



Dean's Spot

Congratulations to all of the team of Engineering Physics for passing the course accreditation with flying colours last week! A panel from the Australian Institute of Physics, made up of Prof. Peter Johnston (RMIT),

Prof. David Jamieson (Melbourne University) and Prof. Hans Bachor (ANU) reviewed programs, met with students, toured laboratories and had discussions with academic staff before considering their findings on Friday, 2 September. The panel were very impressed with their experience here, so well done everyone.

I'm pleased to advise that Ms. Carroll Graham has been appointed as the new Faculty Administration Manager and will begin with us on 18 October. Carroll brings many skills and valuable experience to the Faculty. She worked for several years as a professional electrical engineer with Telstra before joining the university sector. Carroll began with the University of Sydney as a careers advisor for science and engineering students before moving on to UNSW as Business Development Manager for the School of Computer Science and Engineering. We look forward to Carroll joining us next month.

Our thanks to Mr. Warren Rogers for his help as Acting Faculty Administration Manager over the past six months. His efforts in assisting me over this time have been greatly appreciated. Warren returns to Health and Behavioural Sciences after handing over to Carroll.



New Moves

Office changes are taking place in Building 2, where work has begun on a new administration office for ISEM, CRCWS and BlueScope Steel Metallurgy Centre. The office will be located in G09 and Prof. John Norrish will move into G10 once the work is completed. This move will provide daily administration support for the three research areas. Joy de Mestre will be job sharing with a new member of staff, Christine O'Brien, who will join us on 13 September. Christine has worked on campus since 1997 and the Faculty of Commerce's loss is our gain. Welcome Christine.

Japanese Connections

Dr. Toshio Sugii recently completed his 12 month visiting fellowship in Geotechnical Engineering and has returned to Chubu University in Japan. During his stay with us, Dr. Sugii worked on a challenging research project, the Design of Dam Filters, and assisted two of our PhD students, Ashok Rout and Kandiah Pratheepan with their research. Dr. Sugii's visit was funded by a Japanese Government Fellowship and it has built a solid foundation for long term collaboration our two institutions. He will be greatly missed by everyone in geotechnical engineering.



Dr. Hiroyasu Nakata from Osaka Kyoiku University, Japan visited Engineering Physics recently. He presented a seminar on the photoconductivity of germanium doped with tellurium and had discussions with Roger Lewis and Rodney Vickers on the problems of acceptor impurities in zinc selenide. The three academics have previously coauthored publications on this topic.

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ISEM News

We farewell Rose Kuschert from ISEM this week, but Rose will still be a familiar face around the Faculty when she returns to help out from time to time. Rose stepped into the breach to help ISEM at a critical time and her assistance has been greatly appreciated.

The winners of ISEM's Postgraduate Awards for 2004 are:

Excellent Postgraduate Student Award

Scott Needham and Germanis Peleckis joint winners

Merit Award

Z. G. Huang, D. Ng, M. O'Dwyer and O. Shcherbakova

Excellent Paper Award

Brad Winton for his paper on superconducting magnetic sensor published at APL.

Criteria for these awards are attitude to work, productivity measured by the quality of outputs, service to ISEM labs and infrastructure, willingness to help others. Congratulations to all of the winners!

ISEM have trained very high achieving graduates over the years, one of whom is Saeid Soltanian, who graduated in 2004 and was one of our best performing graduates. Saeid has been promoted to Pro Vice Chancellor of the University of Kurdistan, Iran. He authored and coauthored more than 30 papers during his PhD studies and eight month postdoctoral fellowship here and his work has been cited 417 times in the last 2-3 years! Saeid worked tirelessly when he was here and the samples and superconductor wires made by him have been appreciated and studied by a number of prestigious groups around the world. These materials set world records in both critical current density and upper critical fields and these records still stand—even now!

Nearly one third of ISEM's 50 PhD graduates now hold senior positions in institutions and various industries. Prof. Dou and his team are very proud of this achievement and pleased that the next generation of researchers are coming along strongly as a group, rather than as individuals.



