

The Institute of Electrical and Electronic Engineers

<http://www.it.murdoch.edu.au/ieee/index.html>

## **CONTENTS**

- Section Chairperson's Message
- IEEE W.A. Committee 2005
- Editor's Column
- Joint Electrical Technical Panel
- IEEE W.A. Workshop
- W.A. Chapter Reports
  - GOLD
  - Other Chapters
  - IEEE Student Activities
- Membership
- IEEE Educational Activities and IEEE History Centre
- Section Events
- Career News
- Other News
- Newsletter Article Submission Dates

---

### **Section Chairperson's Message**

Dear Members

Welcome to the first newsletter for this year!

2005 began with many new faces in the Section, Technical Chapters, Student Branches and GOLD committees. Everyone sensed a fresh level of energy and excitement during the Section meetings and the annual team building workshop. With the enthusiasm and commitment from the new committees, it is expected that a string of exciting technical and social activities will be brought to you in the coming months.

The events that have occurred so far are as follows:

1. Formation of Murdoch University Student Branch (MUSB). MUSB was formally established at the beginning of 2005. Membership drive and recruitment events were held with support from the Section and Murdoch University's School of I.T.

2. Monthly Joint Electrical Technical Program (JETP) meetings held in collaboration with the Institution of Engineers, Australia and I.E.E. In addition, a number of seminars have also been organised by the Technical Society chapters.
3. Launch of the ICTICC (Information Communication Technology Industry Collaboration Centre). ICTICC was jointly organised by ACS, AIIA, ATUG, Institution of Engineers, Australia, IEEE and WAIA. This initiative has the support of the Department of Industry and Resources (DOIR). Most of the future activities will be based at Innovation Centre in Technology Park, Bentley; thereby establishing a "home" for the IEEE and the other organisations. It was also agreed that section members will be notified of mutually beneficial activities arranged by other organisations. This will effectively boost the range of activities being made on offer to the members.
4. The Section's Annual Teambuilding Workshop was held on 13<sup>th</sup> March at the Innovation Centre in Technology Park. During this half day workshop, a number of presentations were made by the key officers to the delegates. The objective of the workshop was to provide an intensive induction program for the new members and to carry out brainstorming and planning exercises.
5. Representing the IEEE W.A. Section, Section Treasurer, Dr Kevin Wong, attended the Region 10 meeting at Singapore at the end of March.

Events planned for the coming months:

1. Monthly JETP meetings.
2. Chapters' technical seminars.
3. Joint activities with ICTICC member organisations.
4. Perth conferences: INDIN and APCC. It is hopeful that speakers from these conferences will be available to conduct seminars or workshops for IEEE.
5. Student Branch activities
6. Membership Drives
7. Social events.

So, watch this space and I look forward to meeting you at the coming events.

With best regards  
*Lance Fung*  
Chair, IEEE W.A. Section

## IEEE W.A. Committee 2005

Chair	Lance Fung
Vice Chair	Douglas Chai
Secretary	Valerie Maxwell
Treasurer	Kevin Wong
Membership Development	Douglas Chai
IEEE Representative for JETP	Jasmine Henry and Alfred Tan
GOLD Representative	Vi Nguyen
Recognised Education Programme	Elizabeth Chang
Newsletter Editor	Theng-Wei Loke
Web Manager and e_Communication	Shri Rai
SAMIEEE and Mailing List Manager	Farid Boussaid
Student Activities	Nicola Ritter
General Committee Member	Karyne Wong
Computer Chapter Chair	Kevin Wong
Communications Chapter Chair	Daryoush Habibi
Power Engineering/ Power Electronics Chapter Chair	Harry McDonald
Signal Processing Chapter Chair	Douglas Chai
Curtin Student Branch Chair	Saira Tariq
UWA Student Branch Chair	Zhen Xu
Murdoch Student Branch Chair	Eric Li

## Editor's Column

Another new year and a second year as newsletter editor. I find it challenging, digging up news that are pertinent and of interest to members. This edition is E-Wavelets' fourth edition since its resurrection last year. As I stated last year, the newsletter's key intention is to facilitate communication between members and your Section and Chapter committees. Please feel free to provide feedback to the editor ([tloke@ieee.org](mailto:tloke@ieee.org))

Be sure to watch out for upcoming announcements from Chapters and the Section via E-Notice (IEEE's broadcast emailing facility).

