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Welcome Party for GSGES New Students

(April 4, 2019)

By Kayo Ueda, Associate Professor, GSGES

On April 4, 2019, more than 100 new students, current students, and faculty members joined the Graduate School of Global Environmental Studies welcome party at the Hokubu restaurant to celebrate the start of the new academic year. After Professor Funakawa (Dean of GSGES) gave his welcome speech, new students together with other members of each laboratory introduced themselves standing on chairs set up in a row. At the end of the party, Professor Fujii (former Dean) called for "Ipponjime", a Japanese ending ceremony, and everyone clapped their hands together. We all had a wonderful time.

2019年4月4日に北部食堂にて、京都大学地球環境学堂の2019年度新入生歓迎会が開かれ100

名以上が参加しました。舟川地球環境学堂長からの 挨拶のあとに、ステージに見立てて並べた椅子の上 に乗って、研究室ごとに新入生と他のメンバーが自 己紹介をしました。歓迎会の終わりには、藤井教授 が音頭をとり、皆で一本締めをしてお開きとなりました。



Introduction of Each Laboratory in Welcome Party 2019

Study Plan Presentations for GSGES Spring Semester Course

(April 16, 2019)

By Wen Liu, Assistant Professor, GSGES

Since 2013, the Graduate School of Global Environmental Studies (Kyoto University) invites graduate students from Southeast Asian universities to join a Spring Semester Course to study at Kyoto University. This course is supported by the "Project for the Creation of Trans-ASEAN Environmental and Social Innovators through Development of Oversea Satellites". In 2019, 8 graduate students from Indonesia (2 from IPB University, 1 from Universitas Indonesia, 2 from Institut Teknologi Bandung), Vietnam (1 from Hanoi University of Science and Technology, 1 from Hue University of Sciences), and Thailand (1 from

Mahidol University) were participating in the course.

On April 16 (Tue), the 8 students introduced themselves and presented their study plans to staff and students at GSGES. Their presentations illustrated their willingness to have a meaningful time studying at Kyoto University. During the spring semester, they can take classes (including compulsory courses) offered by GSGES. All students were assigned to a supervisor according to their study field and interests (see table below). After the presentations, the course students, faculty, and GSGES students joined welcome party and enjoyed talking about their study and culture.

Study Plan Presentation of the 2019 Spring Semester Course

Name (Univ.)	Supervisor	Presentation title
Ieda Savitri (UI)	Akihisa Mori	Bio-energy Policy in Indonesia and around the World
Prihatmaja Hangga (IPB)	Makoto Usami	Self-introduction and Research Plan on Positive Deviance of Tanjung Puting National Park Manager
Dwiyanti Izza Evita (ITB)	Shozo Shibata	Identifying Habitat Patches and Potential Wildlife Corridor at Urban Area from Bandung Zoo to Djuanda Forest Park along Cikapundung River Side
Vu Thuy Ngoc (HUST)	Shigeo Fujii	Removal of Ammonium in Wastewater Using Biochar Derived from Agriculture Wastes
Tran Ngoc Khanh Ni (HUS)	Izuru Saizen	Remote-sensed Mapping of Submerged Aquatic Vegetation Distribution in Khanh Hoa Province, Vietnam
Inthapat Pimonpan (MU)	Eiji Nawata	Utilization of By-product of Bio-energy Generation in Japan
Ika Nur Fariha (ITB)	Hideaki Miyashita	Self-introduction and Research Plan on Isolation and Characterization of Fast- growing Microalgae from Marine Environment
Addharu Eri (IPB)	Shinya Funakawa (Hitoshi Shinjo)	Land Suitability Mapping for Pepper (<i>Piper nigrum</i> L) Production in Lampung Province, Indonesia

Visit to Lake Biwa Canal and Related Facilities by Special Audit Students (May 3, 2019)

By Shigeo Fujii, Professor, GSGES

Eight special audit students and 4 other international students visited Lake Biwa Canal and related facilities on May 3, 2019 under the guidance of Prof. Shigeo Fujii and Dr. Wen Liu. The places they visited were Lake Biwa Canal Museum, Keage Water Purification Plant, Keage Hydraulic Power Generation Plant, and Nanzenji Temple. The students learned many things about water management in Kyoto and enjoyed the azalea blossoms.

平成31年度「蹴上のつつじ」蹴上浄水場一般公開の機会を利用して、蹴上・南禅寺周辺の環境関連施設見学会を2019年5月3日に実施しました。見学会は、藤井滋穂教授、劉文助教の引率のもと、4月に来日した地球環境学舎の特別聴講生8名、博士課程学生1名、修士課程学生2名、研究生1名の12名(全員留学生で、内訳はインドネシア6名、タイ3名、ベトナム2名、カンボジア1名)が参加しました。

一行は、まず琵琶湖疏水記念館に集合し、館内で琵琶湖疏水沿線の紹介パネルを見学、また多目的室で琵琶湖疎水建設に関する映像を鑑賞し、疏水建設にまつわる人々の情熱や苦難に満ちた歴史を学びました。その後、インクラインにそって蹴上浄水場へ移動し、館内の浄水場施設説明ブースの見学、顕微鏡観察などを体験しました。屋外ではろ過池や凝集沈殿池の運転状況を見学するとともに、浄水場の敷地一面で開花したツツジを堪能しました。

浄水場の見学の後は、琵琶湖第一疏水、第二 疏水のトンネル出口を訪問し、琵琶湖から来る水を 実際に目にするとともに、その周辺にある水力発電 施設や記念碑を観察しました。琵琶湖疏水記念館 内で学習した琵琶湖疏水の役割と関連施設を直接 見学することができ、有意義な半日を過ごすことがで きました。



Visit to Keage Water Purification Plant



Azalea Blossom in Keage Water Purification Plant



Group Photo in front of Lake Biwa Cannel II

Helping Educators Teach about Climate Change

(May 6, 2019)

By Jane Singer, Associate Professor, GSGES

Climate change is one of this century's greatest challenges, yet little is being done today to ensure that young people, whose lives will be impacted most, can gain the knowledge and awareness needed to make lifestyle choices and take actions to help mitigate the risks. Teachers in primary and secondary schools may want to include climate change in their curriculum, but pressure to teach other subjects, lack of curricula and lack of administrative support has inhibited implementation of climate change education in Japan.

