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PRESIDENT'S REPORT



It has been a full month where we have received good exposure in the public arena.

On Monday, 4 April we hosted a presentation by Mike Paine, CEO of Southern Water, where he outlined the Southern Water business case for the **installation of water meters**. The meeting was open to members of the public and generated a lot of interest. It was well attended with a number of spirited questions being asked by members of the public. The event was covered on the ABC Television News. Mike and various members of the audience were also interviewed by ABC radio. The meeting showed the importance of the engineering profession engaging



Mike Paine, FIEAust CPEng (CEO, Southern Water) and Greg Walters, FIEAust CPEng EngExec

in the public debate on issues of community interest, particularly on those related to critical infrastructure.

For the record, the Engineers Australia has a long standing position in relation to the management of water resources. Amongst a number of issues we are a strong supporter of the Council of Australian Government's (COAG) National Agenda for Water Reform. This agenda was established to gain agreement between State and Federal Governments with regard to the management of water resources in urban and regional areas. The agenda covers a number of issues, including:

- Allocation of water;
- Integrated catchment management as the vehicle for resource management;
- Water rights being defined in a way that establishes them as a separate property right from the land;
- Public involvement and consultation, and importantly;
- Water prices being based on consumption and reflecting the costs of supplying the water.

In order for water prices to be based on consumption, you need a water meter.

Critical infrastructure is our business and we have a responsibility to be engaged in the public debate on these issues. We need to have informed views and we should voice those views if it will contribute constructively to the public's understanding of the issues. This is part of the rationale for the establishment of the **Parliamentary Fellows Program**, which I spoke about in last month's column. To that end we will be briefing all the members who have indicated their interest in being involved in the program, in the Royal Engineers Building, 2 Davey Street Hobart on Tuesday, 10 May 2011. Doug Gillott immediate past President of SA Division will also be providing an insight into how the SA program has been operating.

It has been an interesting month with protests over the **'Brighton Bypass'** project intensifying. This is a very sensitive issue on both sides of the debate. It is an issue that many members of our engineering community have been involved in and the fallout from the ban imposed by the Tasmanian Aboriginal Centre on assessments by Aboriginal Heritage Officers has seen the delay of many projects throughout the state. Issues of reconciliation with our indigenous community are therefore of central importance to our profession.

It is within this context that the Tasmanian chapter of the Centre for Engineering Leadership and

Management will be holding a presentation on **Reconciliation Action Plans**. Importantly it will be held on **30 May 2011** during National Reconciliation Week. We will be addressed by Leah Armstrong, CEO of Reconciliation Australia, Mr Rodney Dillon a local elder, and National Aborigines and Islanders Day Observance Committee Person of the Year in 2005; and our own 2003 National Professional Engineer of the Year, Bill Lawson AM FIEAust CPEng. (pictured right)



It is appropriate to recognise that Bill has recently been selected by the Prime Minister to be the Tasmanian representative on the committee examining issues around a possible referendum for greater recognition of indigenous Australians within the Federal constitution. Congratulations Bill. It is great to see eminent engineers being selected to address issues of national social significance.

On a final note, **we are keen to hear from you, our members**. We would always welcome a call from you, and now we have established an email address where you can contact me directly with any issues of concern or comments on my column. The email address is:

TasPresident@engineersaustralia.org.au

I look forward to receiving your feedback.

Greg Walters
FIEAust CPEng Eng Exec



WELCOME
Rob Lowther,
GHD Tasmania
Operating Centre Manager

On my first day in Tasmania I took an early morning walk along Salamanca Place. It was summer - the sky was a bright clear blue, the light was a warm amber, and there was snow on Mount Wellington. Although I spent the last 10 years in GHD's Brisbane office, I'm really more of a cold weather person, so this initially incongruous sight was, in fact, a welcome one for me as I began my new role as the Tasmanian Operating Centre Manager.

I graduated from the University of Natal as a Mechanical Engineer over 20 years ago and since then I have worked in South Africa, the UK, the Middle East, New Zealand and Australia. It's an unusual characteristic for an engineer but I'm not a 'details' person. I'm driven by a desire for challenging work and I enjoy change. If someone says that a thing cannot be done I will do my best to find a way to do it. I have worked for clients, contractors and consultants, and I feel that this gives me a holistic view of project development from planning through to commissioning and operation.

In addition to completing challenging projects and delighting clients, I get great satisfaction from seeing my staff learn and develop. I feel that there are a number of people I have worked with, particularly in GHD's Brisbane office, on whom I have had a positive impact, and it makes me very happy to see them succeed. I hope to continue to play an encouraging role for the younger members of GHD's Tasmanian team.

In recent times I have been predominantly involved with projects

in the water and energy and resources sectors. I am particularly proud of the role I played in the development of the Dublin Bay Wastewater Treatment Works in Dublin, Ireland. I was the Design Manager for the brownfield upgrade of the 2,000,000 EP BNR plant, responsible for the design of all process, civil, mechanical and electrical plant throughout the complete contract execution. The plant is one of the most advanced in the world and the water in Dublin Bay is now cleaner than it has been for over 300 years.

The current Tasmanian marketplace is challenging for our industry, and I expect it to remain so for a number of years. I see the greatest difficulty as the lack of funding and investment, from both the private and government sectors. As a company we need to be adaptable and remain client focused in order to be sustainable in this changing business environment. GHD is a global network and when there is a slowdown in the Tasmanian economy we are able to take advantage of opportunities arising for other parts of the organisation. The knowledge and experience we develop through working on projects all over the world is essential in upskilling our Tasmanian staff, allowing us to continue to deliver excellent outcomes for valued clients.



The Centre for Engineering Leadership and Management (CELM) enhances professional opportunities for members of Engineers Australia by developing, recognising and promoting their ability to participate in a lead business, innovation and change.

Monday, 30 May 2011

**12.15 for 12.30pm till
2.00pm**

**Old Woolstore,
Shearers Room**

**1 Macquarie Street,
Hobart**

“Reconciliation Action Plans – What are they, Why are they & What is the Profession doing about it?”

Each year National Reconciliation Week (NRW) celebrates the rich culture and history of the First Australians. It is the ideal time for everyone to join the reconciliation conversation and to think about how we can help turn around the disadvantage experienced by many Aboriginal and Torres Strait Islander people.

