

The Institute of Electrical and Electronic Engineers

http://ewh.ieee.org/r10/w_australia/

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Editor's Column

Welcome to the second edition of IEEE WA Section's newsletter.

An outcome of this year's IEEE WA Section Workshop was to obtain feedback from members as to the services they desire; hence a questionnaire is presented at the end of this newsletter. I encourage you to complete the questionnaire as it would help the committee greatly in planning future activities. Student members should have a read of Li San's and Eric's article of their participation in Region 10 Student Congress. Should you have questions about issues raised in the Congress, feel free to contact Li San or Eric.

In my previous issue I highlighted some useful IEEE websites. <http://www.ieee.org/discover> is one website that would be most useful for companies. The website is a portal for searching and retrieving information from journals, magazines, conferences and standards. In the

coming months, the Section would be actively seeking participation of companies in IEEE. The information web portal is one of the benefits that IEEE provides to companies.

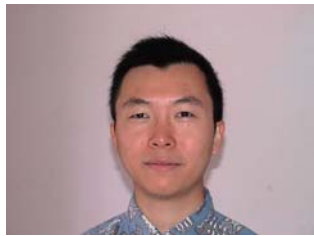
Do take note of the web address change to http://ewh.ieee.org/r10/w_australia

I welcome any newsletter contributions and letters from members. Enjoy reading this issue's newsletter.

Theng-Wei Loke

Newsletter Editor

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Joint Electrical Technical Panel

The Joint Electrical Technical Panel (JETP) is a technical program co-sponsored by Engineers Australia (WA Electrical Panel and ITEE), Institute of Electrical Engineers (IEE, WA group) and the IEEE WA Section.

Voice over IP: The Next Step – 14th April 2004

Speakers: Professor Walter Green, Mr Ross Hiddlestone
Professor Green introduced the definition of Voice over IP (VoIP) - namely, the transmission of voice in packets and Quality of Service (QoS) requirements. QoS was illustrated with the comparison between video and voice in terms of delay and jitter. He differentiated the importance between important data and voice packets.

He outlined the main VoIP standards' contenders – signalling information protocol (SIP), voice compression standards (G729A, G723.1), MPLS and DiffServ (for QoS control)

Mr Hiddlestone illustrated the commercial application of VoIP by describing City of Melville's VoIP network. He is the operations manager of the Council's VoIP network, which is the fifth largest IP phone network in Australia with over 300 phones.

The council leased Cisco network components (routers, call manager, storage area network, PIX firewall) and purchased IP phones. A feature of the IP phone was its capability for allowing the user to record his/her greeting in his/her personal voice mail.

Feasibility, design and implementation were aspects of the VoIP project that were presented. The expansion, software upgrades and training of staff members was described.

Benefits of using VoIP included efficiency gains by the receptionist, voicemail customisation, broadband internet (the council previously used dial up modem lines) and general telecommunications cost savings.

Theng-Wei Loke

Tamala Park Landfill Gas Site Visit – 15th May 2004

Approximately 25 people braved the early morning chill of Saturday, 15th May, to visit a recently commissioned electrical generating plant.

The Landfill Gas and Power Company Managing Director, Mr Shayne Forth, conducted the tour. In his presentation, he explained the principles behind the extraction of harmful environmental gases, such as methane, and gas processing. These processed gases drive large engines that are connected to alternators and stepped up via transformers. This generator equipment connects to the grid. In its final arrangement, the setup would be capable of generating approximately 4MW of electricity. This electricity is sold to a variety of large customers like shires and councils. The Western Power 22kV network is used to transport the energy. The expected life of the generating plant is greater than 30 years.

The power generating concepts were simple. This power generation also provided huge environmental benefits by reducing the waste gas that entered the atmosphere and weakened the ozone layer. These gases normally seep to the surface stunting plant growth. Installation of the landfill gas site would allow trees to grow in a previously barren site. The gas was extracted in a manner that ensured that the subterranean bacteria remained productive. The plant also needs to be maintained in its best condition throughout its operational life. Hence, the balance between the gas extraction and plant maintenance was delicate. The extensive pipe and bore system used to extract the gases was readily be seen on site.

Shayne discussed some of the previous projects that Landfill Gas had constructed around Perth, including the lessons that were learned and applied to the Tamala Park project.

The tour included an inspection of the control room and the final engine undergoing assembly prior to commissioning.

A breakfast was organized nearby at Mindarie Keys proceeded the site visit and allowed for further informal interaction amongst the visitors.

