



How to design a Space Science Mission

OCTOBER 17-26 2016, THAILAND



PARTICIPANT'S HANDBOOK



MINISTRY
OF DIGITAL
ECONOMY
AND SOCIETY



NSSE



Swiss Space Office
Office fédéral de l'espace
Bundesamt für Raumfahrt
Confédération suisse
Confederaziun Svizra
Confederaziun Svizra

1995-2003 ISSI in Bern founded by J. Geiss

Institute of Advanced Space Studies



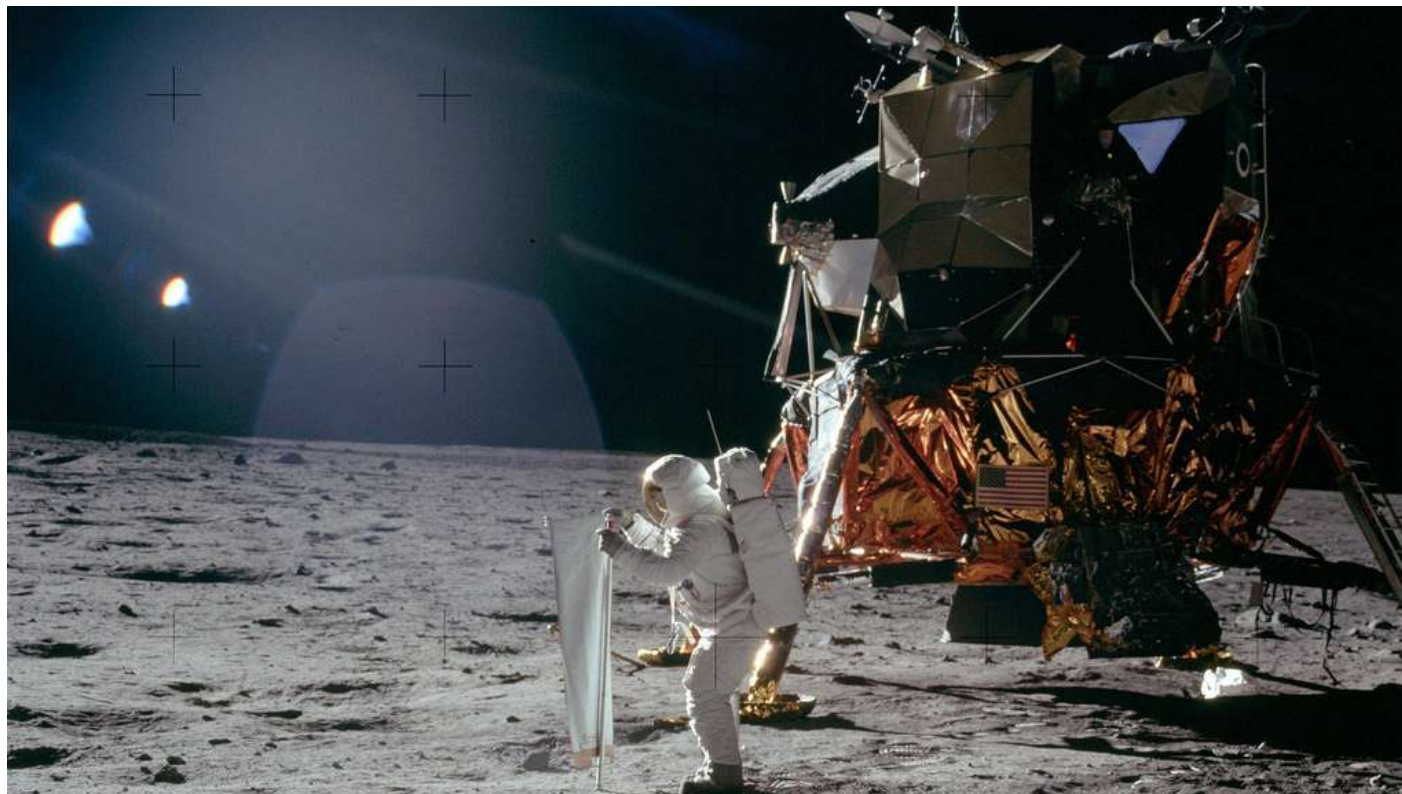
2003-2013 Executive Director R.-M. Bonnet

2011/2012 Prof. Wu Ji (NSSC) visited ISSI in Bern to establish “ISSI” in Beijing

2013 Inauguration of ISSI-BJ



Solar Wind Composition Experiment The First “Flag” on the Moon?