Once again, I hope you enjoy reading this newsletter.

*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 co-sponsored by Engineers Australia (W.A. Electrical Panel), Institute of Engineers (IEE W.A. group) and the IEEE W.A. section.

### An Integrated Distribution Management System

9<sup>th</sup> March 2005

*Speaker: Shane Duryea, Network Operations Manager of Western Power Corporation (WPC)*

The Joint Electrical Technical Panel is a collaborative technical program of the IEE, IEEE and Institute of Engineers, Australia. These monthly evening lectures from electrical engineering and related scientific disciplines also offer opportunities for industry networking.

In this second JETP meeting, the audience of about 30 people comprised mainly of Western Power staff and some local industry people.

The presentation featured a background of the WPC South West Interconnected System (SWIS) and the method of accepting, noting and interpreting the electrical distribution faults by the Network Control Centre. Not all fault conditions can be telemetered and it would not be viable to economically monitor all fault modes. There is strong dependence on an active model, a Trouble Call Management System (TCMS) and of course telephone calls from customers and the public. Over 1,000,000 calls are made to the WPC Call centre and 110,000 of these are fault jobs.

Shane also illustrated the method of managing storms and a large volume of fault conditions. Special efforts were made to ensure that the latest information was relayed from the field. The system also keeps WPC management and other key stakeholders informed.

A new system ENMAC went live on the 13<sup>th</sup> August 2003. Its application is well advanced in WPC and it is leading the way in the Southern Hemisphere. The next stage of the ENMAC development is to extend it into the rural networks of the SWIS

Shane explained how ENMAC is used to manage the distribution network and described some of its fail-safe features. He explained the basic system architecture and the levels of redundancy needed to provide the level of security needed to operate a modern CBD/urban electricity network. A number of the key features were shown and how they helped the operator to focus on the schematic network in an uncluttered way. This clarity made recovery quicker and provided speedier decision making.

Shane also demonstrated the alarm system, the PC browser web view that allowed the network to be examined on a screen by relevant staff. Historically WPC like many other supply authorities was heavily dependent on wallboards. These had been pinned and the modern ENMAC offered better standardization, better inherent safety logic and was linked to many other systems like the organisations geographic information systems and detailed work descriptions.

To finalise the presentation Shane worked through an example using the test system to demonstrate a car versus pole incident. This was from the perspective of a network operator in the control room and interfacing with the people in the field. This was a combination of automatic network control and physical actions by people in the field.

The presentation was well received and provided an insight to the changes and improvements in the WPC Network Operation Control Centre.

WPC engineer Amish Sheth offered a vote of thanks.

*Harry McDonald*

### **GPS Outside the Box: Applications and Future Directions for GPS users in the 21st Century**

**9<sup>th</sup> February 2005**

*Speaker: Assoc. Prof. Mike Stewart, Department of Spatial Sciences, Curtin University*

Mike provided an interesting focus on the presentation from a geophysicists perspective, hence the title pitched at what went 'on outside the box' i.e. signal analysis, propagation problems, processing ('the box') conversion to position and other useful information.

He described the origins of GPS in 1992 as a US based navigation system and military aid. The early application focus was on position but velocity was also obtainable. There are 28 satellites available and the complex signal comprises of information that is available to civilian and military. Typically the distance to the satellites is 20,000km. Anti spoofing codes were present which limited the location accuracy available to civilian use. Over time experts gradually counteracted the hidden information so that the accuracy available to the military could be derived by other techniques.

