HIMPUNAN ALUMNI KYOTO UNIVERSITY (HAKU)

THE ASSOCIATION OF KYOTO UNIVERSITY ALUMNI

The 10th Kyoto University International Symposium
"Active Geosphere Science"

July 26 (Thu) – 28 (Sat), 2007

Bandung, Indonesia

Presented by

Kyoto University

Supported by

Institut Teknologi Bandung (ITB)

Kyoto University Foundation

Science Council of Japan

Coordinated by

Kyoto University Active Geosphere Investigations for the 21st Century COE Program (KAGI21)

Conference Objectives:

The Kyoto University Active Geosphere Investigations for the 21st Century Centers of Excellence Program (KAGI21) has promoted international research and educational activities on the "Active Geosphere Science" since 2003 (http://kagi.coe21.kyoto-u.ac.jp/en/index.html). In this new multi-disciplinary approach for the Earth sciences we emphasize the physical and/or chemical processes that are encompassed in the "Active Geosphere". Within this framework, we have proposed an integrated study of the processes that take place throughout many realms of the Earth. We have studied magma transport deep in the Earth's lithosphere, tectonic stresses in the shallow Earth's crust, general circulations of oceans and the atmosphere, and multi-timescale variations of the climate system. Common threads that link these processes include the water and energy flows that couple all portions of the Geosphere. We have emphasized field surveys and observations in Asia and Oceania because much of the Earth's dynamic activities are focused in this region. For example, most of the world's earthquakes and volcanic eruptions take place along the plate boundaries of the Pacific plate, also organized cumulus convections; including interactions with the oceans, drive the Asia-Monsoon and El Nino-Southern Oscillations that strongly influence much of the world's weather and climate.

Since such phenomena evolve and interact on a variety of space and time scales, a new interdisciplinary approach based on optimal inter-related areas of the Earth sciences and recent advances in observational and computational technologies is required. The program sets traditional fields of the Earth sciences, such as Aeronomy, Atmospheric and Oceanic Sciences, Seismology, Volcanology, Geodesy, Geology, and Material Science for the Earth, as the primary ingredients, and then creates a melting pot of Field Survey/Observations, Satellite Measurements, Data Analyses, and Laboratory and Numerical Experiments, that encourage cross-disciplinary studies. Particular attention is given to the themes of the water and heat flows throughout the Active Geosphere. This approach is central to our interpretation of the Active Geosphere and, in a wider sense, to the sustainable coexistence of human beings on the Earth. The challenge is to improve our understanding of the complex processes within the Active Geosphere and obtain new perspectives on the individual components.

Kyoto University states as its mission, to sustain and develop its historical commitment to academic freedom and to pursue harmonious coexistence within the human and ecological community on this planet. As an international institution, Kyoto University will promote foreign academic exchange and thereby strive to contribute to the well-being of the world. (http://www.kyoto-u.ac.jp/english/euni_int/e01_idea/mission.htm). All of the Faculties/ Graduate Schools and the Research Institutes/Centers have pursued the mission. Particularly, Faculties/Graduate Schools of Science and Engineering, Research Institute for Sustainable Humanosphere (RISH), Disaster Prevention Research Institute (DPRI), and

Center for Southeast Asian Studies (CSEAS) have promoted educational and research activities in Asia and Oceania where much of the Earth's dynamic activities are focused in.

In order to actively develop advanced academic research on an international scale, Kyoto University has sponsored annual symposia in various countries since 2001, featuring original themes related to the university's mission, and the Organization for the Promotion of International Relations (OPIR) has coordinated their themes (http://www.opir.kyoto-u. ac.jp/e/symposium.html). This year, world leaders in the Earth sciences, representatives of related research institutes of Kyoto University, and members of KAGI21 are invited to the 10th Kyoto University International Symposium which will be held in Bandung, Indonesia, with the goals of promoting the multi-disciplinary "Active Geosphere Science" and expanding the research community to wider disciplines. New scientific findings on the Active Geosphere will be presented, and related research collaborations in wider community as the humanities and social sciences will be discussed. The symposium also provides a good opportunity for young scientists from Asia and Oceania, who will be attending the 4th KAGI21 International Summer School in Bandung (July 22- August 3), to interact with other researchers, and build future collaborations among scientists working in the Active Geosphere.

