

Welcome

November almost brings us to the end of 2012 and what a year it has been. One of the biggest gatherings of alumni of Electrical Engineering occurred in June with a speech from the CEO of the NBN. In addition to this, 22 UNSW engineers featured in the Engineers Australia Top 100 Most Influential Engineers, with 5 alumni from Electrical Engineering.

2012 has also seen a continuation of the highly successful Alumni Reconnect program which aims connect alumni with students to help them transition into working life.

Throughout 2012 the Alumni Committee has continued to grow the Student Support fund which in the coming years will provide scholarships to students experiencing hardship.

Thank you for your support this year and we wish you a happy and safe festive season and look forward to seeing you in 2013.

Best wishes,

The 2012EE&T Alumni Committee

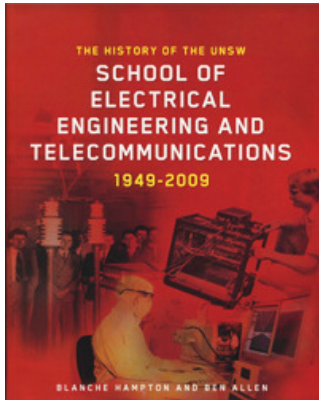
Alumni Connect Night – Mike Quigley



On Friday 29th June, NBNCeO CEO Mike Quigley visited UNSW to talk to alumni about some of the engineering behind the largest infrastructure project in Australia's history. Being an alumnus of UNSW EE&T himself, he was more than happy to avoid political and business rhetoric and get straight down to the details. He spoke about some of the issues being covered in the media like the debate over fibre vs wireless (spoiler alert: fibre wins!) and the technocratic nature of the 5-year roll out plan, before moving on to the technology being used to build the network. He then took questions from the crowd, before generously staying for nearly an hour chatting to alumni after the event. With light refreshments and drinks provided by the school, a great night was had by all of the more than 100 alumni in attendance.

A more detailed write-up, including a link to a video of the presentation, can be found at <http://www.eet.unsw.edu.au/alumni/EETConnectNight/MikeQuigley>

School of EE&T History Book



In case you weren't aware 2009 marked the 60th anniversary of the School of EE&T, - that's 60 years worth of EE&T alumni and history! To mark the occasion the school commissioned a history book to be written and published.

The book not only tracks the School's development from a 15 student cohort in 1949, but also gives stories and pictures from each decade that the School has been established. In addition to this, the parallel development of the field of Electrical Engineering is tracked alongside the School's development.

The book can be purchased online via <http://www.eet.unsw.edu.au/HistoryBook>. 100% of proceeds will go to the EE&T Student Support Fund for Improved Student Learning, managed by the Alumni Committee.

Alumni Reconnect

Graduate Application Workshop

The first Alumni Reconnect event in 2012 was the graduate application workshop. Two alumni were present to assist the students in developing their resumes and giving tips on how to prepare for interviews.

The highly interactive workshop was well received by all students who attended. The take-home message from the workshop was that confidence and research are key for a successful application.



Alumni Committee

The Alumni Committee is run by alumni, for alumni and current students, and its aims are to: bring alumni together, connect alumni with students, oversee the Alumni Foundation Fund, and host the Alumni Awards (from 2012). [Suggestions](#) for the committee, or new members¹ for 2013 are most welcome.

Upcoming Events

Alumni Connect – “Cochlear Innovation – Keeping Ahead of the Game”



Cochlear Limited has been delivering almost three decades of implant innovation to over 250,000 people around the world. Cochlear has built an impressive reputation on the back of the innovation of high quality products that help implant recipients interact more fully with their world.

Dr Bronwyn Evans is Senior Vice President of Quality, Clinical and Regulation at Cochlear Limited. Previously she was with GE Healthcare most recently as the Asia Service Manager, Ultrasound based in Singapore. She holds a number of positions in industry and professional groups; these include being an independent nonexecutive director of John Holland Limited, the Chair of the Advisory Board for Robogals, the Chair of the Medical Technology Association of Australia Board.

In 2007 Bronwyn was recognised as one of Australia's 25 Most Influential Women Engineers by Engineers Australia. Bronwyn has had an interesting career pathway to her current role at

¹Meetings are held only 4-5 times per year, in the evening, and are catered.

Cochlear Limited and has faced many challenges along the way. She is a role model to all aspiring young female engineers.

Details are:

Friday 16 November 2012, 6.00pm onwards
Rex Vowels Theatre (EE LG1)
Electrical Engineering Building, UNSW Kensington

[RSVP here](#)

Food and drinks will be provided, all are welcome.

School of EE&T News in Brief

2012 has been a very successful year for the School. We have seen the results of having world class academics and researchers based at the School. EE&T made a huge scientific breakthrough in creating the first working quantum bit based on a single atom in silicon, which opens up the paths to creating ultra-powerful computers in the future. This research was led by Professor Andrew Dzurak, Associate Professor Andrea Morello and EE&T PhD student JarrydPla. Media events around this breakthrough are ongoing and this research has been acknowledged with a landmark paper published in Nature magazine.

The School has been building industry partnerships and we reshuffled our Industry Advisory Board after the initial board served a 3 year term. Two additional members have been added to the new Board: Ms. Jacqueline Lyons, Principal of Sydney Technical High School and Ms. Maryam KhajehTaberi, who was the 2011 President of Engineers Australia, Sydney Division. The addition of these two members has increased the diversity of the board – the Board now comprises 10 industry representatives, 2 high school principals and 1 Engineers Australia representative.

