

THE NEWSLETTER OF THE SYDNEY DIVISION OF ENGINEERS AUSTRALIA

# ENGINEERS SYDNEY

YEAR OF WOMEN IN ENGINEERING

JUNE 2007



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## SYDNEY DIVISION KEY SPONSORS



## President's Report

Warren Newell

## Vale past Presidents

It has been a month of high and lows in some ways. We have seen some exciting new advances but sad to say, we have lost two of our senior members and past Division Presidents.

I extend my sympathy to the families of Barry Robertson and John Gebler. Both Barry and John were our Division Presidents in 1988 and 1989 respectively. Barry continued with his service to EA with work on the Engineering Excellence Awards Committee. Many of us knew John as a Champion of our organisation's rules and by-laws, and I assure you many Division Presidents have had an interesting adviser or source of advice in John over the past years.

Perhaps one of the highlights of the last month was attending the opening of the new Opal research reactor at Lucas Heights. This facility is built for research and to continue providing service to the medical sector. The associated research capabilities springing from this facility are nothing short of amazing. The taking-off of neutrons from the core and beaming these to various sample "viewing" devices allows scientists to gain unprecedented insights into the structure and composition of not-only solids and liquids but biological samples as well.

The inbuilt safety of the reactor, its controls and monitoring was an area of interest, given our growing debate on the future of nuclear energy. While

## IN THIS ISSUE YEAS Careers Expo



See page 5.

accepting that this facility is very small, it does have the very latest "fail Safe" technology and we must remember it is the nuclear industry that has had an important role in developing the safety methods used in many of our other industries today.

While attending the opening I was fortunate enough to have a comprehensive tour of the facility and when I reflected on the day, several things stood out. Due to more important people being there than me, the security around the site had been strengthened. However, the flow of the occasion was outstanding. The pride and enthusiasm of the staff stood out, and Australia can now be proud of the fact that we have one of the top three research reactors in the world.

On May 24, Engineers Australia presented the new Professional Standards Scheme at the launch in Chatswood. I urge as many Engineers as possible to look at the scheme and if appropriate,

**BILFINGER BERGER** Global Multi-services Construction Group  
Australia [www.bbau.com.au](http://www.bbau.com.au)

Bilfinger Berger Australia is currently enjoying significant growth in it's core building, civil engineering and services subsidiaries in Australia. Career opportunities exist within all divisions of the Group's construction and services businesses. Your interest, which will be kept strictly confidential, should in the first instance be sent to [enquiry@bbau.com.au](mailto:enquiry@bbau.com.au).



consider joining. There are some areas that you will have questions about and I ask that these questions be addressed to National Office. There may be some difficulties in relation to appropriateness where you have a multi-discipline organisation. In this case, it may be necessary to either restructure sign-off or wait for changes to the scheme. Don't forget to discuss the scheme with your broker as well, and make sure they also understand it.

Warren Newell  
Sydney Division President

## New agreement strengthens dam building skills at UNSW

The New South Wales Government has committed to work with the University of New South Wales (UNSW) to build local dam engineering skills, with the signing of a memorandum of understanding by UNSW and NSW Minister for Water Utilities, David Campbell.

The agreement signing marks the official start of a partnership between UNSW and the State Water Corporation to create a new generation of engineering students.

Mr Campbell said the agreement would encourage future research in dam engineering. "Through the five-year partnership that will fund a Senior Lecturer/Associate Professor of Dam Engineering, we are investing in future infrastructure to benefit our community.

"This important position will add focus and strength to geotechnical engineering research and dam engineering within the School of Civil and Environmental Engineering and encourage and foster learning of dam and civil engineering students."

The relationship will increase UNSW's ability to train future geotechnical engineers as well as contributing to the learning of dam owners such as the State Water Corporation.

It is anticipated that the new position will be filled by the end of June and will continue for five years. The State Water Corporation will support the position with five annual payments of \$50,000 to the UNSW Foundation Limited during the five-year term of the agreement.



L to R: Ms Jennifer Bott, Chief Executive Officer, UNSW Foundation, Professor David Waite, Head of School, Civil and Environmental Engineering, Mr Ken Bennett, Dam Safety & Audit Manager, State Water, Mr Ross Barrie, Manager Strategic Asset Services, State Water, Professor Brendon Parker, Dean, Faculty of Engineering, Professor Dianne Wiley, Associate Dean (Academic), Acting Dean from 1st April to 31 December 2007, Professor Nasser Khalili, School of Civil and Environmental Engineering.

## YEAS Report

You will note from previous columns that Young Engineers Australia Sydney (YEAS) members are often invited to attend events held by other professional organisations. On Thursday May 10, YEAS members were invited to take part in a Young Professionals Networking event at the offices of DLA Phillips Fox. The night included a special presentation by Stephen Mayne, the founder of Crikey and provided plenty of opportunity for networking amongst other young professionals.

The month of May also included an invitation from the Young Business Professionals (YBP) to YEAS members to attend a YBP event with key-note speaker Mia Freedman (Creative Service Director, Nine Network Australia). For more opportunities to attend events organised by other professional organisations, keep an eye on our website!

On Thursday May 24 YEAS held the 2007 "Hear from Young Engineers" event at the spectacular Watershed Hotel, located at Darling Harbour. The night included presentations from two leading Young Engineers – Andrew Botros (Engineers Australia's Young Professional Engineer of the Year, 2006), and Nick Harley (Young Engineers National Committee Chair, 2007). On behalf of the YEAS committee, I would like to thank both Andrew and Nick for their fantastic presentations, and for taking the time out to speak to us.

By the time this column goes to print, Young Engineers Sydney would have also held the first Trivia Night of the year, at Paddington Bowls Club, which will be more formally reported in the next column. There are also many other interesting and exciting events coming up in the next few months. There is an Entrepreneurs Workshop in July, and during Engineering Week in August there will be the YEAS / Engineers Without Borders Trivia Fundraising Night, as well as the YEAS Cocktail Function. Make sure you check out the YEAS website: <http://syd.youngengineers.com.au> for more information on upcoming events.