A GPS receiver's coordinates are computed from its raw signal measurements. Three known points can be used to provide triangulation and thus position. The satellites and the receiver are never perfectly synchronised so GPS can experience timing errors. Satellites have atomic clocks.

4 satellites can be used to provide position estimates precise to about 1 – 2m. US Defence's specification for accuracy of civil GPS is less than 13m in the horizontal plane and less than 22m in the vertical plane.

A busy and wide urban intersection was used to graphically demonstrate the effect of the standard hand held GPS error. The types of errors included satellite orbit error, ionosphere/troposphere effect and receiver noise.

A crude indicator is that you need to be able to see the satellites. Central Business District buildings forms 'canyons' thus giving an obvious disadvantage to satellite visibility. Trees can also cause interference. Staying in the same location helps. For vehicle travel, a digital odometer and digital compass can be used in conjunction with the GPS receiver for better results. The high-end accuracy GPS used in conjunction with other navigation aids in warfare e.g. cruise missiles.

Specialist data analysis techniques can yield much better coordinate accuracy. Mike went on to explain how accuracy can be improved to 10 m with 95% confidence. Differential GPS (i.e. two GPS) offers higher precision for navigation using the civilian GPS signals. Using the RTCM changes the accuracy from 10m to 1m. Better performance is achievable if the GPS receiver uses carrier phase tracking. Other techniques are available to recover the anti-spoofing code and compensate for the noise in the ionosphere. Real time kinematic position can achieve 1 – 3cm horizontal and 2 – 5 cm vertical accuracy.

Increase the range of the high accuracy GPS by improving satellite orbits and/or, improving atmospheric modeling. FUGRO claims an accuracy of between 10cm to 2 m in 90% of global coverage.

High precision in GPS is finding its way into many agricultural applications. GPS combined with GIS. Some of the more novel applications of GPS include measuring the motion of the Earth's continents and tracking stolen vehicles. Ultra high accuracy GPS has been used to monitor the wobble of the earth and movement of continents. The speaker indicated that Karratha was moving northeast at rate of 5cm per annum.

Australian Regional GPS Network monitors the continental plates. After the recent earthquake and Tsunami the distance between Aceh and Singapore and changed by 10cm. International GPS agencies managed by academics and universities are achieving positioning to within 5cm accuracy.

The GPS Modernisation Programme will have significant impact on the GPS user community. The European Galileo system, currently in the development

stage, will both augment and compete with GPS. The modernization will lead to improved civilian service, eg Galileo System (European) Open service plus user pays. Building on GPS's advantages, the Russian GPS system, GLONASS, will also be up and running. India and Russia are collaborating on satellite systems for GPS.

In the future GPS will be embedded in most systems, and there will be seamlessly integration (including combinations) of the European, GLONASS and GPS in one receiver.

The market for global navigation systems includes applications for cars and mobile phones. The modernised GPS system is expected to be fully operational by 2008.

Question time was very lively and many within the audience of about 40 continued their discussions with Mike well into the social part of the evening.

*About the speaker:* Mike Stewart is an Associate Professor at Curtin University's Department of Spatial Sciences, and he specialises in GPS algorithm development and geophysical geodesy. Born in Manchester, United Kingdom, Mike completed a degree in geophysics at the University of Liverpool and a doctorate in Physical Geodesy at the University of Edinburgh before taking up a four-year postdoctoral position in algorithm development for GPS data analysis at the University of Nottingham. In 1994, he took up a lecturing position in GPS and Geodesy at Curtin University. He has since taken a lead in developing research programmes in all aspects of Global Navigation Satellite Systems within the West Australian Centre for Geodesy, and he is also a director of this organisation.

He is a consultant for Geoscience Australia, the Department of Land Information, Main Roads W.A. and various industry concerns and is a project leader for the Cooperative Research Centre in Spatial Information. Mike has over 50 refereed scientific papers to his credit. In his ten years in Australia, Mike has led the Australian Research Council and industry funded research projects in areas such as the application of GPS to deformation detection of the Earth's surface, the integration of GPS with its Russian equivalent, GLONASS, derivation of meteorological data from GPS observations and the propagation of systematic errors into GPS coordinate solutions.

