



ENGINEERS
AUSTRALIA

Newsletter of the Newcastle
Division of Engineers Australia

June 2011

→ 2011 year of humanitarian engineering

ENGINEERING NEWCASTLE

Presidents Column

It's hard to believe that we are already half way through 2011, our branches and groups have been and remain active in delivering some great presentations and events.

Later this month on the 27th June we have another Eminent Speaker Presentation this time by Prof Tony Wong - 2010 Sir John Holland Civil Engineer of the Year. Last month on the 6th of May I was invited to attend a presentation at Hamilton South Primary School, what made this presentation special was that it was initiated by a young Hamilton South Primary school student William Sim. It all started a number of years ago with Jason Flood an Electrical engineer and father who has been volunteering his time at Hamilton South Primary School developing year 4-6 students in Robotics using second hand Lego Mindstorm kits. This year William put a request out to industry to see if he could get some support in upgrading their Robotic kits; this was after winning an award for the oldest kits being used in a

national robot challenge. I am pleased to say William's request was answered by some of our local engineering companies, AusGrid helpfully donated \$500 to the school and AmpControl kindly donated 3 new complete Mindstorm lego kits. Peter Cockbain, owner of AmpControl made his presentation of the new Mindstorm Kits to the students on the 6th after the school students involved in the Robotic program demonstrated their engineering abilities to the rest of the school along with parents and industry representatives. It was fantastic to see that there are engineers out there volunteering their time to motivate the next generation of engineers, imparting that excitement and enthusiasm which was clearly seen in the student's demonstrations.

The Division took part in the Newcastle Lake Macquarie Career & Training Expo again this year where over 125 exhibitors provided information on careers to an estimated 3500 students from the region. We would like to thank Aurecon, Hunter

Water, Lindsay & Dynan, Parsons Brinckerhoff, SKM and United Group Rail for providing young engineers to assist staff with answering questions from interested students.

There are a number of major events coming up. Australian Engineering Week will take place in the first week of August followed by the Regional Convention in September. Don't forget to register early and take advantage of the Early Bird rate for the Regional Convention to be held in Armidale.

Remember to keep yourself updated with what events are on through our website and "what's on" newsletter.

Paul Reynolds, MIEAust,
Division President 2011



AUSTRALIAN ENGINEERING WEEK 2011

Australian Engineering Week – Monday 1st August to Sunday 7th August

Proudly sponsored by Aurecon, Ausgrid and GHD

Local Activities include:

Monday 1st August – Careers Advisors, Science & Math Teachers Workshop and site tour.

Tuesday 2nd August – Discover Engineering, 122 Parry Street, N'cle West

Friday 5th August – Engineering Week Dinner incorporating the inaugural 'Sally Chapman Memorial Dinner'. Guest speaker Darren Lomman

Regional Activities include:

Wednesday 3rd August - Discover Engineering, Port Macquarie

Tuesday 2nd August - Discover Engineering – Coffs Harbour

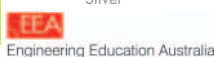
Wednesday 3rd August - Discover Engineering, South Grafton Services Club, Wharf Street, South Grafton 6.30pm – 8.30pm

Thursday 4th August - Discover Engineering, McCarthy Hall, Main Street Alstonville 6.00pm – 8.00pm

Note your diaries - full details available from Division Office on 4926 4440

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PRESIDENT: Paul Reynolds • DIRECTOR: Helen Link

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2011



WIE sponsor



YEN Formal Dinner sponsor



Hunter Central Coast Innovation Festival Straw Tower Competition - Newcastle

On Thursday 12th May 2011 at the Newcastle Basketball Stadium, 100 Year 4 school students from schools across the Hunter participated in the 'Straw Tower Competition' as part of the Hunter Central Coast Innovation Festival.

The Australian Innovation Festival was established in 2002 by Adair Communications to support and promote the best of Australian innovation and entrepreneurship. Since its conception the Australian Innovation Festival has increased in size and range with virtually every major town and city throughout Australia included; along with a global spread of supporting international business and educational councils and associations. The Festival is a not-for-profit initiative which aims to inspire a culture of innovation in all Australians, by reinforcing our rich, innovative history and an entrepreneurial spirit, which is comparable to the best in the world.

The Straw Tower Competition is held to encourage students to work on an engineering project, and have lots of fun! To succeed in this challenge, students had to build a tower out of plastic drinking straws that had the best load bearing ability; that is the highest ratio of the load the tower supports to the weight of the tower. Designs were many and varied with some constructions right 'outside of the box.'

