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Editorial

Our CIRCUIT Editor Dr Prasant Misra has been successful in obtaining a Research Position in Stockholm and I have volunteered to serve as interim Editor until a replacement is appointed. I would like to thank Dr Misra for his contributions to the NSW Section and wish him all the best in his new job and for the future.

As always contributions to CIRCUIT by Members are welcome. If you have any interesting news to report, events that would be of interest or developments in research please do not hesitate to contact me.

I would like to inform you that our NSW Section web site has been updated with a Conferences TAB showing links to symposia and conferences the Section is sponsoring or has some involvement. I wish to thank Fuat Acar, our stand-in Webmaster, for his efforts and assistance. Please visit [http://ewh.ieee.org/r10/nsw/](http://ewh.ieee.org/r10/nsw/) and select the Conferences TAB.

Should anyone be interested in the position of CIRCUIT Editor or Webmaster please contact our Nominations Chair John Robinson or myself.

Antony Zaglas antonyz@ieee.org
Editor, Circuit Newsletter, NSW Section

1. Message from the Chair

I am honoured to work with a committee of dedicated professional volunteers during my 2-year term as the Chair of NSW Section.

This year, we initiated the Section Committee E-voting program. We have deployed the program for the NSW Section Committee 2013 election. To make it a success, we need your full participation to place your vote. The final result will be announced in the Section AGM & Dinner to be held at the Radisson Hotel on Friday 23 November 2012. Please remember to send in your RSVP for the AGM & Dinner as soon as possible as places are limited.

We celebrated our 40th Anniversary on 16 August 2012. Fellow Members, the Region 10 Director and Australia Council Members were invited to join us to celebrate this special occasion. We received feedback that members had enjoyed the celebration very much.

An exciting event taking place on 17-19 April 2013 is the Region 10 TENCON Spring Conference with “Personal Communication in a mobile world” and “Advanced Technologies & Economics of Energy Systems” being the themes. This will be a great opportunity for NSW members to submit technical papers to be selected for presentation and publication at this Conference. Please also see item 2.7 below and last page with Call for Papers.

We have also committed to sponsor the ICIEA 2013 Melbourne and the ICC 2014 Sydney Conferences. This is an exciting time ahead for all of us to be involved in the upcoming events. Please consider being actively involved in supporting your Section, Chapter and Society.

Once again, I look forward to meeting you on 23 November 2012 at the AGM.

May I also take this opportunity to wish you a Merry Christmas and a Happy New Year.
God bless you and your family.

Eddie Fong eddfong@ieee.org
Chair, NSW Section 2011-2012

2. News in Brief

2.1 Vale Neville Thiele - A Lifetime in Sound

Dr Albert Neville Thiele OAM, DSc(Arch)(hc), BE, FAES, FIEAust, MSMPTE, who died on 1 October 2012 at the age of 91, was a very distinguished Australian engineer. He is survived by his wife Lexie (née Anderson), who he married in 1953, and children Laurie and Miranda and their families.

As well as his family, he also loved classical music, theatre, red wine, the Goons, bushwalking and Australian fauna and flora (he was on the board of Wirrimbirra Sanctuary for many years). He lived life to the full.

He is best known for his work in electroacoustics, which continued throughout his career. His interest in sound evolved from his early experience as a boy soprano performing in the ABC Radio Studios with his brother Leonard and accompanied by his father, and later when writing skits for university revues. He also had lead acting roles with the Schavian Playhouse.

After early education in Brisbane, he spent most of the war years in the army in New Guinea. Subsequently he studied engineering at the University of Sydney, graduating with a BE (Mechanical and Electrical) in 1952, where he learnt about steam engines, which no doubt helped with the mechanical aspects of speaker design.

He then worked for EMI (Australia) Ltd for ten years on the design of consumer audio, radio and video equipment. He was responsible for applying advanced technology to EMI Australia’s radio and television receivers and electronic test equipment. When television started in Australia, and after a stint in 1955 in the overseas laboratories of EMI, he lead the design team that developed the first HMV/EMI Australian television receiver. To test its packaging, he sent the first prototype tumbling down a flight of steps.

While at EMI in 1961 he published a pair of papers on ‘Loudspeakers in Vented Boxes’ in the Proceedings of the Institution of Radio Engineers Australia (later IREE Australia), building on earlier analysis work by Novak and others. For a long time these papers were little known outside Australia, but they received international recognition when republished in the Journal of the Audio Engineering Society (AES) in 1971. They are now considered to be landmark papers in the field.

Essentially, they disclosed for the first time how the speaker enclosures could be systematically designed to give desired frequency responses in the bass region. He found that only a small number of parameters were needed to characterize the essential features of a loudspeaker driver at low frequencies, and the box design could then follow, without having to actually build it. The required parameters (the driver’s free air resonance, electrical and mechanical Qs, DC resistance, piston area, etc.) could easily be measured, and the entire electromechanical system could be represented and analysed as a simple electrical equivalent circuit.

These papers were extended in the 1970s by Richard Small, then at Sydney University, in a very influential series of papers published by the AES, and also by J.E. (Ernie) Benson, at that time in AWA. The expanded set of driver parameters became known as the Thiele-Small parameters, and are now almost universally specified by serious driver manufacturers.

Neville moved to the ABC in 1962, where he stayed until his retirement at age 65 in 1985 (though he never really retired). His work there was initially designing and assessing equipment and systems for sound and television broadcasting. He ultimately became Director, Engineering Development and New Systems Applications, responsible for the ABC’s engineering research and development. As a fan of public transport, while at the ABC he travelled by train to work with his portable office in a big bag, working away and never wasting a moment. While
at the ABC he made many novel contributions to TV and audio testing, filter design (including early active filters), cable equalization and broadcast standards. Among other things he designed the Telephone Recorder Connector that delayed telephone conversations so that the operator could kill unwanted speech, and also designed variable video delay lines for colour TV.

