

Engineering South Australia



MAKE IT SO MY CAR CAN FLY LIKE A PLANE

Make it so. With these three words we will show all Australians that the engineering team make things happen. The Make it so campaign aims to change the way Australians think and talk about engineering.

Visit Makeitso.org.au, join our campaign, and Make it so.

September 2009



ENGINEERS
AUSTRALIA

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ENGINEERS
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A Message From The President

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Back in 1926, not long after the formation of the Institution of Engineers Australia, a group of farsighted members sponsored 96 trees on the bare, newly subdivided plains that would become the modern city of Canberra. In this 90th year of Engineers Australia we again have the chance to create a lasting commemorative feature within our National Capital. Engineers Australia is the first organisation to sponsor a forest of around 600 trees at the Canberra International Arboretum and Gardens.

The International Arboretum and Gardens has risen from the ashes of the devastating 2003 bushfires that consumed large areas of plantation pine trees west of Lake Burley Griffin. The Arboretum is being developed on a 250 hectare site in the Greenhills Forest, six kilometres from the centre of Canberra. The site has spectacular views across the lake towards Yarralumla and Parliament House and provides a fitting location for recreation, education, research and the preservation of threatened species.

During this 90th year an initial 250 Pin Oak trees will be planted in celebration of the contribution of senior office bearers and individual engineers to the nation through the engineering profession. As an individual member or corporation you also have an opportunity to sponsor a tree to commemorate a past or present member in the Engineers Australia Forest. Your tree would become part of the original Walter Burley Griffin plan that included a continental arboretum at the west end of the lake now named for him. I would encourage all our South Australia Division members to visit www.engineersaustralia.org.au/engineersforest for further information. As individuals we rarely have an opportunity to establish long term commemorative artefacts.

Canberra is also the location of our National Office and the annual meeting of our Congress each November. Our South Australia Division has two places on the Congress and this year South Australia is fortunate in having Bronte Strout on Council, elected by Congress for a two year term in 2008, which means we currently have three voices. The next Congress occurs on 25 November 2009 and one of the key items that we expect to discuss will be the steering committee report about the re-write of the Royal Charter and Bye Laws.

Sometimes members ask how to contact their members of Congress. Well, firstly, any of the South Australia Division office bearers can be contacted through the Division office. In recognising the reality of modern communications, the Engineers Australia website also now has a feature on the "Contact Us" page where you can direct an emailed communication straight to your

local Congress members. Make sure that you take advantage of this and engage with your professional organisation.

The level of engagement between members and the South Australia Division has been a very pleasing feature of 2009. Our recent call for nominations to serve on the Division Committee produced the strongest response for many years and we will be having an election to fill the six elected positions. Once elected the new Committee has the ability to appoint up to five further members to ensure balance and representation as far as possible. The essential part of any membership based organisation is member participation and I particularly would like to hear more from the "silent majority" of our South Australian members.

I advised South Australian members in the July 2009 newsletter that the building committee is actively searching for a new premises, following the sale of Bagot Street. A number of properties have been identified and these will now be subject to Engineers Australia diligence procedures. These potential properties range from inner city locations to within 2 kms of the green belt of the city.

Raising the profile of the engineering profession is also the objective of a recent campaign launched by National President Peter Godfrey in July. The first part of this is the "Make it so" campaign that aims to change the way Australians think and talk about engineering. Its success will depend upon the support of the tens of thousands of engineering team members – people who want to help "Make it so" for the wider Australian community. Go and have a look at www.makeitso.org.au to understand what's happening and register your interest. The media coverage will start later this year followed by a national competition. We want to transform people's perceptions about engineering and share the truth that engineering teams solve problems that make many people's lives immeasurably better. We need to show that engineers make it happen.

Doug Gillott FIEAust CPEng

**President
Engineers
Australia South
Australia
Division**



Notice of Election

2010 Division Committee Candidates

The South Australia Division membership is charged with electing 6 candidates to form the 2010 South Australia Division Committee. Each financial member of the South Australia Division is afforded one vote. To assist with the voting process please find below a list of the nominees and their photo.

Ballot Papers will be distributed to financial members on 15th October 2009. This will be done via email. Ballot papers will be posted to financial members that have not supplied an email address.

The voting period will end on 5th November 2009. The election results will be announced to the membership at the Division AGM on 19th November 2009.

Please take this opportunity to participate in determining the future direction of the South Australia Division.

For any election queries please contact the Returning Officer - Executive Director Caroline Argent via cargent@engineersaustralia.org.au or 08 8267 7030.



