

news from

ENGINEERING WA

ENGINEERS AUSTRALIA WA DIVISION NEWSLETTER JANUARY 2011

Engineers serve as role models for students

The Science and Engineering Challenge, a competition for year nine high school students requiring them to tap into their problem solving and technological skills, visited Western Australia in late 2010 and was enthusiastically supported by the engineering community.

Of the 340 volunteers that assisted at this year's 11 day Science and Engineering Challenge, an impressive 300 were engineers!

The efforts of these volunteers allowed the Science and Engineering Challenge to cater to some 2,770 students and take in the regional centres of Kalgoorlie, Mt Barker, Geraldton, Bunbury, Kwinana/Rockingham along with Perth.

The Science and Engineering Challenge volunteers set up and run the Challenge at every venue. They make it all happen. The students not only gain from the experience of the tasks they are given but also by engaging with the volunteers who serve as role models for their profession.

The competition isn't completely finished yet though. The Day Champions and the top five Runner Ups from each day have been invited to attend the State Finals at Curtin University in February.

Engineers Australia would like to thank all 340 volunteers whose contribution made the 2010 Science and Engineering



Above: Gary Hi Lee Cheong with students from Hale School on the 'Who gets the water' activity

Challenge an outstanding success, and of course all the sponsors. Without their contribution this important competition would not be possible.

2010 Sponsors were: Department of Commerce, BHP Billiton Worsley Alumina, KCGM, Laing O'Rourke, Western Power, Curtin University, University of Western

Australia, Murdoch University, Edith Cowan University, Crosslands Resources, Kwinana Industries Council, Railway Technical Society of Australasia, Society for Underwater Technology, Scitech, Rotary, Perth Convention Exhibition Centre, BHP Billiton Nickel West, CSIRO, Opus, Albany Port Authority, Shire of Plantagenet, Cockburn Cement, Hatch and CSBP.

→ 2011 year
of
humanitarian
engineering

Engineers Australia is proud to announce that 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.

To learn more and get involved go to makeitso.org.au/humanitarian

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→ 2011 year of humanitarian engineering

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Produced By
Engineers Australia WA Division
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Web: www.engineersaustralia.org.au/wa
Content was correct at time of printing.
Advertising & Editorial
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Printed by Focus Press using sustainable methods including:

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- Vegetable based inks
- Certified Environmental Management System ISO 14001
- Certified Quality System 9001:2000

Paper: From plantation forest managed, grown and produced under EMS ISO 14001

WA wins more accolades at National Awards

Condor Tower, 22 St Georges Terrace, took out top honours of the Sir William Hudson Award for engineering excellence at the 2010 Australian Engineering Excellence Awards held in Canberra in November.

The Engineers Australia Sir William Hudson Award was accepted by Mr Arthur Psaltis, Managing Director, Pritchard Francis Pty Ltd.

The judges saw this project as an outstanding example of innovative Australian engineering which is truly world class. The commitment of the client, design engineers and construction team to achieving the result is highly commendable.

Another Western Australian project, 'A Natural Biological Removal System for Oxalate', submitted by Alcoa World Alumina, won the Australian Government Engineering Innovation Award.



National Past President Doug Hargreaves (L) with Arthur Psaltis and the team from Pritchard Francis

In addition, WA high school teachers Brett Boughton and Paul Hogg received the National President's Prize. This Prize is awarded at the National President's discretion. Its purpose is to recognise a conspicuous contribution made by an individual, entity or initiative to one or more of the Engineers Australia plans and objectives.

UWA students create engineering solutions for people with disabilities



'Gymran' sponsored by Wood Group Integrity Management - Winners of the Gym Project (left to right): Dave Holland, Darren Lomman (CEO Dreamfit), Melissa Canicais, Renee Barnes, Lawrence Weir, James Moody, Jamie Harding, Simon Harris, Kelly Reilly, Chris Saunders (front): Dream Recipient Imran Ariff

Burswood Convention Centre was abuzz with excitement and anticipation on 6th December 2010 as hundreds of people turned out to witness the great work of this year's Dreamcatcher UWA Engineering teams and industry sponsors.