The winners were:

1st Let it Rip – Maitland Public School

2nd GPS 3 – Grahamstown Public School

Judges Choice – most innovative design Fireworks – The Junction Public School

We would like to thank our MCee for the morning Mark Tildsley who kept the young audience entertained and our Judges Neville Sawyer, Brian & Johanna Marsden.



The Winners - Let it Rip



An innovative design

Central Coast Inaugural Straw Tower Competition

As part of the Hunter Central Coast Innovations Festival the Central Coast group ran it's first ever straw tower competition for year 4 primary school students of the Central Coast. The competition was run under the same guide lines as the Newcastle competition which has been run a number of times including this year.

It was held at the Imperial Shopping Centre on the 12th May. Although only three schools participated, Umina Public School, Bateau Bay Public School and Central Coast Grammar School there were 21 entries in total and 65 students present with their teachers and some parents.

The centre court at the shopping centre was a buzz! NBN Central Coast was on hand to cover the event as was the Central Coast Express Advocate.

Shoppers, students, teachers and parents looked on as each tower was loaded up with weight to determine the maximum load to weight ratio at the point of collapse.

Our Judges Vince Cubis of Cardno and Trevor Clack of Northrop Consulting Engineers were a formidable pair in judging each entry.

A small number of towers were non compliant and were busily being altered to make the grade. Some towers were damaged in transit to the competition and there were frantic efforts by students and teachers to repair these.

At the end of the competition the winners were announced and prizes were handed out to them by David Admans, the Director for the



The winner Kye Luttrell on his way to winning the competition .



Encouragement award winner Lily Perry with (from left to right) Frank Sammut, David Admans, Lily Perry, Trevor Clack, Vince Cubis, Helen Link.

Central Coast Inaugural Straw Tower Competition (cont.)

Innovations Regions Centre.

Prize winners were:

1st Prize

Bateau Bay Public School – Kye Luttrell

2nd Prize

Bateau Bay Public School - Sam Zantiotis

3rd Prize

Umina public school - Abigail Davis

4th Prize

Central Coast Grammar School – Team

Gossip Girls

Judges Choice

Central Coast Grammar School – Team

Bob the Builders

Encouragement Award

Umina Public School - Lily Perry

The Central Coast Group would like to thank Jane Dennis from divisional office for making contact with all the schools

and organising the entries and prizes. Thanks to our judges Vince and Trevor and Helen Link and Richard Weller for helping out on the day.

The Central Coast Group is looking forward to next year where we expect to have a bigger and better competition!

Frank Sammut MIE

“Girl’s Talk” Information Evening

Our “Girl’s Talk” Information Evening was held on Tuesday 25th May at our office aimed at secondary female school students interested in a rewarding career in engineering. Three young female engineers gave informative and thought provoking presentations on their respective disciplines to our 50 guests.

Representatives from the University

and TAFE were on hand to answer questions on course information from students and parents.

The Division would like to thank Karlie Collis, Sally Gilbert and Katie Teyhan for their excellent presentations and our MC, Ruth Fernando who ensured the evening ran smoothly.



“L to R: Karlie Collis, Ruth Fernando, Katie Teyhan, Sally Gilbert”

Civil/Structural Branch Report

The Civil/Structural Branch hosted Emeritus Professor Paul Grundy, the 2010 Sir John Connell Medal winner and the Structural College’s Eminent Speaker for 2010 – 2011 at a breakfast presentation at the Newcastle Businessmen’s Club on 6 May 2011.

Professor Grundy presented an insightful and at times humorous presentation to an appreciative audience of 35 early risers, some of whom had travelled from the Central Coast and other regional areas. Many years of practice as a consulting structural engineer followed by a move to academia from 1996 to the present, as Professor of Structural Engineering at Monash University, provided Professor Grundy with a wealth of material to draw upon as he challenged those present to consider

moving beyond the Ultimate Limit State in design to a proposed ‘Disaster Limit State’, using lower limits of acceptable risk for hazards when designing structures or infrastructure to withstand disasters that may embroil whole communities.

Professor Grundy developed a cogent argument (supported with a wonderful array of coloured graphs, diagrams, statistics and a single civil engineering related formula) setting out the reason why engineers needed to address non structural measures as part of the holistic approach to minimize loss of life, livelihood, social cohesion and assets. Examples, including graphic video clips were drawn from natural hazards over recent time, some of which led to disaster while some did not.



“L to R: Karlie Collis and Emeritus Professor Paul Grundy”

Professor Grundy was concerned that 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, Professor Grundy urged engineers to take up the challenge of Disaster Risk Reduction.

EngMentor Scheme - 2011

The Engmentor Scheme concluded another successful cycle holding the Meet Your Mentor event on 19th April at Newcastle University.