Dr Cristian Birzer
MIEAust



John Olson
RFD FIEAust CPEng EngExec FAICD



Gerry Doyle
MIEAust CPEng



WGCCDR Tobby Bearman
MIEAust CPEng



Phillip Campbell
FRAeS CEng FIEAust CPEng



Jin Lim
GradIEAust



Vivian Kwong
MIEAust



Timothy Browne
MIEAust



Dr David Cruickshanks-Boyd
FIEAust EngExec



Vera Lukic
OMIEAust

2009 South Australian Engineering Excellence Awards

Saturday 1st August 2009 provided the opportunity for the engineering community to come together and celebrate the achievements of South Australian engineering projects.

The projects entered were considered impressive and Engineers Australia congratulates each of the entrants for their efforts. Whilst not every finalist received an honour in the Engineering Excellence Awards, everyone should be extremely proud of their contribution to the profession and the wider community. Entering the awards allows the engineering profession to showcase its achievements and highlight the importance of the engineering profession.

This year in particular the profession is facing imminent challenges. President Doug Gillott FIEAust CPEng stated that "our Governments have reacted to the global financial crisis by stimulating the economy with infrastructure projects and, hard to believe as it might seem now, we will soon be facing a shortage of engineering team professionals again. On top of this we will need to make some major structural adjustments to our energy industries as the carbon pollution reduction scheme is introduced post Copenhagen. In South Australia alone we will need to replace around 30% of our current electricity generating capacity as brown coal power stations are phased out. But we are the "can do" profession and we will rise to the challenge."

The South Australian Awards Program is comparative to the best anywhere in Australia and culminates in the presentation of the Malcolm Kinnaird Engineering Excellence Award.

The event also recognises the achievement of individual excellence with the South Australian Professional Engineer of the Year, the South Australian Engineering Officer of the Year and the South Australian Young Professional Engineer of the Year announced (see opposite page for listing of these winners).

If you would like any further information about the 2009 Engineering Excellence Awards please contact Events Manager Catherine Chamberlain via cchamberlain@engineersaustralia.org.au or 8267 7092.

We look forward to seeing you at next years event on Friday 10th September 2010.

Winners

Engineering Excellence Award

Malcolm Kinnaird Engineering Excellence Award

Project: Monash University Accident Research Centre Driving Simulator

Entrant: SYDAC Pty Ltd

Engineering Excellence Award

Malcolm Kinnaird Engineering Excellence Award

Project: Port River Expressway Stages 2 & 3

Entrant: Department for Transport, Energy & Infrastructure, Abigroup Contractors Pty Ltd, DSC SMEC, AECOM and Hardesty & Hanover International

Engineering Excellence Award

South Australia Division Award for Special Achievement in Education

Project: Concept2Creation - Taking advanced manufacturing to our next generation

Entrant: NAMIG (Northern Advanced Manufacturing Industry Group) Inc

Engineering Excellence Award

Project: Clipsal 500 Infrastructure Upgrade – Building Projects

Entrant: KBR Pty Ltd, Department for Transport, Energy and Infrastructure and South Australian Motor Sport Board

Commendation

Project: Clipsal 500 Infrastructure Upgrade – Project Management

Entrant: KBR Pty Ltd, Department for Transport, Energy and Infrastructure and South Australian Motor Sport Board

Commendation

Project: Barossa Valley Way - Seppeltsfield Road Roundabout

Entrant: Department for Transport, Energy & Infrastructure

Commendation

Project: Blue Lake Pumping Station Pontoon Relocation

Entrant: Waternish Constructions, SA Water Corporation & GHD Pty Ltd

Commendation

Project: Qatar Science & Technology Park

Entrant: Aurecon



2009 Individual Excellence Awards

2009 Professional Engineer of the Year

Andrew Fletcher FIEAust CPEng

Andrew Fletcher commenced his engineering career with Kinnaird Hill deRohan and Young in Adelaide in 1970. Over the next ten years Andrew worked for Sir Alexander Gibb and Pak Poy and Kneebone before commencing his own consulting practice, which later combined with Scott and Furphy, the first step on the way to forming CMPS and F.

Following from this Andrew has worked at Kinhill, in a number of roles, culminating in 2001 with his appointment to the dual positions of Senior Vice President – Global Infrastructure and Senior Vice President – Asia Pacific. In the period 2005-2007 Andrew was CEO and Managing Director of the Port Adelaide Maritime Corporation and since 2007 Andrew has been CEO of Defence SA, responsible for ensuring South Australia cements its position as the nation's defence state.