Maryam Khajeh  
YEAS Chair 2007

If you are interested in getting involved or learning more about YEAS please email our secretary Simon Reynolds at [yeasyd@engineersaustralia.org.au](mailto:yeasyd@engineersaustralia.org.au)

## WSRG Telstra Stadium tour

Western Sydney Regional Group held a very informative behind the scenes tour of Telstra Stadium at Sydney Olympic Park, Homebush Bay. The visit included the corporate, members and media areas of the stadium as well as the athletes and players areas, which are not normally accessible to the public. Our tour guide, Gina, provided insight into the complex organisational requirements involved in holding the major sporting and entertainment events at the stadium. She also provided some interesting anecdotes of her experiences over the seven years she has worked at Telstra Stadium.



Site visit to Telstra Stadium.

## Barry Donald Robertson

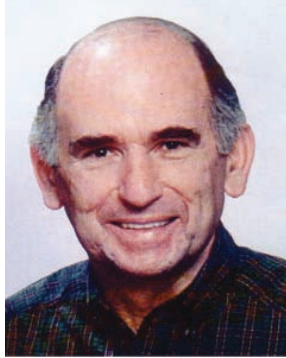
17 June 1939–26 April 2007

Barry Robertson tragically passed away on April 26 after a long battle with a brain tumor.

Barry was first admitted into the Institution of Engineers on May 30 1961 at the young age of 22 years. He achieved the ranking of Fellow on July 26 1977, and President Sydney Division, or Chairman as the position was then known, in 1988.

In 2006 Barry was in his seventh year as chair of the Project Management Category of the Engineering Excellence Awards when he stepped aside to undergo treatment for his condition. His ongoing support of Sydney Division and the Excellence Awards program will long be remembered.

Barry leaves his wife Sue and sons Guy and Duncan.



## John Wesby Gebler

17 April 1933–27 April 2007

It is with deep regret that we advise that John Gebler has passed away as a result of Leukemia.

John was a guiding force in the Sydney Division for over two and a half decades. He served on the Division Committee from 1983-2006 and was the Division Treasurer from 1991-2004. John was the Sydney Division Chairman in 1998 and an elected delegate to the National Congress from 1999-2005. He was also a long term member of the NSW Council of Professions and its President from 2002-2003.

In November 2006, in recognition of his enormous contributions to his profession, John received the Engineers Australia Medal. John was widely recognised for his knowledge of the Institution's Royal Charter and Bye-Laws and his dedication and passion for the engineering profession. He was also keenly interested in the welfare of his local community at Greenwich and he was a key organiser of its local progress group.

John's passing is a sad day for his wife Bronte, and his son James and his daughter Amelia. Sydney Division says goodbye to a wonderful friend and supporter.

## National Heritage List: Sydney Harbour Bridge

The Hon Malcolm Turnbull MP, Minister for the Environment and Water Resources, included Sydney Harbour Bridge in the National Heritage List by Gazette notice on 19 March 2007.

By listing the Bridge in the National Heritage List, the Minister's decision ensures that its National Heritage values will be protected under the provisions of the Environment Protection and Biodiversity Conservation Act 1999 (the Act). Further information on the Act is available on the Department's website at <http://www.environment.gov.au/epbc/index.html>.

## Nominations are invited for the John Monash Medal for engineering heritage

Engineers Australia has established the John Monash Medal as an award to recognise outstanding contributions made by individuals towards increasing the awareness, and conservation, of Australia's engineering heritage.

The Medal is awarded by Engineering Heritage Australia (a Special Interest Group of Engineers Australia).

Any person or organisation is invited to nominate an individual they feel has made over a considerable period of time, an outstanding contribution to engineering heritage in Australia through one or more of the following:

- The raising of awareness of engineering heritage within the profession;
- The promotion of engineering heritage within the community;
- The recording and documentation of engineering heritage;
- The conservation of engineering heritage;
- Such other contribution to engineering heritage as Engineering Heritage Australia may consider worthy of recognition.

This award is open to non-members of Engineers Australia.

Nominations are to be in original hard copy signed by the person (or a representative of the group) making the nomination. Photocopies of non-original material should be legible and suitable for scanning. The nomination and supporting material should be mailed to the Administrator, Engineering Heritage Australia, 11 National Circuit, Barton, ACT 2600, (Tel 02 6270 6530).

An electronic version of the nomination is also required. This version should preferably be in Microsoft Word on a floppy disk (or CDROM) and mailed as above, or sent by email to the Administrator [AGarden@engineersaustralia.org.au](mailto:AGarden@engineersaustralia.org.au).

Nominations and the supporting documentation should reach the Administrator by Tuesday, 31 July 2007.



John Gebler receiving his Engineers Australia Medal at NSW Parliament House, November 2006.

## Australasian Structural Engineering Conference 2008

ASEC 2008 is a two-day conference scheduled June 27 and 28, 2008 and is directed at structural engineers. This conference is a *time out*, providing an opportunity for like-minded people to meet, share ideas and broaden their technical skills.

ASEC 2008 is open to anyone in the structural engineering profession and allied industries.

Conference Themes

- Turning theory into practice
- Sustainable structural engineering
- Risk in structural engineering
- Lessons from failures
- Other

Abstract submissions are now open and close by July 1, 2007

Early Bird Registration Close on March 7, 2008.

The conference is being held at The Sebel Albert Park (Formerly Carlton Crest Hotel Melbourne) and is being hosted by Engineers Australia.

To show your interest in the conference, or for more information visit [www.asec2008.com](http://www.asec2008.com).

# Winner of the Richard Kell Scholarship Announced

Cardno is pleased to announce Ms Jacinta Holmick as the winner of the inaugural Cardno Richard Kell Scholarship for 2007.

The annual scholarship has been established to provide one of Cardno's exceptional young engineers with the opportunity to attend international management and training seminars.

Ms Holmick will participate in the prestigious FIDIC (International Federation of Consulting Engineers) Young Professionals Management Training Program culminating in the annual international FIDIC conference in Singapore in September.