Jasmine Henry

A Tribute to Nikola Tesla – The Man who Invented Modern Power Systems and so Much More – 9th June 2004

Speaker: Dr Zoran Bozic, Western Power

About the speaker: Dr Zoran Bozic has 19 years of academic, research, consulting and utility experience in Serbia and Montenegro and in Australia. He undertook his graduate and MSc studies at the University of Belgrade, and PhD at the University of South Australia. Prior to joining Western Power in 1999, Zoran was the engineer responsible for power system studies at the Perth Office of Sinclair Knight Merz. He is currently the engineer responsible for technical regulation in Western Power, addressing highly complex issues in framing Western Power policies and performance requirements.

The talk was well attended by a variety of people from non- engineering background, as well as the usual suspects. The non-engineers were predominantly from the Tesla Forum, a community group interested in promoting the recognition of Tesla's achievements. The Forum was established in November 2003 and the objectives include making July 10th "Nikola Tesla Day", promotion of Tesla's achievements within the general, professional and academic communities, and to place a bronze bust of Tesla at leading universities in Australia.

The talk gave an overview of the life of Tesla and his many achievements including invention of AC polyphase electricity generation. He patented the AC system, the patents that were later bought by George Westinghouse. The system was proven to be superior than Edison's DC power generation systems when it was used to light up the World's Columbian Exposition in Chicago in 1893. The AC system was chosen for the Niagara Falls power plant that was then used as a prototype for future commercial power systems.

Harry McDonald

Automation and Process Engineering - 14th July 2004

Speaker: Ivan Davidowitz, Managing Director of Sidac Pty Ltd.

Mr Davidowitz's presentation focused on process control using various bus systems. Mr Davidowitz's

background is in aeronautical control systems and he has over 25 years industry experience. Many of the aeronautical control systems were adapted to other industry applications. The increasing appreciation for their functionality and accessibility had broadened their application.

He opened his presentation by discussing bus communication design, multi-point interfaces (MPI) and Industrial Ethernet (Profinet/Wireless Profinet). The performance, advantages and the limitations of the various systems was also described. The description's emphasis was on the capacity to accept additional devices, stability, upgrades and tolerance for errors and interruptions which are very important to the process industry and in downtime minimisation.

Intelligent devices, non-intelligent devices, variable speed drives, operator interfaces, servos and positioning systems were also discussed at great length. Their application and relevance to particular processes and safety requirements were included in the presentation and were based on many of Davidowitz own design applications. Direct positioning capability of very large loads at 0.1mm accuracy, whilst traveling at 3m/sec, was easily achievable.

The growing trend was towards wireless systems and more powerful PCs and networks. The price of the shelf hardware continues to decline and makes them an attractive option for greenfield installations. Some clients were also considering wireless systems to replace many of the hard wired systems.

Approximately 20 people attended the presentation and the speaker demonstrated a thorough knowledge of the current status of process control methods and systems. The audience raised many interesting questions.

Harry McDonald

IEEE W.A. Workshop

On 24th April, the IEEE Workshop (mentioned in the previous newsletter issue) produced the following outcomes:

1. Promotion of IEEE W.A to the public and industry (eg sponsorship of Robo Cup).
2. Be responsive to members' needs.
3. Increase efficiency of new committee members in becoming familiar with their portfolio by producing operations manuals.

The reports of the IEEE Region 10 and IEEE Australian Council meetings provided committee members a global and national insight into IEEE activities.

The Chairman opened the workshop by providing an entertaining introduction to the activities and objectives of the workshop. His introduction was primarily about volunteerism. Presentations from committee members holding different portfolios came after a team building activity. Participants at this year's workshop are shown below.



WA Chapter Reports

Communication Chapter

Use of Optical Circuit Simulations in University Teaching – 30th June 2004

Technical meeting was presented by Professor Gerd Stock of Dr-Ing Kiel University.

About the speaker: Professor Dr Ing Gerd Stock has been teaching at Kiel University of Applied Sciences since 1995. His main subjects are the basics of electrical engineering, communications engineering and metrology. He also coordinates international activities and public relations for the Faculty of Computer Science and Electrical Engineering.

In the first semester, Professor Stock spent his sabbatical at Curtin University's Department of Electrical and Computer Engineering where he also taught electromagnetics.

Professor Stock is a member of IEEE (Robotics & Automation Society, Signal Processing Society) and VDI (German Engineers Association). He is also a member of the local council of Bordesholm in Germany.

