

Saitama University

Newsletter

International Graduate Program for Overseas Students
Civil & Environmental Engineering

Issue No. 10 2005

Since its inception in 1992, the International Graduate Program on "Environmental Management and Infrastructure Development Engineering" has produced 187 foreign graduates (M.Sc. and Ph.D.) from 20 countries. At present, there are about 60 students enrolled under this program. Most of the students are supported by the Monbukagaksho, ADB-JSP and Joint Japan-World Bank scholarships. As the program becomes older, the quality of education and research is substantially improved. As a result, the competitions for awarding these scholarships are very high. For example, there were 181 applications from 23 different countries for seven M.Sc. ADB-JSP scholarships for April, 2005. For the Doctoral course of October 2005, we have received 68 applications from 17 countries for seven Monbukagaksho scholarships. Therefore, only the best of the best students are selected for our graduate program.

After graduation, many of our alumni are successful in winning JSPS postdoctoral scholarship under which they continue advanced research for another two years. This indicates high quality research conducted in our graduate program considering that the JSPS scholarship is a prestigious one and only offered to top-class foreign researchers.

Besides the scholarly education and research, we have increased our social events for foreign students to become closer to each other and to exchange their academic and social interactions so that their stay in Japan is enjoyable.

There are some changes in course-curriculum of our graduate program. The curriculum is now more problem-solving, better links to the society, pro-



Student Orientation in April 2005

motes more international perspectives and provides advanced specialized knowledge. Now we have more

courses taught in English. The webpage of our International Program has also been updated.

Greetings from the Head of the Foreign Student Office

First of all, on behalf of the FSO, I would like to express our sympathies, condolences and prayers for the victims and their families of recent Tsunami in some Asian countries. The tragedy around the Indian Ocean started as a result of the mammoth undersea earthquake of 26th December, 2004 and was one of the most terrible natural disasters in our generation. The environmental and infrastructure systems in the affected areas have been severely damaged or destroyed.



Many of our graduates are involved in assessing and addressing the impacts of this disaster and in rebuilding infrastructure of the affected areas. We are always in contact with our graduates to provide them with technical and logistic supports. However, our future graduates need to learn the lessons from this natural disaster and to prepare accordingly so that the devastating impacts of future disasters are minimized.

Since last year, all national universities of Japan became a "national university corporation". This reform brings various advantages as well as challenges to us. Although the university has become more independent than was before, lots of budget cuts by the national government confront the challenges in bringing extramural funds, especially for research. Therefore, our academic staff as well as graduate students need to work hard to maximize our research outputs. I hope that our graduates will overcome these challenges by their untiring and scholarly efforts.

Sincerely yours,

Professor Koji Tsunokawa
Head of FSO

Graduation Time Congratulations

September 2004

Ms. Ei Chaw Khin from Myanmar was awarded her PhD degree in September 2004. Her doctoral thesis was on the “Effectiveness of Parking Reservation System as a part of Comprehensive TDM Scheme”.

Mr. Nguyen Khang Duy from Vietnam was awarded his PhD degree in September 2004. His doctoral thesis was on the “Integrated Modeling Approaches for Analyzing Groundwater Flow Solute Transport in Fractured Rock Masses in Different Scales”.

Mr. Phung Dang Hieu from Vietnam was awarded his PhD degree in September 2004. His doctoral thesis was on the “Numerical Simulation of Wave-Structure Interactions based on Two-Phase Flow Model”.

Mr. Pandey Govinda Raj from Nepal was awarded his PhD degree in September 2004. His doctoral thesis was on the “Seismic Damage Mitigation of Reinforced Concrete Structures by Controlling Bond of Reinforcement”.

Ms. Win Pa Pa from Myanmar was awarded her PhD degree in September 2004. Her doctoral thesis was on the “Evaluation of Effect of Crack on Chloride Ion Penetration in Reinforced Concrete Structures”.

Mr. Subedi Jishnu Kumar from Nepal was awarded his PhD degree in September 2004. His doctoral thesis was on the “Investigation of Subjective Responses to Complex Low Frequency Sounds from Civil Engineering Structures”.