As a key activity of this week, 27 May - 3 June 2011, a panel of Eminent Speakers will present their points of view on Reconciliation Action Plans (RAP), what they are, why they are relevant to the engineering profession and how Engineers Australia is responding to the challenge.

Where we stand

Engineers Australia's Vision for Reconciliation

"Engineers Australia has a profound opportunity to have a significant impact on the living conditions, life expectancy and opportunities of indigenous Australian through the application of the diverse skills of its members. Those skills are acknowledged world wide as being instrumental in the improvement of living conditions and life expectancy of persons living in disadvantaged communities."

Engineers Australia's proposed RAP

"Our Reconciliation Action Plan (RAP) will guide our members in the understanding of the culture and traditional values and constraints of indigenous Australians and will help members to deliver carefully considered and structured outcomes for our fellow humans."



**Leah Armstrong,
CEO Reconciliation
Australia -**
What is a RAP and why
have one?



**Bill Lawson, AM FIEAust CPEng, Tasmanian
representative on the PM's select
committee examining changes to
the constitution to recognise
indigenous Australians -**
An engineer's experiences with
Reconciliation and the relevance of
a RAP within an engineering
organisation.



**Rodney Dillon, Member of the
Federal Government's Australian
Heritage Council and an
eminent elder within the
Tasmanian Aboriginal community**
- Comments on his experiences with
reconciliation and the relevance of
RAPs from an indigenous person's
perspective.



**Greg Walters, FIEAust CPEng
EngExec, Division President and a
member of National Council's
RAP Committee -**
What Engineers Australia is doing to
implement our own RAP.

A light lunch will be provided at the meeting. For catering purposes please contact Catherine on creading@engineersaustralia.org.au or 6234 2228 to confirm your attendance prior to Thursday, 26 May 2011



2011 is the **Year of Humanitarian Engineering**, “a year in which we will recognise the role of engineering in improving quality of life and disaster recovery”.

Engineers Australia’s goal for the year is to promote the significance and importance of humanitarian engineering to both the engineering profession and wider community so that humanitarian engineering receives the necessary support in Australia and abroad – and continues to make a difference.



*David Pointing,
GradIEAust*

You can learn more and see the introductory video at: <http://makeitso.org.au/year-of-humanitarian-engineering>

As an engineer who has worked in the humanitarian engineering sector, I think this initiative is fantastic and should yield great dividends for the profession, for society as a whole, and hopefully for engineer-focused organisation such as **Engineers Without Borders** (EWB) and the **Register of Engineers for Disaster Relief** (RedR). But given that Tasmania is not exactly a hot-bed of humanitarian engineering activities, I do think about how the themes and activities of the year apply to me and other locals on a personal and practical level.

At the breakfast launch for the Year, held in Hobart in February, I shared my thoughts on the importance of and the potential for the involvement of local engineers in humanitarian engineering activities and the benefits to individuals and organisations. I spoke from my experience as an engineer who has worked on a range of projects as a volunteer for Engineers Without Borders (5 months in Cambodia) and as a project manager affiliated with the UN Environment Programme (4 years).

To summarise, I believe that humanitarian engineering experiences are:

- Opportunities for rare and enriching personal experience that enable you to engage in novel cultures and situations while utilizing your engineering skills to assist others.
- A source of valuable and highly relevant professional experience and skills which cannot be readily sourced in the conventional business world.

- An opportunity to contribute to a global and local problem in an area where our greatest strengths lie – getting important things done effectively and efficiently.
- A tool to attract and retain younger staff, particularly those already making volunteer commitments to organisations like EWB which has 8,000 members, half of whom are “young”
- Access to a substantial global market for engineering products and services that is expected to grow in size and will always be in demand.

As to the question of how local engineers can get engaged with humanitarian engineering issues, there are a range of options available. Some Tasmanian companies and public agencies are already contributing to the humanitarian engineering sector and have associated opportunities, but there are many other ways to contribute. Noting that not everyone wants or can leave Tasmania, but that some do and can, many of the suggestions presented by Terence Jeyaretnam, in the March edition of the Engineers Australia magazine (page 38) on “how to be a humanitarian engineer” are relevant and mirror my own thoughts. His suggestions range from volunteering with EWB or RedR (locally or internationally) to buying Fairtrade products or supporting micro-finance organisations (e.g. www.kiva.org).

For those of us wanting to get involved and “in the field”, volunteering with EWB or RedR is obviously an option. There are also other avenues such as the AusAID volunteering programs (Australian Business Volunteers, Australian Volunteers International, Volunteering for International Development, and the Australian Youth Ambassadors for Development). See <http://www.ausaid.gov.au/partner/volunteer.cfm>

There is unfortunately no active EWB Chapter in Tasmania at present but this doesn’t prevent Tasmanians from volunteering with EWB and I note that the organisation in Cambodia where I worked in 2007 continues to recruit volunteers through EWB (www.rdic.org).

EWB also has a range of initiatives for engineers of all disciplines and experience levels that don’t require you to leave your desk, such as their “knowledge hubs” that enable online collaboration on a range of topic or location-based issues.

See <http://www.ewb.org.au/getinvolved/volunteer/>

Also consider that not all “humanitarian engineering” needs to be done outside your own community – there are always areas where “improving quality of life” is needed and where your contribution of time and skill would be appreciated.

Within Tasmania, for example, there are currently two events that would benefit from support by volunteer engineers and which do have “humanitarian engineering” links: the **EngQuest** program and the **Robotics in Schools** program.

EngQuest is a fun and interactive program (run by Engineers Australia) that aims to help students achieve key learning outcomes in science, technology and mathematics. Primary and middle years students work in teams to apply their problem solving skills to unravel exciting engineering projects. As part of the Year of Humanitarian Engineering (and the 10th year of EngQuest), students will plan a self sustaining community after disaster has struck. They will research, plan and design their community prior to construction, as reflected in real life practice. There are three ways that you could contribute: visit schools (with a resource kit to guide you), answer questions on the 'ask an engineer' online forum, or provide feedback on on-line project submissions. 15 schools around Tasmania, from Hobart to Flinders Island, have already registered for 2011 and could use your help!