Following his retirement, he was made an Honorary Visiting Fellow of the University of New South Wales (1991 – 93) and an Honorary Professional Associate of the University of Sydney (1994 – 2012), where he continued to research and lecture on loudspeakers and filter design in the faculty of Architecture until quite recently.

His output of original papers actually increased after his retirement: e.g. 21 papers were published by the AES alone in this period, mostly on loudspeakers, filters and crossover networks. His original work throughout his career was always characterized by deep insight and an elegant marriage of theory with practice.

Another aspect of his activities over many years was his involvement with standards organisations, both national and international, starting with standards for the introduction of the colour television service for the Australian Broadcasting Control Board (1969-1974). He represented Australia on the International Radio Consultative Committee (CCIR) of the International Telecommunications Union (ITU) regarding standards for sound and television broadcasting (1980 – 1985), as well as other CCIR groups. He was chairman of the CCIR Sub Working Group CMTT-C-1 on Long Distance Transmission of Analogue Sound in 1985. He was also involved in standards relating to loudspeakers, digital audio and electroacoustics for Standards Australia, for the International Electrotechnical Commission (IEC), and for the AES.

His numerous contributions to the profession over the years have been recognized by the many awards he has received, culminating in the Medal of the Order of Australia (OAM) in 2003 ‘for service to audio engineering, particularly in the field of loudspeaker design and the development of audio engineering standards’. In 2008 he received the degree of Doctor of Science in Architecture (honoris causa) from the University of Sydney, a well-deserved recognition of his standing in the profession.

The IREE Neville Thiele Award is named in his honour. It is the most prestigious award given by the Information, Telecommunications and Electronics Engineering (ITEE) College of Engineers Australia. It also recognises the IREE, which represented the profession of radio and electronic engineering in Australia for many years (till absorbed into Engineers Australia). He was president of the IREE in 1986-1988, and received its Award of Honour in 1996. He also received two Norman W.V. Hayes Medals for best paper from the IREE (1968 and 1992). Other major awards include the Silver Medal of the AES ‘for pioneering work in loudspeaker simulation’ (1994), The Australasian Sound Recordings Association award for outstanding technical achievements (1995), the IEEE Masaru Ibuka Consumer Electronics Award ‘for major contributions to the synthesis and analysis of loudspeakers’ (2003, jointly with Richard Small), and the Peter Barnett Memorial Award by The Institute of Acoustics (UK) ‘for technical excellence, practical advancement and education in the fields of electroacoustics and speech intelligibility’. He was Vice President, International Region, of the AES from 1991 to 1993.

Neville Thiele has left a lasting legacy, especially in the audio and broadcasting worlds, both in Australia and internationally. He never stopped working, right to the end, and was a mentor and friend to many.

Dr Harvey Holmes
IEEE Life Senior Member

### 2.2 NSW Committee Nominations

Annual Elections for 2013 Section Positions will be using the vTools electronic voting system. Postal Ballots will be sent by John Robinson to each Active member without an email address. Unfortunately Students, Associate grade members and Affiliates are not qualified to vote.

I have been unable to make contact with the following members:

- Almarza Farias Kensington
- Chi-Wah R Chow Cherrybrook
- G Wong St Ives
- Heidari Alireza Kensington
- Sadnam Hasan Kensington
- Simon J Butler North Sydney
- Weijie Lim Kensington
- Xiran Shi Kensington

Can these members please contact/ring me on 9418 8695.

The Nominations for the Executive are:

**NSW Section Chair:** 1st Ian Boyd, 2nd Eddie Fong

**NSW Section Vice Chair:** 1st Tony Zaglas, 2nd Karu Esselle

**NSW Section Secretary:** 1st Dushmantha Thalakotuna, 2nd John Ypsilantis

**NSW Section Treasurer:** Mark O'Mally (unopposed 2nd year term of office)

You will receive a voting notice for the Section Election shortly and I ask all Members to please participate in the election. You will need to have an
IEEE web account to vote. If you do not have an account please go to http://www.ieee.org/go/create_web_account and create one.

I would again ask members to please consider Nominating for service on the Section Committee as well as for elected office. Elsewhere in this edition will be information pertaining to the AGM meetings of the various Chapters and Affinity Groups. Please endeavour to attend these meetings and support the elected officers.

John Robinson  jl.robinson@ieee.org
Chair Nominations, NSW Section

2.3 Stefan Mozar Elected Consumer Electronics Society President

On behalf of the NSW Section I would like to congratulate TENCON Spring 2013 General Chair Stefan Mozar on his election as President of the IEEE Consumer Electronics Society. Stefan has been a long time NSW Section, NSW Computer Chapter and IEEE volunteer. He is Vice President for Conferences and President Elect of The IEEE Consumer Electronics Society.

Tony Zaglas  antonyz@ieee.org
NSW Section Secretary

2.4 IEEE Technologies of the Future (iToF) 2012 Competition and Exhibition

The fourth annual IEEE Technologies of the Future Competition and Exhibition was organised by the IEEE UNSW Student Branch on the 22nd October 2012 at the University of New South Wales (UNSW).

This year there were 26 entries from four universities. Represented were UNSW, Sydney University, University of Newcastle and Macquarie University. Introductions were by Dr Elias Aboutanios, UNSW Student Branch Councillor and the opening address was delivered by Prof Graham Davies, Dean, Faculty of Engineering.

Dr. Muhammad Aamir Cheema, Research Fellow, UNSW, delivered the Keynote presentation the basis being his award winning paper on “Efficiently Monitoring Top-k Pairs over Sliding Windows”.

Prize Winners were:

Project Demo for Undergraduates
1st: Jason King, UNSW
2nd: Thomas Cooney, UNSW
3rd: David Budden and Shannon Feng, University of Newcastle

Poster for Postgraduates
Energy and Green Environment: Yan Xu, University of Newcastle
Improving Quality of Life: Libin George, UNSW
Towards Miniaturisation: Sachin Wadhikhaye, University of Newcastle

Congratulations to the winners and thanks to all the delegates for participating and making the
event a success.