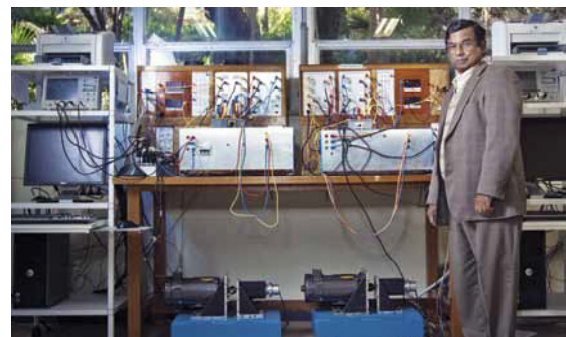
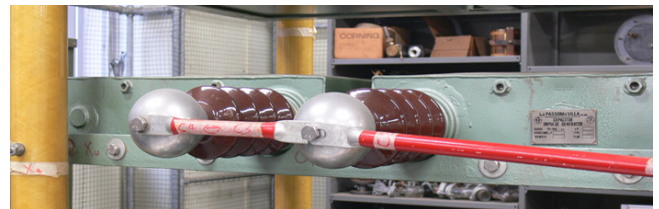
The School has secured \$152K in competitive external funding from the Australian Power Institute. The Australian Energy Research Institute has secured \$19M for the Solar Flagship Research Infrastructure Project to build large solar photovoltaic farms in NSW, and this project is being led by Professor Vassilios Agelidis.

EE&T ran Year 10 and Year 11 high school workshops in September to provide opportunities for prospective students to learn more about engineering. This year's workshops had 23 high school participating also included a site visit to Cochlear Ltd and both workshops were sponsored by NICTA. A paper entitled "Taste of Electrical Engineering Workshops for High School Students" by Dr. Jayashri Ravishankar et al. on how these workshops have been run in the past 3 years and their success rate, was accepted for publication in the IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE) 2012. EE&T's paper received the Best Paper Award at this conference, which is an excellent recognition of the School's innovation in engaging high school students and increasing the prospective student enrolments.

We are looking forward to 2013 and hope that alumni will continue to engage with the School – we certainly value your input and ideas to help grow the school and the future of the engineering industry.

Best regards,

Prof. Eliathamby Ambikairajah (Head of School)



Industry Update



I was given the task of writing up an article about some new emerging technologies to include in this newsletter. At first I was overwhelmed with the amount of new ideas out there on the internet

from screenless displays to supersonic transport. I concentrated my thoughts on trying to find a local product which had demonstrated practicality and potential to succeed in today's market. Working at Ausgrid, an electricity distributor in NSW, I came across what is known as the BlueGen unit whilst working on the Smart Home Project. The BlueGen unit is a small-scale generation unit (about the size of a washing machine) which generates electricity from natural gas utilising fuel cell technology with an efficiency of 60%. The heat produced can also be utilised for applications such as hot water heating bringing up its total efficiency to up to 85%. The BlueGen delivers approximately 13,000 kilowatt- hours of electricity per year (0.5 to 1.5 kilo watts of peak power output) and can run 24 hours a day.

By utilising natural gas, the BlueGen unit produces lower carbon emissions in comparison with the conventional coal power generation. The BlueGen unit is produced by Ceramic Fuel Cells, a CSIRO-originated, Melbourne-based company. As well as the successful Ausgrid Smart Home trial, there has been recent approval from the Victorian Government to extend the feed-in tariffs originally for solar and wind generation technologies to small scale low emission generators such as those utilising fuel cell technology from 1 January 2013. This in my opinion will no doubt encourage more investment into low-emission electricity generation alternatives that will see the BlueGen unit take off.

To find out more about the BlueGen unit please visit the company's webpage:

www.cfcl.com.au/bluegen/

Cochlear's New Waterproof Sound Processor

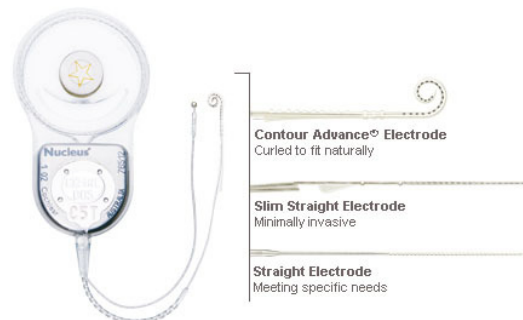
The upcoming November Alumni Connect lecture will be given by Bronwyn Evans who is the Senior Vice President of quality and regulatory at Cochlear Ltd. I thought it might be a good idea to bring to your attention Cochlear's new waterproof sound processor to be launched this coming summer in Australia. The new device will allow users to wear the sound processor in the ocean, lakes, rivers, bath, sand and much more without compromising hearing performance. For more information refer to

Cochlear Ltd webpage below or come to our next Alumni Connect lecture.

<http://www.cochlear.com/wps/wcm/connect/au/home/discover/cochlear-implants/water-proof-option>

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EE&T Alumni Committee



Stay Connected

Not receiving invitations for alumni events? Be sure to update your details [here](#).

Can't attend events where you live and work now? [Email us](#) and let us know what you're doing. Let us know if there is anything you want to share with your fellow EE&T Alumni.