Lessons Learned From CAWSES-AOPR First Capacity Building Workshop of Space Science for Southeast Asian Scientists

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Preambles (1/4)

- The National Science Council (NSC) of the Republic of China in Taiwan has a long-going policy in promoting science-exchange between Southeast Asian countries.

- SCOSTEP CAWSES (Climate and Weather of Sun-Earth System) program for 2004 to 2008.
  - Education outreach.
  - Establishing CAWSES-AOPR (Asia Oceania Pacific-Rim) Coordinating Office at National Central University, Chung-Li, Taiwan, in July 2004.

Preambles (2/4)

- Taiwan's first scientific satellite, ROCSAT-1 (renamed FORMOSAT-1, 2004) collected great ionospheric data between 1999 and 2004.
  - Newest low to mid latitude ionospheric dataset in past 20 years.
    - Ion density.
    - Ion flow velocity in three components.
    - Ion temperature and composition.
  - Results in more than 36 journal publications in 6 years.

Preambles (3/4)

- ROCSAT-1 (FORMOSAT-1) data is now open to public.
  - http://csrsddc.csrsr.ncu.edu.tw.
  - Used as major studying topic in the workshop.

Preambles (4/4)

- CAWSES-AOPR (Asia Oceania Pacific-Rim) Coordinating Office at National Central University, Chung-Li, Taiwan.
  - Director: Professor Lou C. Lee
  - Scientific secretary: Professor S.-Y. Su
  - http://csrsddc2.csrsr.ncu.edu.tw/CAWSES-AOPR
    - Organized ISEA-11/CAWESE MiniWorkshop held in Taipei, May 9-14, 2005.
    - Organized the 1st CAWSES-AOPR Capacity Building Workshop in Chung-Li, Nov 7-15, 2005.

First Capacity Building Workshop

- Held from November 7 to 15, 2005 in the campus of National Central University in Chung-Li, Taiwan.
- Twenty-one (21) participants from three (3) Southeast Asian countries attended.

Lecture and Lecturers (1/3)

Unit 1: Basics of the solar wind interaction with the Earth magnetosphere (1)
Basics of the solar wind interaction with the Earth magnetosphere (2)
Lecturer: L. H. Lyu, Professor of Institute of Space Science,
National Central University, Taiwan.

Unit 2: Shape and size of the Earth magnetosphere in relation to space weather effect: Theory and predication with ACE and Wind data.
Lecturer: J. K. Chao, Professor of Institute of Space Science, National Central University, Taiwan.

Unit 3: Current Systems in the Terrestrial Environment (1)
Current Systems in the Terrestrial Environment (2)
Lecturer: R. A. Heelis, Professor and head of W. B. Hanson Center for Space Sciences, the University of Texas at Dallas, Texas, U. S. A.

Lecture and Lecturers (2/3)

Unit 4 : Ionosphere and space weather effect (1): Theory and practical analyses with ionosonde and GPS data.
Ionosphere and space weather effect (2): Theory and practical analyses with ionosonde and GPS data.
Lecturer: J. Y. Liu, Professor of Institute of Space Science, National Central University, Taiwan.

Unit 5: Space-borne ionospheric electron density and temperature measurements and application with International Reference Ionosphere (IRI) model (1).
Space-borne ionospheric electron density and temperature measurements and application with International Reference Ionosphere (IRI) model (2).
Lecturer: K. I. Oyama, Professor of Graduate University for Advanced Studies, ISAS/JAXA, Japan.

Lecture and Lecturers (3/3)

Unit 6 : Ionosphere and space weather effect (3): Introduction of FORMOSAT (ROCSAT) /IPEI observations and data analysis.

Lecturer: S.-Y. Su, Professor of Institute of Space Science, National Central University, Taiwan.

Unit 7: Ionosphere and space weather effect (4): Introduction of FORMOSAT (ROCSAT) /IPEI observations and data analysis.

