Message from the Head of School

Scientia Professor David Waite

Another year drawing to a close with much to report! One of the most important tasks of a Head of School is the careful appointment of new staff as it is these individuals who will determine the strength of our School in years to come. On this front I am pleased to welcome, in rough chronological order of arrival in the School through 2011, Associate Professor Leonhard Bernold, Dr Stuart Khan, Professor Travis Waller, Dr Carolin Birk, Dr Chris Blenkinsopp and Dr Vinayak Dixit.

There have also been a number of term appointments with a teaching, research and service role in the School including Dr Lauren Gardner, who joins the Transport group with NICTA support, and Dr Gregoire Mariethoz, who steps in to teach hydrology and water resources courses in lieu of Professor Ashish Sharma’s move to Future Fellowship funding. I welcome these new staff and am confident that they will help steer the School to an even stronger future.

On the grants front, the School has performed particularly well in the recently announced round of ARC Discovery awards with School staff involved in 9 successful grants and leading 8 of these. I also congratulate Future Fellowship awardees Dr Richard Collins and Dr Sivakumar Bellie and DECRA awardee Dr Shikha Garg. This research funding is further confirmation of the research strength of the School.

On the teaching front, 2011 has been quite a challenge given the continuing increase in numbers of both undergraduate and postgraduate students. While lecturing a class of 400+ is achievable (though far from ideal), the work involved in administering such large courses coupled with the assignment and exam marking load is extreme. Although the Teaching Postdoctoral Fellows (50% research/50% teaching) we appointed this year helped to some extent, the academic staff coordinating courses with large enrolments still bore the brunt of the workload. I thank these staff for their superb effort. I would like to say that things will improve on this front next year but this I am afraid is unlikely. Early indications are that interest in the School’s programs is even stronger for 2012.

Large student numbers create work not only for academic but also for administrative and technical staff and I thank them for their wonderful efforts through the year. Of particular challenge to our admin team has been managing the growth in numbers of doctoral students in the School with 115 students currently undertaking research leading toward PhD degrees.

In closing, I thank our industry partners and alumni for their continued support through 2011 and look forward to even closer engagement through 2012.

Congratulations

Warm congratulations to the following School staff

Professor Nasser Khalili for his promotion to Associate Dean (Research) of the Faculty of Engineering. We wish Nasser all the best in his new role.

Associate Professor Bill Peirson, Director of Water Research Laboratory and co-Director of the Water Research Centre, for his well-deserved promotion to Associate Professorship this year.

Dr Richard Collins for the award of an ARC Future Fellowship for his work on investigations into uranium resource recovery and pollution response.

Dr Shikha Garg for winning an ARC Discovery Early Career Researcher Award (DECRA) for her work on the interaction between silver ions, silver nanoparticles and reactive oxygen species – and their implications for reducing toxicity.

Dr Sivakumar Bellie for the award of an ARC Future Fellowship for his work on the development of a generic catchment classification framework in hydrology.
In the highly competitive annual ARC grants, the School of Civil and Environmental Engineering has won a record nine Discovery Project grants, totalling $3.26 Million, the largest number of Discovery grants and funds in this round received by any School at UNSW, which in turn received the most ARC funding of any university in the State.

School projects carried out through the two main research centres, the Centre for Infrastructure Engineering and Safety (CIES) and the Water Research Centre (WRC) involve innovative research in areas of structural engineering, coastal engineering, computational mechanics, hydrology, water resources, and environmental engineering.

Topics include research into breaking wave effects, the upheaval buckling of concrete pavements, reinforced concrete framed structures, new strategies for flood design, mapping Australia’s water cycle, and new research into the use of nanoparticulate silver in purification of contaminated drinking waters.

Our congratulations to School researchers Prof Mark Bradford, Dr Richard Collins, Prof Stephen Foster, Dr Ehab Hamed, Dr Matt McCabe, Dr Raj Mehrotra, A/Prof Bill Peirson, Prof Ashish Sharma, A/Prof Chongmin Song, Em Prof Francis Tin Loi and Prof T David Waite.

