

Newsletter

International Graduate Program on Civil & Environmental Engineering

Resilience and Society

Two subsequent massive earthquakes struck Kumamoto last year in April, resulting in numerous human casualties. Tens of thousands of people had to be evacuated from the disaster-stricken area as the infrastructure suffered severe damage, glimpses of which can be seen in Figure 1.

With the devastating earthquake and tsunami of March 2011 still fresh in our minds, the earthquakes that occurred in Kumamoto highlight the inadequacy of our infrastructure design approach. Accepting that the magnitude of devastation of possible future natural disasters cannot be predicted, we need to think beyond our existing ideas and practices of designing infrastructure and admit that failure and success always coexist.

“Things that go wrong happen in the same way as do things that go right” is a concept that is central to the idea of resilience. Resilience is the capability of a system to adjust its function prior to, during, or following any disturbance and thus to maintain expected operations under both favorable and unfavorable conditions. A resilient society, therefore, is a society that can endure disturbances (such as natural disasters) without allowing devastating damage and diminished quality of life.

To realize the idea of a resilient society, the International Institute for Resilient Society (IIRS) was established in 2014, adding to the growing list of research institutes aimed at furthering Saitama University’s academic and research mission. The society comprises experts in the field of civil and environmental engineering as well as humanities and social sciences. Since its establishment, the society has been actively working toward creating a safe and secure society that can be resilient to adversity. Details on the nature of work, including research and development, being performed by the resilient society at Saitama University can

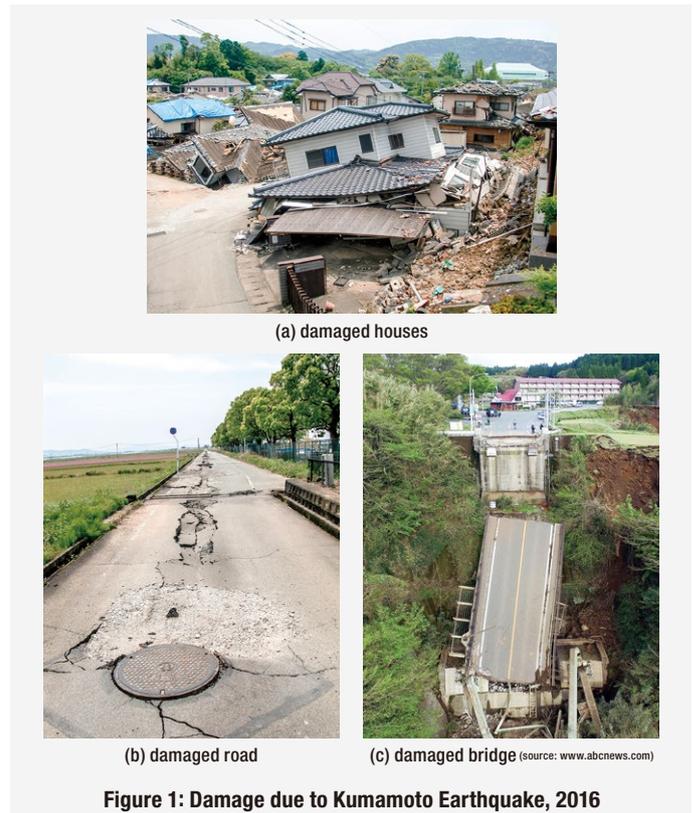


Figure 1: Damage due to Kumamoto Earthquake, 2016

be easily accessed at the following weblink: <http://iirs.saitama-u.ac.jp/en>.

Greetings from the Head of the Foreign Student Office

It is an immense pleasure to be provided with this opportunity to convey a message to all the alumni of this institution and other readers of this newsletter. I assumed the position of head of the Foreign Student Office succeeding Prof. Hiroshi Mutsuyoshi since April 2017. Since its establishment in 1992, with generous support by the Japanese government through scholarship scheme, the International Graduate Program on Civil and Environmental Engineering has achieved a huge success in educating more than 500 international students from over 30 countries. On behalf of the faculty at this department, I would like to express my sincere gratitude to all of you for providing continuous support to this program, university, and our country as a whole. Further, I appreciate the substantial contributions made by the former staff to this program.

