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IEEE NEW SOUTH WALES SECTION
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1. CHAIR'S MESSAGE

I greet you at the beginning of yet another year with the hope that you are all well.

During this coming year, I would like to think that we are able to draw our members in New South Wales into a closer level of communication. In 2004, NSW Section website grew to be what it is now. For those of you who have not visited, please do so for I am sure you will find it rewarding. (Go through IEEE/Region 10/ NSW)

When you know what is happening you are then in a better position to contribute your thoughts and etc. I have in mind Reinfeld's (of Iraq war fame) comments regarding what we do not know.

In March 2005, I will be attending the Region 10 Meet to collect, on your behalf, our award for 'Most Outstanding Large Chapter in Region 10 for

2003'. We are restrained from receiving the award for 2004 unfortunately (awards were to be shared). However in future years, there should be more to come.

The Section Committee is also deciding a priority listing of our future activities to be addressed during the year. I invite all members to send in your suggestions on any matter to improve the functioning of the Section.



Graeme Gwilliam
Chair
NSW Section

2. VICE CHAIR'S MESSAGE

Welcome to 2005. Supporting the IEEE NSW section in various capacities over the past 7 to 8 years has been rewarding. Moving forward, I see some great opportunities for the IEEE NSW Section and Chapters taking a lead role in many of the related events, lectures and seminars held in NSW.

Adding to that, my own goals for 2005 are to identify, publicize all related activities here in NSW, as well as offering to assist in the facilitation of events, lectures and seminars. Between Agus Santoso and I, we collectively want to get The University of Sydney Student Chapter re-started, as well as possibly linking their successful Women in Engineering group with a future IEEE WIE Affinity Group start-up.

A second goal is to provide some more Australian specific resource material, probably of an historic nature, so the NSW Section Website becomes a

useful resource. I will endeavor to canvass input from everyone. Perchance you have any old IEEE (or AIEE/IRE) related information, newsletters from here in Australia, or EE related photographs from yesteryear, I implore you to get in touch with me, your contributions will be acknowledged.



David Burger k3hz@ieee.org
Vice Chair
NSW Section

3. EDITOR'S COMMENT

Another new year ahead of us. Wishing all members a great and wonderful year ahead. And to our chinese members, Gong Xi Fa Cai.

As I have mentioned in the previous **Circuit**, this is where we share information with one another. I encourage you to provide any feedback, comments, ideas or materials that you would like to share with your fellow members. Please email me at eddiefong@ieee.org

The NSW Section AGM 2004 was conducted in a timely fashion and the dinner was excellent. I wish all of you were there with us as we had a good time catching up with one another and getting to know new members. I hope to see more of you in the next NSW Section AGM 2005.

I want to extend a warm welcome to Rob Menegon who is the new Web Master who can be contacted at rmenegon@menmac.com.au



Eddie Fong eddiefong@ieee.org
Circuit Editor
NSW Section

4. REPORT ON NEW SOUTH WALES SECTION ANNUAL GENERAL MEETING & DINNER ON 26 NOV 2004

The 2004 NSW Section Annual General Meeting & Dinner was held at the Epping (RSL) Club on Friday, 26 November 2004.

The Chair, Graeme Gwilliam, reported the 2004 activities and achievements of NSW Section. The Treasurer, David Tien, reported that the financial situation of the NSW Section in 2004 remained healthy. The Chapter Chairs also presented reports on activities in 2004 and announced the Chapter elections. The details can be found in the minutes of the AGM at: <http://ewh.ieee.org/r10/nsw>

The following Officers were elected for 2005 term:

Section Chair:	Graeme Gwilliam
Section Vice Chair:	David Burger
Section Secretary:	David Tien
Section Treasurer:	Ian Boyd
GOLD Affinity Group Chair:	Sampath Windsor

Standing Committee Chairs have been appointed at the 7 February 2005 NSW Section Executive Committee meeting.



The 2004 Max Simons Prize winner, Mr Agus Santoso from The University of Sydney was presented with a \$200 prize by the Chair.