Mr. Nguyen Hung Thanh from Vietnam was awarded his PhD degree in September 2004. His doctoral thesis was on the “Interaction of Environmental Factors and Submersed Macrophytes in Flowing Water”.

Mr. Carlos Alejandro V. Lopez-Raygada from Peru was awarded his MEng degree in September 2004. His master's thesis was on the “Runoff Forecasting for Small Mountainous Basins”.

Mr. Nguyen Thuy Ba from Vietnam was awarded his MEng degree in September 2004. His master's thesis was on the “Two-Dimensional Model of Wave Breaking and Runup Model based on Boussinesq and Application to Ship Waves”.

Research Profile Series (9)

Foundations and Earthquake Engineering Laboratory

Foundations and Earthquake Engineering Laboratory is a part of the Department of Civil and Environmental Engineering in Saitama University. The laboratory has been researching and studying on earthquake engineering and the engineering applications of earth science.

The main areas of research expertise of this laboratory are: lifeline systems engineering; reliability theory; seismic excitation and structural response; soil-structure interaction especially, impedance functions and effective seismic motions evaluated by means of three-dimensional wave propagation theory; seismic wave propagation; site and propagation path effects on strong ground motion; temporal and spatial variations of strong motion; and intelligent material and smart structure to detect damage to structures subjected to earthquakes.

The laboratory is led by Professor Hideji Kawakami, Lecturer Hidenori Mogi, and Research associate Masato Saitoh. Other members of the lab include two post doctoral researchers, lab technician, six (6) graduate students and seven (7) undergraduate students.

Presently the laboratory is researching, for example, on numerical modelling of wave propagation in multiple linear systems, seismic response reduction for low-rise structures, influence of high-rise buildings on input earthquake motion for surrounding buildings, and analysis of earth structure under the Kanto plain by using seismic data.

The laboratory has been actively involved in professional and important investigations of post-earthquake damage analysis such as Kobe (Japan), Chi Chi (Taiwan) and Niigata (Japan). The laboratory has also pioneered and developed NIOM model.

The laboratory is well equipped and has some good research facilities such as microtremor measurement instruments, strong-motion earthquake recorders placed inside the University, super computers and advanced computer softwares like rigid body simulations. The laboratory has also developed many advanced computer programs which are used for the researches and studies conducted in the laboratory.

The aspiration of the Foundations and Earthquake Engineering Laboratory is to develop leaders in education, industries and government who can use their acquired knowledge to improve society. The programme provides a comprehensive framework of courses in the broad field of civil and environmental engineering with opportunities to develop specialized expertise. It emphasizes the development of integrated team work abilities, leadership, and creative research skills.



Mr. Madeira Leonel Da Silva Gregorio from East Timor was awarded his MEng degree in September 2004. His master's thesis was on the "Effect of Thin Steel Encasing on Strength and Ductility of Rectangular Reinforced Concrete Column".

Mr. Wibowo Hardi from Indonesia was awarded his MEng degree in September 2004. His master's thesis was on the "Verification and Improvement of Effective Width Formula for Crack Width Evaluation in Composite Girder Bridges".

March 2005

Ms. Nguyen Lan Kim from Vietnam was awarded her PhD degree in March 2005. Her doctoral thesis was on the "Morphological Characteristics and Nutrient Dynamics during Growth and Decay Processes of Wild-Rice (Zizania Latifolia)".

Ms. Dodampe G. K. Mala Kumari from Sri Lanka was awarded her PhD degree in March 2005. Her doctoral thesis was on the "Use of Fractured Rock Aquifer as a Reliable Groundwater Source for Dry Zone in Sri Lanka".

Mr. Areemit Natthapong from Thailand was awarded his PhD degree in March 2005. His doctoral thesis was on the "State Monitoring of Civil Engineering Structures by Modal Identification with Ambient Vibration Measurement".

