From the Chairman

Dear Colleagues,

Please pencil into your calendar Monday 8 October 2012 for this year’s 11th IEEE South Australia Section Distinguished Lecture and Dinner at Adelaide Convention Centre. The lecture will be delivered by: Laureate Professor Rob Evans on:

Consumer RADAR—a new frontier

Abstract

Recent advances in micro-electronics technology have opened-up the possibility of building very low cost and very small single chip radar systems which when combined with sophisticated waveforms, signal processing and adaptive antenna technology achieve surprisingly good performance. Measuring just a few cubic centimetres and costing a few tens of dollars these new radar systems hold the key to a whole host of new applications in areas such as transport, UAV’s, security etc. This talk will overview the critical role played by certain technological advances over the past 60 years and how these have impacted radar systems design leading to the emerging frontier of consumer radar.

Biography

Professor Evans is the Director of the Victorian Research Laboratory of National ICT Australia. He was Head of the Department of Electrical and Electronic Engineering from 1992-1996. He has worked extensively with industry in Australia and overseas over the past 40 years and has been heavily involved with the development of a number of products for industry. These include radar systems for defence, the development of variable speed AC drives and the development of star and satellite servo tracking systems for large antennae now installed in many countries. Professor Evans’ research has ranged across many areas including theory and applications in industrial control, radar systems, signal processing and telecommunications. He has published around 500 research papers.

Details of the Distinguished Lecture Dinner arrangements with registration form will be published later in separate E-notice

WIE IEEE SA

Congratulation to WIE Affinity Group chair, Dr Pina Dall'Armi-Stoks for securing funding from IEEE R10 Women In Engineering funds to support their Signal and Image Processing, and Wireless Communication and Computer Network Presentations

Well done.

ELECTIONS

As you know the IEEE elections are fast approaching, and for the first time in the history of IEEE, the Board of Directors has nominated two candidates outside USA for 2013 IEEE president-elect: IEEE Fellows J. Roberto Boisson de Marca and Tariq S. Durrani, leading to the IEEE President in 2014

Note the ballot papers will be issued on August 15.
Some information on both candidates is included below and further details are available at: http://www.robertodemarca.org/ and www.tariqdurrani.org

Candidate for 2013 IEEE President Elect

J. ROBERTO B. DE MARCA
(Nominated by IEEE Board of Directors)

Professor
Pontifical Catholic University
Rio de Janeiro, Brazil
www.robertodemarca.org

Experience and global leadership to steer IEEE into the next decade.

Bio - Roberto was a Fulbright Scholar at the University of Southern California, where he earned a Ph.D. in Electrical Engineering. Since 1978 he has been on the faculty of the Catholic University, Rio de Janeiro, having held several leadership positions including Associate Academic Vice President. Throughout his career Roberto built an extensive international experience enjoying appointments in universities and industrial laboratories in different countries. Twice on leave he served as Scientific Consultant with AT&T Bell Laboratories, Murray Hill. In 2008 he was a Visiting Professor with the Hong Kong University of Science and Technology and later in the year he held a Guest Scientist appointment with NEC Network Research Laboratories in Heidelberg, Germany.

As Scientific Director of the Brazilian National Research Council, managing a 300 million dollar research funding program, Dr. de Marca authorized the startup money for the national research network that led the way to the widespread use of Internet in Brazil. He was a delegate to several ITU meetings where the wireless 3G specifications were developed. Recently, he served three years as a member of the presidential advisory committee of Finep, the largest Brazilian funding agency/bank for research and innovation.

Dr. de Marca was the founding President of the Brazilian Telecommunications Society. He is an IEEE Fellow and a full member of both the Brazilian National Academy of Sciences and the National Academy of Engineering. He is listed in the 2007-2011 editions of Who’s Who in Science and Technology.

Position Statement

IEEE has multiple strengths that will help it move successfully towards the future. One of the strengths is its abundant corps of geographically distributed high caliber volunteers. A second strength is the powerful brand, which rests significantly on the high quality of its products and services. A third strength is a large and diverse membership base with a broad and growing worldwide reach. I will leverage these IEEE’s strengths and assets and apply my leadership skills to lead IEEE into the next decades. My focus as IEEE President will be to:

Practicing engineers by working with industry leaders to identify and launch new IEEE products and services that benefit their employees. Support initiatives to develop economical continuing education products including those tailored to particular corporations and to geographical areas.

