

Organization and Activities of the Doctoral Program in Geoenvironmental Sciences for the Academic Year 2018

Organization

During the year from April, 2018 to March, 2019, several promotions and appointments were made so that our research and teaching activities covering geoenvironmental sciences were enforced. Following is the list of all faculty and administrative staffs with specialties:

Professors:

Asanuma, Jun, Ph.D., Chair, surface hydrology, hydro-meteorology, flood risk management
Kureha, Masaaki, Ph.D., regional geography, geography of tourism, rural geography
Kusaka, Hiroyuki, D.Sc., urban climate, local wind, numerical modeling
Matsui, Keisuke, D.Sc., cultural geography, geography of religion and tourism
Matsuoka, Norikazu, D.Sc., geomorphology, geocryology
Murayama, Yuji, D.Sc., GIS, urban and transportation geography, quantitative methodology
Sugita, Michiaki, D.Sc., hydrologic sciences, surface hydrology, boundary layer meteorology
Tanaka, Hiroshi, Ph.D., atmospheric science, general circulation
Tsujimura, Maki, D.Sc., hydrologic sciences, groundwater hydrology, isotope hydrology
Ueda, Hiroaki, D.Sc., atmospheric science, climate dynamics

Associate Professors:

Hattanji, Tsuyoshi, D.Sc., hydrogeomorphology, slope processes
Ikeda, Atsushi, D.Sc., geomorphology, geocryology
Tsutsumi, Jun, D.Sc., urban geography, regional geography of Australia, GIS
Ueno, Kenichi, D.Sc., atmospheric science, precipitation system, regional climatology
Yamanaka, Tsutomu, D.Sc., hydrologic sciences, isotope tracers, ecohydrology

Assistant Professors:

Akiyama, M. Chiaki, D.Sc., geography of land use issues, spatial information science
Harada, Mariko, Ph.D., earth and planetary system science, paleoclimatology, paleoenvironment

Kubo, Tomoko, D.Sc., urban geography, geography of housing, geography of North America
Matsueda, Mio, D.Sc., atmospheric science, predictability of weather and climate
Morimoto, Takehiro, D.Sc., agricultural geography, GIS, rural geography
Parkner, Thomas, Ph.D., geomorphology, gully erosion, soil erosion, mass movements
Sekiguchi, Tomohiro, Ph.D., geomorphology, sedimentology
Shinozaki, Tetsuya, Ph.D., erosion and deposition around coastal land, tsunami deposit
Yamashita, Akio, D.Sc., regional geography, geography of urban environmental issues

Technical Staffs:

Miyasaka, Kazuhito, B.A.
Ozaki, Shiro

Administrative Staff:

Aita, Machiko

Doctor and Master's Theses

[Abbreviations]

D.Sc. Doctor of Philosophy (Science or Geoscience)
M.Sc. Master of Science
M.Sc. (M) Master of Science in Mountain Studies
M.Eng. Master of Engineering
M.Env. Master of Environmental Science
M.A. (E) Master of Arts in Education
M.A. (A) Master of Arts in Area Studies

[a] Human Geography

D. Sc. Kim Yeonkyung (2019): A Geographical Study on Relationship between Ethnic Business and Host Society: A Case Study of Korean Businesses in Okubo District, Shinjuku, Tokyo.
M.Sc. Bai Yijia (2019): The Change of Local Region by the Tourism Development of the World Heritage Site: A Case Study of Yungang Grotto Area, Datong City, Shanxi Province, China.
M.Sc. Kawazoe Wataru (2019): The Social Role of Religious Facilities in the Everyday Life of Foreign People in Japan: A Case of Filipino.
M.Sc. Kiba Kayano (2019): A Geographical Study

