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1. MESSAGES FROM THE COMMITTEE

Graeme Gwilliam gb.gwilliam@ieee.org.
Chair
NSW Section

Starting another year of the IEEE New South Wales Section, as with any other organisation, it is good to appreciate and appraise my committee team members' effort for what we are and what we have achieved. We had many successes as a result of having a strong Section.

There is no question that we all have to manage our time to the best advantage. In the process, it is necessary to strike a balance for the time we have. Our younger members have careers to build, family time and social commitments as members of the society but I am now asking these younger members to consider giving some of their valuable time to IEEE NSW Section activities.

At the February IEEE NSW Section Committee Meeting, it was pointed out that the average age of the IEEE NSW Section Committee Members is about 65+ and growing older each year. Some agreed that sagacity comes with age but there are also some negative factors as well. The IEEE NSW Section has six Technical Chapters, all of which need assistance and member involvement, where participation in the technical aspects of Chapter activities can be a great benefit to those who wish to stay up to date in their technical fields. If this is you that I am talking about, please contact Chapter Chairs. Their contact can be found in the IEEE NSW Section web http://ewh.ieee.org/r10/nsw or contact me. I look forward to hearing from you.

For members who are qualified for elevation to higher grade of membership, especially Senior Member, if you have experienced difficulty in the past to upgrade your membership due to the procedures to be followed, an initiative in IEEE NSW Section in 2006 is to streamline this process and provide assistance to applicants. Those with questions or past difficulties, please contact me for advice on how we think your application can be progressed and processed.

David Burger k3hz@ieee.org
Vice Chair
NSW Section

Greetings for 2006 to all members.

The IEEE NSW Section allows me a framework to explore two of the keen interests that I have, namely radio communications and historical research.

For Australia technical history, what people did not realise is that Australia, particularly in Sydney, featured the very first documented mootings of the invention of wireless telegraphy! It was in 1890, some 5 years before Marconi's famous patent and while Marconi was just playing with antennas. It is frequently the quiet underdogs that get forgotten, and it is hoped to get permission and provide some awesome insights into this whole saga, including some photographs.

There are other historical threads being examined and assembled. Much of the work and material had never been published in any form. Much of them were photographic material which would open up more challenges. In this aspect, it should place the IEEE NSW Section history pages in a unique position for student research as well as those watching history unfold. The recent USFTA affected copyright and as much as the historical material in the pipeline. I have to ensure the associated right and permission are granted before presentation on our web.

In the event that you come across some old documentation or Australian photographs of yesteryear in the electrical, electronics, telecommunications and computing fields, I would be more than happy to hear from you.

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Eddie Fong eddiefong@ieee.org
Circuit Editor
NSW Section

This is my 3rd year serving in the IEEE NSW Section. I must say it was quite a challenge working with a few of the busy professionals in getting their stories and facts for each edition of Circuit. But I must admit that I have enjoyed getting to know them personally and socially and they are a bunch of fun-filled but serious folks. This editorial task also allows me to be in the forefront of IEEE NSW activities and also in the Region 10. I am privileged to be nominated to participate together with the NSW Section Chair in the upcoming Region 10 meeting to be held in Chiang Mai, Thailand on 26 & 27 March 2006.

2. NEWS IN BRIEF

2.1. NSW SECTION AGM AND DINNER – FRIDAY 25 NOV 2005

The IEEE NSW Section Annual General Meeting was held at The Atrium, Greengate Hotel, Cnr Pacific Hwy & Greengate Rd, Killara on Friday, 25 Nov 2005. The AGM commenced at 7:20pm.

The Section Chair reported that the membership of the Section remains around 2,500 and that there would be an additional 7 Life Members which is a honorable achievement after many years of service and participation in the EEE profession. The Section intended to resign from the IEEE, IEE & EA Tripaartite Agreement which would lapse at the end of 2005. The Section supported 7 Chapters. During this year, LEOS Chapter was accredited and we continued to support members of the joint C&S/SSC Chapter. For Region 10, two members of NSW Section and the Section Chair attended the Region 10 Meeting held in Singapore in September 2005. The Section Chair also attended the Sections Congress 2005 held in Tampa, Florida, USA in October 2005.

The Treasurer reported the financial performance of the IEEE NSW Section. As at 19 Nov 2005, total income was $22,743.18 and total expenses of $18,895.83 resulting of a Net Income of $3,847.35. Thus, the finance of IEEE NSW Section remains sound. In controlling the cost on accounting and auditing, the Section had adhered to IEEE Financial Policy and used an internal audit committee which is chosen by IEEE Headquarters. The Section's accounts were converted from various systems run by external accountants into a computerized General Ledger maintained by QuickBooks Pro.