The talk focused on how simulation of basic optical components contributes to the completion of teaching units in optical communication. Due to the high technological and financial efforts required for supplying laboratories with optical systems equipment, it is more appropriate to combine theoretical and practical education using standard physics and communications laboratory equipment with the simulation of high standard optical systems components. The university designed software PHOTOS was used at the presentation. The University of Applied Sciences in Kiel (Germany) had been using this software in undergraduate education since 2003.

Theng-Wei Loke

Power Engineering Chapter

Electricity Reform in Western Australia - Where to From Here (Electricity Reform – The Status) – 12th May 2004

Technical meeting was presented by Mr Steve Edwell from the Office of Energy, Electricity Reform Implementation Unit (ERIU).

The first Power Engineering Chapter event for the year attracted about 30 people, almost half of them IEEE members. The presentation by Steve Edwell was timely given that the WA government had shelved its plans to disaggregate Western Power Corporation (WPC) into 4 new entities.

Steve's presentation provided a context and purpose of the reform process, what had been planned and what remained as achievable outcomes in spite of the legislation setbacks. He outlined a timeline for creation of a new electricity market, extension of retail contestability and other legislative reforms to enable more transparent access to the electricity network. He also talked about the internal changes taking place in WPC that would provide the government and other key players some confidence that a fair market would be sustained.

The key outcomes from the legislation changes that are still active are:

- Third party access regime – changed
- Wholesale Market in the South West Interconnected System (SWIS)
- Electricity Licensing – changed
- Customer Protection Framework (Ombudsman Scheme, Customer Service Code, Standard Contents)

A number of other current Act amendments were required to make the new legislation effective. The new main legislation was known as 'Electricity Industry Bill - 2004'.

There was a lot of vigorous debate about the benefits /disadvantages of electricity reform and reference to Eastern States problems. Steve maintained a non-political position throughout all this, acknowledging some drawbacks from other privatization efforts. He believed that the other failures could be avoided and that we had learned a lot. The same type of mistakes would not be repeated here and privatization was not on the agenda.

Transitional arrangements intended to be in place by 17th May 2004 and he encouraged people to visit the ERIU website (<http://www.eriu.energy.wa.gov.au>) to look at the draft access code.

A paper copy of Steve's presentation was made available to the audience.

Mr Thom Fox of Power Engineering Chapter introduced and thanked Steve for his informative presentation.

Harry McDonald
Secretary

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Signal Processing Chapter

Indian Space Program - A Scenario and Opportunities - 22nd April 2004

Dr Surendra Pal, from the Indian Space Research Organization (ISRO) Satellite Centre, gave a seminar on the Indian Space Program (in particular the satellite program). ISRO is a Government body engaged mainly in civilian space related R&D activities. The organisation manufactures and launches its own satellites and its programs are application oriented. Dr. Pal presented the history of the program, various activities and opportunities for collaboration.

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Signal Processing Chapter Chair
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IEEE GOLD

Graduates of the Last Decade (GOLD) members are invited to take part in GOLD's on-line survey (<http://bauhaus.ece.curtin.edu.au/~ieee/gold/survey.html>)

), so that the GOLD committee may tailor GOLD to its members' requirements.

"It was a fantastic night and we all had a ball! There was an excellent turnout and it was great to network with all EE and IT people." (Sundowner of 2nd April 2004)

For more snapshots of the successful sundowner, refer to GOLD website:

<http://bauhaus.ece.curtin.edu.au/~ieee/gold/>



IEEE Student Activities

Region 10 Student Congress

The IEEE Region 10 Student Congress 2004 had brought nearly 100 students from many countries in the Asia-Pacific region to Hong Kong, such as Bangladesh, Japan, India, and Singapore. An unexpected eight-level typhoon occurred on the first day of the congress,

affecting the events schedule. The Congress provided a good opportunity for delegates to network and share ideas.

The Congress' main aim was to "stimulate global co-operation and develop future leaders". The following objectives were set according to this theme:

1. To provide a friendly environment for delegates within the Asia-Pacific region to meet and share experiences in branch management and development.
2. To develop leaders in terms of management, leadership, communication and interpersonal skills.
3. To encourage the regional, national or inter-country branch cooperation.
4. To allow young leaders to have better understand of the IEEE, including its past, present and future.



There were presentations of the following topics on aspects of student branch operations:

Strategic planning

Mr. Sau-Foong Chong's strategic planning session discussed:

- Long-term goal (mission and vision statements)
- Short-term goals
- Strategies and tactics to accomplish the long-term and short-term goals
- Action plans
- An iterative (feedback) structured planning process to link the sold goal to the strategies, the strategies to the implementation plans, and the action plans to the benchmarks.

