

# Organization and Activities of the Doctoral Program in Earth Evolution Sciences (Geological Sciences) for the Academic Year 2009

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## Organization

During the year from April, 2009 to March, 2010, several promotions and appointments were made in the Doctoral Program in Earth Evolution Sciences (Geological Sciences) so that our research and teaching activities were enforced. All faculty and administrative staffs were (staffs with an asterisk \* are belonging to the Doctoral Program in Integrative Environmental Sciences, but they are listed in our organization here-with, because they study geological sciences and have lectures on geological sciences for undergraduate students):

### *Professor:*

Arakawa, Yoji, D. Sc., petrology, geochemistry and geochronology  
Hayashi, Ken-ichiro, D. Sc., migration of heavy metals, geochemistry of hydrothermal system  
Kimata, Mitsuyoshi, D. Sc., mineralogy and crystallography  
Ogasawara, Kenshiro, D. Sc., Cenozoic stratigraphy and molluscan paleontology  
Sashida, Katsuo, D. Sc., Paleozoic and Mesozoic biostratigraphy

### *Associate Professors:*

Endo, Kazuyoshi, Ph.D., molecular paleontology  
Hisada, Ken-ichiro, D. Sc., Paleozoic and Mesozoic stratigraphy and sedimentology  
Tsunogae, Toshiaki, Ph.D.(Sc.), metamorphic petrology and crustal evolution  
Yagi, Yuji, D. Sc., seismology, structural geology  
\*Maruoka, Teruyuki, Ph.D., geochemistry

### *Assistant Professor:*

Agematsu, Sachiko, Ph.D. (Sc.), Paleozoic and Mesozoic biostratigraphy  
\*Anma, Ryo, Ph.D., structural geology and tectonics  
Komuro, Kosei, D. Sc., ore geology and geochemistry  
Kurosawa, Masanori, Ph.D. (Sc.), mineralogy and geochemistry  
Kyono, Atushi, Ph.D. (Sc.), structural physics of minerals  
Motoyama, Isao, Ph.D. (Sc.), Cenozoic stratigraphy

and micropaleontology

Takizawa, Shigeru, D. Sc., structural geology

Cooperative Graduate School System

### *Professor:*

Takada, Akira, D. Sc., volcanology  
Yamazaki, Toshitsugu, D.Sc., paleomagnetism

### *Associate Professor:*

Ishizuka, Osamu, D. Sc., arc magmatism

### *Research and Teaching Assistants:*

Miyamoto, Makoto  
Otani, Satoshi, B.A.  
Ozaki, Shiro  
Shimizu, Masahiro  
Watase, Koichi, B.A.

### *Administrative Staff:*

Hirano, Kozue  
Yasuda, Yoko

## Doctor and Master's Theses

The following doctor and master's theses were completed during the academic year 2009 under the supervision of the members of the Doctoral Program in Earth Evolution Sciences.

### Doctor of Philosophy (Science or Geosciences)

Horiuchi, Yu (2010): Paleosol Profile and Depositional Systems of Mesozoic Terrestrial Basins in SW Japan and NE Thailand.  
Naoya, Ishida (2010): Polymorphic Relation between Cavansite and Pentagonite: Genetic Implications of Hydronium Ion in Cavansite.  
Shindo, Kazuyasu (2010): Mineralogical and Chemical Study of Sulfide Minerals in Selected Japanese Ultramafic Rocks: Their Implication for Generation, Evolution, and Alteration.  
Khashgerel, Bat-Erdene (2010): Geology, Whole-rock Geochemistry, Mineralogy and Stable Isotopes (O, H and S) of Sericitic and Advanced

Argillic Alteration Zones, Oyu Tolgoi Porphyry Cu-Au Deposits, Mongolia.

Master of Science or Geoscience

Master of Science

- Amari, Yuichi (2010): Sedimentary Facies and Provenance Analysis of the Shimobe Formation of the Fujikawa Group.
- Chiba, Tae (2010): Deformation History and Emplacement Process of Serpentine from the Omachi Seamount, Izu-Ogasawara Area.
- Du, Wei (2010): The Ediacaran Microbiota from the Doushantuo Formation (635Ma-555Ma) on the East of the Yangtze Gorges Area, in South China.
- Ko, Yoshihide (2010): Textural Analysis of the Volcanic Rocks Having Different Cooling History for the Application of CSD.
- Nishimiya, Yuki (2010): Pressure-Temperature-Time-Fluid Path of Permo-Triassic Hida Metamorphic Rocks in Odori-gawa Area, Central Japan.
- Nukariya, Yuri (2010): Characteristics and Provenance of Quartzite Clasts from the Shimanto and Hida Belts.
- Shimizu, Hisako (2010): Petrological Study of Ultrahigh-Temperature Metamorphic Rocks from the Achankovil and Palghat-Cauvery Shear Zones in Southern India.
- Shimono, Takaya (2010): A Paleomagnetic and Rock-magnetic Study on the Sediments Cores Obtained From the Central Okhotsk Sea, With Special Reference to Influence of Coring Method on Anisotropy of Magnetic Susceptibility (AMS)
- Yamada, Yasumi (2010): Paleooceanographical Changes in the Northeastern Japan Sea During the Last 20 ky Based on Radiolarian Assemblage.
- Yokoyama, Masato (2010): Cenozoic Stratigraphy of Southern Part of the Kosado Area, Sado Island, Japan.
- Wiwegwin, Weerachat (2010): Reevaluation of the Thoen Fault Activity in the Lampang Basin, Northern Thailand.