Then the meeting adjourned to the Annual Dinner.



NEWS IN BRIEF

5. MEMBERS RATE IEEE'S VALUE

Results were mixed when the IEEE surveyed its members last year to find out how satisfied they were with the organization's products and services. Members like what they are getting from conferences and local meetings with other professionals, but they are looking for improvement in online access to technical resources and more continuing-education opportunities.

6. MEMBERSHIP DEVELOPMENT

IEEE membership rose in 2004, totalling 365,483 members worldwide, a 1.2% increase over year end 2003. However, the active Section membership had only a slight increase and student membership had a jump in the middle of the year due to our free membership offer.

7. Free Student MEMBERSHIP

There are significant benefits of being a member of IEEE and especially for students. In 2005, the IEEE NSW Section is once again offering up to 200 free new student memberships for students who are in their second or higher year of a recognised Electrical Engineering/Computer Science degree course at Universities in New South Wales. If you are eligible or you have friends who are and you wish to take up this offer, then obtain the Student Membership form from http://services1.ieee.org/membersvc/member/mem_intro.htm or request from David Tien, the Secretary of NSW Section. You should complete the form and then send it with your email address to:

David Tien, Secretary IEEE NSW Section, C/- Australian Professional Centre, Private Bag 1, Darlinghurst NSW 2010.

This offer closes on 31 March 2005 and it is based on first come first serve basis. You will be notified by email when you are successful.

8. Student Activities

The petition to set up an IEEE Student Branch at Macquarie University has been accepted and approved by the IEEE. It is now officially

established. Mr Peter Blockley is the Chair and Associate Professor Karu Esselle is the Branch Coordinator. The new Branch is sponsoring the Distinguished Lecture of Professor Petru Eles, organised by the CAS Chapter and held in Macquarie University (E6A 102) on Wednesday, February 23, 2005, from 5:30-7:30pm.

9. IEEE FELLOW NOMINATIONS

The IEEE and its member societies cooperate each year to select a small group of outstanding professionals for recognition as IEEE Fellows. A senior IEEE member who has achieved distinction in his or her field can be named an IEEE Fellow only after being nominated for the honour. All such nominations undergo rigorous review before the IEEE Board of Governors votes to bestow the prestigious rank of Fellow. The deadline for Fellow nominations is 1 March 2005. To nominate a candidate for IEEE Fellow recognition, begin the process by visiting: <http://www.ieee.org/fellows/>

10. 2005 MAX SIMONS STUDENT PRIZE

Each year, NSW Section awards a prize for the best paper submitted by a student for the Section or Region 10 Competitions. The NSW Section prize is named in honour of Max Simons the first Chair of the Australia Council and foundation member of the NSW Section Committee.

Invitations are now open for the 2005 MAX SIMONS Student Prize competition for any NSW student members to submit their paper for consideration. Please refer to: <http://ewh.ieee.org/r10/nsw> student Resources page for more information. These papers will undergo evaluation in late March 2005 in time to be elevated to the IEEE Australia Council and IEEE region 10 contests. Your early submission is recommended.

11. DEALING WITH PLAGIARISM

Plagiarism (using someone else's work without giving proper credit) is a crime of intellectual property, but one might argue that it is just as serious as a crime of real property. Yet the IEEE's rules of what constitutes plagiarism and how it should be dealt with were not always clear.

Read how the IEEE remedied the situation at <http://www.theinstitute.ieee.org/portal/pages/tionline/legacy/inst2004/dec04/12w.pub.html>>

12. FIRST AID KIT FOR MOBILISING VOLUNTEERS

The IEEE Volunteer Recruitment Toolkit offers suggestions for helping Section and Group Leaders recruit members to volunteer and serve as officers, editors, conference organizers, and other positions. Read more at <http://www.theinstitute.ieee.org/portal/pages/tionline/legacy/inst2004/dec04/12w.prod.html>>