Students and faculty in the Environmental Education Laboratory decided to help improve climate change education by introducing Japanese teachers and teacher trainees to fun and compelling activities, content and resources. The Climate Change Education Workshop was held at the Graduate School of Global Environmental Studies building on Monday, May 6, 2019 as part of Kyoto University's IPCC Weeks campaign, with sponsorship from GSGES and support from the Graduate School of Education.

The afternoon workshop attracted 49 participants, including teachers from the Kansai region as well as participants from Tokyo and from the Ministry of Environment. After introductory lectures on climate change causes and impacts by Associate Professor Jane Singer and on climate change education by Senior

Lecturer Roger Baars, the participants divided into primary and secondary school groups led by GSGES students. Each member played the role of a school student in order experience two types of climate change educational exercises, such as hazard mapping, climate zone identification and role playing. They then reflected on how the exercises could be incorporated into their teaching. A final discussion was held to share ideas on improving application of practical classroom climate change learning.

In a final event survey all of the participants agreed

that the contents of the workshop were helpful for their teaching, and they provided suggestions on other environmental education events that they would like to join in the future. As a follow-up, the Environmental Education Laboratory sent each participant a digital Resource Kit of appropriate websites, materials and learning content in both Japanese and English that can also be provided to other interested educators. This can help to promote the graduate school as well as facilitate effective climate change education in Japan and abroad.



Primary and Secondary School Teachers Practice Implementing Interactive Climate Change Learning Activities.

The 34th Global Environmental Forum: Community-based Sediment Disaster Management, History to Now (May 25, 2019)

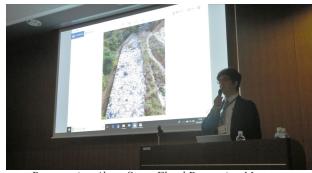
By Chiho Ochiai, Associate Professor, GSGES

On May 25, 2019, GSGES hosted the 34th Global Environmental Forum entitled "Community-based sediment disaster management, history to now." Three speakers presented their research outcomes and future possibilities for of collaboration. They also addressed the issues of disaster management from three different perspectives: history, sabo science and sociology.

地球環境学堂は、2019年5月25日(土)に、第34回京都大学地球環境フォーラム『住民参加の土砂災害対策 歴史から現代へ』を、京都大学北部総合教育研究棟1階 益川ホールにて開催しました。参加者は約45名となりました。近年、水害や土砂災害などが頻発していますが、かつて人々は自らの地域を守るため、地域の風土や地域特性を生かし対策をしてきました。

本フォーラムでは、総合地球環境学研究所のEco-DRRプロジェクトにて共同研究を進めている3名の研究者が、滋賀県比良山麓を対象として実施している研究調査の取り組みについて、講演・議論を行いました。大津市歴史博物館の高橋大樹さんは、滋賀県湖西地域に残る百間堤に着目し、江戸時代の災害と防災をめぐる地域住民の生活史についてご講演をいただきました。京都大学大学院地球環境学堂の落合知帆さんからは、伝統的な水害・土砂災害対策として現在も地域に残るシシ垣・堤についてご紹介いただきました。京都市府立大学の三好岩生さんからは、大津市守山地区で実施している土砂災害危険地域における地域住民が主体的に行う災害

対策や、住民主導の地区防災計画的利用の可能性について、その具体的な取り組みや特性について実践の成果を共有頂きました。質疑応答では、歴史的な構造物の現代における役割や防災対策としての可能性、災害が頻発する現代において今後どのように備えていくべきなのかについて活発な議論が行われました。



Presentation About Stone Flood Prevention Measure



Discussion Session in Global Environmental Forum

Symposium on Development of Measures for Expansion Prevention and Effective Reduction of Invasive Alien Species *Ludwigia grandiflora* subsp. *hexapetala* on Lake Biwa Shore

(May 26, 2019)

By Shuhei Tanaka, Associate Professor, GSGES

The Symposium on Development of Measures for Expansion Prevention and Effective Reduction of Invasive Alien Species *Ludwigia grandiflora* subsp. *hexapetala* on Lake Biwa Shore was carried out at the Masukawa Hall, Kyoto Univesiry on May 26, 2019. This research project is supported by the environmental research and technology development fund FY2018-2020.

2019年5月26日13:30~15:30に京都大学の益川ホールで「琵琶湖岸に侵入した特定外来種オオバナミズキンバイの拡大予測と効率的防除に関するシンポジウム」(主催:京都大学地球環境学堂)が開催されました。

琵琶湖岸にオオバナミズキンバイが侵入してから 10 年がたちます。2009 年に琵琶湖に侵入し、瞬く間に琵琶湖岸で 2 番目に優占する植物となりました。これに対応するため 2018 年に始まった環境研究総合推進費 (4-1801)「特定外来種オオバナミズキンバイの拡大防止策と効果的防除手法の開発」では、琵琶湖岸にてオオバナミズキンバイが繁茂する場所をおおよそ推定することが可能となりました(京大田中ら)。また、水鳥の糞からオオバナミズキンバイの種子が発見されました。これは世界で初めての発見

となりました (滋賀県立大野間ら)。さらに、刈り取った後のオオバナミズキンバイを短時間で減容化できる技術の開発状況についても、分かりやすく報告いただきました (日本ミクニヤ株式会社徳岡ら)。

環境省、国土交通省、国立環境研究所、滋賀県など、実際の駆除活動を行っている方々に加えて、一般のみなさまも多数ご参加いただき、熱心なディスカッションが展開されました。また、会場では、オオバナミズキンバイのポテンシャルハビタットマップの冊子が配布され、琵琶湖岸55か所のオオバナミズキンバイの詳細な侵入予想図を、広く多くの方々に周知することができました。



Symposium on Invasive Alien Species

Field Study at Tango Peninsula: Seminar in Environmental Management (June 3-8, 2019)

By Atsushi Takai, Associate Professor, GSGES

This years's field study took place during June 3-8, as part of the environmental management seminar. The trip facilitates students learning about ecosystems and landscapes and helps them to practice field investigation methods in a rich natural environment while staying under the same roof. The field study was held in June to avoid the severe summer heat students experienced in the previous years. As usual, the field study was held at Kamiseya on the Tango Peninsula, where we carried out five types of field surveys on the topics of soil, plant taxonomy, riverine and paddy fields, forests, and local communities. A total of 47 students (22 males and 25 females) attended the trip. 15 professors, 20 teaching assistants and 1 administrative staff went to the trip to supported the field study. In addition, five locals gave lectures on various topics.

