Organization and Activities of the Doctoral Program in Earth Evolution Sciences (Geological Sciences) for the Academic Year 2017

Organization

During the year from April, 2017 to March, 2018, 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 Environment and Biomass Sciences, but they are listed in our organization herewith, 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
Hisada, Ken-ichiro, D. Sc., stratigraphy, sedimentology
Sashida, Katsuo, D. Sc., Paleozoic and Mesozoic biostratigraphy
Tsunogae, Toshiaki, Ph.D. (Sc.), metamorphic petrology and crustal evolution

Associate Professors:

Agematsu, Sachiko, Ph.D. (Sc.), paleontology
Fujino, Shigehiro, Ph.D. (Sc.), sedimentology, stratigraphy, paleoseismology
Kamata, Yoshihito, Ph. D. (Sc.), stratigraphy, tectonics
Ujiie, Kotaro, Ph.D. (Sc.), structural geology
Yagi, Yuji, Ph.D. (Sc.), seismology, structural geology
*Maruoka, Teruyuki, Ph.D. (Sc.), geochemistry

Assistant Professor:

*Anma, Ryo, Ph.D., structural geology and tectonics
Ikehata, Kei, Ph.D. (Sc.), petrology, resource geology
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

Cooperative Graduate School System

Professor:

Naoki Kohno, D. Sc., mammalian paleontology (National Science Museum)
Yasunari Shigeta, D. Sc., ammonite paleontology (National Science Museum)

Associate professor

Yasuyuki Tsutsumi, Ph.D. (Sc.), absolute dating (National Science Museum)

Research and Teaching Assistants:

Otani, Satoshi, B.A.
Ozaki, Shiro
Shimizu, Masahiro

Administrative Staff:

Kuwahara Mutsuko
Yasuda, Yoko

Doctor and Mater's Theses

The following doctor and master's theses were completed during the academic year 2017 under the supervision of the members of the Doctoral Program in Earth Evolution Sciences.

Doctor of Philosophy (Science or Geosciences)

Kozu, Shohei (2017): Dinosaur Footprints from the Khorat Group, Northeastern Thailand.
Opris, Anca (2017): Remote Seismicity Activation in Japan: Triggering and Decay Characteristics.
Shimojyou, Kengo (2017): Nucleation Process of the 2011 Mw 6.2 Northern Nagano Earthquake.
Takahashi, Yui (2017): Reconstruction of Pelagic Reef Ecosystem of the Carboniferous Omi Limestone, Niigata Prefecture, Central Japan.
Tang Li (2017): The Neoarchean-Paleoproterozoic Evolution of the Fuping Complex in the Central Segment of the North China Craton.
Ugwuonah, Emmanuel, Nwachukwu (2017): Petrology and Metamorphic Pressure-Temperature Evolution for the Trans-Saharan Orogenic Belt in Nigeria.

Master of Science or Geoscience

Anvarov, Otabek, Ulugbek, Ogli (2017): Heavy Mineral Analysis of the Miocene Turbidite Sequence of

Chichibu Basin, Central Japan.

Fujiwara, Noriyuki (2017): Taxonomy of Fossil Anura (Genus Rana) from Japan

Kobayashi, Katsuma (2017): The Relationship of Slow Rupture Velicity in Tsunami Earthquake with Fault Geometry Changes.

Kuribara, Yusuke (2017): Petrological and Geochronological Study of High-Grade Metamorphic Rocks in the West Gondwana Fragments: Case Studies of the Ribeira Belt in Brazil and the Zambezi Belt in Zimbabwe.

Machida, Namiko (2017): Faunal and Environmental Transitions of the Lower to Middle Devonian Strata in the Satun Province, Southern Thailand

Matsukawa, Hiroaki (2017): Stress Release and Rebuilding Process of Mega-thrust Earthquake and Periodic Slow Slip Detected by Focal Mechanism Patterns.

Oozeki, Masanori (2017): Microfossils from Chert Gravels of the Ishido Formation, Sanchu Group, Distributed in Oganomachi, Central Japan

Shimizu, Norikazu(2017): Cenozoic Stratigraphy and the Foraminiferal Fossils from Northern to Western Margin of the Chichibu Basin, Saitama Prefecture, Central Japan.

Suzuki, Yuki (2017): Early Skarn and Late Polymetallic Replacements in a Porphyry System:Mineralogy, Fluid Inclusions,and Sulfur Isotopes of the Huanzala Deposits,Peru

Yamauchi, Natsutaka (2017): High-resolution international Correlation of the Lower Triassic in Russian Far East Based on Integrated Stratigraphy of Carbon Isotope and Ammonoids.

Master of Arts in Education

Fujita, Sara (2017): Development of earth science experiment as a motif of “Rock Cycle”.

Hattori, Tatsuya (2017): Paleontology and Sedimentology of Shell-concentrated Beds in the Pleistocene Shimousa Group, Kanto Region, Central Japan.

Usui, Yosuke (2017): Characteristics of beach sand mineral composition in the Shikoku district and its educational use.

Research Activities

Each researcher had the following research activities during the academic year 2017.