Andrew has also served on the Council of Flinders University, on the South Australian Economic Development Board and on the Entertainment Centre Board. Presently Andrew is a member of the Environment Protection Authority, the Defence SA Advisory Board, the Defence Systems Innovation Centre Advisory Board and is the Chairman of the Legacy 2009 Torch Appeal.



(Left to right) SA Division President Doug Gillott FIEAust CPEng, Andrew Fletcher FIEAust CPEng and National President Peter Godfrey

2009 Engineering Officer of the Year

Robert Schweiger OFIEAust

Robert commenced work in the State Transport Authority (STA) of South Australia in 1982 and left in 2001 to undertake projects within the private sector, where his knowledge and expertise was applied to larger projects.

Robert was employed as the Technical Services Manager on the South Improvement Alliance (SIA) between John Holland Pty Ltd and the Australian Rail Track Corporation (ARTC) for the upgrading of the Melbourne to Sydney Rail Corridor.

Early in his career, Robert was an active member of the South Australian Permanent Way Institution as a Committee Member and Treasurer for many years.

Robert has been an active member of the Railway Technical Society of Australasia (RTSA) since its inception in 1998. He has been Treasurer and SA Chapter Chair of the Executive Committee, the Executive Chair from 2000 to 2002 and is currently the Executive Treasurer.

Robert was a key player in the organisation of the 11th International Rail Track Conference in 1996 and the RTSA CORE 200 Conference, both of which were held in Adelaide.



(Left to right) SA Division Executive Director Caroline Argent and Robert Schweiger OFIEAust

2009 Young Professional Engineer of the Year

Michael Scott MIEAust CPEng

Michael Scott currently manages the GHD Mount Gambier Office and is Chairperson of GHD's South Australian Strategy Committee. This role includes facilitating development and implementation of GHD's state strategy, as well as driving the implementation of corporate strategy within the South Australian Operation

Michael is a Corresponding Member of the Engineers Australia Regional Committee Council, which is focused on developing strategies to assist members living and working in regional areas. Since late 2008 he has been corresponding with the South Australia Division regarding the re-establishment of a South East group, to assist with raising the profile of engineers in the local community and providing networking and knowledge sharing opportunities for regional engineers.

Michael has been accepted as a speaker in the SA Great Speakers in Schools Program, which is aimed at inspiring school students by providing speakers who talk about opportunities within their field. Michael is also a member of the Mount Gambier West Rotary Club and the Mount Gambier Chamber of Commerce.



(Left to right) Michael Scott MIEAust CPEng, GHD State Manager SA David Luscombe MIEAust CPEng and SA Division President Doug Gillott FIEAust CPEng

MAKE IT SO.

With these three words, we will show all Australians that engineering teams make things happen

National Campaign Is Launched To Improve Perception Of Engineering

Engineers Australia has recently launched its Make it so public awareness campaign which aims to increase Australian's understanding of the profession. The campaign follows findings from a study commissioned by Engineers Australia and carried out by AMR Research. This study revealed engineering is second only to medicine as the most recommended career. However, engineering is one of the least understood professions with just over a third of respondents stating they have some understanding of what engineers do.

"As a profession, we have an opportunity to bridge the gap between peoples perception of engineering and what we actually do," said Engineers Australia's Chief Executive, Peter Taylor. "The campaign will showcase engineers' role as society's agents of change by sharing stories about how engineering teams make it so."

As part of the campaign, a competition will be launched next February asking Australians to visit a web site and share their dreams, wishes and ideas. One of these ideas will then be chosen and engineered.

For more information, members can visit www.makeitso.org.au and watch a video explaining the campaign. By registering as an advocate, members can also receive updates leading up to the competition in February.

Some Ideas So Far

As part of the Make it so campaign we will be asking everyday Australians to register their dreams, wishes and ideas. This could include ideas such as:

" Make it so my pillow is always cold so I don't have to keep turning it over in Summer "

" Make it so I can bounce on the ocean as if it were a trampoline "

" MAKE IT SO WHEN I ENTER A CARPARK MY GPS WILL DIRECT ME STRAIGHT TO THE NEAREST SPOT "

" Make it so there are artificial Islands for the polar-bears in the Arctic "

" Make it so the garbage trucks don't wake us in the morning "

" Make it so that my daughter can hear with both ears "

" Make it so my couch is heated "

" Make it so I can use pollution as energy "



National President Peter Godfrey FIEAust CPEng Launching The Make It So Campaign



(Left to Right) South Australian Member and National Vice President, Education and Assessment, Bronte Strout FIEAust CPEng, and South Australian Member and Engineers Australia Congress Representative, David Cruickshanks-Boyd FIEAust EngExec, at the Make It So Launch.