As part of Westcare's annual breakfast celebrating the International Day for People with a Disability, the nine Dreamcatcher teams displayed their final projects after months of work designing and building prototypes for their Dream recipients.

This year's Dream projects included; sit-skis for the WA Disabled Water Ski Association, independent gym workout stations for 30 year old Imran Ariff, and art easel stations for 12 year old Sladjana Mijailovic.

Congratulations to all participants for their inspiring work and to the teams and mentors that took out the main project awards; Arup's 'Dreamwakers' Sit Ski team, Wood Group Integrity Management's 'Gymran' gym team, and Hatch's 'MERJ' art easel team.

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From the President

Year of Humanitarian Engineering

Professor Mark Bush FIEAust CPEng

Engineers Australia has designated 2011 as the Year of Humanitarian Engineering – a year in which we will recognise the role of engineering in improving quality of life and disaster recovery in Australia and abroad.

I am very pleased to have the privilege of serving as President of the Western Division in the year of Humanitarian Engineering, as I feel this theme gives us the opportunity to showcase the fine examples of multidisciplinary work undertaken by engineers in collaboration with other scientists, aid groups and political organisations in both developing and developed countries.

Humanitarian Engineering is not just about the engineering solution. Successful implementation of engineering solutions in this context often requires a connection to the culture of the local population and to local and national politics. In short, it requires a broader engineering team that includes the politicians, the local community leaders and humanitarian aid workers.

It is a great example of what an 'engineering team' can achieve.

The Humanitarian Engineering theme is also a fabulous opportunity to raise the awareness of engineering in the minds of the general public. We are often struggling to find examples that will engage the public imagination. In 2011 we have a theme that connects at an emotional level to most people, with outcomes that palpably improve the lives of millions of people worldwide.

The term 'Humanitarian Engineering' generally implies voluntary work undertaken by engineers for disaster relief and to improve the quality of life in poorer developing communities. However, we should not forget the everyday impact of core work carried out

by engineering companies in developed and developing countries, often installing key infrastructure that benefits the community. There are many fine examples of companies working in remote locations in Australia and overseas who go well beyond the expectations of the contract to engage deeply with the local population, participate in community development and build understanding and friendships that persist long after the project is complete.

The National Body and the Divisions will be running a range of activities in collaboration with Engineers Without Borders, Registered Engineers for Disaster Relief and other organisations throughout 2011. The core functions of the Division, Colleges and Committees will proceed as usual. However we will complement these activities with a range of focused events that reflect the theme of the year, and also adapt many of the core activities to the theme where practical.

The banner call is to 'Educate, Celebrate and Activate'.

'Education' implies highlighting to engineers and engineering teams the positive impact that can be made through humanitarian engineering, the personal and corporate work satisfaction that may result, and to show people why they should be involved and how they can be involved.

'Celebration' involves showcasing to the engineering community and the public the positive contribution that humanitarian engineering can make to disaster relief and community development.

'Activation' can be achieved by demonstrating how individuals and companies can be involved and by increasing the number of registered volunteers and the amount of pro-bono work carried out by engineering firms.

A working group in WA has already met to

prepare a plan of activities. As this plan develops and solidifies, details will be made public through the Division website and e-mail. Keep an eye out for information about events as it is made available. Further information can also be found at the national EA website – click on the '2011 Year of Humanitarian Engineering' banner.

We propose to launch the Year of Humanitarian Engineering in conjunction with the Centre for Engineering Leadership and Management (CELM) through an event in early February that will establish and celebrate the themes of idealism (voluntary or pro-bono work) and engagement of mainstream engineering industry to enhance humanitarian outcomes.

Other events and promotions throughout the year will include exhibitions at public (non-engineering) events, mainstream media exposure, technical presentations and case studies. We will be exploring possibilities for pro-bono engineering (companies volunteering time and other resources to humanitarian projects) and leave for engineers to engage in humanitarian projects. In doing so, we will celebrate and learn from organisations who already engage in this activity, including the armed forces, where humanitarian work is often undertaken by reservists who are also working for engineering companies.

