


# Inter-Graduate School Program for Sustainable Development and Survivable Societies

# Newsletter No.17

Contents

- Reflecting on the Seven Years of the GSS Program
- Message from GSS Teachers
- A Brief Report on "GSS Symposium 2017—Lessons Learned and Future Endeavors"
- The GSS Enrollment Ceremony and Orientation (2017)
- Program for Leading Graduate Schools Forum 2017
- The GSS Student Presentation Sessions (2017) & Tentative Schedule (2017-2018)
- GSS Summary Statement
- Self introduction by new mentors
- GSS Students
- Editor's note



## Reflecting on the Seven Years of the GSS Program

Kaoru Takara  
Professor, DPRI



The Inter-Graduate School Program for Sustainable Development and Survivable Societies (GSS Program), which was adopted for the Multidisciplinary Field (Safety and Security) of the Program for Leading Graduate Schools, is about to conclude the final year of its seven-year term from 2011 to 2017. Certainly, the Program will continue to operate in the future but as the period of financial support is coming to an end, beginning in April 2018, we will require the support of the University and participating departments and therefore ask for further understanding and support from everyone involved.

To date, 92 students have taken the GSS Program, which welcomes 20 students in each year group. By September 2017, 12 of these students had earned a doctoral degree, indicating that 60 percent of GSS students are earning degrees, a higher-than-average completion rate that reflects the efforts of our students and instructors. This year, our second intake students will graduate, and we expect 10 students to complete the Program.

In addition to classroom learning in four compulsory classes (Global Survivability Studies, Introduction to Risk Studies, Human Safety and Security Studies, and Sustainable Food Production), optional compulsory classes, optional classes, and interdisciplinary seminars, the curriculum includes field activities, internships, industry-academia collaborative projects, international cooperation projects, and international academic exchange; the fact that all of this is conducted in English makes it extremely challenging for the students. Nevertheless, it is fair to say that the Program was actually feasible; the students developed their skills and leadership qualities through these

experiences, and in many cases, they completed the GSS Program and earned a degree in five years (or four years for the Graduate School of Medicine).

Beginning in the 2018 academic year, in view of the reduced financial support, we plan to review and downsize the curriculum to a certain degree; however, we intend to maintain the high quality of the GSS Program and move ahead toward new developments.

As this is the final year of the Program, we conducted the GSS Summary Symposium on October 6 and 7, 2017, on the theme "Lessons Learned and Future Endeavors." At this symposium, Dr. Hans van Ginkel, former Rector of the United Nations University, Tokyo, who has continued to observe GSS as an international advisor, stated, "This GSS Program is a success story. More Kyoto University students ought to study in this kind of program." For the same symposium, we also compiled the GSS Summary Statement (included in this issue). We hope you read this statement, which summarizes our success over the seven-year period.

Finally, I would like to express my gratitude to the members of the Doctoral Program for the Leading Graduate Schools Management Council and Steering Committee, our international advisors, our advisors for industry-government-academia collaboration, and the people affiliated with the 25 departments of the nine graduate schools, along with the three research institutes, for their generous support in implementing the Program. Most of all, I would like to thank the protagonists of the program, the GSS students.

## Message from GSS Teachers

Mitsuaki Nishibuchi

Professor, Center for Southeast Asian Studies



### GSS Initiatives in the Center for Southeast Asian Studies

The Center for Southeast Asian Studies is known as a regional research institution that aims to clarify and communicate the distinctive features of various world regions—with a particular focus on Southeast Asia—through integration and research collaboration between the humanities (and social sciences) and natural sciences. As the Center's interdisciplinary and international orientation coincides with the direction of the Inter-Graduate School Program for Sustainable Development and Survivable Societies (GSS Program), we have sought to contribute to the development of an educational system that reflects this advantage by providing research guidance for GSS students, holding interdisciplinary seminars, and administering field activity subjects. In particular, the kind of practical knowledge that can only be gained through overseas fieldwork is likely to be extremely useful to GSS graduates when they assume roles as world leaders in the future. Recognizing this importance, I took charge of type B practical subjects (field activities and international academic exchange programs) as a representative of the Center. In particular, I would like to emphasize the importance of practical education. We have developed a program in which students can acquire practical knowledge that will help them in the near future in the form of opportunities to work as assistants in actual joint international research projects in the field of food safety, as well as various activities related to international management and administration, in which I am involved (see \*1 to \*3 below).

\* 1) Organizing an international symposium (US-Japan Annual Joint Meeting) once every other year as the Japanese Chair of the Panel on Cholera and Bacterial Intestinal Infections of U.S.-Japan Cooperative Medical Sciences Program Chair Expert Committee on. GSS students learned about question-and-answer sessions at international conferences and the management and administration of conferences.

\* 2) Developed a method that was nominated as an candidate of the international standard detection method and held workshops to validate this worldwide, in relation to my duties as an advisor and working group Chair of the Codex Committee on Food Hygiene, which operates under the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). I am hoping that the GSS students' experiences of providing technical guidance in English to foreign participants at these workshops will help them recognize that heart-to-heart communication is the most important skill.

\* 3) Visits to counterpart organizations in international joint research; I expect the GSS students to have realized that the cornerstone of international joint research is the ability to establish strong mutual understanding and respect among counterparts, regardless of the country.