Sponsors this year included The University of NSW Engineering Faculty, CSIRO, Dolby, NICTA, Element 14, IEEE NSW Section and UNSW Student Branch.

I would like to express my appreciation and on behalf of the Section extend many thanks to Dr Aboutanios, Branch Chair Ms Yogita Chapre and the UNSW IEEE Student Branch who organised the event and contributed their valuable time.

Tony Zaglas antonyz@ieee.org
NSW Section Secretary

2.5 40th Anniversary/Fellows Function

The 16th of August 2012 marked the 40th anniversary of the IEEE Australia Section which was formed by petition in 1972. To celebrate the occasion the New South Wales Section held a function and dinner at the Radisson Hotel Sydney. The function was attended by over 40 members and guests. The function also doubled as a meeting for New South Wales Fellows and seven fellows with partners attended. In addition there were guests from Engineers Australia and the IET. Dr Ramutis Zakarevicius, NSW Section Historian, gave an excellent talk on the formation and history of the Australian and NSW Sections from 1972 to the present day, with details and photographs of major events, important visitors and volunteers. The Australian Section was formed by a petition instigated by the late James Vasseleu in 1972 who also was elected founding Section Chair at the first meeting on 12 September 1972 at Neutral Bay. James Vasseleu also served as Region 10 Director in 1977-1978.

In December 1985, following the creation of the IEEE Victorian Section in 1983, the Australian Section was renamed New South Wales Section and the Australia Council was formed with James Vasseleu founding Chair.

Dr Zakarevicius Receiving the R10 OVA for 2011 from Section Chair Eddie Fong

Tony Zaglas antonyz@ieee.org
IEEE NSW Section Secretary

2.6 AGM and Annual Dinner

The NSW Section Annual General Meeting (AGM) will be held at the Radisson Hotel, 72 Liverpool Street, Sydney on 23 November 2012. Chapter and Affinity Group AGM’s start at 6pm, followed by the Section AGM at 7pm. A delectable seafood buffet will follow after the conclusion of the NSW Section AGM at approximately 8pm. The NSW Section will again be covering the cost of the dinner. The RSVP date is 16 November 2012.

Further information (including maps and links pointing to nearby parking) can be found on the booking slip on page 17 of the newsletter.

Eddie Fong eddiefong@ieee.org
Chair, NSW Section 2011-2012

2.7 TENCON Spring 2013 Conference

The Australian IEEE New South Wales Section will be hosting the inaugural IEEE TENCON Spring 2013 conference in Sydney, Australia from 17 to 19 April 2013. On behalf of IEEE Region 10 and the IEEE New South Wales Section, we invite you to participate in this exciting new conference. The conference will be held at a CBD hotel in Sydney, details will be posted on the Conference web site shortly. The “Spring” in TENCON refers to the Northern Hemisphere season.

TENCON Spring is a sister conference of the well
known TENCON conference. Both conferences are initiated by IEEE Region 10. Prof Vassilios Agelidis and Prof Jinhong Yuan from the University of New South Wales are the Technical Chairs of the conference. Prof Vassilios Agelidis will lead the Electric Power Program and Prof Jinhong Yuan will lead the Electronics and Communications program. For program details and paper submission, please visit http://www.tencon2013.org.au/. See last page of this edition of CIRCUIT for the Call for Papers.

Tutorial proposals are to be submitted to Prof Agelidis for Power and Prof Yuan for Electronics and Communications by 30 November 2012.

The Conference will include a “doctoral workshop” open to PhD students. It will provide Doctoral students with an opportunity to learn more about how to present papers, and how to improve or expand on their research. Best paper prizes will be presented in a few categories. Best student paper awards will also be presented.

A number of very high profile keynote speakers, who have helped in changing our world, will be present, as well as many industry leaders. Please visit http://www.tencon2013.org.au/ for more details and to keep abreast about developments.

The social program will include a Sydney harbour dinner cruise and there are many other interesting social events for spouses to visit in Sydney and its surrounds.

The Organising Committee welcomes offers of patronage from interested parties. The patronage packages listed below can help you showcase your brand’s excellence to the IEEE community.

- **Diamond Patron**
- **Platinum Patron**
- **Gold Patron**
- **Silver Patron**
- **Bronze Patron**
- **Other Patron Opportunities**

If you require more information, have any questions, or would like us to customize a package just for your company, please contact Tony Zaglas Conference Sponsorship Chair antonyz@ieee.org.

The organising team looks forward to welcoming you to Sydney, Australia in April 2013

Stefan Mozar
General Chair

Eddie Fong
General Co-Chair

### 2.8 Macquarie University IEEE Student Branch Activities

In the third quarter of 2012, IEEE Macquarie University Student Branch was mainly involved in promoting engineering activities by providing support to Robotics events conducted by first FRC (FIRST® Robotics Competition) team in Australia and the Department of Engineering at Macquarie University.

The first major event supported by student branch volunteers was the FIRST™ Robotics Competition (FRC) event in Australia – “The Duel Down Under”. Although robotic events have been held in Australia before, this was the first national-level FRC event held in Australia, a true landmark in the history of robotics.

The medium size robots built by teams of high school students had to compete against each other in a basketball game. There were six robotics teams competing in the tournament with each team having 15-20 members. Each team built one robot from the robot building kits provided by the FIRST® organizers prior to competition date. The event was held at Barker College, Sydney where it ran for full three days starting from 28th June. The first day mainly focused on practice rounds, with the tournament starting on second day. The last day was open to the public and there were over 300 visitors.

The second event was “Robotics Fun day” held as a part of Australian Engineering Week (AEW) on the 5th of August from 2-4 pm at Macquarie University. It was a fascinating two hours on a Sunday afternoon filled with keen kids of all ages engaging in robotics activities. The major objective of the event was to get children involved and build interest in engineering activities from childhood. There were activities for children of all ages ranging from lectures on robotics, displays and interactive robotic programming sessions. The robots demonstrated during this time were mostly small size robots built from LEGO. The event was well attended event with over 400 participants. IEEE student branch volunteers supported this event through assisting children with designing and programming LEGO robots.