CVEN Successful Proposals for Discovery Projects for Funding Commencing in 2012

DP120104554: Thermal-induced unilateral plate buckling of concrete pavements: design and evaluation. Bradford, Prof Mark A - Total funding 2012 - 2014: $440,000.00

DP120103328: Progressive collapse resistance of reinforced concrete framed structures with membrane action. Foster, Prof Stephen J; Valipour, Dr Hamid - Total funding 2012 - 2014: $320,000.00

Research Matters

School ARC Grants Winners: Back L-R: Dr Ehab Hamed, A/Prof Chongmin Song, Dr Richard Collins
Front L-R: Professors Mark Bradford, Ashish Sharma, Stephen Foster, T David Waite, A/Prof Bill Peirson
Absent: Dr Matt McCabe, Dr Raj Mehrotra, Em Prof Francis Tin Loi

DP120100742: Scaled boundary finite-element approach for safety assessment of plates and shells under monotonic and shakedown loadings. Song, A/Prof Chongmin; Tin-Loi, Em/Prof Francis; Becker, Prof Wilfried - Total funding 2012 - 2014: $320,000.00

DP120103234: New perspectives on iron oxide transformations in oxic and anoxic aqueous environments: Implications for iron bioavailability and contaminant mobility. Waite, Prof T David; Rose, A/Prof Andrew L; Collins, Dr Richard N; Waychunas, Dr Glenn - Total funding 2012 - 2014: $450,000.00

DP120103222: Reactive oxygen species generation by zerovalent silver nanoparticles; implications to toxicity and contaminant degradation. Waite, Prof T David; Wiesner, Prof Dr Mark R - Total funding 2012 - 2014: $360,000.00
Welcome New Staff 2011

Associate Professor Leonhard Bernold,
Engineering Construction & Management

Previous Roles: Worked as a structural engineer in Switzerland. PhD from Georgia Tech. Taught Construction Engineering and Management for 25 years in the US and South Korea. 1991 founded the Construction Automation and Robotics Laboratory (CARL) Professional Goals: Help transform engineering education. Graduate knowledgeable and well trained PhD students successfully gaining tenure at the best engineering schools in the world. Innovate and field test various new technologies needed for research projects in construction. Desert Island Disc: Jimmy Buffett’s Margaritaville. Person I would most like to meet: Benjamin Franklin.

Dr Chris Blenkinsopp
Lecturer - hydraulics

Previous Roles: PhD, Southampton University. Coastal Scientist, ASR Ltd, NZ, Coastal Specialist, Scott Wilson Ltd, UK, Research Associate UNSW Water Research Centre. Professional Goals: Grow my expertise and reputation in the Coastal Engineering field as well as developing research in other hydraulics areas such as multiphase flow, hydropower and marine renewables. Desert Island Album – In Utero, Nirvana. Book – Hitchhikers Guide to the Galaxy, Douglas Adams. Person I would most like to meet: Humphrey Lyttleton.

Ms Sylvia Brohl
Administrative Officer, rCITI

Previous Roles: PhD candidate at the University of Texas. Professional Goals: Solve the world’s problems using network models. Desert Island Disc: Fleet Foxes and Arcade Fire. Person I would most like to meet: I can’t decide between Leonardo Da Vinci or Stephen Colbert.

Dr Caroline Birk
Lecturer, Structures

Previous Roles: Research Assistant, Chair of Structural Dynamics, Technische Universität Dresden, Germany: EU Researcher, EU Marie Curie Fellow, CVEN - UNSW, and TU Dresden, Germany. Professional Goals: I am committed to undertaking research at the highest level in computational mechanics, addressing interdisciplinary problems. My goal is to wake and nurture students’ interest in - and in the best case passion for - mechanics through excellence in teaching. Desert Island Disc: Van Morrison’s Moondance. Person I would most like to meet: Marie Curie.

Dr Vinayak Dixit
Senior Lecturer, Transport

Previous Roles: Associate Director for Research, Gulf Coast Centre for Evacuation & Transportation Resiliency at Louisiana State University, Baton Rouge, USA. Professional Goals: To share my excitement and enthusiasm about transportation. To make transportation infrastructure more productive and less risky to invest in and use. Desert Island Disc: Bob Dylan. Person I would most like to meet: Tom (from Tom & Jerry).

Dr Lauren Gardner
Lecturer – Transport

Previous Roles: Over ten years within the international cultural exchange program industry. I have managed a variety of business areas here and overseas including start up procedures, operations, projects, administration and finances. Desert Island Disc: Actually I would take a variety of music with me to keep it interesting and take reading material about Transportation Research.