Master of Arts in Education

- Tazaki, Shunsuke (2010): Relationship between subsurface-water responses and slope stability in a landslide-prone area in Hidaka Region, Hokkaido, Japan.

## Research Activities

Each researcher had the following research activities during the academic year 2009.

Research projects

- Agematsu, S. (2007~): Lower Paleozoic conodont, graptolite, and tentaculite from Southeast Asia and Triassic conodont natural assemblage.
- Arakawa, Y. and Shinmura, T. (2005~): Geological and geochemical studies of volcanic rocks in Aso volcano, Japan.
- Arakawa, Y., Matsui, T. and Kimata, M. (2005~): Sr isotopic and mineralogical studies of anorthite megacrysts in arc volcanic rocks.
- Arakawa, Y. (2008~): Petrological and petrochemical studies of volcanic rocks Izu arc and adjacent area.
- Hisada, K., Charusiri, P., Lee, B.J., and Jin, X. (2005-2010): IGCP516 "Geological Anatomy of East and South Asia: Paleogeography and Paleoenvironment in Eastern Tethys" (UNESCO)
- Hisada, K. and Orihashi, Y. (2009): Zircon dating of orthoquartzite clasts in the Shimanto belt by LA-ICPMS.
- Hisada, K. and Takahashi, M. (2009~): Study on an origin of angiosperm (Thailand).
- Hisada, K. and Charusiri, P. (2009~): Nan project (Environmental research in NE Thailand).
- Komuro, K., Hatta, T. and Shinohara, Y. (2008-2010): Effects of soil environment on the chemistry of food grains with attempts to make a counterplan.
- Komuro, K. and Ito, T. (2008-2010): Development of oxygen minimum layer in the Pacific Ocean during Neogene.
- Sashida, K. (2010~): Paleozoic and Mesozoic paleoenvironmental studies in Thailand and peninsular Malaysia.
- Tsunogae, T. and Santosh, M. (2009-2015): Crustal Evolution of the Gondwana suture zones.
- Tsunogae, T., Osanai, Y., Toyoshima, T., Owada, M., and Hokada, T. (2009-2013): Ultrahigh-temperature metamorphism in East Antarctica.
- Tsunogae, T. and Dubessy, J. (2009-2014): Characterization of fluids in high-temperature granulites: evidence from quantitative Raman spectroscopic study.

## Research grants

- Agematsu, S. (2009-2010): Studies on taxonomy, evolution, and paleoecology of Triassic conodonts based on a natural assemblage. Grant-in-Aid for Young Scientists (B), JPY 3,250,000 for 2009.
- Agematsu, S. (2009): Establishment of the Lower to Middle Ordovician biostratigraphy on the Langkawi Islands, Malaysia. Scientific Research Grant from the Tokyo Geographical Society, JPY 400,000.
- Hayashi, K. (2009-2011): Dynamics of fluid boiling and formation of hydrothermal ore deposits. Grant-In Aid for Scientific Research (B), JPY 11,050,000 for 2009.
- Kurosawa, M. (2008-2011): Studies on geochemical effect of fluid-inclusion chemistries on groundwater compositions in granitic bodies. Grant-In-Aid for Scientific Research (B).
- Tsunogae, T. (2008-2011): The origin and evolution of fluids associated with UHT metamorphism. Japan Society for the Promotion of Science: Basic Research (B), JPY 9,620,000.
- Tsunogae, T. (2008-2010): Tectonothermal evolution of Gondwana suture in southern India. JSPS-INSA joint research program, JPY 4,980,000.

## Activity Reports for Academic Exchange and Cooperation

*Chulalongkorn University, the Kingdom of Thailand*

- (1) Exchange of Researchers : n/a
- (2) Exchange of Graduate Students:  
Sumet Phantumongraj (Tokubetsu Kenkyusei; AIEJ Short-term Student Exchange Program, 12 months from March 2010, Hisada, K.)
- (3) Collaboration Research:  
Organizing joint works as co-leaders for IGCP 516 (2005-2010) (Charusiri, P. and Hisada, K. )