13. IEEE MAGAZINE EXAMINES ACCESS TECHNOLOGIES FOR B3G WIRELESS

The February issue of IEEE Communications Magazine has devoted a special feature to multiple access technologies for B3G wireless communications. According to the issue's editors, the study of next-generation multiple access technologies involves many cutting-edge research topics, such as novel CDMA code design, time-frequency adaptive equalization, interference-free CDMA architecture, high-data-rate TDMA, orthogonal frequency-division multiplexing (OFDM) techniques, and multiple-input multiple-output (MIMO) algorithms. The guest editorial on the topic is now accessible to all readers at: <http://www.comsoc.org/livepubs/ci1/public/2005/feb/index.html>>

14. VoIP FOCUS

IP telephony has experienced tremendous growth in the last several months but it still has a way to go. To help address upcoming challenges with the technology, the IEEE Communications Society has made more than 20 journal and conference papers on VoIP available for free online for a limited time. The papers include topics like voice quality measurement and predication in the VoIP environment, VoIP network admission control, and VoIP network reliability. Visit: http://www.comsoc.org/tech_focus/index.html>

15. COMPUTER CHAPTER

The Computer chapter will be hosting a lecture by Dr Nick Hauser (from Bragg Institute, ANSTO) who is the Computing and Electronics Project Manager for the Neutron Beam Instruments Project. It will be held on Monday, 30 May 2005 from 5:30pm at Harricks Auditorium, Ground

Floor, Eagle House, 118 Alfred Street, Milsons Point.

Hope to see you there!

Stephanie Boyd stef@isb.net.au
Chair, IEEE Computer Chapter

16. AP/MTT CHAPTER

The chapter has held three very well attended technical meetings during 2004, two of which were part of the joint lecture series at Eagle House. Three technical meetings have so far been organized for 2005.

A new committee was elected at the AGM in Nov 2004. I welcome Ananda Sanagavarapu (Vice-Chair) and David Burger (Secretary/Treasurer) to the AP/MTT Chapter Committee.

Graham Town
Chair, IEEE AP/MTT Chapter

17. POWER ENGINEERING CHAPTER

The year of 2004 was relatively quiet for a number of reasons. Under the circumstances it is gratifying to note that our Chapter membership continued to grow steadily, showing a rate of slightly less than 10% per year in recent years. It is interesting to speculate if this is a reflection of the reversal in interest in the power industry following the low levels in the 1980-90's.

The technical speaker programme presented in conjunction with the IEAust and IEE was also successful, with a move towards two technical presentations a month. The ensuing variety in the subjects of the talks has also been noticeable. There is also an opportunity for the Chapter to conduct its own technical education programme, looking particularly at eminent speakers who may be on 'short time' visits to Sydney and cannot be integrated into the joint IEEE/IEAust/IEE activity.

Whilst there was an active Distinguished Lecturer programme conducted in South-East Asia, the speakers seemed reluctant to travel the additional distances required for them to do a tour of Australia. As a consequence we missed out on visits from many eminent speakers.


On an individual basis the joint activities of the GOLD programme representatives at both Chapter and Section level continues.

The lunchtime student lecture/seminar programme was in a dormant state (due partly to my recurring health problems). I am hoping to be able to apply more of my time and resources to the co-ordination and participation in these activities in the future.

For a variety of reasons any success in the awards programme offered to Chapters within the Power Engineering Society has eluded us, however there is a very strong expectation that

this will be changed and we look forward to
"having our name in lights" in the future.

Graeme Gwilliam
Chair, Power Engineering Chapter



18. USEFUL IEEE WEBSITES

Increasingly, the IEEE is relying on the Internet to deliver services to members. Some useful web addresses are summarized below for your information.