Photo 1: Oscar Escalante, a GSS student, explaining the contents of the workshop held in Peru  
Photo 2: A snap shot of the participants of the workshop in Indonesia

To demonstrate our intentions regarding the GSS Program, I will briefly introduce some key topics that I remember from these activities. In 2012, the first year of the program, we implemented workshops and practices in Japan and overseas. The participants were brimming with energy, and the program leaders had set their expectations and budgets high. In Japan, we welcomed academic advisors from the United States in Kyoto. After a special lecture, an advisor kindly joined an international symposium at Chiba University (see \*1) with GSS students, during which he gave firsthand advice to each student. The overseas fieldwork featured a rich lineup of activities and was highly memorable. Immediately after participating in workshops in Malaysia and Singapore (see \*2 and \*3), the students visited a slum in Bangladesh, where they experienced economic disparities, culture shock, and the baptism of political uprisings and curfew orders; further, we visited Qingdao, China, to observe a food safety research institute that targets food production bases supplying the products to the Japanese market.

When we conducted consecutive workshops in Peru and Chile in South America (2013 year; see \*2 and \*3), the students, quite memorably, applauded my joke that the relationship between the two countries resembled that between Coca-Cola and Pepsi. The time when we chose to send all students to South America via Dubai (40 hours one way) because of some international students' difficulties in obtaining visas for the United States was also memorable.

In Indonesia, where we held workshops in the 2014 and 2016 academic years (see \*2 and \*3), the students were present for airport customs procedures and for picking up items for use in experiments that had been sent by post, which gave them a real sense of the need to understand distinctive economic practices in advance.

For the 2017 academic year, in February 2018, we will be able to carry out a two-day field survey (culture farm and remote island survey) following a three-day international symposium in southern Thailand. We have established opportunities to leverage the power of a simple inspection technique previously developed by the first leading graduate school graduate Oscar Escalante (GSS); thus, I am looking forward confidently that this will provide positive stimulation for junior GSS students.

## A Brief Report on “GSS Symposium 2017— Lessons Learned and Future Endeavors”

Mika Shimizu (GSS Specific Associate Professor)

**GSS** held the GSS Symposium 2017 at Inamori Foundation Memorial Hall, Kyoto University on October 6–7, 2017. Since this year is the last year of the GSS Program under the support of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the symposium was organized under the theme: “Lessons Learned and Future Endeavors” to review the GSS program activity and seek future prospects for the interdisciplinary graduate school education program. The Symposium was prepared by a collaborative team of GSS faculty members in the GSS External Affairs Committee and GSS Students Association (GSA) members and organized with the following sessions:

- Session I** : Engagement in the GSS Program:  
Reflections by the Respective Graduate Schools and Institutes
- Session II** : Contribution of GSS to Future Career Perspectives:  
Individual Experiences Shared by Students
- Session III** : Fostering Human Resources as Future Global Leaders  
through University and Industry Collaboration
- Session IV** : Expanding, Deepening, and Achieving Research Goals  
through GSS
- Session V** : Review of GSS Operations by the Executive Board
- Plenary Discussion** : Lessons Learned and Future Endeavors



Sessions II and IV were prepared by GSS students. Those sessions were interwoven into other sessions by GSS faculties and international/ industry advisors who were invited from outside the GSS Program. Session III was uniquely organized with inspirational talks by industry advisors, followed by a panel discussion among those advisors and GSS faculty members, with a focus on the gaps in perspectives in fostering human resources between the current state of programs in graduate schools and the emerging industrial perspectives. Moreover, in the Plenary Discussion, based on the lessons drawn from the previous sessions, all participants were invited to take part in group dialogs to identify together the gaps in multi-disciplinary programs as they are presently implemented and discuss concrete ways for better actions.

Overall, we had constructive discussions and dialogs to link GSS past activities to future endeavors. The results were reflected in GSS Summary Statement, drafted in a closing session of the Symposium. Furthermore, it was recognized that the GSS essence resonated throughout the process in organizing the Symposium, as indicated in the following comments from **GSS L3 student and GSA Vice President, Mr. Ryosuke Nakamura**, who engaged in preparation for the Symposium:

“I organized the student sessions in the GSS symposium as an executive student committee member. In the committee meeting organized by the students from different graduate schools, I received many innovative ideas from them that I had never thought of before in my academic field. From these experiences, I deeply understood the importance of close cooperation among the people that have different academic backgrounds (interdisciplinarity). However, interdisciplinarity is sometimes just a word for students, because their opportunities to engage in interdisciplinary work are actually limited in their daily life (students are focused on their own studies at college). The important point of the Symposium is that students can take initiatives to take precious and unique opportunities in their own ways. Fortunately, I had a chance to try it as an executive student committee member. The things I experienced here made me think a lot about the ways to apply interdisciplinary in my field in the future, which was absolutely valuable learning. Finally, I am appreciative of those who gave me this valuable chance.”



