

Vale Sir William Tyree



Engineer and philanthropist.

20

Committee Election



Closing 15 November 2013
Please vote!

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AGM 22 November



Register now for the IEEE NSW
Section AGM and dinner.

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Women In Engineering



Women in Engineering affinity
group report from Professor
Rodica Ramer

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Chair's Comments



A busy and successful year. AGM.
Teacher in Service Program

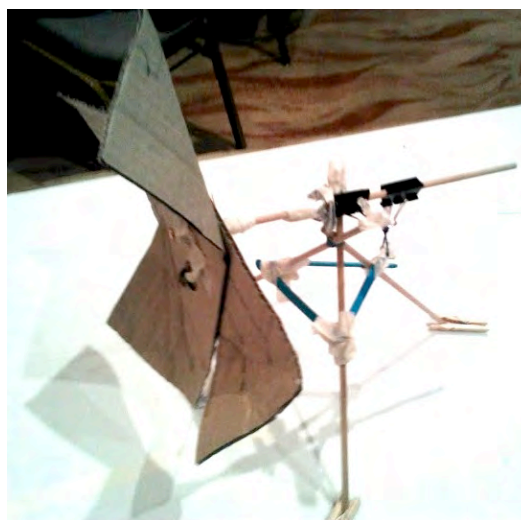
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Sensing Fruit Properties



Distinguished Lecturer Monai
Krairiksh at Macquarie University
on **18 November**.

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Teacher in Service Program (TISP)

Sydney 2013

IEEE NSW Section is actively promoting the IEEE Teacher in Service Program. A group of IEEE members, teachers and education leaders met in Sydney for a weekend in September to learn how to encourage students to explore engineering.

IEEE members can share their knowledge and passion for engineering with students in primary and high schools.

Chair's Comments



As I approach the end of my 3 year term as Chair, I would like to thank the team of dedicated volunteers in NSW Section who worked alongside me. I have enjoyed my term as Chair and am proud of what the Section has achieved.

We successfully hosted the TENCON Spring Conference in April 2013. Many members from Australia, Asia and India presented their papers.

We also hosted the Teacher in Service Program (TISP) workshop in Sept 2013 with participants from WA Section, SA Section, ACT Section and NZ Sections. We had good engagement with the government education teams working together to roll out the TISP for schools in various states. Graeme Gwilliam, together with Olly and Kim are managing the TISP program. Please contact Graeme if you are interested.

The highlight of 2013 will be the Section AGM & Dinner to be held at Novotel Parramatta Hotel on 22 November 2013. Please RSVP if you have not already done so before the last few seats are snapped up.

I look forward to meeting you at the AGM. And as the year draws to an end, I would like to wish you a Merry Christmas and a fruitful 2014 ahead.

Eddie Fong

eddiefong@ieee.org

Chair, NSW Section 2011-2013

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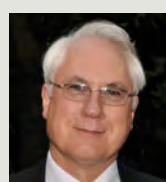
IEEE New South Wales Section

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<http://ewh.ieee.org/r10/nsw>



Editor

John Aitken
John@jja.com.au

NSW Section Committee Election Candidates - Chair



David Dapeng Tien

Dr David Tien received his undergraduate, master's and PhD degrees in Computer Science, Pure Mathematics and Electrical Engineering from the Ohio State University, USA, and the University of Sydney, Australia, respectively.

David started serving IEEE from 1988 while he was teaching at the University of Sydney. Between 1993 and 2010, he served as Treasurer, Secretary, Vice-Chairman and Chairman at IEEE Singapore and IEEE NSW Sections. Dr David Tien has developed a unique partnership across Region 8 and 10 by signing a "Memorandum of Understanding and Sister Relationship Agreement between IEEE NSW Section and IEEE Russia Siberian Section on Collaboration".

"As the Chairman of IEEE Computer Chapter, I have brought many real benefits to the Computer Chapter members including the Members' Forum, annual international IT conference in Sydney, free conference registration, scholarships, job placement services and seeking APEC visa-free travel accreditation.

Based on my track record, I am seeking your vote to serve as the Chairman of IEEE NSW Section from 2014. I am looking forward to serving the large and growing community of IEEE NSW Section by providing benefits to all IEEE members."



Graeme Gwilliam

The IEEE rules preclude Eddie Fong from standing as Chair and as a Past Chair (2005/6) I am presenting myself so that many of the initiatives which he has started may be brought to completion.

If elected I will be advised by Eddie Fong (as Immediate Past Chair) on items of Sydney hosting the Sections Congress and R10 meetings, together with implementing the IEEE TISP having members working with school teachers in NSW. I challenge the idea of changing a good thing when you know it is working.



Zhaoyang Dong

Professor Z.Y. Dong obtained Ph.D. from the University of Sydney in 1999. He is Professor and Head of School of Electrical and Information Engineering, the University of Sydney, and a contractor with Ausgrid and EPRI, USA. His immediate role is Ausgrid Chair and Director of Centre for Intelligent Electricity Networks (CIEN), the University of Newcastle, Australia. He also worked at the Hong Kong Polytechnic University and as system planning manager with Transend Networks, Australia. His research interest includes smart grid, power system planning and stability, load modeling, renewable energy, electricity market, and computational methods. He is an editor of IEEE Transactions on Smart Grid, IEEE PES Letters, Elsevier/State Grid Journal of Modern Power Systems and Clean Energy. He is an international Advisor for the lead Chinese journal of Automation of Electric Power Systems. He also serves as guest editor for International Journal of Systems Science.

He has been a contractor with EPRI, USA since 2001. He has over 10 EPRI projects, 12 ARC grants, 4 grants under HK RGC & ITF scheme, 1 theme based (\$64m) project in Hong Kong, and many industrial R&D and consulting projects in power system planning, stability, smart grid, electricity market analysis and load modeling areas. He leads the \$12m CSIRO flagship project of Future Grid for gas and electricity network co-planning. He also worked with Australia and US Defense, and Australia Federal Government Department of Broadband and Digital Economy on smart grid cyber security project. He is a member of IEEE taskforce on power system cascading failure, and a chapter coordinator for CIGRE work group on load modeling. He is the Deputy Chair for Smart Grid Australia and leads its research domain on cyber physical systems. He is member representing SGA at International Federation of Smart Grid. Prof Dong has published over 400 technical papers/books/book chapters, and received over \$10 million (his part) research and industrial grants. He has over 3300 citations and an H-index of 29. Prof Dong has been supervising/co-supervising over 20 PhD students now, and has over 20 PhD graduates under his supervision. They work in industry and research/academia in Australia, Europe, Asia and America. He established a team of 28 at Ausgrid Centre for Intelligent Electricity Networks to provide RD&D support for the \$100m (+\$500m from Ausgrid) Smart Grid, Smart City demonstration project.

