



# Newsletter

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IEEE Queensland Section

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## *From the Editor*

Welcome to the second IEEE Queensland Section Newsletter for 2005. The aim of this newsletter is to provide a means of keeping IEEE Members in Queensland abreast of any events in the IEEE. There will be one more newsletter this year. I hope you find them useful and informative.

If you have any comments on the content of the newsletter or suggestions for improvements, please feel free to e-mail me at: [j.birt@griffith.edu.au](mailto:j.birt@griffith.edu.au).

**James Birt**  
Newsletter Editor IEEE Queensland Section

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## *From the Chair - Queensland Section*

Dear IEEE members

On behalf of the 2005 Queensland Section Committee I would like to welcome you to the IEEE activities for the remainder of my term till December 2006. In our new Committee we have a number of new office bearers. This is a challenge for them and we hope that they will provide a great service and commitments towards this voluntary job. This year we are committed to bring more inspiring events with your strong support and participation. As you know IEEE operates in a different way than other professional organisations. As an IEEE Member most of you are attached with one or more Chapters. Most technical presentations/workshops and conferences are organised through these Chapters. Please keep updated with your Chapter activities and your participation will help make IEEE more active. You will find some of the scheduled events in this and our future newsletters. I would like to encourage more people from industry to take an active role within the section by organising an activity in your Chapter or by taking on a committee position. Currently we are working to update the IEEE Qld Section website. You can access the IEEE Queensland Section web at <http://www.ewh.ieee.org/r10/queensland/>.



Recently IEEE took some initiatives regarding Membership. Now there are two categories of student memberships. These are student member and graduate student member. To be eligible for a student member, a person must carry at least 50% of a normal full-time academic program as a registered undergraduate or graduate student in a regular course of study in IEEE-designated fields; and not yet qualify for Member grade. Student Members shall have the rights and privileges of the Member grade, except the right to vote. The other category of student member is a Graduate Student Member. A graduate student member must qualify for Member grade and carry at least 50% of a normal full-time academic program as a registered graduate student in a regular course of study in IEEE-designated fields. Graduate Student Members shall have the rights and privileges of Members. This means Graduate Student members can also hold section office and can vote. This is a welcoming decision, in particular to attract research higher degree graduate students within the universities to hold section office and become more involved with the IEEE.

Another point I would like to add here is about transferring from Associate to Member Grade. There are many IEEE Associates in our Section and they can now easily transfer to full Member. Bylaws I-105.4 and 5 set forth the qualifications for the Associate grade and the criteria for transfer from Associate to the Member grade, areas follows:-The grade of Associate is designed for technical and non-technical applicants who do not presently meet the qualifications for Member grade, but who would benefit through membership and participation in the IEEE, and for those who are progressing, through continuing education and work experience, towards the qualifications for Member grade. To transfer to the Member grade, a candidate must be regularly employed in IEEE-designated fields with a combination of education and work experience for at least six years and has demonstrated competence in work of a professional character. If you have any questions regarding this please contact your Section Chair or any other member of the committee or visit <http://www.ieee.org/organizations/rab/md/memely.htm#guidelines>

Many of you already know that IEEE introduced a new activity called Graduates of the Last Decade (GOLD). If you are an IEEE Member and received your first professional degree within the last ten years, you are automatically part of IEEE GOLD. There is wide variety of advantages in joining GOLD. Currently we are discussing this in our committee to start a GOLD activity in the Queensland Section, by which you will be able to connect with colleagues and share your experiences in the world of technology.

This year there are a couple of major activities in our IEEE calendar. I am attending the IEEE Section Congress in Tampa Florida in October. I will update you about that congress in a future issue of the newsletter. In 2006, the IEEE Region 10 Executive committee is meeting at the Gold Coast and also the IEEE Regional Activities Board is visiting Australia in December 2005 and there is a possibility to arrange some activity in Queensland. Once again, I will update you in due course.

**Professor Tapan Saha**  
**Chair IEEE Queensland Section**

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### ***From the Past Chair - Queensland Section***

In June we celebrated the change of Chair for Queensland Section. I wish to thank all of you for the support and cooperation, and I welcome the new Chair Prof. Tapan Saha, and wish him the best of luck. Below is an image of the celebration to welcome Tapan. I will still be around, participating at meetings in the role of "Past Chair" and doing my duties as Vice Chair of the Australia Council. With the good news that with the new IEEE regulation that the new category of graduate students can vote and hold office, we now have a secretary; his name is Andrew Thomas (second person from right on the picture) and we welcome him.