Guarantee that IEEE will continue to have a leadership role in fostering new technologies and global innovation

Accelerate IEEE’s globalization towards a truly transnational IEEE, ensuring greater worldwide opportunities and participation of members and volunteers, and provide more regionally focused products and services across the globe

Enhance the quality of IEEE’s products and membership services by making greater use of Internet and social media platforms.

2013 IEEE President-Elect Candidate
Address young professional’s needs: creating continuing education/ training opportunities to facilitate career progress; facilitating access to leadership positions in IEEE; and establishing mechanisms for information access at reasonable costs.

Develop a comprehensive long-term strategy to increase the number of youth who pursue science and engineering careers.

Reward long-term membership and volunteerism and increase support for student technical activities.

Promote an environment in which volunteers find enjoyment and enrichment in their activity.

Promote business models that enhance membership and financial success across IEEE units.

Selected Volunteer Accomplishments:

- Under my leadership as Chair of the IEEE Future Directions Committee, IEEE started successful initiatives in Cloud Computing, Smart Grid and Transportation Electrification. It also started two new conference series, IEEE Technology Time Machine and Smart Grid World Forum, aimed at industry and that has attracted participation of a large number of corporate leaders.

- As IEEE VP – Technical Activities: strengthened relations with other IEEE organizations to address Society membership decrease and development of joint services; established an industry leaders committee to improve the quality of our products for practitioners; launched development of IEEE’s technology roadmap; stimulated creation of an RFID Technical Committee and triggered changes in the Society/Council performance review process.

- During my term as President, the IEEE Communications Society achieved its highest membership; partnered with other organizations to offer new conferences, publications and services in key technologies such as Internet, optical networking and wireless communications; added new web-based services; launched the first Global Chapter Chair Congress; had a five-fold increase in Distinguished Lecturer Tours and had a record revenue year.

- Chaired the award winning IEEE Humanitarian Technology Challenge through its conception years, when the highly praised data connectivity for remote health locations project and the reliable energy solution that is being adopted by the Haiti government were started.

- As a ComSoc volunteer I led teams that successfully changed the structure of ComSoc flagship conferences and added focus to the long term planning of their technical programs. I led the development of IEEE WCNC to become the premier ComSoc Wireless conference. I was General Chair of 3 IEEE major conferences and recently was co-General Chair of the first ever on-line ComSoc conference, IEEE GreenCom. Early on in my volunteer career I was the proponent of the creation of the very successful and long lasting Student Travel Grant program.


Key IEEE Offices and Activities:

- IEEE Vice President, Technical Activities (2008)
- President, IEEE Communications Society (2000 – 2001)
- IEEE Secretary (2006)
- IEEE Division III Director (2004-2005)
- Member, MGA Board (2010 – 2011)
- Member, IEEE Standards Board (2005)
- Chair, IEEE Future Directions Committee (2009-2010, 2012)
- Member, IEEE Spectrum Editorial Board (2011-2012)
- Member, IEEE Publications and Services Board Strategic Planning Comm. (2008)
- Chair, Humanitarian Technology Challenge Steering Comm. (2008-10)
- Chair, IEEE Audit Committee (2005)
- Executive Chair, IEEE Technology Time Machine Symposium (2011)
* Additional translation of the TrenchEngineering.org website into eight languages now, ensuring its lead as the IEEE flagship site for educational information.

**Standards Education**

Working with the IEEE Standards Association to promote recognition of the value of embedding Standards education in university courses. Supported joint workshops.

**IEEE Society President and Member of TAB, IEEE Region 8, Awards Board**


As Chair, TAB Periodicals Council (1996-1997), established the TAB Periodicals Review Committee, and was Founding Chair (1998-1999), (now TAB Periodicals Review and Advisory Committee - PRAC), which has oversight responsibility for improving the quality and timeliness of all IEEE Journals and Transactions.