GHD Develops Ecological Management Guidelines

GHD has worked closely with the Department of Environment and Heritage to develop ecological management guidelines to manage coastal grasslands and sedgelands in the lower South East of South Australia, with particular regard to improving habitat quality for the Orange-bellied Parrot, which over-winters in coastal southern South Australia.

The Orange-bellied Parrot, a small migratory grass parrot, is nationally threatened and listed as "Critically Endangered" with only 200 individuals remaining in Australia.

Recent research has highlighted the threat that shrub-encroachment and inappropriate fire regimes pose to native grasslands and grassy woodlands in temperate Australia; with the potential to markedly impact the structure, habitat heterogeneity, composition and species richness.

In the south-east of South Australia, anecdotal observations suggest that coastal grasslands/sedgelands within several coastal parks are being invaded by native shrub species. This process may have been facilitated by a reduced fire frequency in these systems, as detected in a range of other grassland or grassy woodland systems in Australia and around the world. These parks contain key winter foraging habitat for the Orange-bellied Parrot.

The aim of this project is to establish a long-term monitoring program to investigate the role of fire as a management tool to improve the habitat quality of the native grasslands and sedgelands of the South East.

Field surveys included vegetation and bird surveys across forty; 30m by 30m quadrats that represented different histories of fire intrusion. Each quadrat typically contained 40 to 50 bird species and thousands of examples of 30 to 50 different plant species. The vegetation surveys require a meticulous and methodical approach whilst the bird surveys require a trained ear, quick eye and significant patience. The field data is entered directly into electronic GIS tablets and statistically analysed using specialised taxonomic software.

Results of the field surveys were used to formulate ecological management guidelines for the habitat to benefit the Orange-bellied Parrot and other important local plant and animal species. The guidelines are centered around the use of fire as a management tool and includes recommendations on frequency of burning off and target heat loads for maximum habitat benefit. A paper on this project is to be published in the International Scientific Journal of Environmental Management.

The specialised nature of this project typifies the diversity of skills offered by GHD to their Clients.

For further information, contact Emma Moysey (GHD Environment Manager - South Australia) on 08 8111 6600 or at emma.moysey@ghd.com.

Emma Moysey
Environment Manager - South Australia
GHD

Physics Pathways Poster Launched

On 12th August 2009 National Science Week was launched in South Australia at the South Australian Museum. In attendance were the South Australia Division President Doug Gillott FIEAust CPEng and Executive Director Caroline Argent.

Running for several years now National Science Week is a chance to promote the science and mathematics subjects to Australian students nationwide and ignite an interest in these key subjects with unusual and unexpected opportunities and events.

Engineers Australia South Australia Division also took this opportunity to launch an initiative which has been championed by Past Division President Phillip Campbell FRAeS CEng FIEAust CPEng, the Physics Poster. The purpose of the poster is to provide insight for students and teachers into how the SACE Physics curriculum is relevant to outcomes in the various branches of Engineering (Electrical, Civil, Structural, Mechanical, Bio-Medical, Environmental, Chemical, Information Technology and Electronics Engineering).

For more information please contact Deputy Director Sarah Carey via scarey@engineersaustralia.org.au or call on 08 8267 1783.

The poster is titled "ENGINEERING Physics can take you there". It is divided into six main sections, each with a red header and a blue background with various images and icons:

- Motion in Two Dimensions:** Projectile Motion (Sporting equipment, Golf balls), Uniform Circular Motion (Renewable energy, Wind turbines), Gravitation & Satellites (Production coverage, GPS systems), Momentum in Two Dimensions (Crash tester design, Flexible generators).
- Electricity & Magnetism:** Electric Fields (Photovoltaic panels, Solar panels), Motion of Charged Particles in Electric Fields (Video screens, Computers & personal devices), Magnetic Fields (Underwater search, Magnetic levitation), Motion of Charged Particles in Magnetic Fields (Medical imaging, Magnetic Resonance Imaging (MRI)).
- Light & Matter:** Electromagnetic Fields (Flow meters, Water supply monitoring), Interference of Light (Stress analysis, Aircraft components), Photons (Lasers, High speed projects), Wave Behaviour of Particles (Construction products in active forms, Jet engines).
- Atoms & Nuclei:** Structure of the Atom (Material engineering, Nanotechnology, Nanoscience), Structure of the Nucleus (Nuclear power plants, Electricity generation), Radioactivity (General systems, Smoke detectors), Nuclear Fusion (Radioisotopes, Linear accelerators).