- on Religion and Identities: A Case Study of Romanian Orthodox Church in Japan.
- M.Sc. Sato Sota (2019): Coexistence and its Significance of Dried and Raw Shiitake in the Principal Source of Dried Shiitake: A Case Study of Sugawara District, Kokonoe Town, Oita Prefecture.
- M.Sc. Wan Yi (2019): The Role of Place Identities in Landscape: A Case Study of Johnson Town in Saitama Prefecture.
- M.Sc. (M) Yamamoto Jun (2019): The Role of Mountains Concerning the Perception of the Common Scenery in Local Residents: A Case Study of Azumino City, Nagano Prefecture.
- M.Sc. Zhang Ruixue (2019): Utilization and Inheritance of Historical and Cultural Values in the Ancient Town of Guangzhou, China: A Case of Huangpu Ancient Village.
- [b] Regional Geography**
- D.Sc. Honda, Hiroki (2019): The Role of High-technology Diffusion for Sustainable Urban Development.
- D.Sc. Sakamoto, Yuki (2019): Empirical Study of Local Resource Management of Auditory Environment in Terms of Soundscape Concept.
- D.Sc. Zeng, Bindan (2019): Spatial Pattern of Chinese Tourist Flows in Japan.
- M.Sc. Arimura, Tomohide (2019): Distribution and Change of CBD Functions in the Central Area of Kagoshima City: Focusing on the Redevelopment of Station Area in Relation to the Implementation of Kyushu Shinkansen.
- M.Sc. Kato, Yukari (2019): Factors Affecting Second Generation Japanese-Brazilians' Assimilation to the Japanese Society: A Case Study of Oizumi Town, Gunma Prefecture.
- M.Sc. Okada, Kohei (2019): The Sustainability of Dark Tourism in Ishinomaki City, Miyagi Prefecture: A Case of "Negative Heritage" Made by The Great East Japan Earthquake.
- M.Sc. Suzuki Shuto (2019): Lifestyle Migration Process of Working-age Urban Residents in Karuizawa.
- M.Sc. (M) Matsumura, Kentaro (2019): The Role and Problem of Mountain Guide in Mountain Tourism in Japan.
- [c] Spatial Information Science**
- D. Sc. Hepi Hapsari Handayani (2019): The Site Suitability Evaluation of Potential Urban Park: A Case Study of Surabaya, Indonesia.
- D. Sc. Liu, Kai (2019): Relationship between Functional Urban Polycentricity and Spatiotemporal Pattern in Terms of Human Mobility in the Tokyo Metropolitan Area.
- D. Sc. Ranagalage Manjula Mahinda (2019): Spatial Evaluation of Potential Tsunami Vertical Evacuation: A Case Study of the Western Coastal Belt in Sri Lanka.
- D. Sc. Vitanova Lidia Lazarova (2018): Numerical Study of Urban Heat Islands in Sofia and Sendai with Present, Past, and Potential Natural Vegetation Land Use.
- M. Sc. Endo, Shuhei (2019): The Structure and Mechanism of "Matsumoto-Wind".
- M. Sc. Ge, Yao (2019): Analysis of the factors of land price formation in residential areas in Tama City, Tokyo metropolis.
- M. Sc. Iwai, Yuki (2019): Mechanism and future prediction of the spatiotemporal change due to huge tsunami inundation - A case study on Sendai Plain and Hamamatsu Lowland-.
- M. Sc. Nagasaki, Hiroki (2019): Elderly people's movement pattern and its issues regarding transportation service supply - A case study of welfare transport in Kukisaki area, Tsukuba City, Ibaraki Prefecture.
- M. Sc. Senevirathne Gamlakshage Nuwan Lasantha (2019): Application for Tsunami Vertical Evacuation Based on Web GIS: A Case Study of Kamakura Area.
- M. Sc. Takehara, Mayuko (2019): A study on the difference of spatial cognitive ability according to cognitive function -Using visual stimulus images of geo-spatial information-.
- M. Sc. Tamba Sahr Dauda (2019): Spatial Analysis of the Urban Structure of Freetown, Sierra Leone: A Factorial Ecological Analysis.
- M. Sc. Yamada, Shunsuke (2019): Two type mechanism of Suzuka Oroshi.
- M. Sc. Yoshida, Makoto (2019): Role of life support services for elderly people in depopulated areas - A case study of Sudama-machi, Hokuto City, Yamanashi Prefecture.
- M. Sc. Zeng, Yu Ting (2019): Evaluation of traffic convenience based on potential accessibility before and after the flooding -A case study in Joso City, Ibaraki Prefecture-.
- M. Sc. Zhang, Nan Nan (2019): A GIS study of inconvenient areas for public transportation in Tiexi District, Shenyang City.

- M. Sc. Zheng Ying Qiu (2019): Relationship between commuting flow patterns and socio-economic regional characteristics: A case study in northern Kyushu urban area.