After 25 years of its establishment, the circumstances surrounding this program and those in Japan have changed. The change that can impact the program most significantly, as you may have noticed, is the intensified international competition in recruiting talented and ambitious students. I believe that offering

the highest quality education, which we are seeking, is always the basis to attract considerable attention from prospective students. In addition, I recognize that we need to make every effort to advertise this program so that it competes against similar programs from all over the world, which is not an easy task. It will be a huge challenge for both the current and future staff to develop the program in terms of its sustainability. However, for this task, we have a valuable foundation—our international alumni network spread over different countries—which is our strength. Our efforts coupled with your assistance and collaboration should surely enable the program to attain further success and thereby contribute to the sustainable development of the world.



Prof. Yasunao Matsumoto

Head of the Foreign Student Office
 International Graduate Program on Civil and Environmental Engineering
 Saitama University

Research Profile Series (21)

Transportation and Planning Group

In densely populated towns and cities, traffic-related issues are often the areas of major concern and govern the safety and ease of life. The Transportation and Planning Group (TPG) at Saitama University conducts research on traffic planning and management with an aim to achieve a safer and more comfortable lifestyle in cities. Various research topics are pursued, including but not limited to transportation demand management, public involvement and citizen participation for transportation planning, traffic safety and calming, and intelligent transportation systems.

Traffic safety of elderly people, which is increasingly worsening, is a serious issue in aging societies. Many studies have investigated this issue over the years. However, a meta-review to detect the global trends of the ensuing issue is yet to be established. To this end, a study initiated by the TPG aimed to obtain an overall picture of the literature based on the meta-revision of more than 100 related studies, where the most common findings as well as shortcomings were identified. Further effort was put into validating these findings in the case of Japan. Result indicate that aged people, especially non-automobile travelers, are significantly prone to traffic accidents due to their neurological and physical impairments as a result of aging. Statistical analyses show that old Japanese drivers do not exhibit the same behavior as their counterparts in other countries, i.e., associated risk for old drivers compared to young drivers in Japan is lesser than that in other countries.



Front wheel trajectory of a bicycle

One of the recent projects that TPG is actively working on is to find ways to improve cycling comfort and safety in cities. I am a member of this project. In recent years, the number of people using bicycles as a mode of transportation has increased. Improving cycling comfort and safety are often considered as the two most important aspects to increase bicycle ridership in cities. This research is expected to establish sustainable transportation systems for future cities, where cycling is expected to act as a key mode of transportation. This will result in cleaner cities, healthier citizens, and a weaker carbon footprint on the environment. A research-related survey was conducted on the streets of Saitama City, the summary of which is expected to be published in the form of an academic article.

I am currently working toward achieving my doctoral degree under the supervision and support of Prof. H. Kubota and Assoc. Prof. A. Kojima, with continuous help from enthusiastic and encouraging lab mates. I have finished writing my dissertation for partial fulfillment of the requirements for the degree of Doctor of Philosophy in Science and Engineering and will be graduating this fall. Thanks to the timely working attitude and professional research environment at Saitama University, I am now confident to conduct scientific research as an independent researcher.

(Written by - Mr. Nguyen Duc Nghiem)

Graduation Time Congratulations

September 2016

Ms. I.M.T.N. Illankoon from Sri Lanka was awarded her Ph.D degree under the guidance of Prof. M. Osada. Her doctoral thesis was entitled “Drying induced deformation of anisotropic soft sedimentary rocks: experimental measurements and shrinkage modelling”.

Mr. Qazi Asif Nawaz from Pakistan was awarded his Ph.D degree under the guidance of Prof. H. Kubota. His doctoral thesis was entitled “Short notice bus-based evacuation planning for flood prone areas”.

Mr. Mohammad Rajib from Bangladesh was awarded his Ph.D degree under the guidance of Associate Prof. C. Oguchi. His doctoral thesis was entitled “Adsorption characterization by water-rock interaction experiment with weathered pumice tuff from a radioactive waste repository”.

Mr. Rangga Adiprima Sudisman from Indonesia was awarded his Ph.D degree under the guidance of Prof. M. Osada. His doctoral thesis was entitled “Experimental study on the freezing of sands and soft rocks: Investigation on the thermo-hydro-mechanical problems”.