As Vice Chair, Technical Activities for Region 8 (2003-2004), introduced the Section Review Program to assess IEEE Sections in terms of member services, local activities, financial reporting and self evaluation; stimulated links with industry, Chaired Region 8 Conference Committee, to improve quality and effectiveness of regional conferences.

As a Member of IEEE Awards Board (2006-2008), worked with the Royal Society of Edinburgh (RSE), Scotland’s National Academy of Sciences and Letters, obtained funding from Wiltshire Microelectronics to establish the joint RSE/IEEE James Clerk Maxwell Medal (2006).


As Communications Society Regional Director for Europe, Middle East and Africa (EMEA) (2009-2011), established IEEE ComSoc Young Researcher Award for EMEA (2010) to recognise outstanding, talented young members in the Region. Assisted in establishing seven new Chapters; Distinguished Lecturer Tours; Organised Regional Conference of (ComSoc) Chapter Chairs (RCCC-2009) in Dresden. Introduced the Meritorious Service Award for members in the Region for 2012 onwards.

**DIRECTORSHIPS**

Have worked closely with Industry and Government at the highest levels. This has provided me with strategic leadership experience, and invaluable management background. My Directorships include:

1986-2004 Scottish Electronics Technology Group, a consortium of CEOs: leading academics established to promote electronics industry development in Scotland.

1999-2010 UK Institute for System Level Integration, a multi-university R&D facility to support industry in System-on-Chip Design.

2001-2005 Scottish Institute for Enterprise - to promote entrepreneurship and spin-outs from Scottish universities.

2003-2013 Glasgow Chamber of Commerce, the world’s oldest continually working Chamber. Role to support and guide Small-to-Medium size Enterprises.


2005-2009 Council (Board) Member, Scottish Funding Council.

2009-2013 UK Equality Challenge Unit, promoting equality of opportunity in UK universities, providing guidance and direction.

2011-2014 UK National Commission for UNESCO to promote UNESCO objectives and UN development goals in the area of science and engineering.

**TARIQ S DURRANI**

2013 IEEE President-Elect Candidate

Research Professor
Dept of Electronic and Electrical Engineering
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TARIQ S DURRANI

Biography
Department of Electronic and Electrical Engineering
University of Strathclyde
Glasgow G1 1XW
Scotland, UK

Tariq Durrani is Research Professor in Electronic and Electrical Engineering at Strathclyde. He was University Deputy Principal (2000-2006), with major responsibilities for University strategic developments in Computing/Information Technology Infrastructure, Entrepreneurship, Staff Development and Lifelong Learning. He joined Strathclyde as a lecturer in 1976, Professor in 1992, Department Head (1995-1994) of one of the largest UK EE Departments. He has been Chair, Institute for Communications and Signal Processing (2006-2007), and Head Centre of excellence in Signal and Image Processing (2008-2009).

He has been Vice President (Natural Sciences) Royal Society of Edinburgh (2007-10) - the National Academy of Scotland; Council (Board) Member, Scottish Funding Council - distributes £3.6 Billion equivalent funding annually to universities and colleges. He was the Director of the Government DTI Centre for Parallel Signal Processing (1999-1991) and the UK Research Council/DTI Scottish Transputer Centre (1991-1995).

He has worked closely with industry and he holds several Directorships (see later).

Research Interests

Consultant to Governments in UK, US, Portugal, The Netherlands, European Commission, and several companies. Managed over sixty projects in last 25 years.

Visiting/External Appointments
Princeton, University of Southern California, Chinese University of Hong Kong, Khalifa University, Sharjah (United Arab Emirates), and UESTC, Chengdu (China).