See <http://www.engquest.org.au/volunteers-why.cfm> for more details.

The **“Robotics in Schools”** program, established by Dr Graeme Faulkner, shows students (especially girls) some of the joys of engineering by working with Lego NXT Mindstorms robots. Graeme is seeking some engineers to assist teachers in the class room for the 2 hour sessions (no robotics experience needed!). While not directly associated with aid and development work, this is a great opportunity to help in the development of the Tasmanian community (and to have a lot of fun). If you can help, please email Graeme at gf@live.com.au and visit www.drgraeme.net

How do you relate to the “Year of Humanitarian Engineering” ?

WELCOME DAVID POINTING TASMANIA DIVISION'S MANAGER, EDUCATION PROGRAMS



We are pleased to welcome David to the staff of Engineers Australia in Tasmania. David's role will include co-ordinating and promoting our Education Programs including: Engineering Initiative placements, Science & Engineering Challenge and EngQuest.

He will also be liaising with and assisting other organisations running maths, science, technology and engineering related programs, e.g. Model Solar Vehicle challenge and Robocup. This will involve the development of a website database of education programs, scholarships and opportunities available for students and teachers throughout Tasmania.

Part of his role will be to identify organisations which can provide assistance to students, schools and other Engineers Australia related activities to further enhance the promotion of engineering as a career.

David is a pleasure to have on board and we ask members to support him in this important role.

David can be contacted at dpointing@engineersaustralia.org.au



Awards for Individuals

www.engineersaustralia.org.au/tasindividualawards

NOMINATING FOR ENGINEERS AUSTRALIA'S INDIVIDUAL AWARDS

Nominations for the following Awards are now being sought and will close on 30 June:

- Professional Engineer of the Year Award
- Engineering Technologist of the Year Award
- Engineering Officer of the Year Award
- Young Professional Engineer of the Year Award
- Young Technologist of the Year Award
- Young Officer of the Year Award

Engineers Australia's Individual Awards are to honour those individuals whose attributes have demonstrated great achievements and leadership within the engineering profession.

Nominations for all Individual Awards can be submitted online via the online nomination form at

www.engineersaustralia.org.au/tasindividualawards

Or by completing the nomination form available on the website and emailing it to

tasmania@engineersaustralia.org.au

Nominations must be submitted to the Division in which the nominee is affiliated and supported by at least one referee who is a financial member of Engineers Australia.

The age-limit for those nominating for any of the organisation's young awards is 35, as at 31 December.

NATIONAL CRITERIA

Priority Weighting Criteria

- 30% Engineering competence
- 20% Demonstrated leadership skills including leadership of teams
- 20% Positive/notable outcomes from their engineering work
- 20% Creativity/innovation
- 10% Community service to industry, the profession and/or society

NOMINATION PROCESS

Nominees/nominator's will be asked to address the fields provided in approximately 500 words per section and demonstrate how they have the following attributes gained through engineering. Nominees/ nominator's are encouraged to address the following five fields where relevant.

1. Engineering competence
2. Demonstrated leadership skills (including leadership of teams)
3. Positive/notable outcomes from their performance
4. Creativity/innovation
5. Community service to industry, the profession and/or society

Please note: A CV and profile picture may be submitted in addition to the above information. This is optional.

TERMS & CONDITIONS OF NOMINATION FOR ALL INDIVIDUAL AWARDS

In the interest of credibility and fairness the following eligibility requirements will be mandated and not subject to interpretation:

1. A nominee must be a financial member in the relevant grade of membership at the time of nomination. There are no time restraints as to when the financial member signs up for membership – as long as they are a financial member at the time of nomination. International members are to be nominated by the relevant Chapter via the National H&A Committee
2. The nominee/nominator must select the Division in which the nominee is from in the nomination form which allows the nomination to be submitted for judging in the Division they are affiliated with.
3. A third party can prepare a nomination on behalf of the nominee, (for example an employer) however the nomination must be supported by at least one referee who is a financial member of Engineers Australia. Referee's contacts and membership number must be provided in the nomination form.
4. A nominee must agree to the nomination by agreeing to the terms and conditions of the nomination in order for it to be successfully submitted. By agreeing to a nomination the nominee is agreeing to be interviewed by judges
5. Engineers Australia staff cannot prepare a nomination on behalf of a nominee.
6. There is to be no monetary gain or other direct inducement/incentive provided to a nominator, nominee or employer of either party. Marketing campaigns seeking to motivate and/or solicit nominations via additional prizes must be approved by the National H&A Committee via the Divisional H&A Chair prior to commencement. This excludes the awarding of prizes to award winners and refers to incentives which aim to market or motivate nominations - which are further rewarded for those nominations which were successful after judging.
7. Engineers Australia staff may not participate in the judging or voting process, but may provide advice to the judging panels as requested.
8. Nominations may come from all business units (including Colleges, Technical Societies and special interest groups) however the nominee/nominator must select the Division of which the nominee is affiliated.
9. Nominees may be asked to use content of their nomination for promotional means in the media.
10. By agreeing to the terms and conditions the nominee is allowing Engineers Australia the right to investigate the nominee's membership file.
11. If a third party is nominating on behalf of a nominee, permission must then be sort from the nominee prior to submitting this nomination form. All nominees, (including those self-nominating) will automatically receive an email once they have submitted this form asking them to accept the nomination via return email. If the nominee does not respond – the nomination will not proceed.

EMINENT SPEAKER SERIES 2010-2011

Hosted By the: COLLEGE OF STRUCTURAL ENGINEERING

Emeritus Professor **Paul Grundy** FIEAust CPEng

2010 Sir John Connell Medal Recipient
Professor of Structural Engineering, Monash University

To RSVP for all sessions:

<http://www.engineersaustralia.org.au/eminentspeaker/>

(Please note there is a \$10 charge for Non-Members to attend these presentations)



Disaster Risk Reduction and the Engineer

A natural hazard – earthquake, landslide, cyclone, windstorm, flood, storm surge, volcano, wildfire – only becomes a non natural disaster when mankind is embroiled and unable to withstand or dodge its impact. This happens when the intensity of the natural event far exceeds that which our habitation and infrastructure is designed to survive, even when the design is 'perfect' according to our codes of practice. An owner might be satisfied with a building designed to survive all hazards with an annual probability of being exceeded of one in 500, but is this acceptable for the community if the same hazard puts 1,000 houses and critical infrastructure at risk at the same time? One answer is to go beyond the Ultimate Limit State in design to a proposed 'Disaster Limit State', using lower limits of acceptable risk for hazards which embroil whole communities. But no matter how conservative the design is, there will be hazardous events overwhelming communities. The engineer needs to address non structural measures as part of the holistic approach to minimize loss of life, livelihood, social cohesion and assets. Examples will be drawn from natural hazards over recent time, some of which led to disaster while some did not.

