

From the Editor

Welcome to the third and final IEEE Qld Section Newsletter for 2003. The aim of this newsletter is to provide a means of keeping IEEE Members in QLD abreast of any events in the IEEE. 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: zelniker@itee.uq.edu.au.

Emanuel Zelniker
Newsletter Editor, IEEE Queensland Section

Chair's Message

This is the last newsletter for 2003. In it you'll find details of upcoming events from several chapters (most of which have already been advertised by email) as well as notice of our upcoming AGM. I hope you will find at least one of these events of interest.

This issue also contains a list of candidates for next year's office-holder positions. There's currently only one candidate for each position so no election will be necessary this year (unless further candidates are nominated by petition). There are vacancies for other committee positions, so please feel free to approach one of the committee members (this year or next) if you'd like to volunteer to take on some role.

I'd like to thank vice-chair Renate Sitte for representing the section at the recent IEEE Region 10 meeting in Penang. You'll find her report on this meeting in this newsletter.

I won't be continuing in this office next year, so I'd like to take this opportunity to thank my fellow committee members for their contributions this year. Best wishes to all for 2004.

Peter Sutton
Chair, IEEE Queensland Section
p.r.sutton@ieee.org

Notice Of AGM

The 2003 Annual General Meeting of the IEEE Queensland Section will be held on Tuesday November 25 at 6pm in room S406 (S-block) at the Queensland University of Technology (Gardens Point campus). The nearest parking is available in the QUT short-term parking lot (under the freeway – off Gardens Point Road). The meeting will be followed by dinner (venue to be advised).

Candidates for Office – 2004

The following nominations have been received for section/chapter officer positions in 2004. These candidates will be elected by default unless further candidates are nominated by petition.

Chair 2004: **Dr Renate Sitte**
Chair-elect (vice-chair 2004, chair 2005):
Dr Tapan Saha
Treasurer: **Mr Simon Ellis**
Secretary: **Dr Peter Kootsookos**
Chair, Computer Society Chapter:
Dr Vinod Chandran
Chair, Power Engineering Society Chapter:
Dr Zhao Dong

Further nominations may only be made by petition bearing the names, member numbers and signatures of five voting members of the section. Any such nominations must be received by the Nominations Chair by 5pm November 7:

IEEE QLD Section Nominating Committee
c/- Dr Ed Palmer
School of Electrical & Electronic Systems
Queensland University of Technology
GPO Box 2434
BRISBANE QLD 4001

Visit the section website

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

From the Vice-chair

Highlights of the Region 10 (Asia-Pacific) meeting, October 2003

Very recently I have attended the Region 10 annual meeting held this year in Penang (Malaysia). The meeting was chaired by Jung-Uck Seo, Director. A total of 73 delegates participated in the meeting; they were Seiichi Takeuchi, Director-elect (Japan); Teck-Seng Low, Past Director (Singapore); Yong-Jin Park, Secretary (Korea); Dae Young Kim, Treasurer (Korea), and other Region 10 office holders, including all the region 10 section chairs.

There was very good cooperation and it was a good experience for learning many important things. Figure 1 shows the group photo, and figure 2 shows an image of the meeting, and figure 3 shows an image of the dinner, where many awards for outstanding service were presented.

In the two days intensive work, many things were presented and discussed. A remarkable opening address was presented by the Vice President - Regional Activities, Cleon Anderson. His message was that we, the current generation of engineers, are building the bridges for the next generation of young engineers to follow and become professionals. This message was invoked in many instances throughout the meeting.



On the second day, on a very early morning the Australia council held their annual meeting, taking the opportunity that all the section chairs are in one place.

Renate Sitte
Vice-chair, Queensland Section

Would you qualify for senior membership? 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 own position, but also the section gets a higher rebate for senior members. This added revenue could be used for our local activities.

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

The Chapter has had two technical presentations since the June newsletter.

Thursday 3rd July

Mr. Peter Bradley, of EM Solutions, Brisbane gave a presentation titled "Evolution of an Engineering Intensive Industry". It was a historical discussion of the development of the RF and Microwave industry in Brisbane from the 1980's to today, delivered first hand by one of the key participants in the industry.

Figure 1 shows a photograph of the attendees of the meeting . In this picture, Mr. Peter Bradley shows a prototype of a Master Oscillator, which the Brisbane-based microwave company, MITEC, developed in the early 1990's for the Intelsat communications satellites.



Figure 1

Wednesday 16th July

Professor Herman Singer from the Technical University, Hamburg, Germany gave a detailed presentation on 'Computer Simulation for Electromagnetic Compatibility'



Figure 2 Students and IEEE members at QUT (Gardens Point) with Prof. Herman Singer

The MTT/AP chapter is planning the next technical meeting for mid December, 2003.

