

# Item 10. Technical Presentation on the "International Center for Space Weather Science and Education (ICSWSE) of Kyushu University "



ICSWSE, Kyushu University, JAPAN



# Space Environment Research Center (SERC)

April 2002 – March 2012



UNITED NATIONS  
Office for Outer Space Affairs

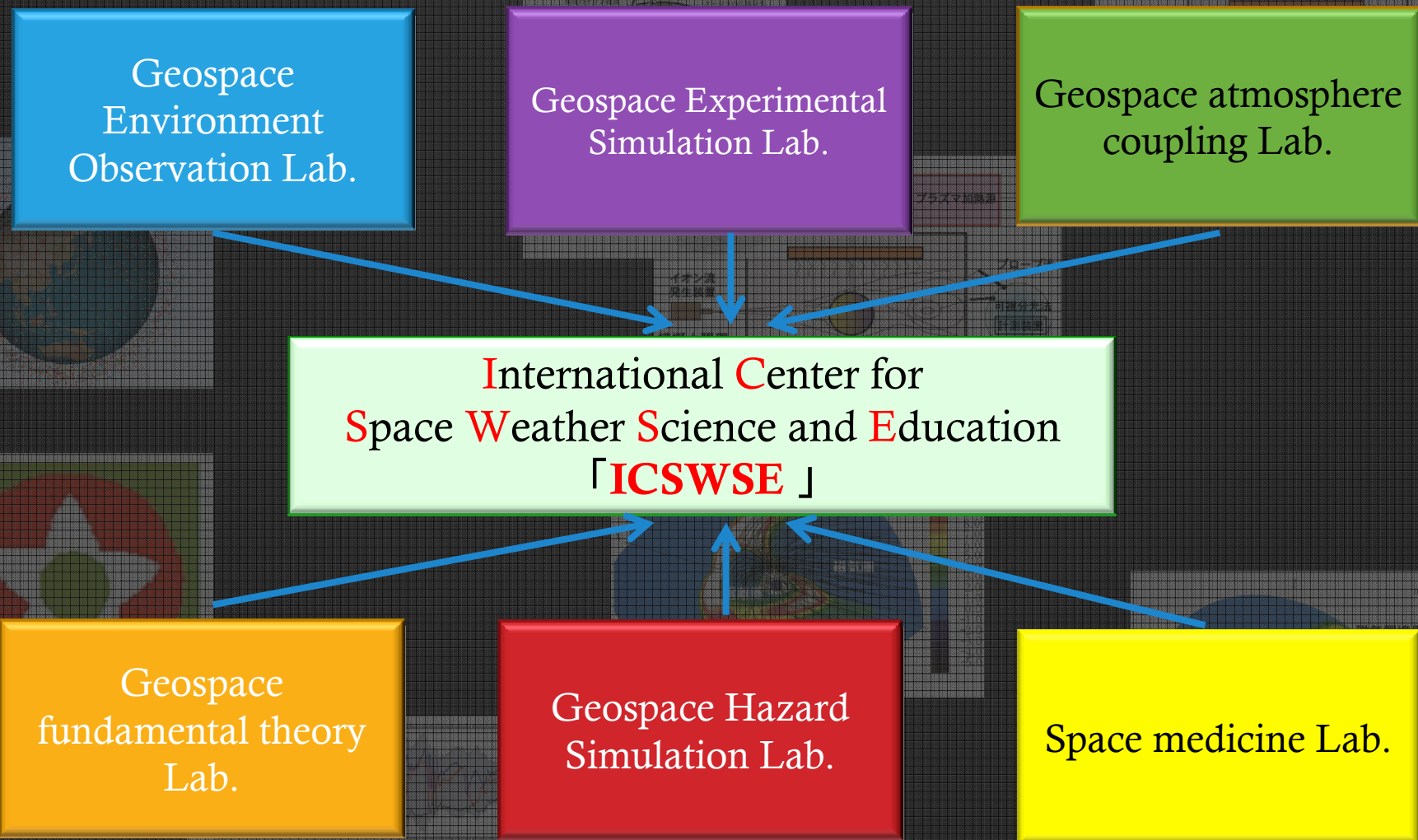


# International Center for Space Weather Science and Education (ICSWSE)

April 2012 -

