THE NEWSLETTER OF THE SYDNEY DIVISION OF ENGINEERS AUSTRALIA APRIL 2011

PRESIDENT'S MESSAGE

The Difficult Analysis of Risk

As many of you may know, 2011 is Engineers Australia's Year of Humanitarian Engineering. It is with a heavy heart, as I watch the tragedy in Japan unfold, that I write this column to state the importance of Engineering in not only disaster relief, but also the minimisation of risk prior to a disaster situation, such as that in Japan.

I was asked by a non-engineering friend recently, why can't they just turn the reactors off? Not being a nuclear scientist, this launched me into enquiries from colleagues who know more about reactor science. The answer, it seems, is lost somewhere between not having a back-up system to the cooling system which keeps the nuclear reactions under control, and a cost-benefit analysis depending on risk mitigation. That is, could engineers and scientist who designed the Fukushima plant, tell that there is a high probability that a Tsunami would destroy the cooling systems in the plants? And if there is a probability, what would the cost of protecting against that be, versus the cost of the effect? I can't imagine a more difficult analysis.

News reports tell us that the cost of reconstruction in Japan, will be in the billions of dollars. Not to mention the cost of relief, economic loss due to complete shutdown of cities, and the cost to Japanese imports into other countries (recently, Taiwan has stated that they have found traces of radiation in fava beans imported from Japan). And of course, the terrible loss of human life. How does one even begin to do a cost-benefit analysis?

It's easy to sit here and analyse the situation, after the fact. And by no means do I mean to criticise Japanese engineers involved in the design and construction of these plants. My point is that with what has happened in the world just this year, we have to begin to think outside the box – in both mitigating against risk before a disaster, and in disaster relief and recovery.

The launch of the Year of Humanitarian Engineering was held in February at the Google offices in Sydney. At the launch, Google engineers showed that solutions to problems need not be complicated. They displayed a very simple website, which was working in real-time to help the citizens of the city. The website simply has two links – "I'm looking for someone", and "I have information about someone" (www.google.com/crisisresponse/christchurch_earthquake.html).

Google mapping technology is also being used to help aid workers on the ground. It is in these situations, that the brilliance of engineering comes forward. Let's face it, this year has been a terrible year for tragedies caused by natural disasters. However, I believe that human intelligence and determination will triumph over the adversity. We will analyse and review our innovations, such that we can improve our processes and designs, and advance technology in the realm of disaster relief and recovery, for the benefit of future generations.

Please add the Sydney Division President (EASyd_President), if you are on Twitter.

Maryam Khajeh
Sydney Division President

→ 2011 year of humanitarian engineering

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Sydney Division

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Deputy President's Corner

What is engineering? Put simply, the practical application of mathematics, science and economics to solving problems and realising ideas, usually in the context of benefiting society either directly or indirectly. You might be interested to visit the new 'Engineers Make It So' website www.makeitso.org.au, including the launch video posted in the Blog, which is aimed at helping to answer the question What does an engineer do?

For me, to be an Engineer is also to be a participating member of Engineers Australia, as this country's professional body for engineers. While there are now over 90,000 members nationally (with over 20,000 in Sydney Division), there are many more qualified and practising engineers who aren't currently EA members. While we continue to work closely with primary and secondary schools to offer engineering as a career, let's also encourage already qualified engineers towards membership and participation with EA.

Beyond Engineers Australia there are also other organisations dedicated to the development and sustainability of our profession. I've been privileged to be part of the Engineering Professional Performance PPIR Implementation Project being undertaken by The Warren Centre for Advanced Engineering. While membership of EA is based on competency and ethics, the performance of engineering practice hasn't been as well defined, until now. You can download the initial report and join the LinkedIn Group to keep updated on this important work at www.ppir.com.au.

Brendyn Williams BE(Civil)(Hons) MIEAust FIPWEA
Deputy President, Engineers Australia Sydney Division

Nominations are now open for the prestigious 2011

Professional Engineer of the Year

Entrepreneur of the Year

Young Professional Engineer of the Year

Engineering Office of the Year

Engineering Technologist of the Year

For more information and how to nominate visit: www.engineersaustralia.org.au/sydney/awards

NSW Chapter of Australian Society for Defence Engineering

Technical Airworthiness of Defence Aviation

Presenter: Air Commodore Terry Saunder RAAF – Director General of Technical Airworthiness.