Mr. Hafiz Muhammad Awais Rashid from Pakistan was awarded his Ph.D degree under the guidance of Prof. K. Kawamoto. His doctoral thesis was entitled “Characterization

of geotechnical, hydraulic and solute transport properties of liner materials under elevated thermo-chemical exposure”.

Mr. Udagedara Dashan Tharanga from Sri Lanka was awarded his Ph.D degree under the guidance of Associate Prof. C. Oguchi. His doctoral thesis was entitled “Evaluation and application of weathering indices based on geochemical and geomechanical approaches on Precambrian gneiss in Samanlawewa hydropower project site, south Sri Lanka”.

Ms. Hasina Jasmin from Bangladesh was awarded her Ph.D degree under the guidance of Prof. H. Kubota. Her doctoral thesis was entitled “Yielding behavior of turning vehicle driver on crosswalk at signalized intersection”.

Ms. Nguyen Thi Loan from Vietnam was awarded her M.Eng. degree under the guidance of Prof. H. Mutsuyoshi. Her master’s thesis was entitled “Development of PC grout mixed with ion exchange resin”.

Ms. Mursheda Rahman from Bangladesh was awarded her M.Eng. degree under the guidance of Prof. H. Kubota. Her master’s thesis was entitled “An identification of external factors affecting the effectiveness of speed humps”.

Ms. Santoshi Sharma Thakur from Nepal was awarded her M.Eng. degree under the guidance of Associate Prof. C. Oguchi. Her master’s thesis was entitled “Influence of micro climatic conditions on the process of rock weathering”.

Mr. Aslam Shuaib from Pakistan was awarded his M.Eng. degree under the guidance of Associate Prof. H. Taniyama. His master’s thesis was entitled “Dilatancy characteristics of granular soils by using discrete element method (DEM) in 3D”.

Mr. Wei Wang from China was awarded his M.Eng. degree under the guidance of Assistant Prof. Luan Yao. His master’s thesis was entitled “Study of shrinkage behavior of bulk hydrophobic mortar”.

March 2017

Mr. Mustafa Samim was awarded his Ph.D. degree under the guidance of Prof. Y. Matsumoto. His doctoral thesis was entitled “An energy based damping evaluation using Bayesian model updating for vibration-based structural health monitoring of steel truss bridges”.

Mr. Jie Fang from China was awarded his M.Eng. degree under the guidance of Prof. H. Mutsuyoshi. His master’s thesis was entitled “Development of crack healing technique for concrete structures using bio-grout”.

Mr. Zongmu Liu from China was awarded his M.Eng. degree under the guidance of Prof. M. Saitoh. His master’s thesis was entitled “Resilient structural systems to control collapse direction during strong earthquakes”.

Mr. Sen Qin from China was awarded his M.Eng. degree under the guidance of Prof. H. Mutsuyoshi. His master’s thesis was entitled “Development of reinjection grout mixed with ion exchange resin”.

Mr. Zhenyu Xie from China was awarded his M.Eng. degree under the guidance of Prof. H. Kubota. His master’s thesis was entitled “Study on the effect of sports on traffic accident prevention and injury”.

Mr. Muhammad Faheem Ud Din Afzal from Pakistan was awarded his M.Eng. degree under the guidance of Prof. Y. Matsumoto. His master's thesis was entitled "Validation of a new radar vibration system and its possible application in condition monitoring of bridges".

Mr. Ilyas Akram from Pakistan was awarded his M.Eng. degree under the guidance of Prof. J. Kuwano. His master's thesis was entitled "Effect of cone and geogrid position on bearing capacity of reinforced sand".

Ms. Bimali Chathurika Amunugama from Sri Lanka was awarded her M.Eng. degree under the guidance of Prof. M. Osada. Her master's thesis was entitled "Evaluating long term deformational behavior of Horonobe mudstone subjected to repeated drying and wetting process".

Mr. Erojan Dhoju from Nepal was awarded his M.Eng. degree under the guidance of Associate Prof. T. Maki. His master's thesis was entitled "Investigation on long-term behavior of joint connection in steel concrete hybrid structures".

Mr. Nabin Kumar Ijam from Nepal was awarded his M.Eng. degree under the guidance of Associate Prof. T. Yamabe. His master's thesis was entitled "A freeze-thaw study of thermo-hydro-mechanical system of soft rock under subzero conditions".

