# Welcome to CPS



#### What is CPS?



## CPS: Center for Planetary Science

⇒ Research and education center for planetary science open to scientists in the world

https://www.cps-jp.org

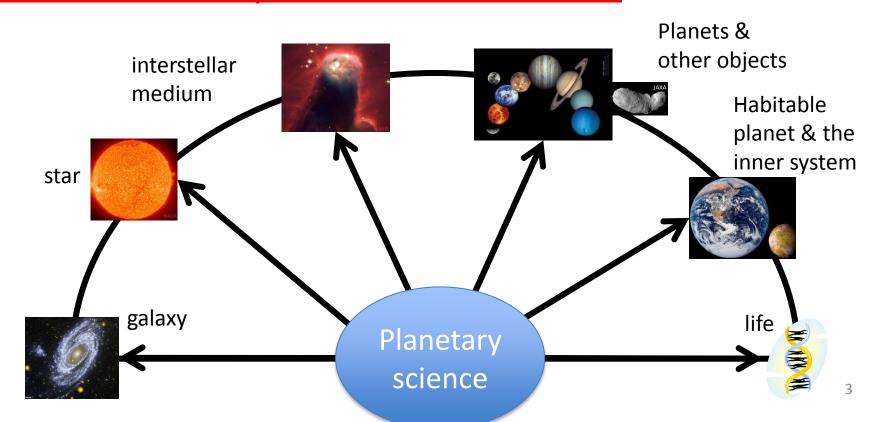
2007: CPS set up in the Faculty of Science, Kobe University.

2008: CPS began in earnest with the help of the MEXT Global COE Program "Foundation of the International Education and Research Center for Planetary Science".

# What is Planetary Science?



Planetary science is an emerging interdisciplinary field, combining aspects of astronomy, geology, meteorology, biology, etc., with <u>its ultimate goal to understand our place in the universe</u>.



## Problem that planetary science faces



Each discipline has rapidly progressed and hence highly specialized. As a result, it has been getting difficult to grasp one unified picture of planetary science.

We need to make a tight link between professionals in different fields in order to overcome barriers between specialized fields!

## Our approach!



#### Founding the new center which:

- promotes international interactions between planetary scientists
- fosters the next-generation leaders with a broad perspective
- provides the up-to-date and comprehensive knowledge online

We provide "opportunities" to activate intercommunion.



## CPS as a coordination center



society(educational institutions corporation)

CPS

Research & education activities progresses owing to various intercommunications

- project of worldwide interchange between researchers
- planning and supporting of schools, workshops and seminars
- CPS online library

Global researchers and students planetary science field

## Organization chart of CPS



# Center for Planetary Science(CPS)

#### CG = Coordination Groups

Education & Research CG

International Cooperation CG

Infrastructure CG Social Interchange CG Future Conception CG

#### **About CGs?**

All CPS activities are conducted by five sectors calling the coordination group (CG). The members consist of young researchers and students.

#### HRD of CPS



Young researchers and postgraduates are substantially doing management and projects of CPS through the activity of CGs.



CPS activities bring up talents who can
-have not only their field but also wide view
-promote their research
-transmit information of their study toward the public

### **Directors**



Director Yoshitsugu Nakagawa (Fac. of Sci., Kobe Univ.)





Vice Director Yoshi-Yuki Hayashi (Fac. of Sci., Kobe Univ.)

#### **CPS ACCESS**



CPS has the large saloon space and the conference room (60-100 persons) in which researchers can enjoy scientific discussion freely and vigorously, and also has 6 research rooms (the capacity is about 18 persons )in which they are able to be keen on their study. We hope that the CPS office will be the place where new collaborations are created and developed. We are looking

forward to seeing all of you at CPS!