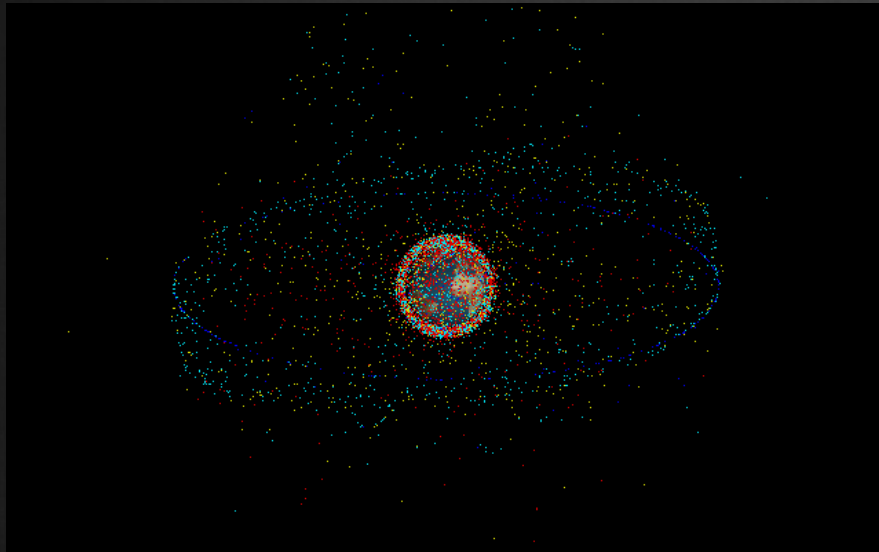


# From SERC to ICSWSE...

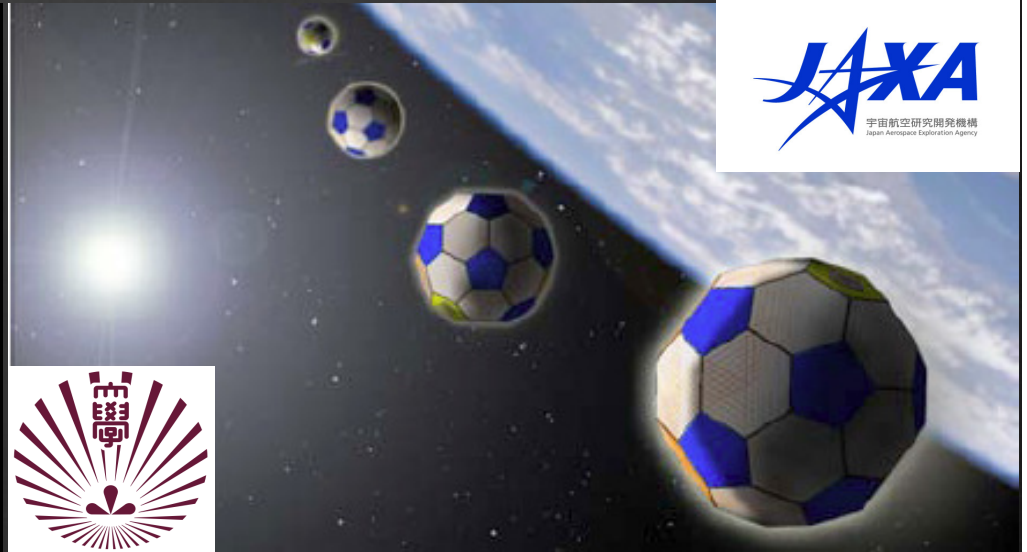


# Space environment monitoring: Space debris

Debris observation and simulation



Kyushu-U. JAXA dust detectors with multi-sub-satellite observation system



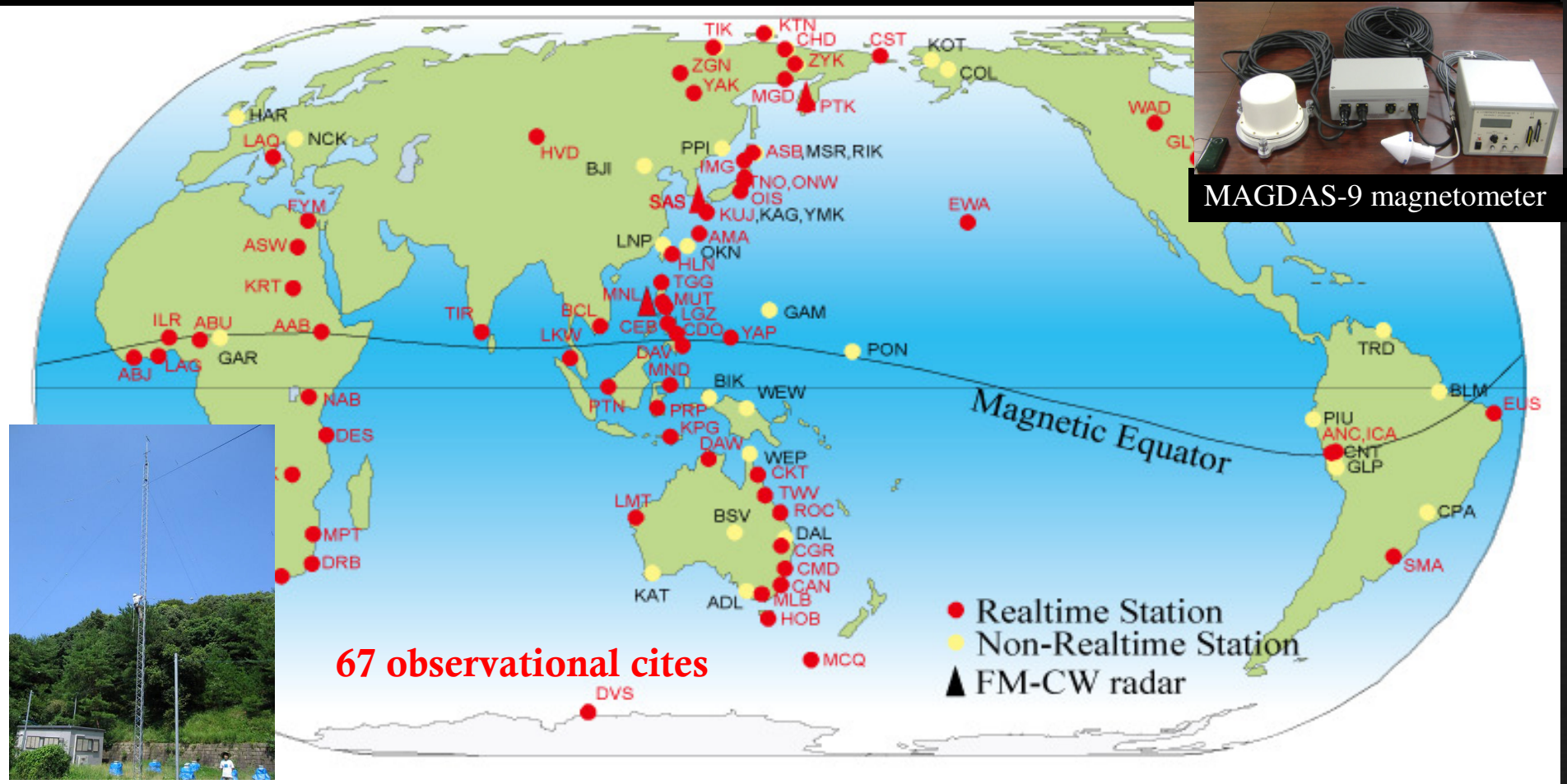
<http://ssdl.aero.kyushu-u.ac.jp/?SpaceDebris%2FOrbitalAnalysis>

Courtesy of Prof. Hanada



# Space environment monitoring: Geomagnetic field disturbances

MAGDAS/CPMN started in 2003  
(MAGnetic Data Acquisition System/Circum pan Pacific Magnetometer Array)





# MAGDAS installation and maintenance is strongly supported by local collaborators' cooperation

Installation team including local staff



Construction of MAGDAS sensor hut



MAGDAS team requires both strength and intelligence!