Ms Holmick says she was proud to receive the award and believes it will present her with an opportunity to develop strong management skills and a global understanding of the issues facing the consulting industry.

The award is a fitting legacy for Dick Kell given his long involvement with FIDIC as President and his ongoing support and encouragement of young engineers in the Cardno group of companies.

Ms Holmick joined Cardno more than two years ago and is now a Project Manager in Cardno's Urban Infrastructure team in Baulkham Hills. Ms Holmick has worked on a number of major projects including Stage Two of the Second Ponds Creek development and the Harrington Park project.



Jacinta Holmick

## Civil & Structural Engineering Panel

presents the following:

### SEMINAR & WORKSHOP

## "Landslip & Earth Retaining Structures"

<b>Venue:</b>	Stamford Grand Hotel, North Ryde, Corner of Epping & Herring Roads
<b>Date:</b>	24th July 2007
<b>Time:</b>	2.00 pm for 2:30 pm start, concluding 7:30 pm
<b>Cost :</b>	<b>\$70.00</b>

The seminar discusses the geotechnical aspects of landslip, and reviews the design and construction procedures of earth retaining structures. Case studies are analysed and practical issues of building and maintaining these structures are reviewed. Breakout into smaller groups for workshop discussion is facilitated. Summarised findings presented.

Presentations will be made by:

- Andrew Shirley, Shirley Consulting Engineers
- Pat Wong, Coffey International Limited
- Greg Won, RTA Engineering Technology Branch, NSW

### Continuing Professional Development:

CPD Points apply per Engineers Australia criteria

### Registration and payment is essential for admission

**Enquiries:** John Owen, Ph: 9925 0437, Email: jowen1@bigpond.net.au

**Registration and Payment:** John Owen, phone: 9925 0437  
Email: jowen1@bigpond.net.au

## Nominations are invited for the Colin Crisp Award FOR ENGINEERING HERITAGE

The Colin Crisp Award is Australia's premier award for excellence in Engineering Heritage projects. It is awarded biennially at the National Engineering Heritage Conference.

The Award is made by Engineering Heritage Australia, a special interest group of Engineers Australia.

### Criteria for the Award

An award shall be for demonstrated excellence through one or more of the following activities:

- Conservation of an engineering work of historic or heritage significance (in this context conservation includes maintenance and may include preservation, restoration, reconstruction, and adaptation);
- Engineering work that facilitates or is essential to the successful conservation of an historic or heritage work, including machinery, structures, buildings or electrical equipment;
- Education, or the creation of awareness in engineering history or heritage; and
- Such other endeavour related to engineering history or heritage, deemed by the Subcommittee to be worthy.

Nominations shall be submitted by individuals, firms or organizations. The project must have been completed after 29 June 2003.

### Making Nominations

Nominations may be made by Engineers Australia members, Divisional Engineering Heritage Groups, their members or by Members of EHA, including Corresponding Members.

Any nomination for any Divisional Engineering Excellence Award in an Environment & Heritage category (or similar) may be submitted as an entry for the Colin Crisp Award. A letter nominating a particular project for the Colin Crisp Award signed by the firm/organization which prepared the Engineering Excellence Award nomination is the only documentation required.

Nominations shall be submitted through the Divisional Engineering Heritage Group in the Division in which the nominated project is located, or to the Administrator, Engineering Heritage Australia, 11 National Circuit, Barton, ACT 2600 (phone: 02 6270 6530).

Entrants should provide two bound copies and one CD-ROM of their entry, together with any supporting material such as photographs, discs and videos, which must be clearly labelled.

### Nominations will be treated as confidential.

A document providing further detailed information for entrants is available from the Administrator, EHA.

### Form of Nomination

Entries should not be more than 6,000 words or 12 pages in 12 point Arial font excluding attachments. There is no limitation on the size of attachments.

### Closing Date

Nominations and the supporting documentation shall reach the Administrator by **Friday 31 August 2007**.

# YEAS Careers Evening

April 26

The YEAS Careers Evening took place on Thursday April 26 at the University of Technology Sydney (UTS). The event was supported by a record 31 exhibitors and attracted 250 student registrations.

The evening was opened by Warren Newell, President of Engineers Australia Sydney Division. The Master of Ceremonies for the evening, Amal Hannah, Immediate Past President of the Engineers Australia Sydney Division, introduced a programme of very informative and interesting presentations. Our first presenter was Anthony Kadi from UTS who covered the area of postgraduate education and the benefits it can bring to young engineers and their future careers. Presentations were also given by four recent graduates from an array of engineering disciplines, focussing on their transition from university to working life. These were Jacinta Holmick from Cardno, Len Gervay from SKM, Nick Poriters from Golder Associates and Ryan Kirk from Parsons Brinckerhoff.



(L-r) Nick Poriters, Ryan Kirk, Jacinta Holmick, Anthony Kadi, Warren Newell, Amal Hannah, Len Gervay.

Following the formal presentations, students moved to the exhibition area where they mingled with exhibitors and gained valuable information and guidance for future working opportunities. The evening finished with a draw for movies tickets and five lucky winners took home double passes to the next blockbuster of their choice!



Students registering for the Careers Evening.

Many thanks to all our volunteers who gave up their time and helped to make the evening a success.

Sarah Hartnett  
Event Co-ordinator

# Delta Electricity signs PDP

Delta Electricity is an electricity generation corporation which was formed on 1 March 1996 as part of the NSW Government's restructure of the State's electricity industry. This restructure was in response to large scale changes in generation, transmission and supply of electricity in eastern Australia following the Federal Government's program of competition reform.

In order to meet the demands of its business, a heavy reliance is placed upon the engineering knowledge and skills within the organisation. While graduates have traditionally received exposure to a variety of projects, a recent review of Delta's Graduate Program highlighted a need for a formal component to be incorporated where participants were able to have their development assessed against an external benchmark. Based upon this approach, Delta has recently incorporated into its Graduate Program the requirement for participants to pursue the award of Chartered Status through Engineers Australia. Accordingly work completed by the Graduates within Delta will not only enhance their skills and experience, but will also contribute towards their professional recognition.