*Harry McDonald*

## IEEE W.A. Workshop

This year's annual IEEE W.A. Workshop was held at the Innovation Centre on 13<sup>th</sup> March. The workshop provided orientation for the new committee members, which included an introduction to IEEE's organisational structure - especially the structures of Region 10 and W.A. Section. Of interest was the presentation on the funding of IEEE's Sections showed how IEEE headquarters made funds available for technical meetings, Distinguished Lecturer.

Team ice-breaker exercise involved groups participating in brainstorming sessions and in the Section Chair's very hard trivia quiz. The workshop had brainstorming of section activities to involve more members and increase membership. There was a presentation of some interesting statistics on W.A. membership, which compared favourably with those of other Region 10 Sections. The committee members were shown IEEE's mission statement, the goals of the Regional Activities Board of Region 10 and Region 10's definition of Section Committee roles.

The participants in this year's workshop (shown in the proceeding photograph) were as follows: (*back row from left to right*) Lance Fung, Theng-Wei Loke, Dr Kevin Wong, Harry McDonald, Nicola Ritter, Alex Tropf, Zhen Xu, Eric Li, Dr Hong Xie, Dr Douglas Chai, (*sitting down from right to left*) Shri Rai, Vi Nguyen, Włodzimierz Gornisiewicz, Saira Tariq and Valerie Maxwell.



The group comprising of Douglas Chai, Harry McDonald and Kevin Wong were hard at work answering Lance's difficult trivia quiz. Congratulations to them on winning the quiz. Lance was very generous in distributing packets of Easter eggs as prizes in the team exercises.



*Theng-Wei Loke*

## **W.A. Chapter Reports**

### **GOLD**

#### **GOLDen Opportunities Awaiting You!**

One of the most important tools for the young professional engineer is to keep current in your area of expertise. IEEE provides resources to its members such as IEEE society publications, conference journals and transactions, and electronic databases. There are also many opportunities to attend local chapter presentations and workshops, as well attending these activities on an international level. Although these are all fantastic mediums for professional development, there is no direct focus or assistance to those emerging as young professionals.

This is where IEEE GOLD comes into the picture. If you are an IEEE Member who has received your first professional degree within the past 10 years, you are automatically an IEEE GOLD member (assuming that you are already an IEEE member), with GOLD being the acronym for Graduate of the Last Decade. IEEE GOLD W.A. is a volunteer group of motivated individuals that solely focus on offering programs and services to and about to graduate students, recent graduates and young engineers.

The transition from being a full time student to a young professional in the workforce can be a daunting experience. For this reason, IEEE GOLD concentrates on providing opportunities to identify with your peer group, connect with colleagues in your profession, share experiences and develop your skills. The process of networking and exchange of information ensures that you are kept up to date both technically and competitively with your engineering stream.

In 2004, IEEE GOLD events included two successful networking sundowners, the first at Carnegies and the second at Spirit Sound Bar, with an average turnout of approximately 50 young engineers from a variety of companies. A professional etiquette seminar was also held courtesy of Image Power, with emphasis on cultural awareness, how to shake hands, and good mannerisms in the workplace. As a newly contributing member of the workforce, young engineers need to educate themselves on financial issues such as income protection insurance and superannuation. Such topics were covered at our financial seminar held last August. In addition, a tour of UWA's school of electrical, electronic and computer engineering department was given with a focus on available postgraduate courses. The tour included a visit to the new million dollar fabrication clean room. Considering that 2004 was the first year for IEEE GOLD W.A., the year's event proved us very successful in meeting our mission of adding value to your membership.

From your feedback in our 2004 survey, IEEE GOLD W.A. will aim to increase the number and variety of events held this year. This includes technical, lifestyle, financial, business, and career information seminars and workshops, as well as professional networking activities. However, in order to cater for the demand for additional events, IEEE GOLD W.A. needs to expand our enthusiastic team. If you believe that you are innovative, have an interest in furthering your professional development, and are looking for a rewarding challenge then this may be the opportunity for you.