The impact of disasters is most severe in impoverished and developing countries without the resilience to mitigate the impact or the capacity to recover quickly. In this Year of Humanitarian Engineering, it is time for engineers to take up the challenge of Disaster Risk Reduction.

Emeritus Professor Paul Grundy graduated with a BCE (1957) and MEngSc (1960) from the University of Melbourne and obtained his PhD from the University of Cambridge, UK in 1961. Paul worked with consulting firms Civil & Civic Pty Ltd and Hardcastle & Richards Pty Ltd until commencing at Monash University in 1996 until present. His areas of key research have been on load spectrums, fatigue and fracture, risk assessment and life extension applied to cranes, bridges, bulk carriers and offshore structures with wrought iron, steel, concrete, composite and FRP materials. Paul is currently a member of the IABSE Working Commission 7 on Sustainability and a member of the National Trust (Victoria) Industrial Heritage Committee on Metal Road Bridges.

PRESENTATIONS

Devonport, TAS

Wednesday, 18 May
Gateway Hotel
5.30 for 6.00pm Dinner
7.00pm Presentation
(Dinner incurs a separate cost)

Launceston, TAS

Thursday, 19 May
Tamar Yacht Club
7 Park Street
5.30 for 6.00pm

2010-2011 SERIES SUPPORTING PARTNERS:



ENGINEERS
AUSTRALIA

Members of Engineers Australia can claim CPD hours for attendance at this event.
Members should refer to Engineers Australia's CPD Policy for requirement details and conditions.

YOUNG ENGINEERS



*Sandra Thaow, MIEAust CPEng
Chair,
Young Engineers Tasmania*

new minds
new ideas.



I don't know how anybody else feels about this but I certainly feel like April passed by in the blink of an eye. Ok, so maybe that's a slight exaggeration – two blinks. However, when I look back over the events of late May/early April, I can certainly see why! At the time that I wrote this article there had been an eminent speaker presentation, a Women in Engineering family BBQ, a presentation on residential water meters, the Electric Energy Society of Australia National 2011 Conference (EECON) and Chartered Professional sessions and the month wasn't even over yet! By the time this article is published and reaches your hands, there will have been a site visit in the North West, another eminent speaker and events at the university with engineering students.

I would like to take this opportunity to thank the organisers of **EECON** for their generous offer of a complimentary registration to the Conference for one of our YEAT Committee. We have a write up from Andrew Boyd, our North West YEAT Committee member, regarding the conference at the end of my article.

One particular event that I would like to focus on is the **CPEng Focus Group** that YEAT hosted in April 2011. For those that don't know – Chartered Status, or CPEng, is a certification from Engineers Australia (EA) that certifies that an engineer can practice in a competent, independent and ethical manner and has demonstrated leadership in undertaking the process. CPEng is available to Members and Fellows in Engineers Australia and requires the applicant to prepare an Engineering Practice Report linking their work experience to engineering competencies and a professional interview conducted by senior engineers from their area of practice. I like to think of it as one of the next logical certifications after university.

EA established the CPEng certification in the mid-90s and despite the large number of young engineers enrolled, there is a very low proportion of engineers undertaking and successfully attaining CPEng. This has prompted EA to undertake a review of CPEng and what it is about the process or the certification that is putting our members off from achieving it. As part of this review, the National committee of Young Engineers (YEANC) have been given the opportunity to put forward the views of young engineers on Chartered Status.

To this end, CPEng Focus groups have been hosted by the

respective YEA bodies in each state to gather our feedback and thoughts to be included in YEANC's response to EA. In Tasmania, a group of young engineers at various stages in their career were invited to participate in a workshop. The facilitator asked the group a series of questions and promoted discussions are determining what they thought was the value of being Chartered, what they understood about the process and the different avenues to achieving CPEng, what difficulties the participants have run into, whether they value become Chartered and how the process of becoming Chartered could be changed to encourage greater up take.

There were a large number of items discussed but I just wanted to raise a few that I thought were particularly interesting such as:

- The public perception of engineers is that we don't need to be seen, they just expect us to be doing a good job and we don't have to go through any process to prove to them that we are competent and up to date;
- CPEng does not make you a competent engineer because anybody can undergo the process and have somebody that signs it off;
- Just because you do something once and write about it doesn't demonstrate that you are actually competent and would be able to do it again;
- Some Professional Development Program partners don't really understand Chartered status and the extra support mechanisms they can give their employees – still seen as an HR function when it is actually a technical competency;
- Most people have not attained CPEng because the process takes too much time and effort, especially when you have other competing work/life priorities, despite the process only taking on average 40 hours – participants felt that the comprehensiveness of the competencies does not give the impression that it can be completed in this timeframe;
- We did not want the process made any more difficult but if it was made any easier then it would be diminished in our eyes; and
- It would be valued more if the value of achieving it was seen as greater (the issue of greater in what way was not discussed).

This is a really important issue for young engineers and this is our opportunity to have a say in the future of this

process. If you haven't received it already, you will see in your email inboxes soon an email from Engineering Practice about a Chartered Survey. The results of this survey will also feed into YEANC's response to EA so please complete the survey to have your views heard if you didn't have the opportunity to participate in a focus group. Or even if you did and just want to emphasise the point! All survey participants will have the opportunity to win 1 of 2 iPads so do it.

Another way for young engineers to have more of a voice at the higher echelons of EA is to put ourselves forward for leadership positions. There are currently Tasmanian representative vacancies on four **National College Boards**:

- Biomedical;
- Environmental;
- Information, Telecommunications & Electronics Engineering; and
- Mechanical.