Recognition and Awards
2003 Order of the British Empire (CBE), honor awarded by Queen Elizabeth II “for services to electronics research and higher education”
2001 IEEE Third Millennium Medal
2000 IEEE Signal Processing Society Meritorious Service Award
1999 GC2 Leadership and Diversity, “Asian Man of the Year” (in UK) Award
1974 IEEE Aerospace and Electronic Systems M Barry Carlton Honorable Mention Award

Position Statement

I envisage the role of IEEE President as working tirelessly in support of members and organizational units - the Societies, Sections, Chapters, to bring to fruition a future for the IEEE that represents growth and success, professional and technological leadership, and continued and effective globalization. I pledge to:

Support for Members and their Careers
Specific Support for Industry members
• Deliver opportunities to professional engineers for enhancing their skills base through continuing professional development, management skills development.
• Establish Panel of Chief Executive/Technology Officers to advise IEEE on strategic issues for greater engagement with industry.
• Encourage practitioner-driven, practitioner-oriented conferences.
• Ensure support to Gold members. Encourage Innovation and Entrepreneurship by establishing an Innovation Academy to support IEEE global talent pipeline that turns innovative products into entrepreneurship.

Technological Lead and Development
• Ensure continued IEEE technological leadership in emerging areas through new publications, conferences, inter-disciplinary and cross functional initiatives, Affinity Groups and new media tools.
• Promote IEEE global presence in areas such as Smart Grid, Cloud Computing, Green Technologies, Life Sciences, Cyber Security, Technology Management, Transportation, and Energy.

New Approaches to Publications
• Mass customization of technological information - offer members information products constructed from the range of IEEE publications, customized to suit their needs.
• Encourage publication of multilingual journals, serving members worldwide and opening new markets for IEEE products.

Support for Globalization
• Drive towards affordable member rates worldwide through new membership models and progressive benefits.
• Promote a more balanced international representation of IEEE leadership.
• Deliver IEEE’s Humanitarian Vision by establishing alliances with institutions with missions aligned to the IEEE, including Engineering for Change, UNESCO and World Federation of Engineering Organizations.
• Inspire interest in the joy, wonder, and excitement of engineering in school learners through global Teacher-In-Service Program. Progress the jump into IEEE (Junior Membership) Program.

2013 IEEE President-Elect Candidate

Major Accomplishments for IEEE

2010-2011 IEEE Vice-President Educational Activities

University Education
Established relationship between IEEE and Presidents/Vice Presidents of Chinese universities to contribute to the “Reform in Higher Education” in partnership with the Chinese Ministry of Education. IEEE Educational Activities Board considers accreditation as a key vehicle for maintaining the quality and relevance of engineering, computing, and technology education, worldwide. I have supported development of Accreditation activities in:

• South America - development of an Advisory Board on Accreditation in South America, IEEE Region 9.
• The Caribbean - through new accrediting body for programs taught in English (CACET).
• India - in conjunction with the National Accreditation and Assessment Council.
• China - through the Working Group on Education in China and China Association of Science and Technology (CAST); pilot work being conducted with Chinese Government Agency, and providing advice on program evaluation at key Chinese universities.
• Southern Eastern Africa - involving 5-7 countries.

Promoted Technical English Program to support members in improving their competency with Technical English. On-line program to be available in 2012.

Encouraged establishment of a Heads of Electrical and Computer Engineering Group as a worldwide network to act as an output for EAB. A pilot has been established in South Africa.

Liaised with IBM to support a series of competitions entitled “IBM: IEEE Smarter Planet Challenge: Student Projects Changing the World.”

Continuing Education
With the success of e-learning activity (100 modules available in 2011), spear-headed initiative in developing an IEEE-wide continuing education program for industry, academia, members, and non-members. Pilot programs in Singapore and India.

Pre-University Education
Worked to promote specific activities, which are extending the global reach of the IEEE, through:

• Developments of the Teacher-In-Service Program (TISP). In 2011, TISP was held in Canada, Saudi Arabia, Scotland, and India, attended by some 450 volunteers and teachers. It is believed the Program is reaching out to over 407,000 school learners through 3737 teachers trained on the IEEE TISP.
• The extension of EPICS (Engineering Projects in Community Service).
Also the elections for Director of Region 10 2013-2014 will start on 15 August 2012 with following candidates:

Ramakrishna Kappagantu (Nominated by IEEE Region 10)

Kukjin Chun (Nominated by IEEE Region 10)

Nim K. Cheung (Nominated by Petition)

Ballots will be mailed to eligible voting members (Ballots can be accessed electronically.) and voting will close on 1 October 2012.