The Australian and New Zealand delegates worked together on an exercise using the preceding components to create planning matrices.



Value of IEEE membership

Benefits of being an IEEE student member include various IEEE awards, current technical information and opportunities to network with colleagues from the same field.

Collaboration between student branches

Internet and web technologies facilitate collaboration amongst branches.

Benefits of web technologies and computers

Web technologies and computers were the hot topics discussed in the Congress. The accessibility and cheapness of these technologies make them indispensable tools for the student branch, e.g. online student member database, internet conferences, web tutorials. The "virtual society", as proposed by IEEE Region 10 Committee, would for improved cooperation and networking at different levels of IEEE committees within the region.

Undergraduate membership dominated the issues at the Congress. A number of students felt that the membership fee of US\$25 was expensive for students in some sections. There was a suggestion of reducing the fee in accordance with the country's exchange rate and the standard of living. The special guests appeared reluctant to discuss this matter in depth, despite the delegates' repeated attempts to raise this issue. The delegates were encouraged to concentrate on the value of IEEE membership instead of focusing only on the membership cost.

Benefits of undergraduate IEEE membership differed between countries. There was general agreement that undergraduate students had little to benefit from IEEE membership, or benefited less than their postgraduate counterparts. Student membership is declining and there has been difficulty in retaining students. Students have a tendency to resume membership at least 5 years after graduation. The average age of a student is 25, which is considered to be fairly high. The IEEE has experienced difficulty with student membership due to the organisation's inability to convert the student members to full time members. The importance of student branch membership was to recruit and retain IEEE members. The IEEE believed that reaching students early in their career was an investment in membership growth.

Delegates were given the opportunity to discuss issues with the Congress' special guests:

- Dr. J. U. So (Director, IEEE Region 10 Executive Committee)
- Prof. S. Takeuchi (Direct-elect, IEEE Region 10 Executive Committee)
- Prof. Marzuki Khalid (Chair, Student Activities Committee, IEEE Region 10 Executive Committee)
- Ms. Cecelia Jankowski (Secretary, Regional Activities Board)

A technical tour of the CLA Castle Peak Power Station was arranged for the delegates. The power station is Hong Kong's main electricity provider.

There congress concluded with the following unresolved issues:

1. Increase the value of IEEE student membership without increasing the membership fee
2. Having an effective and active branch committee, and maintaining the continuity of the student branch.

3. Enhancing the relationship between the local section and its student branches, and between different student branches.

Eric Li and Li San Poon

"The Region 10 Student Congress at the University of Hong Kong was an enjoyable experience that I will remember. The committee members were very friendly. They did a great job organising the Student Congress despite the typhoon that changed the scheduled program."

Li San Poon

"The three-day congress was most enjoyable, had surprises and controversy. I had a great opportunity to meet other delegates to learn and to share my thoughts."

Eric Li

University of Western Australia IEEE Student Branch

ABB Site Visit

Complementing the presentation about ABB (including workings and manufacture of transformers) were samples of components such as aluminium and copper plates, insulating plastic and paper. The students gained a good understanding from the detailed explanations of the production of transformers.

We were split into two groups, each group having a 30 minute factory tour. Most workers on the production line were technicians. We were shown the full transformer production cycle. The tour ended with a quiz in the meeting room, where two lucky people each won an ABB T-shirt and a pen set. Everyone received an ABB pack filled with pamphlets and booklets.

For future activities, refer to the branch website <http://www.ee.uwa.edu.au/~ieeesb>.

Li San Poon

U.W.A. Student Branch Chair

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Curtin University IEEE Student Branch

During May/June, the Curtin IEEE Student Branch had been busy creating its members email list and planning our events for early next semester. The end of last semester was relatively quiet with most of the students committed to studying for exams.

This year's Student Networking Forum will again be hosted at Technology Park in Bentley, following the positive comments from last year.

Traffic Operations Centre Visit Joint Tour

On Monday the 26th July, twenty students from the IEEE student branches of Curtin, UWA and Murdoch attended a jointly organised site visit to the Traffic Operations Centre at the corner of Lord and Newcastle Streets, Northbridge. The centre is run by Main Roads WA and designed to assist in traffic flow within Western Australia. The centre includes a purpose built mezzanine level that overlooks the main control centre.