Mr. Illangakoon Pathirana Gayan Buddhika Illangakoon from Sri Lanka was awarded his M.Eng. degree under the guidance of Associate Prof. S. Asamoto. His master's thesis was entitled "Cold joint formation of concrete in hot weather conditions".

Ms. Bidha Laxmi Joshi from Nepal was awarded her M.Eng. degree under the guidance of Assistant Prof. Ji Dang. Her master's thesis was entitled "Performance based seismic design for function separated bridge".

Mr. Mohammad Arif Mohiuddin from Bangladesh was awarded his M.Eng. degree under the guidance of Prof. M. Saitoh. His master's thesis was entitled "Effects of global and local soil nonlinearity on impedance functions of piles".

Mr. Nguyen Van Trung from Vietnam was awarded his M.Eng. degree under the guidance of Associate Prof. J. Yagisawa. His master's thesis was entitled "Numerical simulation for beach nourishment at Namiita coast".

News

New Appointments

Dr. Taro Uchimura was appointed as an associate professor of Geotechnical and Geosphere Research Group in October 2016. His research interest is geotechnical engineering and geohazards prevention engineering.

Dr. Yuta Mizoguchi was appointed as an assistant professor of Hydraulic and Environmental Engineering Group in April 2017. His research interest is river engineering.

Faculty Promotion

Dr. Masahiko Osada was promoted to Professor of Geotechnical and Geosphere Research Group in April 2017. His research fields are rock mechanics and applied geology.

Welcome New Students

October 2016



Sushmita Hossain
Bangladesh, Doctor



Md Shajib Ullah
Bangladesh, Doctor



Basit Sarfaraz
Pakistan, Doctor



Rashedunnabi A.H.M
Bangladesh, Doctor



Kumara Pradeep Gajanayake
Gajanayake Mudalige
Sri Lanka, Doctor



Mursheda Raman
Bangladesh, Doctor



Ali Ejaz
Pakistan, Master



Shwe Ingyin Khaing
Myanmar, Master



Thiri Shun Lae Thu
Myanmar, Master



Hsu Mon Khin
Myanmar, Master



Madilson Maria De Pina Arafa
Guinea Bissau, Master



Munabangogo Joel Kintu
Uganda, Master



Khieu Hai Hoang
Vietnam, Master



Bach Hung Phu
Vietnam, Master

April 2017



Zhenyu Xie
China, Doctor



Zongmu Liu
China, Doctor



Shangning Tao
China, Doctor



Ilyas Akram
Pakistan, Doctor



Shaika Sharkia
Bangladesh, Master



Quang Thinh Nguyen
Vietnam, Master



Waseem Shaukat
Pakistan, Master



Raquel Omandam Masalig
Philippines, Master



Tulaja Gurung
Nepal, Master



Junaid Qayyum Kayani
Pakistan, Master



Ghan Shyam Ghimire
Nepal, Master



Arshad Ali
Pakistan, Master



Nikesah Maharjan
Nepal, Master



Acacio Albano Ajuda
Mozambique, Master



Sonam Lhamo
Bhutan, Master

Faculty on Move

Prof. Hideji Kawakami of Earthquake Disaster Prevention and Mitigation Group retired from Saitama University in March 2017.

Associate Professor Kazuaki Okubo of Transportation and Planning Group resigned from Saitama University in March 2017. He is currently working at Ehime University.

Awards

Prof. Hiroshi Mutsuyoshi was awarded the "Medal for contribution to education and

training in Vietnam" from the Ministry of Education and Training of Vietnam at the award ceremony held on November 19, 2016 in Hanoi. The award ceremony was held as part of the 50th anniversary of National University of Civil Engineering (NUCE) of Vietnam.



Prof. H. Mutsuyoshi (R) with the rector of NUCE

Dr. Ha Minh (an alumnus of Saitama University - M.Eng. (2001); Ph.D (2005)), who also served as an Assistant Professor at the Department of Civil and Environmental Engineering of Saitama University between 2006 and 2009, was promoted to the post of CEO of CONINCO (Consultant and Inspection Joint Stock Company of Construction Technology and Equipment), Vietnam.



Dr. Ha Minh

Dr. A.F.M. Saiful Amin (an alumnus of Saitama University - Ph.D (2001)), who is a Professor at Department of Civil Engineering, Bangladesh University of Engineering and Technology (BUET) was awarded the 2016 JSCE International Outstanding Collaboration Award.