Andrew Piotrowski
Chair of the IEEE South Australia Section

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From AP/MTT Chapter

You are cordially invited to the following Seminar hosted by the IEEE South Australia Chapter on AP-MTT
Small Antennas in Difficult Environments
Prof. David V. Thiel
Director, Centre for Wireless Monitoring and Applications, Griffith University, Brisbane

Abstract:
The Centre for Wireless Monitoring and Applications at Griffith University is involved in three main applications areas - two areas require small wireless sensor nodes to function in very difficult environments. These are: sensors on athletes (arms, legs, torso, costume etc.) and their implements (bats/stick/racquet/oars/bikes etc), and sensors down drill holes and buried in the earth. In most cases these sensors need to be robust, waterproof and small so normal operations are not impeded. In these types of environment, there is a significant frequency shift of the antenna resonance and one method of overcoming this is to design antennas with large bandwidths. However, there are fundamental size limitations for antennas which are directly related to bandwidth. This paper will outline some of the environmental problems and their solutions, the fundamental size limits as applied to these sensor nodes, and some of the problems we are still trying to solve.

Speaker Biography:
David V. Thiel graduated from the University of Adelaide, Adelaide, Australia, with a Degree in physics and applied mathematics and then completed the Masters and Ph.D. degrees at James Cook University, Townsville. He is currently the Director of the Centre for Wireless Monitoring and Applications at Griffith University, Nathan, Australia. He co-authored a book on switched parasitic antennas for cellular communications and is interested in mathematical optimisation techniques for antenna design. He has published over 95 journal papers, more than 140 papers presented at international conferences and has co-authored more than 9 patent applications. Recently, he was a co-inventor of the new RoHS and WEEE compliant electronics manufacturing technology called “circuits in plastic.” His research interests include electromagnetic geophysics, sensor development, electronics systems design and manufacture, and antenna development for wireless sensor networks. Dr. Thiel is a fellow of the Institution of Engineers, Australia. He is currently the Chair of the IEEE Wave Propagation Standards Committee and serves on the IEEE Antenna Standards Committee.

Time/Date: 5:10 – 6:10 PM, Thursday 23 August 2012
Venue: B17 Ingkarni Wardli (Innova21 - Basement)
North Terrace, The University of Adelaide

You might be interested by the following talk (organized by Engineers Australia) by Dr. Trevor Bird, the President-elect of the IEEE Antennas & Propagation Society.
Eminent Speaker: Dr Trevor Bird
"From Wireless to Astronomy: Lessons from an Engineering Career"
Monday 13 August 2012 - 5.30pm for a 6.00pm start Engineers Australia - South Australia Division Level 11, 108 King William St, Adelaide, SA
Please note that registration is required
Members Cost  FREE
Non Members Cost  $10.00
Details and registration link can be found under:

Associate Professor Christophe Fumeaux,
Chair IEEE South Australia Joint Chapter on AP/MTT

IET RETIRED ENGINEERS GROUP LIFE MEMBERS AFFINITY GROUP

“Optimising Wind Power Production Economics”
Opportunities for large-scale wind energy storage and conversion to fuel in South Australia’s electricity market.
By Dr Robert Dickinson, Director, Hydricity Systems Australia
Wednesday 29th August 2012
1pm in the Sir Robert Chapman Theatre, Engineers Australia, Level 11, 108 King William Street, Adelaide.
A light lunch will be available beforehand at 12.15 pm.
Registration required (see flyer).  Meeting cost:  $10 per head.
NOTE CHANGE OF DATE FOR THIS MEETING.

Talk Synopsis:
If the renewable energy sector is serious about displacing the combustion of fossils fuels in decades to come, increased and more widespread deployment of a variety of energy storage and conversion to fuel technologies will become crucial.
Such opportunities are especially apparent with respect to wind energy.  This applies most significantly to South Australia, given the state’s high installed and proposed wind capacity.  This has resulted in some powerful economic motivations to deploy wind storage and fuel conversion technologies in South Australia sooner than in Australia’s other states.
This talk presents some highlights of the opportunities for South Australia’s wind industry to take control of a larger share of state’s electricity and fuel markets, rather that just its large energy supply share, by becoming an early adopter of large scale energy storage and conversion to fuel.