DAY 1: After leaving the university in the morning, students joined community activities with local villagers and attended lectures about Washi (traditional

paper making) and Fuji-ori (traditional weaving) - two activities which the livelihood of the village is based on. Students learned how the villagers use local resources in a sustainable manner to support themselves.

DAY 2: Students took part in a soil survey led by



Lecture about Washi at Tango Field Study

Prof. Funakawa and Dr. Shinjo. They dug in the soil and described the soil profile in accordance with standard soil survey methods. They also attended a lecture on agriculture in the Tango region at the Tango Agricultural Research Institute.

DAY 3: In the morning, students took part in a field study on Satoyama landscapes and other activities led by Dr. Fukamachi, Prof. Saizen and Dr. Onitsuka. During these activities, students learned how people in marginal villages maintain their living environments. In the afternoon, students took part in a plant taxonomy survey, led by Prof. Setoguchi and Dr. Sakaguchi. They attended a field lecture near the accommodation on plant morphology, botanical terms and various other aspects of plant science. After the survey, they had a quick test on the names of different tree species.

DAY 4: Students took part in a survey of the riverine and paddy environments, led by Prof. Fujii, Dr. Nishikawa and Dr. Harada. In the riverine survey, they investigated stream flow conditions and water quality. In the paddy field survey, they examined species diversity, developmental stages and the stomach contents of small vertebrates (frogs). They also discussed the water environment and biological characteristics, and then presented them by student groups, based on their survey results.



Paddy field in Kamiseya village at Tango Field Study

DAY 5: Students took part in a forest survey led by Prof. Kajii, Dr. Sakamoto and Dr. Nukina. They conducted a tree census and a vegetation survey and observed CO₂ absorption of plants. They learned basic forest survey techniques and expanded their knowledge on forest structure and forest management through a series of group presentations. At night, everyone attended a BBQ party and an after-party to have an enjoyable time and deepen new friendships made during this field study.



Survey at Forest at Tango Field Study

DAY 6: After cleaning up, students left the accommodation and visited Ine no Funaya (a beautiful fisherman village in Ine-cho), a preservation area designated by the Japanese government. Here, students learned from a local lecturer about historic lifestyles close to the sea, which are still practiced today. After having lunch, students returned to Kyoto University in the evening.

Although this year's field study was moved to June, which was a big challenge for everyone involved, we were able to complete the field study without any serious problems, thanks to the cooperation of all participants (including Prof. Sato, responsible for this field study). All staff, professors and TAs were glad to hear that many of the students felt that this field study had been a great opportunity to gain a deeper understanding of natural ecosystems and their management, and to learn about Japanese sustainable culture in the countryside. It was also very nice to hear that students could make new friends during this study tour and strengthened their bonds. I hope that this experience will provide a good foundation for students' activities in the future.



Group Photo in front of Shiogiri-so (the Accommodation)

Welcome Party for Internship Students from Chemical Engineering, Mahidol University (June 3, 2019)

By Shigeo Fujii, Professor, GSGES

Since 2015, the Environmental Engineering Course at the Faculty of Engineering receives internship students from Chemical Engineering, Mahidol University. Prof. Shigeo FUJII, GSGES, coordinated this program in 2018 and 2019. This year, the program ran from June 2 until July 31, and a welcome party for 5 students from Mahidol University was held on June 3. A total of 36 professors and students from both GSGES and the GS of Engineering participated in the event.

The party started with an opening address from Prof. Fujii, followed by a toast from Prof. Itoh, Chair of the Environmental Engineering Course. During the party, Mahidol students introduced themselves and expressed enthusiasm for the internship program in Japan. They also enjoyed Japanese traditional food and talking with other participants. We were able to deepen our friendship through the party.

京都大学工学部地球工学科環境工学コースでは、2015年度よりから毎年、6月から7月マヒドン大学化学工学科3年生3~5名の短期研修を引き受けていますが、そのコーディネーターを地球環境学堂の藤井滋穂教授が2018年度から務めています。2019年度は5名が来日し、その歓迎会が2019年6月3日に開催されました。工学研究科主催の歓迎会には、地球環境学堂も協力し、インターンシップ学生5名のほか、地球環境学舎学生、工学研究科学生、教員など36名が出席しました。

藤井教授の歓迎挨拶の後、工学研究科都市衛

生工学分野の伊藤教授による乾杯の音頭を皮切りに、懇親会が始まりました。続いて研修生5名の自己紹介が行われ、各々が本プログラムや日本での生活における意気込み・目標などを述べ、教員や学生などの参加者もそれぞれの研究テーマを紹介し、歓迎の言葉を述べました。研修生は、鯛の塩釜焼きや鱧の梅肉添え、天ぷらなどの初めての日本料理に親しみつつ、歓談などを通して懇親を深めました。最後に集合写真を撮影し、歓迎会は終了しました。



Self-introduction by a Mahidol University Student



Group Photo of the Participants at the Welcome Party

Study Tour to Facilitate a Better Understanding of the Aquatic Environments around Lake Biwa, Spring Semester Course

(June 6, 2019)

By Wen Liu, Assistant Professor, GSGES

On June 6 (Thu), the Spring Semester Course students joined a study tour together with other students from GSGES. They visited the Research Center of Biwa Lake Environmental Sciences (Otsu City, Shiga Prefecture) in the morning, studied the history of the water quality and other issues and efforts that were implemented to improve the natural and fishery environments of the lake. In the afternoon, the students visited Lake Biwa Museum and took a special microscopy lesson provided by Dr. Otsuka (senior curator of the museum). During the lesson, students were able to observe living plankton in the lake water sample. Before returning to Kyoto, the students also paid a visit to a local market near the museum and bought some fresh agricultural products.

