, and Natural Sciences.
Challenges in S&T in the Asia-Pacific

• Need for greater national investments in S&T, including science education
• Persistent low profile of S&T as a tool for addressing local MDGs
• Water, environment, hygiene, energy education
• Uneven quality and “disconnectedness” of science education
• Declining interest of youth in pursuing science and engineering careers
“Mobilizing Science knowledge in Asia and the Pacific through Information and Communication Technologies”
• Indonesia Higher Education and Research Network (INHERENT)
• Malaysia Research and Education Network (MYREN)
• Philippines Research Education and Government Information Network (PREGINET)
• Canal ASEAN Virtual Institute of Science and Technology (CanalAVIST)
• Thai Inter University Network (UniNET ThaiREN)
• Sri Lanka Education and Research Network (LEARN)

• School on Internet Asia (SOI)
• Trans Eurasian Information Network (TEIN)

(GDLN and other networks)
CONNECT - Asia shares values of Information and Communication Technologies.

CONNECT, as a group of national, sub-regional, and regional ICT networks, actively contributes to improvement of education and research in Asia and the Pacific.

NRENs: A national research and education network (NREN) is a national high-speed backbone intra-network, dedicated to supporting the research and education communities within a country.
UNTIL connection to CONNECT-Asia

Internet cloud

Gateway Site @ Keio Univ.

SOI Archive

National University of Timor Leste
Yangon University of Computer Science

Client

Client

UniNET

CanalAVIST

TIN

INHERENT

MYREN

UNESCO Jakarta

Lecturer Sites@ various places

Prepared by Dr. Achmad Husni Thamrin
Modified by Masami Nakata
Inherent 2009

Source: Prof. Basuki Suhardiman, ITB
UNESCO e-learning programme
UNESCO e-learning programme
Solar Eclipse 22nd July 2009
This event is a collaborative effort of the CONNECT Asia initiative which was established in 2009. CONNECT-Asia (Collaboration for Network-enabled Education, Culture, Technology and Science) was created in June 2009 and consists of national education research ICT networks (NREN) in Asia and beyond such as INHERENT (Indonesia) with 365 universities and research institutions, MYREN (Malaysia) with 82 institutions, PREGINET (Philippines) with 168 institutions, UNINET (Thailand) with 240 institutions, LEARN (Sri Lanka) with 50 institutions, SOI Asia (Japan) 28 universities and TEIN3 (Europe) delivering connections from GEANT in Europe for 45 million users in the region.

The “Building a Green Society” online seminar provides insights from Education, Culture, Science, and Communication sectors. We expect this activity to ignite collaboration and cooperation among the participating parties on sustainable development while also giving them the opportunity to share their own ideas, and to initiate the preparatory discussion in the region for Rio+20: United Nations Conference on Sustainable Development in 2012.

25 Nov 2011

The seminar will connect experts worldwide to share their vision on creating green societies. Participants from around the world will interact in this discussion centered in Asia through video conferencing from their own universities.

The Role of Education, Science, Culture, and Communication

ONLINE SEMINAR: 07:00 - 09:00 GMT / 14:00 - 16:00 Jakarta time

Opening: Ms. Irina Balavan, UNESCO Director General
Keynote Speaker: Prof. Jeffrey Sachs, New York Towards a Green Economy
Moderator: Mr. Desi Amran Jakarta

Opening: Prof. R. Martin Liew, Australia & Prof. Sun Mi Ral, South Korea
Science: The Role of Science, Technology and Innovation in the Transition to a Green Economy

Opening: Mr. Herbsee Hancox, Los Angeles Culture: A Driver for Effective Sustainable Development

Opening: Prof. Hans van Clew, Netherlands Education: Educating for a Sustainable Future

http://connectivity.connect-asia.org
"Unlocking the Hidden Wonder of World Heritage"

**WHAT IS AGORASIA?** AGORAsia is an online environment where university students, lecturers and other audiences gather to listen, discuss, create and share knowledge, from Asia to the world.

In this series of special workshops, specialists will promote discussions on theories from the heritage perspective, utilizing new learning approaches and making the best use of real time multilateral communication. As final assignment, students will create a video, to be submitted to the Video Contest*.

### VIDEO CONTEST

This video contest will stimulate junior high school to university students' creativity and reflection about world heritage utilizing new media tools. Participants will create short movies on the theme MY World Heritage – "For me, my world heritage is..."

The video can be of any genre: live action, animation, slide show, stop motion, etc. The video's length is up to 5 minutes or less and submission will be done by Youtube.

Prizes and certificates will be given to the author of best pieces.

| SPECIAL WORKSHOP 1 | Date: Monday, December 12, 2011  
| Time: 11:00-12:30 (Jakarta time)  
| Featured Heritage: Borobudur Temple (Indonesia)  
| Featured Topic: Traditional and Digital Preservation Engineering* |
|---|---|---|---|
| SPECIAL WORKSHOP 2 | Date: January 2012  
| Featured Heritage: Hirazumi (Japan)  
| Featured Topic: Wooden Architecture/Engineering*  
| Potential Guest: Japanese traditional carpentry professionals |
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| SPECIAL WORKSHOP 3 | Date: February 2012  
| Featured Heritage: Malaka and George Town (Malaysia), Ayutthaya (Thailand)  
| Featured Topic: Environment and Sustainability Management in Urban Areas*  
| Potential Guest: urban planners, environment engineers |
|---|---|---|---|
| SPECIAL WORKSHOP 4* | Date: March 2012  
| Featured Topic: Screening of video contest winners  
| Potential Guest: video makers, UNESCO |

*tentative

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