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IEEE NEW SOUTH WALES SECTION
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**1. NSW SECTION AGM AND DINNER –
FRIDAY 25 NOV 2005**

All IEEE members are invited to attend the NSW Section Annual General Meeting, which will be held at The Atrium, Greengate Hotel, Cnr Pacific Hwy & Greengate Rd, Killara on Friday, 25 Nov 2005, commencing at 7pm sharp. The Annual Dinner will follow after the conclusion of the NSW Section AGM at 8pm. The dinner will also be held at the The Atrium, Greengate Hotel. The cost of the dinner is \$35 per person inclusive of drinks on the table only. At both the AGM and Dinner, there will be great opportunities for meeting other IEEE members and their partners.

Members wishing to attend should complete the reservation form and forward, together with

payment, to the Section Vice Chair, David Burger, by Friday 18 November 2005.

Prior to the NSW Section AGM, Chapters will conduct their AGMs to elect new office bearers from 6pm. Chapter Chairs are asked to conclude these meetings by 7 pm and also provide annual reports for distribution at the NSW Section AGM.

Partners not attending the AGM will be able to visit the Bar/Restaurant downstairs while the meetings are on. There is a lovely courtyard area where you can sit and have a few drinks and chat with one another.

AGENDA - NSW Section AGM 2005

1. Attendance and Apologies
2. Minutes of 2004 AGM and Discussion
3. Report from Section Chair
4. Report from Section Treasurer
5. Chapter Reports:
 - Power Engineering
 - Communications/Signal Processing
 - Computer
 - Antennas & Propagation/Microwave Theory & Techniques
 - Industrial Applications, Power Electronics and Industrial Electronics
 - Circuits & Systems.
6. Nomination of 2006 Section Committee:
I Boyd, S Boyd, D Burger, K Esselle, E Fong, G Gwilliam, W Lachs, B Poon, S Reisenfeld, F Rahman, J Robinson, D Tien, J Vasseleu, R Zakarevicius, G Town, S Windsor, R Menegon, L Narasimhan, P Ogunbona
7. General Business

IEEE NSW SECTION ANNUAL GENERAL MEETING

Date: Friday, 25 Nov 2005

Times: 6pm Chapters' AGMs / 7pm NSW Section AGM / 8pm NSW Section Dinner

Venue: **The Atrium, Greengate Hotel**, Cnr Pacific Hwy & Greengate Rd, Killara, NSW Tel: +61 2 9496 7200

Website: www.greengatehotel.com.au

Contribution: \$35 per person (including drinks on table). Enclosed is payment of \$..... for persons

Name:.....Tel: (W)..... (H)..... (M)..... Fax.....

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

Membership number: Attending: AGM / Dinner (circle where applicable)

Please forward by 18 November 2005 to:

David Burger [Tel: +61 2 8266 1371, Fax: +61 2 8266 3388],

IEEE Committee, C/O PROFESSIONAL CENTRE OF AUSTRALIA, PO Box 576, CROWS NEST NSW 1585

For those use phone and fax registration, please ensure your payment be posted to David before 18 November 2005.

Please Detach-----

2. MESSAGES FROM THE COMMITTEE



Graeme Gwilliam gb.gwilliam@ieee.org.

Chair

NSW Section

At the end of yet another year I hope that we can look back and consider the many successes that have been achieved. Some of the details of what I consider have been successes in the NSW IEEE will be covered in the Annual Report to be presented to the AGM, and I will not take up valuable space here.

I ask you to remember that our successes are individual and personal; take them very seriously and be personally proud of them. A small success this year can no doubt lead to something greater next year.

During this year we were unfortunate to lose Demetrios ("Jim") Logothetis, who I am sure was well known to many of you. While no doubt there were others who I am unable to name now, our thoughts are always with those who suffered such a loss during the year.

Status of C&S/SSC Chapter

There is an urgent need for volunteers to come forward to keep this Chapter functioning, due to the unexpected resignations/retirements of the few active Chapter committee members. Those who are registered with these Societies will be contacted and invited to make a contribution of time and effort to keep this Chapter operating. To date the response to our searches has not been

good, and unless we have an active committee with a track record of two technical presentations before the end of December, 2005, this Chapter is likely to be deregistered. We are always willing to consider those who do not need to be asked. Contact me! (gb.gwilliam@ieee.org).