In addition to the robotics events, IEEE MQ branch
members were involved in organizing an IEEE Distinguished Lecture Series jointly with NSW AP/MTT chapter. As part of this joint lecture series, IEEE distinguished lecturer Prof. Kwok Wa Leung has delivered a lecture on “Transparent Antennas” in June 6th at Macquarie University. The use of commercially available glasses with transparent conductive thin films to create 2D planar and 3D antennas was presented during this lecture.

In August, the members of IEEE MQ student branch have arranged their first non-technical networking activity in 2012. As a part of this activity, a guided kayaking tour was organized in the Bundeena River. It was a full day event with around 13 participants. The guided kayaking tour went for 3-4 hours including a morning tea break at the river bank. The activity concluded with a BBQ at Wattamolla lagoon in the evening at Royal national park.

Dushmantha Thalakotuna
Chair, IEEE MQ student branch

2.9 Sydney University IEEE Student Branch Activities

Sydney University Student Research Conference
The fourth Student Research Conference was held at the University of Sydney on Monday 24 September, 2012.

The IEEE NSW Section sponsored two prizes this year, Best Paper Presentation Electrical and Information Engineering(EIE) and Best Paper Presentation Information Technologies(IT).

The conference this year included 13 presentations and 27 posters from current senior postgraduate engineering and information technology students within the faculty.

Ms Mahboobeh Moghaddam winner of the Best Student Paper Presentation for IT

NSW Section Secretary Tony Zaglas presenting Mr Yan Shvartzshnaider with Invitation to the AGM for Best Student Paper Presentation for EIE

Congratulations to this year’s prize winners; Mr. Yan Shvartzshnaider(EIE) for his presentation, Information-Centric Architecture to Support Agile Disaster Response and Ms Mahboobeh Moghaddam(IT) for her presentation, An Auction-Based Approach for Composite Web Service Selection.

The winners were presented with invitations by Antony Zaglas, NSW Section Secretary, to the NSW Section AGM and Annual Dinner for the official presentation of the prizes.

There was also a Poster Competition and the Sydney University IEEE Student Branch Vice Chair, Andrew Clayphan won first prize for his Poster titled “Design for Negotiated Scripted Tabletop Collaboration”. The prize was presented by Prof David Dagan Feng IEEE Fellow.

Other Student Branch Activities
On 10 October the Student Branch organized a lecture by Prof Iain Collings (Research Director, CSIRO ICT Centre) on Generating Impact from Research in Wireless Technologies. The lecture was well attended.

Prof Iain Collings Lecture at Sydney University

The Sydney University Student Branch also organised a lecture on 8 August 2012 to promote Australian Engineering Week. The lecture was on The Secrets of the Innovative Mind by Dr Ehssan Sakhaee(See item 2.10 below).

A site visit has been organised for Tuesday 6 November 2012 of the TransGrid Sydney West 330/132kV Substation, Eastern Creek. For an event flyer and registration please see: http://www.ee.usyd.edu.au/ieee/UserFiles/File/IEEEETransgridTour.pdf
More information can be obtained from David Browne david.browne@sydney.edu.au.

You can keep up to date with past and future Student Branch events at: http://www.ee.usyd.edu.au/ieee/events

Sydney University Research Conversazione 2012

On 2 November 2012 I attended Sydney University Conversazione, an event highlighting student research in Engineering, Project Management and IT. I visited the Electrical Engineering and IT poster sessions and associated prize presentations.

There were some 175 entries in total and a large number of prizes covering all categories. The Event principal sponsor was Transgrid. Other prize sponsors included ABB, Alstom, Ampcontrol, Cochlear, Dulhunty Power, Freelancer, Lenovo, NHP, NICTA, ResMed, Telstra, Tyree Industries, Amadeus and Smart Services CRC.

I will try and provide a more comprehensive article in the next CIRCUIT.

2.10 Australian Engineering Week

Australian Engineering Week was held between 6 and 12 August 2012 with events and site visits throughout Sydney and regional New South Wales. The Harrick’s address attendance was significantly higher than 2011 and the interview of Frank Sartor was well received by those present.

Attendance throughout the 2012 AEW was on a par with 2011 with some events scoring an increase and some having reduced participation.

I attended the ABC site tour on Friday 10 August. There were almost 30 visitors that attended the tour hosted by ABC stuff. The tour included the Control Room, the 7:30 Report and Media Watch Studios, Studio 22, makeup and prop rooms as well as back stage areas. We also viewed the Regional Radio studios during actual broadcasting. Studio 24 unfortunately was not accessible due to refurbishment work.

The Macquarie University IEEE Student Branch was involved in the Robotics Fun Day held on 5 August and there were about 400 in attendance.

Sydney University IEEE Student Branch organised a lecture on The Secrets of the Innovative Mind by Dr Ehssan Sakhaee with over 50 in attendance.
Sponsors of AEW included APEASMA, IET, Macquarie University, Aurecon, UNSW Engineering, NSW Transport, EEA, Hyder, Consult Australia and the IEEE NSW Section.

I would like to thank the AEW Organising committee, the sponsors, student branch volunteers and Councillors for their efforts and hard work.

Tony Zaglas antonyz@ieee.org
IEEE NSW Section Secretary

2.11 National Electrical Building Services and Industrial Installations Conference and Exhibition

Call for Abstracts
The Engineers Australia Electrical College Board is hosting the inaugural National Electrical Building Services and Industrial Installations Conference and Exhibition 16-18 April 2013 at Docklands Sydney. This conference is recognising a need to provide the members with a relevant continual professional development program in the area of electrical building services and industrial installations. Attendance will be credited towards Members CPD.

We expect a large number of younger professionals, new to the industry attending the conference which provides the opportunity for exhibitors to get to know them as future customers.