[d] Hydrologic Sciences

- M. Sc. Arai, Eri (2019): Hydrological Sustainability of Hot Springs: From Viewpoint of Recharge, Flow, and Storage.
- M. Env. Ikeda, Tsubasa (2019): Estimation of the Water Surface Temperature of Lake Kasumigaura with Split-window Technique Using Himawari-8 Satellite Data.
- M. Env. Kuroe, Ayane (2019): Seasonal Change of Evaporation From the Nile River Estimated Through Remote Sensing Data.

[e] Atmospheric Science

- D.Sc. Yamakami, Akio (2018): Extraordinary Arctic Cyclones in summer and their predictability on medium-range timescales.
- M. Sc. Abe, Kouhei (2019): Insolation changes associated with the earth orbital forcing and Asian monsoon intensity.
- M. Sc. Endo, Azusa (2018): The analysis of southern hemisphere annular mode index by using three-dimensional normal mode expansion.
- M. Sc. Maesaki, Kaede (2019): Interannual variation of sea-ice extent in the Sea of Okhotsk and atmospheric circulation.
- M. Sc. Mito, Wataru (2019): Factor analysis on disagreement between satellite precipitation and ground precipitation.
- M. Sc. Naoi, Moeka (2019): Modulation of summertime Atmospheric Rivers with seasonal evolution of ENSO in the North Pacific.
- M. Sc. Tsuzuki, Takato (2019): Meridional heat transport associated with variations of sea water temperature in the Atlantic Ocean and its possible connection with higher latitude subduction.

[f] Geomorphology

- D. Sc. Sato, Masato (2019): Salt weathering in humidity-change or freeze-thaw environments: A series of laboratory experiments.

Research Activities

Each research group had the following research activities during the academic year 2018.

[a] Human Geography

Research projects

- Matsui, K., and Akiyama, C. (2018-2020): Geographical studies on sustainable development in Kashima and Kamisu Cities and the surrounding region.
- Matsui, K. (2016-2019): Theoretical and practical studies on the creation of World Heritage Sites in terms of commodification of the place, project with Kureha, M., Tsutsumi, J. and others.

Research grants

- Akiyama, C. (PI: Akiyama, C.) (2016-): Research on the proposal of a water environment management system scenario based on regional population and economic estimation. Grant-in-Aid for Young Scientists (B), JSPS, JPY 4,030,000.
- _____ (PI: Akiyama, C.) (2018): Research on spatiotemporal fluctuation of water pollution load in the Seto Inland Sea watershed area commissioned work. National Institute for Environmental Studies, JPY 996,000.
- _____ (PI: Akiyama, C.) (2018): Study on distribution of isolated dwelling and applicability of cross-border regional policies for isolated dwelling in Japan. Research Center for San-En-Nanshin Regional Collaboration, Aichi University, JPY 450,000.
- Matsui, K. (PI: Matsui, K.) (2015-): Theoretical and practical studies on the creation of World Heritage Sites in terms of commodification of the place. Grant-in Aid for Scientific Research (A), JSPS, JPY 5,460,000.
- _____ (PI: Matsui, K.) (2018-): Geographical study on utilization of places and sustainable development. Donation for Scientific Research, Research and Consulting Regional Science Co. Ltd, JPY 1,000,000.
- Kubo, T. (PI: Kubo, T.) (2018): Equity planning in Chicago to overcome income and spatial polarization. Middle to Short-Term Overseas Dispatch Program FY2019, University of Tsukuba, JPY 1,000,000.
- _____ (PI: Kubo, T.) (2018-): International comparative study on expansion of empty space in urban areas and the gap in residential environment. Grant-in-Aid for Early-Career Scientists, JSPS, JPY 4,160,000.
- _____ (PI: Kubo, T.) (2018-2019): A comparative study on the expansion of decline in residential environment in Chicago and Japanese cities. Fulbright Japan 2018-2019 Scholarship (Researchers), Flight tickets, JPY 100,000, and USD 33,780.
- _____ (PI: Yui, Y.) (2015-2019): Geographical con-

tribution for solutions of vacant housing problems in population decreasing urban areas. Grant-in-Aid for Scientific Research (B), JSPS. JPY 15,990,000.

Attendance at international meetings

Matsui, K. (2018, Aug.): Ann. Meeting of IGU Urban Commission in Univ. of Montreal.

Kubo, T. (2019, Apr.): Ann. Meeting of Urban Affairs Association at University of California at Los Angeles.