Election Candidates – Vice-Chair



Karu Esselle

Professor in Electronic Engineering in Macquarie University; Past Associate Dean – Higher Degree Research; Director - Centre for Electromagnetic and Antenna Engineering; Chair, Management Board, Australian Antenna Measurement Facility; published over 330 scientific papers; citations over 1500.

IEEE NSW Section volunteer for over 15 years; held Chapter Chair and Education Activities Chair positions; formed the Macquarie University IEEE

Student Branch, which was awarded the second prize for the Exemplary Student Branch in Asia-Pacific region in 2011; himself was awarded 2011 Outstanding Counsellor Award from IEEE; detailed biography at <http://web.science.mq.edu.au/~esselle/>.

Message: Committed to serve IEEE every way possible.



Raymond Brown

Ray Brown has been a member of the IEEE for 22 years and is presently a Senior Member and Chair of the NSW Chapter of the IEEE Power & Energy Society.

Ray runs his own consultancy in power engineering. He has a BE and BSc from the University of NSW.

Voting is easy
so vote now!

Voting closes on 15 November.

<https://voting.vtools.ieee.org/>

Voting is through the IEEE vTools system, which makes it easy for you to vote.

The candidate statements here are also on vTools so you can refresh your memory when you vote.

Please contact me if you have any questions, comments or complaints about your voting experience.



Bruce Poon

Bruce.Poon@IEEE.org

**Membership Development Chair,
NSW Section**



There are many IEEE members in NSW who are interested in EMC but we don't have an EMC Chapter.

Please see John Aitken at the AGM if you want a NSW EMC Society Chapter, or send an email to John Aitken (john@jja.com.au).

Election Candidates - Secretary

**Dushmantha Thalakatuna**

Dushmantha Thalakatuna is an IEEE student member. He is the NSW Section Assistant Secretary and has been the IEEE student branch chair at Macquarie University. He was the Vice chair at Macquarie University student branch from 2010 to 2011 when Macquarie student branch was awarded the second best exemplary student branch prize.

**John Ypsilantis**

John Ypsilantis (M'1985) was born in Sydney, Australia. He is a graduate of the University of Sydney, receiving his BSc degree in Pure Mathematics and Computer Science in 1984, BE (Honours I) in Electrical Engineering in 1986, and PhD in 1993.

He has worked with a number of large public and private utilities, as an employee and later as a consulting engineer. He is a specialist in ICT systems for power, gas and water utilities, including SCADA and artificial intelligence applications to utility operations.

If elected, John will continue to promote the profile, standing and importance of the electrical engineering profession in Australia.

Election Candidates - Treasurer

**John Aitken**

John Aitken is the current NSW Circuit newsletter editor.

John has been a member of the IEEE for many years and has recently decided to become more involved. Current interests are Electromagnetic Compatibility, vehicular technology, broadcasting and communications. John has been chair of the Institution of Railway Signal Engineers Australasia (IRSE) and a member of the international IRSE Council.

If elected Treasurer John will take the opportunity to further participate in the effective activities of the NSW Section, particularly through membership of the Committee.

**Anthony Sloman**

Born in Burnie, Tasmania in 1942. Graduated with a Ph.D in Physical Chemistry from Melbourne in 1970. Worked in the UK as an electronic engineer from 1971 to 1993, on - amongst other things - phased-array ultrasound and electronic microscopes.

Got dragged over to the Netherlands by my wife's career in 1993, and moved on to Sydney when she moved to a new job in 2012. I've been a member of the IEEE since 1980.

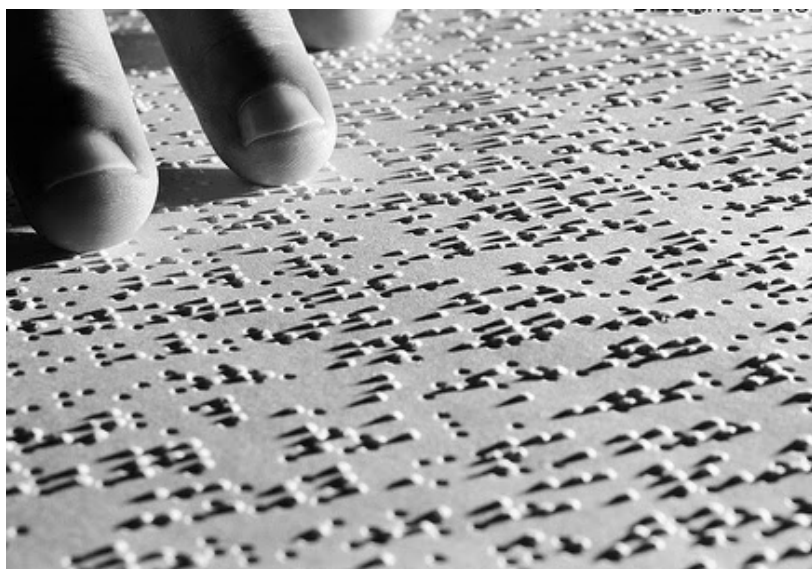
Read without seeing ...

Improving access to books for visually impaired persons

On 27 June 2013, the anniversary of Helen Keller's birth, a Diplomatic Conference of the World Intellectual Property Organisation (WIPO) adopted the *Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled*.

The treaty is intended to ensure that books and other published materials can be made and distributed in formats accessible to people with print disabilities, such as Braille, audio and large print formats.

The treaty does so by obligating its signatories to adopt exceptions to copyright infringement in their domestic laws, to allow accessible copies to be made and distributed within those countries without the need for



permission or payment. It also requires exceptions to enable cross-border circulation of accessible copies of copyright material, in order to reduce the global costs of providing access to copyright works. Fifty-one countries signed the treaty on 28 June 2013, with several others having followed suit in the months since. The treaty will enter into force once 20 countries have ratified it.

Then-Attorney-General Mark Dreyfus QC lauded the agreement as "a landmark copyright treaty, the first of its kind in the history of the multilateral copyright system". Curiously, despite Australia's leadership in negotiations and proud reportage of the treaty's adoption, it was not one of the 51 nations that signed the treaty in June and, at the time of writing, it does not appear to have subsequently signed. Vision Australia and other representative bodies of Australia's blind, visually impaired and print disabled communities have nevertheless expressed optimism about the future impact of the treaty in Australia and are continuing to work toward signature and ratification.

Social Implications of Technology



Sarah Lux-Lee

**Co-editor
The Social Interface**

Sarah is the National Copyright Manager at the Department of Education & Communities, managing copyright negotiations and policy on behalf of Australia's schools and TAFEs. She is also an Adjunct Lecturer at the University of New South Wales.

Sarah was previously an intellectual property lawyer at an international firm in Sydney, and has worked with the Cyberspace Law and Policy Centre, the Gilbert + Tobin Centre of Public Law and the NSW Department of Justice and Attorney-General.

Abridged from The Social Interface, an interdisciplinary blog on the social implications of technology.
Image by Diego Molano, made available by Creative Commons licence via Flickr.