Saloon



# https://www.cps-jp.org





Top Page About CPS News Members Access

Seminars/Schools/Training Programs/Workshops mosir (video/material archive)

Educ. & Res. CG Infrastructure CG Int'l Cooperation CG Social Interchange CG Future Conception CG

English Japanese

#### Center for Planetary Science

#### **Hot News**

- 2011-06-07 Notification of Office Relocation
- 2011-06-03 Job Opening: CPS Secretary (Closing date: Jun. 10, 2011)
- 2011-04-28 Call for Applications: CPS Scientific Meetings Program
- 2011-04-11 Call for Applications: CPS International School of Planetary Sciences (Sep. 26-Oct. 1, 2011) (Closing date: May 18, 2011)
- 2011-03-02 Call for Applications: Global COE Research Assistants for FY2011 (Closing date: Mar. 13, 2011)

#### News archives

#### Seminars, Schools, Training Courses, and Workshops

- CPS Seminars (every Wed. 15:00–16:00 under normal conditions)
- International School of Planetary Sciences (Sep. 26-Oct. 1, 2011)
- Frontier Seminar in Planetary Science (Japanese page only)
- The School of the Universe (Japanese page only)
- Laboratory Training Course on Numerical Calculation and Data Analysis
- Laboratory Training Course on Impact Experiments (Japanese page only)
- Promotion of the Education for Planetary Exploration (Japanese page only)

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#### CPS as a coordination center



# Center for Planetary Science(CPS)

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# Introduction to Education and Research CG



#### **ERCG** Activities



This group promotes international exchanges of knowledge and gives assistance to host workshops and practical training courses of laboratory experiments.

- 1. Organizing scientific and educational meetings of planetary science (workshops, schools, and training programs)
- 2. Holding the CPS seminar
- 3. Archiving the various knowledge (multimedia contents) on planetary sciences

# 1. Organizing scientific and educational meetings of planetary science



- Setting up and coordinating "CPS Planetary School" as an international school program, and other programs of school and training course targeted at various field for domestic and international researchers.
- CPS collect proposals of the program from the public, and ERCG coordinates them. CPS steering committee screens and adopts the proposals. Finally these proposals will be the GCOE program's
  - Educational program (School and Training course)
  - Workshops,

and CPS will arrange and manage these programs.

- Programs is open to not only CPS-managing universities (Kobe & Hokkaido) but also domestic and international researchers and students. It can contribute to drive the research activities, and the various knowledge on planetary sciences will be archived toward constructing an overall picture of origin, evolution, and diversity of planets and planetary systems in a consistent and comprehensive manner.
- These activities of the coordination aim to develop human resources for graduate students and young researchers with a performance of individually research as well as a perspective on the planetary science and constructing and managing ability of the infrastructure of education and research.

## 2. Holding the CPS Seminar



- Purpose: Providing an opportunity to open-minded discuss for cross-cutting research field.
- Broadcasting via teleconference system.
- Cooperating with the various knowledge archiving project "mosir", a presentation material and videos are recorded as the multimedia contents, and distribute on the Internet.
- Past records, FY 2008=23 times, FY 2009=31 times, FY 2010=38 times.
- Every Wednesday at 15:00, in general.

# 3. Archiving the various knowledge (multimedia contents) on planetary sciences



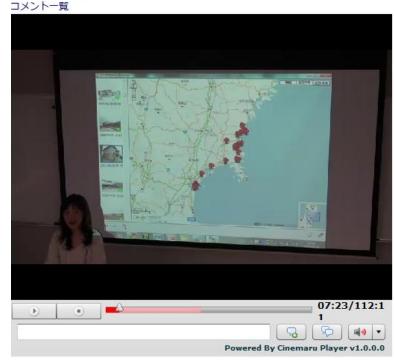
- Presentation together with associated materials of meetings and seminars of planetary science are recorded and published on the Internet (mosir Project).
- Serving the opportunities for reviewing and self-learning, as well as providing educational and research resources beyond individual universities. Through these accumulation and organization of the various knowledge, we promote the activities to take a comprehensive vision for the origin, evolution, and diversity of the planetary system.
- Sending staff and equipments for recording and archiving to the school programs and workshops.
  - All of the school programs and CPS seminars are recorded and distributed.