## The GSS Enrollment Ceremony and Orientation (2017)

Kumiko Kondo (GSS Specific Associate Professor)

**On** August 1, 2017, the GSS Enrollment Ceremony and Orientation were held at the Shishukan Hall (Higashi-Ichijo Building). Twelve students (L1: 9 students & L3: 3 transfer students), including 5 international students from Indonesia, Guinea, Ethiopia, and the Philippines, joined the GSS program (The new students belong to the following graduate schools: Science, Medicine, Engineering, Asian and African Area Studies, and Global Environmental Studies).

They were introduced to the GSS specific faculty/staff members and others involved in the program. During the enrollment ceremony, with Professor Masato Shiotani (The Unit Director / The Curriculum Committee Chair) serving as the master of ceremonies, Professor Kaoru Takara (The GSS Program Coordinator) delivered a welcome address.

Ms. Aulia Febianda Anwar Tinumbang (L1) from the Graduate School of Engineering (Department of Civil and Earth Resources Engineering) made a pledge to pursue academic endeavors.

At the orientation session, Mr. Kodai Yamamoto (L2) gave the attendees an overview of the GSS Symposium (October 2017) on behalf of the GSS Student Association (GSA).

The announcement of the GSS Research Grant was made by Dr. Nobuyuki Ito. At the end of the session, Dr. Kumiko Kondo explained the objectives of the next Homeroom Session (September), and the basic features of our “GSSfolio (Karuta 1.1)” system (The GSS ePortfolio) that will allow the new students to compile their academic achievements (e.g., research plans and reports).



Photo 1: Welcome Address by Professor Kaoru Takara  
Photo 2: New Student Pledge (Ms. A. Febianda Anwar T.)

## Program for Leading Graduate Schools Forum 2017

Kodai Yamamoto (Graduate School of Engineering) (L2)

**On** October 19 (pre-discussion), 20, and 21, the Program for Leading Graduate Schools Forum 2017 was held at Nagoya University and Nagoya Marriott Associa Hotel Japan. Seven GSS Program Students (Yamamoto, Sakuraba, Aoki, Tien, Eva, Okada and Ranit) participated. In the forum, 62 programs (33 universities) gathered, presented the outcomes of leading programs and skills acquired and discussed the educational legacy that we will leave to future generations. Also, in the short presentation, the outcomes of each leading program were delivered.

Each team, organized by different leading program students, discussed exit strategies, such as doctoral studies, and career support based on their experiences. Specific proposals were made, such as creating a catalog of Ph.D. students or preparation for competitive research expenses, in line with the theme of the leading program. Selected teams made presentations on industry, government and academia on the final day. The final presentations were compiled as the Nagoya Declaration. In addition, we presented our achievements in the short presentation and introduced the outcomes of GSS research activities at the poster session.

In the keynote speech, Dr. Michinari Hamaguchi (President, Japan Science and Technology Agency) and Ms. Haruno Yoshida (President & Representative Director BT Japan Corporation) delivered messages to the participants as global leaders. Dr. Hamaguchi shared his expectation that program students would work in multiple fields. Ms. Yoshida expressed the importance of strong will to realize one's dream, based on her working experiences. These speakers offered meaningful advice to the students to seek work in multiple fields.

The main achievement at this forum was that students were able to meet other students from different leading programs all over Japan and were able to deepen their views on research activities and career perspectives. During break time as well as even after the forum, the students talked about each research activity, future vision, and the way of Ph.D. life with others. They were inspired by the wonderful opportunity to hear about various values. In addition, this forum gave the students a good opportunity to have experiences of leadership, including team building, and communication skills.

## The GSS Student Presentation Sessions (2017) & Tentative Schedule (2017-2018)

Kumiko Kondo (GSS Specific Associate Professor)

**The** 19th and 20th GSS Presentation Sessions (Tables 1 & 2) were held at the Shishukan Hall, Conference Room, and Lecture Room (Higashi-Ichijo Building).

On July 18, 2017, GSS students majoring in a variety of fields, such as Education, Engineering, Informatics, Medicine, and Agriculture (L2: 2 students, L4: 1 student & L5: 8 students), delivered effective speeches. In addition, three transfer students (Asian and African Area Studies, and Global Environmental Studies) took the Doctoral Qualifying Examination (QE). Two of the applicants were international students from the Philippines and Indonesia.

In September, seven students (L5: 3 students, L4: 2 students, & L3: 2 students), including 4 international students from China and India, gathered at the session to present the findings from their long-term research projects (e.g., industry-university collaborative research and international cooperation projects). One of the participants delivered 2 separate presentations.

The tentative schedule (2017-2018) is as follows: November 28, 2017 and January 23, 2018.