Date: Monday, 2nd May 2011
Time: 5:30 for 6:00 pm - concluding by 7.30 pm
Venue: Engineers Australia Auditorium Gnd Flr 8 Thomas Street, Chatswood
RSVP: Doug Roser, Chair of NSW Chapter of Australian Society for Defence Engineering at: dougroser@bigpond.com

Young Engineers

What an extraordinary month it has been! First the Christchurch earthquake and now, as I write this article, there are tens of thousands of people either missing or killed in Japan by one of the worst natural disasters I have ever witnessed. An enormous earthquake 130km off the coast of Sendai in north-eastern Japan triggered a tsunami reported to be over 10m high when it reached the coast, causing wide-spread devastation, with cars, buses, train, boats and buildings being swept away like leaves in a river. The images that are so readily available through modern day media are surreal, conveying a true sense of insignificance and awe. I read yesterday that the total amount of energy released (or seismic moment) was equivalent to 600 million Hiroshima atomic bombs; an absolutely staggering figure!

As a result of the tsunami's destruction in Japan, there are now numerous threats to people's safety and wellbeing. The nuclear power stations hardest hit by the disaster are in partial meltdown, potentially leading to the release of harmful amounts of radiation that could be swept for miles across the country. The exact events that have occurred to cause the damage at the Fukushima nuclear power plant are unknown at this stage, but the emergency has highlighted the potential dangers associated with such power generation facilities.

With that said I'm still not entirely convinced that nuclear power is all bad for a country like Australia, a country that is so reliant on fossil fuels that arguably do more damage to us all than nuclear power could ever do. Here in Australia the nuclear power debate is dying, which in my opinion is a shame. I feel that due to particular historic events, nuclear power has a dirty and dangerous name and the decision not to invest in it are largely based on fear and misinformation. France for instance is 75% nuclear powered and I can't help thinking; why is it that here in Australia are we so afraid of nuclear power? Now I'm not saying that we should start building nuclear power stations, I would just simply like to know the facts and I believe that public forums and debates would help impart that knowledge.

With that aside, Japan still faces a much more significant issue; the humanitarian issue. With hundreds of thousands of people displaced and the lack of essential resources such as water, food and electricity I expect the humanitarian effort is going to be huge. In order to secure both the damaged nuclear reactors and essential utilities, engineers will be working around the clock proving once again to be an essential component of any humanitarian effort.

On that topic, humanitarian engineering is the focus of Engineers Australia for 2011 and here in Sydney we launched the Year of Humanitarian Engineering at Google Australia on 24 February. During the event those present were able to see first-hand Google engineers developing and updating their Crisis Response system for the Christchurch Earthquake that had struck 2 days earlier; again emphasising the importance of engineering skill in humanitarian efforts.

Finally coming up in June, YEAS is running a Debating Workshop and Debating Series that are aimed at promoting the importance of debating and negotiating skills within the engineering community so that engineers are better equipped to tackle the challenges that we as a society will face in the future. If you are eager to get involved and develop your skills, we want to hear from you; email Pat James (yeasyd@engineersaustralia.org.au) to register you interest.

There are many great events coming up and I hope to see you at one soon!

James Bencke
YEAS Chairperson

If you are interested in getting involved or learning more about YEAS please email our secretary Patrick James at yeasyd@engineersaustralia.org.au. For upcoming YEAS events please visit our website at http://www.engineersaustralia.org.au/yeasyd/ or join our Facebook group: Young Engineers Australia Sydney

Illawarra/Sutherland regional news

The ISRG of Engineers Australia held their first Technical Meeting for 2011 with a site visit to Sydney's Desalination Plant at Kurnell on Thursday 10th March. The meeting was attended by 25 members and guests. Following the introductions and safety talk our tour guides gave us a brief presentation on the desalination treatment process.

