

IEEE

Queensland Section

NEWSLETTER

December 2011

Volume 14 – Issue 2

Print Post Approval No. PP4458860011

Editor: Robert Ellen (rellen@ieee.org)

In this Issue

Message from the Queensland Section Chair.....	2
Editor's Remarks.....	2
LAST CHANCE! - CALL FOR NOMINATIONS.....	3
News from the Women in Engineering Affinity Group.....	4
News from the UQ Student Branch.....	4
News from the Aerospace and Electronic Systems Chapter.....	4
News from the Computational Intelligence Chapter.....	5
News from the Power and Energy Chapter.....	6

IEEE Information contained in this newsletter may be copied without permission provided that copies for direct commercial advantage are not made or distributed, and the title of the publication and its date appear on each copy.

Message from the Queensland Section Chair

Mr Roelof Swanepoel

This is the last article from my desk for what has been a very interesting year indeed! I'm sure I don't have to list all the ups in downs in Queensland, as well as our section – everyone should be aware of many of these.

However, that makes 2012 a year to look forward to, and continue building on an already vibrant and active section. To summarise some of the suggested action points given at the AGM on December 1st:

- A worldwide concern for the IEEE is member retention through adding value – based on our consolidating numbers, this is something which should and will be getting attention from all our chapters and affinity groups.
- As part of the above, membership development activities will be getting attention.
- We hope to introduce a number of bigger IEEE initiatives into the section (and possibly Australia by way of the Australia Council), notably EPICS, TISP and the IEEEExtreme competition.

Unfortunately, due to personal and professional pressures, I have had to end my term as section chair after only one year, effective at the AGM, but very much look forward to being involved with the above efforts in the role as immediate past chair. As per my previous letter, there are also many other initiatives and feedback from the Sections Congress that needs to be looked at still.

Thank you to everyone in the section, but especially the entire section committee (including members who had to leave during the year) for a fantastic year of learning experiences! My hope is that the section continues to thrive under the new leadership (soon to be announced). I wish everyone a merry Christmas, and hope that everyone returns safely for a great 2012!



Editor's Remarks

Robert Ellen

We've arrived at the end of a fairly quiet year for the Queensland Section newsletter and it's been a while since I've contributed any remarks but it is prudent to do so now.

Firstly, let me thank you the reader for taking an interest in, and the time to read, the Queensland Section newsletter, I hope it is of value to you.

Secondly, I would like to draw your attention to the call for nominations for Officers and Members of the 2012 Executive Committee and 2012 Chapters and Affinity Groups, which closes Friday 16 December (this Friday!). All Queensland positions are open for nomination each year. As a volunteer on the Queensland committee in various roles since 2006 I can highly recommend taking an active role in your IEEE membership. My experience has been very rewarding, largely through the professional and personal contacts I've made. It's also been great to organise professional development and technical events that have been of value to members. Please have a think about whether you would like to offer some time and enthusiasm to the Queensland Section.

Finally I'd like to wish IEEE Queensland Section members best wishes for the festive season. I hope you and yours stay well and we look forward to seeing you next year.



LAST CHANCE! - CALL FOR NOMINATIONS

For OFFICERS & MEMBERS of the 2012 Executive Committee and 2012 Chapters and Affinity Groups IEEE QUEENSLAND SECTION

The Queensland Section of IEEE has a proud tradition of volunteer service to the community of technology professionals. Worldwide, the IEEE has over 400,000 members in more than 160 countries. The Queensland Section was established in 1985 and has been growing strongly in recent years and currently has over 1100 members. Moreover, the Section is in a financially strong position with over \$50,000 in reserve to support member activities.