The Year of Humanitarian Engineering ties in very nicely with the previous themes of the engineering team and engineering leadership, and indeed with the theme for 2012: Regional Engineering.

I look forward to working in 2011 with the Division team and the membership to highlight and encourage the humanitarian work of engineers.



About Professor Mark Bush

Professor Mark Bush graduated with a Bachelor of Engineering (Mechanical) with Honours from the University of Queensland in 1979 and then completed a PhD at the University of Sydney.

In 1984 he took up the post of Lecturer in Mechanical Engineering at the University of Western Australia and was promoted to Professor in 1998. He has lectured in thermodynamics, fluid mechanics, computational mechanics and materials engineering.

He served as Head of the Department of

Mechanical and Materials Engineering from 1998 to 2001 and Dean of the Faculty of Engineering Computing and Mathematics from 2003 to 2007.

He is currently a Professor of Engineering at UWA supervising research into biomedical materials and engineering education and is also Director, Animal Research Services.

In this role he has responsibility for the development and provision of facilities across the UWA campus and two local hospitals used for biomedical research using animals. This role links to his own research interests in biomaterials and

bioengineering, and a personal interest in animal welfare.

Professor Bush has received awards for both undergraduate teaching and research supervision, and was included in the Engineers Australia list of "Top 100 most influential Engineers", 2004, and Engineers Australia's "Engineering Elite" survey, 2003.

Professor Bush is a Chartered Professional Engineer and Fellow of Engineers Australia (FIEAust CPEng), and Fellow of the Academy of Technological Sciences and Engineering (FTSE).

Honours and Awards

Willetton teachers win award for excellence in teaching



Above (L-R): Carlo Di Donato - Lockridge SHS, Lorraine Ellis - Newton Moore SHS, Graeme Roberts - Leeming SHS, Paul Hogg and Brett Boughton - Willetton SHS with Doug Aberle, Managing Director, Western Power - Schools Program Sponsor

Brett Boughton and Paul Hogg from Willetton SHS have won the Engineers Australia Award for Excellence in Teaching.

The Award comprises \$10,000 in prize money - \$5,000 as a personal award and \$5,000 towards an engineering related project at their school, thanks to the generous support of Western Power.

The judging panel, comprised of senior industry and academia, noted Brett and Paul's blending of traditional physics with design and technology to create a vibrant engineering culture that truly inspires students as a key factor in deciding the Award.

Brett and Paul have also contributed considerably to the education community, sharing much of their knowledge and experience as pioneers in teaching engineering studies with other schools throughout the state.

In an encouraging sign for the future of

engineering in WA, there were several other teachers that received an Honourable Mention for the Award. They were Lorraine Ellis (Newton Moore SHS), Carlo Di Donato (Lockridge SHS) and Graeme Roberts (Leeming SHS).

The Engineers Australia Award for Excellence in Teaching is given to a high school teacher annually in Western Australia, recognising an outstanding contribution to student learning in engineering and related subjects.

Engineers Australia believes that recognising and rewarding excellence in the teaching of engineering related subjects at secondary school will assist in increasing the number and quality of students taking those subjects and going on to study engineering at TAFE and University. Australia is reliant on technological expertise and it is vital that we have adequate number of "home grown" engineers to meet future needs.

Recently appointed Fellows

Recently appointed Fellows were recognised at the Engineers Australia WA Division Annual Dinner. They were:

- Mike Taylor FIEAust CPEng
- Ron Terwijn FIEAust
- Nick Bailey FIEAust CPEng
- Gary van Eden FIEAust CPEng



WorleyParsons engineer wins public speaking award



Above: Brett Stinton MIEAust with WA Division President Professor Mark Bush FIEAust CPEng

WorleyParsons engineer Brett Stinton has won the O. F. Blakey Public Presentation Competition held as part of the Engineers Australia WA Division Annual Dinner on December 2.

Brett's presentation, 'A Brief History of Hydrology' was declared the winner by the judging panel, overcoming some strong competition from Cameron Power from UWA and Glenn Donaldson from Main Roads Western Australia.

Brett's presentation looked at our understanding of water through time, including ancient Egyptian techniques for flood prediction, the impressive engineering behind the Nimes Aqueduct and the genius of Leonardo Da Vinci.