Construction began in 2007 on behalf of Sydney Water, the Blue Water Joint Venture (Veolia Water & John Holland) designed and constructed the plant which Veolia Water now operates and maintains. The plant began providing drinking water in January 2010 and its currently operating at full capacity as part of its ongoing commissioning phase. The plant produces an average of 250 million litres every day and provides 15% of Sydney's drinking water supplies. The plant is designed to be upgraded to twice its capacity. The tour guides escorted the group to visit and explain the various stages of the process: intake, pre-treatment, backwash, waste treatment, energy recovery process, reverse osmosis, demineralisation and drinking tank water/pump station. The tour guides also provided information on water quality and environmental impact. At the conclusion of the tour members were given the opportunity to ask some detailed technical questions to one of the process engineers at the plant.

Thank you to our tour guides Emma & Violetta and the process engineer for an interesting tour.

Report by Nick DiBono (ISRG Committee Member)
Elaine Bailey, Regional Co-Ordinator

Assessment of Engineering Qualifications

Do you know anyone seeking admission to Engineers Australia who holds engineering qualifications that are not accredited or recognised by Engineers Australia? Examples may include those holding engineering qualifications from overseas countries with which Engineers Australia does not have formal accreditation/mutual recognition agreements or those with substantial experience in engineering work who hold qualifications in fields related to engineering (not recognised by Engineers Australia) and who may have done post-graduate engineering studies.

If they fall within any of these categories, they will need to demonstrate the competencies needed to enter practice as a qualified member of Engineers Australia's engineering team – Professional Engineer or Engineering Technologist or Engineering Associate. This is known as ***Stage 1 Competency.*** Subsequently, they could, as members of Engineers Australia, seek Chartered Status and this would require further assessment of engineering practice competencies.

Dr Guy Beaubois FIEAust CPEng and Dr Maurice Allen FIEAust CPEng, National Stage 1 Assessors, will be explaining the Stage 1 Competency process at a free Stage 1 Competency Clinic to be held at the Sydney Division of Engineers Australia, 8 Thomas Street, Chatswood NSW 2067 on Tuesday 19 April 2011 at 10.00am.

RSVP by Friday 15 April to: gbeaubois@engineersaustralia.org.au

RTA

The RTA has a proud record of delivering major projects and services for the people of NSW.

As one of the NSW State Government agencies the RTA is responsible for improving road safety, testing and licensing drivers and registering and inspecting vehicles, delivering infrastructure and managing the road network.

With about 7,000 staff working across NSW from around 180 locations, the RTA provides services at 128 motor registries with about 48 per cent of RTA staff working in regional locations.

The RTA manages 17,984 kilometres of State roads including 4,316 kilometres of the National Land Transport Network for which the Australian Government provides funding, and 147 kilometres of privately funded toll roads.

2,970 kilometres of regional roads and local roads in the unincorporated area of NSW is also managed by the RTA alongside 5,071 bridges, 3,811 traffic signal lights and nine vehicle ferries.

Road maintenance is a key factor of RTA business and more than $1 billion is spent a year on road maintenance. Maintaining the road network means taking into account what each road was originally designed for and the factors impacting on the road in its life, including weather conditions, traffic volume, heavy vehicle usage and availability of building materials over time.

Our Vision

The RTA's vision is to provide a safe, sustainable and efficient road system:

- The road transport system supports reliable and efficient movement of people and goods.
- The condition and value of the road network meets acceptable standards.
- The safety of the road environment, vehicles and road user behaviour is maximised.
- Impacts on the natural, cultural and built environments are minimised.
- Meeting community needs.
- Aligning our investment and people to our vision.

The RTA and these Excellence Awards

Roads are vital infrastructure for the prosperity of regional communities. The RTA is proudly part of those regional communities. Our infrastructure work is in, and with, regional communities.

We understand that regional highways do not just connect city to city. They are local roads as well – connecting residents with schools, local businesses and places of interest.

Outstanding achievements – NSW regions

One of the recent RTA major road upgrades is to the Hume Highway in south west NSW – the largest volume freight road in NSW – which opened to traffic in December 2009. Work is ongoing to duplicate the final single carriageway sections of the Hume Highway, including town bypasses.