Society for the Social Implications of Technology

Society for the Social Implications of Technology (SSIT) held a technical meeting on 2 September, with speaker Greg Adamson introducing the audience to a conference that will take place 24-26 June 2014 in Boston.

All IEEE-NSW members are invited to have a look at the conference website (<http://21stcenturywiener.org>) to check out the broad range of topics that may be of interest. Quoting from the website, "During his life, Dr. Norbert Wiener influenced mathematics, philosophy, science, technology, ethics, biology, prosthesis, education, manufacturing and many other fields. Cyberspace is named after his multidisciplinary approach, "cybernetics", a transdisciplinary approach for exploring regulatory systems, their structures, constraints, and possibilities. He was an early practitioner of diversity and social inclusion, and an advocate of social responsibility in the development of technology.

This conference will look at his ideas and the influence they have today." Even if you cannot make it to Boston, the website provides some interesting insights and resources on Wiener's life and works.

In the meantime, the SSIT sponsored blog, The Social Interface (<http://www.thesocialinterface.com>), continues to explore a range of topics including recent posts on access to books for visually disabled persons and the fate of virtual worlds. If you would like to contribute your own thoughts on an issue, please contact the editors (editors@thesocialinterface.com).



Lyria Bennett Moses
NSW Co-ordinator, IEEE SSIT Chapter

TENSYMP 2014

During the closing stages of TENCON Spring 2013, Region 10 2012 Conference and Technical Seminar Coordinator Borhanuddin Mohd Ali introduced TENSYP 2014 which is the successor to TENCON Spring.

The symposium will be held in Kuala Lumpur Malaysia between 14 and 16 April 2014.

Symposium Website

<http://ieeemy.org/tensymp/>

Theme

• Connect • Analyse • Collaborate

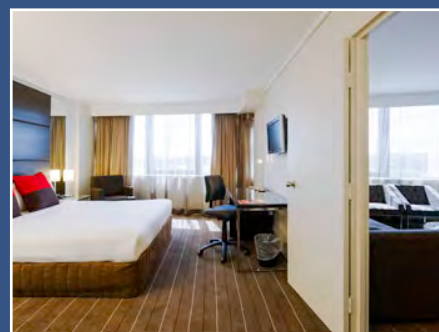
Early bird registration deadline
February 15, 2014

IEEE NSW Chapter AGM - 22 November 2013

Novotel Sydney Parramatta, 350 Church Street Parramatta.

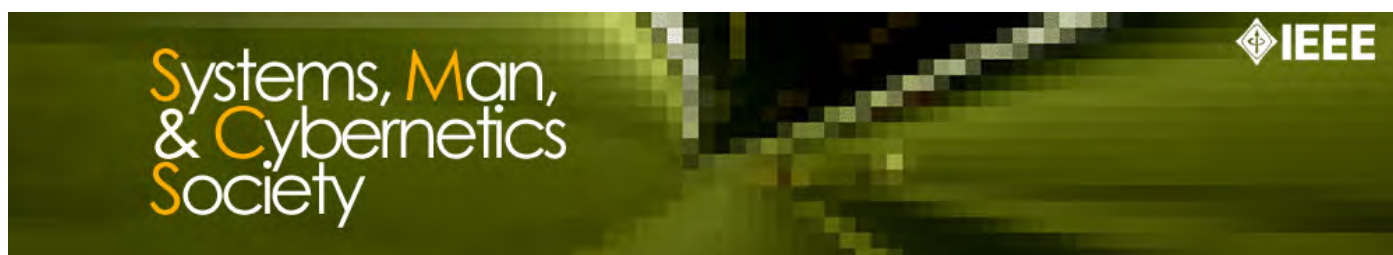
Accommodation is available if required at \$195 per night, single occupancy.

Please make your booking directly with the hotel, quoting code IEEE1113.



Coming Events

Date	Event	Speaker	Host	Contact	Venue
2013					
14 Nov	Increasing network capability	Darren Spoor, Transgrid	IEEE	t.blackburn@unsw.edu.au	EA
18 Nov 10:00 am	Sensing the Physical Qualities of Fruits	IEEE Distinguished Lecturer Prof Monai Krairiksh	IEEE MU	karu.esselle@mq.edu.au	Room 136 Building E6B MU
22 Nov	NSW Section AGM	AGM and Dinner	IEEE	See page 23	Parramatta
27-29 Nov	CMLS-13 Computational Models for Life Sciences	Symposium	IEEE	http://cmls-conf.org/2013	Sydney
28 Nov	Dynamic Spectral-Based Underwater Colour Correction Sensors, Signals and Algorithms for Passively Locating Dolphins in the Wild	Daniel Bongiorno & Eric Ferguson	IEEE	http://www.engineersaustralia.org.au/events/marine-science-ocean-systems-engineering-1	280 Pitt St Sydney
28 Nov	EA Engineer of the Year lecture	Brian Green	EA	t.blackburn@unsw.edu.au	EA
3 – 5 Dec	IEEE International Conference on Techology (CIT)	Conference	IEEE	jinjun.cheng@gmail.com	Sydney
12 Dec	PLC or DCS for Process Control?	M Biggin, Toshiba	IET	t.blackburn@unsw.edu.au	EA
2014					
4 – 6 Mar	International Workshop on Antenna Technology - IWAT	Workshop	CSIRO IEEE	http://www.iwat2014.org/	Darling Harbour
7 – 11 Apr	Working IEEE/IFIP Conference on Software Architecture – WICSA 2014	Conference	IEEE	http://wicsa2014.org/	North Sydney
14 – 16 Apr	TENSYMP	Symposium	Region 10	http://ieeemy.org/tensymp/ see page 7	KL, Malaysia
1 – 5 Jun	ISCAS 2014 – International Symposium on Circuits and Systems	Symposium	IEEE	http://iscas2014.org	Melbourne
10 – 14 Jun	IEEE International Conference on Communications – ICC 2014	Technical Symposia and Tutorials	IEEE ComSoc	See page 21	Sydney
24 – 26 Jun	Norbert Wiener in the 21 st Century	Conference	IEEE SSIT	http://21stcenturywiener.org	Boston, USA



The NSW Chapter of Systems, Man and Cybernetics is now active.

Contact: longbing.cao@uts.edu.au

NSW Section Winners in IEEE Australia Council Student Paper Contest

The IEEE Australia Council Student Paper Contest (SPC) for postgraduate and undergraduate students offers the IEEE Student members an opportunity to exercise and improve both written and verbal communication skills. Throughout an engineer's career, the graduates are constantly called upon to communicate ideas to others. Researching, writing, and presenting a paper provides a student with invaluable early experience in expressing ideas related to their professional field.

Since the paper contest's primary function is to improve the engineering student's communicative skills all IEEE student members in Australia are encouraged to participate in this contest. The contest is conducted for two separate categories; one for undergraduate students and one for postgraduate students.