The theme of the conference and exhibition is “21st Century Building Services and Industrial Installations – opportunities and challenges”. Critical Power Supply Technology, Safety in Design, Renewable Energy and Integrated Design are examples of topics that will be covered by industry experts. Panel discussion on the role of electrical building services engineers and architects in Smart Buildings will benefit not only the designers but also the operators / developers who invest in smart technologies to have a sustainable building that attract quality clients and reduce maintenance costs.

Call for Abstracts closes on 19 November, 2012.
The link below provides some further information or call Mai Yeung on 0414 24 072 directly.
https://www.engineersaustralia.org.au/nebsii

NEBSII CON 2013 Organising Committee Chair
Electrical College Board
Mai Yeung Mai.yeung@aecom.com

I would like to advise all members who have created a web account and have not updated their details to do so at their earliest convenience. You may do so at:
http://www.ieee.org/membership_services/membership/my_ieee.html?WT.mc_id=tu_myieee and clicking Access myIEEE. A Sign in window will request your login information. Alternatively you can visit http://www.ieee.org/go/my_account. If you have forgotten your user name and password you can click Forgot username or password and you will be guided through the recovery procedure.

If you do not have a web account I would encourage you to create one to take advantage of additional IEEE services including an IEEE email alias. You can create a web account by visiting http://www.ieee.org/go/create_web_account

Members requiring additional assistance can reach the IEEE Support Centre at http://www.ieee.org/about/contact_center/index.html then clicking “Visit Support Centre”. You can also email: contactcenter@ieee.org
445 Hoes Lane
Piscataway, NJ USA 08854
Telephone Worldwide: +1 732 981 0060

2.13 Senior Member Update

For members who are qualified to be senior members, I would like to urge you to upgrade to senior membership in order to boost the status of our Section. To upgrade to senior member, you will require three referees. However, if you are being nominated by the section, you only require two referees.

More information and application form at:
http://www.ieee.org/membership_services/membership/senior/app_guide.html

If you would like to discuss upgrading your membership, or any other membership related matters, please contact me with your details, I would be very happy to assist you.

I would also like to inform those members that are nearing Life Member status the IEEE will contact you when you are eligible so please make sure your contact details in the database are current.

Bruce Poon bruce.poon@ieee.org
Membership Development Chairman,
IEEE NSW Section
Welcome to our New and Upgraded Members

Senior Member Grade
Charles M Bachmann
Holly Tootell
Irina R Radeja
Ramtin Shams
Shui Yu
Wanqing Li
Xuemin Lin

Member Grade
Adam James White
Aftab Hussain
Ahsan A Chaudhry
Aimee Louise McNamara
Alam MD Zahangir
Alan Kurusingal
Alan T Murray
Alanna Heather Therese Vial
Almarza Farias
Aliakbar Samirad
Alex Probst
Alanna Heather Therese Vial
Andrew P Bradshaw
Andrew Ming See
Andrew James Cook
Andrew Mc Laren
Amgad George Habib
Andrew Mg See
Andrew P Bradshaw
Anthony Knittel
Arcot Sowmya
Arum Babu Thangaraju
Bappi Barua
Barathkumar Vellingiri
Benjamin Charles Roesler
Bhramavan Sivanandan
Bill Sami
Bin Duo
Bo Yang
Cathy Liu
Chaojie Zheng
Cheng-Chung Lin
Cher Hau Seng
Christopher Gerard Byrne
Clinton Goodwin
Craig Matthew Brown
Cristhian Javier Zapuquira Ortiz
Dae-Yeon Won
Darren John Woodhouse
David SilveraTawil
David C Snowdon
David Sean Henry
Eugene Doma
Evan Morrison
Ezra Beeman
Filippo Galgani
Gautam Manoharan
Georgios Angelis
Georgios Konstantinou
Gitanjali Pradhananga
Gautam Manoharan
Filippo Galgani
Ezra Beeman
Evan Morrison
Eugene Doma
David Sean Henry
David C Snowdon
David John Woodhouse
Darren John Woodhouse
Dae-Yeon Won
David SilveraTawil
David C Snowdon
David Sean Henry
Eugene Doma
Evan Morrison
Ezra Beeman
Filippo Galgani
Gautam Manoharan
Georgios Angelis
Georgios Konstantinou

Graduate Student Members
Abdallah AL Sabbagh
Adrian Dennis Lee
Ali A Juzer
Ali Reza Heidari
Amila Suranga Wickramasinghe
Andrew Clarke
Anthony Espinoza
Anthony Fowler
Anup Kale
Arba Khan
Astrid Zeman
Ayobami Babatunde Iji
Azadeh Safari
Bahareh Nazari
Beesha Mabedawanda J
Behnam Mahamed
Billy Promsiong Waters
Chao Wu
Daniel Ninio Roxby
Dao Vu
David Antony Matthew McKenzie
Dennis H Garnsey
Ewald Enzinger
Farzad Noorian
Fatima Furqan
Gillie George Olickal
Gnanakumar Thedchanamoorthy
Graeme W Lowe
Greg Campbell
2.14 Welcome to our New and Upgraded Members

Graduate Student Members Cont.
Guilherme Jorge Maeda
Gurvinder Pal Singh
Haibin Zhang
Haiming Wang
Hamed Monkarezi
Hesamoddin Marzooghi
Hunter Ho
Ibrahim Hamed Radwan
Isaac E Palacios
Janet Yue
Jason John Sawras
Jibrin Al-Sharawneh
Jiefeng Hu
Jing Yue
John Smolders
Jose Alejandro Monroy
Juan Oslos
Ke Xu
Lingkan Gong
Lionel Ott
Liwei Li
Mahdi Fahmideh Gholami
Mahyar Shirinimoghadam
Marco Antonio Camiel Furlanetto
Martin Bajalan
Masud Rana
Matthew Imhoff
Md A Abdullah
Md Tanvir Rahman
Michael Hoy
Michael van Leeuwen
Mischa Reznik
Mitesh Patel
Mohammad Norouzi
Mohammad Aniflu Huq
Mollah Rezaul Alam
Muhammad Ali Masood Cheema
Nawid Jamali
Ni Ding
Paul Chun Hymn Wong
Peng Lu
Perzila Arab
Peter Allen Johnson
Phyo Phyo San
Rajan Davio
Reza Farid
Rhys Preston
Roman Marchant
Ruixin Bai
Sasareka Malithi Gunawardana
Shoneet P Singh
Sk Razibul Islam
Weici Chen
Yi Cao
Yi Lu
Yik Ren Teo
Yingjie Tan