The Pacific Highway upgrade is ongoing with the second stage of the Karuah to Bulahdelah upgrade opening to traffic in October 2009 and Bonville Bypass and the Coopernook to Herons Creek upgrade both completed and opened in September 2008 and July 2010 respectively.

Building is continuing on the Pacific Highway Upgrade: Bulahdelah Bypass; Kempsey Bypass; Sapphire to Woolgoolga upgrade; Glenugie upgrade; Ballina Bypass; Banora Point upgrade; Hunter Expressway.

A recent major achievement is the Main Road 92 Upgrade, Nowra to Nerriga.

An exmple of excellence

The 54 kilometre section of Main Road 92 between Hames Road (15 km southwest of Nowra on the south coast of NSW) and Nerriga was essentially a gravel road through the Parma Nature Reserve, Jerrawangala National Park, Morton National Park and the Sassafras area. It was narrow, rough and often impassable after even short periods of wet weather.

It has valuable heritage features. The area at the western end of Morton National Park preserves parts of the original 1841 convict built road and the 1856 Wool Road, together with features of the World War II defences against a possible invasion route to Canberra.

Following the Australian Government's declaration of the route as a Road of National Importance in 1998, funding was agreed to upgrade and seal the section to create a reliable east-west connection. The upgrade provides a safe, all weather escarpment crossing that avoids large incursions into national parks and other natural areas.

The western nine kilometres from the Touga Road junction (just east of the Bulee mountain area at Billy's Hill) to Nerriga was a particularly challenging section. It included widening, realigning and sealing the steep and narrow descent from Bulee Gap to the Endrick River. Several high retaining walls and a new four span concrete bridge near Bulee Gap were constructed to conserve the "beehive" rock formations and colonial features of the convict built 'Wool Road' in the Bulee Heritage Area. The avenues of trees that are a feature of the Sassafras area have been preserved.

In 2009 the Main Road 92 project team won the RTA Reconciliation Award for Excellence for supporting Aboriginal programs and heritage.

The growth of Sydney

Sydney's population continues to grow. Managing the number of vehicles using the road network requires a strategic focus and investment in a range of practical improvements. Without these, the increased number of vehicles on our roads in the years ahead has the potential to adversely impact upon the economy, the environment and our quality of life.

The RTA is committed to providing innovative solutions to all road users. This includes initiatves for providing the community with up-to-date traffic information such as the new Live Traffic NSW website where live updates are provided to road users throughout NSW.

Our Staff

The RTA is one of Australia's biggest public sector agencies, with more than 7,000 employees and an annual budget of nearly $4 billion.

We offer diverse and challenging career opportunities for professional and technical specialists, trades, customer service and people interested in making a difference to transport operations and road safety in NSW. When you join the RTA, you become part of a forward-thinking organisation that will offer you generous working conditions, flexible working options and a real commitment to developing your skills.

The RTA is a truly state-wide organisation, which means our staff have the opportunity to work in communities across New South Wales. From Albury to Byron Bay, Wollongong to Broken Hill, the RTA is facing the challenge of increasing number of vehicles on rural and regional roads. This means that our regional staff are vital to maintaining the safety and quality of the road system. We also provide licensing and registry services in all parts of the State.

In fact, half of our staff are based in rural and regional areas.

The RTA's construction and road maintenance staff perform some the most important jobs in NSW. They keep NSW moving by maintaining and improving the road network that is the life-blood of our economy.

As well as rewarding work, the RTA offers good pay and great benefits and conditions. Because we're such a big Government employer, you can count on work that is regular and reliable. A job at the RTA is stable and flexible, meaning we offer different ways of structuring your working week to ensure you hit the right balance between your work and your life away from the job.

WIE Celebrates 100 Years of International Women's Day

On Thursday night 10 March 2011, Women in Engineering (WIE), Sydney Division, hosted their annual International Women's Day (IWD) cocktail evening at the Arthouse Hotel, Sydney. Proudly sponsored by Parsons Brinckerhoff, the night celebrated 100 years since the first IWD with a humanitarian theme in line with EAs Year of Humanitarian Engineering. Guests were treated with cocktails on arrival, and given a chance to mingle and network before the commencement of the program.

