School Diamond History 1949-2009

1962 version of the Year 4 dinner. Founding Head of School (1949 - 1964) Prof Crawford Munro with staff & students and ceremonial beer staff / crozier. Photo courtesy of Russell Bridge/UNSW Archives.

Next year the School will turn sixty, being one of the eight foundation Schools of UNSW. UNSW now has seventy five Schools.) We plan to mark our diamond anniversary with the publication of a School History. The aim is to produce a lively, readable, inclusive and reflective social history - celebrating sixty years of useful work, and the people who participated in this achievement - staff and students alike.

We intend to list all our graduates in the History and will devote some pages to the student experience of each decade. Alumini are very welcome to participate. History questionnaires for past students are downloadable at: http://www.civeng.unsw.edu.au/alumni_industry_relations/index.html

If you have any documents or photographs from your time at the School our Diamond History Project Coordinator Dr Mary O’Connell will be very pleased to hear from you. T: 02 9385 5080 E: m.oconnell@unsw.edu.au

Cambodian Bridge Appeal

One of the founding academicians of the School, Rupert Vallentine wrote in his seminal Penguin 1967 text ‘Water in the Service of Man’ that the principle of universal compassion or brotherhood, is ‘the only hope for the preservation of our civilization.’

Over fifty years later the School affirms that sustainable engineering solutions to current ecological problems can never be for our benefit alone. We share one planet.

With this in mind, the School has set up a Christmas account with Oxfam to raise funds for local bridge building in Cambodia. For rural communities living in flood-prone areas of Cambodia, a bridge can make all the difference in ensuring access to healthcare, schools and other vital services during the wet season.

Staff, students and friends of the School are invited to support our One World sharing. You can pledge your support at: http://www.oxfamunwrapped.com.au/ViewFundraiser.php?id=241

Our account will be open till mid Feb.

ARC Grant Successes

The School of Civil and Environmental Engineering continues to punch above its weight in the area of research funding.

In the latest round of Australian Research Council grants 16 academic staff at the School of Civil and Environmental Engineering were involved in 7 Discovery and 3 Linkage Projects winning a total value of over $2.6m funding to be received by the School over the next three years. This is nearly 30% of the Faculty total and 8% of the UNSW total.

Grant Winners
Back L-R: Andrew Rose, Bill Peirson, Matt McCabe, Richard Stuetz, Ehab Amed
Front L-R: Wei Gao, Markus Oeser, Nasser Khalili, Mark Bradford, Yong Lin Pi
Not in pic: Helen Coleman, Stuart Khan, Adrian Russell, Chongmin Song, Francis Tin-Loi, David Waite.

More details on grant winning research projects is on p2.

PhD scholarships offered: As a result of grant funding success, the School is looking for PhD research students to assist in various research projects. For more information see:

Treasures of Civil - the ‘Civil Savants’ luncheon

Norma Taylor, Theo ten Brummelar, and Bill Yandell.

Included many current academic and professional staff providing a great chance to catch up and renew old friendships and connections.

After lunch, the ‘Civil Savants’ coordinator Dr Alex Heaney provided a tour of the School’s laboratories, a scenic view of the ever changing UNSW campus from the rooftop, and an hour long tour around campus.

Retired staff of the School recently gathered for a very enjoyable buffet luncheon hosted by the School’s External Relations Committee.

Professor David Waite welcomed the group members back to the School, and gave them a brief update on the current School situation - with good news on the growth in undergraduate student numbers and some restoration of academic staff positions after the period of cutbacks in the last ten years. He hoped this gathering of valued past staff would now become an annual event within the School.

Some of the long serving ex-staff who attended the luncheon included Peter Balint, who taught at the School for 32 years, retiring in 1984, David Pilgrim whose career within the School spanned 1958-1993, and Vic Summersby - in a fabulous shirt - who served the School from 1966-1996.