**Dr. Renate Sitte**  
**Past Chair Queensland Section**

***From the Chair of the Control Systems/Robotics and Automation  
Joint Societies Chapter***

The IEEE-CS/R&A Societies Chapter Lecture

25 August 2005, Hawken Auditorium, Engineers Australia

**Reconfigurable Computing & Real-Time Systems**

by

Professor Neil Bergmann  
University of Queensland

This talk is on the exciting topic of Reconfigurable computing which combines programmable software with FPGA-based programmable hardware and shows real promise as an efficient implementation technology for real-time embedded computing applications. The presentation will be presented by our fellow colleague and the world recognised authority in the field, Professor Neil Bergmann, the University of Queensland.

The lecture is organised in collaboration with Engineers Australia.

The IEEE-CS/R&A Societies Chapter Lecture

14 September 2005, Hawken Auditorium, Engineers Australia

**Fifty Years in Control Engineering; Changes in Technology and Manufacturing.**

by

Derek P Atherton  
University of Sussex.

The presentation will discuss some of the developments that have taken place in engineering, primarily control engineering, during the last fifty years. It will also speculate on what of the next fifty years, now, when it is only just over a hundred years since the most eminent scientist in the UK said no machine heavier than air could fly!

The distinguished engineer, educator and scientist, Professor Atherton, has given invited lectures in many countries and supervised over 30 doctoral students.

The lecture, being the 2005 Queensland Electrical Manufacturing Lecture, is organised jointly with Engineers Australia and the IEE Queensland.

**Prof. Ljubo Vlacic**

**Chair IEEE Control Systems/Robotics & Automation Joint Societies Chapter Queensland Section**

***IEEE News***

For a report on news around the IEEE, you can check out *The Institute*. The most current version can be found at <http://www.ieee.org/theinstitute>

## ***From the Chair of the Power Engineering Society Chapter***

The Power Engineering Society Chapter had successfully organised the coming IEEE / PES seminar given on 30 June 2005 at The University of Queensland:

Enhanced Evolutionary Programming For Optimal Reactive Power Flow Problem Professor Kit Po Wong, Fellow IEEE, IEE, IEAust and HKIE Computational Intelligence Applications Research Laboratory Department of Electrical Engineering, The Hong Kong Polytechnic University
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Abstract: Many conventional gradient-based algorithms have been used to solve the power system optimization problems. However, their common disadvantages are a) requiring continuous and differentiable objective functions, b) easy to be trapped into local minimum, and c) difficult to handle discrete control variables. To overcome these disadvantages, more flexible evolutionary algorithms including genetic algorithm, evolutionary strategy, evolutionary programming and particle swarm optimization have been studied since mid-1990s. Some works have recently been performed in the Computational Intelligence Applications Research Laboratory (CIARLab) in the Department of Electrical Engineering at HKPolyU on the applications of evolutionary algorithms in power system optimization problems.

In this seminar, a comprehensive study on some recently developed evolutionary programming techniques for the ORPF flow problem carried out at CIARLab will first be presented. It then describes how by comparing the performances of four control schemes of the strategy parameter (CSSPs) of evolutionary programming, two principles for designing effective CSSPs can be identified and used to develop two improved CSSPs. Performance studies of the improved evolutionary programming methods conducted on the IEEE 14-, 30- and 118-bus test systems will also be described.