I am now calling for nominations for officers and members of the IEEE Queensland Section executive committee in 2012 as well as the following chapters and affinity groups:

- Aerospace & Electronic Systems
- Computational Intelligence
- Computer Society
- Control Systems/Robotics & Automations
- Engineering in medicine and Biology
- Microwave Theory & Techniques/Antennas and Propagation
- Power & Energy
- Signal Processing/Communications
- Graduates Of the Last Decade
- Women In Engineering

We are calling for nominations for the elected offices of:

- Chair
- Vice Chair
- Treasurer
- Secretary

Furthermore, we are also calling for nominations for the section positions of:

Chairs of the following Standing Committees:

- Membership Development and Email Committee
- Professional/Career Activities Committee
- Student Activities Committee
- Educational Activities Committee
- Awards & Recognition Committee
- Webmaster
- Newsletter Editor

Eligibility:

To be eligible, a nominee must be an active (i.e., financially current) IEEE member of the Graduate Student Member, Member, Senior Member or Fellow grade and belong to the Queensland Section and society or affinity group in question. Volunteers who have served two consecutive years in office immediately prior to 2012 are ineligible for further service in the same office.

Term:

The new committee would serve from 1st January until 31st December, 2012.

Job descriptions for these positions can be found at

http://www.ieee.org/societies_communities/geo_activities/officer_training/quick_start.html

Nominations should be submitted to me as the Chair of the respective Nominating Committees by email to the address given below by 16 December.

Section positions: Neil Bergmann - bergmann@itee.uq.edu.au

Aerospace & Electronic Systems: Dennis Longstaff - dennis.longstaff@gmail.com

Computational Intelligence: Rob Ellen - rellen@ieee.org

Computer Society: John Williams - jwilliams@itee.uq.edu.au

Control Systems/Robotics & Automations: Michael Lees - michael.lees@fostersgroup.com

Engineering in medicine and Biology: Stuart Crozier - stuart@itee.uq.edu.au

Microwave Theory & Techniques/Antennas and Propagation: David Thiel - d.thiel@griffith.edu.au

Power & Energy: (Caretaker) Vaughan Clarkson - v.clarkson@uq.edu.au

Signal Processing/Communications: Abbas Bigdeli - abbas.bigdeli@nicta.com.au

Graduates Of the Last Decade: Steven Lawrance - stl@ieee.org

Women In Engineering: Vaughan Clarkson - v.clarkson@uq.edu.au

IEEE and its membership greatly value the contributions of its volunteers. I hope you will consider volunteering for an office in the new committee.

News from the Women in Engineering Affinity Group

Sandra Mau
Chair, Women in Engineering Affinity Group

CV & Interview Skills Seminar

The seminar was held in November 2011. It was a joint event between IEEE WIE and IEEE Student groups. Two speakers from industry shared their own experiences on CV tips and interview skills: Henry Le from Powerlink and Jimmy Patel from Energex Limited. There were 20 attendees, mostly graduated students. The seminar was very useful and interesting according to the feedbacks of the attendees. It is highly recommended that this event should be held on annual basis.

Negotiation Skills Workshop

The final event of the year was a long anticipated half-day skills workshop on negotiation. This was a joint event with Women in Technology QLD conducted by Dr Yunxia Zhu, Senior Lecturer and program director of Business Negotiation at UQ Business School executive education. While both men and women benefit from developing negotiation skills, statistics show that women need more coaching as they are much less likely to negotiate, with one study estimating that women who consistently negotiate their salary increases, earn at least \$1 million more during their careers than women who don't. In this half-day workshop, Dr Zhu introduced the fundamental building blocks of negotiation and everyone participated in practice exercises.

It was a fantastic and fruitful second year for the WIE QLD AG and we look forward to more in 2012.

News from the UQ Student Branch

A/Prof. Vaughan Clarkson
UQ Student Branch Counsellor

The UQ Student Branch held its last two events for the year in October. On 21st October, the Student Branch held its second pizza lunch. Accenture was the host and sponsor. They made a short presentation on their company and graduate opportunities before student members joined them for free pizza and drinks. There were 75 students in attendance. Volunteers from the ITEE On-Campus Alumni provided valuable help in the running of the event.

On 27th October, the Power & Energy Student Chapter set up a desk and banner at the ITEE Innovation Expo, the School's annual exhibition of final-year project demonstrations. The prominent location in the foyer of the General Purpose South building, a high-traffic area, generated plenty of notice.