We are pleased to announce the results of the IEEE Australia Council (IEEE AC) sponsored Postgraduate Student Paper Contest 2012-2013. The winners are:

First Place: **James D. Foster**, School of Mathematical and Physical Sciences, University of Newcastle, for the paper: "Comparison of Mixed-Integer Programming and Genetic Algorithm Methods For Distributed Generation Planning".

Second : **Giovanni Geraci**, School of Electrical Engineering and Telecommunication, The University of New South Wales, for the paper "Large System Analysis of Linear Precoding in MISO Broadcast Channels with Confidential Messages".

Congratulations to the winners and thanks to all those who participated in the 2012-13 contests.

Lance Fung, Chair, IEEE Australia Council 2013-2014 Dr. Ali Hellany, Student Activities Coordinator 2012 Dr. Sharon Lim, Student Activities Coordinator 2013



James Foster



Giovanni Geraci

IEEE NSW Section AGM

Novotel Sydney Parramatta 22 November 2013

Chapter and Affinity Group AGMs at 6 pm. NSW Section AGM is at 7 pm followed by dinner at the hotel. The dinner is free for IEEE NSW Section members but you must register – see Page 23.



Women in Engineering

IEEE NSW Affinity Group - Chair Prof Rodica Ramer

I welcome this opportunity to tell the Circuit readers about our Chapter. We are a part of the world-wide Women in Engineering organization, formed to advance causes and interests of the female side of the Electrical Engineering profession.



WIE Workshop at the IMS Seattle, June 2013

one of the speakers at the IMS-2013 (International Microwave Symposium) in Seattle. While there, I also participated in the WIE workshop; my talk was on women's role in microwave research.

Towards the end of the year we are having a planned visit by a female Distinguished Lecturer of the IEEE MTT-S. She is Professor Dominique Schreurs, who holds the chair of microwave engineering at the University of Louvain (K U Leuven) in Belgium; it is one the highest ranked universities in Europe and among the first 50 worldwide. The visit is scheduled for December, with the IEEE supporting her travel, while my school (EE&T at the UNSW) facilitating her stay in Sydney for about a week.

Now coming to my own school activities, I co-supervised a week-long workshop for the high-school girl students, to acquaint them with our EE programs. We hope that some number of them will decide to enrol here. To the same goal, I called a special Female Electrical Engineer meeting with other female academics (picture on right), in August.

I organized a stand promoting the EE profession, at the Open Day, in September. It attracted considerable interest, both from the girls and their parents; we can now hope to see some results soon (Fig3-5).

Lastly, I am happy to report that a special scholarship Transport NSW scholarship for women in electrical engineering has been established. The scholarship nominated for an undergraduate female in the EE studies offers a full support for the years.



WIE Meeting at the School of EE&T, UNSW August 2013

Early in 2014 we will have reviewed the effectiveness of these efforts. I'll write more about it in the next issue of CIRCUIT. I'll leave you with a few pictures taken at our various functions and workshops (see next page).

Rodica Ramer

Chair WIE

ror@unsw.edu.au

Sensing the Physical Qualities of Fruits



IEEE Antennas and
Propagation Society
Distinguished
Lecturer

Professor
Monai Krairiksh

Nondestructive determination of dielectric properties of materials is essential in various applications to monitor the nature of an object. Apart from many techniques like near infrared (NIR), X-ray, ultrasonic, and so on, a microwave based technique is of interest due to its low cost, high accuracy, and small size. In this talk the objective is to describe and present a novel way to determine in situ the ripening of fruits and how they can be applied in real time applications. This methodology has been applied to determine the quality of fruits like Durian, Banana & Mangosteen.

A number of techniques exist for characterization of lossy dielectric objects at microwave frequencies. Many such techniques have been extensively developed, e.g. resonant and non-resonant methods. For the resonant method, the cavity perturbation technique is well suited for measuring low dielectric loss materials and the accuracy is limited only by the size of the cavity. For a non-resonant method, the transmission line technique needs an adequate thickness of the sample. An open-ended probe technique can measure over a wide frequency range with moderate accuracy, but the material sample must be sufficiently thick and the contact surface of the probe must be flat and free of air gaps.

In this methodology we propose to use a free space measurement technique used in RCS measurements and use the natural resonant frequency concepts to estimate the variation of the dielectric properties with time, and thereby relate to the physical characteristics of the fruit. What makes the problem challenging is that both the real and the imaginary parts of the dielectric constant for most fruits is extremely high and even much greater than that of sea water!

Hear Prof Krairiksh:

Monday 18 November at 09:30 for 10:00 am.

Room 136 Building E6B
Macquarie University.
Contact: karu.esselle@mq.edu.au

WIE Activities at UNSW Open Day



A group of girls soldering electronic components at UNSW Open Day, September 2013



A group of girls at the stand for signal processing of electric guitar tunes at UNSW Open Day, September 2013.

Report on ICIEA2013 from Prof. Zhihong Man

The 8th IEEE Conference on Industrial Electronics and Applications (ICIEA2013), 19-21 June 2013, was held at Swinburne University of Technology, Melbourne, Australia. ICIEA 2013 was organized by the IEEE Industrial Electronics Chapter of Singapore Section, and Swinburne University of Technology. It is financially and technically co-sponsored by IEEE Industrial Electronics Society, and technically co-sponsored by IEEE Industrial Electronics Chapter, Sydney and IEEE Victorian Section, Australia.

ICIEA 2013 received overwhelming responses with approximately 514 submissions from 49 countries/regions. All submitted papers were processed by the Technical Program Committee and rigorously peer-reviewed by a select panel of international researchers. Finally, its technical program consisted of 347 high quality papers arranged in 45 regular/invited/special sessions and 6 interactive sessions. In addition, there were also 3 Keynote speeches and 2 Distinguished Invited Lectures (DILs) delivered by internationally renowned professors and researchers. Based on the recent development of industrial electronics and applications, ICIEA2013 had the following tracks:

- Industrial Informatics: Human-machine interactions, Diagnosis and prognosis, Intelligent automation, Intelligent transportation system, Manufacturing execution systems, Networked embedded controllers, Machine-tomachine, Condition based maintenance, SOA, Multi-agent systems.
- Computational Intelligence: Artificial neural network, Fuzzy systems, Genetic algorithm, Evolutionary computing, Machine learning, Data mining.
- Control and Systems: Adaptive and intelligent control, Hybrid control, Digital control theory and development, Robust control, Nonlinear systems and control, Process control, Networked control, Cooperative control, Bio-control.
- Energy and Environment: Energy management and control systems, Energy distribution, storage and recovery, Alternative and green energy, Waste management, Waste treatment and recycling, Water network and security, Sensor technologies, Intelligent Micro-grids.
- Mechatronics: Robotics, Sensors and actuators, Sensor fusion, High precision motion control, Micro electromechanical systems, industrial automation, Remote operation.
- Power Electronics: Power devices and components, Power quality control, FACTS, PFC, STATCOM, Harmonic analysis and compensations, Switching circuits and power converters, Motors and drives, Smart grid.
- Signal Processing: Image processing, Computer vision, Bio-image processing, Audio/video processing, Data processing, Estimation and identification, Remote sensing.
- Network and Communication Technologies: Network protocols, Mobile computing, Mobile ad hoc networks, Mobile agents, Network architectures, Quality of services, Cross-layer design/optimization, Design and performance evaluation, Traffic control, Wireless systems.