Small MAGDAS training at local station



Meeting with local staff



# MAGDAS installations during 2012

- Jayapura, Indonesia.
- Biak, Indonesia
- Bac Lieu, Vietnam
- Sumatra (3 units), Indonesia
- Quito, Ecuador
- Durban, South Africa



# Space weather science education

## Space weather summary report

Since October 2002, daily reports on space weather have been issued by students.

## Outreach activities on space weather

Over 50 public lectures on Space weather science for children and general citizens in Japan.

## Foreign students from Asian/African nations

Six Ph D. students from 5 nations (2012)  
(Egypt, Sudan, Indonesia, Philippines, 2 from Malaysia)



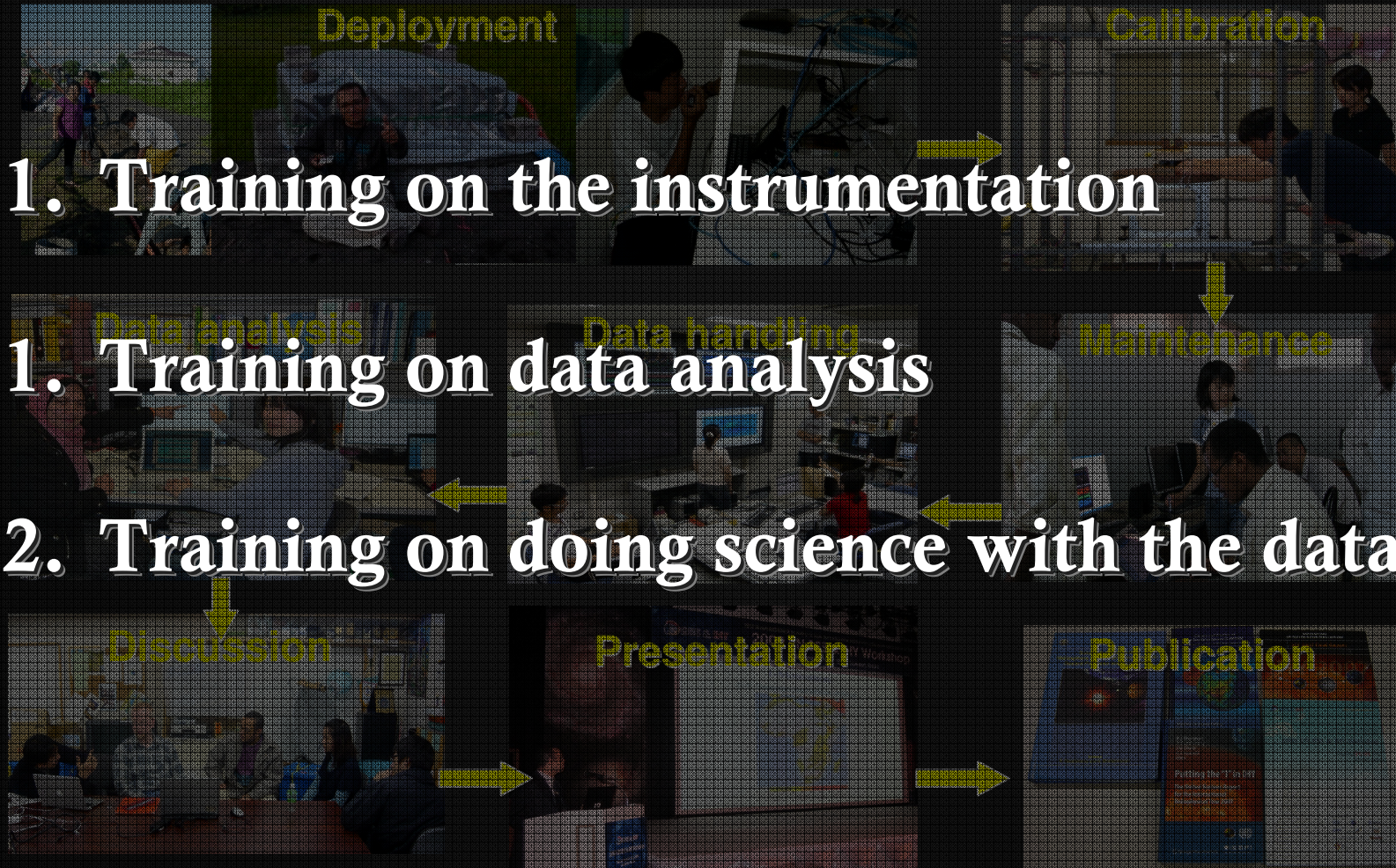


# Capacity building

1. Training on the instrumentation

1. Training on data analysis

2. Training on doing science with the data





# United Nations/Austria Symposium on Data Analysis and Image Processing for Space Applications and Sustainable Development: Space Weather

18 - 21 September 2012, Graz, Austria

Venue: Space Research Institute of the Austrian Academy of Sciences



Venue



Attendees from many countries