News from the Aerospace and Electronic Systems Chapter

Prof. Peter Lindsay
Chair, Aerospace and Electronic Systems Chapter

The first presentation for the AESS was on 20th Sep 2011 from Professor Alberto Broggi of the University of Parma, Italy. Professor Broggi spoke on the topic of autonomous vehicle prototypes that can negotiate traffic and obstacles. 31 people attended of whom 8 were IEEE members.

The second presentation was from Dr John Davies who presented on 12 October. Dr Davies presented on the topic of Navigation Warfare. 15 people attended of whom 9 were IEEE members.

News from the Computational Intelligence Chapter

Hong Lee

Secretary, Computational Intelligence Chapter

Commencing Research Student Seminar

IEEE QLD CIS regularly holds seminars to provide opportunities for members to engage in an active research community. Especially, this is a golden opportunity for postgraduate students to get insightful feedback from experienced researchers. On 16 November 2011 4:30pm - 6:00pm, two commencing postgraduates from Queensland University of Technology presented their visions.

Mr. Ananthha Krishnajith has embarked on a research project to optimise the comparison matrix calculation in bioinformatics. In his research, he aims to solve optimisation problems arising when optimising correlation matrix calculations in bioinformatics to efficiently use available resources in a computer. These resources include available physical memory, CPU power (multiple cores when available) and caches. The correlation matrix calculation problem is a significant problem in optimising bioinformatics calculations which has not received much attention in research yet. Most of the problems of optimising correlation matrix calculation occur because only a triangular section of comparisons have to be carried out to complete the whole correlation matrix.

Miss. Madhushika Arachchilage is also new in research community, and has begun to improve pattern recognition performance by using an application specific instruction-set processor. An Application Specific Instruction-set Processor (ASIP)

is a special kind of processor, which allows the user to run only specific types of applications. An ASIP comprises of its own specific purpose instruction set, memory, data-path and hardware components. The importance of pattern matching and pattern recognition applications is rapidly increasing in various areas like computer programming, voice recognition, natural language processing, computational molecular biology, image processing, network intrusion detection systems, etc. Executing the complex calculations involved in these applications on available general-purpose processors is inefficient as they spend long time to execute while consuming hardware and memory resources significantly. Her research project focuses on designing an ASIP to accelerate the computational speed and limit the general-purpose resources utilisation of pattern matching and recognition applications. Thus, her project combines the area of application specific processor design with the area of pattern matching and recognition in order to produce beneficial outcomes for both areas.

The presentation was delivered in video conference using AccessGrid technology. The participants and audience attended the presentation at AccessGrid nodes from QUT, CQUniversity, UQ and Griffith.



IEEE QLD CIS meeting through AccessGrid technology

Proposal of IEEE CIS Local Summer School to be held in Queensland 2011

Dr. Jun Jo of Griffith University and the Queensland CIS Chapter are working on a proposal for a IEEE CIS Local Summer School to be held in Queensland early next year. The local summer school will provide an avenue for local researchers to share their ideas and connect together. The proposal was discussed with current IEEE QLD CIS members from QUT, UQ, CQUniversity and Griffith through AccessGrid virtual meeting technology. More information will be available to IEEE CIS members via email soon.

News from the Power and Energy Chapter

Prof Tapan Saha
Chair, Power and Energy Chapter
Dr.Mehdi Eghbal
Secretary, Power and Energy Chapter
Ms Alexandra Price
Chair, UQ Student Branch Power and Energy Chapter

PES Chapter Highlights for 2011

- Organised 7 technical programmes (5 technical seminars, two distinguished Lectures and a workshop)
- Organised one membership drive event at Energex.
- PES chapter was recognised as one of the High Performing Chapters under the High Performing Chapters Programs in 2010.
- PES chapter was recognised as a Runners-up chapter for Outstanding Large Chapter Award.
- Awarded two student travel prizes for student members to attend and present paper at the 2011 IEEE PES General Meeting conference, held in Detroit USA. Mr. Ruifeng (Richard) Yan and Mr.Muhammad Bachtiar Nappu were the winners of this award. Each winner received a cheque worth \$1000.
- Dr. Jose Lopez Roldan was recognised as IEEE PES Outstanding Engineer for his professional activities and contribution to the power and energy profession.
- Call for nomination for 2011 Outstanding Engineer award has been advertised through IEEE-PES website, e-notice and direct contact to industry members.