If you know anyone that you think would be a suitable representative for any of the above colleges, or that would like the opportunity to represent Tasmania on those college boards, please contact the Tasmanian Engineers Australia office for more information.

There are also currently a number of awards and prizes that are available for members of the science and engineering community:

- The L'Oréal Australia for Women in Science Fellowship – three fellowships valued at \$20,000 each. Nominations close on the 2 May 2011. Go to www.scienceinpublic.com/loreal for more information;
- The Australian Museum Eureka Prizes – rewarding excellence in research and innovation, science leadership, school science and science journalism and communication. Most include a \$10,000 cash prize. Nominations close on the 6 May 2011. Go to www.eureka.australianmuseum.net.au for more information; and
- The Prime Minister's Prizes for Science – a national tribute to excellent and dedicated work in Australian science and science teaching. There are 5 prizes ranging from \$50,000 to \$300,000. Nominations close on 13 May 2011. Go to <https://grants.innovation.gov.au/SciencePrize/Pages/Home.aspx> for more information.

And don't forget about EA's own **National Awards** that close on 30 June 2011 for the:

- Professional Engineer of the Year
- Engineering Technologist of the Year
- Engineering Officer of the Year
- Young Professional Engineer of the Year

- Young Engineering Technologist of the Year
- Young Engineering Officer of the Year

More information about EA's awards can be found at http://www.engineersaustralia.org.au/divisions/tasmania-division/awards/awards_home.cfm

If you know anybody that you believe is suitable for any of the above awards and prizes, please pass on this information or nominate them so that we can appropriately recognise, acknowledge and celebrate their achievements in the fields of Science and Engineering.

Having mentioned earlier how quickly this year has passed so far, it is situations like this where time is a precious commodity that highlights the importance of understanding how much your time is worth and the skills required to ensure that you address the right issues first. For those who do it naturally well, kudos to you. For those that could do with a bit of assistance in this area, or just want to check how they're going, **Engineers Australia's Careers Manager**, Jenny O'Donovan, will be visiting Tasmania for a few days in the second week of May.

Jenny's visit also provides us all with other opportunities for professional development such as your responsibilities as an engineer and career planning to resume preparation and feedback, interview skills and tips, application letter writing and networking advice. She will be visiting interested Professional Development Program partners and hosting after hour sessions. Jenny will also be available for one-on-one sessions with people if they are interested in a bit more personal advice.

Exact details and dates are yet to be confirmed but details of Jenny's visit will be emailed to members, uploaded onto the EA page and YEAT Facebook group once they are available. If you are interested to have Jenny visit your workplace or to arrange for a one-on-one session with Jenny, please contact me at the yeatas email.

YEAT and YPNT will also be teaming up in July to offer our members an **Investment Seminar** to provide some advice on what we can do with all our hard earned dollars and our tax return (for those of us fortunate enough to get one!) so watch this space.

Committee Travels



I was lucky enough to visit the Eiffel Tower during my travels last year.

One of the most recognisable structures around the world, the Eiffel Tower was built in 1889 as a temporary entrance arch for the Exposition Universelle, or World Expo as most people would commonly know it as.

YOUNG ENGINEERS

Apparently the Parisiens detested the structure and the City of Paris planned to dismantle the tower in 1909 once it's permit expired but the tower proved to be valuable for radio communication during the world wars and was permitted to remain.

The tower is now considered to be one of the best pieces of structural art worldwide and is the most visited paid monument.

I'll wrap up, as I've definitely used up more than my allocated space, by inviting any young engineers interested in joining or participating on the YEAT committee to contact me about the committee and attending one of our meetings. We are always looking for motivated people to join and help us improve the service that we deliver to our peers.

Sandra Thaow, MIEAust CPEng
Chair YEAT



Andrew Boyd,
GradOIEAust
Young Engineers
Tasmania
Committee

On the 6th to 8th of April the Electric Energy Society of Australia held their 87th National Conference EECON2011. This was the first time the event has been held in Tasmania. The theme, "*Future Energy..... Empowering Sustainable Solutions*" was very fitting to the location of Tasmania where we are leaders in the field of renewable energy.

The conference was well supported by 140 delegates and 20 product and services exhibitors during this event. With over 40 speakers it is needless to say that the topics and ideas presented were as varied as the industry itself.

Topics included projects that have recently been completed, renewable technologies such as wind and solar generation, along with the issues associated with having them on the grid, changes in the behavior of consumers, introduction of electric cars, smart grids and many more too numerous to list.

Thursday night was another conference highlight with dinner at Bellerive Oval. During pre-dinner drinks we had the opportunity to view the Tasmanian Cricket Museum. It was fantastic to look at the history of cricket in our state and to see where we are now situated as one of the most consistent performing states in all forms of the game. Of course where would Tasmanian cricket be on the map without Boony! David was our guest speaker and gave both a humorous but factual presentation of Australian cricket over the past 20 years.

Finally, congratulations to Richard Bevan and the entire organizing committee for putting this fantastic event together. Also special thanks should go to Colin Frost from EESA for his work behind the scenes and for sponsoring two delegates from YEAT and WIE. Colin was also presented with honorary life membership to EESA for many years of passionate service to the society.



Rowan Crosbie-Goold, one of Engineers Australia's Industry Manager's, presented a session on the pathways to Chartered Status in April to five young engineers in Hobart. With new legislation requirements expected in the next couple of years, it is a good time to be considering Chartered Status. The Chartered Status process involves writing reports on your engineering experience, which are assessed against a competency framework, followed by a professional interview. It is a good mechanism to reflect on your professional experience, and identify areas for improvement.