ICIEA2013 had the following Invited and Special Sessions, focusing on topics relevant to the theme of the conference:

- Invited Session on Biomedical Electronics and Biosignal Processing Organizers: Dr. Jiang Lijun and Dr. Li Huiqi
- Invited Session on Testing and Control System Organizer: Prof. Shaoping Wang and Prof. Yaoguang Hu
- Invited Session on Object Recognition and Image Processing Organizer: Prof. Jizhong Xiao and Prof. Ketai He
- Invited Session on Design for Electrical Components and Systems Organizer: Prof. Xiaoguang Hu and Prof. Yuan Huimei
- Special Session on System Modeling and Analysis Organizer: Prof. Weihai Chen and Prof. Qingxuan Jia



We were honoured to have Professor Linda Kristjanson, the Vice Chancellor of Swinburne University of Technology, Australia, Professor Gang Tao of University of Virginia, USA, and Professor Shi Xue Dou of University of Wollongong, Australia, as the keynote speakers, and Professor Hong Ren Wu of Royal Melbourne Institute of Technology, Australia, and Professor Xiao Qi Chen of University of Canterbury, New Zealand as the Distinguished Invited Lecture (DIL) speakers. We have expressed our sincere appreciation to the Keynote and DIL speakers for their support and contribution to ICIEA 2013.

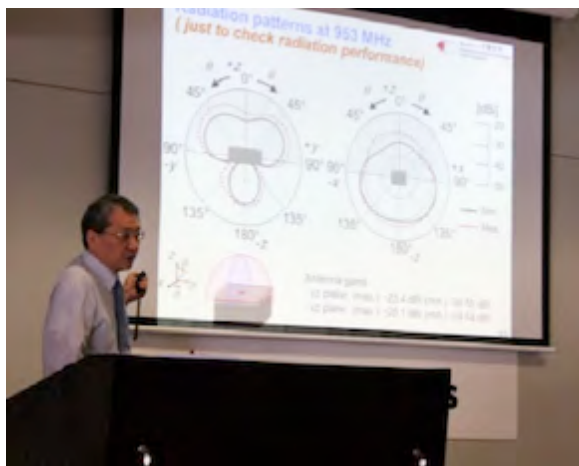
Finally, on behalf of ICIEA2013 Organization Committee, I sincerely thank the IEEE Industrial Electronics Society, IEEE Industrial Electronics Chapter (Sydney), and IEEE Victorian Section, for their invaluable advices and great support that made ICIEA2013 so successful.

Zhihong Man
Conference Chair

IAP/MTTs Chapter Update

The IEEE NSW AP/MTTs Chapter has organized several activities in last few months. We had one workshop and two lectures by eminent speakers; the key highlights were the IEEE MTTs distinguished lectures by Prof Koul and another lecture by an eminent speaker Prof Ito from Japan. The topics covered by the speakers highlighted the current trends in the fields of antennas, propagation and microwave research. All of these events were well attended by IEEE members, students and external visitors.

The first lecture was by **Professor Koichi Ito**. He is a Fellow of the IEEE, a Fellow of the Institute of Electronics, Information and Communication Engineers (IEICE) of Japan, a member of the American Association for the Advancement of Science, the Bioelectromagnetics Society (BEMS), the Institute of Image Information and Television Engineers of Japan (ITE) and the Japanese Society for Thermal Medicine.



Professor Ito is an expert in the field of wireless body area communication and he gave a talk on Antennas for Body-Centric Wireless Communications.

He commenced with a brief history of body-centric wireless communications.

Then electric field distributions around the human body wearing a small top-loaded monopole antenna were numerically calculated and compared in a wide range of HF to UHF bands. The received open voltages at receiving antennas located at several different points on the human body were then numerically investigated. The received open voltages were also numerically calculated and compared with several different postures of the human body.

Upgrading Membership

Members are encouraged to pursue the highest grade of membership to which they may be entitled. The requirements for each grade of Senior Member and Fellow are available at the IEEE membership website.

For Senior grade of membership, application may be made on line at any time of the year. It is recommended that you arrange all your referees and supporters before you lodge an application as this will save considerable time.

For Fellow grade, applications must be lodged in February each year. The preparation of these nominations/applications can take considerable time and it is recommended that at least 6 months lead time be allowed in the preparation of all the necessary support documentation. Last minute panics are not recommended.



Contact

Bruce Poon
bruce.poon@ieee.org
 Membership
 Development Chair,
 NSW Section

IEEE NSW Section AGM – 22 November 2013

Novotel Sydney Parramatta, 350 Church Street Parramatta.

There is parking at the hotel (\$7 to \$14) or off-street meter parking.

The hotel is about ten minutes walk along Church Street from Parramatta Station.



NSW AP/MTTs Chapter Update Continued ...



The second lecture was by IEEE MTT Society Distinguished Lecturer, **Professor Shibani Koul**, from the Indian Institute of Technology (IIT) Delhi. He is a Professor and Deputy Director (Strategy and Planning) at the IIT Delhi. He is also the Chairman of Astra Microwave Products Limited, Hyderabad, a major company involved in the Development of RF and Microwave systems in India. His current research interests include: RF MEMS, Device modelling, Microwave and Millimetre wave IC design and Reconfigurable microwave circuits including antennas.

Professor Koul gave an interesting talk on Circuit to System Level Practical Microwave Education. His talk was focused to motivate students to opt for career in RF and Microwave Engineering. Starting with the behaviour of conventional circuit elements at RF and Microwave frequencies and describing equivalent lumped circuit models of distributed transmission line elements, different technologies available to a designer to build Microwave and

Millimetre Wave Integrated Circuits and subsystem will be presented. Starting from conventional microstrip technology, other key technologies including suspended stripline, dielectric integrated guides, fin line, MMIC, RF CMOS and LTCC were briefly described in his talk.

In addition to these talks we also had a three day workshop to enhance education and industry for RF/MW/MMW measurements basics and techniques. The workshop *Back to Basic* was held at Macquarie University and covered Fundamentals of Vector Network Analysis on the first day, followed by Fundamentals of Spectrum and Signal Analysis and Fundamentals of Impedance Analysis and Material Measurements on the second and third days.

Andrew KO, Expert Application Consultant from Agilent Technologies, facilitated the workshop. We would also like to thank and acknowledge the support provided by IEEE Student Branch at Macquarie for all logistic needs.



Coming Events

Two more IEEE Distinguished Lecturers, Prof. Monai Krairiksh (IEEE AP-S DL) and Prof. Dominique Schreurs (IEEE MTT DL) are visiting the chapter in coming months and we will soon advertise these talks.



