

Organization and Activities of the Doctoral Program in Earth Evolution Sciences (Geological Sciences) for the Academic Year 2005

Organization

During the year from April, 2005 to March, 2006, 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) :

Professors:

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
Ogawa, Yujiro, D. Sc., structural geology and marine geology
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

Assistant Professors:

Adachi, Shuko, D. Sc., Paleozoic biostratigraphy
*Anma, Ryo, Ph.D., structural geology and tectonics
Hirai, Hisako, D. Sc., Earth Planetary High-pressure Science
Komuro, Kosei, D.Sc., ore geology and geochemistry
Kurosawa, Masanori, Ph.D. (Sc.), mineralogy and geochemistry
Kyono, Atsushi, Ph.D. (Sc.), structural physics of

minerals

*Maruoka, Teruyuki, Ph.D., geochemistry
Motoyama, Isao, Ph.D. (Sc.), Cenozoic stratigraphy and micropaleontology
Takizawa, Shigeru, D.Sc., structural geology

Research Associate:

Kikuchi, Yoshiumi, Ph.D. (Sc.), Cenozoic paleoenvironment and paleontology

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
Ozaki, Shiro
Shimizu, Masahiro
Watase, Koichi, B.A.

Administrative Staff:

Sato, Chikako
Yasuda, Yoko

Doctor and Master's Theses

The following doctor and master's theses were completed during the academic year 2005 under the supervision of the members of the Doctoral Program in Earth Evolution Sciences.

Doctor of Philosophy (Science or Geoscience)

Agematsu, Sachiko (2006): Early to Middle Paleozoic conodonts from Thailand and peninsular Malaysia.

Master of Science

Dongrutai, Saesaengseerung (2006): Devonian to Triassic radiolarian faunas from northern and

northeastern Thailand.

Ikezawa, Taichi (2006): The Cretaceous Choshi Group in the Choshi Peninsula, Chiba Prefecture, central Japan.

Ishida, Naoya (2006): Phase relation between cavansite and pentagonite: Implication for hydronium and hydroxyl ion in cavansite.

Kunitomo, Yoshiki (2006): Molecular phylogeny of Acantharian and Polycyctine radiolarians: reconstruction of the radiolarian evolutionary history.

Michiguchi, Yoko (2006): Origin of chaotic deposits in shallow part of accretionary prism—an example from Nishizaki Accretionary Prism, southernmost Boso peninsula-

Mori, Ryota. (2006): Deformation structure and incorporation process of the plutonic and metamorphic blocks (knockers) of the Mineoka Ophiolite belt, Boso peninsula.

Ozawa, Kana (2006): Amorphous material in crushing-originated pseudotachylite: a case study of the Iida-Matsukawa fault, Nagano Prefecture.

Ryu, Toru (2006): Paragenesis of ixiolite with ferrocolumbite from granitic pegmatites.

Sato, Yudai (2006): Stratigraphic revision of the Daijima Formation distributed in the western Oga Peninsula, Akita Prefecture.

Suzuki, Shinya (2006): Experimental geochemistry on the dissolve of heavy minerals from sulfide ores in the oxigenated conditions.

Suzuki, Takahiro (2006): Paleocurrent analysis and physical properties of deep-sea mud cores collected from NW Pacific and Northern Gulf of Mexico.

Tateno, Hiroshi (2006): Sedimentary history and provenance analysis of the Upper Cretaceous in the Abukuma Belt, northeast Japan.

Master of Arts in Education

Hasegawa, Hiroko (2006): Proposal for education of disaster prevention using Hakone Tokyo pumice and Fuji Hoei tephra

Ohno, Satoshi (2006): Synthesis of hydrogen hydrates and their phase transitions under high pressure.

Saito, Yosuke (2006): Shape changes of river bed gravels along Naka River, Japan.

Yoshiki, Norifumi (2006): Paleoenvironmental analysis by Pliocene molluscan fossil from Hitachi and Hitachiota area in Ibaraki Prefecture.

Research Activities

Each researcher had the following research activities during the academic year 2005.

Research projects

Arakawa, Y. and Park, K-H. (2000-2006): Chronological and petrological studies of the Buncheon granitic gneiss in NE Yeongnam massif, South Korea.

Arakawa, Y. and Chen, B. (2003-2006): Nd-Sr-Pb isotopic and chemical studies of Mesozoic granitic rocks in NE China.

Arakawa, H., Hoshino, M., Kimata, M., Shimizu, M., and Nishida, N. (2004-2006): Sr-Nd isotopic and chemical studies of allanite in granitic rocks.

Arakawa, Y., Matsui, T., and Kimata, Y. (2005-2008): Sr isotopic and mineralogical studies of anorthite megacrysts in volcanic rocks in Kyushu-Ryukyu arc.

Arakawa, Y. and Shinmura, T. (2005-2008): Geological and geochemical studies of volcanic rocks in Aso volcano, Kyushu, Japan.

Endo, K., Iijima, M., Sarashina, I., Takeuchi, T., Kunitomo, Y., and Kuratani, S. (2003-2008): An exhaustive exploration of the genes involved in molluscan shell formation: a primer for a genome project.