Prof. S. X. Dou

Global Roaming

John Montagner has just returned from India, where he spent two weeks on a recruitment drive, promoting our Faculty and the University. He visited Mumbai, Chennai, Hyderabad and Bangalore. Student interest was very high for the Master of Engineering Practice and in Hyderabad they interviewed 84 potential students. John's flight home turned into a nightmare of aircraft mishaps and delays, so he took more than 24 hours to return.



Assoc Prof Ian Porter is visiting South America over the next two weeks to promote our Faculty. He is visiting EXTEMIN in Peru and IDP exhibition in Colombia, following up on the Dean's visits earlier this year. In Colombia Ian will promote engineering and in Peru he will promote engineering with an emphasis on mining engineering. We can report that he was on time for the 6.30am shuttle bus to the airport, so he's exceeded expectations already.

Assoc Prof Muhammad Hadi participated in ConMat '05, 3rd International Conference on Construction Materials: Performance, Innovations and Structural Implications in Vancouver, Canada in August. He presented two papers, one coauthored by Denis Montgomery and PhD student Nuri Elbasha.



Italy then awaited Muhammad, where he attended the 10th International Conference on Civil, Structural and Environmental Engineering Computing in Rome. He chaired two sessions and presented one paper, which was coauthored by Assoc. Prof. Yoyong Arfiadi, Atma Jaya Yogyakarta, Indonesia. A paper coauthored by Muhammad was presented by Prof. Hara from Tokoyuma College of Technology, Japan.

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Exhibition "Diploma to Degree Open Day" in the first week of August. This event attracted approximately 2,800 visitors and 32 Australian universities were represented. Brian also visited Ngee Ann, Singapore and Republic Polytechnics to discuss existing and new articulation agreements and also to advise polytechnic academic staff members of the new scholarships available for Polytechnic students wanting to study at the University of Wollongong.



Whilst in Singapore, Brian visited colleagues at the National University of Singapore (NUS) and Nanyang Technological University where he has ongoing research collaboration. He also gave a seminar on "Composite steel-concrete construction and high strength steel: applications and design" which was cosponsored by NUS and Continental Steel.

Physics PhD student, Mark O'Dwyer has spent three weeks in Sweden at the Department of Solid State Physics, Lund University. Mark's research, with Swedish collaborators, is on the problem of nanostructure-based thermionics and heat conduction. This is a new area of research that should have a great impact on the electronics industry and environment protection.

Research Focus

Dr. Phil Flentje has a project with RailCorp to build continuous landslide monitoring stations along the South Coast railway line and the Unanderra to Moss Vale line over the next 5 years. Another similar station is also under construction near Geelong and the Great Ocean Road in collaboration with UOW, AS-Miner Geotechnical and the City of Geelong Council. All of these sites will report to the UOW server and web-based facility, developed with the help of CEDIR and ITS.

Any researchers needing assistance identifying industry partners for possible ARC Linkage grants should contact Dr Troy Coyle on X4420 or email tcoble@uow.edu.au

Supervisors are asked to strongly encourage their postgraduate research students to attend training at the library, if they have not already done so. The Faculty has arranged a full day of training, with lunch provided, on Thursday, 22 September. Students wanting to attend should contact the Engineering Librarian via email: mriggs@uow.edu.au

New Research Group Formed

The University of Wollongong and BlueScope Steel (BSL) have recently formed the Pyrometallurgical Research Group, a team focussed on process research relevant to iron and steelmaking. The group is led by Dr. Brian Monaghan and made up of UOW academics and BSL staff. Their work will encompass processing of ironmaking raw materials through to liquid steel, prior to casting. They will be working under the umbrella of the BlueScope Steel Metallurgy Centre (BSMC) in the Faculty of Engineering. The group includes researchers and technology managers from UoW and BlueScope Steel with an interest in pyrometallurgical processing.