The tour ran for approximately 50 minutes and covered the various operational roles covered by the centre, including monitoring and access to modification of traffic signals across Western Australia, and over 90 traffic monitoring cameras mounted at various locations across the metropolitan area. The control centre is separated into two sections, with one section dedicated to the Northbridge tunnel and run by a private contractor, and the other section monitoring traffic flow, signals and other cameras run by Main Roads. The centre is also able to accommodate specialized services in the event of an emergency or special event.

In addition to this the centre provides information to many media services regarding traffic conditions and information. The tour was conducted by the centre Media Liaison Officer, Tanya, who was presented with a small gift and card on completion of the tour on behalf of the Curtin, UWA and Murdoch IEEE student branches.

IEEE Student Networking Forum, 4th August 2004

The IEEE Student Branches of the University of Western Australia and Curtin University of Technology wish to invite you to the IEEE Student Networking Forum 2004.

This event is a perennial success; last year attracting around 200 students (from both UWA and Curtin University) and 15 companies that included Western Power, Alcoa, Honeywell, WMC and Stamford. The demographic of student attendees include Electrical/Power, Control, Communications/Electronics, Information Technology/Computing, Mechatronics and Biomedical engineering.

The objectives of the forum are:

- To offer students the opportunity to apply and improve their networking skills while creating valuable contacts within the industry.
- To provide students with an opportunity to gain a greater insight into the engineering profession.
- For students to obtain information on vacation and graduate employment.
- To provide companies an opportunity to promote and expose themselves to the next generation of engineers.

This year's networking forum is planned for the evening of Wednesday 4th August at Technology Park Function Centre, Bentley. If you have any questions please feel free to get in contact with your local U.W.A. or Curtin IEEE Student Branch.

<http://ieee.ece.curtin.edu.au/>

Douglas Brown
Vice Chair, Curtin IEEE Student Branch
Email: douglasbrown@ieee.org



Murdoch University IEEE Student Branch

We are just one more step closer to our goal of establishing the Murdoch University Student Branch. We have signed up 19 members, requiring only one more member to qualify for official student branch. "Establishment Day" is the day that we achieved 19 members. While the twenty may be an insignificant number, when compared to the number of enrolled students at Murdoch University, it has been a recruitment challenge. Although many of us are inexperienced, we are passionate about the establishment of the student branch. We believe that we will shortly achieve that goal.

Our journey began at the 4th IEEE WA Workshop, held on 24th April, where I presented the proposal for the establishment of a Murdoch University Student Branch to the WA Section. After meeting with Mr Kien Ping Chung and Ms Siaw Wei Yong, we spoke to fellow

postgraduate students during the regular Friday school meetings. The branch soon expanded to eight members after the promotion, and consisted of five postgraduate and three undergraduate students. Shortly after we welcomed another six new members, mainly through the promotion efforts of our branch mentors – Lance Fung and Nicola Ritter. On 28th May we held our first branch meeting where we processed nominations for committee positions and planned for the branch's first activity – a visit to SciTech's Planetarium on 28th June. This event was jointly organised with the U.W.A. and Curtin University Student Branches.

We are about to start an exciting and fruitful journey for the IEEE Murdoch Student Branch.

Eric Li

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IEEE WA Section Activities

RoboCup Equates to Challenge, Skills and Cooperation

RoboCup Junior Western Australia is an exciting interschool tournament which encourages learning and sharing through participation. Over a substantial period of time students, from both primary and secondary schools, build and program robots to play soccer, perform dance routines and undertake rescue operations. Ingenuity, creativity, engineering and IT acumen, coupled with organisational skills and cooperation are all essential ingredients to a successful tilt at the RoboCup.

RoboCup competitions are now played in 24 countries spanning all levels of education from primary schools to universities. In Australia, RoboCup Junior (primary/secondary students) has grown exponentially since being introduced in Melbourne in 2000 with over 1000 teams competing in 2003. Individual robots can take anything from one day to one year to build utilising the Robolab program, the same software as that used to program NASA's Mars rover. Each of the three events soccer, dance and rescue - has different programming requirements for the robots and each demands the ingenuity and creative talents of the participants.

Created in a true cooperative spirit, RoboCup Junior encompasses not only engineering and computer skills, but extends across the school curriculum. The event also addresses social development by encouraging sportsmanship, sharing, teamwork, the understanding of cultural differences, and organisational skills.

RoboCup Junior is a unique example of intellectual and social challenge for young people as they grapple with three levels of increasing complexity in their quest for the Cup!

In 2003, in its second year of operation in Western Australia, RoboCup Junior attracted 56 teams of up to four persons. These entrants were from twelve different primary and secondary schools who gathered at Scitech Discovery Centre in August to battle it out for the state championships. The interest and involvement had increased by more than 100% over the previous year, a testimony to the enthusiasm of past participants and the organisers.