#### The disaster culture of a Tsunami-devastated area

Yuki Sadaike (Hokkaido University) 2011/05/12 CPS\_Seminar@Hokkaido University, Science Bldg. #8, Cosmo-studio Note: Slides 1 (pdf)

[タグ編集] ja Yuki\_Sadaike CPS\_Seminar(2011) CPS\_Seminar 2011/05/12 2011

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#### CPS as a coordination center



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# Introduction to International Cooperative CG



# Introduction of ICCG activities



- This group supports international activities of people exchanges from long-term point of view to develop planetary science society.
  - Supports through the three programs
    - Overseas Invitation Program 《open》
      - supports inviting oversea researchers for activities that would lead continuous and cooperative activities on planetary science between oversea and domestic researchers through CPS.
    - Exchange program (limited in CPS)
      - promotes research activities based on long-term point of view for development of planetary-science society through international people exchange with oversea research institutes.
    - Short term dispatch and invitation program (limited in CPS)
      - supports activities which will promotes development of human resources and/or society in planetary science.

# Cooperative institutes



- National Central University (Taiwan)
- Harvard University (USA)
- Max-Planck Institute for Nuclear Physics (Germany)
- Friedrich Schiller University of Jena
- Woods Hole Oceanographic Institution (USA)
- Observatoire Midi-Pyrenees (France)
- National University of Mongolia (Mongolia)
- Almaty State University (Kazakhstan)

# **Overseas Invitation Program**



 This group supports international activities of people exchanges from long-term point of view to develop planetary science society.

#### – Examples:

- Invited a famous researcher on statistical treatment of three-body problem for a month and held a mini-workshop and held a miniworkshop.
- Invited two famous researchers and discuss the latest topics on the evolution of proto-planetary disks, which would trigger international collaboration.

# Exchange program



 Promotes research activities based on long-term point of view for development of planetary-science society through international people exchange with oversea research institutes.

#### Examples:

- A Japanese postdoc was dispatched for a month to a research group in Harvard University and acquired skill on experiments and promoted cooperative activities.
- A German grad student was invited for three month and discussed topics on dust evolution in the universe with wide range of Japanese research groups.

# Short term dispatch and invitation program PS

 This program supports activities which will promotes development of human resources and/or society in planetary science.

#### Examples:

- A Japanese grad student was dispatched to WHOI GFD Fellowship Program for ten weeks (every year).
- A CPS staff was dispatched to Asia-Pacific Astronomy Camp hosted by NCU (Taiwan) as a invited lecturer.

## Tasks of ICCG



- Run of the three programs
  - Preparation of "Call for Proposal" document
  - Announcement of CfP
  - Receive and arrangement of submitted proposals
  - Ask the CPS steering committee to decide each proposal
  - Notification of the decision to the applicants
  - Receive the reports and post it to the HP
- Communication with cooperative institutions
  - Discuss how to strengthen the cooperation
- Taking care of guests invited by ICCG programs
- Presentation of CPS activities in abroad (booth at conferences, distribution of pamphlets)

#### CPS as a coordination center



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# Introduction to Infrastructure CG



# Purpose



To support activities in education and research with Information technology

 Development and maintenance of software and hardware

# Development/Maintenance



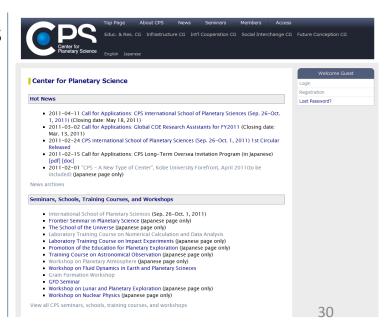
- CPS server
- Video conferencing system
- Computers for research
- Video recording system (with mosir project)

