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## Section Chair's Message

Hello and welcome to the first issue of the Section Newsletter for 2004. In fact, this is the first since our Newsletter went into deep hibernation in late 2000. During its absence, the Section Web Site and Email Announcement took care of business. However, after four years of sleep, our Newsletter is now rejuvenated and ready for action. I thank our new newsletter editor Theng Wei Loke for the revival.

2004 is a special year for the WA Section as we celebrate our 20th year of service. I am very grateful to all those who have devoted their time and energy to the Section in the past two decades. The Section survives because of those dedicated volunteers.

The WA Section survives also because of you, its membership. The Section now has over 600 active members in WA. It also has four active technical Chapters and two hyper-active Student Branches.

We anticipate a great range of technical, professional and social activities lined up for this year. So keep a close eye on your Section Newsletter, Web Site and Email Announcement for updates.

*Douglas Chai*  
Chair, IEEE WA Section  
Email: [douglas.chai@ieee.org](mailto:douglas.chai@ieee.org)

## IEEE W.A. Committee 2004

Chair	Douglas Chai
Vice Chair	N/R
Secretary	Harry McDonald
Treasurer	Lance Fung
Membership Development	David May
Awards	Terence Law
IEEE Representative for JETP	Jasmine Henry
GOLD Representative	Andrew Tan
REP	Halit Eren
Newsletter Editor	Theng-Wei Loke
Web Manager	Son Lam Phung
SAMIEEE Manager	Farid Boussaid
Nominations and Appointments	Helene Fung
Mailing Lists	Benoit Chellen
Student Activities	Nicola Ritter
General Committee Member	Yee Hong Leung
General Committee Member	Karyne Wong
Computer Chapter Chair	Lance Fung
Communications Chapter Chair	Daryoush Habibi
Power Engineering Chapter Chair	An Li
Signal Processing Chapter Chair	Salim Bouzerdoum
Curtin Student Branch Chair	Simon Millward
UWA Student Branch chair	Li-San Poon
Murdoch Student Representative	Eric Li

## Editor's Column

In my many years of IEEE membership, I found IEEE as a most valuable career resource, especially when keeping current with one's profession. There is a huge resource in the member's reach (check out the IEEE Resources section at the end of this newsletter).

I welcome any newsletter contributions from members (see David May

Membership Development

Email: [david.may@ieee.org](mailto:david.may@ieee.org)

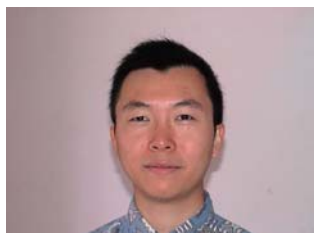
Newsletter Article Submission Dates). Feel free to email letters to the editor ([tloke@ieee.org](mailto:tloke@ieee.org)). Share your experiences of IEEE, such as volunteering in IEEE activities and useful IEEE resources. A Member's IEEE Journey describes Helene's involvement in IEEE activities that led to her election as a Nominations and Appointments Committee Member.

This newsletter is intended to facilitate communication amongst members and information dissemination from the Section and Chapter committees. Be sure to contact your respective Chapter committee members should you wish to make contributions or suggestions, eg who would you like to have visit Perth under the Distinguished Lecturer Program (DLP). The DLP gives IEEE Chapters access to the most eminent researchers in the world, ie the program aims to bring IEEE distinguished lecturers to present their work to as many IEEE technical chapters around the world as possible. The DLP does not come cheaply to our local Chapters; hence member and corporate support to the DLP are much appreciated.

I hope you enjoy reading IEEE W.A.'s newsletter. This newsletter will be published quarterly.

*Theng-Wei Loke*  
Newsletter Editor

Email: [tloke@ieee.org](mailto:tloke@ieee.org)



## Joint Electrical Technical Panel

The Joint Electrical Technical Panel (JETP) is a technical program co-sponsored by Engineers Australia

(WA Electrical Panel), Institute of Engineers (IEE WA group) and the IEEE WA section. This collaborative effort is repeated for most of the interstate associations.