At the bottom, there is an "Engineering Key" with icons for Environmental, Chemical, Civil, and Electrical engineering, and a section titled "About this poster" with a QR code and contact information.

Government Grant Helps South Australian Company Develop Green Technology

Airspeed is one of 71 businesses to receive funding from the Australian Government under the Climate Ready program.

The company specialises in ways to use composite materials for aerospace, military and energy-related projects.

Steve Barlow, Airspeed's Director, said the Climate Ready grant would help the company adapt an advanced technology to the transport industry.

"This advanced technology was originally developed for military programs, and we're adapting it to designing and manufacturing lightweight compressed natural gas and hydrogen cylinders for the transport industry," Steve said.

"The cylinders we are designing and certifying are on track to be possibly the lightest in the world.

"The tanks are lighter, and will be filled with cleaner fuels – compressed natural gas and hydrogen," he said.

"So, with lighter tanks, a cleaner-burning fuel and abundant reserves of natural gas, Australia has this great opportunity to reduce both our greenhouse gas emissions and our dependence on imported oil.

"Natural gas is a cleaner burning fuel, generating less greenhouse gases for a given amount of energy and is widely regarded as the technological stepping stone to hydrogen-based transport applications.

"The largest single issue preventing the widespread use of compressed natural gas is the weight of the cylinders needed to store the high pressure gas," Steve said.

Airspeed operates from a purpose-built composites facility at Mawson Lakes Technology Park in South Australia.

The facility is home to a four-axis filament winding machine for manufacturing pressure vessels and advanced composite structures.

Steve said that figures from the Australian Bureau of Statistics and Senate committees showed how much natural gas Australia exports each year.

"Each year, Australia exports a quantity of natural gas containing more energy than 100 million barrels of oil with more than 100 years of proven reserves at this production rate," he said.

Climate Ready is one of the Australian Government's new programs under the \$240 million Clean Business Australia initiative.

Clean Business Australia will support a range of activities aimed at improving energy and water efficiency and increasing sustainability, with a focus on productivity and innovation.

Clean Business Australia is being delivered by AusIndustry, the Australian Government's principal business program delivery division in the Department of Innovation, Industry, Science and Research.

Visit www.ausindustry.gov.au, call 13 28 46 or email hotline@ausindustry.gov.au for more information.

For more information about Airspeed, email admin@airspeed.com.au

AusIndustry



An Australian Government Initiative



Aurecon Bridge Building Competition

How much load can a bridge carry? Young students tested their skills & engineering expertise to find out.

Westminster won the \$1,000 first prize in the 2nd South Australian Aurecon Bridge Building Competition judged at the Art gallery of South Australia on the 4th August 2009. Nazareth Catholic School came in 2nd, winning the \$500 prize sponsored by Engineers Australia, and a team from Underdale High School came in 3rd, winning \$350.



The bridge, made by students Ben Maltby, Matthew Podgorski and Tim Nateska, was able to withstand the most weight – a very impressive 50kg – when tested to breaking point.

In total the challenge was taken up by 114 Year 8 and

9 students around South Australia. Each bridge was built using the raw materials supplied by Aurecon – balsa wood, string, and glue.

Judges from the Department of Transport, Energy and Infrastructure and Aurecon awarded points for bridge strength, aesthetics and skills.

"The next generation of engineers will provide the solutions required to meet the global sustainability challenge," said Brad Moyes, Aurecon Transport Development Manager. "More than ever before engineering offers exciting and rewarding career opportunities for school students with an interest in practical problem solving, maths, science and computers."

This competition, held during Australian Engineering Week, is a great way of giving budding engineers the chance to learn a bit about the industry in a way that is both educational and fun.

For further details, please contact: Anna Kelly, Aurecon Marketing Advisor, South Australia via 0412 264 598 or 0412 264 598.

2009 SA Science and Engineering Super Challenge

The Science & Engineering Challenge is a fun competition that encourages year 9 & 10 students to use their minds in a team environment to solve practical science, maths and engineering problems. Activities include bridge, catapult and hovercraft building, power system simulation, water reticulation and information coding.



On 6th and 7th August 2009 the top 16 school teams in South Australia competed in the SA Super Challenge for places in the national Grand Challenge. The Grand Challenge will be held in Bendigo on the 21 and 22 October 2009.