Table 1: The 19th GSS Student Research Presentation Session (July 18, 2017)

Shishukan Hall (B1F)		
Name		TITLE
Mr. Wenlong Wang	Industry-Univ. Collaborative Project	Whole Effluent Toxicity Test of Oil Refining Wastewater and Marine Water from PETRONAS Factory, Malaysia
Mr. Van Tien Pham	Industry-Univ. Collaborative Project	The Simulation of Landslide Dams in the Kii Peninsula, Japan
Ms. Maki Naito (QE)	Internship	Coordinating Training Program for Myanmar Forest Officers
	Industry-Univ. Collaborative Project	Creating Important Habitat Map with Several Sectors in Tohoku Region
Ms. Katrina San Juan Navallo (QE)	Int'l Academic Exchange	Report of Past International Academic Exchanges
	Int'l Cooperation Project	Report of International Collaboration Project with Asian Development Bank (ADB)
Ms. Annisa Satwika Lestari (QE)	Internship	Report of Internship at BiPRO GmbH
Conference Room (1F)		
Name		TITLE
Mr. Ranit Chatterjee	Industry-Univ. Collaborative Project	Possibility of Community Based Business Recovery Platform in Bungamati
Mr. Wenlong Wang	Int'l Cooperation Project	Environmental Risk Assessment of Insecticides in Drinking Water, Agricultural Wastewater in Indonesia
Mr. Van Tien Pham	Int'l Cooperation Project	Integrated Community-Based Disaster Risk Reduction Program in Nepal
Mr. Takashi Sugiyama	Int'l Cooperation Project	International Cooperation Project in Mexico
Ms. Chiyoung Hwang	Field Training	Interviews for Homeless People Regarding Barriers and Facilitators to Tuberculosis Examination in Osaka City, Japan
Ms. Shaojun Yuan	Field Training	The Importance of Leadership in the Comparatively Backward Areas
Ms. Mei Nakazawa	Internship	Internship at the Institution of Medical Care for HIV/AIDS in Uganda
Lecture Room (1F)		
Name		TITLE
Ms. Ei Ma	Int'l Academic Exchange	Academic Exchange Activities at the International Workshop and Conference
Ms. Georgina Seera	Internship	PRESERVE BIO DIVERSITY, DEFEND THE PLANET --A Report about Internship with the Slow Food Foundation in Uganda
Mr. Ranit Chatterjee	Int'l Academic Exchange	Learnings from AI-KAB Conference in Taiwan
Ms. Mei Nakazawa	Industry-Univ. Collaborative Project	A Field Survey of the Status of HIV Patients and Workshop on Incorporating HIV Prevention in Uganda
Mr. Matomu Itakura	Int'l Cooperation Project	International Joint Gravity Observation in Indonesia
Mr. Kensuke Asai	Int'l Cooperation Project	International Workshop on Philosophy as Translation: International Cooperation Project in Warsaw

Table 2: The 20th GSS Student Research Presentation Session (September 26, 2017)

Shishukan Hall (B1F)		
Name		TITLE
Ms. Yongxue Shi	Internship	Internship in International Hydrological Programme at UNESCO
Ms. Chikara Okada	Int'l Academic Exchange	Attendance at International Academic Conferences
Ms. Chong Xu	Int'l Cooperation Project	How to Deal with the Food Crisis through Advanced Plant Breeding Technology
Ms. Yukiko Tateyama	Int'l Cooperation Project	Socio-epidemiological Study on Risk Factors of Non-communicable Diseases Among Adult Population in Rural Zambia
Lecture Room (1F)		
Name		TITLE
Mr. Wenlong Wang	Int'l Academic Exchange	International Academic Exchange: Academic Conferences in the United States and Europe
Ms. Yukiko Tateyama	Industry-Univ. Collaborative Project	NCD and HIV Services Integration Project --Development of the Community-Based NCD Screening Model for Locals
Mr. Ranit Chatterjee	Int'l Cooperation Project	Training of Local Business Owners in Bungamati
Ms. Ayako Kohno	Int'l Cooperation Project	Conducting an International Seminar in Switzerland on "Aging and Dignity"

## GSS Summary Statement

At

the Final Symposium “Lessons Learned and Future Endeavors” of the Inter-Graduate School Program for Sustainable Development and Survivable Societies (GSS Program) held at the Inamori Foundation Memorial Hall, Kyoto University on October 6-7, 2017, we, students, professors and all the participants, confirmed the outcomes of this 7-year GSS Program and summarized them as a GSS Statement as stated below (items 1-13). We also very much appreciate every support and cooperation provided by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the Japan Society for Promotion of Science (JSPS) and all other organizations and supporters inside and outside of Kyoto University