More details on the Chartered Status process can be found at:
www.engineersaustralia.org.au/professional-development

CONGRATULATIONS/ WELCOME

**Members joining, rejoining
or upgrading**

FELLOWS

Peter Clark, OFIEAust
Keith Midson, FIEAust CPEng

MEMBERS

Borripat Apikhantikul, MIEAust
Malav Mehta, MIEAust

GRADUATES

Jeremy Crawford, GradIEAust
Kathryn Easther, GradIEAust
Daniel de Groot, GradIEAust
Damian Sowter, GradIEAust

STUDENTS

(StudIEAust)

John Bingham
Stewart Collins
Suzanna Dunlop
Matthew Jackson
Quoc Ngo
Russell Pearce
Yuvaraj Selvam
Cherry Wynn

YOUNG ENGINEERS



*Rodney Bussey
BEng (Mech),
MMRE, MIEAust
Young Engineers
Tasmania
Committee*



Great Design Engineers = Great Achievers

On the 31 March 2011 I had the pleasure of attending an Eminent Speaker Presentation given by Dianne Boddy, FIEAust CPEng (Retired) at the Gateway Hotel in Devonport.

Dianne's presentation began by outlining her entry into the engineering workforce through a drafting office in a large general engineering company after being forced to decline a Commonwealth Scholarship to University. It was amazing to hear her experience through this early phase of her career, as well as her passion and interest in not only completing her day to day tasks, but getting involved with the staff on the work floor.

She continued to give us an enthralling outline of some her innovative, and at times seemingly simple solutions (in hindsight at least!) to problems that were presented before her. Of particular note for me personally was her involvement in the automation of sheep shearing. Having worked around sheep in my early years, including as a rouse-about in a shearing shed, I can fully attest as to how difficult this task was!

Dianne's presentation provided many insights into how lateral thinking and a focus on fully appreciating what the functional requirements (including the hands on requirement of having to maintain equipment) of a

solution are was awe inspiring to say the least. This at times appears to be where many perfectly good theoretical engineering solutions can come up short. Having been involved in maintenance myself I am truly appreciative of her insight into the ramifications that a design can have on not only the reliability of equipment, but also the ease in which it can be maintained.

Dianne's presentation culminated in highlighting the need for us as engineers to provide the mentoring opportunities required for young engineers entering the workforce, including true assistance to their problem solving efforts. We all know that this can be extremely difficult at times due to time constraints, but is becoming ever more necessary when many of our graduates appear to have decreasing practical exposure to the world of engineering.

The mentoring of graduates through our profession is obviously a key issue, and one that is not easily dealt with on any single level. It involves successful education and experience, of which we are all aware. Not only this, it also highlights that it will become increasingly important for future generations with the exponential increase of technology implementation and the lack of practical exposure for our younger generations (there are a number of reasons my wife and I wanted to raise our children on some acreage, but this is one of them!).

Dianne's insight that small consultancy engineering firms may not have any long term future certainly raised some concerns. People such as Dianne have the ability to provide solutions to problems that at times larger firms cannot. This is not a simple issue, but it would be very sad to see sole engineering consultancy firms with their innate focus on innovation stifled due to oppressive regulatory and insurance requirements. This appears to be an area that the ESTPSS could play a major role for the future.



*Dianne's 2010 AGM Michell Medal for contributions
to the field of mechanical engineering.*



Nyssa Muir, GradIEAust

WOMEN IN ENGINEERING

Women in Engineering, Tasmania
Attract. Support. Develop. Celebrate.
Our mission is to increase the participation of women in the engineering profession and allow our members' aspirations to flourish.

Events

WIE TAS Division Networking Evening

Come along to meet the WIE TAS committee in a casual get together. It'll be the most fun you can have on a Wednesday evening! Everyone is welcome.

When: Wednesday, 4 May 2011

Time: From 5:30pm onwards

Where: Onba, 301 Elizabeth Street, North Hobart

Cost: Pay your own way.

RSVP: To Catherine (creading@engineersaustralia.org.au) by 2 May 2011. Come along for a drink, and for those interested, stay on for dinner



When: 7am Wednesday, 4 May 2011

Where: Tasman Room, Wrest Point, Hobart

Tickets: \$35 per person or \$400 for a table of 12

Includes: A delicious heart healthy breakfast, gift bag, spot prizes and raffle

More info: Contact 6224 2722 or visit www.heartfoundation.org.au/

News

WIE BBQ

On a windy Autumn day last month (well we can't plan the weather!) the Engineers Tasmania Family BBQ was held. Fun was had by all and as well as the usual BBQ feast, there was an Easter egg hunt and other activities for the kids/little future engineers.

15th International Conference for Women Engineers & Scientists



This is an international forum and Australia is fortunate is host it in 2011. This conference has attracted some very big sponsors and influential speakers so far.

Venue: Adelaide

More info: www.icwes15.org

Go Red for Women Breakfast



Join the Heart Foundation's National Go Red for Women Ambassador, Deborah Thomas, one of the country's most successful and experienced magazine editors who'll chat with our MC Tori Hodgman and our panel of experts including Dr Faline Howes from the School of Medicine at the University of Tasmania, Jane Stephens who is a Pharmacist and fitness professional and Susan Anderson, Heart Foundation National Healthy Weight Director.



Participants in the Engineers Tasmania Family BBQ

What do exotic dancing and medicine have in common? Research explores the gendering of jobs

Researchers are calling on men and women who work in the diverse fields of nursing, retail, exotic dancing, engineering, construction and medicine, to take part in a new study that explores traditionally 'gendered' jobs.

Dr Kate Huppertz from the School of Social Sciences at the University of Western Sydney says it is no secret that Australia has a highly gender-segregated workforce.

“Society dictates that nursing is traditionally a feminine occupation, while being a doctor is more masculine. To a similar extent, construction sites are expected to be male-dominated, while exotic dancing is seemingly restricted to women,” says Dr Huppatz.

“The aim of the study is to find out why men and women perpetuate these stereotypes by continuing to enter into feminised or masculinised occupations, and what encourages them to stay there.”

Dr Huppatz says men and women at any level of these five diverse occupations are encouraged to take part in the study.

“The study will explore the gendered and classed identities, practices, performances and power relationships of the people who work and study in these feminised and masculinised fields,” says Dr Huppatz.

“In particular, the researchers are interested to learn how men and women came to be in these particular fields, and how their family and class backgrounds may have contributed to their career trajectories.”

Participants in the study will take part in an interview with a researcher, in which they will be asked to share their occupational stories. The interviews will take approximately 60 minutes, participation is completely voluntary and has been approved by the Human Ethics Committee, The University of Sydney.