We are pleased to advise that Temple Christian College won the Cup and Faith Lutheran College won the Plate.

The Challenge is a joint project conducted by Engineers Australia, Rotary and the University of Newcastle, aimed at inspiring young people to consider a career in the sciences, engineering or other technology related areas. The Challenge represents a unique opportunity for young people in our community. The hands on competitive nature of the Challenge allow students to experience the creative side of science and engineering in a fun atmosphere.

We would like to acknowledge the valuable time and effort dedicated to the challenge by our volunteers. Without the support of these volunteers the Science and Engineering Challenge would not take place.

Congratulations to both Temple Christian College and Faith Lutheran College on their outstanding achievements.



ENGINEERS
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THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

Vale - Gordon Helliwell MIEAust CPEng

06/02/1931 – 17/05/2009

Gordon Helliwell will be remembered as a true "English Gentleman" and an inspirational engineer respected by all who worked with him.

Gordon was educated at Hebden Bridge Grammar School and Durham University where he excelled in sport, leading to his selection to play County Cricket for Yorkshire as a fast bowler. Interestingly Gordon was born on the same day as Freddy Trueman who he knew well and with whom he shared similar cricketing talent. From all reports his National Service consisted largely of bowling for the RAF cricket team, including a game against the West Indies at Lords.

Gordon's lifelong passion for technology came to the fore during his university days and he and a colleague built a racing car that they raced at Silverstone. Giving up the dangerous sport of car racing was a condition of his marriage to June in 1956.

In 1959 the Ministry of Defence (MoD) sent Gordon to the Weapons Research Establishment (WRE) for what was to be a 3-year posting for the Helliwells. They stayed. At WRE Gordon first made his mark in the mechanical workshops. His intelligent and insightful leadership inspired all levels of the workshop team, as he led the introduction of new technology and management approaches. By the early 1970s Gordon was at the leading edge of the new field of numerically controlled machines. He could see the potential for computing technology to revolutionise manufacturing so clearly that management agreed to set up

the "Computer Aided Processes" group to realise this vision. His group achieved several firsts and became well known as a leader in Computer Aided Design and Manufacture. In the 1970s the group developed what was probably Australia's first computer controlled lathe. They also demonstrated Computer Integrated Manufacturing and introduced computerised tools for printed circuit design and manufacture. There was even involvement into innovative supercomputer development.

By the late 1980s WRE had evolved into the Defence Science and Technology Organisation (DSTO), and priorities changed away from engineering and manufacturing, spelling the end of that phase of Gordon's career. He left DSTO but continued to develop technology, helping establish local firms working in the CAD field and even branching into robotic sheep shearing. Never one for half measures, he learned to fly so that he could more quickly get to the farms collaborating on the shearing and other projects.

Gordon continued to play top class golf to the end, which typified his drive to do things better that so inspired the generation of engineers and technologists who had the good fortune to work for him.

Greg Marsh FIEAust CPEng

2009 Australian Engineering Week

Australian Engineering Week is a public awareness and education campaign that aims to highlight the role and achievements of the engineering profession in Australia, and to promote engineering as the career of choice. Working towards these aims will benefit the entire engineering profession.

Engineers influence all aspects of our lives - they are the people in the team that make it happen. Australian Engineering Week provides an opportunity for the community to see just how important engineers are to us all. The engineering team is well educated, bringing intelligence and vision to bear, to create products and environments for people.

The 2009 Australian Engineering Week was held 3rd – 7th August 2009. Members, students and the general community were invited to participate and see how engineers have improved our quality of life.

This year the South Australia Division, with the help of our supporters, held over 10 events with over 300 registrations. The national branding provided a great link between the Divisions across Australia for the week. Some of the events held during the week were:

- Amazon Waterlily Pavilion site tour
- Goyder Pavilion site tour
- SA Water House site tour
- Glenelg Wastewater Treatment Plant site tour
- Members only Redarc site tour
- Members only ASC Pty Ltd site tour



SA Water House Interior



The Duncan Gallery links the Jubilee hall and the Goyder Pavilion

- BBQ and Careers Presentation at the University of Adelaide.

On Tuesday 4th August 2009 the annual Engineering Careers Information Night was held. This is a night aimed at promoting the opportunities available in the wide range of engineering disciplines to high school students and other interested parties.

Over 100 registrations were received for the careers seminar where 8 Young Engineers spoke about their career as an engineer. There were also presentations from the University of Adelaide, University of South Australia and Flinders University. The universities provided information about their programs and the future of their campuses.