Others

Kubo, T. (2018, Oct.-2019, Sep.) Visiting researcher (Fulbright Faculty) at University of Illinois at Chicago.

_____ (2019, Sep. 25): Invited lecture at Tufts University.

Matsui, K. (2018, Apr.-Sep.): Special lecture on human geography in Toyo Univ.

_____ (2018, Apr.-Sep.): Special lecture on cultural geography in Rikkyo Univ.

_____ (2018, Apr.-Sep.): Special lecture on regional geography in Kyoritsu Women's Univ.

[b] Regional Geography

Research projects

Kureha, M. and Tsutsumi, J. (2015-2019): Tourism development of world heritage areas and commodification of local places, project with Matsui, K. (Univ. of Tsukuba), etc.

Kureha, M., Tsutsumi, J. and Yamashita, A. (2017-2019): Geographical studies on regional ecology in Ina City and the surrounding region.

Yamashita, A. (2015-2019): Study on Korean urban structure for revitalization of local cities in low development period, project with Kaneko, J. (Ehime Univ.).

_____ (2018-): Causes and future prediction of heat island phenomena of rapidly growing cities in developing countries, project with Murayama, Y. (Univ. of Tsukuba).

Research grants

Yamashita, A. (2017-2019): Building of governance for appropriate utilization and management of irrigation canals in urbanized area. Grant-in Aid for Scientific Research (C), JSPS, JPY 2,340,000.

Overseas fieldwork

Kureha, M. (2018, Jul.-Aug.): Tourism development of world heritage site and commodification of local place in Hallstatt (Austria), under JSPS grant.

_____ (2018, Sep.): Characteristics of trekking tourism in Tyrol, Austria (Support Program for Research Enhancement from the Mountain Science

Center).

_____ (2019, Feb.-Mar.): Development of inbound tourism in Tyrolean ski resorts, Austria (Research Support Program from the Univ. of Tsukuba).

Tsutsumi, J. (2018 Aug.-Sep.): Investigation of urban development in Melbourne and tourism development in Uluru-Kata Tjuta National Park, Australia, under JSPS grant.

_____ (2018, Nov.): Investigation of urban development in Chengdu and surrounding areas, China (Funded by Foundation for Australian Studies in China).

Yamashita, A. (2018, Jul.-Aug.): River restoration in Gwangju City, South Korea, under JSPS grant.

_____ (2018, Aug.): Urbanization and change of urban structure in several metropolitan areas in Sri Lanka, under JSPS grant.

_____ (2019, Feb.): Land use change in Gongju City, South Korea, under JSPS grant.

_____ (2019, Mar.): Water environment and water use system in Kuala Lumpur and Singapore, under JSPS grant.

Visited researchers

Dr. Jin Yushi from Qingdao University, Sep. 2017-Aug. 2018 (Host researcher: Kureha, M.).

Prof. Malek Bouhaouala from University of Grenoble Alpes, Feb. 2019 (Host researcher: Kureha, M.).

Others

Kureha, M. (2018): Special lecture on socioeconomic geography in Hosei Univ.

_____ (2018): Special lecture on region and tourism in the Open Air Univ. of Japan.

_____ (2018): Special lecture on regional geography of Europe in Rikkyo Univ.

_____ (2018): Special lecture on regional studies in Rikkyo Univ.

Tsutsumi, J. (2018): Geography A in Takasaki City University of Economics.

_____ (2018): Methodology of fieldwork in Takasaki City University of Economics.

_____ (2018): Regional geography A in Toyo University.

_____ (2018): Regional geography B in Toyo University.

_____ (2018): Human geography D in Ibaraki University.

[c] Spatial Information Science

Research projects

Kusaka, H. (2015-2019): SI-CAT project, Ministry of Education, Culture, Sports, Science and Technolo-