# CPS Server (1/3)



#### Functionalities (1/2):

- Website (https://www.cps-jp.org/)
  - School/Seminar Information
  - Archive of video and presentation materials of schools and seminars
  - Group/Project's web pages
  - WIKI



# CPS Server (2/3)



#### Functionalities (2/2):

- Web-based management system
  - User/Group management
  - File resource management
  - Conference/Meeting management
  - ML management
  - Access control management
- Mail list
- Project management/Version control systems

# CPS Server (3/3)



#### **Utilization:**

- 400 user accounts
- 50 groups
- 30 WIKIs
- 50 mail lists

#### Resources:

- Three HP ProLiant servers
- Six PCs
- 150TB of RAID storage

# Video Conferencing System



#### Resources:

- Multi-point Control Unit
  - Max 20 points
- Fifteen Video conferencing systems



# Computers for Research



#### Resources:

- Two HP ProLiant DL380 G5 servers
  - 16 cores and 64GB of memory
- Seven Newtech Supremacy RAID
  - 90 TB of RAID6 storage
  - 4Gb fibre channel



# Construct a System



• We arrange equipment and establish work procedure for recording and publication of workshops / seminars / training courses in order to offer the environment that we can activate individual academic activities.

#### Equipments

- Introducing PCs and softwares to record the lectures in real-time.
- Providing a internet server for browsing materials.
- Developing server-side programs as needed.

#### Work procedure

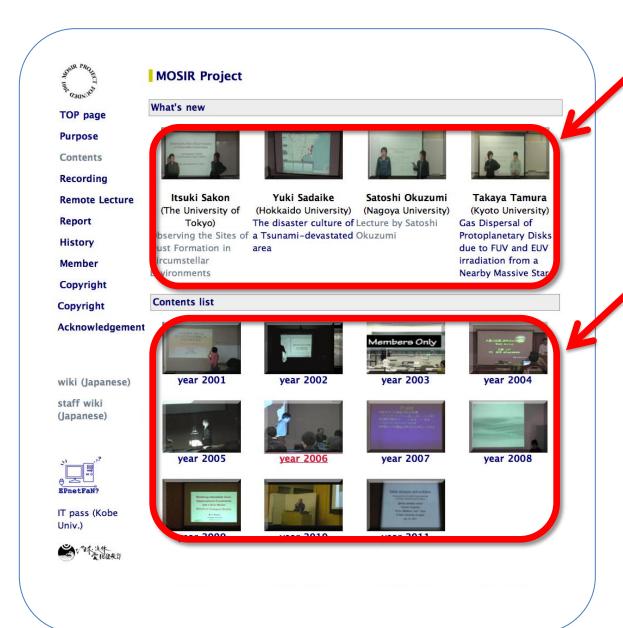
 Not only experts but also beginners readily can do the recording activities.

### **Creation & Publication of Contents**



- We make a "library" on the Internet to collect ondemand materials.
  - We record presentations in workshops, seminars and training courses on video and publish the movie and presentation files on the Internet.
  - These activities provide on-demand resources for education and research and contribute to the interuniversity and international education.
  - Additionally, the accumulation of knowledge and findings encourage activity overlooking origin, revolution and diversity of planetary systems as a whole and lead the way to the general theory of planetary systems
- We send the equipment and human material for recording

# Visit us! → <a href="https://www.cps-jp.org/~mosir/pub/">https://www.cps-jp.org/~mosir/pub/</a>



Latest seminars
Usually added in
every Wednesday

Libraries in each year

### CPS as a coordination center



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# Introduction to Social Interchange CG



# Goal of SICG



# Provide knowledge & skills that young researchers can advance into various fields

## Advertising of the planetary science to public

- 1. interchange with companies
- 2. making of pamphlets
- 3. publicity campaign



The spread of planetary science

# Service to the planetary science community

- practical trainings
- 2. holding of seminars to learn a variety of sense of values



Upbringing of the researcher with a variety of sense of values and skills

## Main activities of SICG



- Creation of booklets & posters of CPS
- interchange with companies & Museum of Science
- lectures to public -> science café,
- SICG seminars
- practical trainings
  - -> Japanese writing & English presentation training

# Advertising to public



1.meeting with sharp corporation

2.Creation of booklets & posters of CPS



CPS booklet

3.Outreach







**CPS** poster



science museum

S Foundation of International Education and Research

Center for Planetary Science https://www.cps-jp.org

Our approach: Founding the new center which.