Associate Member
Adrian Bradd
Balavelan Thanigaivelan
Changliang Zheng
Clinton Stewart
Dharmesh Mulia
Julie Kowald
Lai Zhang
Michael Weaver
Mohammad Rusli
Saeed Al-Shahrani
Shah Md Ehteshamul Huque
Stewart Robert Tait
Susanna Guatelli
Timothy Ian Muscat
Utso Roy
Yasmin Medhavi Fernando

Affiliate
Guillaume Smith
Kathryn Kennedy
Levy Zapanta
Luke Brindle
Stuart Driver

Student Member
Alastair James Quadros
Blayne Massey
Chao Wang
Christopher Matthew Sharples
Dillon MacEwan
Ian Shephard
James Daniel Foster
Jason Traish
Kewei Clare Guo
Massood Keshavarz Siahpoosh
Matthew Dabin
Nathan Penzer
Neil Atish Shankar
Patrick Daly
Robert Adams
Rohan Brooker
Salman Faizal Shahabudeen
Sean Moloney
Shilp Kumar
Steven Johns
Steven Zhu
Su Myat Khine Win
Suhaib Islam
Thomas Andrew Fisk
Vic Cinc
Xingbing He
Yufeng Lai

3. Chapter News

3.1 Joint OCEANS/Signal Processing and Communications Chapter

IEEE Oceanic Engineering Society

The IEEE NSW Section’s Joint Chapter of the Communications/Signal Processing/Oceanic Engineering Societies organized two Technical Meetings in 2012 on Acoustic Systems Engineering. The first meeting on Thursday 23rd August marked the second anniversary of the IEEE Oceanic Engineering Society’s prestigious OCEANS ‘10 IEEE Sydney Conference and Exhibition 24-27 May 2010. This meeting was scheduled as part of Engineers Australia (Sydney Division) Joint Electrical Engineering Institutions’ Program 2012 and held in the Engineers Australia Harricks Auditorium in Chatswood. A total of 67 people registered for the meeting. An Administrative Meeting of the Joint Chapter was held after the Technical Meeting. The technical presentation on “Passive Sonar Signal Processing for Underwater Vehicles: Autonomous Undersea Gliders to Submarines” was presented by Dr Brian Ferguson, DSTO.

The second meeting scheduled for Wednesday 14th November at Engineers Australia in Newcastle is in response to an invitation from the Newcastle Division’s Electrical Branch. The topic for presentation is “Acoustic Systems Research and Development for Defense Applications” and will be delivered by Dr Brian Ferguson. It will feature the inner workings of acoustic detection, classification, localisation and tracking systems designed for sources of military interest, which range from snipers to jet aircraft. The results of processing real data collected at Australian Army and Air Force bases in the Newcastle region will be demonstrated.

John Robinson,
OES Technical Meeting Coordinator
The 23rd annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC’12) was held in Sydney, Australia, from 9 - 12 September 2012. PIMRC’12 featured guest keynotes from Ericsson Australia and New Zealand CEO Dr Håkan Eriksson, NBN Co CTO Gary McLaren, and Optus Networks MD Günther Ottendorfer. For the first time in its 23 years history PIMRC was held in the Southern Hemisphere. The host city Sydney was evaluated as a perfect location for PIMRC’12 in its best weather season. CSIRO and the University of Sydney were the hosts of the PIMRC’12.

In continuation of IEEE PIMRC legacy that have always provided high quality technical programs, we welcomed over 600 researchers from Australia and overseas to the IEEE PIMRC’12 in Sydney. A very rich program with around 450 papers accepted in technical sessions and workshops in the timeliest topics of research in the field of mobile communications was presented to the attendees. All accepted papers have gone through a very rigorous peer review process with a minimum of three independent expert reviews. The technical sessions and the workshops provided the conference attendees with the latest technological developments in the field as well as some emerging technologies for future network developments. The conference also included a very strong program for the three workshops in the most recent emerging technologies and eight tutorials covering some highly interesting topics. The organizing and program committees consisted of some well-known researchers from across the globe. Attendees left Sydney with a memorable story of their experiences.
3.2 Power and Energy Chapter (PES)

Down to Earth Conference
The "Down to Earth Conference 2012" (DTEC12) was held at the Crowne Plaza Hotel in the Hunter Valley on October 9-11. The conference was run by Engineers Australia and the NSW Section of IEEE, through the NSW PES Chapter was a technical sponsor of the event.

As the name implies the conference was devoted to electrical earthing in all of its practical applications. The aim of the conference organisers was to provide a conference for the benefit of actual practitioners in the field rather than for presentations of more academic papers. The justification of this approach was quite successful and apparent in that the conference attendance exceeded expectations with some 190 attendees at the three day event. Despite the attractions of having an on-site golf course as part of the hotel amenities, every presentation session was so well attended that standing room was the only option for late arrivals.

The conference had the first day devoted to six earthing tutorial sessions, with the topics covering earthing fundamentals, earthing design procedures, lightning and communications system earthing, mining system earthing, testing of earthing systems and management of earthing in large interconnected power systems.

There were about 60 presentations given in the main sessions and also a panel session that included discussion of the current and impending changes to the current high voltage substation standard AS/NZS 2067, the implications of the recent ENA earthing guide and the changes that are being presaged by modern approaches to electrical safety and electric shock and the way in which these can be integrated better into earth potential rise determinations, and in step and touch voltage issues.

Overall the conference was an outstanding success and showed that earthing is a vibrant area of electrical engineering and an area where there are considerable changes occurring in the ways in which earthing is designed and applied, particularly in mining and industrial systems. The next DTEC will be held in Perth in 2014.