- gy (MEXT) in Japan. Development of evaluation technologies of sectoral impact and adaptation measures on climate change/ Development of models of thermal environment and health impact for assessment of adaptation measures.
- _____ (2014-2018): NEDO project, Research and development on adapting technology of power system to output fluctuation/ Wind power generation prediction, Control sophistication.
- _____ (2014-2018): SIP project, Ministry of Agriculture, Forestry and Fisheries in Japan. Creation of elucidation and risk information of occurrence realities of Foehn.
- _____ (2017-2019): RACP project, Ministry of Environment, Government of Japan. Research on evaluation technologies of heat stroke risk.
- _____ (2017-2019): JSPS KAKENHI, Estimation and Mechanism-Clarification of Trade-off in Urban Atmospheric Environment. (collaborated with Dr. N. Tsunematsu)
- _____ (2017-2019): JSPS KAKENHI, Research on Big Data Machine Learning Base to Open up Extreme Weather Forecast. (collaborated with Prof. O. Tatebe)
- _____ (2018-2020): JSPS KAKENHI, Form Factors and Future Prediction of Heat Island Phenomenon in Rapidly Growing Cities in Developing Countries (collaborated with Prof. Y. Murayama)
- Morimoto, T. (2018): Productivity and Land Use Change of Agriculture in the Mountainous Areas of Central Japan: Spatial Information Science and Field Observation.
- _____ (2018): Urbanization and land use/cover change in peri-urban zones in Tokyo Metropolitan Area.
- _____ (2018): Causes and future prediction of heat island phenomena of rapidly growing cities in developing countries, project under JSPS.
- Murayama, Y. (2018): Transformation of urban volume and ecosystem services in the mega-cities of Southeast Asia, project under JSPS.
- _____ (2018): Causes and future prediction of heat island phenomena of rapidly growing cities in developing countries, project under JSPS.
- _____ (2018): Development and application of next-generation analysis tool box of the space-time information, project under JSPS.
- _____ (2018): Publication and development of open-access e-learning material for GIS education, project under JSPS.
- Research grants*
- Kusaka, H. (2015-2019): Development of evaluation technologies of sectoral impact and adaptation measures on climate change/ Development of models of thermal environment and health impact for assessment of adaptation measures. Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan, Social Implementation Program on Climate Change Adaptation Technology (SI-CAT), JPY 3,273,000 (2018).
- _____ (2014-2018): Research and development on adapting technology of power system to output fluctuation/ Wind power generation prediction, Control sophistication. New Energy and Industrial Technology Development Organization (NEDO), JPY 34,782,000 (2018).
- _____ (2014-2018): Creation of elucidation and risk information of occurrence realities of Foehn. Ministry of Agriculture, Forestry and Fisheries in Japan, the Cross-ministerial Strategic Innovation Promotion Program (SIP), JPY 1,730,000 (2018).
- _____ (2017-2019): Research on evaluation technologies of heat stroke risk. Ministry of Environment, Government of Japan (RACP), JPY 4,860,000 (2018).
- _____ (2017-2019): Estimation and Mechanism-Clarification of Trade-off in Urban Atmospheric Environment. (JSPS KAKENHI) JPY 270,000 (2018).
- _____ (2017-2019): Research on Big Data Machine Learning Base to Open up Extreme Weather Forecast. (JSPS KAKENHI) JPY 300,000 (2018).
- _____ (2017-2019): Form Factors and Future Prediction of Heat Island Phenomenon in Rapidly Growing Cities in Developing Countries (JSPS KAKENHI) JPY 1,000,000 (2018).
- Morimoto, T. (2018-2020): Causes and future prediction of heat island phenomena of rapidly growing cities in developing countries. Grant-in-Aid for Scientific Research B, JSPS, JPY 1,000,000. (Representative: Murayama, Y.).
- Murayama, Y. (2018-2020): Causes and future prediction of heat island phenomena of rapidly growing cities in developing countries. Grant-in-Aid for Scientific Research B, JSPS, JPY 17,160,000.
- _____ (2016-2018): Transformation of Urban volume and ecosystem services in the mega-cities of Southeast Asia. Grant-in-Aid for Challenging Exploratory Research, JSPS, JPY 3,380,000.
- _____ (2018): Development and application of next-generation analysis tool box of the space-time

information. Grant-in-Aid for Scientific Research A, JSPS, JPY 100,000 (Representative: Asami, Y.).

Overseas fieldwork

Morimoto, T. (2018, Aug.): Study on urban heat island and land use change, Sri Lanka, under JSPS grant.

Murayama, Y. (2018, Aug.): Study on urban heat island and land use change, Sri Lanka, under JSPS grant.

Attendance at international meetings

Murayama, Y. (2018, Dec.): The 4th Asian Conference on Geography. Asian Geographical Association, Guangzhou, China.