Engineers Australia Deputy Chief Executive Rupert Grayston (l) and Delta Electricity Chief Executive Jim Hennessy.

## Engineering Heritage Sydney

Conserving the Engineering of Our Past



### Join one of our Guided Harbour Cruises

Next Cruise is being held during National Engineering Week.

**Sunday 19th August**

Book at the Division Office

Visit our web site for other guided & self-guide tours.

<http://www.engheritage-sydney.org.au>

If you're interested in industrial history and old works, then browse through our web pages for some interesting facts.

# Illawarra/Sutherland Regional News

On Wednesday 2 May 2007 Peter Nasta, Belinda Margetts and I (Elaine Bailey) attended the **Faculty of Engineering 2007 Prize Evening** at the University of Wollongong. The ISRG sponsors the Engineers Australia Award, Illawarra/Sutherland Regional Group Prize for the Highest Weight Average Mark in an Engineering Course. The Winner of the Award was Paul Knight, but unfortunately Paul is overseas so will receive his prize and trophy upon return. Congratulations Paul.



Jon Thompson (Deputy Chair) and Peter Nasta (Chair) with Paul's trophy.

**The Illawarra Credit Union Careers Expo** was held on Tuesday 8 May and Wednesday 9 May at the Illawarra Hockey & Sports Stadium at Unanderra. Engineers Australia was one of over 70 stands at the Expo in which 35 schools with nearly 5,000 students attended.

*Thank you to Elana Bont and Ben Withers for giving me a helping hand during the Expo.*

**No 5 Blast Furnace Re-Line Project Seminar** was held on Wednesday 9 May at the University of Wollongong. Guest Speakers were Stephen Talty (Engineering Manager for the No 5 Blast Furnace Re-line Project) and Paul Hazelgrove (Lead Engineer, Casthouse & Slag Handling for the No 5 Blast Furnace Re-Line Project). Stephen & Paul gave an outline of the Project as well as describing some of the Engineering challenges involved.



Ben Withers speaking to a couple of budding engineers.

The No 5 Blast Furnace Re-Line Project is a major capital project currently being planned at BlueScope Steel's Port Kembla Works and is one of two operating blast furnaces. It was commissioned in 1972 and has been previously shut down for re-lining (i.e. major repair of furnace internals) in 1978 and 1991. It is currently planned to undertake the re-line of No 5 in 2009, to be completed in three months with an expected expenditure of \$300 million. The re-line is projected to last at least 20 years.



Nick DiBono, Stephen Talty, Paul Hazelgrove & Peter Nasta.

Elaine Bailey  
Regional Co-Ordinator

## Henry & Hymas sign up for PDP

Sydney based multi-disciplinary consultant, Henry & Hymas (H&H Consulting Engineers), has recently committed to the Engineers Australia Professional Development Program (PDP).

Henry & Hymas has 60 professional staff in a range of disciplines, capable of undertaking the most complex of engineering commissions. We believe our commitment to Engineers Australia's PDP will complement the firm's current graduate program and ensure the continued development of our staff members.

H&H's design philosophy is to provide economical and buildable solutions by considering alternative solutions that preserve the integrity and serviceability of the project. Our aims are achieved through the diversity of experience and maturity of our design teams, thus making it essential for our staff continue their learning and skills development.

At the signing with Richard Phillips, Executive Director – Sydney Division, Henry & Hymas Director, Mr Bruce Bradnam said "the PDP will work in well with the firm's ongoing commitment to developing and broaden our skills base. The program will create an environment that will encourage younger engineers and engineers with international qualifications to attain Australian Chartered status.



Richard Phillips, Executive Director, Engineers Australia, Sydney Division and Bruce Bradnam, Director, H & H Consulting Engineers.

# Robot car contest

A group of Australian artificial intelligence experts have combined with the University of Sydney to chase cyber glory and a \$US2 million (\$AU2.4 million) prize by entering a contest for robot cars in the USA.

One of the team members, Alen Alempijevic worked part-time with Membership Services, Sydney Division whilst completing his Degree. Alen is now a Doctoral Candidate & Academic Intern ARC – Centre of Excellence in Autonomous Systems at UTS.

The 2007 Urban Grand Challenge, run by the US Defence Advance Research Projects Agency (DARPA), involves a 97km city-like course. Conditions will be similar to that of a city environment ie traffic signs, road markings, rules of the road max speed limited for a town, where the cars will move through checkpoints over a long period at max speed limit for a town.

Multiple cars will be on the track at the same time, but will be fully autonomous. The cars must drive themselves through the course with no human intervention, either direct or via remote control, allowed.

The aim of the exercise is to develop cars and trucks that safely drive themselves in real-world traffic including the Defence Forces. The savings for long-haul trucking operators alone are potentially huge and then there are other highly beneficial implications, such as allowing supplies to be delivered to troops without human loss.

With a large prize, the competition is fierce and the Aussie team must get through a series of elimination rounds.

They have to motor through a bunch of obstacles to even make it to the start at an abandoned military base in California, where the challenge begins on November 23.

The Australian Centre for Field Robotics at Sydney University got the UGC robot car challenge under way and cleared the first hurdle, which under DARPA rules was having a US citizen as the team leader, by enlisting the University of California at Berkeley as a partner. The Sydney-Berkeley Driving Team also has NICTA and the University of Technology, Sydney, on board.

The RAV4 Challenge car, donated by Toyota, has been mainly developed in Australia, with the Berkeley group contributing logistical and material support in the USA and some software development.

Instead of a human, the RAV4 is driven by a group of four PCs running Linux and Intel Core 2 Duo processors. The car's brain uses a combination of 3D cameras, GPS, an inertial navigation system and laser range finders to get its bearings and sense obstacles and traffic control systems along the route.

Web Links for your information

**Team web page:** <http://www.acfr.usyd.edu.au/projects/development/dgc/>

**NICTA web page:** <http://nicta.com.au/director/aboutnicta.cfm>

**DARPA web page:** <http://www.darpa.mil/grandchallenge/index.asp>

**Wikipedia page:** [http://en.wikipedia.org/wiki/DARPA\\_Grand\\_Challenge](http://en.wikipedia.org/wiki/DARPA_Grand_Challenge).