The Speaker:
Dr. Robert Dickinson has engineering degrees from the University’s of Melbourne (Australia), Guelph and Waterloo (Canada).  He is currently focused on hydricity systems design: the design and implementation of systems that convert clean electricity to clean fuel, and vice versa.  In parallel with his role as a Director of Hydricity Systems Australia, Dr. Dickinson is a Visiting Research Fellow at in the Department of Mechanical Engineering at The University of Adelaide, where he is also a member of the university’s Centre for Energy Technology.

REMAINING TECHNICAL MEETINGS FOR 2012:

IET RETIRED ENGINEERS GROUP

10 Oct  MICROALGAL BIOFUELS: THE BEAUTY AND THE BEAST
Presenter: Associate Professor Peter Ashman, School of Chemical Engineering, Uni of Adelaide.
The presentation will review ongoing R & D activities in microalgal biofuels by the Microalgal Engineering Research Group and the Centre of Energy Technology, University of Adelaide.
Venue: Engineers Australia, Level 11, 108 Kg Wm St, Adelaide. Registration required.

14 Nov  T-RAY IMAGING AND SENSING
Presenter: Professor Derek Abbott, School of Electrical & Electronic Engg, University of Adelaide.
Advances in ultrafast lasers have enabled the field of T-rays (terahertz radiation) to emerge. T-ray imaging and sensing techniques are actively researched around the world and show promise for biochemical and chemical sensing.
Venue: Engineers Australia, Level 11, 108 Kg Wm St, Adelaide. Registration required.
Meetings start at 1:00 pm unless otherwise noted. Visitors welcome. Meetings at Engineers Australia, 108 Kg Wm St, are preceded by a light lunch starting at 12:15 pm, for which registration and prepayment will be required, using a flier that will be issued with the notice of the meeting.

ENGINEERS AUSTRALIA RETIRED ENGINEERS 2012 PROGRAM
The proposed meetings in the Engineers Australia REG program for 2012 are set out below. Apart from the site visit all functions are luncheon meetings at the South Australia Division office, 108 King William Street, Adelaide.

<table>
<thead>
<tr>
<th>Month</th>
<th>Title</th>
<th>Presenter</th>
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<td>November 5th – 9th 2012</td>
<td>Southern Resources: A 5 day excursion to the South East.</td>
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Registration is required. Contact Engineers Australia Member Programs Coordinator Ashlea Klingberg (Fax: 8211 7702, Ph: 8202 7110, aklingberg@engineersaustralia.org.au, Level 11, 108 King William Street, Adelaide SA 5000) for a flyer with registration details.

OTHER MEETINGS OF INTEREST

Future Submarines - Few Easy Choices
By Rear Admiral Rowan Moffitt, Head, Future Submarine Program, Department of Defence.
Engineers Eminent Speaker Program
Date: Tuesday 10th July 2012
Time: 5:30pm for 6:00pm start
Venue: Engineers Australia, Level 11, 108 King William St, Adelaide

EESA National “Wind Generation Road Show”
By Graham White, Managing Director Garrad Hassan Pacific Pty. Ltd. And George Bergholes, Senior Design Engineer, ElectroNet Pty. Ltd.
The Electric Energy Socieaty of SA Inc., South Australian Chapter.
Date: Monday 30th July 2012
Time: 5:00pm for 5:45 pm start
Venue: Engineers Australia, Level 11, 108 King William St, Adelaide
Registration: Please e-mail martyn.k.pearce@gmail.com
More Information: Contact Martyn Pearce - Phone 0450 692 901

From Wireless to Astronomy: lessons from an engineering career
By Dr Trevor Bird, Principal, Antengenuity & CSIRO Fellow
Engineers Eminent Speaker Program
Date: Monday 13th August 2012
Time: 5:30pm for 6:00pm start
Venue: Engineers Australia, Level 11, 108 King William St, Adelaide