Yogesh Ranga

Chair, IEEE NSW AP/MTT Chapter Signals and Systems
CSIRO Computational Informatics



Syed Muzahir Abbas

Chair-IEEE Student Branch
IEEE MTT-S Student Chapter
Macquarie University



A great success!



Australian Engineering Week was held between 5 and 11 August 2013. There were numerous events and site visits around Sydney and country New South Wales.

Engineers Australia National President Dr Marlene Kanga led the Harrick's address. The topic was The Imperative for Innovation – Creating The New Wealth of Australia. Attendance was slightly down on last year.

Attendance throughout the 2013 AEW was about the same as 2012 with some events scoring an increase and some having reduced participation. This year there was extended media coverage including the use of Social Media sites such as Facebook.

I attended the Sydney Harbour Bridge Pylon Site Tour as the AEW representative. The tour was on Tuesday 6 August and was attended by 27 which was almost capacity (30). The guide Billy Ryan was excellent and the tour so popular that almost everyone stayed overtime. The tour included a history of the construction of the bridge (1924-1932), the personalities involved, explanation of the exhibits and photographs on display, and a climb to the top of the pylon. Whilst on the roof of the pylon the guide further explained features and construction of the bridge and continued providing history information to the present date. Those present took the opportunity to take photographs and appreciate the spectacular views of the bridge, harbour, City and surrounds. More information can be obtained from the Pylon web site is at <http://www.pylonlookout.com.au/>



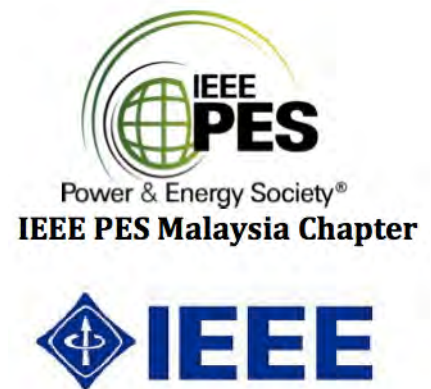
More AEW information on Events and photos can be viewed at <http://www.makeitso.org.au/australian-engineering-week/sydney>. Sponsors of AEW this year included IET, UNSW Engineering, NSW Transport, Transgrid, Hyder, Engineering Education Australia, Aurecon Partridge and the IEEE NSW Section.

I would like to thank the AEW Organising committee, the sponsors, student branch volunteers and Councillors for their efforts, support and hard work. Also many thanks to John Robinson and Ms Ying He (Macquarie Uni IEEE Student Branch) for volunteering to act as hosts for the CSIRO Site Tours.



Antony Zaglas
antonyz@ieee.org
 Vice Chair, NSW Section





2014 IEEE Innovative Smart Grid Technologies Conference (ISGT) Asia

20 – 23 May 2014, Kuala Lumpur, Malaysia

The aim of this conference is to promote the advancement of smart grid technology and research. It is also hoped to be a platform where researchers, academics, policy makers and industries can share and exchange new ideas, learn from each other, discuss and debate on issues related to Smart Grid Implementation and its related matters.

ISGT Asia 2014 invites practitioners and researchers worldwide to submit original technical papers for review and presentation in areas related to Smart Grids but not limited to the following tracks:

- Renewable Power Generation and its Efficient Utilization
- Smart Grid Information and Communication Technologies
- Smart Power Bulk Transmission System
- Smart Distribution System
- Smart Energy Utilization Smart Grid Operation, Control and Protection
- Electricity Market in Smart Grid
- Power Quality and Electromagnetic Compatibility
- Power Electronics and Its Applications
- Equipment and its Technologies in Power System

Paper submission deadline – 30 November 2013

Conference website – <http://ieee-isgt-asia-2014.com>

Email - ieeeisgtasia@gmail.com

IEEE NSW Section AGM – 22 November 2013

Novotel Sydney Parramatta, 350 Church Street Parramatta.

There is parking at the hotel (\$7 to \$14) or off-street meter parking.

The hotel is about ten minutes walk along Church Street from Parramatta Station.



Welcome to our New and Upgraded Members

New Senior Members

Anthony Chan
Ashish Prakash
Agalgaonkar
Branislav Hredzak
Jie Lu
Julio H Braslavsky
Mikhail Prokopenko
Priyadarsi Nanda
Quang P Ha

New Members

Andrew J Stewart
Andrew James Cook
Andrew P Bradshaw
Andrew Steven Dzurak
Anthony Fowler
Anthony Mhirana De Silva
Aola Ghoneim
Aron Michael
Ashley Horne
Ashnil Kumar
Ashoka Jayawardena
Asif Hassan
Augustine H Le
Bappi Barua
Basit Ali Zeb
Beihua Zhang
Ben Cassidy
BENEDICT GOH
Blake Welsh
Brett Hagelstein
brian mckeen
Catherine Chan
Chang Yu
Changliang Zheng
Chao Wang
Chao Wu
Chao Zhai

Chi Lung Li
Chris Williams
Christian ALEXander Webb
Christopher Rowe
Chukwuma Ehilegbu
Da Gong
Damith Buddika
Wickramasingha Abeywardana
Daniel Ninio Roxby
Daniel Thomas Debreceeny
Danielle M. Rager
Darek S Ocias
Darren Gareth Alvares
David Daniel Satchell
Dongvu Tonien
Dragan David Durakovic
Duolei Pang
Edmund Li
Elyse Caitlin Wise
Emma Mary Fitzgerald
Ernest Michael
Eugene Vitchaya Chong
Farookh Khadeer Hussain
Fengji Luo
Fillipe Georgiou
Geoff Bull
Gerald Thomas

New Members

Aaron Seng Wai Wong
Abdallah Kassir
Adrian De Silva
Adrian Dennis Lee
Ahmad Saleh Alnafessah
Alan D Blair
Alex Probst J Probst
Allen Barnett
Amer Mohammad Yusuf
Mohammad Ghias
Andrew George Platfoot