(L-r) Ben Upcroft – Uni Sydney – Sydney Team leader, Will Uther – NICTA – NICTA Project leader, Alen Alempijevic – UTS, Ashod Donikian – UTS, Robert Fitch – NICTA, Michael Moser – Sydney Uni.

# YEAR OF WOMEN IN ENGINEERING

## Joint Conference Engineers Australia/APESMA

**Promoting Professional Women in Engineering,  
Technology & Management**

**23 July 2007 9.00am–5.00 pm**

**Sofitel Hotel, 25 Collins St, Melbourne.**

APESMA and Engineers Australia are proud to offer a unique opportunity to participate in this high calibre conference for professional women.

**Keynote speaker: Air Vice Marshal Julie Hammer (Retd)  
National Deputy President, Engineers Australia**

Participants will gain an opportunity to learn from the experience of other female professionals and develop strategies to progress their careers. The one-day Conference includes workshops and panel discussions on leadership skills, being effective in male dominated workplaces, work life balance and other significant career issues.

To register please visit: [www.professionalwomen.com.au](http://www.professionalwomen.com.au)

## The Civil & Structural Engineering Panel

wishes to announce the following free seminar:

### “Design for Durability of Structures in the Maritime Environment”

**Date:** Tuesday, 26th June 2007

**Time:** 5.30 pm for 6.00 pm start, concluding by 7.30pm

**Venue:** Engineers Australia Auditorium  
8 Thomas Street, Chatswood

The seminar will feature the design and construction of structures in the maritime environment.

It will focus on the design of concrete, steel and timber structures for durability.

Relevant case studies will highlight the problems and design solutions to be considered by those designing or managing projects in a marine situation.

#### Areas to be discussed include:

- Design of durable concrete structures in the maritime environment including relevant examples.
- Precautions to be taken when constructing in steel in the maritime environment.
- Design of timber structures in the maritime environment, durability and the need for maintenance.
- Case study of the Pyrmont Wharves 8/9 development and the designs adopted to satisfy the required design life of the steel, concrete and timber elements.
- The seminar will also refer to the requirements of the new Australian Standard; “Guidelines for the Design of Maritime Structures” AS 4997-2005.

#### Speakers:

- Jim Millar, Director, Waterway Constructions
- Andrew Patterson, Principal, Patterson Britton & Partners
- Jillian Kilby, Engineer, Waterway Constructions

#### Continuing Professional Development:

CPD Points apply per Engineers Australia criteria

#### For more information, contact:

Jillian Kilby, Ph: (02) 9555 2211, Email: [j.kilby@waterway.com.au](mailto:j.kilby@waterway.com.au)

#### RSVP, by Friday 22nd June 2007, to:

Jillian Kilby, Ph: (02) 9555 2211, Email: [j.kilby@waterway.com.au](mailto:j.kilby@waterway.com.au)

Note – RSVP is essential as there are only 100 seats available.

# 2007 Engineering Excellence

The high standard of entries received into this year's Awards program clearly demonstrates the innovation, expertise and commitment to engineering excellence by individual engineers and organisations throughout the entire Sydney Division.

Judges of the 11 award categories were tasked with assessing each entry on its individual merit, and selecting those which displayed the highest level of excellence to progress to Level 2 – Finalist status.

The Excellence Awards committee gives its sincere thanks to the 34 judges involved in the selection process. Without their ongoing support the Excellence Awards would not be possible.

The very best of luck is extended to all of the category finalists whose names are listed below.

**KEY DATES:**                      **Level 2 entries close    Friday 22 June**  
   **Awards Evening            Friday 21 September – The Westin Sydney**

For further information on the Awards program or Awards Evening please contact Robyn Worthing on 9410 5612 or email [rworthing@engineersaustralia.org.au](mailto:rworthing@engineersaustralia.org.au).

2007 Engineering Excellence Awards Committee

## Control Systems

### ENTRANTS

City of Ryde Council

Telstra

BlueScope Steel Ltd  
Hatch Associates

### PROJECT

City Of Ryde's New Electronic Waste and Recycling Bin Tagging System

Telstra's Next G National High Speed Wireless Network Deployment

Western Sydney Service Centre Project

## Manufacturing

### ENTRANTS

PeeWee  
Applied Robotics  
AWTA

BlueScope Steel

### PROJECT

RSS Cutter

A case in manufacturing and new solution commercialisation

## Environment & Heritage

### ENTRANTS

Building Services Engineers Pty Ltd

Lothway-TBS

Robert Bird Group  
Vision Water Pty Ltd  
Orica Australia Pty Ltd

Meinhardt

BlueScope Steel Ltd  
Hatch Associates  
Nubian Water Systems Pty Ltd

### PROJECT

IKEA Logan

Tom Ugly's Bridge Painting and Refurbishment: Temporary Works

Towns Place North  
The Watercell

Orica Botany Groundwater Remediation Project

University of Notre Dame, Proposed Darlinghurst Campus  
Western Sydney Service Centre Project

Oasis GT600 Greywater Recycling System

## Welfare, Health, Safety,

## Education & Training

### ENTRANTS

University of Technology, Sydney

CAE Australia Pty Ltd

The UNSW Solar Racing Team

### PROJECT

Flexible Education Framework – to address Skills Shortages and increase participation of Women in Engineering

Tactical Training Capability Upgrade

The Sunswift Project

## Innovations & Inventions

### ENTRANTS

Anglo-Australian Observatory  
Peter Gillingham  
Gabriella Frost  
Jurek Brzeski  
Scott Smedley  
Rolf Muller

TUNRA Ltd

Katru Eco-Inventions Pty Ltd

Magswitch Technology Worldwide Pty Ltd

Cochlear Limited

Centre for Ultrahigh-bandwidth

Devices for Optical Systems (CUDOS)

Michael Withford  
Graham Marshall  
Peter Dekker  
Martin Ams  
Alexander Fuerbach