Research projects

Agematsu, S. (2014~): Reconstruction of the Triassic conodont apparatuses.

Agematsu, S. (2015~): Lower and Middle Paleozoic microfossils and paleoenvironments in Thailand and Malaysia.

Arakawa, Y. and Shinmura, T. (2012~): Geological and petrological study of Aso volcano, Kyushu, Japan.

Arakawa, Y., Matsui, and T. Ikehata, K (2014~): Mineralogical and petrological studies of anorthite megacrysts in arc volcanic rocks.

Arakawa, Y. and Ikehata, K. (2014~): Petrological and geochemical investigations of volcanic rocks in Izu-volcanic arc, Japan.

Fujino, S. (2007~): Stratigraphic records of past earthquakes and tsunami along the Nankai Trough.

Fujino, S. (2014~): Potential risk of tsunamis generated at submarine active faults in western Japan.

Hayashi, K. (2013 ~): Oxygen isotope study of hydrothermal ore deposits.

Ikehata, K. (2005〜): Petrological and petrochemical studies of volcanic products from active volcano.

Ikehata, K. (2006~): Development of analytical methods for non-traditional (e.g., Cu, Fe, Zn) stable isotope ratios of material sand its applications to geochemical samples.

Kamata, Y. (2015~): Stratigraphy and tectonics of the Paleo-Tethys in Thailand and Lao.

Kamata, Y. (2015~): Stratigraphy and tectonics of Jurassic accretionary complex in Japan.

Komuro, K. (2013~): Geochemistry and formative environment of bedded manganese deposits in Japan.

Komuro, K. (2015~): Tellurium and selenium mineralization in epithermal gold deposits.

Kurosawa, K. (2015~): Single fluid-inclusion analysis using particle-induced X-ray emission (PIXIE) to elucidate chemical composition and behaviors of hydrothermal fluids from granites.

Kurosawa, K. (2015~): Trace-element analysis of pegmatite and mantle minerals by using laser-ablation ICP-MS.

Kyono, A. (2015~): Studies on a phase transition mechanism from ferrihydrite to hematite with compression, the effect of water on crystal structure and phase variation of the magnesium carbonate

hydrate mineral, the carbon solubility into silica minerals under high-temperature, shock-induced phase transition of iron and aluminum metals, symmetry changes of analcime by formation conditions, and TEM investigation of the interaction between bacteria and mineral surfaces.

Maruoka, T. (2009-2017): Geochemical study for understanding the environmental perturbations at the mass-extinction events.

Sashida, K. (2015~): Paleozoic and Mesozoic paleoenvironmental studies in Thailand and peninsular Malaysia.

Tsunogae, T. and Santosh, M. (2014~2018): Crustal evolution of the Gondwana suture zones in India and Sri Lanka.

Tsunogae, T., Dunkley, D.J., and Miyamoto, T. (2014~2019): Pressure-temperature-time evolution of granulites in East Antarctica.

Yagi, Y. (2012~): Seismic source process of large and great earthquakes derived from a hybrid back-projection and a waveform inversion.

Research grants

Agematsu, S. (2017～2020): Lower and Middle Paleozoic microfossils and paleoenvironments in Thailand and Malaysia. Grant-in-Aid for Scientific Research (B), JPY 7,800,000.

Fujino, S. (2016~2018): Long-term variations in recurrence intervals of earthquakes and tsunamis and crustal deformations in the Nankai Trough. JPY 1,690,000 for 2017.

Ikehata, K. (2016-2018): Discrimination between essential ejecta and altered ejecta based on copper and iron isotopic measurements. Grant-In-Aid for Young Scientists (B).

Ikehata, K. (2015-2018): In-situ trace and isotopic ratio analysis for seafloor hydrothermal samples. Next-generation technology for ocean resources exploration for Cross- ministerial Strategic Innovation Promotion Program (SIP).

Ikehata, K. (2017-2018): Elucidation of a formation mechanism for hydrothermal native copper. The Japan Mining Promotive Foundation research grant.

Kamata, Y. (2015~): Seismogenic faults of the Jurassic accretionary complex in Japan. Grant-In-Aid for Scientific Research (C), JPY 1553,000

Tsunogae, T. (2014～2017): Petrology of Archaean continental fragments in Neoproterozoic Gondwana collisional orogeny. Japan Society for the Promotion of Science: Basic Research (B), JPY 6,900,000

Ujiie, K. (2016~2020): Science of slow earthquakes. Grant-in-Aid for Scientific Research on Innovative Area (Research in a proposed research area).

Yagi, Y. (2016~): Development of new hybrid back-projection to understand the generation of high frequency waveform in great earthquakes. Japan Society Promotion of Science: Basic Research (C), JPY 4.680,000.

Activity Reports for Academic Exchange and Cooperation

Chulalongkorn University, the Kingdom of Thailand

(1) Exchange of Researchers:
N/A

(2) Exchange of Graduate Students:
N/A

(3) Collaboration Research and/ or Class:
International Geological Filed Excursion A in Japan
(Approximately 20 Thai students participated)