

Volume 1, Issue 3

October–December
2005

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Asst. Prof. Dr. Tirawat Boonyatee from Civil Engineering Department, Chulalongkorn University has been appointed as Assistant Executive Director since October 2005.



AUN/SEED-Net **JICA**

ASEAN University Network/Southeast Asia Engineering
Education Development Network



It's New Year! On this special occasion, we would like to thank you for your support and cooperation given to AUN/SEED-Net throughout the past year, and we are sure that the year 2006 will be even better for our growing Network.

We wish you a merry, healthy, prosperous and successful year!

Message from New Assistant Executive Director

My first connection with AUN/SEED-Net was in 2002, when I acted as a lecturer of SEED-Net's students. My department has been changing since then due to the involvement with this program. Despite some difficulties in implementation, I personally think that AUN/SEED-Net has already established itself as a good example and inspiration for other educational cooperation programs which may occur in the near future among the ASEAN countries.

Upgrading the education and research capacities is definitely an excellent and sustainable way for country development. Advanced technologies and innovations have been rapidly growing and now become the key for survival of most countries; as a result, we have to stand on our own feet through self-development. To seed the sustainable development in ASEAN countries, AUN/SEED-Net has conducted many activities to assist in strengthening education and research capabilities in the field of engineering. After the first three years of its operation, some good signs can be seen yet still far from the ultimate goal of the project.

To be assigned to the position of Assistant Executive Director, it is an honor and challenge for me to drive this project smoothly to its ultimate goal under the leadership of our Executive Director. During this long journey, I would like to ask for your supports, comments and suggestions. AUN/SEED-Net depends on your inputs and helps to make its mission possible.



Asst. Prof. Dr. Tirawat Boonyatee
Assistant Executive Director

Orientations & Monitoring Visits: Always Care



To familiarize AUN/SEED-Net scholars with new environments and regulations, the AUN/SEED-Net Secretariat arranges an orientation especially for our scholars at each Host Institution. Scholars will know the general background of AUN/SEED-Net, student's commitments, monitoring scheme, financial matters, and regulations to be observed during their scholarship periods.

Throughout the study, AUN/SEED-Net scholars will be taken care of by our Program Coordinators and Program Officers responsible for respective Host Institutions, together with Advisors and Contact Persons at the Hosts. The Secretariat and JICA Team for AUN/SEED-Net also make regular monitoring visits to all Hosts to gather feedbacks on problems, difficulties, and recommendations from students and the faculty.

These activities show our dedication and intention to guarantee the wellbeing and high quality performance of our scholars. We always care for them.



First Stereoscopic PIV Developed in South East Asia by ITB



By *Nguyen Quang Nguyen*

(Master's student from Hanoi University of Technology studying in Mechanical & Aeronautical Engineering at Institut Teknologi Bandung)

With Special Equipment Support from AUN/SEED-Net, Aero-Lab at ITB is currently developing the stereo Particle Image Velocimetry (PIV) system for wind tunnel measurement, which is claimed to be the first stereoscopic PIV developed in South East Asia.

Velocity is the most important flow quantity in Fluid Mechanics. Previously, pitot tubes, hot wires or Laser Doppler Velocimetry (LDV) has been widely used to measure the flow velocity. However, all of them are single point measurement techniques and, except LDV, intrusive methods. In early 90s, Particle Image Velocimetry (PIV) was invented as a solution to overcome these disadvantages and soon, it has been

utilized in many technique fields.

PIV measures the flow velocity by imaging the flow. Firstly, the flow is seeded with special particles to illuminate itself so that a camera is able to capture flow images in a section illuminated by laser. Two consecutive images taken at time t and $t+Dt$ will be correlated with each other. The result gives the displacement of particles within time interval Dt and the velocity field is then obtained by dividing the displacement field by Dt . The standard 2-D PIV can also be extended to obtain all 3 components of velocity field within a slice. This extended version of PIV is called Stereoscopic PIV.

ITB students have developed all software programs used in PIV so that it could be easily controlled. The software consists of software for grabbing and saving image, correlation software for calculating velocity field and software for analyzing flow. PIV can be employed in many researches such as measurement of unsteady force of an immersed body, flow separation on 3-D



Above: Stereoscopic PIV developed by ITB with AUN/SEED-Net support

object, etc. With this state of the art method, researches at ITB are able to study complex aerodynamic problem.

Geological Engineering: Learning for Living in Harmony with Nature

Promoting geological engineering education for sustainable life and environment is the main mission of Geological Engineering Department at Faculty of Engineering, Gadjah Mada University. This department has been assigned as the Host Institution of Geological Engineering Field under the AUN/SEED Net since the year of 2003. With the vision to be a center for development of Human Resources in Geological Engineering and Geohazard management, this field provides the learning program which highlights the importance to live in harmony with the nature.