Eddie Fong eddiefong@ieee.org

Circuit Editor

NSW Section

Another year has passed and it's time for all of us to meet again at the AGM and Dinner. The 2005 NSW Section AGM and Dinner will be held at The Atrium, Greengate Hotel, Killara on the evening of 25 November 2005. I look forward to meeting all of you to catch up.

However, this year has been a very challenging one for all of us. There were many natural disasters, like hurricanes, floods, earth quakes and landslides. Many were shocked and affected directly by these natural disasters and needed a lot of help and encouragement to overcome such challenges. In this aspect, IEEE has taken on an important role in support of an ambitious 60-nation enterprise to create a worldwide Earth-monitoring network to address climate, drought, and air and water quality. The decade-long project, known as the Global Earth Observation System of Systems, will bring together data gathered by thousands of gages, sensors, buoys, weather stations, and satellites measuring conditions across the land, oceans, and atmosphere. With this in place, there is hope that we will be in a better position to manage these natural disasters in the future.

Rob Menegon
Web Master
NSW Section

We are in discussions centred around trying to make it easier to have documents published on IEEE NSW Section Website. At the moment, the process is probably rather confusing and obscure. We try to improve the process. For my part, I try to maintain the look and feel as well as to responding to the requests to publish documents in a timely fashion.

Feel free to send any advice or suggestions to me rmenegon@menmac.com.au. I will take them in for our deliberations.

3. NEWS

3.1 NEW SENIOR MEMBERS

Congratulation to our six new Senior Members. They are:

1. MASSIMO PICCARDI,
2. GRAEME K WOODWARD,
3. JAMES A LAWRENCE,
4. XIANGJIAN HE,
5. JOHN S KOT, and
6. MR MARK LEE

3.2 LASERS & ELECTRO-OPTICS SOCIETY CHAPTER

Congratulations to **David J. Moss** who has formed the new IEEE New South Wales – Lasers & Electro-Optics Society Chapter effectively from 5 August 2005 and he is the Chair.

3.3 AUSTRALIAN EDITOR-IN-CHIEF OF THE IEEE TRANSACTIONS ON ANTENNAS & PROPAGATION

Trevor Bird, IEEE Fellow and former Editor of Circuit, was appointed Editor-in-Chief of the IEEE Transactions on Antennas and Propagation in April 2004 for a period of three years commencing in August 2004. He is the first non-US-based Editor-in-Chief (in 50 years) of this prestigious international journal.

The Transactions on Antennas and Propagation is ranked 11th out of almost 7,000 IEEE publications in terms of number of downloads from IEEE Xplore (about 600,000 in 2004) and in the top 15 of all journals in Telecommunications. Around

1,000 new papers are currently received annually by the Transactions using a web-based document handling package provided by ScholarOne. To help process this volume of submissions, which is increasing at over 20% per annum, he has appointed 34 Associate Editors with expertise across the fields of electromagnetic, antennas and propagation. Trevor is supported by a Sydney-based Editorial Assistant, Dallas Rolph, and at the IEEE Publications end of the process by an Associate Editor in Piscataway, NY, Dawn Menendez.

The Transactions, like many other journals, is grappling with many thorny issues brought on by new technology - such as the changing nature of technical publications from paper to electronic form, new methods of presenting results (e.g. interactive multimedia documents) - and by the increasing pressure to publish. Once a year, the Editors-in-Chief of IEEE journals meet to discuss these and other issues. This year the meeting was held in New Orleans (in April 05, before the hurricane!). Other discussion points included the possible outsourcing of manuscript preparation services and the placing of IEEE papers on personal web sites.

In the past 14 months, Trevor has managed to eliminate significant backlog of manuscripts and to start reducing the time to publication. He also edited a Special Issue on Antennas & Propagation Applications in the August 2005 issue, which provides a 'snapshot' of the technical topics concerning antennas and propagation engineers today.

Further information can be found on the Transactions on Antennas & Propagation website <http://www.ict.csiro.au/aps/>.

3.4 NATIONAL ENGINEERING WEEK 2005

National Engineering Week is an annual event which in NSW is a joint activity of the IEEE, IEE, Engineers Australia and APESMA. This year, the support was also received from ACEA, the NRMA and the University of New South Wales. The National Engineering Week is managed by a committee made up of representatives of the partner organisations. IEEE representative for 2005 is Dr Ian Boyd and he is also the IEEE NSW Section Treasurer, IEEE Australia Council Secretary and acting Treasurer of the National Engineering Week Committee.