琵琶湖環境科学研究センター(滋賀県大津市)および琵琶湖博物館(滋賀県草津市)で研修を実施しました。西前出教授、劉文助教、時任美乃理研究員および TA の 2 名の引率のもと、この 4 月に来日し地球環境学舎で学ぶ特別聴講生 8 名、修士課程の留学生 3 名、ボゴール農業大学(インドネシア)からのダブルディグリー生 1 名、研究生 2 名と工学部地球工学科環境コースでインターンシップ中(6/3-7/31)のマヒドン大学(タイ)化学工学科3年生 5 名、の計 24 名が参加しました。

6月6日の早朝に時計台に集合し、バスで滋賀県へと向かいました。初めて琵琶湖を見ることとなった学生も多く、バスから見る壮大な日本最大の湖とその沿岸地域の街並みに大いに関心を寄せていました。

最初に訪れた琵琶湖環境科学研究センターは、 琵琶湖の大気質や水質をモニタリングするミッション に加えて、生態系の解明・改善に向けて様々な研 究が行われている滋賀県の研究施設です。まず、 当センター総合解析部門の早川副部門長から琵琶 湖の水質変化の歴史とその社会背景から、近年の 課題と具体的な取組や対策を紹介していただきまし た。その後、同部門の佐藤主任研究員から近年、 琵琶湖の漁業環境改善に大きな期待が寄せられて いるシミュレーションモデルについて紹介いただき、 琵琶湖の複雑な生態系の仕組みについてお話をい ただきました。難しい専門的な話も含まれましたが、 学生たちは真剣に耳を傾け、質疑の時間には、多く の質問があり、闊達な議論が行われました。講義終 了後、当センターのモニタリング部門および総合分 析部門の研究施設を見学しました。



Lesson at the Research Center of Biwa Lake Environmental Sciences

その後、道の駅・琵琶湖大橋米プラザで琵琶湖の風景を眺めながら昼食を取り、琵琶湖博物館へと向かいました。琵琶湖博物館は、湖をテーマにした博物館としては日本で最大の規模を誇り、淡水専門の水族館を含め、多彩な展示があります。まず、大塚総括学芸員から「琵琶湖の富栄養化とその対策」の講義がありました。午前の講義で学んだ琵琶湖の水質知識が生かされ、大塚学芸員の講義内容を深

く理解することができました。講義の後、琵琶湖でプランクトン(アオコや赤潮の原因ともなりうる)を実際にサンプリングし、グループワークとして顕微鏡観察会を行いました。様々な形をしているプランクトンを目にして、学生たちは大いに関心を持って興味深く取り組み、講義で得た琵琶湖の水環境の内容を実体験としても得られる貴重な研修となりました。



Plankton Sampling at Lake Biwa (Instructed by Dr. Otsuka)

その後、学生たちは博物館にて地質・文化・生物等の異なるテーマの展示等を、閉館するまで見学しました。多くの知見を得ることのできた盛りだくさんの研修となり、非常に有意義な一日となりました。最後は、道の駅・草津グリーンプラザで現地の農家産の新鮮な野菜を手に入れ、帰学しました。



Group Photo of the Tour Members near Lake Biwa

Award Received: Successful Application for the Grand Challenges Explorations Award in Global Health and Development

(June 11, 2019)

By Hidenori Harada, Assistant Professor, GSGES

On the 11th June 2019, a Kyoto University scientist was announced as a winner of the Grand Challenges Explorations award, an initiative funded by the Bill & Melinda Gates Foundation. Dr Hidenori Harada will pursue an innovative global health and development research project entitled: "Transforming fecal sludge emptying business".

Grand Challenges Explorations (GCE) awards support innovative thinkers worldwide to explore new ideas that can break the mold in how help to solve persistent global health and development challenges. Dr Harada's project is one of 59 Grand Challenges Explorations Round 22 grants out of over 1900 applications, announced by the Bill & Melinda Gates

Foundation.

In his project, Dr Harada will develop an emptierand customer-friendly fecal sludge emptying system with IoT (Internet-of-Things) features. Proper utilization of onsite sanitation currently available to 2.8 billion people is needed to achieve the United Nations' SDG6 sanitation target. However, fecal sludge accumulated by onsite sanitation is often informally emptied, illegally discharged, and inappropriately dumped into the open environment. Ongoing emptying business frameworks cannot alone solve these persistent problems. Dr Harada will test his system to ensure that emptiers create emptying demand themselves, onsite sanitation facilities are properly monitored, emptying is scheduled, and transport of sludge is safely tracked. This system is expected to transform the emptying business model from request-based passive emptying to demand-creating active emptying.

地球環境学堂の原田英典助教がビル&メリンダ・ゲイツ財団の Grand Challenges Explorations (GCE) アワードを受賞しました。グローバルな健康と開発に関するイノベーション研究に対する受賞で、受賞タイトルは「し尿汚泥汲み取りビジネスの変革」です。GCE は、グローバルな健康と開発に関する課題解決のためのブレークスルーを目指し革新的なアイデアを支援する仕組みです。原田助教の提案は、世界 26 カ国からの 1900 件以上の提案の中から 59 件に選ばれました。オンサイト衛生施設は世界の 28 億人に利用されますが、その大部分は劣悪な運転管理状況にあり、し尿の不法投棄が蔓延しています。原田助教の提案では、これを適正化するための IoT

を活用したトイレとし尿汚泥管理の管理システムの開発を目指します。

UNICEF らによるプロジェクト紹介サイト: https://innovationsforwash.com/kyoto-university プロジェクトの Facebook page: http://urx3.nu/HnVQ



An Open Drain in a Residential Area of Mandalay, Myanmar

Study Tour to Waste Incineration Plant and Wastewater Treatment Plant (June 18, 2019)

By Wen Liu, Assistant Professor, GSGES

On June 18 (Tue), 8 Spring Semester Course students, 2 international master course students (including a Double Degree Program student at GSGES), 2 research students, and internship undergraduate students from the Chemical Engineering, Mahidol University, joined a study tour. The group visited the North Clean Center of Kyoto City (Solid Waste Incineration Plant) in the morning to study how waste is collected and treated before and after it was burned. In the afternoon, the group paid a visit to the Konan Chubu (South and Central Region of Biwa Lake) wastewater treatment plant, which is located on an artificial island at the south side of the lake. Through lessons and a facility tour, students learned both the history and current process of treating waste water.