Dr. Sohail Ahmed Rai (an alumnus of Saitama University – Ph.d (2006)) was awarded the Australia Day Achievement Award, 2017 for the outstanding and ground-breaking technical, engagement, communications and coordination work for Murray Darling Basin, Australia.

Mr. Ho Manh Hung received IGS (International Geosynthetics Society) Student Award 2016 for his paper "Role of prestress in geogrid of confined-reinforced earth method to mitigate bridge approach settlement" at the 6th Asian Regional Conference on Geosynthetics held in Delhi in November 2016.

Mr. Ho Manh Hung received the excellent paper presentation award at the 51st Japan National Conference on Geotechnical Engineering, held in Okayama in September 2016, for the paper "Effects of lateral boundary condition on the behavior of confined reinforced earth".

Mr. Rasool Ali Murtaza received the excellent paper presentation award at the 51st Japan National Conference on Geotechnical Engineering, held in Okayama in September 2016, for the paper "Effect of water infiltration on behavior of unsaturated compacted soil at constant deviatoric stress".

Mr. Ilyas Akram received the excellent paper presentation award at the 51st Japan National Conference on Geotechnical Engineering, held in Okayama in September 2016, for the paper "Bearing capacity evaluation of samples prepared by sand pluviation".

Message from Alumni

It is a great honor to have this opportunity to share with you my experiences of the wonderful time spent at Saitama University and my experiences as an alumnus. I was a PhD student from 2007 to 2010 under Prof. Jiro Kuwano's supervision, and it was a great experience. During this time, not only did I acquire precious knowledge, experimenting skills, and research techniques but also got an insider's view of the rich Japanese culture, strong spirit, and network, and I really enjoyed my stay in Japan. All of this has greatly benefited me in my profession.



Having returned to Vietnam, I currently work as an associate professor at the National University of Civil Engineering (NUCE), Hanoi, Vietnam. Here, we have other alumni from our university, and we have been working together as a team for establishing several interesting projects in collaboration with the most important partner, Japan, particularly Saitama University. Having started with small steps such as organizing technical joint seminars, we continue to this day and have developed important programs such as the Student Exchange program, Joint Master program, Core to Core project, and most recently, SATREPS (Science and Technology Research Partnership for Sustainable Development). Besides developing valuable academic relationships, I have benefited from networking, support from professors, and contact with laboratory members and look forward to cooperation with Japanese organizations, companies, and experts that could link me to the academia and industry in my field. Our team has even established a Vietnam–Japan Institute for Advanced Technology (VJIAT) within our university to focus on research collaboration with Japanese partners.

I would say that the knowledge and culture that I have learnt and experienced during my stay in Japan, combined with the excellent cooperation of Saitama University's professors, have made my life meaningful. We can now enjoy our work and also contribute toward our community.

Thank you very much and I look forward to hearing your stories.

Dr. Nguyen Hoang Giang

Director of International Cooperation Department
National University of Civil Engineering (NUCE), Vietnam

Message from the Foreign Student Office

How have you been?

We are pleased to send you Issue No. 22 of our Newsletter.

With great pleasure, we would like to inform you that Prof. Yasunao Matsumoto became the new head of FSO in April this year. Our immediate former head, Prof. Hiroshi Mutsuyoshi, will continue supporting FSO together with Prof. Matsumoto. We are excitedly looking forward to the further growth of FSO.

On a separate note, do you remember our message in Issue No. 21 regarding the three cherry trees that were planted to celebrate the 50th establishment anniversary of the Department of Civil and Environmental Engineering? Though the trees are still growing, flowers beautifully bloomed on it this spring. You can see the picture of these cute pink flowers on our website at <http://intl.civil.saitama-u.ac.jp/>

We are also pleased to inform you that we have issued our 2017 alumni directory. This was the sixth edition and includes our graduates' data from September 1995 to March 2017. Information was updated for graduates who submitted the tracer form. We thank you for your cooperation in sending us the tracer form.

Please feel free to share your news and achievements with us. We are always looking forward to hear from you.



FSO staffs (Ms. Shimodaira (L) and Ms. Mori (R))

The Foreign Student Office (FSO)

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