Recent Past Technical Events

Technical Seminar (Distinguished Lecture Program [DLP])

Title: *Power System Stability Enhancement Using AI Control*

Date: 29 September 2011

Speaker: **Professor Om Malik**, University of Calgary, Canada (IEEE PES Distinguished Lecturer)

Venue: The University of Queensland

Technical Seminar

Title: *Overview about different ways of wind farm performance validation*

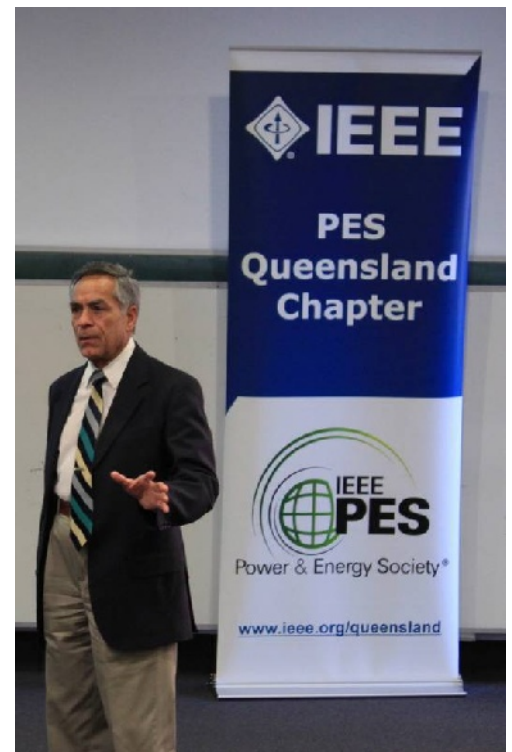
Date: 21 November 2011

Speaker: **Mr.Markus Fischer**, ENERCON

Venue: The University of Queensland



The audience for Prof. Malik's DLP seminar 'Power System Stability Enhancement Using AI Control'



Professor Om Malik delivering his DLP seminar

Membership Drive

The PES chapter organised a membership drive event at the Energex Headquarter in Brisbane on 4th November. Energex manages distribution networks in South East Queensland and distributes electricity to more than 1.3 million residential, industrial and commercial customers across a population base of around 3.1 million. In recent years, many young engineers have joined Energex through graduate programs.

The event was very successful with an introductory speech by Prof Tapan Saha, display of IEEEEXPlore and followed by informal discussions.



Mr Fischer presenting on Wind Farm performance validation



Audience at the Energex membership drive



Prof. Tapa Saha discussing the IEEE, membership benefits and IEEEExplore at the Energex membership drive

IEEE UQ PES Student Branch

The UQ IEEE Student Branch Power & Energy Chapter was formed on 16 April 2010 as a result of a successful petition. Ms Alexandra Price has taken the role of Chair of the student Chapter for 2010-2011. In 2011, PES student branch organised an event during the ITEE Expo at the University of Queensland as well as a joint event with IEEE Women in Engineering.

The UQ IEEE PES Student Branch was the winner of a 2010-2011 IEEE Student Enterprise Award (\$1500) for the project entitled 'Engineering Young Australians'. This project sets out to inspire young Australians to consider pursuing studies in engineering related areas. The program is targeted at fifth grade students at schools in low social-economic areas. PES Student Chapter Chair Ms. Alex Price was instrumental with other members of the UQ student branch in the submission this award winning application.



The IEEE Student Enterprise Award certificate, as presented to the UQ IEEE PES Student Branch

Community and Education Service

The PES chapter chair has been involved in four community/education lectures:

- Doctors, Engineers & Scientists community group
- Environmental Economics course lecture at Griffith University
- Toowong Academy: gave a presentation on the application of maths and science for engineering education, for grade 10 students

Power & Energy Society Chapter Web Pages

Keep in touch with the chapter at the following URL:

<http://www.ewh.ieee.org/r10/queensland/v2/doku.php/chapters:pes:start>