Mr. Hoque Md. Mozammel from Bangladesh was awarded his PhD degree in March 2005. His doctoral thesis was on the "Determination of Safety Factors of Highway Bridges for Seismic Design".

Mr. Dinh Ngoc Hai from Vietnam was awarded his PhD degree in March 2005. His doctoral thesis was on the "The Growth Dynamics of Typha: An Experimental and Modeling Approach".

Mr. Dinh Hiep Van from Vietnam was awarded his MEng degree in March 2005. His master's thesis was on the "Optimization of Pavement Maintenance Options using What-if Models Combined with Gradient Search Methods".

Mr. Abhayantha K. Chandana Gayan from Sri Lanka was awarded his MEng degree in March 2005. His master's thesis was on the "Effectiveness of Bus Priority Lane as a Countermeasure for Congestion Model Shifting".

Mr. Swe Yu from Myanmar was awarded his MEng degree in March 2005. His master's thesis was on the "Anisotropic Shear Strength and Deformation on Remoulded Marine Clay under Normally Consolidated and Slightly Over-consolidated States".

Mr. Nguyen Ba Minh from Vietnam was awarded his MEng degree in March 2005. His master's thesis was on the "Experimental Study on Time-Dependent Crack Growth in Granite".

Mr. Alim Md. Abdul from Bangladesh was awarded his MEng degree in March 2005. His master's thesis was on the "Numerical Study on Monotonic Drained Behavior of Granular Material using Distinct Element Method".

Mr. Bakht Bilal from Pakistan was awarded his MEng degree in March 2005.

His master's thesis was on the "Development of Evaluation System for Reinforced Concrete (RC) Bridges".

Mr. Bhattarai Sumesh Kumar from Nepal was awarded his MEng degree in March 2005. His master's thesis was on the "Vibration-based Structural Change Identification by Model Updating using Minimum Variance Approach".

Ms. Rahman Farzana from Bangladesh was awarded her MEng degree in March 2005. Her master's thesis was on the "Comparative Study of Design and Planning Process of Traffic Calming Devices".

Ms. Htike Htike from Myanmar was awarded her MEng degree in March 2005. Her master's thesis was on the "Study on the Estimation of Unsaturated Flow Parameters and the Development of Groundwater Management System for Yangon Area".

Mr. Min Maung Maung from Myanmar was awarded his MEng degree in March 2005. His master's thesis was on the "Study on the Unsaturated Flow around a Tunnel by using Evaporation Measurement Techniques".

Ms. Pathirana Chandani Ajantha from Sri Lanka was awarded her MEng degree in March 2005. Her master's thesis was on the "Analysis of Groundwater Flow in a Fractured Zone and 3D Virtual Reality Visualization of Flow".

Mr. De Silva Gallage Sudhira Yasapriya from Sri Lanka was awarded his MEng degree in March 2005. His master's thesis was on the "Investigation on Shear Cracking Behavior of Partially Prestressed Concrete Beams".

Welcome New Students

October 2004



Affandi Azhar Kholiq
Indonesia, Doctor



Tri Basuki Joewono
Indonesia, Doctor



Resurreccion A. Cooper
Philippines, Doctor



De Silva G. Sudhira
Sri Lanka, Doctor



Nguyen Duc Hai
Vietnam, Master



Bandula H. T. Madunoraj
Sri Lanka, Master



Bakht Bilal
Pakistan, Doctor



Parik Manoj Kumar
India, Master



Nguyen Xuan Hien
Vietnam, Master



Min Maung Maung
Myanmar, Doctor



Sharma Anu
Nepal, Master



Nurhusein Mebruk Md.
Ethiopia, Master



Park Hyuck
Korea, Doctor



Rahman Md. Hafizur
Bangladesh, Master



Endah Retnaningrum
Indonesia, Master



Mulati Yusa Yin
China, Doctor



Grutas R. Nepomuceno
Philippines, Master



Ganga Samarasekara
Sri Lanka, Master

News

New Appointments

Dr. Ekram Azim from Bangladesh was appointed as Research Associate of Molecular Environmental Eng. Lab. in October 2004. His research field is aquatic ecology. He is also a staff member of the FSO.