Wollongong City Council

Monkey Steel Pty Ltd

### PROJECT

Echidna – a novel multi-fibre feed for astronomical spectroscopy

Thermal-Brick

Implux Wind Power Turbine

Magswitch Array Project – Switchable Permanent

Magnetic Industrial Automation Solutions  
LEAP Electrode

Laser Written Waveguides for Use in All-optical Data Networks

Investigating and Mapping our Urban Stormwater Network  
Monkeybar

# ce Awards – The Finalists

**Engineering Science & Technology Pty Ltd** *The Davey/Baker A-Line Self Aligning Spur/Helical Pinion*  
E (Ted) Baker  
**Thompson Couplings Ltd** *Thompson Coupling*

## Research & Development

**ENTRANTS** **PROJECT**  
**GSL Electronics** *Innovative digital battery charger*  
**CSIRO ICT Centre** *Multi Gigabit Millimetre Wave Wireless*  
Val Dyadyuk  
John Bunton  
Oya Sevimli  
Joseph Pathikulangara  
Leigh Stokes  
Ian Davis  
David Abbott

**Magswitch Technology Worldwide Pty Ltd** *Magswitch Array Project – Switchable Permanent Magnetic Industrial Automation Solutions*  
**Centre for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS)** *Laser Written Waveguides for Use in All-optical Data Networks*  
Michael Withford  
Graham Marshall  
Peter Dekker  
Martin Ams  
Alexander Fuerbach

## Project Management

**ENTRANTS** **PROJECT**  
**Connell Wagner** *Tainui Bridge Strengthening*  
**Leighton Contractors Pty Limited** *Terminal 1 Lounge Extension*  
**Abigroup Limited** *Albury Wodonga Hume Freeway*  
RTA NSW  
**Areco (NSW) Pty Ltd** *Wagga Wagga Rail Underbridge*

## Infrastructure Projects

**ENTRANTS** **PROJECT**  
**Sydney Catchment Authority** *Warragamba Dam Deep Water Recovery*  
NSW Department of Commerce  
Baulderstone Hornibrook Pty Ltd  
**Connell Wagner** *Tainui Bridge Strengthening*  
**CW-DC Pty Ltd** *Prospect Raw Water Pumping Station*  
John Holland  
**Sinclair Knight Merz** *Albury Wodonga Hume Freeway project*  
Roads and Traffic Authority, NSW  
Abigroup  
**Areco (NSW) Pty Ltd** *Wagga Wagga Rail Underbridge*

## Building & Structures

**ENTRANTS** **PROJECT**  
**Building Services Engineers Pty Ltd** *IKEA Logan*  
**Connell Wagner** *ANSTO "Opa" Reactor*  
John Holland & Downer  
Engineering Joint Venture  
INVAP  
**Townsend Group** *Cavern linings and associated systems for four new underground rail stations*  
**Leighton Contractors Pty Ltd** *Westpac Place*

## Small Business Ventures / Projects & Reports

**ENTRANTS** **PROJECT**  
**PeeWee** *RSS Cutter*  
Applied Robotics  
AWTA  
**Hydroplus Australia** *Improving Safety at Jindabyne Dam*  
Snowy Hydro Ltd  
**Partridge Partners Pty Ltd** *Assessment of Wind Loading for Design of Temporary Performance Structures*  
**Keller Ground Engineering Pty Ltd** *Soilfrac Grouting on Perth New Metrorail City Project*  
Leighton Kumagai JV  
**Department of Natural Resources, Coast & Floorplain Management Directorate** *Best Practice Guidelines for Landuse Planning, Subdivision Design & Building*

## Engineering for Regional Communities

**ENTRANTS** **PROJECT**  
**University of Technology, Sydney** *Flexible Education Framework – to address Skills Shortages and increase participation of Women in Engineering*  
**Telstra** *Telstra's Next G National High Speed Wireless Network Deployment*  
**Hydroplus Australia** *Improving Safety at Jindabyne Dam*  
Snowy Hydro Ltd  
**Wollongong City Council** *Investigating and Mapping our Urban Stormwater Network*  
Jason Cooper  
Robert Ryan  
**MWH** *Kyogle Integrated Water Cycle Management Strategy Study*  
Kyogle Council  
**Sinclair Knight Merz** *Albury Wodonga Hume Freeway project*  
Roads and Traffic Authority, NSW  
Abigroup  
**University of Wollongong** *University Co-operative Initiative in Promoting Engineering in High Schools: the Year 11 Competitions*

# Engineering Excellence Awards sponsor profile – Phoenix Contact

**The 2007 Engineering Excellence Awards will be presented on September 21, and as we draw closer to this date we will profile one category sponsor of the awards a month in our Engineers Sydney newsletter. The first sponsor to be profiled is Phoenix Contact.**

With six product lines, Phoenix Contact offers an innovative portfolio of industrial elector-technology. The best connections "from the sensor to the controller", from the classical modular terminal block to splash-proof machine connectors, to the wireless Ethernet.

## Industrial Connection Technology CLIPLINE

From the terminal block through the assembly material and practical tools and marking system, everything required for the perfect control cabinet.

## Industrial Connectors PLUSCON

Phoenix Contact provides a modern and comprehensive program of industrial connectors for all applications.

## PCB Connection Systems COMBICON

For industrial electronics, the COMBICON product range offers a complete program of PCB terminal blocks and plug connectors for the printed circuit board.

## Surge Protection TRABTECH

Phoenix Contact offers one the market's widest product ranges, structured in surge protection for power supplies, data interfaces and measuring and control applications.

## Signal Converters INTERFACE

The INTERFACE product range comprises interfaces for binary, serial and analogue signals, as well as power supplies, PLC cabling and electronic load relays.

## Automations Systems AUTOMATIONWORX

From the serial sensor/actor box up to the visualisation software, AUTOMATIONWORX offers everything modern automation technology requires.