Our Young Engineers Chairman, Nick Bates, gave the welcome and promoted YE activities in the Division followed by Krishda Tan who gave an overseas students perspective on the EngMentor Scheme. 25 students were introduced to 14 mentors – after which

they talked about the various opportunities presented and made arrangements for staying in touch such as visiting work sites.

A few students signed up for a second year to meet a new mentor. A new feature this year is that students can contact Division office and ask for a different mentor through the year – perhaps to get a perspective on a different industry.

Many thanks to all the people who contributed to the Scheme from running the Recruiting Barbecue at Newcastle University on the 10th March to being a mentor. Special thanks to John Waanders whose connections with Newcastle University make things flow smoothly.

Paul Russell – EngMentor Co-ordinator

Electrical Branch Report

The Electrical Branch presentation for May titled, The Potential for Ocean Energy in Australia was well received by the local members. The presenter, Dr John Wright explained the effort undertaken by the CSIRO, Wealth from Oceans flagship, to survey and collate data for an initial broad assessment. The result was a first draft

economic model to assess the ocean renewable energy contribution to the forward electricity market in Australia to 2050.

Different types of ocean energy generators were discussed including the different methods of extracting energy from waves, tidal and ocean

currents, as well as thermal and osmotic gradients.

Dr Wright explained that this study provided a framework and rigorous introduction that can be used as the starting point for the detailed assessment to support policy and investment to realise this opportunity.

ICWES15 - Leadership, Innovation, Sustainability

19 - 22 July 2011, Adelaide Convention Centre

The 15th International Conference for Women Engineers and Scientists (ICWES15) is jointly hosted by Engineers Australia National Committee for Women in Engineering and the International Network for Women Engineers and Scientists (INWES).

The conference will provide an opportunity to discuss innovative

technology in the 21st century across the engineering, science and technological professions as well as providing excellent network opportunities with colleagues in business, academia and government. It will highlight the important roles and contributions women in STEM make to society in the 21st century as well as demonstrating the value of having women as part of the professional team.

The conference is expected to have a



wide ranging impact on these professions and will have a number of discussion forums encouraging conference delegates to reflect and consider their circumstances and what they hope to achieve by revisiting their goals and aspirations.

For more information or to register please visit www.icwes15.org

CONGRATULATIONS

Newcastle Division would like to congratulate the following members who have obtained their CPEng status

Aaron Bulbert
Trevor Clack
Ryan Coulin
Darren Dunk

John Finlay
Pierre Gouhier
Yanaka Jayatilleke
Benjamin Jeays

Chi Lau
Chris Liebetrau
Marketa McCarthy
Marcus Punch

Patrick Swanepoel
Peter Van Wheelwright
Peter Wilson
Grant Wood

The Division would also like to take this opportunity to thank the many members who have given their valuable time and expertise to assist the Assessor on the PI Interview Panels.

Centre for Engineering Leadership and Management (CELM) June Update

Local News

CELM has started the first half of the year of Humanitarian Engineering with a number of very successful activities. This year's theme of Humanitarian Engineering has certainly struck a chord with the membership with all the events to date being very well attended. Our last presentation by Ms Lizzie Brown was no exception with a large and diverse representation of the Engineering profession in attendance. Apologies go out to those not early enough to secure a seat. I would encourage all members to book in early for the last two events scheduled for the 21st of July and 27th of October to avoid disappointment. See the back page of this Newsletter for further details or visit the website.

CELM was privileged to have Ms Lizzie Brown, CEO of Engineers without Borders [EWB] detail the great works that her team completes both nationally and internationally. The presentation highlighted the experiences, knowledge and skills that many of the Engineering Profession of EWB gain throughout their involvement, including the many cultural aspects of working closely with a developing community.

Ms Lizzie Brown detailed the differences between the works of RedR and EWB showing how these organisations mesh to cover the various aspects of Humanitarian Engineering works. Included in the presentation was the clarification of the vision of EWB and the hope that EWB will not be required into the long term future as it is hoped that communities will have developed themselves to be more prosperous and will not require the assistance that the EWB service currently provides. Included in this vision was the goal that many organisations would directly involve themselves in support of

communities as part of their own business plans and initiatives.

It became very clear how remarkable the engineering expertise is that is being utilised in generating solutions to address many significant community issues located geographically from central Australia through to remote densely populated Asian/PNG communities. Integral in this expertise was the fact that the solutions could adapt and change to suit both the economic, environmental and cultural requirements of the communities to improve the health and well-being of our less fortunate neighbours.