Some of the speakers included lesser known areas of engineering, such as BioChemical, Telecommunications and Management. We would like to thank all the speakers who volunteered their precious time for this event.

If you would like more information about attending the 2010 Australian Engineering Week or would like to discuss your organisation being included as a site tour please contact Catherine Chamberlain Events Manager via cchamberlain@engineersaustralia.org.au or call 08 8267 7092.

If you would like to volunteer to speak at the 2010 Engineering Careers Information Night or other Engineers Australia South Australia Division speaking opportunities please contact Nathan Jones Membership Officer via njones@engineersaustralia.org.au or call on 08 8267 7070.

Volunteer Opportunity For Engineers

As part of a future SACE innovation project several schools are looking at raising students awareness of engineering and engineering careers. Science and mathematics faculties will be provided with additional funding to explore, plan and trial some innovative ways that teach students about the diversity of careers in, and applications of engineering.

Organisers are looking for engineers wanting to promote the engineering profession. The time commitment will be minimal, and flexible depending on the workload of the engineer and on the type of expertise they are willing to contribute to the project. Project funding may cover costs incurred to the engineer in taking part in this project.

Initially there will be positions available for up to 15 engineers (in total) from various groups (Civil, Electronic, Electrical, Mechanical etc) who can be involved in a speed-date type exchange with a group of 15 year 10 students. The current

format sees each engineer and student gets together for up to 2 minutes maximum. During which the engineer will be giving the student an understanding of their particular area of engineering. Engineers and students then change partners, and talk for 2 minutes again. At the end of the exercise, students will have a wide exposure to many engineering disciplines. Over the next few days the students decide which areas of engineering they are most interested in pursuing. In groups of 3 to 5, students will then engage in a mini-research project to find out more about their chosen field of engineering. The mini-project will mirror the new year 12 research project required as part of the new SACE.

If you would like to participate please contact Mark Ward of the Flinders Centre for Science Education in the 21st Century on:
P: 8201 2316 M: 0458 112358 F: 8201 3618
E: mark.ward@flinders.edu.au
Web: <http://www.flinders.edu.au/science21/>

Membership Profile

Robert Schweiger OFIEAust

Robert Schweiger is the 2009 South Australian Engineering Officer of the Year. More information about Rob can be found on page 5 of this month's newsletter.

Why did you decide to become an engineering officer?

I entered the engineering profession after having worked in various roles in the building and manufacturing areas. I saw the role that Engineers played in design and construction works and decided I wanted to gain the knowledge and experience required to enable me to have a part in making things happen.

What project are you working on now?

I now work for OneSteel as "Product Manager Steel Sleepers". The main purpose of the role is to grow and secure the long-term viability of the Steel Sleeper business.

In this role I am responsible for the operational activities of the business, with particular emphasis on product development, contract administration, tender negotiation, budgeting and forecasting.

What do you like the most about the engineering profession?

Engineers can find ways to make things happen and, in the process, create a better place for us all.

What do you see as one of the biggest issues facing the engineering profession?

I believe that the lack of training and mentoring of young people in the engineering team will continue to be a major issue and needs to be addressed urgently.

Who has provided you with the greatest amount of inspiration in your career?

I think my time with the John Holland Rail Division provided me with the inspiration that I could be and do whatever I set my mind to. Working on several large projects provided me the opportunity to really experience how an engineering team can effectively work together to produce a quality outcome whilst overcoming

many obstacles and hurdles along the way.

The greatest engineering achievement is... because

... I think that the engineered combination of steel embedded in concrete is a great achievement because it has enabled the engineers' imagination to be fuelled, resulting in the construction of many amazing modern structures.

What are your hobbies?

I enjoy travelling on holidays to new and exciting locations. During my spare time I like to spend time with family and friends.

If you knew you could try anything and not fail (and money was no object), what dream would you attempt?

Bring water from the tropics down into the Murray-Darling Basin.

If you could live anywhere in the world for a year, where would it be?

I would like to live in Austria (the land without kangaroos) for a year to experience the culture and surroundings in the land from where my parents are from.

What is your motto?

Lets give it a go.

Who would you most like to meet?

Richard Branson.



Robert Schweiger OFIEAust

CELM LDS Session 5 - Customer Focus

To ensure the success of the South Australian engineering profession into the future, engineering in South Australia needs a diverse cadre of leaders who are adaptable and able to inspire, motivate and guide others to produce tangible results. These leaders will mentor and challenge the workforce and demonstrate high standards of honesty, integrity, trust, openness and respect.