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New Members

Gilbert Verdian	Liang Han	Richard Brasier
Gnanakumar Thedchanamoorthy	Liang Tang	Richard Corkish
Guilherme Jorge Maeda	Liang Zhao	Richard Stuart
Haitao Fu	Libin George	Richard James Sofatzis
Hakan Evecek	Lindsay Lovat Fraser	Richard William Crawshaw
Harish Ramachandran	Lingqiao Liu	Rifai Chai
Harold Malcolm Hudson	Linton Rousseau	Robert J Koppelhuber
Harsha Prasanna K Prakash	Madu Prasad Hemakumara	Roman Kielich
Hassan Gul	Malcolm Egan	Ron Van Der Meyden
Hassan Shirzeh	Manu Mathew	S M Golam Sorwar
Haydn Keir Mearns	Mark Havryliv	Salvatore Mattera
Irfan Sohail Syed	Matthew Field	Samuel Braz
James Charters	Matthew Lee	Shan Chen
James Figtree	Matthew Dylan Conley	Shanta P Jayawardana
James Hamilton Laird	Matthew William Fairbairn	Shashika Lakmali Biyanwilage
Jason Hambly	Md Khaled Abu Mahmoud	Shoneet P Singh
Jason Howard	MD Shahidul Islam	Shuai Wang
Jayde Livingstone	Md. Masud Rana	Shuai Wang
Jebrin Al-Sharawneh	Meiling Wang	Simit Raval
Jiefeng Hu	Meng Xu	Stefanie Brown
Jing Jiang	Michael Cocks	Stephen Bremner
Jinguang Han	Michael Hoy	Steven Johns
John Charles Mudge	Michael Newman	Steven Chris Sultana
John William Matthews	Michael Leo Stack	Stewart Robert Tait
Jon Keeble	Mike Brooks	Stuart Gordon
Jonathan Charles Knott	Min-Hsiu Hsieh	Sugiharto Michael Ong
Jongsung Park	Mohammad Norouzi	Sukkim Chin
Jose Alejandro Monroy	Mohammed Golam Kaosar	Thavanathan Sujendan
Joseph Ian Walker	Mukesh Arjan Tejawani	Thomas Owen Glanville
Joseph Paul Gauthier	Nicholas Carydis	Tianle Tong
Julian Grodzicky	Nicholas John Anderson	Tuo Li
Julian Jenkins	Nikolaos Englezos	Upuli Priyadarshani Jayatunga
Ka Ming Leung	Ninor Mansor	Vineet Sapre
Kenny Hong	Nirmit H Shah	Vishnu Unnikrishnan
Kevin Anthony Wong	Nishad Rasanjana Mendis	Wei Li
Khairul Alam	Patrick Vera	Wessam Baghdadi
Khaled A Q Alnajjar	Paul P Breen	Xiang Zhao
Khwaja Mamduh Ghauri	Peter Curran	Xingbing He
Lachlan McCalman	Peter W Davidoff	Xuepeng Li
Lei Bi	Rajan Davio	Yang Du
Lelin Zhang	Rana Fahad Hussain	Yang Song
Leon K Macdonald		Yi Cao

New Members

Yi Liu
Ying Liu
Ying Zhang
Yiran Guo
Yulei Sui
Zhe Xu

New Affiliates

Alberto P
Avolio
Andrew Sim
Fletcher Joss
Hong-Bo Xie
Martin Kang
Rodd Zhang
Rylie A. Green
Yi Qian

Graduate Students

Abinesh Ilangovan
Ahmadreza Argha
Alonzo Daniel Sparkes
Anandalakshmi Kaliappan
Thevampalayam
Anup Kale
Aram Azad Mustafa
Avraham Arditi
Behzad Asadi
Bin Fu
Claudiu Sebastian Porumb
David Howell
Deepak S Sahay
Dennis Ong
Dipak J Patel

New Graduate Students

Donald G Dansereau
Farnaz Farid
Gang Tian
German J Castro
Ghias Farivar
Haitham Yaish
Harivina Gunnaasankaraan
Hoang Ha Le
Hong Chinh Doan
Ibrahim Radwan
Israel Casas Lopez
Jason John Sawras
Jingsong Xu
Jinjian Wang
kaibin zong
Kasra Khosoussi
KHAIRUL SAFUAN
MUHAMMAD
laith Ghunmat
Lakshitha I N Dantanarayana
Leah Thomas
LEI SHI
Liang Gong
Loris Marini
Madhu Alasyam
Marc James Piggott
Meng Fang
Michael L Smith
Mohib Shah
Muhammad Wasim Nawaz
Pasquale Aliberti
Quang L Thai
Ramana Murthy V Oruganti
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Salem Saleh Alamri
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Samiul Amin
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Sean Isaac Young
Shihao Yan
Steve Sam
Tanvir Anwar
Tawfek Khalefa Mahmoud
That Dinh Nguyen
Tom Molomby
Xiao Tan
Yi Lu
Yik Ren Teo
Yin Song
Ying Wang
Yousif Abdullah Al-Juaib
Yucheng Wang
Zachary Jeremy Taylor

New Student Members

Aaron Sanders
Balavelan Thanigaivelan
Bao Cao Quang Truong
Chao Zhang
Christopher Henry Belford
Darren James Vawdrey Hayes
Emanuel Gomes
Ermias Zerazon
Teweldemedhin
Farhad Gozasht
Gregory John Nimmo
Hao Cheng
Jacob Donley
James Andrew Dickinson
Jeonghwan Min
Jiajie Xiao
Jiawei Zhang
Justin Andrew Lewer
Karen Leanne Cambrell
Khalid Alonazi

New Student Members

Lee Min-zhao
 Leila Safari
 Linda Gock
 Luqman Ahmad
 Nur Fatihah Musa
 Oliver Michael Cliff
 Owen David Palmer
 Paul Michael Carter
 Princess Nicole Gutierrez
 Blando
 Ravi Glasser-Vora
 Salam Muhyee
 Shaghayegh Sharif Nabavi
 Shiyun Hu
 Soliman Samir Soliman
 Surya David
 Tan Hai
 Thomas Andrew Fisk
 Tristan Gutsche
 Tu Nguyen

New Associate Members

David R Jeffery
 Eleanor Gates-Stuart
 Mochammad Rusli
 Scott OBrien

Vale Sir William Tyree MIEEE

Sir William Tyree died on October 25, 2013. Born in 1921, Bill Tyree was an IEEE member and was arguably the most dominant figure in the post-WW2 era of electrical power engineering in Australia. In the late 1940's he established a transformer manufacturing facility at Kingsgrove that eventually grew to become the largest transformer manufacturer in Australia, providing distribution and power transformers for the rapid post war expansion of Australian electrical networks. He eventually sold the main transformer factory at Moorebank in Sydney to Westinghouse, and it was then purchased by ABB. However such was his love of the transformer industry that he then established another distribution transformer manufacturing plant at Mittagong.



Over the past two or three years he joined with a large transformer manufacturer in Europe to re-enter the power transformer field again and expanded his Mittagong plant accordingly. Such was his deep involvement and dynamism in transformer design and testing that he was sometimes to be found at the Mittagong factory on weekends helping to set up high voltage testing facilities, having borrowed sphere gaps

for impulse voltage testing from the high voltage laboratory at UNSW.

He was also a major philanthropist with a particular desire to invest in the education of young engineers. His commitment to education was an investment in Australia's future: "I want to try and improve the education of the people coming on to replace us old blokes because unless that happens, Australia will simply not achieve what it should".

He established the A.W. Tyree Foundation through which he donated funds to advance engineering and education, focusing on the growing needs of the power industry. He gave very substantial donations of money to Sydney University for an electrical protection laboratory and to the University of NSW for a building to house renewable energy research and development. He also provided a travelling scholarship every two years for a young engineer from an electrical utility or from industry to travel to the biennial CIGRE (International Council on Large Electric Systems) conference in Paris and to visit manufacturing and research sites in Europe.