Australia’s Green Electricity Schemes – Costs and Benefits
By Dr Robert Barr of Electric Power Consulting, 2012 National Professional Electrical Engineer of the Year.
Engineers Eminent Speaker Program
Date: Tuesday 11 September 2012
Time: 5:30pm for 6:00pm start
Venue: Engineers Australia, Level 11, 108 King William St, Adelaide

CONFERENCES

Radar 2013 - Beyond Orthodoxy: New Paradigms in Radar
Adelaide 9 to 12 September 2013
The 2013 International Conference on Radar Systems will be held in Adelaide, Australia, from 9 to 12 September 2013. The conference will be hosted at the Hotel Grand Chancellor Adelaide on Hindley.
This conference represents a unique opportunity for participants in the radar industry from Australia and overseas to exchange knowledge and ideas on both the theories and practices that will drive radar technology, education and research in the coming years. Much of the progress in radar science, technology and applications follows a path of evolutionary development as component technologies, signal processing algorithms, materials science and computational electromagnetics provide ever more efficient means of implementing the radar systems on which our modern societies depend, and improving their performance against established criteria. This evolutionary process pays immediate and predictable dividends to manufacturers and users alike. Yet, every so often, we encounter a revolutionary development in some supporting technology, or a novel idea which springs from the imagination of just one or two individuals, which changes the way we think about radar and how this form of sensing can be exploited. Such developments are infrequent but important, not only for the capabilities they provide but for the way they inspire lateral thinking and innovation.

Radar 2013 welcomes contributions in all areas of radar science and engineering, but particularly encourages papers which open new avenues for exploration and force us to embrace new paradigms.

The conference is co-sponsored by the IEEE SA Section and by Engineers Australia

**2012 Fulbright Symposium**

The 2012 Symposium will tackle the vital issues of information security, protection of infrastructure and cyber-terrorism during two days of thought-provoking discussion, information sharing, strategising and problem solving.
The aim of the Fulbright Symposium is to publicly demonstrate the Australian-American Fulbright Commission’s mission of promoting mutual understanding between the peoples of the United States and Australia through educational and cultural exchange.
His Excellency Mr Jeffrey L Bleich, US Ambassador to Australia, will open the Symposium. For further information visit the website at [www.unisa.edu.au/2012fulbrightsymposium](http://www.unisa.edu.au/2012fulbrightsymposium)

**SIR CHARLES TODD SYMPOSIUM**

The legacy of South Australia’s forgotten science pioneer.
SARDI Lecture Theatre, Urrbrae
When: Friday, August 17 2012, 8:30 AM to 1:00 PM
Where: SARDI Lecture Theatre, WAITE Science Campus, Hartley Grove, Urrbrae, SA, 5064
Theme: Space and Astronomy, Innovation and Technology
Cost: Free
Come and learn about the South Australian who pioneered Australia’s first Internet 140 years ago! Like today’s Internet, it changed society forever. For our early settlers who were used to getting news that was five months out of date, the original internet shrunk their world and compressed time beyond their imagination.
With a fascinating mix of science, technology and history, this Symposium will show the foundations that were laid by one man, Sir Charles Todd, our forgotten science and technology pioneer. He was a central figure in establishing astronomy, telecommunications, meteorology, electrical engineering and spatial systems in the young colonies that made up Australia.
Talking about Todd’s work will be six speakers from the Astronomical Society of SA, the Australian Computer Society, the Australian Meteorological Association, Engineers Australia, the Philatelic Society of South Australia and the Surveying & Spatial Sciences Institute. They will be supported by two historians who will describe mid 19th century Adelaide and Sir Charles the person. Come and learn for the first time how one man was able to take the lead in so many areas of science and technology. It is an inspiring tale of one of our State’s forgotten heroes.

Chaired by well known science journalist and educator Dr. Rob Morrison, this Symposium will expose the considerable record of a man who not only drove much of the science and technology of colonial South Australia but who was also a leading professional in a number of fields across all the colonies of Australia.