Since September 2003, 15 Master and 4 PhD Sandwich students from Ho Chi Minh City University of Technology, Institute of Technological Cambodia, University of the Philippines-Diliman, National University of Laos, and University of Sains Malaysia have pursued the study in the field of Geological Engineering. Five masters were graduated last August 2005, one of whom receiving the AUN/SEED-Net PhD scholarship to study in Earth Resources Engineering at Kyushu University, Japan. During their study at Geological Engineering Department, all students are trained to develop their skills, knowledge and attitudes to handle and solve the real-field problems related to the

Below: Team of students and teachers working in the field



Above: Consultation and discussion in field with Prof. Dr. Kenji Aoki from Kyoto University



Geological Mapping in Kulon Progo, Yogyakarta, Indonesia

field. Through the field work, not only knowledge but also emotional and intellectual capabilities of the students can be developed. They are also trained to have such strong team-working and friendship, as well as effective cultural exchange and improvement of communication skills.

One field laboratory for landslide monitoring and 5 collaborative researches with various themes of Landslide Management; Tunneling Risk Assessment; Geohazard Management; Geothermal Resources Exploration, and Mineral Resources Management are provided to support the work of master and PhD students. All of those researches involve field and monitoring works conducted in Indonesia and Malaysia and deal with real geological problems commonly found in ASEAN countries.

In order to provide a channel to discuss, evaluate and direct the progress of the research-based education program in this field as well as to provide opportunity for students and staffs to present their research works, series of Field-wise Seminars have been organized as follows:

- The 1st Field-wise Seminar at Gadjah Mada University, Indonesia (February 2003)
- The 2nd Field-wise Seminar organized by Ho Chi Minh City University of Technology (August 2003)
- The 3rd Field-wise Seminar by University of Sains Malaysia (February 2004)
- The 4th Field-wise Seminar by University of the Philippines-Diliman (August 2004)
- The 5th Field-wise Seminar organized together with the 1st International Symposium on Geological and Earth Resources Engineering at Gadjah Mada University (December 2004)

- The 6th Field-wise Seminar by Institute of Technological Cambodia (June 2005)
- The 7th Field-wise Seminar conducted together with the 2nd International Symposium on Geological and Earth Resources Engineering by Chulalongkorn University (December 2005)

The next Field-wise Seminar will be held together with the 3rd International Symposium on Geological and Earth Resources Engineering by Gadjah Mada University in August 2006.



Students' seminar and discussion with Japanese Professor and research staffs from Host Institution and Member Institutions

Obviously, continues and dynamic progress in all activities conducted by the field of Geological Engineering can be performed due to strong commitments and supports from Japanese Supporting Universities such as Kyushu University, Kyoto University and also Hokkaido University, as well as from the Member Institution Universities and AUN/SEED-Net.

Events



▷ August 30-31, 2005: The University of the Philippines–Diliman arranged the Field-wise Seminar in Environmental Engineering at the Manila Hotel, the Philippines.



▷ September 1-2, 2005: De La Salle University hosted the Field-wise Seminar in Chemical Engineering in Manila, the Philippines.



▷ October 3-4, 2005: Field-wise Seminar in Manufacturing Engineering was arranged at Chulalongkorn University, Thailand.



▷ October 4, 2005: AUN/SEED-Net representatives gave a donation to the Thai Red Cross Society for Tsunami Relief Fund. The donation was made by participants of the Disaster Mitigation and Management Workshop, which was held in Phuket, Thailand in early August.



▷ November 14-15, 2005: Field-wise Seminar in Electrical and Electronic Engineering was held by Hanoi University of Technology at Fortuna Hotel, Hanoi, Vietnam.



▷ November 30-December 1, 2005: De La Salle University and University of the Philippines–Diliman arranged the Field-wise Seminar in Chemical and Environmental Engineering, in parallel with the Regional Symposium on Chemical Engineering at Hanoi Horizon Hotel, Vietnam.



▷ December 9, 2005: The Signing Ceremony of the Minutes of Meeting of Mid-Term Evaluation of AUN/SEED-Net Project was arranged at Pathumwan Princess Hotel, Bangkok. The minutes was signed by joint evaluators namely the Commission on Higher Education of Thailand, the Japan International Cooperation Agency and the AUN/SEED-Net Secretariat.

Internship



Mr. Kenichi Shirouzu, a trainee from JICA Headquarters, was assigned to work for JICA Project for AUN/SEED-Net as program Officer for 6 months from

October 2005 to April 2006. During his internship in Thailand, he would be responsible for some project activities and accompany with our Team to Member Institutions in ASEAN countries.

Mid-Term Evaluation



Since the official inauguration of the Project in March 2003, AUN/SEED-Net Project has now approached the middle of the Project period of 5 years. During September–

December 2005 the mid-term evaluation was conducted to summarize inputs and outputs of the Project in accordance with the Project Design Matrix (PDM), in order to determine the achievement of the Project, decide the change of the initial plan if needed, and review the formation of the Project. The goals of the mid-term evaluation are the improvement of activities in the latter half of the Project period and the sustainability of the Network.

Joint evaluators consist of representatives of JICA Headquarters and JICA Thailand Office, representative of Japanese Supporting University Consortium, the Secretary General of the Commission on

Higher Education as the Chairman of the AUN Board of Trustee, and the Executive Director of AUN/SEED-Net Secretariat. The evaluation team traveled to several member countries to collect opinions and ideas from Member Institutions through interviews and questionnaires. Main points to be discussed are functions of the Network, PDM revision, impacts at Member Institutions, and the sustainability of the Network.

The evaluation results will be discussed and confirmed among member countries at the next Steering Committee Meeting in January 2006.