For more information, please contact me

*Vi Nguyen*

*GOLD Chair*

*vi.nguyen@ieee.org.*

### **Other Chapters**

For an update on activities from Computer Chapter, Signal Processing Chapter and Communications Chapter, watch out for your email notifications. You should have received email notifications of past and upcoming JETP seminars.

#### **Power Engineering/Power Electronics Chapter**

This joint Chapter has conducted one administrative meeting this year. This year's main emphasis will be to focus on running a good technical program and tap into any of the relevant distinguished lecture programs. The plan is to have between 4 and 6 technical presentations this year.

The committee comprises of Chair Harry McDonald and committee members Thom Fox, Robert (An) Li, Terence Law, Bob Stewart, Amish Sheth and Karyne Wong. New volunteers are always welcome on the committee and the workload can be as little as helping with local arrangements for technical talks. In previous years the committee has had balanced representation from academia and industry.

*Harry McDonald*

## **IEEE Student Activities**

### **Student Activities – 2005 Plans**

It is already April, and I am probably not the only one gasping at the speed with which this year seems to be passing. The student branches—particularly Murdoch—has been busily preparing a proposal for hosting the Region 10 Student Congress next year. The main problem was the budget. Compared to other nations in the region we seem to have very expensive accommodation and food! At this point, we have been short-listed, but are in need of either reducing our costs or planning some serious fund raising!

BBQs seem to play a very important part in the student branch social calendar. Murdoch University student branch has already had one, Curtin University student branch had a BBQ on 13th April and UWA student branch are hoping to set up fortnightly BBQs with a 6 member BBQ planning subcommittee. BBQs are a great way to network so student members consider getting to one near you this year! Curtin University student branch also had a mini PS2 raffle for their April BBQ. Other social events conducted in the past by the UWA student branch included bowling, a Scitech visit, and restaurant meals. They are hoping to run similar events during this year. Curtin University student branch's social event planning includes picnics, laser games and bowling.

Both Murdoch and Curtin already completed their branch membership drives. Curtin has conducted three membership drives and Murdoch is planning another two in the latter part of the year. UWA student branch is planning to combine its membership drive with some of their BBQs, commencing hopefully in the latter part of April.

Earlier this year Murdoch University student branch entered the Region 10 student website contest. Yunzhong Wang is their webmaster. Check out their website at <http://gryphon.murdoch.edu.au/~ieee>. Well done Yunzhong! Both Curtin and UWA also have websites at <http://ieee.ece.curtin.edu.au> and <http://www.ee.uwa.edu.au/~ieeesb> respectively.

The three universities will again combine to organise the highly successful Networking Forum later this year. The forum's aims are to allow students to improve their networking skills, gain an insight into the profession, and gain information on vacation and graduate employment. Engineering firms' representatives such as Western Power, ABB, Alcoa, Schlumberger, Ernst & Young and other companies will attend the forum; thus allowing student members the opportunity to mix with people from 'the real world'. Students have a chance to ask about job prospects, tips about job applications and types of jobs available. There are usually some presentations from IEEE and other organisations followed by a light supper. The forum is planned for August or September this year.

UWA student branch is planning multiple site visits this year - aiming for one in April, July and August. The exact locations are yet to be decided. Suggested visits included Western Power, Motorola, ABB, ABC, Main Roads and Alcoa. Curtin student branch is hoping to bring their members to the power station visit.

Murdoch University student branch, in conjunction with Murdoch University's School of I.T, has organised a seminar on Microsoft's .NET language for 12th May, and it will be presented by Michael Kleef. The branch is also planning a career seminar, which will cover such things as job interview techniques, resume writing, etc. UWA student branch have a similar seminar planned for May and August. UWA student branch will also organise a competition called "The Resistor Challenge" in May and are planning an activity in the soldering lab for July.