Speaker: Professor Kit Po Wong obtained M.Sc, Ph.D. and the Higher Doctorate DEng degrees from the University of Manchester, Institute of Science and Technology, in 1972, 1974 and 2001 respectively. Prof. Wong was with The University of Western Australia since 1974 and joined The Hong Kong Polytechnic University in 2002 as Chair Professor and Head of Department of Electrical Engineering. Prof. Wong received three Sir John Madsen Medals (1981, 1982 and 1988) from the Institution of Engineers Australia, the 1999 Outstanding Engineer Award from IEEE Power Chapter Western Australia and the 2000 IEEE Third Millennium Award. He has published numerous papers in power system protection, stability, electromagnetic transient evaluations and artificial intelligence applications in power. His recent research interests include evolutionary computation applications to power system planning, operations and power market analysis. Professor Wong has involved in organising many international power conferences and was General Chair of IEE APSCOM 2004 and IEEE PowerCon 2000, and is the Local Chair of the IEEE IAS General Meeting 2005. He is a Technical Co-Chair of the IEEE ICMLC 2004 conference. He is an Honorary Editor of IEE Proceedings in Generation, Transmission and Distribution and Editor (Electrical) of the Transactions of Hong Kong Institution of Engineers. Prof. Wong is a Fellow of IEEE, IEE, IEAust and HKIE.

Around 30 people attended this seminar including academics and professionals/engineers from power industry.

More seminars and presentations are being organised, including IEEE DL, for IEEE PES Queensland Chapter 2005 activities.

**Dr Zhao Yang Dong**  
**Chair of Power Engineering Society Chapter**  
**Queensland Section**

## **Event Notification**

Are you organising an event that is relevant to the IEEE Queensland Section? If so, e-mail the editor ([j.birt@griffith.edu.au](mailto:j.birt@griffith.edu.au)) and let us know! We might be able to advertise it in the newsletter for extra exposure.

### ***From the Chair of the Joint Microwave Theory and Techniques and Antennas and Propagation Chapter***

We are now half way through another year, and rapidly approaching elections for the IEEE Queensland Section. I have been the MTT/AP Chapter chair for two years, and according to the Section by-laws it is time for me to step aside and allow others to take the chapter forward into the future. In Queensland we are fortunate to have a reasonably sized local industry with medium sized companies such as Filtronic Comtek, EM Solutions, Codan and Micro, along with smaller companies such as Syntetic, RF Shop, Microwave Materials and Designs, and High Range Design. In addition to there are also companies for who microwave and antenna engineering form an important part of a wider business such as GroundProbe and Boeing. In addition to the local industry the Universities all undertake research and provide teaching in microwave and antenna engineering, and as a result provide support to the local industry.

The history of the microwave engineering industry in Brisbane has lead to a sense of community due to the history within the industry. The IEEE Queensland Section is one organisation that can help to maintain and further the sense of community in the industry, for example through the regular seminars. Over the 3 years that the IEEE MTT/AP chapter has been operating about half the seminars have been industry based including a site visit, with the most recent of these at GroundProbe earlier this year. Each of these industry based seminars has been well attended. To finish off this year the MTT/AP chapter is currently arranging a further 2 seminars that will also be industry based.

The IEEE Queensland section can only work to develop the sense of community within industry and between industry and Universities through the work of the section volunteers. I encourage all local members to consider nominating for one of the many roles within the IEEE Queensland section. You have an important part to play in determining the value of your IEEE membership. If you have any questions on what is involved in being chapter chair then please call me on 07 3340 6202.

**Ashley Robinson**  
**Chair of MTT/AP Queensland Section**

## **Visit the section website**

<http://www.ieee.org/queensland>

### ***From the Chair of the Computational Intelligence Chapter***

The Queensland Chapter of the IEEE Computational Intelligence Society Meeting

19 August 2005

“What is Happening in Computational Intelligence in Queensland”

by

Dr. Paul Darwen (Industry perspective)  
Dr. Yuefeng Li (Web Intelligence)

The meeting will start at 17:00, all IEEE members are welcome (as well as non-members).  
Access Grid locations are as follows:

QUT Seminar room V713 (Library building, Gardens Point Campus)  
Gold Coast: G10\_3.29 - Library Meeting Room  
Nathan: N06\_2.05 - Access Grid Room  
UQ Room 621, General Purpose South Building (Building #78)

For further enquiries please email to [j.sitte@qut.edu.au](mailto:j.sitte@qut.edu.au).

**A/Prof. Joaquin Sitte**  
**Chair Computational Intelligence Chapter**

## ***Conference Announcement***

### **ISESE 2005**

2005 International Symposium on Empirical Software Engineering  
November 17-18, 2005  
Noosa, Queensland

<http://attend.it.uts.edu.au/isese2005/>



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