Prof Trevor Blackburn t.blackburn@unsw.edu.au
Chair, IEEE NSW PES Chapter

Lecture by Prof Ryuichi Yokoyama at UNSW
On 3rd October IEEE Fellow Prof Ryuichi Yokoyama of Waseda University Japan gave an excellent lecture at the University of NSW on Resilient and Expandable Electrical Distribution Networks for Smart Communities and for Disaster Recovery.
The lecture covered topics such as recent distribution network outages (US, Canada, Italy, India and Japan), sources of power and statistics, types of distribution networks, CO₂ emissions by country, smart grid development distributed generation and the consequences and after-effects of the Japanese earthquake/tsunami and subsequent nuclear disaster. The lecture was attended by almost thirty members and guests including students.

Tony Zaglas  
antonyz@ieee.org  
NSW Section Secretary

The Western NSW Solar PV Project

There will be a Lecture at Engineers Australia on Monday 26 November 2012 on the Western NSW Solar PV Project (Total 300MW). The presenter will be Doug Landfear of AGL Energy and there is a $10 charge for non EA or SSEE members. For more details and registration please see http://www.engineersaustralia.org.au/events/western-nsw-solar-pv-project and http://www.engineersaustralia.org.au/sites/default/files/sseeevent_nsw_solarproject.pdf

Tony Zaglas  
antonyz@ieee.org  
NSW Section Secretary

PES AGM and Nominations

I would like to invite PES Members to attend the AGM on Friday 23 November 2012, 6:00pm and participate in the election of 2013 Officers. For more details please see page 17 of this newsletter.

The Nominations for 2013 PES Officers are:

Chair: Prof. Gerald Sheble(FIEEE)  
Vice Chair: Dr. John Ypsilantis  
Secretary/Treas: Dr. Geogios Konstantinou

John Robinson  
jl.robinson@ieee.org  
Nominations Chair, Power & Energy Chapter

3.3 IAS/IE/PEL Joint Chapter

On 18 September 2012 Prof Xinghuo Yu, IEEE Fellow and IES Distinguished Lecturer, of RMIT gave an excellent lecture on Information and Control in Smart Grids. The lecture at UTS was attended by almost 40 members and guests and included students. The lecture covered the basics of Smart Grids and recent developments as well as recent research projects.

Prof Yu gave an introduction regarding the formation and history of the Industrial Electronics Society. Topics covered included smart energy, smart grids and their control, communications and generating sources. The related issues of energy efficiency, losses, embedded generation and demand management were discussed. There followed an extended question and answer session with numerous questions and detailed answers by Prof Yu.

Tony Zaglas  
antonyz@ieee.org  
NSW Section Secretary

3.4 IEEE Photonics/SSC/CAS/EDS Joint Chapter

Three Chapter technical meetings are being held this year, which I hope will be of interest to members. Please note that all three meetings will be co-located with the Joint Electrical Institutions lecture series, held 5:30/6 - 7pm on 2nd and 4th Thursdays of the month at Engineers Australia, 8 Thomas St Chatswood. Abbreviated details of the upcoming technical meetings follow;

November 8th: Peter Ferris (NBN Co), "NBN Network Design"
December 13th: Andrew Ellis (Aston University & IEEE Photonics Society Distinguished Lecturer), "Ultra High Capacity Optical Transmission Systems" (Note: Prof Ellis is also an invited speaker at ACOFT, the Australian Conference on Optical Fibre Technology, Sydney 9-13 December).

Additionally, the Joint Chapter AGM will be held 6-7pm on 23rd November, immediately before the NSW Section AGM and dinner - further details re the AGM may be found elsewhere in this newsletter. Please consider nominating for the position of Chairperson of the Joint Chapter and email nominations to the Chairperson before the AGM (self nominations are acceptable) at graham.town@mq.edu.au

Professor Graham Town,  
Chairperson IEEE NSW Joint Chapter of Photonics, Circuits and Systems, Solid State Circuits, Electron Devices.

3.5 SSIT (Society on Social Implications of Technology) Chapter

The Social Interface blog (co-sponsored by the IEEE Society for Social Implications of Technology) would like to invite all IEEE NSW members to consider writing a short blog post and sending it to editors@thesocialinterface.com. We are looking for posts of about 800 words that engage with the broader public on questions concerning any aspect of the technology/society/law/policy interface.

Lyria Bennett Moses  
NSW Co-ordinator, IEEE SSIT Chapter
3.6 Consumer Electronics Society
Chapter

Formation of NSW Consumer Electronics Society Chapter
If you are interested in regular Consumer Electronics activities in NSW, please support the formation of a NSW Consumer Electronics Chapter. We have more than enough CE Society members in NSW to form a Chapter. To help with the Chapter formation, please contact Charlotte Kobert (IEEE CE Society Admin Manager) and provide your name, contact details (e-mail, phone number), and your IEEE Member number. Charlotte can be contacted at "ckobert@zbzoom.net"; she is based in the USA. We need 12 CE Society members to sign a petition for the Chapter formation. So please state in your e-mail that you support the NSW CE Chapter formation. If you are interested in helping on the CE Society committee, please indicate this in your e-mail.

Activities are planned include Distinguished Lecturer talks, conferences, workshops and other activities. If you have any questions about the NSW CE Society chapter formation, please contact myself, or direct your questions to Charlotte Kobert, CE Society Admin Manager.

Stefan Mozar s.mozar@ieee.org
President Elect - IEEE CE Society
4. Technical Meetings & Conferences

All members are cordially invited to attend joint lectures with the Engineers Australia (EA), IEEE and IET. The joint lectures will be held at 6.00 pm (with light refreshments from 5:30pm) at the EA, 8 Thomas Street, Chatswood, NSW, unless otherwise stated.

