

From the Editor

Welcome to the first IEEE Queensland Section Newsletter for 2004. 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 three newsletters this year (1st Quarter, 2nd Quarter and 3rd Quarter) 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.

James Birt
Newsletter Editor IEEE
Queensland Section

From the Chair - Queensland Section

Dear IEEE members

Please receive my warmest welcome to the 2004 Queensland Section Committee and many thanks to all of you who gave us your support. In our new Committee some of our office holders have been active for a long time, while others are newcomers, but not less enthusiastic. With the growing membership and the creation of new Chapters, we are committed to bring more inspiring events, including two large conferences, providing opportunity for sharing research results. You will find some of the scheduled events in this and our future newsletters.



I would like to specially invite those of you in industry to consider participating in any of the conferences. A conference is a good and pleasant opportunity not just for learning, but also for meeting professionals with similar interests, and conversations that trigger new ideas. Whether you wish to simply attend, or if research is part of your work and you wish to present a paper, perhaps your company is willing to sponsor your attendance. There are many ways for sharing research results without giving away your company's secrets. Let me know if we can help or advise you.

The IEEE is coming to you! Currently we are working towards live web presentations. Though it will take a while until we have all up and running, but I am sure that those of you who cannot attend our scheduled seminars due to distance or timing inconvenience, will soon welcome this opportunity of virtually attending them, and be able to participate with questions or comments afterwards, or perhaps view the presentation at another more convenient time.

Some of our officer vacancies are not yet filled. We do need more volunteers to fill a position or to become an apprentice for chapter chairs. What does it mean? A two hour Committee meeting every month (usually 6:00 to 7:30 or 8:00 PM), and 6-10 hrs per month (in the volunteer's own time) could make a great contribution. Please ask me if you are interested, else go to <http://www.ieee.org/organizations/vols/>

ABOUT MEMBERSHIP

Would you qualify for senior member? You might be closer than you think! Go to <http://www.ieee.org/organizations/rab/md/keyurls.html#forms> and click on any of the Senior Member forms. To be a senior member not only does enhance your professional prestige, but also the section gets a higher rebate for senior members. This added revenue could be used for our local activities.

Do you know about the GOLD membership? GOLD stands for “graduates of the last Decade”. It is specifically for young graduates who graduated with their first professional degree within the last ten years. It helps with networking and job searches. Go to <http://www.ieee.org/organizations/rab/gold/>

Dr. Renate Sitte
Chair IEEE
Queensland Section

From the Computer Society Chapter

Dr. V. Chandran, Queensland University of Technology, is the chair of the chapter for 2004. The chapter will arrange two lectures in 2004 jointly with the joint chapter of the Signal Processing and Communications Society.

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Suggestions from members for chapter activities or prospective speakers are most welcome.

Lecture 1

Speaker: Dr. Andrzej Jajszczyk
Topic: Next-Generation Networking: Solutions and Challenges
For details – see Joint Chapter of the Signal Processing and Communications Society

Lecture 2

Proposed Speaker: Dr. David Taubman
Proposed Title: New developments in progressive image coding
Dr. Taubman, University of New South Wales, is an expert on JPEG2000 and progressive image coders. We are trying to get him to give a lecture before July 2004. This topic is also relevant to the signal processing and communications societies.

Dates, Times and Venue information will be sent to members when confirmed.

Dr. Vinod Chandran
Chair, Computer 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) and let us know! We might be able to advertise it in the newsletter for extra exposure.

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

You are invited to attend a lecture by Professor John Billingsley from the University of Southern Queensland.

Title: *What is so special about Mechatronics?*
Date: 02 August
Location: Hawken Auditorium, Engineering House, 447 Upper Edward Street, Brisbane.

Abstract

Much of the "gee whizz" of robotics has faded, as microcontrollers have taken over our lives. They surround us in our washing machines, motor cars, and air conditioners - and in the screens that glower at us across our desks. But to me it still seems that mechatronics is the engineering discipline in which we can have most fun. While others stretch specimens to destruction or struggle to measure salinity, we can balance inverted pendulums, use vision and GPS to guide mobile robots or train an eight legged robot to dance the Hokey Pokey. In distilling the essence from the more prosaic disciplines, the mechatronic engineer has the broadest selection of the choices that underpin all engineering design.

About the Speaker

John Billingsley has had a long history of research and R&D. In the early 1960s he devised novel algorithms for controlling a commercial autopilot. Soon afterwards, in Cambridge, he worked on fast-model predictive control. His Cambridge interests turned to a multi-computer system - more closely bound than a network - and the real-time analysis of acoustic sound distributions in the 'Acoustic Telescope'. In 1976 he moved to Portsmouth, where a multitude of research projects were closely linked with local industry. Embedded microcomputers featured in marine autopilots and in simple controllers for domestic appliances. He founded a company developing software that featured in a large proportion of domestic cookers through the United Kingdom. Another company, still in existence, sold systems to hospitals for capturing and analysing the menu choices of patients! A further company, of which he was one of the seven founding directors, developed and sold wall-climbing robots to the nuclear industry to assess and improve the safety of power-station containment vessels.

On moving to Toowoomba in 1992, he found that the most pervasive industry was agriculture. A vision-guided self-steering tractor was a world first, but the marketing exercise through a major multinational was not a success. Nevertheless, the NCEA (National Centre for Engineering in Agriculture) has hosted commercial exploitation of many parts of the technology, applied to GPS sensing and priced at several times that of that originally set for the whole vision system. The vision aspects of research have now spread well beyond guidance, with fascinating aspects that will be presented in the talk. USQ has now acquired the latest eight-legged robot designed by Portech Ltd, the result of multi-million dollar funding by the EC.