1. Global Survivability Studies (GSS) is an emerging inclusive trans-disciplinary body of studies contributing to sustainable development and aiming to understand the mechanism of increasing various hazardous events, prevent, avoid and mitigate or solve them, through gathering “knowledge and wisdom”, integrating and systematizing it, and taking action based on it. We have been implementing a graduate school educational program under this principle. This is one of the success stories in transdisciplinary education at the graduate school level.
2. Making the most of strengths of Kyoto University, a total of 12 entities comprising nine graduate schools (25 departments) and three research institutes jointly established the interdisciplinary and transnational graduate educational program: Inter-Graduate School Program for Sustainable Development and Survivable Societies (GSS Program). The new challenge involving such a large-scale collaboration in the university led to fairly smooth multidisciplinary exchange successfully.
3. Our program fostered 12 doctors by September 2017. There are additional 5 PhD candidates who have already completed the curriculum of GSS Program, and they are in the process of finalizing their dissertations (as of October 2017). Career choices of these 17 individuals are (the number of the students in parentheses): faculty members at universities (3); post-doctoral research fellows (8); public research institute (2); local government (1); and business persons at private enterprises (3).
4. The GSS Program provides unique coursework designed to develop a multidisciplinary vision. Students are notably required to take four compulsory classes each focused on a different aspect of global survivability studies: Introduction to Risk Studies, Human Safety and Security Studies, Global Science for Global Survivability, and Sustainability Food Production. These four subjects form a basic framework of the GSS Program.
5. The GSS students visited as many as 46 countries and 17 places in Japan to carry out the GSS training courses comprising Internship, Field Training, Industry-University Collaborative Project, and International Cooperation Project. The counterparts included 14 business enterprises, 17 NPOs/NGOs, 39 public organizations, 5 international organizations, and 32 universities outside Japan. This effort resulted in a great accomplishment in respect of university-industry collaboration, university-government cooperation as well as international cooperation.
6. There are 10 GSS Values that have been considered as desirable leadership qualities. GSS students acquired the 10 leadership skills through various academic activities and projects. The 10 GSS Values are the core elements of our curriculum; therefore, the results are summarized in our ePortfolio system (GSSfolio). The “GSSfolio” is a tool for GSS students to compile accurate records of their learning results. Moreover, every student can provide continuous updates to his/her academic adviser, other faculty and staff members through the interactive ePortfolio system. The “GSSfolio (Karuta 1.1)” system plays a pivotal role in the GSS program.
7. Twelve GSS specific faculty members actively took part in the GSS program. For instance, they served as mentors to GSS students. The GSS program also helped young faculty members accelerate their career paths: Two Assistant Professors were promoted to GSS Specific Associate Professors, two members were transferred to other departments, and four members were promoted to Associate Professors at other universities. We would like to extend our gratitude to all GSS specific faculty members for their enthusiasm and support for the program.
8. Sixty-three professors from 25 departments in nine graduate schools, and from three research institutes have taken part in this Program. They have contributed much time and effort to its implementation: by participating in our monthly faculty meeting and the different committees, as well as through their roles as academic supervisors and GSS secondary supervisors for students from different graduate schools. This challenging collaboration among faculties from a variety of graduate schools and research institutes has greatly contributed to develop exchanges among different disciplines, as well as multidisciplinary education and research.
9. Kyoto University has established a Leading Program Steering Council and a Leading Program Steering Committee, and reformed the education system, making the issuing of a diploma with a record of the GSS Program possible, thus allowing smooth implementation of the Leading Programs of the university. The construction of a new building, Higashi Ichijokan, has also provided students with a common space of learning and exchange, contributing in a concrete and positive way to the successful implementation of the Program.
10. Voluntarily establishing the GSS Students Association (GSA), students actively planned, organized and managed the GSS International Advisors Conference every year. The GSA also has a function to strengthen communication among students and implement students’ events from time to time. We expect the GSA will play the role of an alumni as well.
11. In conclusion, the GSS Program has successfully established a learning environment that promotes human resources able to act as leaders and tackle the various issues humankind is facing, with the safety and security of our society in mind. We have no doubt that our students will concretely contribute to our global society and its sustainable development and survivability as leaders, equipped as they are with a strong expertise, a broad perspective, and a tough person of great charm: “Wild and Wise” as mentioned in the Kyoto University WINDOW Vision for the future.
12. In GSS Symposium 2017, we reviewed the past GSS activities through collaboration of GSS students and faculties in cooperation with international and industry advisers, to draw lessons learned and future endeavors. The lessons learned include the necessity to include more aspects of humanities and social sciences and define more concrete steps for multidisciplinary. Based on the lessons learned, proposals were made for future endeavors such as establishing the society of sustainability and survivability, and we came up into the idea of “Module-based Kyoto University Model” which represents interdisciplinary educational program like GSS into a more comprehensive and theoretical direction through the two-day discussions.
13. We hope all the efforts which have gone into GSS will continue to bear fruit, and develop and mature further into the next stage. The above lessons and proposals should be considered and reviewed for the future and included for review and to be considered into the University program.

## Self introduction by new mentors



**Kazuyoshi Nishijima**  
Associate Professor

Disaster Prevention Research  
Institute Kyoto University  
Research Division of  
Atmospheric and Hydrospheric  
Disasters

**Dear** GSS members, many thanks for allowing me to introduce myself. My name is Kazuyoshi Nishijima. I work at Uji Campus. Uji Campus consists of four institutes, including Disaster Prevention Research Institute (DPRI), which I belong to, several units and satellite departments. The atmosphere of Uji Campus is slightly different from those of Yoshida and Katsura Campus. For example, you don't see many people on the campus during the day. This is because they are working inside their laboratories. At lunchtime though, you can see lots of people at the Canteen on the campus. So, my advice is to go there at lunchtime if you want to see the researchers working at Uji Campus.

As for myself, I joined DPRI in 2013. Before joining, I worked at ETH Zurich as senior researcher and at the Technical University of Denmark as an associate professor. When I was studying at ETH Zurich as PhD student, I lived in Europe for exactly 10 years. After 10 years in Europe, I decided to move to another place – Kyoto in Japan.

My research theme is disaster mitigation. One of the ongoing research topics is disaster mitigation for local construction in developing countries. How can damage to constructions be reduced? – The answer is to improve their structural performance. But how? I believe one of the keys is that the encrypted ideas in the architectural design of existing constructions must be incorporated in improving the structural performance. In a broader sense, I would like to reveal and advance, using scientific tools, the values of the local knowledge for disaster mitigation, which has been empirically “optimized” reflecting climate, environment, culture, lifestyle and other factors. This is my current interest.