- IEEE Operations Centre: www.ieee.org
- IEEE Regional Activities: www.ieee.org/ra
- Region 10: www.ewh.ieee.org/reg/10
- IEEE Senior Member upgrade: www.ieee.org/organizations/rab/md/smprogram.html
- Region 10 Student Branch activities: www.cairo.utm.my/ieee/r10student.htm
- IEEE Contract administration: www.ieee.org/contractsonline
- Volunteer travel accident/medical plan. This is available to all IEEE volunteers and applies outside your normal country of residence. It starts and ends when you leave/arrive in your own country. For details see www.ieee.org/organizations/vols
- IEEE GOLD (Graduates of the last decade) program: www.ieee.org/organizations/rab/gold/programs.html
- Educational activities: www.ieee.org/eab/
- Professional development: www.ieee.org/pdi
- Career resources: www.ieee.org/eab/education.htm
- IEEE Award programs: www.ieee.org/about/awards, www.ieee.org/organizations/rab/rab/Awards/rabawards.htm
- Conferences: www.ieee.org/conferencesearch/
- IEEE Xplore: <http://ieeexplore.ieee.org/Xplore/DynWel.jsp>

TECHNICAL MEETINGS

19. JOINT TECHNICAL MEETINGS TO JUNE 2005

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.

Please check the IEEE NSW News bulletins which is regularly updated 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>

Date	Topic	Speaker	Sponsor / Venue
23 February 2005	Analysis & Optimisation of Distributed Real-Time Embedded Systems	Prof. Petru Eles, Linkoping University, Sweden	IEEE / CAS / Macquarie University, Room E6A102 (5:30~7:30pm)
24 February 2005	Advances in Speech and Audio Processing	Dr E Ambikairajah, NSW Uni	IEEE / 118 Alfred, Milsons Point
25 February 2005	Broadband Wireless Experience - Unwired. Fee for non-members.	Eric Hamilton	TSA / Ground Floor, Optus, 101 Miller St North Sydney. 12:30pm ~ 1:30pm
7 March 2005	Joint IEEE/IEE/IEAust meeting		Joint / North Sydney TAFE - AG20 (6:00~7:00pm)
7 March 2005	IEEE NSW SECTION - Meeting		IEEE / North Sydney TAFE - AG20 (7:00~9:00pm)
9 March 2005	CTO's View. Fee for non-members.	Mr Colin Knowles - ABA	TSA / CARLTON CREST, 169-179 Thomas Street, Haymarket

9 March 2005	Annual Innovation Lecture by the Warren Centre for Advanced Engineering	Mr Paul Salteri, MD Tenix Group	Warren Centre / Four Points Hotel, 161 Sussex street, SYDNEY (5.45pm for 6.15pm)
10 March 2005	Combined Cycle Gas Turbine	Alstom Power	EA / EA Mechanical Engineers EESA 118 Alfred, Milsons Point
22 March 2005	Reconfigurable Computing Workshop	Various.	NICTA / 8:30am to 11:30am, Bay 15, Loco workshop, Garden St Everleigh
4 April 2005	Joint IEEE/IEE/IEAust meeting		Joint / North Sydney TAFE - AG20 (6:00~7:00pm)
4 April 2005	IEEE NSW SECTION - Meeting		IEEE / North Sydney TAFE - AG20 (7:00~9:00pm)
14 April 2005	Applications of Microwaves in Medicine or Antenna-Human Body Interaction	Prof. Maria Stuchly, Canada, IEEE DL program	IEEE / MTT-APS / EA Biomedical Engineers 118 Alfred, Milsons Point
28 April 2005	FUEL CELLS	Brian Jay, Julian Dinsdale	IEE / 118 Alfred, Milsons Point
2 May 2005	Joint IEEE/IEE/IEAust meeting		Joint / North Sydney TAFE - AG20 (6:00~7:00pm)
2 May 2005	IEEE NSW SECTION - Meeting		IEEE / North Sydney TAFE - AG20 (7:00~9:00pm)
12 May 2005	Wind Energy in the National Electricity Market	Prof Hugh Outhred, NSW Uni	IEEE / EA Environmental Engineers EESA 118 Alfred, Milsons Point
24 to 26 May 2005	CeBIT 2005		NICTA / Halls 3, 4 and 5, Sydney Convention & Exhibition Centre, Darling Harbour, Sydney
26 May 2005	Professional Standards		EA / 118 Alfred, Milsons Point
30 to 31 May 2005	2005 2nd IEEE on Embedded Networked Sensors (EmNetS-II). m.dewald@ieee.org	Dr Nick Hauser from Bragg Institute, ANSTO	IEEE / Computer / Commences at 5:30pm at Harricks Auditorium, Ground Floor, Eagle House, 118 Alfred Street, Milsons Point.
6 June 2005	Joint IEEE/IEE/IEAust meeting		Joint / North Sydney TAFE - AG20 (6:00~7:00pm)
6 June 2005	IEEE NSW SECTION - Meeting		IEEE / North Sydney TAFE - AG20 (7:00~9:00pm)
9 June 2005	Glass Technology	Geoff Smith, UTS and post-graduates	IEE / 118 Alfred, Milsons Point
23 June 2005	QUANTUM COMPUTING	Cathy Foley / David Tilbrook	IEE / 118 Alfred, Milsons Point