Dr Gregoire Mariethoz
Senior Lecturer – hydrology

Previous Roles: Research assistant at University of Neuchatel, Postdoctoral Fellow at Stanford. Professional Goals: to bring stochastic methods to maturity so they can be routinely used for describing hydrological processes and quantifying their uncertainty. as well as applications to surface hydrology, hydrogeology and paleoclimatology. Desert Island Disc: Pink Floyd’s Atom Heart Mother. Book: F. Kafka, The Trial. Person I would most like to meet: Claude Shannon.

Professor S Travis Waller
Evans & Peck Professor of Transport Innovation

Previous Roles: Associate Professor, University of Texas. Professional Goals: Same as Laurens. Desert Island Book: Douglas Adams, A Hitchhikers Guide to the Galaxy. Person I would Most Like to Meet: Dorothy Parker - for her line ‘I hate writing, I love having written.’
rCITI Launch

November 2011 saw the launch of the UNSW Research Centre for Integrated Transport Innovation (rCITI)

rCITI is a new UNSW Faculty of Engineering Centre based at the School of Civil and Environmental Engineering which has been established to investigate sustainable approaches to transport infrastructure and operations, with extensive liaison with industry and government. It will combine the cutting edge research of several UNSW Schools for a more integrated and holistic approach to current and future transport problems. rCITI’s mission is to develop research, strategies and innovative solutions appropriate to the establishment and ongoing development of integrated, efficient and sustainable transport systems to meet the current and emerging needs of people in the 21st century.

Director of rCITI, and Evans & Peck Professor of Transport Innovation, Professor S. Travis Waller spoke about the exciting new research possibilities, transport planning strategies and solutions that his new multidisciplinary team will be exploring. Distinguished guests included Les Wielinga, Director General of the NSW Government Department of Transport, Mary O’Kane, NSW Government Chief Scientist and Engineer: Hugh Durrant-Whyte, Chief Executive Officer of NICTA (National ICT Australia Ltd) and Evans & Peck Principal Ian McIntyre. School industry partners Evans & Peck’s funding of the professorial Chair was prompted by the company’s desire to play a meaningful part in developing innovative solutions in transport planning and reflects their commitment to holistic and long term thinking.

Following the launch, guests were invited to a drinks reception and exhibition highlighting some of the innovative Transport research which is underway on campus.

For more information about rCITI please contact Centre Administrator Sylvia Brohl at s.brohl@unsw.edu.au

Year 4 Dinner Industry Prizes

In November our Year 4 students celebrated the final days of their hardworking undergraduate years with the traditional dinner for staff and students – this year held at the Sheraton. Industry sponsored prizes were awarded to the following outstanding students.

Civil Engineering with Architecture Prize donated by ARUP: Hannah Mahony-Hayes
Environmental Engineering Prize donated by SKM: Laurena Basutu
Construction Management Discipline Prize donated by Brookfield Multiplex: Beau Bartlelt
Geotechnical Discipline Prize donated by PSM: Adnan Sufian
Structures Discipline Prize donated by Aurecon: Chengwei Yang
Transport Discipline Prize donated by AECOM: Rebecca Temperley
Water Discipline Prize donated by GHD: Alexander Rogan
Civil Engineering Industrial Training Prize donated by URS: Blake Bambrook
Environmental Engineering Industrial Training Prize donated by CVEN: Zoe Southwell
Civil Engineering Practice Prize donated by Cardno: Maree Riley
Environmental Engineering Practice Prize donated by Cardno: Erica Davey

We wish all our students the very best in their future endeavours, and thank our industry supporters for their generous participation and involvement in the life of the School.

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In October this year, industry supporters and specialist geotechnical consultants PSM continued their fruitful association with the School with their renewed funding of an academic position at the School – the Pells Sullivan Meynink Senior Lecturer of Rock Mechanics, a position currently held by Dr Kurt Douglas (centre of pic).

Pells Sullivan Meynink Pty Ltd (PSM) was established in 1993 and since then has earned a reputation for innovative and practical engineering design. It brings together substantial experience in the fields of rock mechanics, soil mechanics, engineering geology, hydrogeology, hydrology, mining and geomechanics.

Community Matters