Shirley Brettle, whose late husband Joe taught at the School from 1952-1982, was also present. Joe Brettle was the first PhD graduate of the School, in 1958- an achievement Shirley certainly participated in as she had “typed every word of his thesis. Twice, because it was only carbons then”.

Other very welcome visitors included Peter Bliss, Eileen Caterson, Ian Cordery, Alex & Sue Heaney, David & Jenny Howell, Brian & Noreen Jenkins, Peter Kneen, Devona Pilgrim, Tamara Rouse, Stephen Samuels, Frank Scharfe, Ruth Summersby, Harry & Norma Taylor, Theo ten Brummelar, and Bill Yandell.

Attendees at the luncheon also included many current academic and professional staff providing a great chance to catch up and renew old friendships and connections.

Message from the Head of School
Professor David Waite

Dear Friends

As the 2008 year draws to a close, it is satisfying to reflect on the successes of the year and to thank all School staff for the positive outcomes achieved.

Experiencing record enrolments in our undergraduate programs has meant that, in addition to receiving students of the highest calibre, we have had sufficient income to invest in equipment, infrastructure and research scholarships as well as appointing staff in areas of critical need. This has established the foundation for a very successful year to come and provides the basis to further capitalise on the success achieved by our staff in grant income through the ARC, other research agencies and industry.

The challenge remains however to look past our current successes to the future needs of the community and industry in areas of infrastructure and environment and, on the basis of this assessment, to nurture and develop an even more dynamic, stimulating and relevant atmosphere in the School in 2009 and beyond.
UNSW Vice-Chancellor Professor Fred Hilmer and the CEO of Leighton Holdings, and distinguished School alumnus Dr Wal King have signed an historic and visionary agreement which sets the stage for the delivery of a professional MEngSc degree in Project Management from the School of Civil and Environmental Engineering.

Leighton Holdings is Australia’s largest civil engineering project development and contracting group, and has around 9,500 engineering and operations staff in the Asia-Pacific region. Leighton expressed a need for targeted postgraduate education to develop the management skills of these professional staff.

The first student intake to the MEngSc will be in Semester 1, 2009.

### ARC Grant Successes Cont.

**ARC Discovery Grants**
- **Prof ML Banner; Dr WL Peirson; Prof F Dias**: Forecasting wave breaking in directional seas.
- **Dr EH Hamed; Prof MA Bradford**: Long term behaviour of thin-walled concrete curved members strengthened with externally bonded composite materials.
- **Dr MF McCabe**: Characterizing the hydrological cycle using water isotopes, land-surface models and satellite observations.

**A/Prof C Song; Prof F Tin-LoI**: Scaled boundary finite-element shakedown analysis of cracked elastostatic structures under cyclic loading.

**Prof F Tin-LoI; Dr Y Pi**: Limit and shakedown analysis of reinforced concrete beams with geometric effects and physical instability.

**Prof TD Waite; Dr AL Rose**: Resolving critical knowledge gaps relating to light and free-radical mediated transformations of iron and copper in oxic natural waters.

**A/Prof N Zhang; Dr W Gao**: Quantitative analysis of dynamic performance of vehicles with uncertain system parameters and road conditions.

**ARC Linkage Grants**
- **Dr H Oesper; Dr AR Russell; Prof N Khalili**: Enhanced analysis and design of pavements - Virtual laboratory for advanced pavement design.
- **Linkage Partner: ARRB Group Ltd**

**Dr MF McCabe** and others: A new paradigm for improved water resource management using innovative water modelling techniques.

**Linkage Partner: Victorian Department of Primary Industries**

**A/Prof RM Stuetz; Dr HM Coleman; Dr SJ Khan; Dr P Le-Gleuch; A/Prof JE Drewes; Dr KN Power**: Optimising decentralised membrane bioreactors for water re-use.