ゴミ焼却場・下水処理場見学会に、藤井滋穂教授、大下和徹准教授、劉文助教および TA2 名の引率のもと、地球環境学舎の春季特別聴講生8名、修士課程2名(含ダブルディグリー生)、研究生2名、および京都大学工学部地球工学科環境コースでインターンシップ中(6/3-7/31)のマヒドン大学(タイ)化学工学科3年生5名の計22名が参加しました。

最初に訪れた京都市北部クリーンセンター(京都府京都市右京区)は、先進国の温室効果ガス排出量削減目標を定めた「京都議定書」誕生の地である京都市が、市民の安心・安全な生活を確保するために最新の技術を導入し、廃棄物の適正処理を行っています。当センターは教育も重視し、周囲の小学校をはじめ、京都市全体において教育・見学活動を積極的に行っています。まず、京都市環境政策局・北部クリーンセンターの山田一男所長から

ゴミ処理・資源ごみ再利用のフローについて、ゴミ 処理の各過程のリアルタイムモニタリングシステムを 利用しながら紹介していただきました。その後、実 際の各処理過程を順次見学し、最後に講習室で学 生たちから技術、政策、今後の課題等に関する多 数の質問があり、充実した時間を過ごしました。



Facility Tour at the North Clean Center (Waste Collector Control Room)



Facility Tour (Central Control & Management Room)

草津市イオンモールで昼食をとった後、午後の見学先である湖南中部浄化センターに向かいました。湖南中部浄化センターは、滋賀県で人工密度の最も高い琵琶湖南部(瀬田川入口の北にある人工島)にあり、滋賀県南西部地域の下水処理を行っています。当日は、淡海環境保全財団の大橋基喜専門員より琵琶湖水質変化の歴史や当施設建設の趣旨についての講義があり、その後現在行っている汚水処理の各工程を詳しく紹介していただきました。その後、広い敷地に設置された種々の処理プロセスを見学しました。処理前・中・後の水を実際に観察することで、下水処理の各工程の理解を深めました。処理後の放流水のモニタリングを兼ねた錦鯉の池を見学するなど、各国の留学生にとって貴重な経験となりました。



Lecture about the Process of Waste Water Treatment (Konan Chubu Clean Center)

一日の研修・見学を通じて、日本におけるゴミ処理・下水処理の歴史、現状、技術、課題について幅広い知識を習得し、理解を深めました。今回の研修・見学で得られた経験は、今後各自の研究・仕事に積極的な意味をもたらすでしょう。



Facility tour at the Konan Chubu Clean Center (Main precipitation tank)



Group photo (Front gate of Konan Chubu Clean Center)

The Second Seminar Organized by the EAJ Kansai Branch

(June 20, 2019)

By Takeshi Katsumi, Professor, GSGES

The Kansai Branch of EAJ (The Engineering Academy of Japan) held their Second Seminar at Kyoto University's Clock Tower Centennial Hall on June 20, 2019. Three lectures were given: extreme weather and disaster risks by Professor Kaoru Takara from KU Graduate School of Advanced Integrated Studies in Human Survivability, biomimetics and robot engineering for disaster rescue by Professor Fumitoshi Matsuno from KU Graduate School of Engineering, and interdisciplinary approaches for disaster mitigation by Professor Katsuya Yamori from KU Disaster Prevention Research Institute. The event had a great success with around 100 attendants.

日本工学アカデミー関西支部第2回講演会「自然災害から社会をまもる」が、2019年6月20日(木)14:00-17:10、京都大学百周年時計台記念館国際ホールIIIにて開催されました。本行事は、2019年1月に発足した日本工学アカデミー関西支部の2回目の行事で、今回は京都府および京都市の後援、京都大学大学院工学研究科・総合生存学館(思修館)・防災研究所・地球環境学堂・学舎の共催等

を得て行われました。

人間社会は地球からの恵みを受けて成り立ってい ますが、地震、豪雨、火山噴火など様々な自然災 害の影響も避けられず、これらの災害からいかに社 会を守っていくかは我々の重要な課題です。特に近 年、地球規模での気象の極端化の影響や南海トラ フ地震等の大規模地震への備えなどに関し、多くの 取組みが進められています。本講演会では、これら に対する工学の広い立場からの研究活動を紹介す べく、寶馨教授(京都大学大学院総合生存学館) による「気象・水文の極端現象と水害リスク」、松 野文俊教授(京都大学大学院工学研究科)による 「消えるロボットを創りたい -生物型ロボットからレス キューロボットまで一」、矢守克也教授(京都大学防 災研究所)による「文理工融合の防災研究の魅力 と課題」の3題の講演が行われました。自然災害に ついて、その源となる自然現象のみならず、高齢者 問題、救助ロボット、心理学に基づく減災システム などの多彩な切り口から専門家によるビデオを含む 分かりやすい説明がなされました。スタッフを含めて 100 名を超える参加があり、講演後の質疑や情報交 換会も活発に行われました。

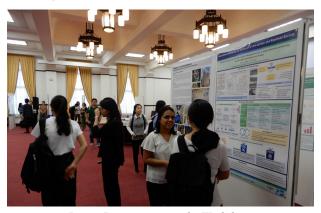
International Workshop on Visions of a Low-carbon and Resilient Society (June 27, 2019)

By Makoto Usami, Professor, GSGES

In the spirit of celebrating the 49th Intergovernmental Panel on Climate Change Session (IPCC-49) held in Kyoto City in May 2019, Kyoto University organized the IPCC Weeks from April to June, during which twenty events were held across the university. As one of these events, GSGES sponsored the International Workshop on Visions of a Low-carbon and Resilient Society. This event was planned and conducted in collaboration with Ecole de Kyodai, a university-wide network aimed to promote campus sustainability.

The workshop, which was held in Clock Tower Centennial Hall, had three major themes: mitigation, adaptation, and material cycle. Thirty poster presentations were given on these themes. A great variety of policies and projects across public, private, and civil-society sectors were analyzed and discussed. During the

workshop, more than one hundred people examined posters, listened to presentations, and enjoyed discussions with the presenters.



Poster Presentations in the Workshop

Science Agora in Kyoto - Kyoto University «Beyond/Super» SDGs Symposium "Resources/Energy and Sustainability"

(June 27, 2019)

By Misuzu Asari, Associate Professor, GSGES

We organized the symposium, "Science Agora in Kyoto — Kyoto University «Beyond/Super» SDGs Symposium "Resources/Energy and Sustainability" at the Clock Tower Centennial Hall, Kyoto University, on June 27 th, 2019. All sessions and workshops at the symposium were filled with excitement generated by 800 participants in total. The participants exchanged helpful information and had fruitful discussions about sustainable development goals in a lively atmosphere.