The research is being conducted in partnership with Dr Sue Goodwin from The University of Sydney.

To participate in the study, contact Dr Kate Huppatz on 0425 309 204 or Dr Sue Goodwin on 9351 3282.

Joint Event with WIS (Women in Surveying & Spatial Sciences)



WIE at the Breakfast event organised by WIS

Late March the WIE were invited to a joint breakfast event with the WIS group. We were privileged to hear from two excellent speakers;

- **Gypsy Bhalla** on “5 behaviours of highly effective people in the spatial industry”
- and
- **Audrey Mills** on “Women in traditional male professions”

The speakers were very interesting and well received. And the breakfast at Zum was delicious. We look forward to more combined events with the WIS group.



Reflection

**Eminent Speaker Programme –
Dianne Boddy, FIEAust CPEng
(Retired)**

Last month Hobart was fortunate to have Dianne visit and speak at the Royal Engineers Building.

Meredith McQueen (WIE Committee Member) made some notes from her wonderful presentation;

What an inspiring engineer and speaker is Dianne Boddy! In her presentation she gave some examples from the 2000+ projects she has worked on in her amazing career. She also left us with some words of wisdom and advice to inspire all engineers.

Brief History: Dianne started as a tracer in the fabrication shop of a canning factory. She quickly developed a passion and genius for mechanical design which saw her rapidly promoted as her talents were recognised. Some of the varied projects she has worked on, both within Australia and internationally, include:

1. Fruit processing and canning equipment
2. Robotic shearing machine
3. Lubrication equipment in the oil industry
4. Grain handling samplers
5. Equipment for the production of pharmaceuticals
6. Environmental sampling probes
7. Mooring systems to strict specifications
8. The world’s largest centrifuge for the US army producing accelerations of over 100 “g”s.
9. Work on a revolutionary independent suspension system for 4 wheel drive vehicles.

Thoughts and Advice:

1. Follow up all opportunities in your career as they come along.
2. Before locking into the final design solution, make sure you have explored all possible design options. Brainstorm even the silly ideas!
3. An effective engineer needs Training, Thinking, Knowledge, Appreciation and Experience.
4. Set up a competent project team before starting the project.
5. Always mentor young engineers and provide them with a variety of experiences.
6. Always look at the initial specification from the client closely and go back to it often during design.
7. Australian engineers are highly regarded overseas because they generally have a broader, more general knowledge of their field. By comparison US engineers tend to be more specialised.
8. In design – “KEEP IT SIMPLE STUPID!”

Safer Construction – Design Stage

This **one day** course presents a guide to best practice for safer construction with a specific focus on designing for safety as set out in the Engineers Australia Guide to Best Practice for Safer Construction.

A particular focus on design for safety and OHS in the construction industry for clients, designers and constructors.



\$528 Tas Div Members
\$660 Non Members

Target Audience For engineers, architects, OHS personnel, safety managers, project/construction managers involved in the planning and design and construction of civil engineering infrastructure and building works.

This course is particularly valuable for design managers but will also be important to less experienced design professionals in introducing the concepts of designing for safety as set out in the Engineers Australia Guide to Best Practice for Safer Construction.

Introduction

Australian State and National OH&S legislation has introduced new safe design duties and legal obligations which each person who has control of the design of infrastructure projects, buildings, plant or of a system must comply with.

This means that designers and those responsible for designs must carry out detailed hazard identification, risk assessments and risk controls for the impact of designs on construction safety risk.

Designers are now legally obligated, and can be held accountable, for injuries arising from negligent design decisions affecting construction phase safety. Designers need to consider, by legislation, design elements to reduce safety risks at the construction stage.

To meet this need at the design phase of a project, Engineers Australia developed the Guide to Best Practice for Safer Construction – Design Stage. It is a much needed guide to explain these new legal duties that apply to designers, and what they need to do. The Guide provides practical advice on ways to meet these obligations, and to maximise the safety of construction projects, plant and systems at the design stage.

Participants will receive the comprehensive Guide and workbook, with additional tools and resources that can be used in the management and consideration of construction hazards and risk in the design phase of any project.

Course Outline

- Construction Industry Trends and Statistics
- OHS Hazard Identification (Practical Activity)
- The Guide to Best Practice for Safer Construction - The 'Safer Construction' process and principles will be presented and discussed with an emphasis on the Design Stage.
- Discussion on 'Best Practice' – Design Reviews and Constructability
- Hazard Identification and Risk Assessment in Design (Practical Activity)

Course Objectives

At the end of the course participants will be able to:

- Understand the new OH&S legislation and legal obligations of all those responsible for designs .
- Be familiar with the Safer Construction principle of designing for construction OHS.
- Gain an understanding of risk management principles and practices as they relate to designing for construction workers' OHS.
- Gain an understanding of the process of hazard identification, risk assessment, and risk control, in the context of construction design.
- Gain an understanding of the practical benefits, in terms of OHS risk elimination and/or reduction, that can be achieved through the application of OHS risk management in construction design.
- Know what new methods and approaches need to be implemented at the design phase of a project and its completion.

A new must-do course for designers and those responsible for design.
Learn how to meet your new Legal OH&S Responsibilities for Safer Construction.

Recognised for Continuing Professional Development (CPD) by Engineers Australia [refer to EA CPD Guidelines]

24 May 2011
Salamanca Inn, Hobart

Download flyer at:
www.engineersaustralia.org.au/tasevents

www.eeaust.com.au



Negotiation Skills

This **two day** course in negotiation skills is a highly interactive and practical course which enables participants to develop effective negotiation and influence skills for immediate application.

A particular focus on developing negotiation and influence skills that are relevant and can be employed immediately in the engineering workplace.



Target Audience For those who are new to negotiating in the workplace, or for those who are in need of updated/refreshed knowledge and skills.

31 May & 1 June 2011
Salamanca Inn, Hobart
Download flyer at:
www.engineersaustralia.org.au/tasevents

Course Outline

What is Negotiation?

Overview of the process of negotiation and a look at the skills that effective negotiators use and avoid during the process.

Roles for Effective Negotiation

Discuss the range of skills needed to be an effective negotiator, and determine a range of ways for developing some of the skills we lack.