[d] Hydrologic Sciences

Research projects

Asanuma, J. and Aida, K. (2014-): Hydro-Meteorological studies with Multi-satellite sensors and Multidimensional approaches at Mongolian Grassland (Hydro4m, JAXA G-COM Research Announcement).

Tsujimura, M. (2015-): Spatial and Temporal Variation of Residence Time in Groundwater and Spring Water in Headwater Catchments Underlain by Different Lithology.

_____ (2016-): Application Microbe Information to Groundwater Flow System Research.

Yamanaka, T. (2018-2019): Long-term Isotope Monitoring for Precipitation and River Water in the Japan Alps Region (Mountain Study Center Project).

Research grants

Asanuma, J. and Aida, K. (2017-2018): Reconstructing Validation System of Satellite Soil Moisture Products (JAXA G-COM Research Announcement).

_____ (2016-2018): Validating measurements of surface soil moisture from satellite images, cooperative research with NEC.

Sugita, M. (2015-2020): Grant-in-Aid for Scientific Research (C) of the Japan Society for the Promotion of Science.

Tsujimura, M. (2016-2019): Evaluation of Groundwater Residence Time Using Multi Tracers and Numerical Simulation Approaches in Headwater Catchments. Grant-in-Aid for Scientific Research (B) of the Japan Society for the Promotion of Science.

_____ (2017-2019): Evaluation of Water Resources in Mountainous Catchments Focusing on Residence Time and Microbe. Suntory Global Innovation Center Limited.

_____ (2017-2018): International Comparison Research on Residence Time and Storage of Groundwater using Isotope and Gas. Bi-lateral Joint Research Projects, Japan Society for the Promotion of

Science.

Yamanaka, T. (2015-2019): Improving evaluation of water balance at mountainous catchments with combined use of isotopic tracers and numerical models. Grant-in-Aid for Scientific Research (B) of the Japan Society for the Promotion of Science.

Overseas fieldwork

Asanuma, J. and Aida, K. (2018, Sep.): Field investigation and instruments maintenance at Semi-arid grassland in Mongolia (under JAXA G-COM Research Announcement).

Attendance at international meetings

Asanuma, J. (2019, Jan.): The Joint PI Meeting of JAXA Earth Observation Missions, 2019/1/21-25, Tokyo Japan

Visited researchers

Mr. Youssef Mohammed Youssef from Suez University, Oct. 2018- (Host researcher: Sugita, M.).

Others

Sugita, M.: Hosted two students from Delft University of Technology under the Tsukuba Short-term Study Program in Geoenvironmental Sciences, Apr. 25 –Jun. 19.

[e] Atmospheric Science

Research projects

Tanaka, H. L. (2007-): Joint study of NICAM (AORI, the University of Tokyo).

_____ (2009-): Normal mode of the atmosphere (University of Ljubljana).

_____ (2013-): Volcanic ash prediction by PUFF model (SATREPS, Kyoto University).

_____ (2018-): Analysis of Atmospheric Blocking (University of Missouri-Columbia).

Ueda, H. (2017-): Joint study of MRI-CGCM (Japan Meteorological Agency).

Ueno, K. (2017-): Joint study of PMM 8thRA (JAXA).

Research grants

Tanaka, H. (2017-2019): The theory of Rossby wave breaking and saturation for geostrophic turbulence. Grant-in-Aid for Scientific Research (C), JSPS, JPY 4,420,000.

Ueda, H. (2017-2019): Grant-in-Aid for Scientific Research (C) of the Japan Society for the Promotion of Science.

_____ (2017): Global and local air-sea interaction over the Okhotsk Sea, Institute of Low Temperature Science, Hokkaido University.

Ueno, K. (2018): Joint study of JAXA PMM 8thRA, (PI by K. Ueno) JPY 627,000.

_____ (2018): International Fellowships for Re-

search in Japan by JSPS, (PI by K. Ueno).

Matsueda, M. (2016-2019): Predictability of weather regime-related atmospheric phenomena. Grant-in-Aid for Young Scientists (B), JSPS, JPY 3,510,000.

_____ (2015-2020): Arctic Challenge for Sustainability (ArCS), MEXT, JPY 25,000,000.

Harada, M. (2016-2019): Grant-in-Aid for JSPS Fellows, JSPS, JPY 3,250,000.

Attendance at international meetings

Ueda, H. (2018, May): International JpGU-AGU joint meeting. Makuhari, Japan.