On the more sober side of life, UWA student branch hopes to become more efficient, organised and productive this year, with plans to produce an Operations Manual by the end of the year.

All three student branches will hold AGMs later in the year, possibly combined with another social event!

Kien Ping Chung, Sebastian Khor, YunZhong Wang and Eric Li (left to right) cooking at the Murdoch University Student Branch's BBQ.



Murdoch University Student Branch's recruitment drive is depicted in the photograph below.



Nicola Ritter  
Student Activities Coordinator

## Membership

IEEE W.A. utilises IEEE's latest E-Notice facility 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.

The senior membership recruitment drive continues. This year the IEEE Membership Development Committee (MDC) will continue its sponsorship of the *Nominate a Senior Member Initiative*. The program's objective is to encourage the growth of IEEE's Senior Member grade. To achieve this, Sections and Societies

are called to identify qualified candidates and initiate the nomination process for Senior Member elevation. For every nomination that results in an elevation, US\$10 is awarded to the nominating entity. For more information on the program, please visit <http://www.ieee.org/nsmi>

W.A. Section did fairly well in recruiting senior members, when compared with other Region 10 Sections on the basis of membership size (refer to Table 1). Many thanks to Douglas for his past efforts in promoting senior membership.

**Table 1:** Region 10 Sections with the most number of new senior members in 2004

Tokyo Section	39
Bombay Section	20
Delhi Section	16
Singapore Section	14
<b>Western Australia Section</b>	<b>13</b>
Bangalore Section	9
Hong Kong Section	9

The committee is committed to continuation of the 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>

Half-year memberships are now available – for more information go to <<http://www.ieee.org/join>>.

*Theng-Wei Loke*

## **IEEE Educational Activities and IEEE History Centre**

IEEE EAB Newswire,  
<http://www.ieee.org/education/newswire>

IEEE History Center News,  
[http://www.ieee.org/organizations/history\\_center/whats\\_news.html](http://www.ieee.org/organizations/history_center/whats_news.html)

### *About the IEEE Educational Activities*

The IEEE Educational Activities Board is responsible for coordinating the educational activities of the IEEE. The volunteer and staff members of IEEE Educational Activities carry out this responsibility by developing educational programs to ensure (1) The technological literacy of pre-college students, (2) the continuous maintenance and improvement of engineering education programs through active participation in accreditation activities, and (3) the development of continuing education products and services that serve the professional development and lifelong learning needs of electro-technology professionals worldwide. For more information, visit <http://www.ieee.org/organizations/eab/> or email [education-services@ieee.org](mailto:education-services@ieee.org).

### **CALL FOR 2005 EAB AWARD NOMINATIONS**

30 April submission deadline is approaching.

The IEEE Educational Activities Board is accepting nominations of IEEE members for its annual awards. The deadline for nominations is 30 April 2005. Awards include: IEEE EAB Meritorious Achievement Award in Accreditation Activities; IEEE EAB Meritorious Achievement Award in Continuing Education; IEEE EAB Major Educational Innovation Award; IEEE EAB Pre-College Educator Award; IEEE EAB Meritorious Service Citation; IEEE EAB Employer Professional Development Award; And FOR THE FIRST TIME IN 2005 - IEEE EAB Society/Council Professional Development Award (PLEASE NOTE that the EAB Society/Council Professional Development Award is offered in odd-numbered years alternating with the Section Professional Development Award which is offered in even-numbered years).

For award descriptions, honorarium details, and nominations packets, visit

[http://www.ieee.org/organizations/eab/EABAwards/call\\_nominations-2005.htm](http://www.ieee.org/organizations/eab/EABAwards/call_nominations-2005.htm).

For more information, contact: Rae Toscano (Manager), +1 732 562 5482; Karen Kleinschmidt (Administrator), +1 732 562 5493; Email: [eab-awards@ieee.org](mailto:eab-awards@ieee.org).