2019年6月27日に、京都大学時計台百周年記念館にて、サイエンスアゴラin京都・京都大学《超》 SDGs シンポジウム「資源・エネルギーと持続可能性」を開催しました。10:00から20:00まで、1日に渡って開催した本企画は、延べ800人の参加があり、いずれの企画も活気あふれるものになりました。

まず、10:00の開会にあたっては、山極壽一総長のビデオメッセージが流れ、続けて、北野正雄理事がご挨拶され、和やかにスタートしました。10:10から12:30のパネルセッション「資源・エネルギー問題を起点に、パートナーシップでSDGs に挑む」には、末吉竹二郎氏(気候変動イニシアティブ/WWFジャパン代表)、門川大作氏(京都市長)、山下良則氏(㈱リコー社長)、山本昌宏氏(環境省環境再生・資源循環局長)、高瀬幸子氏(近畿経済産業局通商部企画官)、真先正人氏(科学技術振興機構(JST)理事)、諸富徹氏(京都大学地球環境学堂教授)が参加し、酒井伸一氏(京都大学環境科学センター教授)のコーディネートにより、充実した情報交換とエッジの利いたディスカッションが展開されました。続

いてステージ上では、学生による「京都大学プラへ ラス宣言」が行われ、見事な発表に会場は大きな拍 手に包まれました。午後は、次の通り、複数の企画 が並行して行われ、いずれも熱気あふれる会場とな りました。

13:00-16:15 地方創生 SDGs 官民連携プラット フォーム JST 地域産学官社会連携分科会 13:00-14:30 企業・団体向け「SDGs 入門」 13:30-14:30 国際 WS「レジリエントな低炭素社会の 構想」

14:30-16:15 SDGs 事始めワークショップ 16:30-17:45 SDGs に関するもやもや感を少しでも解 消!「超 SDGs 道場」

18:00-20:00 超 SDG sネットワーキングディナー

詳しくは、こちらをご覧ください。 http://eco.kyoto-u.ac.jp/



All Panelists Enjoyed Wearing a Kimono at the Symposium

Internship Debriefings at GSGES

(April 26, May 10, 17, 24, June 21, 28, 2019)

By Narumasa Tsutsumida, Assistant Professor, GSGES

Six separate internship debriefings were organized at GSGES from April 26 to June 28, 2019, to provide a series of presentations by master (second year) and doctoral students. At these events, students reported their experiences and achievements as part of the GSGES internship program.

インターン研修報告会が4月26日から6月28日にかけて計6回開催され、修士課程2回生および博士課程の学生がインターン研修で得た経験と成果を発表しました。本報告会は、修士課程1回生がインターン研修の実施内容について学ぶとともに、自身の研修の計画を具体的に考える機会でもあります。研修先は地方自治体、民間企業、研究所、NPO、法人など多彩でした。またおよそ半分の学生が海外

の大学や研究所にてインターンを実施しました。渡 航国は多岐にわたっており(中国、台湾、ベトナム、インドネシア、フランス、タンザニア、フィジー、ドイツ、コートジボワール、アメリカなど)、言葉や文化の違いを克服しながら研究や実践活動に取り組んだ研修内容が報告されました。発表を聞いた修士課程1回生からは「インターン研修の目的や計画を十分検討するとともに、予期せぬトラブルの対応など臨機応変な姿勢が重要だと感じた」「修士論文に向けて、インターンで学び得た知識、技術を還元するために、自らが主体的に行動し研修内容を吸収することで、より実りのあるインターンになることを学んだ」「自ら現場でデータを取得する経験が重要であることを学ぶことができた」などの感想があり、よい機会になった様子が伺えました。

The First Global Sansai Gakurin Konwakai

(July 24, 2019)

By Makoto Usami, Professor, GSGES

The first Global Sansai Gakurin Konwakai in the 2019 academic year took place on July 24, 2019. Educational and research activities of GSGES laboratories are presented and discussed in the Konwakai meetings. At the first meeting, teachers and researchers from the Laboratory of Sustainable Rural Development presented their research activities and achievements. First, Professor Satoshi Hoshino presented the recent developments and future prospects of new methods in rural community planning. Next, Dr. Natsuki Shimizu, an Associate Professor in the Connectivity of Hills, Humans and Oceans (CoHHO) Unit, presented results of her research on rural tourism. Then, Dr. Kenichiro Onitsuka gave a talk on social innovation and the emergence of socio-technical systems in the context of rural development, enhanced by the use of information and communication technology. The last speaker was Dr. Mrittika Basu, who talked about her research on the impacts of relational values on human well-being in the process of urbanization in India. Talks were followed by a free discussion and participants exchanged ideas on the topics presented.

令和元年度第1回の三才学林懇話会が、7月24日に開催されました。懇話会は、各専門へと細分化されがちな環境関連諸分野の間のコミュニケーションを促進するために長年実施されている部局内勉強会です。令和元年度には前年度に引き続き、地球環境学堂・学舎の研究室の研究・教育活動が順次取り上げられます。第1回は、持続的農村開発論分野から報告が行われ、6分野および他部局より21名の参加者を得ました。

初めに、星野敏教授が、グローバル化時代に対応する新たな農村コミュニティ計画論の確立について報告しました。次に、清水夏樹特定准教授(森里海連環学教育ユニット)が、農村ツーリズムと地域づくりについて、鬼塚健一郎准教授が、テクノロジーを取り入れた農村計画学について、そしてムリティカ・バス助教が、都市化において関係的価値が福利に与える影響について、それぞれ発表しました。4名の発表を受けて、参加者から多様な質問やコメントが出され、活発な議論が行われました。

The 41st Symposium of the Association of Kyoto University Environmental and Sanitary Engineering Research

(July 26-27, 2019)

By Kayo Ueda, Associate Professor, GSGES

Co-organized by GSGES, the 41st Symposium of the Association of Kyoto University Environmental and Sanitary Engineering Research was held at the Kyoto University Clock Tower Centennial Hall on July 26-27, 2019. 180 participants included researchers,

practitioners, and students in the environmental sanitary engineering field. The symposium included a special session on Sustainable Development Goals and introduced the On-site Laboratories at Shenzhen University and Mahidol University. 23 oral

presentations and 17 poster presentations were held at the symposium. Through the presentations and active discussions, the latest information in the environmental sanitary engineering field was exchanged between participants.