RoboCup Junior (WA) is run by a small, volunteer committee with representatives from primary and secondary schools, and Scitech. The competition will be held on August 6th to allow the winners the opportunity to participate in the National challenge, which takes place in Brisbane in September 2004.

Murdoch University and IEEE WA Section are honored to be sponsors of the 2004 RoboCup Junior (WA) event and we wish success to all the teams and enjoy the fun on the wonderful journey of learning.

Details of the event can be found at <http://www.scitech.org.au/robocup/>.

Lance Fung

Visit to the Horizon – the Planetarium

On 28th June, a group of 44 students and staff from ECU, Murdoch and UWA visited the new SciTech Planetarium. The event was organized by the IEEE WA Murdoch and UWA Student Branches, and supported by the IEEE WA Section. The group was treated with a 15 minutes LIVE presentation of the night sky and a 20 minutes pre-recorded show of "Escape from Andraxus". After the show, Mr Denham Dunstall, Manager of Technology Development has kindly explained the detailed hardware and software technology behind the scene. This included six PC's driving the graphic engines for the projectors and a number of 900W speakers behind the roaring sound system. As a bonus, the group was treated with another show – "Mars".

This has truly been an eye-opening event and the group was treated with the latest technology in computer graphics software and multimedia hardware.

Details on the Planetarium can be found at the website <http://www.scitech.org.au/planetarium/index.html>

Lance Fung



Membership

IEEE and its W.A. Section have been encouraging members to seek elevation to Senior Member status if they hold suitable qualifications and experience. In this issue I will talk about our local member Nicola Ritter who was elevated to Senior Member in the first half of 2004.

Nicola is a current member of the IEEE Western Australian Section committee joining this group this year. Nicola is a lecturer at Murdoch University where she is the Program Chairperson of the Bachelor of Applied Information Technology and Deputy Program Chair of the Bachelor of Science (Computer Science).

She was awarded a Doctor of Philosophy in 2001 by UWA for her work on "Registration of Images of the Retina and Cornea" carried out while she was with the Lions Eye Institute of Perth. Prior to this Nicola obtained her Master of Science (Computer Science) at Curtin University in 1996.

Nicola also has worked in industry as a Senior Software Engineer and has worked as a consultant as well as in programming and systems programming in OO Design.

Nicola's current research interests include:

- Medical image processing
- Advanced data structures and abstractions
- Computational geometry
- Object oriented design and programming
- Software engineering principles and practice

Congratulations to Nicola.

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 Christopher R. Hill, from the Computer chapter for his promotion to Senior Member status in June 2004:

More information on senior membership 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). The first issue provided an overview of the application process <http://bauhaus.ece.curtin.edu.au/~ieee/publications.html>

Half-year membership is now available – refer to the website <http://www.ieee.org/join> for more information.

David May

Membership Development

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Newsletter Article Submission Dates

September 17	3 rd issue
November 26	4 th issue

IEEE Student Prize

Each IEEE WA Section provides a prize to an undergraduate student with the best academic result in an electrical/electronic engineering unit from each of the engineering universities (UWA, Curtin, Murdoch and ECU).



The Curtin University student recipient, Mr Jeremy Long, was at the prize giving ceremony on 21st April 2004. The prize was presented by the Section Chair.

Members' Questionnaire

The WA Section Committee seeks information from members so that the committee can do more for YOU! Replying to the following questionnaire on the Section's website will assist us greatly. Five \$20 gift vouchers are up for grabs. So do it now!

- 1) Would you like more IEEE technical meetings/talks? (YES/NO)
If you replied 'YES', which subject areas are of interest to you?
- 2) To which IEEE Societies do you belong to?
If you are a student, to which university student branch do you belong to?
- 3) Would you like more IEEE social events? (YES/NO)
If 'yes', what would you like BBQs, Dinners, Wine Tasting? If other, please specify.
- 4) Have you attended any local IEEE sponsored functions (eg technical talks, meetings) over the last 12 months? (YES/NO)
If you replied 'YES', please indicate which function you attended and would you attend a similar function in the future?
- 5) Would you like to become more involved in event organisation, committees or your IEEE Society? (YES/NO)
If yes, what type of help would you like to offer?
- 6) Do you have other comments about what we can do to make your membership more worthwhile?

You may also forward your answers to Nicola Ritter via email (N.Ritter@murdoch.edu.au).