**I** work in the Disaster Prevention Research Institute, Uji Campus, where I am a seismologist specializing in earthquakes in subduction margins. I use seismological and geodetic data to predict prospective large earthquakes in subduction zones. The main objective of my research is to understand the nature and mechanism of megathrust earthquakes and slow earthquakes that occur around the megathrust earthquake, and the relationship between the two. To achieve this, I analyzed data from deployed ocean bottom seismometers and pressure recorders. I have also conducted frictional experiments with fault materials retrieved from actual faults with the aim of establishing a physical model of a megathrust earthquake, including foreshock, aftershocks as well as slow earthquakes.

Recently, I have developed ocean bottom seismic and geodetic networks in New Zealand and Mexico, as part of an international research project in collaboration with international colleagues. Although diverse cultures and ideology make international collaborative research challenging, the experiences are always extremely stimulating.

The ability to investigate several research targets with international colleagues with different cultures and ideology from ours is in great demand for GSS courses. We need to set goals for ourselves, keeping in mind the expectations of our international collaborators, while still maintaining our final scientific objectives. Please enjoy your international collaborative research based on new ideas from diverse cultures and ideology in the GSS course.

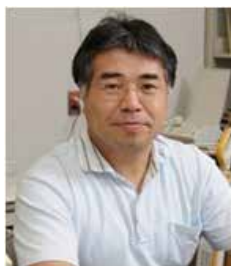


**Yoshihiro Ito**  
Associate Professor

Disaster Prevention Research  
Institute (DPRI)



## Self introduction by new mentors



**Hiroshi Kondoh**  
Associate Professor

Kyoto University Hospital  
Department of Community  
Network and Collaborative  
Medicine

In our laboratory, we are mainly focusing on ageing and metabolism. There are two particular topics under study in our laboratory, as follows.

Glycolytic enzyme phosphoglycerate mutase (PGAM) is one of our main concerns. Enhanced glycolysis is frequently observed in many cancers, known as the Warburg effect. PGAM is a key to understand how the Warburg effect is linked to other cancer properties. Post-transcriptional regulation for PGAM, e.g., ubiquitination by Mdm2, is critical.

Metabolomics is another strong tool to perform ageing research on human blood. In collaboration with Prof. Mitsuhiro Yanagida at OIST, we established a whole blood metabolomic analysis method. By using these technologies, we noticed the individual variability of human blood compounds. Moreover, we identified 14 blood metabolites as ageing markers. Now, we are performing human metabolomic research on other ageing-related diseases.

Almost three years have passed since I started working at the Disaster Prevention Research Institute, and I have been involved in the Inter-Graduate School Program for Sustainable Development and Survivable Societies (GSS program) in various ways since my beginning days there. I taught the compulsory class “Global Survivability Studies” and instructed GSS students assigned to the laboratory, and since 2017, I have mentored students as a GSS collaborative instructor and participated in the GSS Symposium. The “Global Survivability Studies” class provides opportunities for students with various backgrounds to engage in discussions and listen to presentations, which is a highly stimulating experience in itself. Above all, it is refreshing to see the GSS students amass a wealth of global experience and conduct their own research in a lively, energetic manner despite their busy schedules.

At the Disaster Prevention Research Institute, I am conducting research on flood risk reduction based on hydrology. In hydrology, the process through which rain falls and flows into rivers is called rainfall-runoff. Various regions of the world experience highly diverse rainfall-runoff phenomena, the understanding and modeling of which is an important challenge for flood prediction and water resource management. In terms of overseas fieldwork, my research involves observing and modeling phenomena in the Batang Hari river basin in Sumatra, Indonesia. The main objective is to clarify how changes in land use and climate are impacting the water cycle and water-related disasters, and to achieve this goal, it is important to not only understand flooding as a natural phenomenon but also learn how society has changed and how people have dealt with disaster risk over the years. Since the 1990s in particular, Sumatra has experienced extensive deforestation as the development of plantations—palm trees for example—has progressed. To make way for agriculture, the area of forested land has been reduced, which has also significantly impacted the water cycle.

When addressing many GSS-related issues, it is important to observe the local area, talk to the local people, and mobilize different types of knowledge to reflect on the situation in the field, and it is my belief that this is what gives field research its special appeal. I encourage you to fully use the opportunities presented by GSS and enjoy a fruitful life as a graduate student.

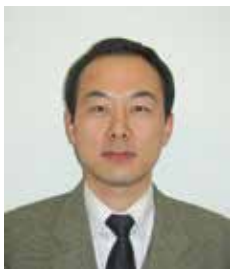


Photo: Sumatra, Indonesia

**Takahiro Sayama**  
Associate Professor

Disaster Prevention Research  
Institute





**Sunmin Kim**  
**Associate Professor**

Department of Civil and  
Earth Resources Engineering  
at the Graduate School of  
Engineering

I started my activities as a mentor teacher of GSS program in April 2017. I belong to the Department of Civil and Earth Resources Engineering at the Graduate School of Engineering and I conduct research and education related to water resources engineering. Also, I am in charge of several subjects in English at the Institute for Liberal Arts and Sciences of Kyoto University. Originally from Daejeon in Korea, I came to Japan in 2003 to study abroad at Kyoto University, and I have been at Kyoto University for about 14 years as a student, researcher, and teacher.