Sir William was also a pioneer in breast cancer screening and he combined his engineering expertise with medicine to support breakthrough research into cochlear implants to treat deafness and the development of the bionic ear.

He will be greatly missed. The IEEE NSW Section extends their sympathies for his loss to his children, Christopher, Peter and Robyn.

Trevor Blackburn

IEEE ICC 2014 Workshops

Call for Workshop Papers

Prospective authors are invited to submit original technical papers for publication in the IEEE ICC 2014 Workshops and for presentation in the workshops.

Prospective authors should read the instructions available on the ICC 2014 Webpage: **Workshop Paper Submission and Author Guidelines**. Deadline for submission of Workshop papers: **15 December 2013**

For Information about specific workshops, click on the titles below

Workshops to be held on Tuesday, 10 June 2014

- W1: **Wireless Physical Layer Security**
- W2: **Massive Uncoordinated Access Protocols**
- W3: **Small Cell and 5G Networks**
- W4: **Enablers for Ultra-Low End-to-End Latency in 5G Wireless Communications Systems**
- W5: **Communications in Underground and Confined Environments**
- W6: **Secure Networking and Forensic Computing**
- W7: **Multimedia Communications & Services**
- W8: **M2M Communications for Next Generation IoT**
- W9: **Modular Medical Architectures. Life after Google Health**

Workshops to be held on Saturday, 14 June 2014

- W10: **5G Technologies**
- W11: **Fiber-Wireless Integrated Technologies, Systems and Networks**
- W12: **Advances in Network Localization and Navigation**
- W13: **Advances in Public Safety and Emergency Communications**
- W14: **Ecosystems for Software Defined, Context Aware, and Dynamically Adaptive Services Overlay Networks**
- W15: **QoE-centric Network and Application Management**
- W16: **Cooperative and Cognitive Mobile Networks**
- W17: **Energy Efficiency in Wireless Networks & Wireless Networks for Energy Efficiency**
- W18: **Emerging BAN Technologies (Half Day)**
- W19: **Traffic Identification and Classification for Advanced Network Services and Scenarios (Half Day)**

The IEEE ICC2014 Organising Committee reserves the right to cancel any workshop or merge it with another workshop if not enough papers are submitted to maintain to as a stand-alone workshop in the program.

For more details see

<http://www.ieee-icc.org/2014/programWorkshops.html>

Paper submission through EDAS

1. Go to <http://edas.info/>
2. Select 'submit paper'
3. Select ICC'14 WS to reach individual workshop submission links.

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Chapter & Affinity Groups AGM

IEEE NSW Section AGM

22 November 2013

6 pm to 7 pm Chapter and Affinity Groups AGM

7 pm to 8 pm NSW Section AGM

8 pm to 10 pm NSW Section Dinner

Novotel Sydney Parramatta, 350 Church Street, Parramatta.

Parking: see next page for map and directions.

RSVP: Friday 15 November 2013

(Kindly e-mail the completed form to Eddie Fong: eddiefong@ieee.org or phone: 0413777511)

IEEE NSW Section will cover the cost of your dinner (partner included) for all registrations received before the RSVP date above. However, for those no show at the event, then \$80 per person will be charged to your credit card.

Name:

Attending: AGM Dinner (Yes/No as applicable)

Tel: Membership No.:

Partner's Name:

Attending: AGM Dinner..... (Yes/No as applicable)

Credit Card No.: (This will be used if no show at the event)

Kindly e-mail the completed form to Eddie Fong: eddiefong@ieee.org or phone: 0413777511

IEEE NSW Section AGM – 22 November 2013

Location

Novotel Sydney Parramatta, 350 Church Street Parramatta.

The hotel is about ten minutes walk along Church Street from Parramatta Station.

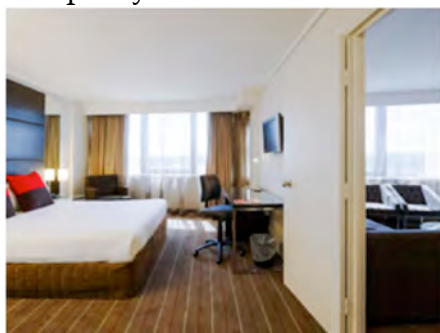
Parking

There is parking at the hotel (\$7 to \$14) or off-street meter parking.



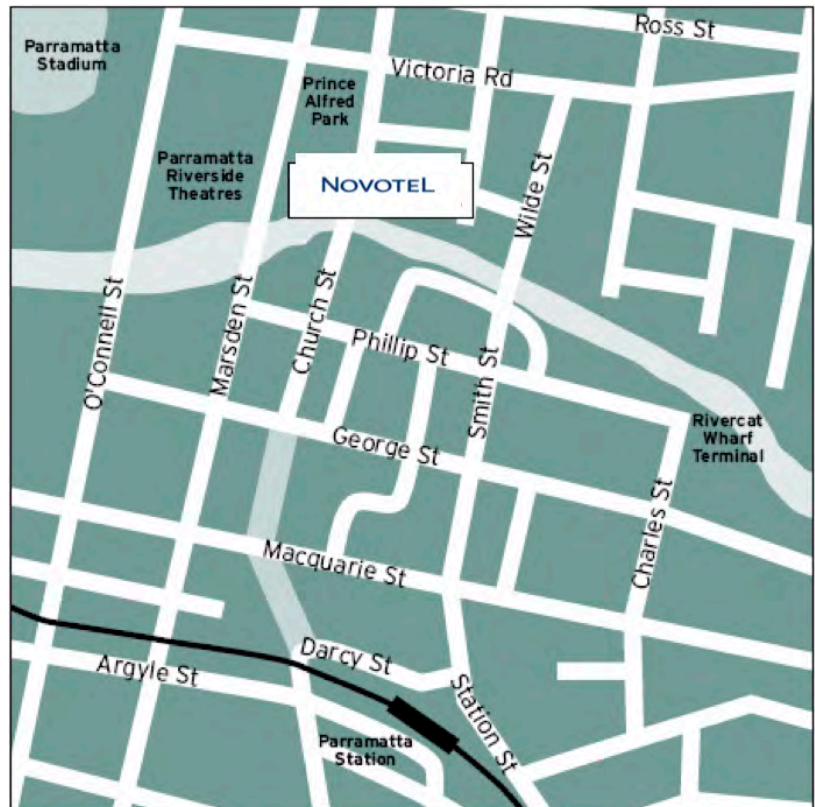
Accommodation

Accommodation is available if required at \$195 per night, single occupancy.



Please make your booking directly with the hotel, quoting code **IEEE1113**.

Phone 02 9890 7290



6 pm to 7 pm	Chapter and Affinity Groups AGM
7 pm to 8 pm	NSW Section AGM
8 pm to 10 pm	NSW Section Dinner

Please register before 15 November for the Dinner – see previous page.