This year, the date of National Engineering Week coincided with National Science Week. It has been decided to do the same next year, as the two seem to work well together. Next year, we hope to work more closely with National Science Week. A symbiosis between Science Week and

National Engineering Week fits in very well with the strengths of IEEE in science and high technology as well as classical engineering. Ian Boyd attended the NSW Science Week Committee meeting on 25 September 2005 to initiate the relationship for 2006.

The National Engineering Week calendar of events for 2005 comprised 30 different site tours, events, competitions and more. The key events of the National Engineering Week are the Water Supply Forum, the Great Engineering Challenge, Chartered Engineers Breakfast and RedR Social. They went well and the various site tours' feedback was positive. The biggest attendance was achieved by the Water Supply Forum, which attracted comment from the Premier of NSW. The Great Engineering Challenge for High School students received particular newspaper coverage. Thanks go to the University of New South Wales for sponsoring the Challenge this year.

3.5 STUDENT ACTIVITIES

Congratulations to **Parastoo Sadeghi** for winning third place in the 2005 Postgraduate Region 10 Student Paper Contest.

3.6 ANNUAL REGIONAL EXECUTIVE COMMITTEE MEETING – BATHURST 2005

In 2004 the Executive Committee of the IEEE NSW Section, realising that the NSW Section covers the whole of NSW, not just Sydney, made a commitment to visit a regional centre each year. This annual event incorporates one of the monthly Executive Committee meetings, together with opportunities to work with local IEEE members and local institutions to further the aims of the IEEE.



The first such annual regional Executive Committee meeting took place on Monday 10th October 2005, in Bathurst.

One of the members of the NSW Executive Committee, **Dr David Tien**, is on the staff of Charles Sturt University, Bathurst. David travels to Sydney each month to the monthly executive meeting. For the October meeting a large party of Executive Committee members travelled to Bathurst, where they were warmly welcomed by the University.

On arrival in Bathurst, the Committee heard the Head of the School of Information Technology, Associate Professor Sue Moffatt, summarise the activities of the school. The Committee lunched with members of staff of the School in a superb environment. Conversation with staff members and graduate students over lunch was lively and interesting. Refreshed, the committee held a productive monthly business meeting and toured the area before returning to their home bases.

The School of Information Technology at Charles Sturt University Bathurst teaches courses and conducts research in information technology, computer science and games technology. The School offers a highly successful undergraduate course in Computer Science (Games Technology) as well as a general undergraduate degree in Computer Science. The School coordinates subjects in the cross-campus undergraduate and postgraduate Information Technology courses. Subjects are taught in multiple modes – distance, internal, offshore tutorial and by an Interactive Video System to the Dubbo Campus. Members of the School have research interests in games technology, visualisation, Grid Networking, computational modelling, data mining, multi-sensory display and image processing, all areas they have in common with many IEEE members and Distinguished Lecturers.

The Director of the Universities Centre for Research in Complex Systems is located at Bathurst. The Centre is spread over all three CSU campuses, and includes a number of IEEE members among its researchers. The Centre is strongly multi-disciplinary, but with a fundamental theme of coping with vast amounts of information using computer mediated and intelligent assistance. To learn more go to <http://www.csu.edu.au/complexsystems>.

The first IEEE NSW Executive Committee meeting outside Sydney for 25 years was a noted success, and will be the first of many more to come.



3.7 RENEW IEEE MEMBERSHIP

FOR CHANCE TO WIN A DELL NOTEBOOK COMPUTER, members who renew their memberships online by 15 November will enter for a chance to win a new Dell Inspiron laptop. The draw is not open to members of the IEEE Board of Directors or members of the Standing Committees of the Board. The draw will take place on 29 November 2005. For more information, visit <http://www.ieee.org/renew>

3.8 EMERGING IEEE STANDARD ON ENVIRONMENTAL ISSUES

Computer companies and government agencies are often left with little resolve when forced to face the serious challenge of discarding old computer systems, which have the potential to damage the environment.