I started and continued my career at Kyoto University thanks to many teachers' help and guidance. Professor Takara, instructed me until I successfully completed my doctoral program, bringing me success in my first overseas life experience. Professor Nakakita has been teaching me to have an ambitious mind as a researcher. Emeritus Professor Shiiba accepted and guided me as a lecturer even when I was still immature to be a teacher. Professor Tachikawa has been looking after me in every aspect since I came to Japan. If these professors were not at Kyoto University, I would not be able to continue my career at Kyoto University successfully.

I would be very glad to give advice to students in the GSS program based on my experience. I would like to be helpful, not only on research contents and the GSS program, but also in students' school life. Let's have a good time and enjoy the program.

I obtained a Doctor of Medical Science from the Graduate School of Medicine, Kyoto University (KU) with specialized training under the Department of Global Health and Socio-epidemiology, Kyoto University School of Public Health (KUSPH), where I am currently an Assistant Professor. The Department is also designated as "UNAIDS Collaborating Centre for Socio-epidemiological HIV Research", where it employs the novel method of "Socio-epidemiology" for the prevention of HIV/AIDS and Sexually Transmitted Infections in different high risk groups. I also have broad interests in disease and disability prevention, health promotion, especially in the context of Global Health. My recent passion is in finding innovative, feasible, and sustainable approaches to encourage healthy lifestyles among the KU community. Having been at KU since 2007 (as a student, and now as a staff member), I feel that there is room for policy and program improvement. This led me to introducing the "Healthy University Initiative" at KU, with the ultimate goal to improve the health and well-being of the KU community.

Apart from research, I also assist the KUSPH to pursue the promotion of interdisciplinary and international collaboration with renowned overseas Public Health universities and institutions through various strategies, such as the introduction of unique education program (namely, the double degree program), joint research supervision, collaborative research, and so on.

I officially joined the GSS program in April 2017 as a "supporting faculty" and I am very much intrigued by this large-scale effort of Kyoto University to intensify the challenge in achieving and pioneering an "interdisciplinary" graduate school. I truly admire the dedication of GSS students and look forward to simultaneously contributing to and learning from this inspiring mixture of GSS super doctors.



**Teeranee  
Techasrivichien**  
**Assistant Professor**

Department of Global Health  
and Socio-epidemiology,  
Kyoto University School of  
Public Health  
SGU International Office

## GSS Students

**My** final goal is “to prevent the spread of infectious diseases on a global scale”. Due to the transportation networks, disasters, and economic conditions, global environmental changes, socioeconomic changes, region-specific cultures, and religious factors, infectious diseases have occurred in unexpected places and expanded rapidly. Although highly effective medical treatments exist in the world, infectious diseases can expand where treatments are not available and as a result, many people become infected and die.

To protect people's health from the threat of infectious diseases in the 21st century, it is very difficult to solve the problem with only one academic field. By joining with teachers and students with various academic perspectives, I feel the narrowness of only one field is removed. I can have a wider perspective and learn a great deal from day to day.



**Ryohei Takeda**

Graduate School of Medicine (L1)

**What** are “Sports” to you?  
I have studied Kinesiology and Applied Physiology in the U.S. and have worked as an athletic trainer. Although many may think my job is to train professional athletes; in reality, my job is to support everyone who plays sports, regardless of age or physical abilities, by providing medical care. When I came back to Japan, I was shocked that “sports” are often considered only for athletes. There is a term, “lifelong sports”, which is separate from “competitive sports”.

My research topic is health promotion through sports, the so-called “lifelong sports” in Japan. I believe that this topic is important in this aging world. My focus will be what aging means to us, and how we can promote mental and physical health by “enjoying” sports, exercise, and physical activities.



**Megumi Yoshigai**

Graduate School of Medicine (L1)

**I** earned my Bachelor's Degree in Engineering at Kyoto University. For my Bachelor Thesis, I conducted research to develop a 3-D physically-based hydrologic model, which consisted of surface-subsurface flow and evapotranspiration components, and applied the model to a small basin in Shigaraki Forest Catchment.

Now, I plan to conduct research to estimate future river discharge for extreme events under a changing climate. Therefore, my research is related to the GSS Scope of Natural Disasters and Catastrophes. The change of river discharge due to global warming might cause more severe water-related disasters, such as flood and drought. I believe the outcome of this research will be useful to mitigate disaster risks; thus, it can contribute to the safety and security of human life.



**Aulia Febianda Anwar Tinumbang**

Graduate School of Engineering (L1)

**I** want to become an architect who can design architecture and cities with environmental ecosystems. My research subject is the “design of artificial ecosystems between cities and environments” through not only technological methods, but also cultural and social approaches.

For example, I would like to consider greening cities. There is already a lot of research that focuses on the technology of green walls, green coverage, etc.; however, cities cannot put the technology into practice because of local and social uncertainty factors. It is a similar situation to approaching problems of traffic, work, and life where technology and methods for sustainable cities are not applied practically. Therefore, I want to research the design of artificial ecosystems for practical, sustainable cities.