The night started with a brief presentation on the History of International Women's Day put together by UN Women and a word from the sponsor's representative, Charlie Jewkes. This was followed by our guest speakers, Salma Farouque and Dominic Dowling, who both shared their contrasting humanitarian experiences with the audience.

Salma Farouk, an electrical engineer with Vodafone, spent some time working on the World Food Program which took her to places such as Rwanda, Uganda and Mozambique in Africa. Her presentation highlighted the cultural differences in such countries and the need for generalist skills as opposed to just the technical to make the most out of what she says "was the most rewarding experience" in her life. One such cultural difference Salma pointed out was the role women played in African cultures, that being the backbone of the country's subsistence economy. As such, Salma emphasised how in many cases a women's presence alone empowers the local women. Overall, Salma advised guests to be themselves and follow their own style, and when looking to undertake a humanitarian experience, they would have to be proactive in seeking out opportunities.

On a different note, Dominic Dowling, an engineer working for Worley Parsons, shared his experiences on Earthquake response and reconstruction which he undertook in the Middle East, Asia and North and South America. In particular Dominic detailed his work on the strengthening of mud brick homes in an effort to minimise housing destruction caused by earthquakes,

a subject he further studied when undertaking his PhD at UTS. One such example of this destruction was in El Salvador where an earthquake led to the destruction of 110,000 mud brick houses. Dominic spoke about a solution which reinforced houses with bamboo and twisted wire stating how engineering is all about tailoring a solution to each individual problem. Throughout his humanitarian experience, Dominic found working with local communities very rewarding and emphasised that the core elements of any humanitarian project needs to be based on Professionalism, Preparation and People.

The night concluded with questions from the audience and a further opportunity to mingle and network.

Julie Mikhail
Chair, Women In Engineering

UNSW Team Set New Solar Car World Record

UNSW's Sunswift solar car has lived up to its name, succeeding in a Guinness World Record attempt to become the world's fastest solar vehicle.

The car, designed and built by UNSW students, achieved a top speed of more than 88km/h beating the existing record by more than 10km/h. It was powered exclusively by silicon solar cells and only produced about 1200 watts in power – the same power it takes to run a toaster.

Sunswift project manager Daniel Friedman said the team was excited about the greater implications of the car's world-class performance: "We hope the news will spur a lot more interest in solar energy and the debate about renewable energy technology."

Sunswift, one of the Student Led Projects on offer at UNSW, is a multi-disciplinary team of students who build and race a state-of-the-art solar-powered car. This university-wide project provides students with the invaluable opportunity to develop their skills in a variety of areas in a real-world environment.

The Faculty of Engineering at UNSW is committed to providing excellence in engineering education, encouraging students to participate in extra-curricular projects such as Sunswift during their degree. These projects allow students to build on the practical skills learnt in their studies, and develop teamwork and leadership skills – qualities that make them outstanding engineering graduates.

FIND OUT MORE:
http://www.sunswift.com/
http://www.eng.unsw.edu.au
http://www.eng.unsw.edu.au/hs/student-led-projects

Discover Engineering Day March 2011

The most recent Discover Engineering Day was held at Prairiewood High School on 10 March 2011. The day saw an attendance of over 170 students from surrounding schools including Thomas Hassall Anglican College, Pendle Hill high, Regents Park Christian School and Fairvale High School.

To introduce the students to the world of engineering the day kicked of with a presentation by our careers manager Jenny O'Donovan. Throughout the day the students then saw presentations from both our Student Engineer and Professional Engineer, Dan Morris and Laura Whitehouse, followed by the Defence Force and engineers from BOC who managed to make a hammer out of a banana using liquid nitrogen.

Students were then able to try their hand at some engineering of their own having the chance to build both a paper plane and a marshmallow catapult. Winning teams came from Canley Vale and Bonnyrigg High Schools. Congratulations again to both teams.

The next Discover Engineering Day will be held at Epping Boys High School on July 28 2011. Invitations will be sent to surrounding schools. We encourage all students to get involved.