## Introduction of the International Center for Space Weather Science and Education (ICSWSE) of Kyushu University

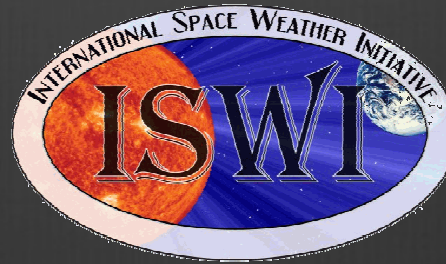


Hands-on training of MAGDAS data analysis using IUGONET Data Analysis Software

# 2012 ISWI & MAGDAS School on Space Science



JSPS  
Core-to-Core Program  
Asia-Africa Science Platforms



September 17-26, 2012  
Ciloto, West Java, Indonesia

<http://iswimagdas2012.bdg.lapan.go.id>

2011  
**2012**  
2013  
2014

Nigeria  
**Indonesia**  
Côte d'Ivoire  
Japan





## A Big School !!!

68 students from 10 countries;  
27 lecturers from 14 countries !



The 2012 ISWI @ MAGDAS school on Space Science was very successful. It had so many lectures and colorful activities, during which I obtained new knowledge and made friends with other participants.

I am happy to meet very accomodating LOCs, fellow participants, committed and intelligent lecturers/organizers and to know that many cares for what we have to know to understand the world/universe we live in.

**Sample of comments from the participating students of this school.**

**All lectures can be downloaded  
from this website:**

[http://iswimagdas2012.dirgantara-lapan.or.id/list\\_course.html](http://iswimagdas2012.dirgantara-lapan.or.id/list_course.html)