EWB have strategies in place to assist and encourage individuals and organisations to become involved and cordially CELM encourages you to consider and support this organisation as it requires the assistance of the many great networks of Engineers and organisations in Australia to be successful.

As part of the strategies, Ms Brown clarified the concerns that you do not necessarily need to have a lot of spare time to be involved and to make a difference with EWB. Ms Brown demonstrated the great work of many of the volunteers that are part of their own busy families and how they were making a real difference through fund raising activities and social events that allowed people to remain in their 9-5 jobs while also being an integral EWB team member.

Ms Brown also encouraged the membership to consider an EWB group be formed locally in the Newcastle Division to bring together the large number of EWB members within the area.

Women in Engineering [WiE] - Young Engineer [YE] and CELM



"L to R: Chris Scanlon, Lizzie Brown, Jessica Foyster"

CELM would like to thank Ms Jessica Foyster, of Ausgrid, for her presentation and introduction of Ms Lizzie Brown, CEO Engineers without Borders, at our last CEO breakfast. Ms Foyster's presentation brought together a great combination of leadership insights as a WIE/YE and the integration of that experience gained as a Young Professional Engineer and the interactions with the EWB programs that were undertaken as an undergraduate.

For our Engineers Australia, Young Engineers [YE's] wishing to take the opportunity of gaining some extremely valuable insight into our CEOs of the CELM series, we are offering the last development opportunity to introduce our last CEO this year for the series. Please contact your YE representative or division office quickly to be considered.

National

The National activities of CELM have continued throughout the first half of the year with the 2nd joint CELM Chairs meeting scheduled within the next month. The National Committee continues to provide support to our Divisional committee and create the opportunity to bring a national perspective and learnings to CELM in the area. Please consider taking advantage of the upcoming National CELM conference to be held in Adelaide next year.

Christopher Scanlon

CELM – Chair Newcastle Division.

Continuing Professional Development (CPD)

Engineers Australia Newcastle Division offers CPD in a number of streams, enabling members to undertake a variety of CPD providing them with the opportunity to gather skills and knowledge to assist in all aspects of their career. The streams we have identified are as outlined below.

Date	Time	Event	Venue
Electrical			
7th September	5.30pm	Site Visit to OneSteel's Newcastle Rod Mill	Mayfield, NSW
CELM			
21st July	7.15am	CEO Speaker Series – Breakfast3 Speaker: Geoff Lillis, CEO/Managing Director Ampcontrol	Newcastle Club
Civil/Structural			
27th June	5.30pm	Eminent Speaker Prof. Tony Wong MIEAust CPEng 'Urban Water Management in Cities of the Future'	Engineers Australia 122 Parry Street Newcastle West
Newcastle Division			
9th August	5.30pm	'Reconstruction in Afganistan' Speaker: Warrant Officer Gary Rees	Engineers Australia 122 Parry Street Newcastle West
National President's Regional Tour - Diary dates			
4th July	6.30pm	Meet & Greet followed by Dinner and Presentation	Ballina
5th July	6.30pm	Meet & Greet followed by Dinner and Presentation	Port Macquarie
Division			
16th- 18th September 2011		Regional Convention 2011 'Sustaining Our Regions: The Engineering Challenge'	Armidale, NSW
YEN			
YEN 23rd June	5.30 for 6.00pm	Tax Seminar - Brett Price Price Williams Whyte Accounting and Business Advisors	Engineers Australia, Newcastle West
8th October		YEN Formal Dinner	Newcastle Jockey Club
WiE			
13th Sept	5.30pm (TBC)	"Communicating to Get What You Want" Presenter: Tarnya Davis, Clinical & Forensic Psychologist	Engineers Australia 122 Parry St, Newcastle West

Newcastle Division Video and DVD Library - Earn CPD points

Don't forget, there are a number of presentations available in DVD or Video format that can be borrowed from Division Office 4926 4440. Each presentation counts toward your CPD points.

The full listing of titles has been updated on our website, to view please visit:

www.engineersaustralia.org.au/newcastle

Engineers Australia Webcasts - ONLINE CPD

There are approximately 550 presentations available online covering a wide range of topics across all disciplines. Viewing these counts toward your CPD accruals - and you can do it from the comfort of your desk!

Online presentations are available for viewing at:

<http://www.engineersaustralia.org.au/search/events/mediavision>

Some event dates and times are subject to change. Please check our website www.engineersaustralia.org.au/newcastle for up-to-date information.

All registration to events is now done online via www.engineersaustralia.org.au/newcastle

For further information relating to any of the above events please contact the Newcastle Division office at newcastle@engineersaustralia.org.au