*Product availability is an essential part of customer service. Our modern warehouse facilities strive to meet and exceed our customers expectations.*



*Ongoing training measures and discussions make sure that our staff provides competent support and advice.*

Phoenix Contact is a corporation achieving a globally significant and technologically leading position in each of its business fields. With its products and services, Phoenix Contact in principle pursues a strategy of differentiation.

Innovative products are a huge part of the company's success, but how the members of the Phoenix Contact family treat one another is also an important part of the process. Its corporate culture is based on partnership and trust, for staff as well as for customers and business partners. This creates room for ideas and opens up possibilities for solutions.

The company has chosen to sponsor the Control Systems category of the 2007 Engineering Excellence Awards because Engineering Excellence goes hand in hand with Phoenix Contact's company and product philosophy. As a supplier, it prides itself on providing innovative engineering solutions, primarily aimed at process control and automation applications.

Through the exposure the company receives from its commitment to the awards, in particular the Control Systems category, Phoenix Contact is able to outline its competence to Australia's leading engineers. For the company, both Engineers Australia and the Excellence Awards are important forums to communicate the Phoenix Contact brand and its benefits to the engineering community.

As a user, the advantage to going with the company is Phoenix Contact's local branches. A total of 40 of Phoenix Contact's own sales companies and some 30 agencies in other countries form the close-knit sales network of Phoenix Contact. Being at home all over the world and speaking the language of the user is what the company understands by customer proximity- proximity that guarantees ideal service for its partners.

# DIARY DATES

Most meetings are held in the Auditorium, Ground Floor, 8 Thomas St, Chatswood with refreshments at 5.30 for a 6pm start. As meetings are liable to cancellations at short notice, members should ring the organisers for updated information.

**PLEASE NOTE:** Members are advised to check under "Latest News" on the Sydney Division website: [www.engineersaustralia.org.au/sydney](http://www.engineersaustralia.org.au/sydney) for any changes to the listed times/dates (updated weekly on Friday preceding).

## JUNE

### Wed 20 Society of Fire Safety

"D-t-s Fire Safety"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: Jack C Kilavuz  
Phone: 9272 8078

### Wed 20 Australasian Tunnelling Society

"Tugun Bypass Airport Tunnel"  
Chatswood RSL, 446 Victoria Ave, Cnr.  
Thomas St. Chatswood  
17:30 for 18:00 to 19:00  
Contact: Bob Nowotny  
Phone: 02) 9552-0252

### Thurs 21 Quality in Engineering Panel

"Committee Meeting"  
Chairmans Room  
18:00 to 19:00  
Contact: Patrick Lovely  
Mobile: 0418 464 841

### Thurs 21 Women In Engineering

"Community Project Update"  
Board Room  
17:30 for 18:00 to 19:30  
Contact: Hope Dilworth-Kidd  
Mobile: 0409 596 655

### Thurs 21 Mechanical Branch

"Committee Meeting"  
Chairmans Room, 16:30 to 17:30  
Contact: Jim Vickery  
Phone: 9570 2576

### Thurs 21 Mechanical Branch

"Emerging Technologies – Reliability & Risk Issues"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: Jim Vickery  
Phone: 9570 2576

### Thurs 21 Illawarra Sutherland Regional Group

"Committee Meeting"  
University of Wollongong UniCentre  
Function Room No 1, Northfields Avenue,  
Wollongong  
17:30 to 19:30  
Contact: Elaine Bailey  
Phone: 02 4221 4086

### Tues 26 Civil and Structural Engineering Panel

"Marine Structures"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: Jillian Kilby

### Tues 26 Civil and Structural Engineering Panel

"Committee Meeting"  
Board Room  
16:00 to 17:00  
Contact: Nick Livanes  
Phone: 9279 2366

### Wed 27 Toastmasters, Sydney Division

"Money"  
Chairmans Room  
18:00 to 20:00  
Contact: Kaye Segelov  
Mobile: 0424 240 062

### Thurs 28 Joint Electrical Branch – Engineers Australia, IET, IEEE

"Solar Tower Power Generation"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: George Fox  
Phone: 9449 8536

### Fri 29 Sydney Division

"Chartered Professional Workshop"  
Board Room  
9:30 to 12:30  
Contact: Richard Hanna  
Phone: 9410 5616

### Sat 30 Sydney Division

"Chartered Professional Workshop"  
Board Room  
9:30 to 12:30  
Contact: Richard Hanna  
Phone: 9410 5616

## JULY

### Tues 3 Transport Engineering Panel

"Committee Meeting"  
Chairmans Room  
16:30 to 17:30  
Contact: Dave Kilsby  
Mobile: 0411 639 172

### Tues 3 Excellence Awards Committee

"Committee Meeting"  
Board Room, 17:30 to 20:00  
Contact: Robyn Worthing  
Phone: 9410 5612

### Tues 3 Australasian Tunnelling Society

"Committee Meeting"  
Hyder Consulting (Australia) Pty Ltd, Level 5,  
141 Walker Street, North Sydney  
17:30 to 19:00  
Contact: Bob Nowotny  
Phone: 9552 0252

### Wed 4 Engineering Heritage Committee

"Committee Meeting"  
Board Room  
17:00 to 19:00  
Contact: Glenn Rigden  
Mobile: 0408 025 219

### Thurs 5 Railway Technical Society of Australasia Syd Div Chapter

"Committee Meeting"  
Chairmans Room  
16:30 to 17:30  
Contact: Bill Laidlaw  
Mobile: 0409 602 833

### Thurs 5 Engineering Week Committee

"Committee Meeting"  
Hyder Consulting, North Sydney  
18:00 to 20:00  
Contact: Sarah McMahon  
Phone: 9410 5618

### Thurs 5 Electrical Branch Sydney Division

"Committee Meeting"  
Board Room  
16:00 to 20:00  
Contact: Mark Edmumnds

### Thurs 5 Railway Technical Society of Australasia Syd Div Chapter

"Annual General Meeting & Seminar"  
Auditorium  
17:30 to 19:30  
Contact: Bill Laidlaw  
Mobile: 0409 602 833