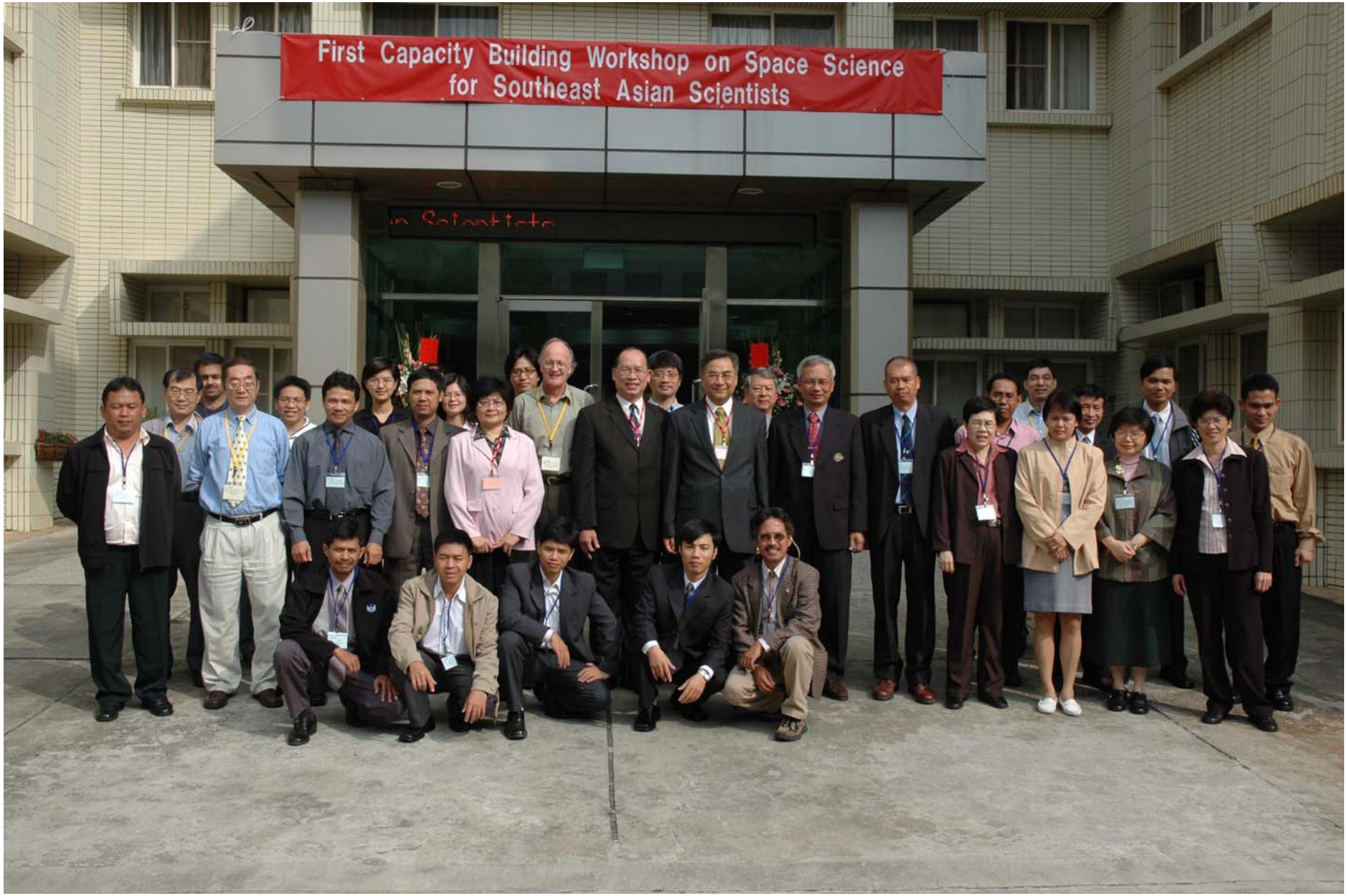
Lecturer: C. K. Chao, Post-doctor of Institute of Space Science, National Central University, Taiwan.

Participants (1/2)

1. Anwar Santoso, Indonesia.
2. Armi Susandi, Indonesia.
3. Asnawi, Indonesia.
4. Effendy, Indonesia.
5. Zadrach Ledoufij Dupe, Indonesia.
6. Ha Duyen Chau, Vietnam.
7. Hoang Thai Lan,Vietnam
8. Thanh Truong Le, Vietnam.
9. Hung Viet Luu, Vietnam.
10. Le Huy Minh, Vietnam.

Participants (2/2)

11. Quan Van Ngo, Vietnam.
12. Nguyen Thanh Long, Vietnam.
13. Thang Chien Nguy, Vietnam.
14. Thu Hong Thi Pham, Vietnam.
15. Pham Hoang Lan, Vietnam.
16. Vaschrin Booncong, Thailand.
17. Patima Arphasilp, Thailand.
18. Navanit Aphicholati, Thailand.
19. Tasanee Krittayaphongphun, Thailand.
20. Somsri Huntrakul, Thailand.
21. Praphon Vibulsukh, Thailand.


First Capacity Building Workshop on Space Science
for Southeast Asian Scientists

Epilogue

- Space Science is still a minor scientific activity in many countries, more noticeable in developing Asian countries.
  - Space related technology is major activity.
- Diversity of participants.
  - Different levels of perception and impact.
  - Communication with English has some difficulties.
- Need more interaction during Workshop.
  - More hands-on practices.
  - Need a reciprocal visit and continuing interactions.

2nd Capacity Building Workshop (1/2)

- To be held from October 30 to November 7, 2006 at National Central University, Chung Li, Taiwan.
- Major topic of study:
  - FORMOSAT-3/COSMIC data.
    - FORMOSAT-3/COSMIC was launched on April 15, 2006 and is performing well.
    - Atmospheric temperature and humidity profile.
    - Ionospheric density profile.

2nd Capacity Building Workshop (2/2)

- Has been announced in CAWSES Newsletter.
- To be posted in other scientific newsletters.
- Poster available at COSPAR.