# Service to the community



#### 1. practical trainings

English presentation training
Japanese writing training
upskilling program for young
researchers





Atsushi Oketa (Tokyo Broadcasting System Television, Inc.), "Science and Media, the history of myself -unify the natural science and the social science-"

Yoshitaka Yamashita (Hokkaido University), "Kansaiben as a foreign language"



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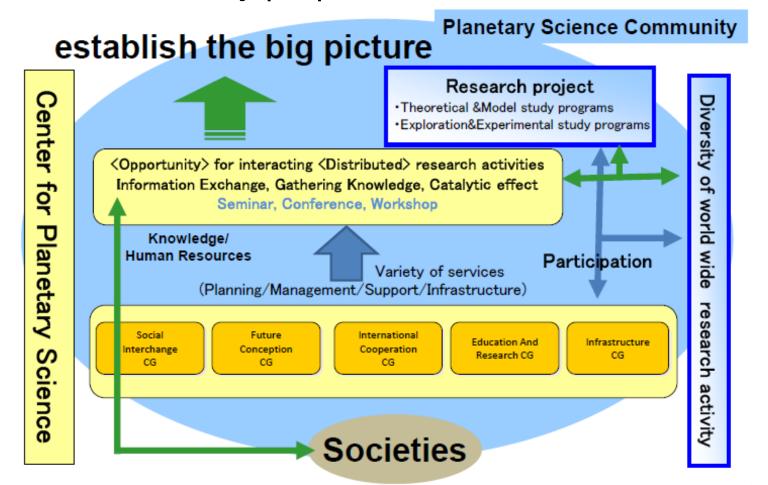
# Introduction to Future conception CG



# Purpose & activity



 This group will envision future developments in planetary science together with young researchers and provide necessary propositions.



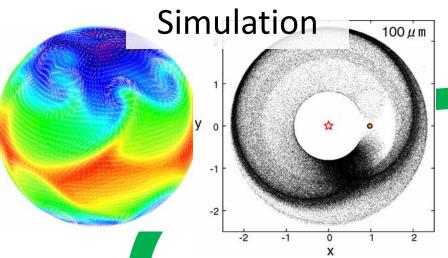
## Main activities

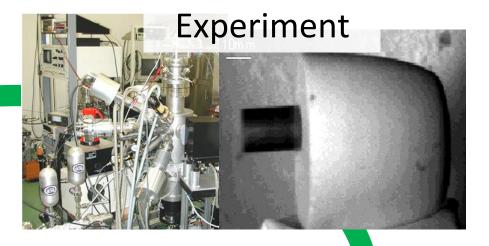


- <u>ISSI (International Space Science Institute)</u>, visit, Date: September 22, 2009
- <u>Isaac Newton Institute for Mathematical Sciences</u>, visit, Date: September 24, 2009
- <u>IPMU (Institute for the Physics and Mathematics of the Universe)</u>,
   visit, Date: January 25, 2010
- NAOJ (National Astronomical Observatory of Japan), Visit, Date: June 23, 2010
- LPI, Visit, Date: February 28-March 1, 2011
- KAVLI ITP, Visit, Date: March 3, 2011
- Strategic Universe Conference, Task Force Meeting, Participation,
   Date: May 13, 2011
- Experts Research Committee on the Space Development Strategy, Participation, Date: May 30, 2011

### Various methods







Planetary science is currently challenging to construct a "pan-planetary system model".