The Chapters reported as follows:
• Computer Chapter Chair, Ms Stepanie Boyd
• Antennas & propagation/Microwave Theory & Techniques Chapter Chair, Dr Ananda Sanagavarapu

- Power Engineering Chapter Chair, Graeme Gwilliam
- Communications/Signal Processing Chapter Chair, Sam Reisenfeld

The Section Executive Officers for 2006 were elected and they were:
- Section Chair, Graeme Gwilliam
- Section Vice Chair, David Burger
- Section Secretary, David Tien
- Section Treasurer, Ian Boyd

The 2005 Max Simons Student 3^d Prize in Region 10 was awarded to Ms. Parastoo Sadeghi.

The Annual Dinner was followed after the conclusion of the NSW Section AGM at 8:23pm. It was great and provided opportunities to meet other IEEE members and their partners.

2.2 REGION 10 POWER ENGINEERING CHAPTERS MEET

Tony Zaglas antonyz@ieee.org
IEEE NSW PES Chair

The Region 10 Power Engineering Chapters (PES) Meet was held from 18 to 20 Dec 2005 at the Pathumwon Princess Hotel, Bangkok. The PES Meet is meant to be held every two years but more recently has been held every three years.

The welcome address was given by Dr Subrata Mukhopadhyay, Region 10 PES Chapter Representative on the evening of 18 Dec 2005 and was followed by drinks.

The official program started on 19 Dec 2005 with registration and was run over one and a half days. Lecture topics included resources available to Chapters, membership recruitment and retention, the Distinguished Lecturer Program, Chapter Awards, Reporting, GOLD, communications and PES News. Afterwards questions and discussion. Speakers were Dr Subrata Mukhopadhyay, Assoc. Professor Lalit Goel of the Singapore Chapter, and Professor Norman Maruin of the Malaysian Chapter.

On Monday evening, our Thai hosts arranged for an excellent dinner followed by entertainment at the newly opened Siam Niramit. The show re-enacted in impressive and spectacular fashion the last seven centuries of Thai history which has seen the mixing of many peoples resulting in the diverse Thai culture of today. At the conclusion of lectures on Tuesday afternoon we were taken for a guided tour of the Grand Palace complex.

I wish to thank our hosts from the Bangkok PES Chapter, the lecturers and all the delegates, it was a very well organised, productive and enjoyable Meet.

2.3 NEW LIFE MEMBERS

We now have 50 IEEE Life Members in the NSW Section and we have 7 new Life Members, they are:
1. GEORGE W. GERRITY,
2. C.J.E. PHILLIPS,
3. JOHN D. HOOPER,
4. JOHN L. ROBINSON,
5. KRISHNA RAJARATNAM,
6. GRAEME B. GWILLIAM and
7. WALTER R. LACHS

2.4. MODELING HURRICANE STORM-SURGE FLOODING IN 3D

Researchers at Florida International University have created a prototype 3D visualization and animation system for storm-surge flooding. This will allow people to understand the level of damage anticipated from an oncoming hurricane. The system includes a 3D synthetic visualization environment representing terrain, buildings, roads, vegetation and the sea; a module for animating surge flooding and waves; and a high-resolution storm-surge model to serve as an engine to drive the animation of flooding. According to the researchers, who discuss their work in the latest issue of "IEEE Computer Graphics and Applications" magazine (v. 26, no. 1), televised hurricane warning and evacuation maps don't provide coastal residents with a detailed account on the effect of storm surge on people and property and can cause either undue panic or complacency in the face of an oncoming storm. The prototype's developers believe 3D computer visualization and animation can provide a substitute for coastal residents' lack of personal experience with hurricane surge flooding. According to the researchers, recent advances in high-resolution remote-sensing technology and numerical modeling make it possible to provide accurate data for the earth's surface features and storm-surge flooding. Read more:
http://www.computer.org/portal/cms_docs_cga/cga/content/Promo/promo1.pdf

2.5. EPIDEMIOLOGISTS EYED MOBILEPHONE TO FIGHT DISEASE OUTBREAKS

An emergency alert system based on the mobile phone GPS features could help officials cope with outbreaks of disease according to researchers at the University of Illinois at Chicago, who are helping the Centers for Disease Control and Prevention (CDC) to develop the technology.

In areas hit with an outbreak, subscribers carrying GPS-enabled mobile phones would receive an emergency-alert text message with instructions about where to go or what to do during a disease outbreak. People who received the alerts would then guide other people in their immediate area, according to researchers. Read more:
http://www.worldchanging.com/archives/004012.html

2.6. OPTICAL WIRELESS EMPOWERED BY BROADBAND OVER POWER LINES

White light emitting diode (LED) systems coupled with broadband over power line grids offer transmission capacities that exceed DSL or cable and are more secure than RF, according to engineers at the Pennsylvania State University.

