University of Wollongong

FACULTY OF ENGINEERING

APRIL 2008

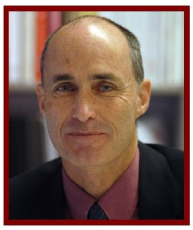
Japanese Visitors

Professors Kitamura, Amanai and Noto from Tokuyama College of Technology in Japan, visited the Faculty of Engineering in February 2008. The aim of their visit was to explore the possibility of sending practicum students to study with us. A tour of the Faculty was organised which proved extremely successful and the visitors were very impressed, particularly with the SAE car. A number of staff gave presentations including A/Professor Bob Wheway, Mr Iain Lockie, Dr Weihua Li, Dr Oliver Kennedy and A/Professor Muhammad Hadi. Two students from the SAE team also gave excellent presentations.

The visitors then toured the School of Electrical, Computer and Telecommunications Engineering and met the Head of School, Professor Fazel Naghdy.

Associate Professor Muhammad Hadi and Professor Katsumi Noto discussing the SAE racing car.

Dean's Spot



A recent comprehensive analysis of the qualifications of the Chief Executives of the top 500 companies in the USA shows that a large number had engineering degrees. In fact those with Engineering degrees (21%) well outnumbered the next most common degree (Economics) at 15%, followed by Business Administration (13%).

The companies surveyed were those in the authoritative 'Standard and Poor's 500' ranking of the largest 500 companies in USA. The analysis was performed by the company 'Spencer Stuart', founded in 1956. Spencer Stuart is an executive search consulting firm and publishes a 'Route to the Top' report every year (the full report for 2007 is at http://www.spencerstuart.com).

So this is clear evidence that many of the world's largest companies choose engineers to lead them. It is sometimes thought that an engineering degree trains people only to be designers and builders of advanced equipment and systems, but Faculties of Engineering at modern Universities pay a lot of attention to the development of team building skills, interpersonal skills and general management skills in their engineering students. The same creative, logical and analysis skills which are essential for successful engineering are also very appropriate for financial, strategic and personnel management. This is confirmed by the facts; this study demonstrates that successful companies in today's world need engineers at the top.

There is a wealth of additional information also in this report. For example, about 2/3 of all the top 500 CEO's have a higher degree (eg a Master's or PhD). So a positive attitude to continuing education seems to be a very good thing as far as careers in senior management are concerned. The MBA was a popular choice for a second degree, although 27% had degrees other than an MBA, and a substantial number of CEO's without MBA's had a PhD. Our Faculty runs 2 major course work degrees, in Engineering Management (MEM) and in Engineering Practice (MEP) and we currently have nearly 200 PhD students, so we are offering a very appropriate range of choices for people interested in senior management.

Another interesting detail from the report is that 'Operations' was the most common job performed by CEO's immediately before their appointment as CEO. 'Operations' refers to that part of a company which deals with real world transactions, products, R&D and customers. In other words there is no short cut to the top; you need to be good at something first before you can become a good manager! So my advice for young adults from school who are interested in senior management is that they should strive to become excellent at a relevant profession, such as engineering, and then develop a 'hands on' track record with Industry.

Also, it's important to understand the need for continuing education and to obtain appropriate higher degrees after a first degree. If you choose engineering you will be prepared for either state-of-the-art technology development, or for senior management. An engineering degree gives you many options, including being a CEO - the world is your oyster! Good Luck!

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DADD Scholarship

PhD student Phil Commins

Phil Commins, a postgraduate student in Engineering, has recently received a Deutscher Akademischer Austausch Dienst (DADD) scholarship, to study for six months in Germany at the University of Stuttgart (UoS).

The scholarship is awarded by the German Academic Exchange Service and will enable Phil to undertake collaborative research applicable to his PhD. At UoS, Phil will be working with linear direct drives and looking at different methods of control and working with a variety of machinery. Phil is supervised by Professor Chris Cook. If time permits Phil may also travel to other universities such as Hannover for a short time to experience what they have to offer.

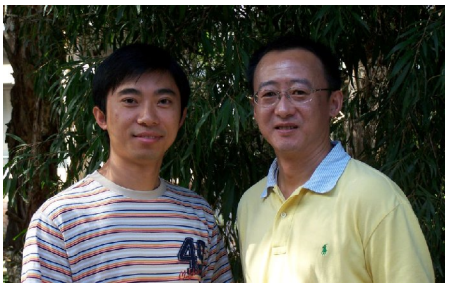
Research News

The research outcome from collaboration between Associate Professor Guoxiu Wang, Dr. Xinglong Gou, Dr. Juan Yang, Dr. Jinsoo Park and Dr. David Wexler from the School of MMM and ISEM has been selected for publication in the Journal of Materials Chemistry (Vol. 18, Issue 9, 7 March 2008). The photo of the "Hyperbranched copper oxide nanoribbons for gas sensor applications" has also been chosen for the front cover of the journal. The Journal of Materials Chemistry is a prestigious journal in Materials Science with an impact factor of 4.287.

Chemical sensing plays an important role both in industry and in our daily life. In particular, precise detection of explosive, chemical and biological warfare agents is critical to national defence and security.

This research clearly demonstrated that nanostructures are a leap ahead of the current sensor technology.

Congratulations



Zhengwei Zhao and Dapeng Chen

Two ISEM postgraduate students have been recognised by the Chinese government for their achievements while studying at UOW.

Mr Zhengwei Zhao, supervised by Professor Liu, and Mr Dapeng Chen, supervised by A/Professor Wang, have received the 2008 Chinese Government Award for Outstanding Self-financed Students Abroad. The China Scholarships Council sponsors the award which recognises top Chinese students undertaking full-time research training overseas and working towards a research-based doctoral degree. It also aims to encourage these students to contribute to and strengthen their ties with their home country.

To qualify, students must be Chinese, under 40 years of age and have been studying in a PhD program for at least one year at a university or accredited institution.

At a special ceremony held recently at the Chinese Consulate in Sydney, Zhengwei and Dapeng each received a certificate of honour and a cheque for US$5,000.

Student Profile

Nishara Lasangi De Silva

Together with her sister Natasha, Nishara from UOW's Faculty of Engineering is a truly international scholar. They have studied in Sri Lanka, the United Arab Emirates and most recently, Australia, in pursuit of their respective goals. Nishara came to the University of Wollongong (UOW) to study a Bachelor of Engineering with a major in materials after her sister had come to study the MBA at UOW. 'I got to know about UOW and its reputation through my sister (who had previously studied at the University of Wollongong – Dubai Campus) and was studying here in Wollongong'.

As well as being a global traveller and scholar, Nishara is also heavily involved in campus life, working for UniCentre from time to time and as an active member of the Wollongong Undergraduate Student Association (WUSA), Mechanical, Materials and Nanotech Society (MetSoc), and the Zine Club. Nishara hopes to use her materials engineering skills to conduct further research and development into artificial muscles and polymer actuators.

International experience is now highly regarded in today's top engineering firms, job prospects in international engineering firms in Dubai is a motivation for Nishara to obtain an honours degree from UOW's Engineering Faculty. This underscores the importance for all engineering students to take a portion of their studies in an international context. Information on how engineering students can take a period of study overseas can be found on the international exchange website:

http://www.uow.edu.au/student/exchange/ or by visiting the Engineering Enquiries Centre.

Diary Dates

8 April	Faculty Committee
15 April	CME Safety Committee Phys Safety Committee MMM Safety Committee
22 April	WAC Committee
29 April	CME School Committee Phys School Committee MMM School Committee