Science Program Committee:

Japanese side	Indonesian side
Toshiyuki Awaji (Kyoto University)	Hasanuddin Z. Abidin (ITB)
James Mori (Kyoto University)	Sudarto Notosiswoyo (ITB)
Keiji Takemura (Kyoto University)	Emmy Suparka (ITB) ○
Toshitaka Tsuda (Kyoto University)	Sri Widiyantoro (ITB)
Shigeo Yoden (Kyoto University) ◎	

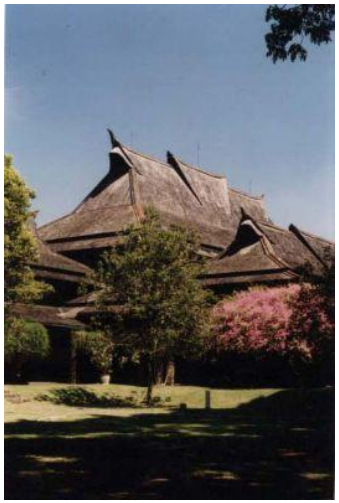
Local Organizing Committee:

Japanese side	Indonesian side
Yoichi Fukuda (Kyoto University.) ○	Budi Brahmantyo (ITB)
Takehiko Satomura (Kyoto University)	Hendra Grandis (ITB) ◎
Masato Shiotani (Kyoto University)	Tri W. Hadi (ITB)
Takahiro Tagami (Kyoto University)	Nanang T. Puspito (ITB)
Hiroyuki Tsutsumi (Kyoto University)	Dina A. Sarsito (ITB)

◎: Chair ○ : Vice-chair

Venues:
Opening Ceremony/Session (July 26 Morning):
Auditorium of ITB (Aula TIMUR/BARAT)
http://www.itb.ac.id/

General Sessions (July 26 Afternoon – July 28):
Sheraton Bandung Hotel & Towers
Jalan Ir. H. Juanda No. 390, Bandung, 40135, Indonesia
Phone (62) (22) 2500303; ·Fax (62) (22) 2500301
http://www.starwoodhotels.com/sheraton/

ITB main campus / Auditorium
http://uap.comlabs.itb.ac.id/gallery/


Sheraton Bandung Hotel & Towers
http://www.starwoodhotels.com/sheraton/

Program:

July 26 (Thu)

8:00 -	9:00	Registration
9:00 -	9:50	**Opening ceremony** Chair: Toshio Yokoyama Kazuo Oike (Kyoto University, Japan) *Opening address by the President of Kyoto University* Kusmayanto Kadiman (Minister of the State Ministry of Research and Technology (RISTEK), Indonesia) *Main guest speech by the Minister of RISTEK, Indonesia* ○○○○ (Japanese Embassy in Jakarta, Indonesia) *Main guest speech by the Japanese Ambassador to Indonesia* Djoko Santoso (Institut Teknologi Bandung (ITB), Indonesia) *Message from the Rector of ITB* Masaru Kono (Tokyo Institute of Technology, Japan) *Message from a member of Science Council of Japan*
9:50 -	10:10	Short break (20 min.)
		Opening Session Chair: James Mori "Active Geosphere Science, from Asia and Oceania to the World"
10:10 -	10:25	Shigeo Yoden (Kyoto University, Japan) *Research and education activities of KAGI21 on the Active Geosphere Science*
10:25 -	10:40	S. George Philander (Princeton University, USA) *Hoax, ritual or scientific experiment? - A poignant tribute to science, at the equator in Africa, that illuminates Global warming dilemmas -*
10:40 -	10:55	Xu Houze (Institute of Geodesy and Geophysics/Chinese Academy of Sciences, China) *Crustal movement monitoring network in China*
10:55 -	11:10	Hitoshi Mizutani ("Newton" Press, Japan) *Roles of earth scientists for the general public and scientists*

11:30 -	13:00	**Lunch Banquet** (90 min.) *Welcome Speech* Emmy Suparka (Institut Teknologi Bandung, Indonesia) *Congratulatory addresses* Kosuke Mizuno (Kyoto University, Japan) Umar Anggara Jenie (Indonesian Institute of Science, Indonesia)
13:00 -	14:00	(transfer to Sheraton)
		Session I Chair: Shigeo Yoden "Fluid Session on the Active Geosphere Science"
14:00 -	14:30	Syukuro Manabe (Princeton University, USA) *Early development in climate modeling and prospect for the future*
14:30 -	15:00	Akimasa Sumi (University of Tokyo, Japan) *Global Warming Simulation by using the High-Resolution Climate model (K-1 Model)*
15:00 -	15:20	Takehiko Satomura (Kyoto University, Japan) *Diurnal variation simulated by a meso-scale atmosphere-ocean coupled system and its potential impact on climate modeling*
15:20 -	15:40	Tri W. Hadi (Institut Teknologi Bandung, Indonesia) *Characteristics of mesoscale convections related to Jakarta Flood Events : The need for high resolution NWP models for the maritime continent*
15:40 -	16:10	Coffee Break
16:10 -	16:40	Tim Palmer (European Centre for Medium-Range Weather Forecasts, UK) *Towards seamless prediction systems for weather and climate*
16:40 -	17:10	Toshiyuki Awaji (Kyoto University, Japan) *Four-dimensional variational coupled data assimilation experiment*
17:10 -	17:40	Masato Shiotani (Kyoto University, Japan) *Ozone and water vapor sonde observations in the equatorial Pacific*