He also highlighted the crisis of an increasing world population and the scarcity of clean, accessible, fresh water to support this. In Western Australia, declining inflow into Perth Dams means it will be facing its own set of unique challenges for water supply going forward.

As winner of the O. F. Blakey Public Presentation Competition, Brett receives a \$2,000 cash prize and the O. F. Blakey Medal.

The O. F. Blakey Public Presentation Competition perpetuates the memory of Professor O. F. Blakey, the first Professor of Civil Engineering at the University of Western Australia, who was a Councillor of Engineers Australia from 1936 to 1951, Chairman of the former Perth Division in 1936 and 1942 and President of Engineers Australia in 1945.

Past Presidents recognised for service to the profession

Lorie Jones and Chris Fitzhardinge were recently awarded with the Engineers Australia Medal in recognition of their meritorious service to the WA Division of Engineers Australia.

Lorie Jones has extensive experience in environmental engineering and renewable energy research, project engineering, business development and management. She is a Principal in the Perth office of Sinclair Knight Merz and performs a number of senior consulting roles including Relationship Client Manager, Project Director and Sustainability Champion.

She is a Chartered Fellow of Engineers Australia, was previously National Chair of the Society for Sustainability and Environmental Engineering, a National Board member for the College of Environmental Engineering, a member of Engineers Australia's National Sustainability Committee, and was Engineers Australia WA Division President in 2008.

She continues to play a senior role within Engineers Australia and is currently a Congress Delegate.

Chris Fitzhardinge has worked across the state on construction and operation of major infrastructure projects as well as promoting regional development.

His responsibilities have ranged from



Above (L - R): Chris Fitzhardinge FIEAust CPEng, Lorie Jones FIEAust CPEng and Professor Tony Lucey FIEAust

running the Ord River Scheme to transforming the Telecentre Network, a regional communications network, through tripling its size. As CEO of the South West Development Commission he changed the face of Bunbury through securing multi million dollar funding, negotiating the removal of industrial infrastructure and initiating the Bunbury Harbour City Project. He is currently the Director of the South West Group.

He has been an active participant on the Transport Panel for many years and was the 2009 WA Division President. He continues to play a pivotal role in the public policy and governance areas, was the Division spokesperson for the 2010 Infrastructure Report Card and at a national level was on the working party for the Royal Charter and By Laws review.

Dr Jim Gill made an Honorary Fellow

The WA Division is delighted to announce that Dr Jim Gill has been made an Honorary Fellow of Engineers Australia.

Dr Jim Gill has demonstrated major leadership in water engineering and has also made substantial contributions to road and rail infrastructure projects and management at both state and national levels.

His leadership and business skills came to the fore during his 12 year tenure as the inaugural CEO of Western Australia's Water Corporation.

Dr Gill is highly regarded throughout Australia and internationally, and has received many international water awards.

He was recognised for his service to water management, to transport, and to education with appointment as an Officer of the Order of Australia in 2009.



Above: Dr Jim Gill Hon FIEAust CPEng and Professor Tony Lucey FIEAust

He is a past Chairman of the WA Division of Engineers Australia and past President of the WA Division of the Australian Institute of Company Directors.

Jim served on the Senate of the University of Western Australia from 1995-2002, and was invested as Chancellor of Curtin University earlier this year.

John Madsen Medal



Above: Professor Tony Lucey with Dr Michael Znidarich FIEAust CPEng and Tiina Ratamo FIEAust CPEng from the Electrical College

The 2009 John Madsen Medal has been awarded to Dr Michael Znidarich for his paper 'Hydro Generator high voltage stator windings: Part 4 - type and routine production testing.'

The John Madsen Medal is awarded for the best paper written by a current member of Engineers Australia, and published in The Australian Journal of Electrical and Electronic Engineering.

Introducing SKM's new WA/NT Regional Manager

Gary Layton started as SKM's WA/NT Regional Manager in September after working on BHP Billiton's Rapid Growth Expansion Project (RGP) for six years. During this time he performed various roles including Engineering Manager and Commissioning Manager for RGP2, and Engineering Manager and Commissioning Manager for RGP4.