If you would like to get involved with future Discover Engineering Days, or find out more information, please contact Jessica Marshall. jmarshall@engineersaustralia.org.au

Skillmax course helps overseas graduates find employment

Sixteen students graduated from the Skillmax course at Randwick TAFE on Thursday, 10 February 2011.

These students who come from such countries as China, Iran, Hungary, Bangladesh, Lebanon, Myanmar, and Ecuador seek to gain job seeking skills in their endeavour to gain employment in Australia.

To undertake the Skillmax course applicants are required to have a university degree from an overseas institute.

Participants of this course have a degree in engineering; including civil, structural, mechanical, environmental, and electrical.

The course which is for 15 hours a week for five weeks teaches job seeking skills, including preparing for interviews, and resume and application letter writing.

Three of the students were offered full time positions in the final week of the course. The manager of the company that employed Jasmine asserted hers was the best resume and application letter he had seen from an immigrant applicant. "I am so grateful to TAFE, my teacher and Mr Richard Hanna for giving me the support that helped me to find employment after only being here for six weeks," a happy Jasmine stated at her graduation.

Enquiries for upcoming courses are welcomed by Amir Salem, Multicultural Coordinator, Randwick TAFE: 9469 8594 amir.salem@tafensw.edu.au

WSRG South West Rail Link Glenfield Junction tour

The Western Sydney Regional Group of Engineers Australia, in conjunction with The Glenfield Junction Alliance, conducted a site tour of the South West Rail Link (SWRL) Glenfield Transport Interchange (GTI) in March 2011. Twelve WSRG members attended the tour and were transported to and from the site via a minibus organised by EA WSRG. Most of the group assembled at the University of Western Sydney's Kingswood Campus which is the monthly meeting place of the WSRG Committee. This location is central for its members with facilities and parking.

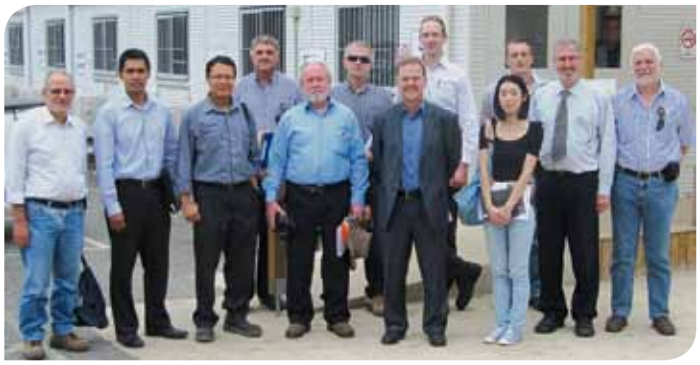
At the GJA site office, in accordance with the strict GJA and Transport Construction Authority site safety requirements, all attendees undertook breath testing and a site safety induction.

Julian Sharp, GJA Alliance Manager, gave a concise overview of the South West Rail Link, noting that the SWRL is being delivered on behalf of the NSW Government by TCA. The Glenfield Transport Interchange project, which is part of the SWRL, includes upgrading the bus/rail interchange facilities including lift access, providing a modern, safe and accessible station, construction of a new, multi-storey commuter car park and construction of two rail flyovers to provide for increased and more reliable train services. The estimated value of the SWRL projects $2.1 billion, with completion of the GTI component anticipated late 2013.

Anthony Warren, GJA Station Construction Manager, presented details on the station construction and design incorporating new upturned and filled culvert sections designed to absorb impact for the protection of the elevated station platforms and support systems.

Matt Clark, GJA Operations Manager, illustrated the benefits of GJA's implementation of value engineering and methodology development enabling the redesign of overpass structures and stations to minimise impact on existing rail operations, compress the construction program and reduce risks relating to constructability.

Tania Harper, GJA Community & Stakeholder Manager, along with Matt Clark, then accompanied the WSRG group on a bus tour of the project works



including the partially constructed Northern flyover, the Southern flyover in it's preliminary stage, around Glenfield Station and the rail works and past the completed multi-storey car park,.

The WSRG members found the tour to be well presented, very interesting and altogether successful.