Negotiation Styles

Different styles of negotiation; participants will undertake an exercise to determine their preferred style and how to negotiate effectively with those who have different styles.

Negotiation Steps

Step 1: Preparation

What to do even before the process of negotiation begins.

Step 2: Exploration

The importance of building a positive relationship with the other party at the start of negotiations; techniques to limit the resistance that may be felt between the parties involved.

Step 3: Negotiate

Gaining permission to negotiate; determining what type of negotiation and outcome is best and most likely.

Step 4: Closing

Dealing with the other parties objections before closing a negotiation; what to do if no agreement can be arrived at.

Step 5: Follow Up

What to do after an agreement has been reached; following up to ensure the negotiated agreement translates into action.

The Negotiation Environment

Defining what the effective environmental elements are for the negotiation process.

Influencing Skills

Identify tools and techniques to influence the outcomes of negotiations; effective application of influencing tools and techniques.

Dispute resolution

Negotiations don't always go smoothly. If conflict develops we need to know what our options are. The five common resolution modes outlined by Thomas and Kilmann are explained and a practical exercise carried out to determine our own strengths and weakness, and the advantages and disadvantages of each mode.

Negotiation Simulations

Case study and role plays / simulations to consolidate learning.

When people "play dirty"

A detailed look at some of the more common 'dirty tricks' some people use in negotiations; Develop counter tactics to bring negotiations back on track.

Course Objectives

At the end of the course participants will be able to:

- Understand the meaning and nature of negotiation
- Identify and use a range of strategies for negotiation
- Understand the different roles required in the negotiation process
- Understand and use a variety of styles for effective negotiation
- Know some of the common 'tricks' poor negotiators use and how to deal with them
- Discuss and use a staged approach to negotiation, and
- Apply different negotiation strategies to their work and/or personal dealings.

“Excellent and interesting and I will recommend this course.”

*Mining Engineer
John Holland Mining*

\$792 EA Members
\$990 Non Members

Recognised for Continuing Professional Development (CPD) by Engineers Australia [refer to EA CPD Guidelines]

CALENDAR 2011

For up to date information on these and other events, please visit www.engineersaustralia.org.au/tasevents

MAY

Wednesday 11 - Civil/Structural - Barrow Island Structures, Innovative Steel Engineering for Extreme Conditions of Wind, Corrosion & Cost - Geoff Fletcher, MIEAust CPEng (LiteSteel Technologies) - 5.30 for 6.00pm - Royal Engineers Building, 2 Davey Street, Hobart - RSVP to Catherine Reading 6234 2228 or creading@engineersaustralia.org.au (Refer to this page)

Wednesday 18 - Eminent Speaker Program - DEVONPORT - Paul Grundy, FIEAust CPEng - **Disaster Risk Reduction and the Engineer** - Gateway Hotel - 5.30 for 6.00pm Dinner, Presentation commencing at 7.00pm - \$15 per person for meal - Register at <http://www.engineersaustralia.org.au/eminentspeaker/> (Refer to page 7)

Thursday 19 - Eminent Speaker Program - LAUNCESTON - Paul Grundy, FIEAust CPEng - **Disaster Risk Reduction and the Engineer** - Tamar Yacht Club, 7 Park Street - 5.30 for 6.00pm - Register at <http://www.engineersaustralia.org.au/eminentspeaker/> (Refer to page 7)

Thursday 19 - Australasian Corrosion Association - SEMINAR - Corrosion Mitigation & Monitoring - 9.30am to 4.00pm - Zeps Café, 92-94 High Street, Campbell Town - \$162.00 EA Members - Download Registration form at www.engineersaustralia.org.au/tasevents

Tuesday 24 - EEA SHORT COURSE - Safer Construction-Design Stage - Salamanca Inn - 8.30am to 5.00pm - **HOBART** - \$528 (EA Members) - \$660 (Non Members) - Download registration form at www.engineersaustralia.org.au/tasevents (Refer to page 14)

Monday 30 - CELM - Reconciliation Action Plans - What are they, Why are they & What is the Profession doing about it? - 12.15 for 12.30 to 2.00pm - Old Woolstore, Shearers Room, 1 Macquarie Street, Hobart - RSVP to Catherine Reading 6234 2228 or creading@engineersaustralia.org.au (Refer to page 3)

Tuesday 31 May & Wednesday 1 June - EEA 2 DAY COURSE - Negotiation Skills - Salamanca Inn - 8.30am to 5.00pm - **HOBART** - \$792 (EA Members) - \$990 (Non Members) - Download registration form at www.engineersaustralia.org.au/tasevents (Refer to page 15)

CIVIL/STRUCTURAL BRANCH MEETING

DATE: Wednesday, 11 May 2011

TIME: 5.30 for 6.00pm

PLACE: Royal Engineers Building
2 Davey Street, Hobart

GEOFF FLETCHER, MIEAust CPEng
LiteSteel Technologies

Geoff Fletcher is a Civil engineer with much experience in design, construction and specialised structural systems particularly for steel, concrete, formwork and vibration isolation. He is an MIEAust CPEng, a member of the Construction & Technical Committee for Aust Steel Institute, a member of the Technical Committee re anchorage into concrete for the International Federation for Structural Concrete (fib), and is a member of the Code Committee currently reviewing AS3850 re precast concrete. He has presented at numerous engineering conferences & published about hollow-flange beam technology and aspects of concrete anchorage including the Boston Big Dig failure.

“BARROW ISLAND STRUCTURES – INNOVATIVE STEEL ENGINEERING FOR EXTREME CONDITIONS OF WIND, CORROSION & COST”

This presentation examines some less well known structural aspects associated with the Gorgon Project, the largest resource development in Australia's history. For what was possibly the highest wind loading ever designed for in Australia a surprisingly light weight steel solution with screwed connections was developed which also managed corrosion & construction logistics problems with relatively simple and innovative engineered features. In current conditions where much capital investment for resource developments goes offshore this was a win for Australian engineering and supply. Also for further information, please refer to “Engineers Australia” magazine (Civil Edition - March 2011, page 52).

RSVP: Catherine Reading 6234 2228 or
creading@engineersaustralia.org.au

THIS MEETING WARRANTS 1.5HRS CPD