### An Evening Under the Stars – 14<sup>th</sup> February 2004

#### Site Visit and Social Event – Cosmos Discovery Centre and Gravity Wave Project Centre

The first technical and social event was a visit to the Cosmos Discovery Centre and Gravity Wave Centre for IEEE/EA & IEE members and partners. Approximately 40 people took the bus journey to the Cosmos Centre, which is situated near Gingin, about an hour's drive north of Perth. Two similar activities had been hosted in late 2002 that were fully booked and the 2004 event again proved to be very popular.

The activity was broken up into 4 distinct parts –

- A tour of the Gravity Discovery Centre's educational and innovation exhibits;
- a technical talk on Gravity waves and the international collaborative research being undertaken by UWA at the centre,
- a BBQ meal
- use of the telescopes in the Southern Cross Centre. Many were able to see close up views of the rings of Saturn, bands of Jupiter, Mars, shooting stars, satellites and many other galaxies and constellations.

This provided everyone with an opportunity to focus on the big questions of the Universe.

The event proved to be very popular Valentine's Day event.

### Wind Power Technology – Status, Development and Trends - 10<sup>th</sup> March 2004

by Prof. Chem Nayar, Curtin University of Technology

Global Wind Power Capacity has quadrupled in the last five years from 7600 MW in 1997 to 31000 MW to become the world's fastest growing energy source.

Prof. Nayar presented an overview of the history and expectations in the wind power industry based on his own research and observations. It was a timely presentation with impending announcements of Alinta's approval to build a significant 100MW wind farm near Geraldton.

Prof. Nayar's talk was presented on a number of fronts and included;

- Mechanical considerations of harnessing wind power
- Global and Australian wind power status – current capacity, cost of production and feasibility projects

- Government encouragement of renewable energy targets
- Technological situation – turbine types, capacity and research
- More detailed description of the machine electronics and control and interface engineering
- Pros and Cons of using the differing technologies
- There was also emerging trend among some manufacturers to concentrate on small scale (e.g. local WA products)

In conclusion Nayar could foresee installation sizes increasing and costs of energy reducing. He was also surprised that in WA had fallen somewhat behind the rest of Australia. In the early days WA was the leader and has suitable climatic conditions to take advantage of wind power.

Approximately 55 people attended this presentation and question time reflected the amount of interest in the topic within the Perth community.

*Harry McDonald, Secretary*

## IEEE W.A. Workshop

The venue for this year's IEEE W.A. Workshop is Alexander State Library on April 24. The workshop allows committee members to gain familiarity with their team members, the W.A. Section and IEEE as a global organisation.

The 2003 IEEE W.A. Workshop had presentations from volunteers holding different portfolios and responsibilities, discussions of new ideas, leadership training and various teambuilding activities. The picture below show participants of last year's workshop.



## WA Chapter Reports

### Computer Chapter

Upcoming Research Seminar Topics by Professor James K. Ho of Chicago's University of Illinois.

#### *OVERCOMING LANGUAGE AND WORD PROCESSING BARRIERS IN B2B COMMUNICATION*

##### *Abstract*

Non English-speaking Internet users are already outnumbering English speaking ones. And with many non-alphabetic languages, word processing will remain a hindrance to Internet use. Broad issues in overcoming such barriers, as well as a specific approach to facilitate multi-lingual B2B communication will be discussed and demonstrated. It is shown that such development will be critical to enable SMEs worldwide to compete in the global, digital economy. Initial efforts under the APEC Multilingual International Trade Project is presented.

#### *ARE INNKEEPERS READY FOR MULTILINGUAL E-BUSINESS?*

##### *Abstract*

Tourists worldwide are increasingly turning to the Internet for resources that suit their travel needs. While most lodging providers have a Web presence and advertise their e-mail address, how well are they adapting to this channel of communication with their clientele? And how aware are they of multilingual needs? Results of a global study with a sample of over 4,000 small inns, bread and breakfasts, and farm stays are presented.