WSRG wishes to extend their thanks and appreciation to the speakers from GJA and in particular Tania Harper for arranging a successful tour for the WSRG EA members. We also wish to thank GJA for providing alternate transport at short notice when the WSRG organised bus got a flat tyre half way through the tour.

If you are interested in getting involved or wish to learn more about WSRG, please contact us on wsrg@engineersaustralia.org.au, or visit our WSRG website at http://www.engineersaustralia.org.au/wsrg

John Stornelli
(Deputy Chair Western Sydney Regional Group)

Quality in Engineering

While the Quality Panel has been active in Sydney Division for some 20 years, the past 3 years or so has seen a resurgence in attendance at our CPD Seminars, thanks to the dedicated efforts of the Quality Panel Committee, support from Sydney Division Office Staff, and developments in EA's event registration system.

Our focus is anything which supports "quality in engineering", on both system and product related issues. We endeavour to deliver events with topics from across the range of engineering disciplines and all phases of the asset life cycle.

If you are a Member of Engineers Australia and have a passion for the advocacy and support of quality in engineering, then we would like you to consider being part of our Quality Panel Committee which currently meets on the 1st Thursday of every month. Please submit your Expression of Interest to Brendyn Williams by email Brendyn@Pentagon.com.au.

Our forward programme of seminars and site visits for 2011 currently includes events on 2nd June, 4th August, 20th September, 20th October and 3rd November, with further details to be posted on the EA Sydney Division Webpage and by Email Notifications to registered members.

We look forward to your ongoing participation.

Brendyn Williams BE(Civil)(Hons) MIEAust FIPWEA
Chairman, Sydney Division Quality Panel

YOUR PROFESSIONAL DEVELOPMENT – DIARY DATES

Most events are held at EA Auditorium, Ground Floor, 8 Thomas Street, Chatswood with refreshments provided prior to the session. As events are subject to change or cancel at short notice, please check our website www.engineersaustralia.org.au/sydney/events for up-to-date information.

PLEASE NOTE: To view video streams and to download slides of selected Technical Presentations please visit Online CPD at our website: www.engineersaustralia.org.au/sydney/onlineCPD

APRIL

Thurs 14 **Joint Electrical Branch – Engineers Australia, IET, IEEE**
"Solar Energy Technology"
Auditorium
17:30 for 18:00 to 20:00
Contact: Allan Sangster
Email: Allan.sangster@gmail.com

Mon 18 **Maritime Panel**
"Port Botany Expansion – Quay Wall Design and Construction"
Auditorium
17:30 for 18:00 to 20:00
Contact: Alan Betts
Email: alan.betts@scottwilson.com

Tues 19 **Civil and Structural Engineering Panel**
"ANZ Project Headquarters"
Zenith Theatre, Corner Railway & McIntosh Streets, Chatswood
17:30 for 18:00 to 19:30
Contact: John Nichols
Email: JohnN@ccaa.com.au

Tues 19 **Engineers Australia Sydney Division**
"Stage 1 competency Clinic"
Auditorium
10:00 to 11:30
Contact: Guy Beaubois
Email: gbeaubois@engineersaustralia.org.au

Tues 19 **Water Engineering Panel**
"Q&A style debate – urban drainage and where it should go in the future"
Auditorium
17:30 to 20:00
Contact: Grantley Smith
Email: G.Smith@wrl.unsw.edu.au

Wed 20 **Western Sydney Regional Group**
"Your Easy Route to CPEng"
UWS Penrith Campus,
Building XA Room G.03
13:00 to 16:00
Contact: Olivia Mirza
Email: o.mirza@uws.edu.au

Wed 20 **Society of Fire Safety**
"Fire Engineering Documentation"
Auditorium
15:30 for 16:00 to 18:00
Contact: Amer Magrabi
Email: amer.magrabi@aecom.com

Wed 27 **Toastmasters, Sydney Division**
"Days of our Lives"
Roseville Memorial Club,
64 Pacific Highway
19:00 to 21:15
Contact: Sandeep Mathur
Mobile: 0414 300 333