In other news, "The IEEE - CS/R&A Societies Chapter Queensland" has been selected for RAS Chapter Of the Year Award. The award consists of the check of \$1,000 and Certificate. The award ceremony will be during the social dinner ICRA04 in New Orleans Thursday, April 29, 2004.

Prof. Ljubo Vlacic
Chair IEEE Control Systems/Robotics & Automation Joint Societies Chapter
Queensland Section

Visit the section website

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



IEEE office holders (volunteers) at the Queensland Section's AGM meeting in November 2003

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

The MTT/AP chapter is looking forward to another good year of events to follow on from our first full year of operation last year. We are still in the planning stages of the first meeting for the year and we will be making an announcement shortly via e-mail once the speaker is confirmed. Three or four technical seminars are planned for this year with the first one to be in May.

If you have any ideas for technical events please contact the MTT/AP chapter via ieee@micreo.com. A good example of a possible speaker could be if an overseas customer or supplier is coming to visit your company they may be interested in giving a presentation to the wider microwave community in Brisbane.

Ashley Robinson
Chair of MTT/AP
Queensland Section

From the Chair of the Joint Communications and Signal Processing Chapter

IEEE DISTINGUISHED LECTURE

Topic: Next-Generation Networking: Solutions and Challenges
Lecturer: Professor Andrzej Jajszczyk, Fellow IEEE
AGH University of Science and Technology, Krakow,
Poland.
Date: Wednesday 18th August 2004
Time: 10 AM to 12 Noon
Venue: Gardens Point Campus, 2, George St, Brisbane (Room number TBA)

Abstract

Next-Generation Networking: Solutions and Challenges

The lecture presents possible evolution paths for core and metropolitan networks taking into account the current slowdown of the world economy as well as the changing telecommunications environment. First, the current status of core and metropolitan networks is presented, including a brief presentation of such networking technologies as: SDH/SONET, Ethernet, MPLS and Resilient Packet Ring (RPR). Then, the evolution scenarios are discussed that involve the introduction of reconfigurable WDM networks, the Generic Framing Procedure (GFP), enhanced SDH/SONET, Optical Transport Network (OTN), as well as all-optical networking technologies. Second part of the lecture deals with the intelligence of optical networks based on either ASON or GMPLS control planes. The lecture is concluded by presenting current standardization activities, open issues and perspectives of intelligent optical networking.

About the Presenter

Andrzej Jajszczyk is a Professor at AGH University of Science and Technology in Krakow, Poland. He received M.S., Ph.D., and Dr Hab. degrees from Poznan University of Technology in 1974, 1979 and 1986, respectively. He spent a year at the University of Adelaide in Australia and two years at Queen's University in Kingston, Ontario, Canada as a visiting scientist. He is the author or co-author of six books and more than 180 scientific papers, as well as 19 patents in the areas of telecommunications switching, high-speed networking, and network management. His current research interests focus on control plane architectures for transport networks, quality of service and network reliability. He has been a consultant to industry, telecommunications operators, and government agencies in Poland, Australia, Canada, France, Germany, and the USA. He was the founding editor of the IEEE Global Communications Newsletter, editor of IEEE Transactions on Communications, and editor-in-chief of IEEE Communications Magazine. Since January 2004 he is Director of Magazines of IEEE Communications Society. He has been involved in organization of numerous technical and scientific conferences. He is an IEEE Communications Society Distinguished Lecturer. He is a member of the Association of Polish Electrical Engineers and a Fellow Member of IEEE. Professor Andrzej Jajszczyk is Vice-President of the Kyoto-Krakow Foundation, fostering cultural and technical relations between Asia and Poland.

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Prof Sridha Sridharan

**Chair, IEEE Communications and Signal Processing Chapter
Queensland Section**

From the Chair of the Power Engineering Society Chapter

The Power Engineering Society Chapter is pleased to announce the coming IEEE technically co-sponsored AUPEC04 conference:

<p>Australasian Universities Power Engineering Conference 26–29 September 2004</p>

<p>The University of Queensland St. Lucia, Brisbane, Australia www.itee.uq.edu.au/~aupec04</p>

This conference is a major event for academics and professionals from industry in power engineering to share the recent advances in power engineering research and development across the Australasian areas. Currently the conference committee is reviewing abstracts submitted. Submission of full papers to the conference is open till 18 June 2004.

At this stage, seminars and presentations are being organised to cover fields as power system stability and control, power quality and electricity market analysis including research on the recent major blackouts. The details of the seminars and presentation will come out with confirmation from invited distinguished researchers of power engineering.

Zhao Yang Dong
Chair of Power Engineering Society Chapter
Queensland Section

From the Gold Coast Student Chapter

The Gold Coast Student Chapter held our regular semester membership drive in March. A number of potential members enjoyed an uncongested opportunity to learn about the IEEE.

I would like to remind all Honours students to keep in mind that the Honours Thesis competition will take place again this year, with a prize awarded to the best Honours Thesis by an IEEE Student Member. This competition is open to students of any university within QLD Section. I look forward to seeing our members at a number of exciting events that we will be co-ordinating this year.

Stuart Bain
Gold Coast Student Chapter
Queensland Section

From the University of Queensland Student Branch Counsellor

The University of Queensland Student Chapter is organising a membership drive function at 1 pm on 5th May 2004 at the foyer of GP South building, St. Lucia Campus. Last years programs were very successful. We are hopeful that this semester's function will also generate more interest from the prospective student members. Current student members are welcome to alert and help in the recruiting of new members. Hopefully we will organise another such event in the semester 2, 2004.

A/Prof. Tapan Saha
Student Branch Counsellor
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