The system, designed by Penn State's Center for Information and Communications Technology Research, couples white LEDs to power lines to deliver secure, wireless bit rates of a gigabit per second, engineers say, a rate only exceeded by fiber. In the system, white LEDs used for room lighting are plugged into a room's electrical system and broadband data, voice or video delivered via the power lines can piggyback on the light that fills the room to reach any wireless receiving devices within. Its developers say since the system's light does not penetrate walls, as do the microwaves used in RF, it is more secure, and there are no known health hazards associated with exposure to LED light. Read more:
http://www.eurekalert.org/pub_releases/2006-01/ps-owa011106.php

2.7. NEW TRANSPARENT LEDs ILLUMINATE POSSIBILITIES

Researchers in Germany say they have created the first transparent organic light emitting diodes (OLEDs) with a brightness, operating life time and efficiency which makes them useful for commercial applications.

Displays made of conventional OLEDs are brightly lit but opaque; transparent OLEDs can be wedded to conventional liquid crystal displays to transform laminated glass into a display panel, according to scientists at the Fraunhofer Institute for Applied Polymer Research IAP in Potsdam. The researchers say they have succeeded in constructing transparent OLED displays using light-emitting polymers and by using a new type of metal electrode to supply the polymer film with electric current.

Researchers believe the new technology will make it possible to incorporate light-emitting polymers in laminated glass like that of car windshields or office

windows, transforming them into display panels that do not interfere with a unit's transparency. Read more: http://www.physorg.com/news9566.html
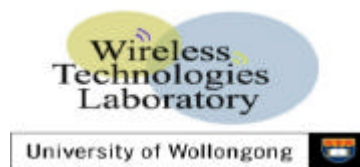
3. TECHNICAL MEETINGS & CONFERENCES

All members are cordially invited to attend these joint meetings with the Engineers Australia (EA), IEEE, ITEES and IEE. These joint meetings are held at 6.00 pm (with light refreshments at 5:30pm) at the Engineers Australia, Lecture Theatre, Eagle House, 118 Alfred St, MILSONS POINT, 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 the IEEE NSW News bulletins at http://www.ewh.ieee.org/r10/nsw/subpages/news/news.htm and also the Engineers Australia at http://sydney.ieaust.org.au/weekevents.html in preventing any potential disappointment due to last minute changes to them.

Date	Topic	Speaker	Sponsor (Contact) / Venue
6 Mar 06	IEEE NSW Section Meeting – Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
9 Mar 06	The 3 Gorges Power Station China	George Fox	Joint / 118 Alfred, Milsons Point – meet at 5:00pm for a 5:30pm start with light refreshments served
13 to 16 Mar 06	Wireless Broadband and Ultra Wideband Communications (AuS Wireless '06) Conference		See Circuit page 6
23 Mar 06	Software Engineering: SERVICE-ORIENTED DESIGN: What is the Message?	Dr George Feuerlicht	Joint / 118 Alfred, Milsons Point – meet at 5:30pm for a 6pm start with light refreshments served
24 to 27 Mar 06	Digital Speech and the Internet Protocol, A Survey of Quantization. [IEEE DL Program]	Robert M. Gray, Stanford University	IEEE ComSig (A/Prof Sam Reisenfeld) / TBA
3 Apr 06	IEEE NSW Section Meeting – Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
6 to 7 Apr 06	Multimedia Signal Processing [IEEE DL Program]	Prof C.C. Jay Kuo, USA	IEEE ComSig (A/Prof Sam Reisenfeld) / TBA
6 Apr 06	Career Start-up for Young Engineers	Rajitha Herath	Joint (John Englefield) / (12:30pm - 1:30pm) UTS
1 May 06	IEEE NSW Section Meeting – Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
11 May 06	ANSTO visit. (to be confirmed)		Joint (Mark Edmunds) / Lucas Heights (to be confirmed)
25 May 06	Large-scale Software test data generation	Prof. V .Lakshmi Narasimhan,Chair in Software Engineering, University of Newcastle NSW	Joint (Ian Boyd) / 8 Thomas, Chatswood
5 Jun 06	IEEE NSW Section Meeting – Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
8 Jun 06	Wireless Network Security		Joint (Ian Boyd) / 8 Thomas, Chatswood
22 Jun 06	Micro Sensors	Prof Kwok CheeYee	Joint (John Englefield) / 8 Thomas, Chatswood

The 1st Australian Conference on Wireless Broadband and Ultra Wideband Communications
AusWireless'06

13-16 March 2006
Crowne Plaza Hotel, Darling Harbour, Sydney, Australia
Organised and Sponsored by
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University of Technology, Sydney, Australia
University of Wollongong, Australia

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