### *About the IEEE History Centre*

The IEEE History Center is a staff unit of IEEE that is located not at the IEEE Operations Center, but on the nearby New Brunswick campus of Rutgers, the State University of New Jersey, which cosponsors the Center's activities. The Center's mission to preserve, research, and promote the legacy of IEEE technologies is overseen by the IEEE History Committee, a standing committee of the IEEE Executive Committee. Since most of the activities in carrying out this mission are educational in nature, the Staff Director of the History Center reports to the IEEE Managing Director for Educational Activities, and Center staff work closely with EAD staff on many programs. Those interested in more information are invited to look at the Center's website ([http://www.ieee.org/history\\_center](http://www.ieee.org/history_center)) or to email the Center at [history@ieee.org](mailto:history@ieee.org).

### *IEEE Virtual Museum*

The [IEEE Virtual Museum](http://www.ieee-virtual-museum.org) (<http://www.ieee-virtual-museum.org>) has launched its latest exhibit, "Songs in the Key of E," which explores the numerous ways electronics have been used to create music. With examples such as the singing arc, the theremin and the synthesizer, among others, the exhibit highlights both the inventors of electronic instruments and the instruments themselves, and uses audio clips to demonstrate the various sounds.

This is the eighth [IEEE Virtual Museum](http://www.ieee-virtual-museum.org) exhibit since its launch in 2002. Aimed at pre-college students and their educators, the museum explores the global impact of electrical and information sciences and technologies to demonstrate how relevant engineers are to society.

## **Section Events**

### **Social Events**

Last year IEEE W.A. conducted a survey seeking information from members about what we were doing right and what we needed to improve. One of the suggestions that came out of that survey was that we should hold more social events. At the half day workshop last month, it was agreed to organise a quiz night and wine cruise/tasting for this year, despite committee's busy schedule. Should you have any useful

contacts in either of these areas, or would like to get involved in organising them—perhaps you've always wanted to be an MC—let me know by emailing [n.ritter@murdoch.edu.au](mailto:n.ritter@murdoch.edu.au).

Assuming we manage to get them organised, the quiz night is planned for mid-year and the wine tasting for October. Clearly BBQs are very popular with the student branches, so that is one event we should also probably organise for everyone: after all students turn into members one day! Perhaps a BBQ when summer comes around again or maybe early next year. So live in hope, and stay tuned!

*Nicola Ritter*

## Career News

The following articles from IEEE Career Alert reflect my thoughts on the current state of electrical/electronic engineering profession (*editor*).

### Not Your Father's Career Choice

Though engineering is still respected as a career path, in the United States at least, it is an ever less popular one. Young people largely see engineers as socially awkward, work-obsessed drones and the work itself as tedious. Now, with phenomena like outsourcing having lowered job prospects, even the children of highly successful tech executives are shunning their parents' field, a recent article in the Wall Street Journal reports:

<<http://www.careerjournal.com/salaryhiring/industries/engineers/20050331-grimes.html>>

### The Future of Engineering

Technical outsourcing is now a reluctantly accepted reality in the U.S., and people are starting to look at ways to address it. In this Fortune column John Chambers, the CEO of Cisco Systems, stresses the need to prepare students for careers in engineering and other technical disciplines if the U.S. wants to maintain its status in the global economy. Read on at

<<http://www.fortune.com/fortune/fastforward/0,15704,1043600,00.html>>

### Thinking about doing a PhD?

Stephen Marshall and Nick Green, authors *A New Scientist* article has the authors of the book *Your PhD Companion*, answer questions like "Will I get a better job with a PhD?", "How do I choose where to do a PhD?" and "How do I get funding?".

<http://www.newscientistjobs.com/insider/article.action?article.id=insider127&focusId=uk>

## Other News

### Fresh Innovators

Nomination for the Fresh Innovators National competition closed on the 21st of March

The Fresh Innovators is a national competition used to select 16 early-career entrepreneurs to present their work in Sydney. The competition is scheduled for 26 to 29 April and will be held in conjunction with the Australian Innovation Festival. Fresh Innovators targets scientific, technological and engineering organisations in Australia and intends to identify the best under-publicised innovation of the past year or so.