Thurs 28 **Joint Electrical Branch – Engineers Australia, IET, IEEE**
"Electrical Power Measurements"
Auditorium
17:30 for 18:00 to 20:00
Contact: Allan Sangster
Email: Allan.sangster@gmail.com

Thurs 28 **Western Sydney Regional Group**
"Modern Rail Innovation in Japan"
University of Western Sydney,
Building ZG60, Kingswood
13:00 to 15:00
Contact: Olivia Mirza
Email: o.mirza@uws.edu.au

MAY

Mon 2 **Australian Society for Defence Engineering**
"Technical Airworthiness of Defence Aviation"
Auditorium
17:30 for 18:00 to 19:30
Contact: Doug Roser
Email:dougroser@bigpond.com

Wed 4 **Railway Technical Society of Australasia Syd Div Chapter**
"Making Rail Transport the Preferred Option of Travel"
Meeting Room, Central Station Concourse, Sydney
11:30 for 12:00 to 12:00
Contact: Katharina Gerstmann
Email:nsw-chair@rtsa.com.au

Thurs 5 **Women In Engineering**
"WorleyParsons Women in Engineering Mentoring Seminar"
Swissotel Sydney Blaxland A Room,
68 Market Street, Sydney
18:00 to 20:00
Contact: Jade Gan
Email:sydwie_events@engineersaustralia.org.au

Thurs 5 **Engineers Australia Sydney Division**
"Do The New Work Health and Safety Laws Affect You?"
Auditorium
17:30 to 20:00
Contact: Leanne Gibson
Email:leanne.gibson@workcover.nsw.gov.au

Wed 11 **Toastmasters, Sydney Division**
"Movies"
Roseville Memorial Club,
64 Pacific Highway
19:00 to 21:15
Contact: Sandeep Mathur
Mobile: 0414300333

Wed 11 **Australian Geomechanics Society, Sydney Chapter**
"Landslide Risk Management Roadshow in 2011"
Auditorium
8:00 to 21:00
Contact: Craig Curnow
Email:ccurnow@golder.com.au

Thurs 12 **Young Engineers Australia, Sydney Division**
"Get involved: Be the Humanitarian Engineer"
Auditorium
17:30 to 20:00
Contact: Jon Lee
Email: jonhlee@optusnet.com.au

Thurs 12 **Joint Electrical Branch – Engineers Australia, IET, IEEE**
"Site Visit & Lecture Mquarie Hospital"
Mquarie Hospital
Contact: Graham Town
Email:graham.town@mq.edu.au

Tues 17 **Centre for Eng. Leadership and Management**
"Decision Making for Success"
Auditorium
17:30 to 19:30
Contact: Saeed Shalbafan
Email: sydneycelm@engineersaustralia.org.au

Thurs 19 **Mechanical Branch**
"Engineering a Superkart"
Auditorium
18:00 to 21:00
Contact: Andrew Lowe
Email: AndrewLowe@ShelstonIP.com

Tues 24 **Water Engineering Panel**
"Base flow for catchment simulation"
Auditorium
17:30 to 19:30
Contact: Grantley Smith
Email: g.smith@wrl.unsw.edu.au

Tues 24 **Civil and Structural Engineering Panel**
"Steel Compliance Topic"
Zenith Theatre, Corner Railway & McIntosh Street
17:30 for 18:00 to 19:30
Contact: John Nichols
Email: JohnN@ccaa.com.au

Wed 25 **Toastmasters, Sydney Division**
"Privacy"
Roseville Memorial Club,
64 Pacific Highway
19:00 to 21:15
Contact: Sandeep Mathur
Mobile: 0414300333

Thurs 26 **Joint Electrical Branch – Engineers Australia, IET, IEEE**
"Half day Seminar – Radio/Telecoms/EMC Devices Labelling"
Auditorium
12:00 to 17:00
Contact: Kim Yang
Email: kimyan@cisco.com

Thurs 26 **Joint Electrical Branch – Engineers Australia, IET, IEEE**
"Oceanography/Ocean Eng. Society"
Auditorium
17:30 to 19:30
Contact: Allan Sangster
Email: Allan.sangster@gmail.com