#### *TOPOLOGICAL ANALYSIS OF ONLINE AUCTION MARKETS*

##### *Abstract*

Online auction is a prime example of how e-commerce transforms an age-old business model, not just transplanting it to a new medium. By removing the constraints of space and time, it can literally create global marketplaces for the matching of supply and demand in goods of all kinds. To study and monitor their growth and development worldwide, a set of structural metrics are proposed to depict the topology of such markets without expert knowledge in the goods or monetary valuation of the transactions involved. Data from eBay.com is used to illustrate this approach to topological analysis of online auction markets.

##### *Biosketch*

James K. Ho, Ph.D, is a professor of information and decision sciences at the University of Illinois at Chicago

and author of "Cyber Tigers: How Companies in Asia can Prosper from E-commerce" (Prentice Hall, 2000, Chinese translation: SCMP 2000). He has extensive experience working with international organisations, major corporations as well as small businesses on the application of information technology. Dr. Ho's executive seminars on "Competing in the Information Age: Maximising the Payoff from Technology", "Internet Strategies: Beyond Web Sites and Home Pages" and "Managing E-commerce and Online Business" have been presented internationally in the USA, Canada, France, Hong Kong, New Zealand, Norway, and Singapore. His research on the evaluation of the World Wide Web has been featured as a business resource by numerous organisations and international media. He is the founder of Cyber Tigers Online ([www.cyber-tigers.com](http://www.cyber-tigers.com)) featuring TigerTalk[sm]: the First, Fast, and Free B2b E-mail service on the Web with flawless translations and little or no typing, to facilitate e-commerce for small and mid-size enterprises (SMEs) worldwide. Portions of this work has evolved into the APEC Multilingual International Trade Project.

The Computer Chapter has held discussions with the Australian Computer Society (ACS) on future collaborations between the chapter and ACS.

*Lance Fung*

*Computer Chapter Chair*

*Email: lanceeccfung@ieee.org*

## **Signal Processing Chapter**

The IEEE Signal Processing Chapter of WA organised a distinguished lecture tour (under the distinguished lecturer program) by Prof. Moeness Amin from Villanova University, USA. The distinguished lecturer (DL) spent three days in Perth and presented two lectures on Monday 8 March 2004. The first was held at Edith Cowan University on "Adaptive Blind Equalization for Indoor Dynamic Channels". In this talk he described a new adaptive, channel equalisation technique for combating multi-path effects in an indoor environment, using single and multi-antenna receivers. The second lecture took place at the West Australian Telecom Research Institute, in Nedlands. In this talk he described a self coherence technique for anti-jam GPS. Both talks were well received and appreciated by the audience. The DL then completed his tour by visiting Canberra and Melbourne before returning to the USA.



### *Biography of Prof. M. Amin*

Dr. Moeness Amin received his Ph.D. degree in 1984 from University of Colorado, Boulder. He has been on the Faculty of Villanova University since 1985, where is now a Professor in the Department of Electrical and Computer Engineering and the Director of the Centre for Advanced Communications.

Dr. Amin is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), the recipient of the IEEE Third Millennium Medal; Distinguished Lecturer of the IEEE Signal Processing Society for 2003; Member of the Franklin Institute Committee of Science and Arts; Recipient of the 1997 Villanova University Outstanding Faculty Research Award; Recipient of the 1997 IEEE Philadelphia Section Service Award

Dr. Amin has three patents and over 250 publications in the areas of Wireless Communications, Time-Frequency Analysis, Smart Antennas, Interference Cancellation in Broadband Communication Platforms, Digitized Battlefield, Direction Finding, Over the Horizon Radar, Channel Equalisations.