A developing IEEE standard, however, could change all that. IEEE P1680(TM), the "Standard for Environmental Assessment of Personal Computer Products," will be the first comprehensive U.S. standard to utilize environmental hazard precautions into institutional

purchasing decisions for desktop and laptop computers and monitors after its completion in 2006. Subjects will include environmentally sensitive materials selection, design for end of life, product longevity and life-cycle extension, energy conservation, end-of-life management, corporate performance, and packaging.

3.9 MEMORY LATENCY

Researchers at Heriot-Watt University in Scotland are trying to reduce memory latency, the time it takes a computer to access data stored in its memory, with board-level optical interconnections.

Project HOLMS seeks to bridge the gap between processor speed and memory bandwidth with a seamless optomechanical interface to commercial parallel-fibre arrays, and low-cost optical waveguides that could be integrated into conventional printed circuit boards.

The researchers say they have succeeded in integrating fibre-optics with free-space technology and optical printed circuit boards and have developed two working models to demonstrate the new technology. Read more:

3.10 DESIGN ALGORITHMS

COMPUTER-DESIGNED ALGORITHMS OUTPERFORM HUMAN VERSIONS

A computer-designed algorithm used to compress fingerprint images has surpassed algorithms written by humans, researchers say. Using "genetic algorithms," created when computers evaluate and improve a population of possible solutions to a problem in a stepwise fashion, researchers at the University of Texas said their computer-generated algorithm digitally improved images of fingerprints better than a human-designed program for the FBI's fingerprint catalog.

The computer-generated algorithms "evolve" over time, as the individual solutions in the population become better and better. Image compression is critical to the FBI, which has nearly 50 million sets of criminals' fingerprints on file and adds approximately 5,000 new ones every day. A requirement of any program used to compress fingerprint images, upon which life and death court decisions may rest, is that it must not introduce distortion into the images.

4. 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
7 Nov 05	IEEE NSW Section Meeting – Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
10 Nov 05	Biomedical Engineering	Dr Mike Skalsky	Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.
24 Nov 05	Broadband and Local Access in Regional Australia	Robert Brand	Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.
25 Nov 05	IEEE Chapter AGM, NSW SECTION – AGM & Dinner		IEEE (David Tien) / The Atrium, Greengate Hotel, 6 to 10pm
4 Dec 2005	IEEE Regional and Technical Activities Board members tour of Australia commences in Melbourne		IEEE / Melbourne
8 Dec 2005	IEEE lecture by US specialist with RAB/TAB visting team. Topic will either be earthing systems or computer security – TBA		Joint / TBA
10 Dec 2005	IEEE Regional and Technical Activities Board members tour of Australia ends in Sydney		IEEE / Sydney
19 to 21 Dec 2005	8th International Symposium on Digital Signal Processing and Communication Systems (DSPCS'05) + 4th Workshop on the Internet, Telecommunications and Signal Processing (WITSP'05)		IEEE Comsig (A/Prof T Wysocki, University of Wollongong) / Noosa Blue Resort, Noosa Heads, Queensland
6 Feb 2006	IEEE NSW Section Meeting - Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
9 Feb 2006	Joint IEEE/IEE/IEAust Lecture - topic and speaker TBA	TBA	Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.
23 Feb 2006	Clocks in space for accurate time on the ground.		Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.
6 Mar 2006	IEEE NSW Section Meeting - Executive Committee		IEEE (David Tien) / North Sydney TAFE – AG20 (7 to 9pm)
9 Mar 2006	The 3 Gorges Power Station China	George Fox	Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.
13 to 16 Mar 2006	Wireless Broadband and Ultra Wideband Communications (AuS Wireless'06) Conference.		
23 Mar 2006	Joint IEEE/IEE/IEAust Lecture - topic and speaker TBA	TBA	Joint / 118 Alfred, Milsons Point-meet at 5:30pm for a 6pm start with light refreshments served.

- **IEEE Tencon'05**, to be held in Melbourne, Australia from 21 - 24 November 2005.

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



<http://epress.lib.uts.edu.au/conference/auswireless2006/>

13-16 March 2006

Crowne Plaza Hotel, Darling Harbour, Sydney, Australia

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University of Technology, Sydney, Australia

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The School of Computer Science and Engineering at UNSW
Applications for March 2006 close 30 November 2005
postgrad@cse.unsw.edu.au

www.cse.unsw.edu.au/ieee