_____ (2019, Feb.): International Symposium on the Okhotsk Sea & Polar Oceans. Monbetsu, Japan

Ueno, K. (2018, May): JpGU annual meeting. Makuhari, Japan.

_____ (2018, Sep.): 8th Third Pole Environment Workshop. Gothenburg, Sweden.

_____ (2019, Jan.): International workshop on cryosphere and water cycle observation-modeling integration over third pole. Beijing, China.

Visited researchers

Dr. M. Price (Univ. of Perth, UK), Mountain science and Eco-park in Japan, March, 2018 (Host researcher: Ueno, K.).

Others

Maesaki, K. and Ueda, H. (2019, Feb.): The Aota medal for students in the 34th International Symposium on the Okhotsk Sea & Polar Oceans, Monbetsu, Japan

Kusunoki, K. and Ueno, K. (2018, Dec.): An award of best poster for students in the fourth domestic workshop of mountain sciences, Matsumoto.

[f] Geomorphology

Research projects

Hattanji, T. (2009-): Estimating long-term chemical weathering rate in granitic areas of Japan using cosmogenic radio nuclides and geochemical analysis, project with Matsushi, Y. (Kyoto Univ.)

_____ (2016-): Improving prediction models for shallow landslides based on channel-head mapping using LiDAR DEMs, project with Tanaka, Y. (Komazawa Univ.), Doshida, S. (National Research Institute of Fire and Disaster) and Furuichi, T. (Hokkaido Univ.)

_____ (2017-): Interaction of weathering, water erosion and landsliding in the Yahata Okuzure, Hokkaido, project with Parkner, T. (Univ. of Tsukuba).

Ikeda, A. (2008-): Permafrost monitoring on Mt. Fuji, project with Iwahana, G. (IARC-UAF), Imaizumi,

F. (Shizuoka Univ.).

_____ (2017-): Geomorphological study on moor, grassland and shrub in a subalpine zone on heavily snow-covered mountains.

Matsuoka, N. (2004-): Arctic periglacial geomorphology, international project with Christiansen, H. H. (Univ. Centre in Svalbard, Norway), Humlum, O. (Univ. of Oslo, Norway) and Watanabe, T. (Kitami I.T.)

_____ (2017-): Multi-method approach to modelling erosion of high-relief mountains, international project with Stoffel, M., Ballesteros, J. (Univ. of Geneva), Imaizumi, F. (Shizuoka Univ.), Matsushi, Y. (Kyoto Univ.), Kariya, Y. (Senshu Univ.), Nishii, R. (Niigata Univ.) and Ikeda, A. (Univ. of Tsukuba)

Parkner, T. (2014-): Gully erosion on unstable hillslopes in the East Coast Region, North Island, New Zealand.

_____ (2013-): Evaluation of class response systems in G30 lectures, project with Pietzner, V. (Univ. of Oldenburg, Germany).

_____ (2017-): Interaction of weathering, water erosion and landsliding in the Yahata Okuzure, Hokkaido, project with Hattanji, T. (Univ. of Tsukuba)

Sekiguchi, T. (2007-): Self-organization of 3D-patterned bedforms under complex oscillatory flow.

_____ (2010-): Study on ripple transition under unsteady oscillatory flows.

_____ (2013-): An experiment on sedimentary process of onshore tsunami deposit, project with Yamaguchi, N. (Ibaraki Univ.)

Research grants

Hattanji, T. (2018): Improving prediction models for shallow landslides based on channel-head mapping using LiDAR DEMs. Grant-in-Aid for Scientific Research (C), JSPS, JPY 800,000.

Ikeda, A. (2018): Geomorphic history of glacial and periglacial environments on the Japanese Alps: An estimation using digital elevation data and present conditions. Grant-in-Aid for Scientific Research (C), JSPS, JPY 500,000.

Matsuoka, N. and Ikeda, A. (2018): Multi-method approach to modelling erosion of high-relief mountains, JSPS, JPY 2,100,000.

_____ (2018): Developing evaluation methods of long-term debris flow risks, based on the prediction of source area, JSPS, JPY 200,000.

Overseas fieldwork

Matsuoka, N. and Ikeda, A. (2018, Jul.-Aug.): Perigla-

cial observations in the Swiss Alps, toward systematic understanding of mountain landform dynamics (under JSPS grant).