Dr. Amin was the Technical Chair of the 2nd IEEE International Symposium on Signal Processing and Information Technology, Morocco, 2002; The General and Organisation Chair of the IEEE Workshop on

Statistical Signal and Array Processing, Pennsylvania, 2000; The General and Organisation Chair of the IEEE International Symposium on Time-Frequency and Time-Scale Analysis, Pennsylvania, 1994. He was an Associate Editor of the IEEE Transactions on Signal Processing during 1996-1998. Dr. Amin was a member of the IEEE Signal Processing Society Technical Committee on Signal Processing for Communications during 1998-2002 and was a Member of the IEEE Signal Processing.

*Salim Bouzerdoum*  
*Signal Processing Chapter Chair*  
Email: [a.bouzerdoum@cowan.edu.au](mailto:a.bouzerdoum@cowan.edu.au)

## **IEEE Student Activities**

Hi

I am taking over the Office of Student Activities this year. This “involves getting to know the IEEE framework in which the local student branches operate ... and giving them guidance, advice and assistance for their activities” according to Helene Fung, the past representative.

However, as I am completely new to IEEE at the Section level, this means that I currently know nothing! I expect that I shall steadily acquire knowledge, information and wisdom. So if you are a student member or belong to one of the student branches and have an IEEE query, problem etc, then drop me a line at [n.ritter@murdoch.edu.au](mailto:n.ritter@murdoch.edu.au).

A little background – I am currently a Computer Science lecturer at Murdoch University, I have been a member of IEEE for 10 years and a Tertiary lecturer for 13 and hope to help initiate a Murdoch Student Branch this year.

Cheers,

*Dr Nicola Ritter*  
*Student Activities*



## **University of Western Australia IEEE Student Branch**

The U.W.A. IEEE student branch has entered into IEEE's student branch website competition, and has Takashi Fujita to thank for refurbishing their website. Be sure to check out their website <http://www.ee.uwa.edu.au/~ieeesb>. The student branch hosted a barbeque for students as part of the IEEE/Institute of Engineers, Australia/Institute of Electrical Engineers joint function. Like the Curtin branch, the U.W.A. branch also held a membership drive.

## **Curtin IEEE Student Branch**



Students being signed up by Jess and Yati at the Curtin IEEE Student Branch membership drive.

The Curtin IEEE Student Branch has already kicked off its year with two barbecues to create awareness of the

organisation at Curtin for 2004. The first was not so successful, due to the coincidence of four others on the same day. A more careful selection of the day for the second barbecue however led to a better response.

During March the membership drive has been underway leading to many new and current members joining up to the IEEE again in 2004 [refer to picture above]. The branch is particularly interested in attracting third year members to replace committee members graduating at the conclusion of the year.

Our next planned event is a team building activity to introduce new members to the rest of the IEEE committee. Also in the pipeline is the Vacation Work Seminar designed to provide students with advice on how to seek work experience within the electrical and electronic engineering industry. More news on these events should be available in the next newsletter.

*Douglas Brown*

*Vice Chairperson, Curtin IEEE Student Branch*

*Email: douglasbrown@ieee.org*



## ***A Member's IEEE Journey***

Involvement:

- 2000 Founding Chairperson, UWA IEEE Student Branch
- 2001-3 Executive Advisor, UWA IEEE Student Branch
- 2001-2 Region 10 (Asia & Pacific) Student Representative
- 2003 Western Australia Student Activities Coordinator
- 2003-4 Western Australia Graduates of the Last Decade (GOLD) Committee
- 2004-5 Nominations and Appointments Committee Member

Without a doubt, I would count my involvement in IEEE as one of the best things that ever happened to me, and I

have gained from it so much more than I imagined, especially beyond the technical.

What I had originally hoped to get out of IEEE at the very beginning from starting up a student branch was to be familiar with a professional standard of conduct while still being a student, to polish my leadership/management skills and make new friends.