Swiss solar sail: One of the only experiments to be carried on every lunar landing mission, and it was the only non-American experiment to be part of the Apollo landings.

- July 13, 2015

Agreement (MoU) marks the start of cooperation.



Dr. Li Xinjun, Secretary-General and CEO of APSCO

First joint activity: Summer school on “How to design a space science mission”

Proposed locations : Geo-Informatics and Space Technology Development Agency:
GRISTDA, Thailand, Space Krenovation Park (SKP)

Bangladesh, China, Iran, Mongolia, Pakistan, Peru, Thailand and Turkey





How to design a Space Science Mission

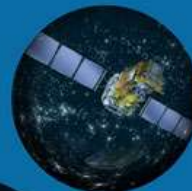
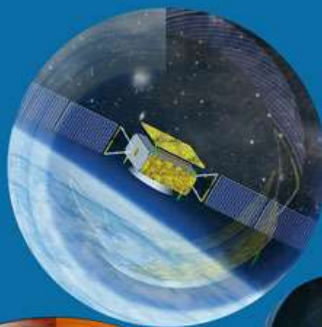
October 17 - 26, 2016
Si Racha, Chon Buri, Thailand

www.apsco.int/APSCO_ISSI-BJ_SS/

TOPICS

- Scientific objectives
- Payload design
- Orbital constraints
- Spacecraft AOCS
- Spacecraft design and optimization
- Operations ground segment
- Scientific management
- Project management
- Micro-satellite launching and operation
- Cubesat mission design and integration
- Designing of space science experiment for Space Station

For Master, Ph.D. students and Post-docs, with a background in astronomy, space sciences or engineering



Registration Fee: \$200

Housing and meals is provided for free
Travel subsidies and registration fee waivers available

Application and Travel Subsidy
Deadline: 29 July 2016

Lecturers are leading space Scientists:
instrumentation and observational astronomers

Visit our website for a list of confirmed lecturers as it is updated



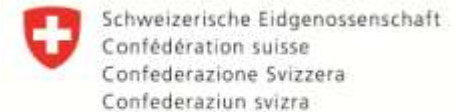


Sponsors

- Ministry of Science and Technology in Thailand (MOST)
- Ministry of Digital Economy and Society in Thailand (MDES)
- Sirindhorn Center for Geo-Informatics (SCGI)
- Chinese Academy of Sciences (CAS)
- National Space Science Center (NSSC)
- Embassy of Switzerland in Thailand



MINISTRY OF
DIGITAL
ECONOMY AND
SOCIETY



Embassy of Switzerland in Thailand



THE 1ST

SPACE SCIENCE SCHOOL



中国航天





Staff



Lijuan EN Anna YANG Gang WANG



Qingjiang BAI



Susan SU



Jakrapong TAWALA, Pranpriya WONGSA,
Tanita SUEPA & Staff



Statistics

<u>Country</u>	<u>Students</u>
Australia	1
Bangladesh	1
China	11
India	1
Indonesia	2
Iran	2
Japan	3
Mongolia	2
Nepal	1
Pakistan	2
Peru	3
Russia	20
Singapore	2
Taiwan	8
Thailand	6
Turkey	2

<u>Country</u>	<u>Lecturers</u>
China	5
Japan	4
Russia	1
Spain	1
Switzerland	3
Taiwan	3
Thailand	1

57 Students; 16 Countries
18 Lecturers; 7 Countries



LECTURERS AND LECTURES



Roger Maurice BONNET

International Space Science Institute

Bern, Switzerland



Lectures:

- Space Science as a tool for international collaborations
- ESA's past, present, and future space science program



Claude NICOLLIER

Swiss Space Center at EPFL

Lausanne, Switzerland

Lectures:

- Steps in Space
- Hubble: 25 years of utilization and on-orbit servicing
- Space Mission Design and Operations



FUJIMOTO Masaki

JAXA's Institute of Space and Astronautical
Science, Japan

Lecture:

JAXA's past, present, and future space science program



Natan EISMONT

Space Research Institute (IKI), Moscow, Russia

Lectures:

- ROSCOSMOS's past, present, and future space science program
- Orbits design for space missions



LIU Jann-Yenq

National Central University, Taoyuan, Taiwan

Lecture:

Taiwan's past, present, and future space science program



WU Ji

National Space Science Center (NSSC, CAS),
Beijing, China

Lectures:

- Strategic Priority Program of CAS on Space Science
- APSCO's states past, present, and future space science program



FUNAKI Ikkoh

JAXA's Institute of Space and Astronautical
Science, Japan

Lecture:

Designing a sample return mission to an asteroid



KIMURA Toshiyoshi

Japan Aerospace Exploration Agency (JAXA),
Japan

Lecture:

From science to mission design (JAXA Earth Obs.)



UENO Munetaka

Center for Planetary Science, Kobe University,
Japan

Lectures:

Venus Climate Orbiter Akatsuki story

From science to mission in scientific projects (ISAS case)



SHI Jiankui

National Space Science Center (NSSC, CAS),
Beijing, China

Lecture:

From science to the Double Star mission



ZHOU Yuanying

China Great Wall Industry Corporation,
China

Lecture:

Launch Vehicle and Launch Services



Peter KRETSCHMAR

European Space Astronomy (ESA/ESAC),
Madrid, Spain

Lectures:

- The Ground Segment: Science and Mission Operations
- Scientific management: data rights and policy



Roland WALTER

ISDC Data Centre for Astrophysics, Department of
Astronomy,
University of Geneva, Versoix, Switzerland

Lecture:

Data Centre, infrastructure, and science



CHAO Chi-Kuang

National Central University, Taiwan

Lectures:

- Payload design – an example of Advanced Ionospheric Probe
- Project management - planning and mission cost & risk management



YANG Yang

Technology and Engineering Centre for Space Utilization (CSU),
Chinese Academy of Sciences (CAS), China

Lecture:

The Way to Research in Space (Chinese Space Station)



WU Shufan

Shanghai Engineering Centre for Microsatellite
(SECM), China

Lectures:

- Satellite System Engineering
- Satellite Subsystems (AOCS, GNC, Power, etc.)
- General introduction on CubeSat Technologies and Applications
- Cubesat Mission Design and Implementation



Loren CHANG

National Central University, Taoyuan, Taiwan

Lecture:

Micro-satellites design and integration



Suthi AKSORNKITTI

Engineering Department, King Mongkut's
University of Technology North Bangkok

Lecture:



Social Events

Monday, October 17; Welcome Cocktail (offered by GISTDA)

Thursday, October 20; Social Dinner (offered by APSCO & ISSI-BJ)

Wednesday, October 26; Closing lunch (offered by GISTDA)



Sunday, October 23 Pattaya Floating Market

BOAT
TRIP



MONKEY
SHOW



THAI CULTURAL
VILLAGE



1ST SSS WEBSITE

The presentations given by the lecturers will be stored electronically on the school webpage and will be accessible to the school participants.



http://www.apsco.int/APSCO_ISSI-BJ_SS/



Certificate of Completion

This certificate is awarded to

Mr. Ou Ming

for successful completion of the "First APSCO & ISSI-BJ Space Science School on *How to Design a Space Science Mission*", jointly organized by the Asia-Pacific Space Cooperation Organization (APSCO) and the International Space Science Institute in Beijing (ISSI-BJ), in cooperation with the Geo-informatics and Space Technology Development Agency (GISTDA), and supported by the Ministry of Digital Economy and Society (MDE) of Thailand, which took place from 17 to 26 October 2016 in Chonburi, Thailand.

Prof. Dr. Li Xinjun
Secretary-General
APSCO

Prof. Maurizio Falanga
Executive Director
ISSI-BJ

Dr. Anond Snidvongs
Executive Director
GISTDA

26 October 2016