20. IEEE SPONSORED CONFERENCES

IEEE INFOCOM 2005

13 - 17 March 2005 at Miami, Florida USA www.ieee-infocom.org/2005

Since its inception in 1981, IEEE INFOCOM has been bringing together a tremendous and rich diversity of authors from industry, universities and government. The popularity of INFOCOM as the premier forum for networking research continues to grow.

2005 marks the 24th annual event. INFOCOM 2005 will feature over 60 technical papers, 3 panels, 2 inspiring keynote speakers as well as poster sessions and demos. The 2005 Conference will offer an International Student Workshop, providing a forum for graduate students from all over the world. In addition 8 instructive tutorials will be held on Sunday and Monday on the following topics:

Resource Allocation Algorithms in Cross-Layer Designs of Wireless Networks
Virtual and Overlay Networks
Traffic Analysis for Network Security
Advances in Wireless Local Area Networks
Access and Metro Networks
Security and Misbehavior Handling in Wireless Ad Hoc Networks
Optimization and Control of Communication Networks
Wireless Sensor Networks

Plus the 8th IEEE Global Internet Symposium will be held in conjunction with IEEE INFOCOM 2005. Register for both INFOCOM and Global Internet and receive a \$100 discount. Do not delay! Go to www.ieee-infocom.org/2005 and register today!

The 40th Annual IEEE International Conference on Communications (ICC)

This will be held in Seoul, Korea for the first time from 16 to 20 May 2005. Reflecting the trend of convergence in the industry, the conference has chosen "towards the era of ubiquitous networks" as its theme. ICC 2005 will feature the latest developments in telecommunications from a technical perspective and discuss likely trends with leading technical specialists from all over the world. For more information or to register, visit: <<http://www.icc05.org>>

NEW DEVELOPMENT

21. INSIGHT INTO TUNABLE DIODES

Tunable laser diodes, characterized by their unique ability to "tune in" to different wavelengths, thus, significantly improving the efficiency of the switch, are rapidly becoming key components for advanced optical communication. "Tunable Laser Diodes and Related Optical Sources, Second Edition," a new book from IEEE Press and John Wiley & Sons, covers the range of optical networks and the components they require, with emphasis on tunable lasers. Written by respected experts in this groundbreaking technology, this resource covers fundamentals not only of tunable laser diodes, but also modern laser diodes in general, from theory to applications. To purchase this book or find more information, visit: <<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471208167.html>>

IEEE members: Receive a 15% discount on any Wiley-IEEE Press titles. Use Code 18493 at checkout

22. SUPERCOMPUTER ON A CHIP

An innovative processor billed as a "supercomputer on a chip" made its debut earlier this month at the IEEE International Solid-State Circuits Conference. The processor, code-named "Cell," reportedly works at speeds up to ten times faster than current PC processors. Cell was developed by a team from IBM, Sony Corporation, Sony Computer Entertainment Inc. and Toshiba, and will first be put to use in next year's Sony Playstation 3. You can read more about Cell here: <<http://news.zdnet.co.uk/hardware/chips/0,39020354,39186973,00.htm>>

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ADVERTISING PAYS!

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