Then my involvement in the global level as Region 10's Regional Student Representative (RSR) offered so much more: as IEEE's motto goes, Networking the World. Through travelling to attend conference meetings on IEEE's tab, I have met other IEEE volunteers from different regions around the world throughout my term. As cliché as this may sound, my experience of IEEE really feels like one big happy family, especially seeing people from some countries which were supposedly fighting with each other getting on so well. I am still in frequent contact with many of the new friends that I made, and I still get a buzz every time I get an email originating from different locations around the world! My knowledge in geography has definitely improved because I had made a conscious effort to look up where the emails are from. It made me realise that there's a much bigger world out there.

So what exactly does an RSR do? I hear you ask. My responsibilities were to act as a first point of contact for student members' queries; to assist the Regional Student Activities Coordinator to formulate ideas and policies to boost and retain student membership, and also to encourage and promote student activities within the Asia/Pacific Region. In order to do these I need to get to know both the student branches and the global Student Activities Council (SAC), and function as an effective link between them. Yes the description may sound a bit vague, but there is no standard list of deliverables. The nature of the position really can involve as little or as much as you want it to involve, which I guess is why the RSR's chosen from all the regions seem to have some common personality traits: motivation, assertiveness and friendliness.

I'm honoured to have been given the chance to play a role in re-activating student activities coordinated at Region 10 level. I'm also glad that I went beyond the call of duties as RSR and made myself useful to the Region 10 committee, paving the way to enable future RSRs to have more interaction with the Region 10 executive committee by getting official invitations to some meetings at the Region 10 level, which was not the case before.

After staying involved on the WA level as Student Activities Coordinator as well as assisted in starting a GOLD Group in WA in the past year, more opportunities knocked on the door again. I was

nominated and appointed into IEEE's corporate Nominations and Appointments Committee as a GOLD representative for 2004-5. The committee's responsibilities are to recommend to IEEE's Board of Directors and Executive Committee candidates for Chairs/Members/Alternates of some 17 standing committees and Boards, and also candidates recommendations for positions of President-Elect, Vice President Educational Activities, Vice President Publication Services and Products Board, Secretary, and Treasurer.

I just came back from the committee's first meeting for the year in Miami and I'm absolutely loving the opportunity to mingle with so many experienced and talented people who are all very successful at their chosen fields plus more. I can learn so much from them even if I just pick their brains for 5 minutes each! The fact that my input does make a difference and have far-reaching influence also gives great satisfaction. Oh and, having free travel opportunities two to three times a year is always a big plus! ;-)

The photograph shows me relaxing and having drinks with some committee members after dinner at Nominations and Appointments Committee Meeting in Miami.

Left-to-Right: Dan Benigni (Maryland, USA), Helene Fung (WA, Australia), Larry Hamerman (California, USA), JulieCozin (IEEE staff secretary), Lyle Smith (IEEE staff director)



At the end of the day, how much you can get out of involvement in IEEE, at whatever level, is really proportional to how much you put in. Most of the people I have met in IEEE just love to see talent and motivation, especially from young people. If a reasonable proposal has been put up, chances are they'll do what they can do to help – all you have to do is ask, and be accountable for your actions (though be prepared to make certain compromises if needed). So I would urge you to get involved, and get as much out of IEEE

as you possibly can, because there is just so much on offer!

*Helene Fung*

*Nominations & Appointments*

## Membership

Be sure to register for your IEEE web login account and IEEE Alias. The IEEE Alias facility is great for having just one simple email address ([name@ieee.org](mailto:name@ieee.org)) that stays with you when you change ISPs. It forwards your emails to your desired email address. IEEE Alias' virus scanner is very up to date and now a spam filter is also available.

Keeping your membership details up to date, especially your email address, is important in allowing IEEE W.A. to keep in communication with members, such as the delivery of this newsletter.

IEEE W.A. utilises IEEE's latest E-Notice facility that allows us to easily maintain our mailing list and efficient email delivery. E-Notice references the members' email address in IEEE's membership database; hence it is important to keep your membership details current.