Gary has been with SKM for 25 years and has worked on many landmark projects, including BHP's North Yard Development Project in the late 80s, and later the BHP Iron Ore Capacity Expansion Project.

Gary is extremely client focused and hopes to deliver more of the firm's services to their major client base. His years of project experience mean he

has a great deal of knowledge about engineering management, construction and commissioning. One of Gary's priorities is for the firm to become a true learning organisation with a client focused culture.

Gary said "I am excited about my role as Regional Manager. My aim is for the region to become characterised by team learning, a shared vision and a personal commitment to learning and development. In support of this I have a deep commitment to mentoring staff, sharing knowledge, identifying and recruiting talent and seeing it developed to its true potential."

To learn more about SKM and job opportunities in the region visit www.skmconsulting.com/careers



Gary Layton FIEAust CPEng

UWA Students create engineering solutions for people with disabilities

Continued from page 2

Dreamwakers, Gymran and MERJ also took out the Project Management, Design and Team awards respectively, with Apache Eagles winning the Enterprise Award. Industry mentors from Raytheon, Sean Robson and Peter Quartermain, and SKM's Robin Knowles were also recognised for

their great work with the teams.

"The Dreamfit Foundation is thankful to all engineering sponsors," says CEO Darren Lomman. "Without this support we could not run our programs to ultimately improve the quality of life for thousands of people living with disabilities."

The Dreamfit Foundation relies upon the continuing association with the engineering community and encourage new sponsors to consider supporting the Dreamcatcher competition and other projects in 2011.

Visit www.dreamfit.com.au for more details.

Face to Face Expo for Young Engineers

Saturday 2 April 2011
Robinson Pavilion, Claremont Showgrounds

CALL FOR EXHIBITORS

By participating in the Face to Face Expo for Young Engineers 2011, your company has the chance to inspire and gain the trust of enthusiastic and motivated students and begin the dialogue necessary to attract the right people.

In 2010, over 910 student engineers were introduced to some 73 organisations involved in a diversity of engineering activities undertaken within and outside this state.

In order to secure your position of choice please contact BPA. Phone: 08 9409 5143.

2011 WA Division Committee Announced

At the recent Engineers Australia WA Division Annual Dinner, Office Bearers for 2011 were announced.

Prof Mark Bush FIEAust CPEng
Division President

Prof Tony Lucey FIEAust
Past President

Barry Tonkin FIEAust CPEng
Deputy President

Helen Pedersen FIEAust
Vice President and DABWA Chair

Lorie Jones FIEAust CPEng
Committee Member

Matthew Taylor MIEAust CPEng
Committee Member

David Mofflin FIEAust CPEng
Committee Member

Russell Byfield FIEAust CPEng
Committee Member

Richard Atkinson FIEAust CPEng
Committee Member

Will Neethling TMIEAust CEngT
Technologists/Associates Representative

Engineering Heritage WA Oral History Programme

The Engineering Heritage Panel of the WA Division (EHWA) proposes to expand its oral history programme in WA by undertaking interviews of members of Engineers Australia who have had a significant input into engineering in Western Australia.

It is proposed to commence this work in 2011 using volunteers to carry out the interviews and/or associated transcription work where possible.

Though basic keyboard and computer skills are required, experience in oral history practice is not necessary as training will be provided and modern recording digital equipment is available.

People interested in obtaining further details and expressing an interest in volunteering should contact Doug Ayre, the Oral History Programme Coordinator, Mobile 0430 405 633 or email history@westnet.com.au

Special Notices

Vale - R.M. (Bob) Hillman AO FTSE HonFIEAust CPEng

It is with great sadness that we acknowledge the passing of one our Honorary Fellows, Bob Hillman.

Bob was born in Guilford in 1920, educated at Guilford Grammar and the University of Western Australia. Having obtained a Bachelor of Engineering he joined the AIF and served in New Guinea, New Britain and Bougainville. At the end of the war Bob joined the Public Works Department, and in 1950 he transferred to the Metropolitan Water Board, and by 1964 he was the Chief Engineer of the Board.

