

Bridging Space and the Society

Recent Educational Activities in Japan

**Committee on the Peaceful Uses of Outer Space, 54th Session
June 2010, Vienna, Austria**

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Japan Aerospace Exploration Agency (JAXA)**



Capacity Building For Space Application

6 capacity building activities support the JAXA initiatives using satellite data

**JAXA-initiated projects,
Sentinel Asia, SAFE (Space Applications
for Space Environment), etc.**

Mini-
Projects
in
cooperati
on with
GIC-AIT

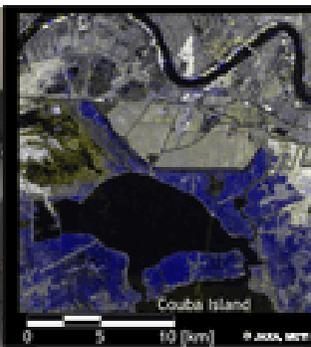
Oceanic
Mini-
Projects in
cooperation
with
CReSOS,
Udayana
University

Specialized
Training
in Japan
for both
Mini-
Projects'
High
Achievers

ALOS
Applications
&
Verifications
Project with
LAPAN
Indonesia

ALOS
Applications
&
Verifications
Project with
GISTDA
Thailand

Organizing
Capacity
Building
Activities for
Asia Water
Cycle
Initiative
(AWCI)



JAXA Mini-Projects

in cooperation with

Geo-Informatics Center & Asian Institute Technology(GIC&AIT)

1. Number of Trainees (JFY1995 ~ 2010) :

More than 1,300 from 27 countries of the Asia-Pacific region

2. Staff of GIC-AIT:

Usually 15 Asian personnel including lecturers and administrative staff

9 Mini-Projects Selected for 2010

(16 participants of 16 organizations from 9 countries)



Bhutan



Indonesia



Kyrgyzstan



Lao PDR



Nepal



Pakistan



Sri Lanka



Thailand

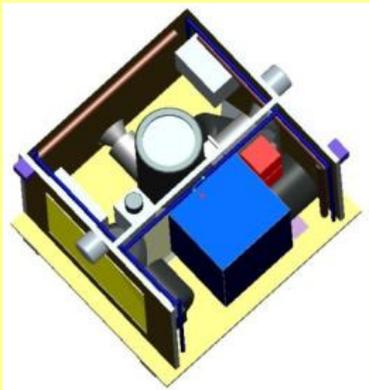


Vietnam

Satellite Technology Capacity building

STAR program since 2009

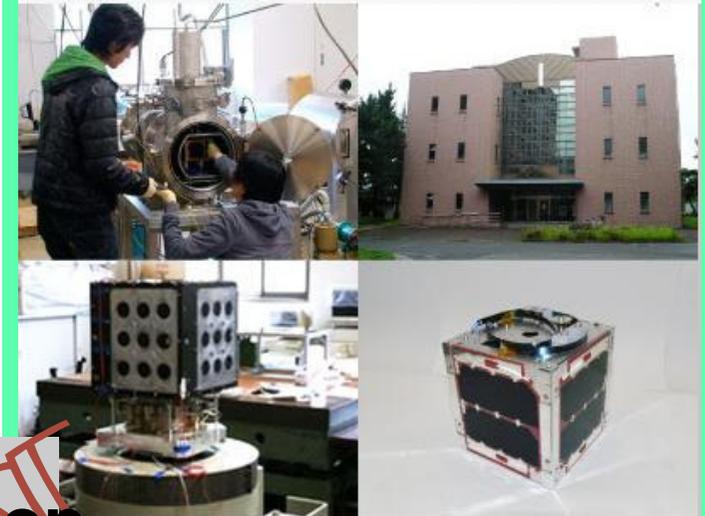
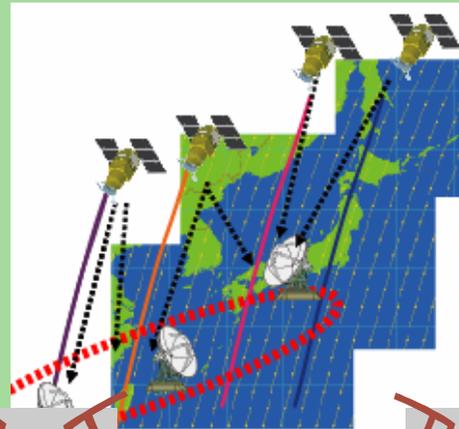
Capacity building opportunity for young researchers and engineers of space organizations in Asia-Pacific



UNIFORM since 2010

(UNiversity International FORMation Mission)

- MicroSat constellation for wildfire monitoring
- Capacity building for young engineers and students from developing countries.