Hirai, H. (2005): Research of high-pressure properties of gas hydrates. Agency of Industrial Science and Technology (AIST).

Hirai, H. (2005): High-temperature and high-pressure properties of gas hydrates and their implications.

Hisada, K., Charusiri, P., Lee, B. J., and Jin, X. (2005-2009): IGCP516 "Geological Anatomy of East and South Asia: Paleogeography and Paleoenvironment in Eastern Tethys" (UNESCO).

Komuro, K. (2005): Genesis of stratabound manganese deposits in accretionary complexes.

Komuro, K. (2005): Natural analog study on Tono Uranium deposits.

Kurosawa, M. (2005): Research of fluid-inclusion analysis by high-energy ion beam.

Kyono, A. (2004-2005): Study of light-induced phase transformation in realgar (As₄S₄).

*Maruoka, T. (2000-2005): Stable isotope study for understanding environmental perturbations at the mass extinction events.

Sashida, K. (2003-2007): Paleozoic and Mesozoic

paleoenvironmental studies in Thailand and Peninsular Malaysia based on microfossils.

Tsunogae, T. and Santosh, M. (2003-2008): Crustal evolution of the southern Indian granulite terrane.

Tsunogae, T. and van Reenen, D.D. (2001-2007): UHT metamorphism of the Limpopo Belt, southern Africa.

Tsunogae, T., Osanai, Y., Owada, M., Hokada, T., and Toyoshima, T. (1998-2008): The role of fluids in UHT metamorphism of the Napier Complex, East Antarctica.

Tsunogae, T. and Dubessy, J. (2004-2008): Characterization of fluids in granulites: evidence from quantitative Raman spectroscopic study.

Yagi, Y. (2005): Source process of large earthquakes derived from waveform inversion with ABIC.

Research grants

Arakawa, Y. (2004-2006): Elemental and Nd-Sr-Pb isotope geochemistry for the Mesozoic igneous activities in North China Craton. Japan Society for the Promotion of Science: Basic Research (C), JPY 3,600,000.

Endo, K. (2003-2008): An exhaustive exploration of the genes involved in molluscan shell formation: a primer for a genome project. Japan Society for the Promotion of Science: Basic Research (S), JPY 81,700,000; 11,960,000 for 2005.

Hirai, H. (2005): Research and development of technology of utilizing Hydrogen. Technova Inc (think tank). JPY 700,000.

Hisada, K. (2004-2006): Collisional tectonics of microcontinents derived from the northern parts of Gondwana in Thailand and Laos. Japan Society for the Promotion of Science, JPY 11,400,000.

Kurosawa, M. (2005-2007): Studies on magmatic fluids in a collision zone of the Izu-Bonin arc by using high-energy iron beams., Japan Society for the Promotion of Science: Basic Research (C), JPY 2,133,000

Motoyama, I. (2003-2006): Possible formation of 'Japan Sea Proper Water' during late Miocene time. Japan Society for the Promotion of Science: Basic Research (c), JPY 500,000 for 2005.

Ogasawara, K. (2005-2007): Time and space distribution of Japanese Cenozoic molluscan type specimens based on the integrated biostratigraphy. Japan Society for the Promotion of Sci-

ence, JPY 8,800,000.

Ogasawara, K. (2005-2007): Eventual stratigraphy of the Northwest Pacific: biotic, climatic, eustatic and sedimentologic events. Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research between Russia and Japan, JPY 5,000,000.

Ogawa, Y. (2005): Comparative study between Jinno-suke-dani landslide and accretionary prism: Mechanical and geometrical study on sliding planes and decollement zones. SABO Technical Center Research Grant, JPY 3,000,000.

Tsunogae, T. (2005-2007): Metamorphic fluids in UHT metamorphic rocks along the Godwana collision zone. Japan Society for the Promotion of Science: Basic Research (B), JPY 9,600,000.

Activity Reports for Academic Exchange and Cooperation

University of Rajshahi, the Peoples Republic of Bangladesh

(1) Exchange of Researchers:

Islam, Md Aminul (JSPS RONPAKU Program, 2005-2007, Yujiro Ogawa).

(2) Exchange of Graduate Students:

Ferdousy, Mst. Fahima (Tokubetsu Kenkyusei; AIEJ Short-term Student Exchange Program, 12 months from December 2005, Ken-ichiro Hisada).

(3) Collaboration Research: None.

Chulalongkorn University, the Kingdom of Thailand

(1) Exchange of Researchers:

Choowong, Montri (JSPS RONPAKU Program, 2005-2007, Ken-ichiro Hisada).

(2) Exchange of Graduate Students:

Saesaerungseerung, Doungrutai (Dc 2; Monbukagakusho scholarship student, Katsuo Sashida).

Sarakiatchai, Peerasit (Tokubetsu Kenkyusei; AIEJ Short-term Student Exchange Program, 12 months from December 2004, Kenshiro Ogasawara).

Saengsrichan, Wirote (Tokubetsu Kenkyusei; AIEJ Short-term Student Exchange Program, 12 months from December 2004, Ken-ichiro Hisada).

(3) Collaboration Research:

Organizing joint works as co-leaders for IGCP
516 (2005-2009) (Punya Charusiri and Ken-
ichiro Hisada).