While he was Chief Engineer Bob was a member of the Metropolitan Region Planning Authority and Chairman of the Land and Housing Consultative Committee that was established to stimulate sub-divisional development.

In 1972 Bob was appointed Director of Engineering for the Public Works Department, a position he held until his retirement in 1984.

Bob was a member of the Planning Board for Murdoch University. He was a member of the university's Senate until 1981 and Pro Chancellor from 1977 to 1981.

In addition to his role with CSIRO and membership of number of high level government committees, Bob was seconded to the position of Project Leader of the Steering Committee for the merger of the State Water Authorities in 1983.

Following his retirement from the Public Works Department Bob was appointed Chairman of the Water Authority in 1984.

Bob had a keen interest in the Institution of Engineers Australia and participated in the Division Committee for a number of years from 1960 and was the Division Chairman in 1970. In 1983 he was made an Honorary Fellow of the Institution.

Bob maintained his connection with Engineers Australia and was a regular attendee at Division events.

WA Division Director Janice Lake to retire

Engineers Australia WA Division Director Janice Lake has announced her retirement after seven years of service to the local engineering community.

"She has led with her own, highly effective, style that is built upon collegiality, collaboration, and dedication, underpinned by a quiet and assured dignity," said past President Professor Tony Lucey.



Above: Janice and Barry aboard their yacht Prudence

"The effectiveness of her Directorship can be seen in the growth of our Division, the richness of its activities and, perhaps most importantly, the warmth of the engineering community that she has built here in WA."

Janice will finish at the WA Division in February, after which she will set sail around Australia with husband Barry on their yacht 'Prudence', the final destination being Queensland.

We wish Janice and Barry all the best in this next exciting phase of their lives!

An advertisement for Watershed Premium Wines. The background is a photograph of a modern, open-air restaurant or bar with a wooden deck and a large potted plant. The text "Awaken Your Senses" is written in a cursive font at the top. Below it, three bottles of wine are displayed: a dark red bottle, a light green bottle, and a dark blue bottle. The text "WATERSHED PREMIUM WINES" is written in large, bold, serif letters. At the bottom, the contact information is provided: "Email: cellar@watershedwines.com.au Tel: (08) 9758 8633 www.watershedwines.com.au".

Awaken Your Senses

WATERSHED
PREMIUM WINES

Email: cellar@watershedwines.com.au Tel: (08) 9758 8633
www.watershedwines.com.au

Dates for your Diary

Date/Time	Host	Event & Venue	For more information
Wed 16 & Thu 17 Feb	Australian Geomechanics Society	Laboratory Testing in Geotechnical Engineering The course will be presented by UWA lecturers: Prof. Barry Lehane, Prof. Andy Fourie and Asst/Prof. James Doherty	Register online: www.engineersaustralia.org.au/wa
Thu 17 Feb 05:30 PM	Engineers Australia	Chartered Status Workshop An Engineers Australia National Assessor delivers a free public workshop on the requirements and process involved in becoming a Chartered Member	Register online: www.engineersaustralia.org.au/wa
Thu 10 Mar 07:15 AM	Engineers Australia WA Division	2011 WA Engineering Excellence Awards Breakfast Launch	Contact: Sharleen Mantle P: 08 9321 3340
Wed 16 Mar 05:30 PM	Engineers Australia	Chartered Status Workshop An Engineers Australia National Assessor delivers a free public workshop on the requirements and process involved in becoming a Chartered Member	Register online: www.engineersaustralia.org.au/wa
Sat 2 Apr	Engineers Australia WA Division	Face to Face Expo for Young Engineers	Exhibitor Bookings: BPA Ph: 08 9409 5143
1 - 5 Aug	Engineers Australia	Australian Engineering Week	For more information: www.makeitso.org.au
Sat 17 Sep	Engineers Australia WA Division	2011 WA Engineering Excellence Awards Dinner	Contact: Sharleen Mantle P: 08 9321 3340

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

achieve.



Sinclair Knight Merz plays a key role in the Pilbara region as an Engineering, Procurement and Construction Management (EPCM) contractor. With a number of exciting projects on the horizon, we're looking to add new, experienced people to our team.

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