**Linkage Partners: MidCoast Water, Bega Valley Shire Council, NSW Dept of Health, Hunter Water Corporation.**

### BE Civil with Architecture Program

**Creativity & inventiveness**

The innovative BE Civil Engineering with Architecture Program is a four year full Civil Engineering degree with nearly a quarter of its courses completed in the Faculty of Built Environment with Architecture students. The degree program was initiated in 2006 by A/Prof Mario Melerveld and Dr Zora Vrctel in collaboration with FBE’s A/Prof Harry Margall and Jim Plummer and is proving very successful, both in current student satisfaction and in attracting prospective students. It is hoped that due to student demand the 2009 intake quota can be expanded, perhaps even increasing 2008’s competitive UAI of 90.3.

**The ultimate aim is to help students become creative thinkers, inspired by beautiful creations to build even better ones, to develop an appreciation for beauty with the mathematical ability to challenge the traditional boundaries of structural design. Creativity and inventiveness are the key attributes of this program.**

Graduating students will be well qualified to collaborate with architects and other professionals in the built environment to produce integrated and sustainable design.

**Supports Geotechnical, Heavy Structures, Materials, Transport and Construction and Management disciplines - contained in the School's WRL Projects Manager.**

**Ron Cox is Sir John Holland Civil Engineer of the Year 2008**

The School’s Director of Academic, Finance & Marketing, A/Prof Ron Cox has been awarded Engineers Australia’s Sir John Holland Award for Civil Engineer of the Year 2008.

This prestigious award is presented annually by the Civil College of Engineers Australia. It is awarded to an eminent civil engineer considered to have made a major contribution to the profession including the following areas:

- Leadership of an engineering organisation
- Involvement in major projects
- Research development
- Service to the profession
- Promotion of public understanding of engineering
- Contribution to the use of ecologically sustainable development in engineering
- Long service to the community

Ron has been associated with UNSW’s Water Research Laboratory since 1973. He was Director from 1993 to 2006 and for many years before that was the WRL Projects Manager.

**New Infrastructure Lab Manager**

A/Prof Richard Stuetz, staff member of the School and co-Director of the UNSW Water Research Centre has been promoted to Professor.

Richard teaches undergraduate and postgraduate courses on water and wastewater treatment and water and wastewater analysis. He has 17 years experience in water and wastewater treatment and environmental biotechnology with specific research interests in biological and advanced water treatment systems, bioprocess monitoring & control, dynamics & robustness, fate of micropollutants in biological systems and the measurement and treatment of environmental emissions and odours. In congratulating Richard, the Head of School, David Waite commented that he ‘has brought significant energy - with matching outcomes - to the School and very much deserves this promotion.’
ARC Grant Successes Cont.

ARC Discovery Grants
Prof ML Banner; Dr WL Peirson; Prof F Dias: Forecasting wave breaking in directional seas.

Dr EH Hamed; Prof MA Bradford: Long term behaviour of thin-walled concrete curved members strengthened with externally bonded composite materials.

Dr MF McCabe: Characterizing the hydrological cycle using water isotopes, land-surface models and satellite observations.

A/Prof C Song; Prof F Tin-Loi: Scaled boundary finite-element shakedown analysis for the safety assessment of cracked elastoplastic structures under cyclic loading.

Prof F F Tin-Loi; Dr Y Pi: Limit and shakedown analysis of structures with geometric effects and physical instability.

Prof TD Waite; Dr AL Rose: Resolving critical knowledge gaps relating to light and free-radical mediated transformations of iron and copper in oxic natural waters.

A/Prof N Zhang; Dr W Gao: Quantitative analysis of dynamic performance of vehicles with uncertain system parameters and road disturbances.

ARC Linkage Grants
Dr H Oester; Dr AR Russell; Prof N Khalili: Enhanced analysis and design of pavements - Virtual laboratory for advanced pavement design. Linkage Partner: ARRB Group Ltd

Dr MF McCabe and others: A new paradigm for improved water resource management using innovative water modelling techniques. Linkage Partner: Victorian Department of Primary Industries

A/Prof RM Stuetz; Dr HM Coleman; Dr SJ Khan; Dr P Le-Clech; A/Prof JE Drewes; Dr PA Le Couteur: Sustainable and ecologically sustainable development in engineering length of service to the community.