The group's function will be to manage active research programmes, identify, initiate and conduct research projects, seek appropriate funding and sponsor research collaboration between UoW and BlueScope that is focussed on pyrometallurgical processing. It will also develop strategies to attract and recruit high quality postgraduate students who later may wish to pursue a career in industrial R&D.

Although it was only recently formed, the Group has got off to a flying start having won an ARC Linkage grant titled "Insoluble Oxide Product Formation and its Effect on Coke Dissolution in Liquid Iron". The project is worth approximately \$390,000 and the ARC provided all funds requested.



Standing: Dr. Paul Zulli, Dr. Robert Nightingale, Mr. Ramon Serje, Mr. Brad Wenzel, Dr. John Mathieson, Mr. Jim Matthews from BlueScope Steel.

Seated: Dr. Sharon Nightingale and Dr. Brian Monaghan from the School of Mechanical, Materials and Mechatronics, UOW.

UIC Grant Success

The Faculty has been very successful in the latest round of University Internationalisation Committee (UIC) International Links Grants. The grants provide travel support to advance the University's international reputation as an outstanding research and teaching institution.

Congratulations to Buddhima Indraratna, Brian Uy, Kiet Tieu, Zhenyi Jiang, Kenneth Agenson, Andrea Schaefer, Paul Cooper, John Norrish, Weihua Li and Kiet Tieu.



New Staff Member

We welcome Dr Pin Lyu, Associate Fellow, who joins us from Jilin Univeristy, China. Dr Lyu will be working in Engineering Physics with the Thermionic Research Group on electrical transport in nanostructures.

Visitors

Prof. Liu from the University of Utah has just spent a week visiting Engineering Physics after establishing a joint project to study the photocurrent in carbon nanotubes.

Another visitor for Physics was Prof. J. C. Cao, director of the State Key Laboratory of Functional Materials, Chinese Academy of Sciences. Prof. Cao was here for two months as part of an ARC Linkage International grant conducting research on terahertz optoelectronics.

Prof. Zhongshui Ma from Beijing University is visiting Physics for three months. He is a theoretical physicist, specializing in electronic and magnetic properties of spintronic materials and carbon nanotubes and will be working with the Terahertz Research Group.

PhD student, Ms Cuihong Yang, from the Institute of Solid State Physics, Chinese Academy of Science is visiting for six months to work with the Terahertz Research Group on a collaborative project between UOW, ANU and the Chinese Academy of Science.

Thesis Seminars

Prof. Geoff Spinks has been busy organizing the School of MMM's final year thesis seminars. The presentations will take place on 26 September and will run like a mini conference, with 38 students presenting their work.

Student Profile

Mr. Sakdirat Kaewunruen is from Bangkok, Thailand and has joined the Faculty of Engineering at UOW as a PhD candidate, under the supervision of Dr. Alex Remennikov. In Thailand, Sakdirat worked as a civil engineer for the Department of Public works and Town & Country Planning, Ministry of the Interior.

Sakdirat is very pleased at having chosen to study at UOW and writes that UOW is a fascinating and dynamic university that provides very good facilities to students. He notes that "in particular, the integration of learning/researching and industry involvement provides better opportunities to its students". Sakdirat writes "Dr. Remennikov has always given me the freedom to think and learn, independence to do research...whilst he keeps the direction on the right track".

Although Wollongong is very different to bustling Bangkok, Sakdirat says that Wollongong is a very nice place to live and study as it has many beautiful beaches, together with friendly people.



Dr. Alex Remennikov & Sakdirat Kaewunruen

Diary Dates

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| 13 September | Physics School Committee & MMM School Committee |
| 19 September | Exam Paper Assessments (tentative) |
| 20 September | Faculty Committee |
| 21 September | CME Final Year Thesis Seminars |
| 22 September | CME Final Year Thesis Seminars |
| 23 September | CME Final Year Thesis Seminars |
| 26 September | MMM Final Year Thesis Seminars |
| 27 September | CME School Committee |
| 5 October | CME Final Year Thesis Seminars |
| 11 October | Postgrad Research Committee, MMM School Safety Committee |
| | CME School Safety Committee |