July 27 (Fri)

Session II Chair: Hasanuddin Z. Abidin
"Indonesia as an Important Region for the Active Geosphere Science"

8:30 -	9:00	Toshitaka Tsuda (Kyoto University, Japan) *Characteristics of equatorial atmosphere dynamics observed with ground-based and satellite measurements*
9:00 -	9:30	Sri Widiyantoro (Institut Teknologi Bandung, Indonesia) *The Sumatra Fault experiment - Key challenges and science plan for an international earth science experiment aiming at seismic and tsunami hazard assessment*
9:30 -	10:00	Kenji Satake (Advanced Industrial Science and Technology, Japan) *Recurrence of great earthquakes and tsunamis around Indonesia*
10:00 -	10:30	Toshifumi Matsuoka (Kyoto University, Japan) *Reflection seismology without artificial sources - Case study of Tottori-Seibu earthquake in Japan -*
10:30 -	11:00	Coffee Break
11:00 -	17:00	**Active-Geosphere Mini Field Trip** *Tangkuban Parahu volcano and Lembang Fault* *(Lunch at SanGria Resort & Spa)* Lecturers: Keiji Takemura (Kyoto University, Japan) Hiroyuki Tsutsumi (Kyoto University, Japan) Budi Brahmantyo (Institut Teknologi Bandung, Indonesia)
19:00 -	21:00	**Banquet at Sheraton**

July 28 (Sat)

Session III Chair: James Mori
"Solid Session on the Active Geosphere Science"

8:30 - 9:00 Hiroo Kanamori (California Institute of Technology, USA)
The diversity of large subduction-zone earthquakes and its hazard implications

9:00 - 9:30 Kojiro Irikura (Kyoto University/Aichi Institute of Technology, Japan)
Recipe for predicting strong ground motions: state of the art and future prospect

9:30 - 10:00 Mizuho Ishida (Institute for Research on Earth Evolution/Japan Agency for Marine-Earth Science and Technology, Japan)
Real-time estimation system of strong ground motion and damage for earthquakes

10:00 - 10:30 Coffee Break

10:30 - 11:00 Kazuro Hirahara (Kyoto University, Japan)
Numerical simulation of Tokai-Nankai earthquake sequences with the "Earth Simulator"

11:00 - 11:30 Toshihiko Shimamoto (Hiroshima University, Japan)
High-velocity friction experiments reproducing seismic fault motion during large earthquakes

11:30 - 12:00 James Mori (Kyoto University, Japan)
Temperature measurements of the frictional heat from the 1999 Chi-Chi, Taiwan earthquake

12:00 - 13:30 Lunch Break

Session IV Chair: Keiji Takemura
"Coupling Session of the Active Geosphere Science"

13:30 - 14:00 Philip A. Meyers (University of Michigan, USA)
Post-glacial evolution of the East Asian monsoon - Organic

geochemical evidence from lakes, oceans, and land

14:00 - 14:20 Takahiro Tagami (Kyoto University, Japan)
A paleoclimate study using Indonesian speleothems

14:20 - 14:40 S. George Philander (Princeton University, USA)
Why is the ocean so cold?

14:40 - 15:00 Masaru Kono (Tokyo Institute of Technology, Japan)
Dynamo simulation and observed properties of the geomagnetic field

15:00 - 15:20 Xu Houze (Institute of Geodesy and Geophysics/Chinese Academy of Sciences, China)
Investigation of sea level seasonal change by satellite altimetry and gravity mission

15:20 - 15:40 Yoichi Fukuda (Kyoto University, Japan)
Space geodesy: a new technology to monitor climate variations

15:40 - 16:10 Coffee Break

16:10 - 17:40 **Panel Discussion** Chair: James Mori
"Active Geosphere Sciences for Human Activities in the Tropics"
Comments:
Shuichi Kawai (Kyoto University, Japan)
Kosuke Mizuno (Kyoto University, Japan)
Hitoshi Mizutani ("Newton" Press, Japan)
Kazuo Oike (Kyoto University, Japan)
Nanang T. Puspito (Institut Teknologi Bandung, Indonesia)
Endang Sukara (Indonesian Institute of Science, Indonesia)
Toshio Yokoyama (Kyoto University, Japan)
Shigeo Yoden (Kyoto University, Japan)

17:40 - 17:50 **Closing**

Active-Geosphere Mini Field Trip
SanGria Resort & Spa (Lunch) → Lembang Fault → Tangkuban Parahu volcano

SanGria Resort & Spa
Jl. Hortikultura, Lembang, Bandung West Java
Phone(s):62.22.2788777, Fax(s):62.22.2787045
http://www.indonext.com/cgi-bin/

The 3rd KISS field excursion to Tangkuban Parahu volcano guided by Dr. Budi

Lembang Fault

SanGria Resort & Spa