Ron has been associated with UNSW's Water Research Laboratory since 1973. He was Director from 1993 to 2006 and for many years before that was the WRL Projects Manager.

MEngSc in project management set to meet Leighton needs

UNSW Vice-Chancellor Professor Fred Hilmer and the CEO of Leighton Holdings, and distinguished School alumnus Dr Wai King have signed an historic and innovative MOU between Leighton and UNSW for the collaborative development and delivery of a professional MEngSc degree in Project Management from the School of Civil and Environmental Engineering.

Leighton Holdings is Australia's largest civil engineering project development and contracting group, and has around 9,500 engineering and operations staff in the Asia-Pacific region. Leighton had identified a need for targeted postgraduate education to develop the management skills of these professional staff.

Senior Leighton executives were impressed by the quality and extent of courses already offered within the School's current MEngSc in project management at UNSW, and were confident that the School's technical and professional skills, and team building, negotiation skills and people management.

It will incorporate case studies and Leighton corporate material to ensure it is relevant to the Group's Standards, policies and procedures.

The first student intake to the MEngSc will be in Semester 1, 2009.

BE Civil with Architecture Program

Creativity & inventiveness

The Civil with Architecture program seeks to promote understanding and mutual esteem between engineers and architects, with an interdisciplinary and collaborative approach to training future civil engineers. Through the course the students will develop and nurture creativity and impart the technical and scientific principles required to design structures.

The ultimate aim is to help students become conceptual thinkers, inspired by beautiful creations to build even better ones, to develop an appreciation for beauty with the mathematical ability to challenge the traditional boundaries of structural design. Creativity and inventiveness are the key attributes of this program.

Graduating students will be well qualified to collaborate with architects and other professionals in the built environment to produce integrated and sustainable design.

New Infrastructure Lab Manager

Professional Officer Paul Gaywene has been appointed as the New Infrastructure Laboratory Manager at the School.

The Laboratory supports Geotechnical, Heavy Structures, Materials, Transport and Construction and Management disciplines - completed in the Valentine Annexes, the 2nd Floor Main Building, and at the School’s Randwick sub-campus property.

Paul was previously the School’s Geotechnical Lab Manager.

Paul, who has worked for the School since 1990 was awarded the Faculty Staff Excellence award in 2002 and outstanding technical support for both teaching and research at the School. Paul says he is looking forward to the challenges of his new role.

Civil & Environmental Engineering

As a practicing coastal engineer, as leader of Australia’s foremost coastal engineering organisation and as an inspirational academic, Ron has led research, investigation and design teams for projects in every state in Australia and many others around the world.

During his time on Engineers Australia’s National Committee on Coastal Engineering - including his four years as Chair - Ron Cox was involved in developing coastal engineering response to climate change - probably the first Australian engineering organisation to take this issue seriously. Ron co-authored several important EA publications such as Guidelines for Working with the Coast in an Ecologically Sustainable Way, and roadsides on Responding to the Effects of Climate Change in Coastal and Ocean Engineering.

Promotion to Professor

A/Prof Richard Stuetz, staff member of the School and co-Director of the UNSW Water Research Centre has been promoted to Professor.

Richard teaches undergraduate and postgraduate courses on water and wastewater treatment and water and wastewater analysis. He has 17 years experience in water and wastewater treatment and environmental biotechnology with specific research interests in biological nutrient removal and wastewater treatment systems, bioprocess monitoring & control, dynamics & robustness, fate of micropollutants in biological systems and the measurement and treatment of environmental emissions and odours. In congratulating Richard, the Head of School, David Waite commented that he “has brought significant energy - with matching outcomes - to the School and very much deserves this promotion.”
Treasures of Civil - the ‘Civil Savants’ luncheon

Some of the long serving ex-staff who attended the luncheon included Peter Balint, who taught at the School for 32 years, retiring in 1984, David Pilgrim whose career within the School spanned 1958-1993, and Vic Summersby - in a fabulous shirt - who served the School from 1966-1996.