Congratulations to the following IEEE WA members for their promotion to Senior Member status:

Kamal Alameh	January 2004
Daryoush Habibi	January 2004
Jasmine Henry	January 2004
Douglas Chai	November 2003
Salim Bouzerdoum	October 2003
Lorenzo Faraone	August 2003

The committee intends to continue last year's senior membership drive. The process for Senior Membership Application is as follows:

1. Ensure that a member satisfies the criteria for elevation to Senior Membership (By-law I-105.3) as paraphrased below: "... a candidate shall be an engineer, scientist, educator, technical executive or originator in *IEEE-designated fields*. The candidate shall have been in *professional practice for at least ten years* and shall have shown *significant performance* over a period of *at least five of those years*."
2. Apply for Senior Membership in one of three ways:
  - On-line Application

- Downloadable version for manual completion and posting to IEEE HQ.
  - Electronic version - RTF form that can be completed and submitted electronically as an email attachment.
3. Provide three references from current IEEE members holding the grades of Senior Member, Fellow or Honorary Member. The referees must send their reference directly to the IEEE and a Senior Member Reference Form is available to facilitate this.

More information can be obtained from the IEEE web site:

<http://www.ieee.org/organizations/rab/md/smprogram.html>

Members interested in seeking elevation to Senior member grade may contact me via email ([david.may@ieee.org](mailto:david.may@ieee.org)).

We will continue to focus on increasing student membership as exhibited by the student chapters' recent membership drive. I also encourage IEEE members to tell their colleagues about IEEE. Feel free to use this newsletter to disseminate information about IEEE on the local level. Half-year memberships are now available – for more information go to <http://www.ieee.org/join>.

*David May*

*Membership Development*

*Email: [david.may@ieee.org](mailto:david.may@ieee.org)*

## **Newsletter Article Submission Dates**

June 4	2 <sup>nd</sup> issue
September 3	3 <sup>rd</sup> issue
November 26	4 <sup>th</sup> issue

## **Some Useful IEEE Resources**

Interact with other members in the various Community Forums, such as Employment & Career Strategies Forum. <https://www.ieee.comunities.org>

The IEEE Member Digital Library contains current and the past 5 years' IEEE journals, magazines, transactions letters and conference papers. <http://www.ieee.org/ieeemdl>

Check out Computer Chapter's free on-line 'Bookshelf' <http://www.computer.org/bookshelf> and on-line

computer courses

<http://www.computer.org/DistanceLearning>.

Download IEEE 802 standards for free from Get IEEE 802 <http://grouper.ieee.org/groups/802/11/index.html>

## **Newsflash**

At New York's Kennedy airport today an individual, later discovered to be a school teacher, was arrested trying to board a flight while in possession of a ruler, a protractor, a setsquare, a slide rule, and a calculator. At a morning press conference, Attorney general John Ashcroft said he believes the man is a member of the notorious al-gebra movement. He is being charged by the FBI with carrying weapons of math instruction. "Al-gebra is a fearsome cult." Ashcroft said. "They desire average solutions by means and extremes, and sometimes go off on tangents in a search of absolute value. They use secret code names like "x" and "y" and refer to themselves as "unknowns", but we have determined they belong to a common denominator of the axis of medieval with coordinates in every country. "As the Greek philanderer Isosceles used to say, there are 3 sides to every triangle," Ashcroft declared.

When asked to comment on the arrest, President Bush said, "If God had wanted us to have better weapons of math instruction, He would have given us more fingers and toes. I am gratified that our government has given us a sine that it is intent on protracting us from these math-dogs who are willing to disintegrate us with calculus disregard. Murky statisticians love to inflict plane on every sphere of influence," the President said, adding: "Under the circumferences, we must differentiate their root, make our point, and draw the line," President Bush warned, "These weapons of math instruction have the potential to decimal everything in their math on a scalene never before seen unless we become exponents of a Higher Power and begin to factor-in random facts of vertex.

Attorney General Ashcroft said, "As our Great Leader would say, read my ellipse. Here is one principle he is uncertainty of - though they continue to multiply, their days are numbered as the hypotenuse tightens around their necks."