**Shuzo Kawakami**

Graduate School of Engineering (L1)

My research topic is, “Forest use and landscape changes in rural areas of Myanmar”. In the Bago Mountain area in the central part of Myanmar, forests, which make up 47% of the entire land, are relatively preserved. In this area, many poor people depend significantly on forest products.

Today, Myanmar has reached an important turning point after its transition from military rule to a democratic government in 2011 and many changes are occurring in the country that also affect the rural areas.

The landscape of the rural areas is formed by social and economic characteristics, such as local use of forest products, food production, and lifestyle.

I would like to focus on the changes in the use of landscape from past to present to consider the future of sustainable development in Myanmar.



**Mizuki Kobayashi**

Graduate School of Asian and African Area Studies (L1)

My name is Mamadou Sadio Diallo. I belong to the Graduate School of Asian and African Area Studies. I am currently researching Ebola disease and my research topic is “A Sociological Study of the Largest Ebola Outbreak in 2014”. This research focuses on the social impact of Ebola disease on local communities. I am conducting my activities in Forecariah (Guinea-Conakry), where hundreds of people died from an Ebola outbreak in 2014.

I am addressing several themes, namely: 1) the connotation, 2) the stigmatization, 3) social resistance, 4) the social reintegration of Ebola survivors and medical care workers, and 5) what are the best ways to counter a future outbreak. The ultimate goal of this research is to help in building a resilient system at the community level to prevent diseases from widely spreading among the population.



**Mamadou Sadio Diallo**

Graduate School of Asian and African Area Studies (L1)

“Humans, the Forest and Wildlife, How Do We Co-Exist?”

This is my research question.

Since 2007, I have been working in Tanzania, filming a wildlife documentary. At first, I was intrigued to just see the wildlife. But after a while, I realized that even in Africa, through daily human activity, natural habitats are decreasing. Communities around natural habitat areas are increasingly eager to live a more “rich” lifestyle, which can have damaging effects on natural habitats. The need for balance is serious.

My research field is Jozani National Park in the Zanzibar Archipelago. The park is only 50km<sup>2</sup>, but it is home to the endangered Zanzibar Red Colobus. There is a great demand for conservation knowledge and practical policy. Through the GSS Program, I wish to gain practical knowledge on conserving this environment and many more around the world.



**Kentaro Noda**

Graduate School of Asian and African Area Studies (L1)

I graduated with a Bachelor of Art in Social Anthropology at the College of Social Sciences of Addis Ababa University. Currently, I am a PhD candidate at the Graduate School of Asian and African Area Studies. I am conducting research on solid waste management from social and cultural perspectives in Addis Ababa, Ethiopia.

In this research, I will be focusing on revealing the socio-cultural factors that could serve as important determinants for sustainable solid waste management that has been a challenge for several decades in the study area. Waste handling at the household and community level is one of the essential issues to be studied. Furthermore, this study aims to investigate local methods of waste management in one community that could be worth duplicating in places with similar socio-cultural situations in the country and on the continent.



**Haregewoin Mekonnen**

Graduate School of Asian and African Area Studies (L1)

## GSS Students



**Ai  
Shishikura**

**Graduate School of  
Science (L1)**

**My** research topic is to establish the Fission-Track (hereinafter, FT) dating method on monazite. FT dating is a technique based on the analysis of fission-tracks, which are about 10 to 20  $\mu\text{m}$  long, made by spontaneous fissions of the  $^{238}\text{U}$  contained in minerals. Using this information, we can estimate when events such as volcanic eruptions, fault movements, and erosion and denudation of mountains happened.

As a result of these studies, we now know the erosion and denudation history of orogenic belts, such as the European Alps, the Himalayas, and the Kiso mountain range. Currently, for such FT studies, minerals such as apatite and zircons are used. However, it is thought that monazite has a lower closure temperature. This would enable us to estimate the ages of events with smaller temperature changes and with more precision. Such long-term information will be crucial for safety and security studies and will be the basis for building disaster prevention policies and checking the stability of nuclear deposit sites.

Through the interdisciplinary studies in GSS, I would like to learn about the problems that arise in forming disaster prevention policies and - by sharing my specialty with fellow program students - I hope to help build a sustainable society.



### Editor's note

The 17th issue of our GSS Newsletter depicts various activities and students' achievements, including the "GSS Enrollment Ceremony and Orientation (2017)", "New Student Profiles (L1)" and "GSS Student Presentation Sessions". The GSS Academic Year 2017-18 began in August; therefore, some of the new students have already been actively engaged in their long-term projects.

The September Homeroom Session focused on the effective use of ePortfolios, or the "GSSfolio (Karuta 1.1)" system (e.g., "The 10 GSS Values & Long-Term Goals" Section). The new faculty members from across the university will play a pivotal role in paving the way for future developments.

Kumiko Kondo  
Editor of GSS Newsletter

Inter-Graduate School Program for Sustainable Development  
and Survivable Societies, Kyoto University

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Yoshidanakaadachi-cho 1, Sakyo-ku, Kyoto, 606-8306  
TEL 075-762-2197  
URL <http://www.gss.sals.kyoto-u.ac.jp/en.html>