Matsuoka, N. (2018, Aug.): Landscape dynamics of polar permafrost in Svalbard (under CryoJaNo project).

Attendance at international meetings

Hattanji, T. (2018, Dec.): American Geophysical Union Fall Meeting, Washington D.C., USA.

Visited Researchers

Prof. Ranjan Kumar Dahal, (Tribhuvan Univ., Nepal), 2nd-4th Jul., 2018.

Prof. Markus Stoffel and Dr. Juan Ballesteros (Univ. of Geneva, Switzerland), 20th Sep.-1st Oct. 2018.

NSF: National Science Foundation

RIHN: Research Institute for Humanity and Nature

TERC: Terrestrial Environment Research Center, University of Tsukuba

TRMM: Tropical Rainfall Measuring Mission

UAF: University of Alaska, Fairbanks

WERC: Water and Environmental Research Center

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNESCO-IHP: International Hydrological Programme for UNESCO

[Symbol]

† Students, research assistants, researchers and fellows belonging to the research group

[Acronyms]

ACCU: Asia/Pacific Cultural Centre for UNESCO

AGU: American Geophysical Union

CAMP: CEOP Asia-Australia Monsoon Project

CAS: Chinese Academy of Sciences

CEOP: Coordinated Enhanced Observation Period

CliC: Climate and Cryosphere

CREST: Core Research for Evolutional Science and Technology

EGU: European Geosciences Union

GCCA: Global Change: Connection to the Arctic

GEWEX: Global Energy and Water Cycle Experiment

GEOSS: Global Earth Observation System of Systems

GI: Geophysical Institute

GISA: GIS Association in Japan

IARC: International Arctic Research Center

IPCC: Intergovernmental Panel on Climate Change

IPY: International Polar Year

IGU: International Geographical Union

JAXA: Japan Aerospace Exploration Agency

JICA: Japan International Cooperation Agency

JSPS: Japan Society for the Promotion of Science

JST: Japan Science and Technology Agency

KAGIS: Korean Association of Geographic Information Studies

MAHASRI: Monsoon Asia Hydro-Atmosphere Scientific Research and Prediction Initiative

MAS: Mongolian Academy of Sciences

MEXT: The Ministry of Education, Culture, Sports, Science and Technology of Japan

MHLW: Ministry of Health, Labour and Welfare

MRI: Meteorological Research Institute (Japan)

Activity Report for Academic Exchange and Cooperation between University of Tsukuba, Japan and University of Alaska Fairbanks, U.S.A.

An agreement for Academic Exchange and Cooperation has been established on 11 January, 2000 between the Institute of Geoscience, the Doctoral Program in Geoscience of the University of Tsukuba, Japan and the International Arctic Research Center (IARC), the Geophysical Institute (GI) of the University of Alaska Fairbanks (UAF), U.S.A. (see the Annual Report, 2000). The agreement was successfully extended in 2005 for the five years (from 2005 to 2009), in 2009 for the next five years (from 2010 to 2014) and in 2015 for the next five years (from 2015 to 2019) under the new contract names of the Graduate School of Life and Environmental Sciences, the Center for Computational Sciences (CCS) of the University of Tsukuba, Japan. The agreement includes (1) exchange of professors and research scholars, (2) exchange of graduate students, (3) collaborative research and joint academic meetings, and (4) exchange of scientific documents, publications, and information. The agreement will be effective for a period of five years, and may be renewed for another period by mutual agreement.

Dr. Syun-Ichi Akasofu of IARC published a joint paper with Dr. Hiroshi L. Tanaka in TGS on a subject of the importance of natural component on climate change. In this paper the recent global warming with a linear trend of 0.7 deg/100 year is largely explained by a natural change as a retuning from the Little Ice Age before 1800. Since the conclusion contradicts with the IPCC report, but agrees with the present halting of the warming after 2000, the joint paper would be a milestone for the global warming study in near future.

- (1) Exchange of Researchers: None.
- (2) Exchange of Graduate Students: None.
- (3) Collaborative Research: Research on Arctic Oscillation, PI: H.L. Tanaka (Univ. of Tsukuba).
- (4) Exchange of scientific documents:
 - Tsukuba Geo-environmental Science, Vol.12, 2017, Univ. of Tsukuba.
 - Geophysical Institute Biennial Report, 2018, Univ. of Alaska.
 - Geophysical Institute Quarterly, 2018 Univ. of Alaska.