Shirley Brette, whose late husband Joe taught at the School from 1952-1982, was also present. Joe Brette was the first PhD graduate of the School, in 1958 - an achievement Shirley certainly participated in as she had “typed every word of his thesis, twice, because it was only carbons then”.

Other very welcome visitors included Peter Bliss, Eileen Caterson, Ian Cordery, Alex & Sue Heaney, David & Jenny Howell, Brian & Nora Jenkins, Peter Kneen, Devona Pilgrim, Tamara Rouse, Stephen Samuels, Frank Scharfe, Ruth Summersby, Harry & Norma Taylor, Theo ten Brummelar, and Bill Yandell.

Attendees at the luncheon also included many current academic and professional staff providing a great chance to catch up and renew old friendships and connections.

After lunch, the ‘Civil Savants’ newsletter industry partners & the community. Treasures of Civil - the ‘Civil Savants’ luncheon staff would now become an annual event within the School.

School Diamond History 1949-2009

1962 version of the Year 4 dinner. Founding Head of School (1949 - 1964) Prof Crawford Munro with staff & students and ceremonial beer staff/ cressier. Photo courtesy of Russell Bridge/UNSW Archives.

Next year the School will turn sixty, being one of the eight foundation Schools of UNSW. (UNSW now has seventy five Schools.) We plan to mark our diamond anniversary with the publication of a School History. The aim is to produce a lively, readable, inclusive and reflective social history - celebrating sixty years of useful work, and the people who participated in this achievement - staff and students alike.

We intend to list all our graduates in the History and will devote some pages to the student experience of each decade. Alumni are very welcome to participate. History questionnaires for past students are downloadable at: http://www.civeng.unsw.edu.au/alumni_industry_relations/index.html

If you have any documents or photographs from your time at the School our Diamond History Project Coordinator Dr Mary O’Connell will be very pleased to hear from you. T: 02 9385 5080 E: m.oconnell@unsw.edu.au

Cambodian Bridge Appeal

One of the founding academics of the School, Rupert Vallentine wrote in his seminal Penguin 1967 text 'Water in the Service of Man' that the principle of universal compassion or brotherhood, is “the only hope for the preservation of our civilization.”

Over fifty years later the School affirms that sustainable engineering solutions to current ecological problems can never be for our benefit alone. We share one planet.

With this in mind, the School has set up a Christmas account with Oxjam to raise funds for local bridge building in Cambodia. For rural communities living in flood-prone areas of Cambodia, a bridge can make all the difference in ensuring access to healthcare, schools and other vital services during the wet season.

Staff, students and friends of the School are invited to support our One World sharing. You can pledge your support at: http://www.oxfamunwrapped.com.au/ViewFundraiser.php?id=241

Our account will be open till mid Feb.

ARC Grant Successes

The School of Civil and Environmental Engineering continues to punch above its weight in the area of research funding. In the latest round of Australian Research Council grants 16 academic staff at the School of Civil and Environmental Engineering were involved in 7 Discovery and 3 Linkage Projects winning a total value of over $2.6m funding to be received by the School over the next three years. This is nearly 30% of the Faculty total and 8% of the UNSW total.

ARC Project Details

Back L-R: Andrew Rose, Bill Peirson, Matt McCabe, Richard Stuetz, Ehab Amed
Front L-R: Wei Gao, Markus Oeser, Nasser Khalil, Mark Bradford, Yong Lin Pi
Not in pic: Helen Coleman, Stuart Khan, Adrian Russell, Chongmin Song, Francis Tin-Loi, David Waite.

More details on grant winning research projects is on p2.

PhD scholarships offered: As a result of grant funding success, the School is looking for PhD research students to assist in various research projects. For more information, see: http://www.civeng.unsw.edu.au/futurestudents/scholarships/pg_scholarships/index.html

For School staff, students, alumni, industry partners & the community.