地球環境学堂と工学部地球工学科環境工学コースの併催で開催された第 41 回京都大学環境衛生工学研究会シンポジウムは、環境工学関連分野の最新の研究・実務の成果、その他の取り組みについて発表し、意見を交換し、同分野の人材の交流を促進するための毎年開催のシンポジウムです。本年は、7月 27日および 28日の2日間にわたり、京都大学時計台百周年記念館国際交流ホールを中心に、同分野の研究者、実務者、学生計 180名が参加しました。

シンポジウムの企画セッションでは、「SDGs 達成に寄与する環境工学の役割」と題して、さまざまなグローバル課題の解決を目指す持続可能な開発目標 (Sustainable Development Goals: SDGs) 達成に向けた環境工学の展開や展望について蟹江憲史教授(慶應義塾大学)、滝沢智教授(東京大学)、本多俊一氏(国際連合環境計画)から講演をいただき、フロアも交えて活発に議論されました。国際セッショ

ンでは、「On-site Laboratory による環境工学の国際展開」と題して、河野泰之教授(京都大学副学長・国際戦略本部長)より On-site Laboratory 構想が説明されるとともに、田中宏明教授(京都大学工学研究科)、藤井滋穂教授(地球環境学堂)から清華大学環境技術共同研究・教育センターと Mahidol環境学教育・研究拠点それぞれの設置の経緯や成果が紹介されました。また、各大学の学生からそれぞれのインターンシップ経験に関する報告がありました。このほか、一般セッションにおいて、廃棄物・環境管理、水処理、水質汚濁、大気環境、上水道に関する 23 件の口頭発表、ショートプレゼンテーションとポスターセッションを組み合わせた 17 件のハイブリッド発表が行われ、活発な討議が行われました。



Presentation by Mahidol University Students at the Symposium

Final Presentations for GSGES Spring Semester Course

(September 24, 2019)

By Wen Liu, Assistant Professor, GSGES

After one semester at Kyoto University, all special audit students of the 2019 Spring Semester Course completed their research projects. On September 24 (Tue), final presentations were held to report the details of their findings (Unfortunately, one of the students had to return home early and was unable to attend the presentations). In addition to the supervisors, also faculty members and students from GSGES attended the final presentations.

After the presentations, a certificate ceremony was held together with the master course and doctoral course graduate students of GSGES. Prof. Funakawa, Dean of GSGES, handed out the certificates to each student and congratulated them for completing the course. After the ceremony, a farewell party was organized. With the confidence built during the course and the sad feeling about the end of their time in Japan, the 2019 Spring Semester Course came to an end.

Final presentations of the 2019 Spring Semester Course

Name (Univ.)	Supervisor	Presentation title
Prihatmaja Hangga	Makoto Usami	Developing Hypothetical Model of Positive Deviance of Tanjung Putting National
(IPB)	Wiakoto Usami	Park Manager by Using Game Theory: Case of Teluk Pulai Village
Dwiyanti Izza Evita	Shozo Shibata	Designing Wildlife Corridor in Urban Area along Cikapundung River, Bandung,
(ITB)	Silozo Silibata	Indonesia
Vu Thuy Ngoc	Shigeo Fujii	Removal of Ammonium in Wastewater Using Biochar Derived from Agriculture
(HUST)	Singeo Fujii	Wastes
Tran Ngoc Khanh Ni	Izuru Saizen	Mapping of Submerged Aquatic Vegetation by Remote Sensing in Khanh Hoa
(HUS)	izuru Saizen	Province, Viet Nam
Inthapat Pimonpan	Eiji Nawata	Agricultural Use of By-product of Bioenergy Generation and Energy Saving
(MU)	Eiji Nawata	Agricultural Technologies in Japan
Ika Nur Fariha	Hideaki	Isolation and Characterization of Diatoms from Marine Environment for Potential
(ITB)	Miyashita	Aquaculture Feed
Addharu Eri	Shinya Funakawa	Land Suitability Mapping for Pepper (Piper nigrum L.) Production in Lampung,
(IPB)	(Hitoshi Shinjo)	Indonesia



Final presentations of the Spring Semester Course students



Certificate Ceremony for the Spring Semester Course Students (Mr. Prihatmaja Hangga receiving the certificate from the Dean of GSGES)

GSGES Applauds Graduating Students

(September 24, 2019)

By Hirohide Kobayashi, Professor, GSGES

Two master students and seven doctoral students completed their course programs, and received certificates from Professor Funakawa, Dean of GSGES at the FY2019, September degree conferment ceremony on September 24, 2019 (One doctoral student was absent at the ceremony). In addition, eight special auditing students from Indonesia, Thailand and Vietnam received their certificates. All graduates were understandably very proud of their achievements.

令和元年9月24日、総合研究5号館会議室において地球環境学舎学位授与式を開催しました。修士課程の学生2名と博士後期課程の学生7名が修了を迎え、舟川学舎長より学位記が授与されました。また、インドネシア、タイ、ベトナムから来日した特

別聴講学生8名の修了式も合わせて挙行されました。修了生のみなさまが、社会で大いに活躍されることをお祈りいたします。

Graduated Doctoral Students 博士学位授与者 Joshua John Jodoin (ジョシュア ジョン ジョドイン)、 Mari Miyaji (宮地 茉莉)、Richa Kandpal (リチャ カンドパル)、Mohammad Lutfur Rahman (モハンマドルトフアー ラハマン)、Sonam Safu (ソナム サフ)、 Kayo Martsui (松井 佳世)、Hidekazu Aoki (青木秀和、論文博士)

Graduated Master's Students 修士学位授与者 Sunglun Tsai (蔡 松倫)、Rizqi l'Anatus Sholihah (リ スキ イアナトゥス ソリハ)



Group photo with the Spring Semester Course students (front left), Master and Doctoral Course graduate students, and Faculty members of GSGES.

Presentations of a Preliminary Master's Research Report for Double Master's Degree Program (September 25, 2019)

By Shuhei TANAKA, Associate Professor, GSGES

Presentations of a preliminary master's research report and short-term internship were carried out by Double Master's Degree Students September 25, 2019. Islami Muhammad Zainul and Stanny Yuri Ardhya from Institut Pertanian Bogor, Indonesia had presentations of their master's research activities in Kyoto University.