Bookings essential (via email). Contact details: Mac Benoy, Australian Meteorological Association Email: info@charlestodd.net, Phone: 0415 227 599

DICTA 2012 Digital Image Computing: Techniques and Applications

3-5th December 2012, Esplanade Hotel Fremantle, Western Australia. The International Conference on Digital Image Computing: Techniques and Applications (DICTA) is the main Australian Conference on computer vision, image processing, pattern recognition, and related areas. DICTA was established as a biannual conference in 1991 and became an annual event in 2007. It is the premier conference of the Australian Pattern Recognition Society (APRS).

DICTA 2012 is technically co-sponsored by the IEEE and IAPR. All papers presented at the conference will be included in IEEE Xplore.

Important Dates
- Paper submission due 30th June 2012
- Notification of acceptance 31st July
- Camera ready papers due 21st August
- Registration opens 6th August
- Early bird registration closes 1st October
- Conference 3-5 December 2012

Contact: dicta2012@csse.uwa.edu.au, http://dicta2012.csse.uwa.edu.au

From the Newsletter Editor

Thank you to all members who contributed to this E-notice. We are looking at some new ideas this year to increase your awareness of professional activities within the IEEE SA Section. If you have won a scholarship or grant, recently completed a project, started a new project, a new job or if you have a recent or soon to be published journal or conference paper that you’d like to tell us about please send details to south.australia@ieee.org.

Newsletter Editor

JOINT TECHNICAL PROGRAM MEETINGS 2012

Venue: Engineers Australia, Sir Robert Chapman Theatre, Level 11, 108 King William St., Adelaide (except visits).

Dates: Meetings are generally held on the third Tuesday of each month.

Time: Light refreshments commence at 5:30 PM and the meeting at 6:00PM (except site visits).

For each event, a flyer presenting details of the event will be posted on the websites of EA, IEEE, IET and TSA (see the details overleaf). These websites will also inform about any changes to the above
program. Bookings to the visits should be made using the EA’s website. Numbers for visits are normally limited so book early - preference will be given to EA, IEEE, IET and ACS-TSA members.

CPD Points: It is recommended that attendance at each of these presentations be counted as one CPD point under Engineers Australia guidelines

21st Aug  Radar, where did it come from?
Host IEEE  
Professor Don Sinnott, Adjunct Professor of Radar Systems at University of Adelaide
Radar is an electronic system and its appearance was paced by progress in the understanding of electromagnetic theory and electronic technology development. The theoretical underpinnings of electromagnetic theory by Maxwell, the demonstrations of radio-wave phenomenology by Hertz and vacuum tube technology development in the twentieth century were critical items on the path before radar sets could be produced. The presentation will trace this chain of development through some of the key people involved, from the first radar demonstration in 1904, through British, US and Australian World War 2 developments to current Australian over-the-horizon development.

20th Sep  Nuclear Power: From Opponent to Proponent
Host IET  
The essential role of nuclear power for decarbonising a warming world
Ben Heard, Director, ThinkClimate Consulting
What does it take to turn an environmentalist pro-nuclear? This presentation recounts the true process of critical examination that saw an environmental professional do a full turn around on nuclear power.

16th Oct  ** VISIT Electra Net's Newly Commissioned 275/66kV City West Substation
Host IET  
A Substation tour and a Cable Route tour at the City West Substation 275/66kV at the Keswick Terminal. The new undertaking is a major expansion of the high voltage electricity supply to the Adelaide CBD.
The site visit is aimed at University Students and is anticipated taking approximately two hours commencing at 9 am at the Substation.
Booking is essential to cater for provider free bus transfers and refreshments.

23rd Oct  STUDENT PAPERS NIGHT
Host IEEE  
Students from our three universities present their final year projects whilst competing in the IET Rex Jones Student Presentation Prize. IEEE Student Subject prizes will also be presented at this meeting.

20th Nov  National Broadband Network – Update
Host TSA  
Peter Triantafilou – Principal Policy Officer – Department of Further Education, Employment, Science and Technology, Government of South Australia
The National Broadband Network is one of the largest infrastructure projects and will change the telecommunications landscape in Australia. In 2012, the NBN is expected to deliver high speed broadband services to end users beyond the early trial sites, as part of the greater volume rollout.
This presentation will provide an update of progress, technology issues and look at some of the challenges and policy issues that will need to be addressed as part of this ambitious initiative.