### Mon 9 Western Sydney Regional Group

"Committee Meeting"  
Bldg X, Room XB305, UWS  
17:30 for 18:00 to  
Contact: Steve Middleton

### Tues 10 Education & Assessment Sub Committee

"Committee Meeting"  
Chairmans Room  
17:00 to 19:00  
Contact: Robyn Wright  
Phone: 9410 5615

### Wed 11 Toastmasters, Sydney Division

"Revolutions"  
Board Room  
18:30 to 20:00  
Contact: Kaye Segelov  
Mobile: 0424 240 062

### Wed 11 Australian Geomechanics Society, Sydney Chapter

"Committee Meeting"  
Board Room  
16:30 to 18:00  
Contact: Henk Buys  
Phone: 8837 0244

### Wed 11 Australian Geomechanics Society, Sydney Chapter

"Poulos Lecture: Some Reflections on a Geotechnical Life"  
Auditorium  
17:30 to 19:30  
Contact: Henk Buys  
Phone: 8837 0244

### Wed 11 Electrical Energy Society of Australia

"Committee Meeting"  
Board Room  
10:30 to 13:00  
Contact: Larry Meng  
Phone: 4822 7120

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**Thurs 12 Joint Electrical Branch – Engineers Australia, IET, IEEE**

"Introduction to Safety Engineering"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: David Burger

**Mon 16 Young Engineers Australia, Sydney Div**

"Committee Meeting"  
Chairmans Room  
18:00 to 19:30  
Contact: Maryam Khajeh

**Mon 16 Sydney Division**

"Division Committee Meeting"  
Board Room  
17:00 for 17:30 to 19:30  
Contact: Nimali Herath  
Phone: 9410 5600

**Tues 17 Centre for Eng. Leadership and Management**

"Committee Meeting"  
Board Room  
16:30 to 17:30  
Contact: Scott Pierce  
Mobile: 0415 739 070

**Wed 18 Water Engineering Panel**

"Sewer Mining"  
UTS, Broadway, Building 2, Room 411  
18:30 to  
Contact: Peter Brady  
Phone: 9514 2734  
Website: <http://www.sydneypwaterpanel.org.au>

**Thurs 19 Illawarra Sutherland Regional Group**

"Committee Meeting"  
University of Wollongong UniCentre  
Function Room No 1, Northfields Avenue,  
Wollongong  
17:30 to 19:30  
Contact: Elaine Bailey  
Phone: 02 4221 4086

**Thurs 19 Mechanical Branch**

"Committee Meeting"  
Chairmans Room  
16:30 to 17:30  
Contact: Jim Vickery  
Phone: 9570 2576

**Thurs 19 Mechanical Branch**

"Design of Thermoplastic Pipe Systems"  
Auditorium  
17:30 for 18:00 to 19:30  
Contact: Jim Vickery  
Phone: 9570 2576

**Thurs 19 Women In Engineering**

"Brainstorm Meeting"  
Board Room  
17:30 for 18:00 to 19:30  
Contact: Hebbat Manhy  
Mobile: 0416 412 136

**Tues 24 Civil and Structural Engineering Panel**

"Committee Meeting"  
Board Room  
16:00 to 17:00  
Contact: Nick Livanos  
Phone: 9279 2366

**Tues 24 University of Technology Sydney**

"2 Day Course: Contracting and Dispute Resolution for Non Lawyers"  
UTS: LAW, 1-59 Quay Street, Haymarket NSW  
2000  
09:00 to 17:00  
Contact: Sharmaine Gewohn  
Phone: 9514 3793  
Website: [www.law.uts.edu.au/courses/pdu/contracts](http://www.law.uts.edu.au/courses/pdu/contracts)

**Tues 24 Civil and Structural Engineering Panel**

"Landslip & Retaining Structures"  
Auditorium  
14:00 to 19:30  
Contact: John Owen

**Wed 25 Education & Assessment Subcommittee**

"Deans Forum"  
Board Room  
14:00 to 17:00  
Contact: Robyn Wright  
Phone: 9410 5615

**Wed 25 Toastmasters, Sydney Division**

"Fireside Stories"  
Board Room  
18:00 to 20:00  
Contact: Kaye Segelov  
Mobile: 0424 240 062

**Thurs 26 Engineering Week Committee**

"Committee Meeting"  
Board Room  
18:00 to 20:00  
Contact: Sarah McMahon  
Phone: 9410 5618

**Thurs 26 Joint Electrical Branch – Engineers Australia, IET, IEEE**

"EEG & BRAINWAVES – Cross-over between Medicine and Electronics."  
Auditorium  
17:30 for 18:00 to 20:00  
Contact: David Burger

**Mon 30 Maritime Panel**

"Wollongong Ocean Outfall"  
Auditorium  
17:30 to 19:30  
Contact: James Carley  
Phone: 9949 4488

**Mon 30 Maritime Panel**

"Committee Meeting"  
Chairmans Room  
16:30 to 17:30  
Contact: James Carley  
Phone: 9949 4488

**Tues 31 Nuclear Engineering Panel**

"Accelerator Driven Sub-Critical Nuclear Reactors"  
Auditorium  
17:30 to 19:30  
Contact: Rod Corrigan  
Mobile: 0409 302 814

**Tues 31 Nuclear Engineering Panel**

"Committee Meeting"  
Board Room  
16:00 to 17:30  
Contact: Rod Corrigan  
Mobile: 0409 302 814

## Reinforced Concrete Basics

RF Warner, SJ Foster, AE Kilpatrick

\$78.14 + GST = \$85.95

This up-to-date treatment of reinforced concrete design deals with latest industry developments worldwide, including the use of higher-strength reinforcing steels and high-strength concretes. While particular attention is paid to the design clauses in the latest edition of the Australian Standard for Concrete Structures, AS 3600, the concepts of analysis and design are presented from a fundamental viewpoint so that the text should also be of value to readers using other design codes and standards.

2007 9780733988691 471pp

This book is available from EA Books.

To order a copy phone 02 9438 5355 or order online at [www.engineersmedia.com.au/bookshop](http://www.engineersmedia.com.au/bookshop)