**iswimagdas2012**

# Capacity Building at ICSWSE

## MAGDAS-9 Training Course

1<sup>st</sup> Batch- 2012/11/11-11/18

2 Filipinos (Philippines) and  
1 Malaysian

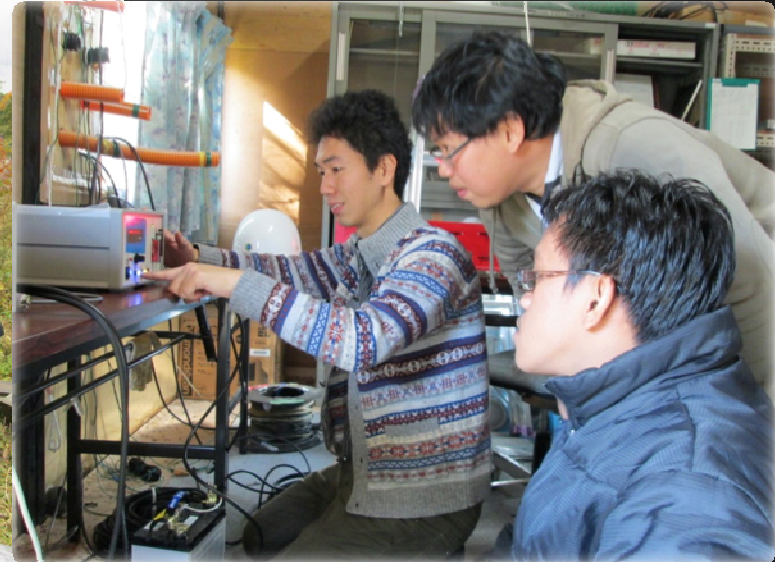


2<sup>nd</sup> Batch-2013/01/18-01/24

2 Indonesians, 1 Malaysian and  
1 Vietnamese

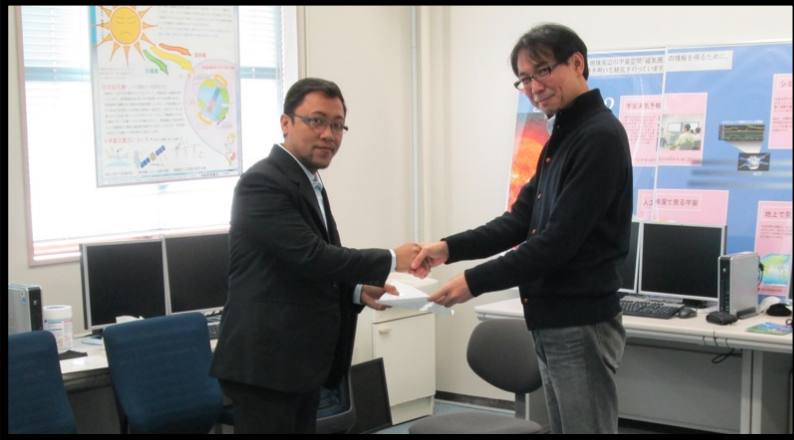


# Capacity Building at ICSWSE





# Capacity Building at ICSWSE





## *ISWI Newsletter results for 2012*

- In 2012, 131 issues of the newsletter were sent out.
- There are now about 400 subscribers to this newsletter.
- All issues are archived at the ISWI Website (<http://www.iswi-secretariat.org/>)

# ICSWSE Capacity Building Activity in 2012-

- ⦿ April: Opening
- ⦿ June: Declaration of Establishment at COPUOS
- ⦿ September: UN/Data handling seminar in Graz, Austria
- ⦿ September: ISWI/MAGDAS school in Bandung, Indonesia
- ⦿ October: ISWI Workshop in Quito, Ecuador
- ⦿ November: ICG7 in Beijing, China
- ⦿ November: International Capacity Building 1 at ICSWSE
- ⦿ January: International Capacity Building 2 at ICSWSE
- ⦿ 131 issues of the ISWI newsletter
- ⦿ Installing the MAGDAS to 7 new observational points



# Summary

**The new ICSWSE will conduct *ISWI activity* for young scientists in Japan and in the world through a wide-variety of approaches:**

- (1) growing into a network of centres, focusing on space weather around the world, dedicated to the advancement of space weather research and education
- (2) conducting overseas ISWI/MAGDAS Schools
- (3) implementing student exchanges
- (4) installing ground magnetometers (e.g. MAGDAS) in "missing areas"
- (5) bringing students who want to study space weather science to Japanese universities.



**ICSWSE : “iku-sei” : 育成**

- research initiatives (e.g., collaboration with foreign researchers)
- data-collection initiatives (e.g. the MAGDAS Project)
- education initiatives (e.g. ISWI/MAGDAS Schools)

**The new center will contribute to Space Weather Capacity Building with cooperation of COPUOS and other space weather related institutes in the world.**