All members should check the latest updates of the Meetings & Conferences a couple of days prior to the actual date at http://www.engineersaustralia.org.au/sydney-division/events to prevent any potential disappointment due to last minute changes.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event/Meeting/Conference</th>
<th>Speaker</th>
<th>Host</th>
<th>Contact</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Nov</td>
<td>NBN Network Design</td>
<td>Peter Ferris</td>
<td>IEEE</td>
<td>Graham Town</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>22 Nov</td>
<td>Renewable/Embedded Generation</td>
<td>Dr Robert Barr</td>
<td>EA</td>
<td>Mai Yeung</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>26 Nov</td>
<td>Floquet modal based Analysis of Finite and Infinite Phased Array Antennas</td>
<td>Dr. Arun K. Bhattacharyya</td>
<td>MU/IEEE</td>
<td>Kanu Esselle</td>
<td>Macquarie University Room E6A 102 Theatre</td>
</tr>
<tr>
<td>6 Dec</td>
<td>Aust Research Institute</td>
<td>Prof Vassilios Agelidis</td>
<td>IEEE</td>
<td>Graham Town</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>9-13 Dec</td>
<td>ACOFT 2012(Conference)</td>
<td><a href="http://www.aip2012.org.au/">Link</a></td>
<td>IEEE</td>
<td>Graham Town</td>
<td>UNSW</td>
</tr>
<tr>
<td>13 Dec</td>
<td>Ultra High Capacity Optical Transmission Systems</td>
<td>Dr Andrew Ellis (Aston University &amp; IEEE Photonics Society DL)</td>
<td>IEEE</td>
<td>Graham Town</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>14 Feb 2013</td>
<td>EMC Issues with VSDs</td>
<td>Eduardo Gie</td>
<td>IET</td>
<td>Upali Mahaliyana</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>28 Feb 2013</td>
<td>TBC</td>
<td>Samsung Aust</td>
<td>EA</td>
<td>Gohulan Markandoo</td>
<td>EA Auditorium</td>
</tr>
<tr>
<td>16-18 Apr 2013</td>
<td>NEBSII CON 2013(Conference)</td>
<td><a href="https://www.engineersaustralia.org.au/nebsii">Link</a></td>
<td>EA</td>
<td>Mai Yeung</td>
<td>Dockside, Darling Harbour</td>
</tr>
<tr>
<td>17-19 Apr 2013</td>
<td>TENCON Spring 2013(Conference)</td>
<td><a href="http://www.tencon2013.org.au/">Link</a></td>
<td>IEEE</td>
<td>Stefan Mozar</td>
<td>Sydney CBD, TBA</td>
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</tbody>
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5. Continue to Receive Printed Circuit

*Circuit* is currently provided electronically from the IEEE NSW Section web site [http://ewh.ieee.org/r10/nsw](http://ewh.ieee.org/r10/nsw). Members will be notified by email when a new issue is posted on the Website. Future copies of *Circuit* will only be sent by paper mail on request.

If you require Circuit to be mailed to you in 2013, please complete the form below:

Please Detach

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Yes, I want to continue receiving future editions of *Circuit* by post

Name: ................................................................. Member No: ...........................................

Address: ................................................................................................................................. Postcode: ............

Tel: (H)............................. (W).......................... (M)............................. FAX.............................

Email: ...........................................................................................................

Post to: Circuit Editor, C/O Australian Professional Centre, PO Box 576. CROWS NEST NSW 1585
Or Fax: 61 2 94318677
6. IEEE NSW Section 2012 AGM and Dinner– RSVP Form

Date: Friday, 23 November 2012

Time: 6pm to 7pm Chapter and Affinity Group AGMs
       7pm to 8pm NSW Section AGM
       8pm to 11pm NSW Section Dinner (Seafood buffet or Vegetarian)
       8:15 to 9:45pm Grace Ensemble (musical)

Venue: Radisson Hotel & Suites,
       72 Liverpool Street, Sydney, Australia
       www.radisson.com/sydney-hotel-ns-2000/ausydney
       phone: 8268 8887

Parking: For Car Parking please see:

RSVP: Friday 16 November 2012
       Please E-mail the completed RSVP form to Eddie Fong: eddiefong@ieee.org or phone: 0413 777 511

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.

Please Detach

Reservation Form for IEEE NSW Section AGM & Dinner 2012

Name: ...........................................................................

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

Vegetarian: ……… (Yes/No as applicable)

Tel: ..................................................

Membership No.: ............................... 

Partner Attending: …......... (Yes/No as applicable)

Partner’s Name: ........................................

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

Vegetarian: ……. (Yes/No as applicable)

Credit Card No.: .................................

(This will be used if no show at the event)
Map: Radisson Hotel & Suites, 72 Liverpool Street, Sydney
Advertising :- CIRCUIT Reaches over 2700 IEEE Members in NSW
(please contact Tony Zaglas antonyz@ieee.org for advertising enquiries)

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Call for Papers

The first TENCON – Spring conference will be held in Sydney, Australia. It is a sister conference to the well known TENCON conference. It will bring together top technical professionals from the Electronics and Electrical Engineering community to exchange information and results of recent in the areas of electronics, communications and power engineering.

Papers presented in conference will be submitted to IEEE Xplore Digital Library and indexed by EI Compendex.

Prospective authors are invited to submit an extended abstract of up to two pages including figures. The abstract for review must clearly state: the purpose of the work; the manner and degree to which it advances the art; and specific new results that have been obtained and their significance. Abstracts are to be submitted to: http://edas.info/N13595

Theme 1: Advanced Technologies & Economics of Energy Systems
- Power Electronics & Energy Conversion
- Renewable Energy & Sustainable Development
- Power Systems
- Electric and plug-in hybrid electric vehicles
- Electrical Machines & Drives
- Electricity Markets and Electrical Power Economics
- Emerging Applications & others

Theme 2: Personal Communication in a mobile world
- Signal Processing and Applications
- Communications and Networks
- Circuits and Systems
- Antennae and Propagation
- Biomedical Engineering and Others

Important Dates
- Close Call for Papers: 26 November 2012
- Notification of authors: 1 February 2013
- Final Paper Upload to EDAS: 25 February 2013
- Tutorial Proposals: 30 November 2012

Please see website for details!