Bruce Robins, Manager of Innovation in the Department of Industry and Resources, says that "out of the 16 Fresh Innovators chosen, the one who best meets the objectives of Fresh Innovators will receive \$4,000 towards a study tour in the UK. Fresh Innovators aims to bring the passion and achievements of early career Australian innovators to a broad Australian audience - the mass media, students, industry and the general public."

### ICTCC

The inaugural ICT Today and Tomorrow Forum was held at the Innovation Centre in Technology Park (on 10 March), in conjunction with the ICT Industry Collaboration Centre (ICTCC) formation and launch function. Guest speaker was Sven Blummel from the Office of eGovernment.



From left to right: Paul Gale (DOIR), Lance Fung (IEEE), Dr Walter Green (ATUG), Richard Keeves (WAIA), Tony Rosser (AIIA), Sharon Brown (AIIA), Adrian Porteous (ACS), Dr Gregg Boalch (Chair, ICTCC), Michael Kyriacou (IEAust), Bruce Simpson (DOIR)



*From left to right: Dr Kevin Wong, Valerie Maxville, Dr Greg Boalch (Chair, ICTICC) and Lance Fung*

### APCC 2005

APCC'05 Organising Committee received about 400 submissions from over 30 countries. It is expected that over 200 delegates will attend the conference to be held from 3<sup>rd</sup> to 5<sup>th</sup> October at Perth. Details of the conference can be found at the APCC website <http://www.apcc2005.com>.

### IEEE Region 10 Minutes of 30<sup>th</sup> and 31<sup>st</sup> March 2005 Meeting

All presentation files given at the meeting were posted on the R10 webpage by Prof. D.Y. Kim (visit <http://ewh.ieee.org/ecc/r10/newRegion10/Region10Index.htm>, then click on <R10 Meet Announcement> on the top left hand side of this webpage).

### Conference Broadcast over the Web

The keynote and some technical sessions at IEEE InfoCom 2005 were broadcast live over the Internet on 15<sup>th</sup> to 17<sup>th</sup> March. Refer to <http://esm.cs.cmu.edu/channels/detail/?uid=174&eid=549>

### Seminar for 2005 Innovation Festival

IEEE Computer Society WA Chapter Chair, Dr Kevin Wong, will present a seminar at the 2005 Innovation Festival. The event is jointly sponsored by the School of IT and Centre of Enterprise Collaborative in Innovative Systems (CECIS) of Murdoch University. The title of the talk is "Games Development – an insight". The talk will be held on Tuesday, 10<sup>th</sup> May at Lecture Theatre, ECL 4 at Murdoch University from 7:30 to 8:30 PM. This is a free seminar but booking is required. Booking can be made online at

<http://www.it.murdoch.edu.au/~wong/cecis/registration.htm>

### ECU Faculty Prize Giving Ceremony 2005



*Past Chair of IEEE WA Section, Dr Douglas Chai (left) and the IEEE prize winner at ECU, Mr Emiliano Boschini.*

The Faculty of Computing, Health and Science of Edith Cowan University has held its 2005 Prize Giving Ceremony on 16 March 2005 at the Novotel Langley Perth Hotel. Our Section Vice-Chair and past chair, Dr Douglas Chai was there to present the IEEE prize. This year's winner was Mr Emiliano Boschini.

### 2005 IEEE WA Section Prizes

The 2005 IEEE WA Section Prizes for Curtin University of Technology, and Murdoch University were awarded to Mr Andrew Wesley Burton and Mr Jeremy Dixon respectively. Both students received the award during the university's award giving ceremony.

### Newsletter Article Submission Dates

June 3	5 <sup>th</sup> issue
September 2	6 <sup>th</sup> issue
November 25	7 <sup>th</sup> issue