Five Awards Given to GSGES Members

By Shigeo Fujii, Professor, GSGES

Five members of GSGES received several awards during February 2 – September 11, 2019. These were:

- 1. February 2: Suwanna Kitpati Boontanon (crossappointed Associate Professor) and her research team; Outstanding Research Award 2019 from National Research Council of Thailand (NRCT).
- June 29: Kazumasa Wada; Best Presentation Award at the 19th Annual Conference of the "Society of Environmental Conservation Engineering".
- 3. July 27: Yumi Maeda; ESER (Association of Environmental & Sanitary Engineering Research) Encouragement Award 2019.
- 4. September 11: Satoshi Yukioka; Best Student Poster Presentation Award at the 26th International Symposium on Polycyclic Aromatic Compounds (ISPAC 2019).
- September 12: Tomohiro Tanaka; Best Paper Awards 2019 in Japan Society of Hydrology and Water Resources.

地球環境学堂・学舎の教員・学生5名が、研究 発表で様々な表彰を受けました。

1. 2月2日 Suwanna Kitpati Boontanon (地球環境学堂准教授 (マヒドン大学とのクロスアポイント)) およびその研究チーム: Outstanding Research Award 2019 from National Research Council of Thailand (NRCT), 受賞研究プロジェクト (Prevention of Impacts of Hazard Substances Residuals in Agricultural Commodity and Food Logistics from ASEAN Economic Community (AEC): Monitoring and Tracing System of Veterinary Drug Residuals and Food Additives in Aquaculture and Livestock Commodity, 7 publications (Food Chemistry 2016 (212; 635-40), etc.))



Group Photo of NRCT Awardees (Dr. Suwanna, et al.)

- 2. 6月29日 和田一将(地球環境学舎修士課程 2年):環境技術学会プレゼンテーション賞,受 賞発表(ベトナム国ダナン市における水環境中 の多環芳香族炭化水素類の分布調査、環境技 術学会第19回年次大会)
- 3. 7月27日 前田悠海(地球環境学舎修士課程2年):京都大学環境衛生工学研究会研究奨励賞,受賞発表(沖縄県の水道水源とその浄水処理工程におけるペルおよびポリフルオロアルキル物質(PFASs)の挙動調査、第41回京都大学環境衛生工学研究会シンポジウム)





Award to Kazumasa Wada

Award to Yumi Maeda

- 4. 9月12日 雪岡聖 (地球環境学舎 博士後期 課程): Best Student Poster Presentation Award、授業発表 (Adsorption Characteristics of PolyAromatic Hydrocarbons on Microplastics by Focusing on their Diameters in Water Environment, the 26th International Symposium on Polycyclic Aromatic Compounds (ISPAC 2019))
- 5. 9月12日 田中智大(地球環境学堂助教): 令和元年度水文・水資源学会論文賞、対象論文(「地表水流れの数値解析技術に関する分野横断的視点から見た特徴と最前線」(木村匡臣、田中智大、安瀬地一作、中谷加奈、山崎大、吉岡秀和)、水文・水資源学会誌, Vol. 30, No. 5, pp. 307-334, 2017)





Award to Satoshi Yukioka

Award to Tomohiro Tanaka

Visitors to GSGES (April 1 - September 31, 2019)

By Kenichiro Onitsuka, Associate Professor, GSGES

1. June 4, 2019:

Dr. Jyh-Cherng Chen (Professor, Department of Environmental Engineering and Science, 1a), from Feng Chia University, Dr. Chang-Ping Yu (Associate Professor, 1b), from the Graduate Institute of Environmental Engineering, National Taiwan University, Dr. Kung-Yuh Chiang (Professor and Director, 1c), from the Graduate Institute of Environmental Engineering, National Central University, Mr. Hong Cheng (Program Manager, 1d), from the Department of Engineering & Technology, Ministry of Science and Technology, Dr. Ming-Yen Wey (Distinguished Professor and Coordinator, 1e), from the Department of Environmental Engineering, National Chung Hsing University, and Dr. Pei-Hsin Chou (Associate Professor, 1f), from the Department of Environmental Engineering, National Cheng Kung University, hosted by T. Katsumi (1g), H. Harada (1h), and S. Tanaka (1i).



(L-R: 1a, 1d, 1b, 1h, 1g, 1c, 1e, 1i, 1f)

2. July 22, 2019:

Dr. Yi Xin (Associate Research Fellow, 2a), Dr. Liu Baokui (Associate Research Fellow, 2b), Dr. Guo ChunLi (Research Fellow, 2c), Dr. Huang Hanguan (Research Fellow, 2d), Dr. Wang Liwei (Associate Research Fellow, 2e), from the Academy of the Macroeconomic Research of the National Development and Reform Commission of People's Republic of China, Chelsea Ren (Director, 2f), from DOVEN CO.,LTD., and Dr. Munetaka Ishikawa (Professor Emeritus, 2g), from the Department of Environmental Engineering, Osaka Institute of Technology, hosted by S. Fuji (2h).



(L-R: 2a, 2b, 2h, 2c, 2d, 2e, 2g, 2f)

3. July 22, 2019:

Dr. Takashi Mino (Professor, 3a), from the Department of Socio-Cultural Environmental Studies, Graduate School of Frontier Sciences, The University of Tokyo, hosted by S. Fuji (3b), T. Katsumi (3c), H. Harada (3d), and Y. Shimizu (Graduate School of Engineering, Kyoto University, 3e).



(L-R: 3d, 3b, 3a, 3c, 3e)

4. August 2, 2019:

Dr. Jeremy J. Piggott (Professor, Global Strategy Committee, 4a), from the School of Natural Sciences, Trinity College Dublin (The University of Dublin), hosted by S. Funakawa (4b), S. Fujii (4c), and H. Shinjo (4d).



(L-R: 4b, 4a, 4c, 4d)

September 27, 2019:

Dr. Shiva Ji (Assistant Professor, 5a), from the Department of Design, Indian Institute of Technology, Hyderabad, and Dr. Ranit Chatterjee (Postdoctoral Fellow, 5b), from the Graduate School of Informatics, Kyoto University, hosted by H. Kobayashi (5c).



(L-R: 5b, 5a, 5c)

京都大学大学院地球環境学堂・地球環境 学舎・三才学林 広報誌

SANSAI

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