Dr. Jiro Kuwano was appointed as Professor of Geosphere Research Institute in May 2005. His research field is geotechnical engineering, including pre-failure deformation characteristics of soils, soil liquefaction, earth reinforcement.

Faculty on Move

Prof. Kuniaki Sato of Geosphere Research Institute retired from Saitama University in March 2005, where he had served in the field of groundwater hydrology for more than 30 years.

Sabbatical Leave

Dr. Ken Kawamoto, Research Associate of Soil Mechanics Laboratory, is staying at Aalborg University in Denmark for one year since the beginning of March 2005. During his stay he investigates transport of Environmental Impact Chemicals in soil and groundwater for clean-up of contaminated soil and groundwater.

Faculty Promotion

Dr. Hisashi Kubota was promoted to Professor of Design and Planning Laboratory in April 2005. His research field is urban transport planning and engineering.

Awards

Research Associate M. Saitoh and Professor H. Kawakami were awarded the journal "Tsuchi-to-Kiso" Annual Excellent Award by JGS (The Japanese Geotechnical Society) for their paper entitled "A new method to detect damage to foundation utilizing intelligent material" co-authored with Dr. Murata, Mr. Watanabe, and Mr. Nishioka (Railway Technical Research Institute) in May, 2004.

Prof. Hisashi Kubota was awarded in March 2005 by the Transportation Cooperation Foundation with the Transportation Publication Prize, which is the award for out-

standing publication on transportation, for the book entitled "Social Experiments on Transportation in Kamakura" co-authored with Prof. Y. Takahashi (Tokyo University of Marine Science and Technology).

Prof. Takashi Asaeda and Assoc. Prof. Norio Tanaka were awarded in May 2005 by JSCE with the JSCE journal Prize, which is the award for outstanding research publication on civil engineering, for the papers entitled

"Investigation and evaluation method's development of the growth dynamics of emergent macrophytes, *Phragmites australis* and *Typha angustifolia*".

Research Associate Ken Kawamoto was awarded in August 2005 by the Japanese Society of Irrigation, Drainage and Reclamation Engineering with the outstanding research prize on "Fingering flow in sandy and water repellent soils".

Message from Alumni

I was enrolled in the special program of the Department of Civil and Environmental Engineering, Saitama University as a graduate student in April 1998. During my studies, I found the guidance and assistance I received from the Professors and Lab members to be very helpful and valuable for conducting my research. Furthermore, I have also experienced working in the Japanese teamwork system in which cooperation among team members is very important. This made me understand that more outcomes can be achieved from doing research with a team than is possible by an individualistic working style.



I obtained my MEng and PhD degrees in March 2000 and 2003, respectively, and got a postdoctoral fellowship from the Japan Society of the Promotion of Science (JSPS) in October 2003. I consider this a good opportunity to continue my research and to broaden my knowledge and experience in the field of structural engineering, particularly on pre-stressed concrete structures.

Lastly, I would like to suggest to all international students that, apart from academic activity, please take every opportunity to experience other aspects of life in Japan, such as visiting beautiful places, learning its culture and history, and interacting with the Japanese people. Moreover, it would also be a good opportunity to learn the Japanese language and to understand things in Japanese.

With best wishes,
Eakarath Witthukreangkrai

Message from the Foreign Student Office

This spring we saw many Japanese people wearing masks as preventive measures against cedar pollen allergies, or hay fever. It seems that the number of these patients has been increasing every year. Those who have had hay fever are showing various symptoms. They are running at the nose and their sneezes are unstoppable. Spring season is a hard time for them in Japan. Are you all right? We hope all of you are in good health.

By the way, 15 new students entered this department in April 2005. We would like to make this a place where they can talk to one another and exchange information. The newsletter is a bridge be-

tween the department and our alumni. So please let us know your current situation anytime. If you have interesting news, please contribute to our newsletter. We are always interested in your message.

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