The Centre for Engineering Leadership and Management South Australia Chapter (CELM SA) Leadership Development Series (LDS) is a key development planning tool aimed at creating the next generation of leaders and managers within the engineering profession.

Participation in the LDS is open to experienced engineering practitioners employed in all fields, types and sizes of enterprise. Work-based training and assuming responsibility in appropriate roles is recommended to complement participation in the LDS, as part of each participant's ongoing career development.

The guest speaker for Session 5 will be Tom Phillips, with panel members including the Hon Trish White BE BA FIEAust MP and Jason Kuchel, Chief Executive of SACOME.

Tom Phillips' distinguished career in the Australian automotive

industry includes senior executive roles with Mitsubishi and Toyota. He was Chief Executive Officer of Mitsubishi Motors Australia Ltd for five years from June 2000. Tom Phillips is respected locally and internationally as a business leader with a long-standing record in workforce development. He was recognised by his peers with the award of Businessman of the Year in 2002.

Participants wishing to enrol in Session 5 should contact Catherine Chamberlain Events Manager via cchamberlain@engineersaustralia.org.au or 08 8267 7092.



Mr Tom Phillips



**ENGINEERS
AUSTRALIA**

Centre for Engineering
Leadership and Management

Your Professional Development

September-November 2009. Unless published otherwise all presentations are scheduled for Engineering House, 11 Bagot Street, North Adelaide. Event details are subject to change. Please check our website prior to event for current information.

Date	Time	Host	Event	Contact	Email
Wednesday 30th September 2009	5.30pm	Young Engineers Australia	Humanitarian Overseas Work For Engineers	Norma Cowan	ncowan@engineersaustralia.org.au
Tuesday 20th October 2009	5.30pm	EESA	Adelaide's Desalination Plant	Norma Cowan	ncowan@engineersaustralia.org.au
Tuesday 20th October 2009	5.30pm	Engineers Australia	Chartered Status Workshop	Norma Cowan	ncowan@engineersaustralia.org.au
Tuesday 27th October 2009	5.30pm	JTP Electrical	Student Papers Night	Norma Cowan	ncowan@engineersaustralia.org.au
Wednesday 28th October 2009	7.15am	Engineers Australia	Breakfast Briefing - The future of the River Murray and Water in South Australia Venue: Hyatt Regency, North Terrace, Adelaide	Catherine Chamberlain	cchamberlain@engineersaustralia.org.au
Thursday 29th October 2009	5.30pm	IMarEST	Technical Presentation	Norma Cowan	ncowan@engineersaustralia.org.au
Tuesday 17th November 2009	5.30pm	JTP Electrical	Challenges in Computational Electromagnetics: Virtual Prototyping on your Laptop	Norma Cowan	ncowan@engineersaustralia.org.au
Thursday 19th November 2009	6.00pm	Engineers Australia	AGM and Christmas Networking Night Venue: The Gallery, National Wine Centre, Corner of Botanic and Hackney Roads, Adelaide	Sarah Carey	scarey@engineersaustralia.org.au
Wednesday 25th November 2009	5.30pm	Engineers Australia	Chartered Status Workshop	Norma Cowan	ncowan@engineersaustralia.org.au

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Chartered Status Workshops

A FREE seminar will be held for Members and Non Members interested in submitting an application for Chartered Status on 20th October 2009, 5.30pm at Engineering House, 11 Bagot Street, North Adelaide.

Our National Assessor, Ewan Hazeldine will be conducting a Chartered Workshop featuring invaluable information regarding Engineers Australia, Chartered Status accreditation and tips on writing Career Episode Reports (CERs) and putting together your Chartered Status application.

Registration is essential. Please contact Norma Cowan on 08 8267 1783 or ncowan@engineersaustralia.org.au to register your attendance.



ENGINEERS AUSTRALIA

Articles Welcome

Do you have feedback about the Engineering South Australia newsletter or an article you would like included? We would love to hear from you!

Feedback and articles can be submitted to Nathan Jones Membership Officer via:

njones@engineersaustralia.org.au or by phoning 08 8267 7070

2009 Annual General Meeting (AGM)

Engineers Australia South Australia Division will hold its AGM on Thursday 19th November 2009 at The Gallery, National Wine Centre, Corner of Botanic and Hackney Roads, Adelaide.

For further information please contact Deputy Director, Sarah Carey, via scarey@engineersaustralia.org.au or by calling on 08 8267 7050.