Starts in 2011

“Doctorate in Nano-Satellite Technologies”

for post-graduate level students
from developing countries

by Kyushu Institute of Technology and UNOOSA

Opportunity for piggy-back small satellites

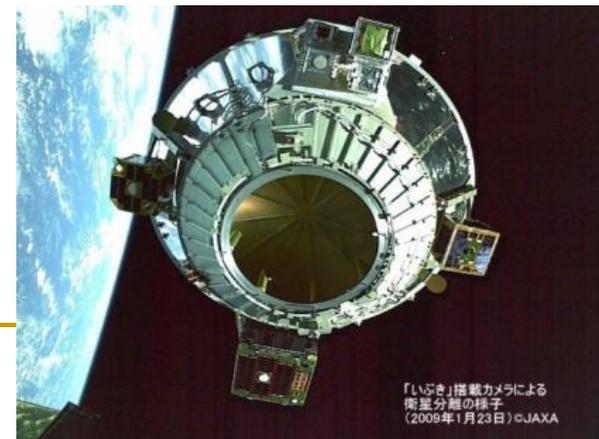
- JAXA provides Japanese universities and private companies with opportunities to launch a small satellite as the H-IIA piggy-back.
 - *Accommodation of foreign applicants is under the consideration

Objectives

- To scout new players to the space development and utilization fields
- To contribute education and training of space engineers.

Responsibilities

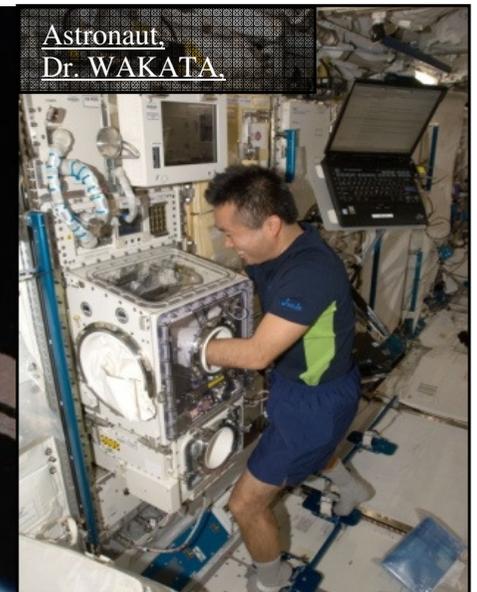
- JAXA: to provides a satellite deployer, an adapter and launch services including a review before delivery.
- Applicants: to design, manufacture, test and operate own small satellite.



Framework to utilize Kibo in Asia

The Space Environment Utilization Working Group (SEU WG) of APRSAF (Asia-Pacific Regional Space Agency Forum)

- *India, Indonesia, Japan, Malaysia, the Republic of Korea, Thailand and Vietnam are presently active members.*
- *Cooperation schemes and potential joint-research subjects utilizing space environment are discussed.*
- *Education and capacity building effort in utilizing Kibo are also discussed.*



The 17th Session of APRSAF (Australia, 2010) Japanese Experiment Module, Kibo, on the ISS

Experiments in Kibo

Asian Seed Project using Kibo

Space Seed project in Japan

- Many types of seeds have been transported to Space. Those seeds retrieved from space were planted and brought up. This project is **very effective for education**.



Collaboration in Asia - JAXA **expanded the best practice of Japan into Asia.**

- **Indonesia, Malaysia, Thailand and Vietnam** participate in this project.

- **The seeds** retrieved from space will return to the owner countries and be **used for education**.



Other Examples of Kibo outreach

■ International micro-G experiments for students

-Joint micro-G experiments among Japanese, Malaysian and Thai students through parabolic air flight carried out by JAXA.



Malaysia



Thailand



■ Communication between Asian children and Japanese astronaut in Kibo

-Scientific questions from Asian children will be answered by Japanese Astronaut Furukawa's experimental demonstration in Kibo this summer.
-Real-time communication is also planned.



■ Promotion of Public Awareness

-Booklets (in print & electronically) on space utilization for students, scientists, engineers and ministrations
-Some were translated into Indonesian, Thai, Vietnamese in addition to English.



Educational collaborations for Asia-Pacific

★ APRSAF Space Education and Awareness Working Group

- **Membership:** Australia, Bangladesh, Cambodia, India, Indonesia, Japan, Kazakhstan, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, Vietnam, AIT, UNE, UNESCO, UNCOPUOS, UNOOSA
- **Water Rocket Event**
6th: Australia (2010), 7th: Singapore (Dec. 11, 2011)
- **Poster Contest**
- **Space Education Forum/Seminar (for teachers and/or students)**
- **International CanSat Workshop**
- **International Water Rocket Education Workshop**



Minister of Science
in Bangladesh



Space Education Seminar in Bangladesh in 2011



Trainings for Australian Teachers
in Japan 2010



★ Collaboration with International Institute of Space Law (IISL)

Send winner of Asia Pacific Regional Round to the Moot Court Final Round

Global Collaborations for Space Education

★with regional mechanisms (UNESCO, Space Agencies)

➤Water Rocket Event in Mexico (Nov. 2010)

★with Japan International Cooperation Agency (JICA)

➤regular meetings from 2010

➤Sending Educational Materials to Nigeria in 2009 and 2010

★Active contributions to International Space Education Board (ISEB)



IAC 2010 Student Programme:



COSPAR 2010 Student Programme:



Field Trip



Students event in
Prague during IAC



NASA Academy 2010