Details concerning the MTT/AP Queensland Chapter Officers, past and future meetings and other useful links can be found at the following website:

<http://www.itee.uq.edu.au/~zagr/>

Professor Bialkowski is on sabbatical leave in Singapore this semester, so Ashley Robison is acting chair of the Chapter.

Ashley Robison
MTT/AP Queensland Chapter Acting Chair
Mireo Ltd
E-mail: iee@micreo.com

IEEE QUEENSLAND SECTION E-MAIL LIST

Future IEEE Queensland Section events will be broadcast via e-mail. Notification of the publication of this newsletter will also be done over e-mail.

All IEEE Members who have notified the IEEE of their e-mail address will be automatically added to the e-mail list. Other members may subscribe by sending e-mail to majordomo@ieee.org with the body of their message containing **subscribe qld-section**.

You may unsubscribe by sending an e-mail to majordomo@ieee.org with the body of the message containing **unsubscribe qld-section your_email_address**

From the Chair of the Power Engineering Chapter

Since the last newsletter the IEEE Power Engineering Society, Queensland Chapter was happy to welcome an IEEE distinguished lecture, Professor Ajit K Chattopadhyay, who presented on the 1st of September entitled:

"Power Electronics – Past, Present and Future"

Around 15 members and guests were lucky enough to hear this very detailed presentation, with the discussions carrying on in a more informal fashion at the conclusion of the seminar. At this stage the presentation slides are not readily available, but if you would like a copy of the presentation please send your requests to jdm@itee.uq.edu.au and I will try to track down a copy for you.

Future Events

At this point, no further events have been finalised for the latter stages of the year. Members are encouraged to check their emails and also the chapter website at

http://www.eese.bee.qut.edu.au/people/palmer/iee_pes/index.html

where details of any future events will be posted as soon as finalised. If, however, any of you have ideas or suggested topics that you would like to see

presented, please do not hesitate to contact me at jdm@itee.uq.edu.au. Similarly if you would like to become more involved in the organisation of the chapter itself, please let me know and I would be happy to provide you with more information.

As I will not be continuing as chapter chair next year I would like to thank all the many members who have assisted me in the last two and a half years. Finally I hope that all chapter members will vote in the coming elections to ensure the Power Chapter continues to remain active and becomes more successful at addressing the needs of the members.

John McDonald
Chair Power Engineering Chapter
Queensland Section

From the Chair of the Control Systems Society/Robotics and Automation Chapter

IEEE – Joint CSS/R&A Societies Chapter,
Queensland, and
IEAust - ITEE Queensland
present

Model Predictive Control, State Estimation and Coordinated Vehicles

Professor **Robert R. Bitmead**
The IEEE – Control Systems Society
Distinguished Lecturer
University of California San Diego, USA

Date : 27 October 2003 (Monday)
Time : 5:30pm for 6:15pm (Light refreshments will be provided from 5:30pm)
Venue : Hawken Auditorium Engineering House, Institution of Engineers Australia 447 Upper Edward Street, Brisbane

Abstract:

Model Predictive Control is a popular, full-state-feedback control strategy because of its use of models and its capacity to handle constraints. When state estimates are included into the picture, the effect of state uncertainty on the constraints needs to be accommodated. This is done by backing off the constraints in a sensible (but not entirely obvious) way using the state covariance. This can affect solution feasibility.

These ideas are transposed into the problem of multiple vehicle coordination. The vehicles operate under distributed Model Predictive Control but interact via their constraints. The formulation of state inclusion gives guidance to the assignment of channel bandwidth in the communications network between the vehicles. The result is a unification of control objective and information architecture, which is achievable in the Model Predictive Control framework.

Speaker:

Bob Bitmead holds the Cymer Corporation Chair in the Mechanical & Aerospace Engineering Department at the University of California, San Diego. He hails from Sydney, Newcastle, Townsville, Canberra and California, and has a long history of interaction with industry in Australia and USA on problems of control and estimation. Currently, his activities concentrate on problems of interest to the aerospace and telecommunications sectors. He is a Fellow of the IEEE and of the Australian Academy of Technological Sciences & Engineering.

Also, the IEEE - CSS/R&A Joint Societies Chapter is pleased to announce that a seminar titled

New Directions in Robotics Research in Japan

is planned for 01 December 2003 (Monday) at 15:30 for 16:00. The topic will be addressed by the distinguished Japanese researchers, the IEEE Fellows, Professor Fumio Harashima and Professor Toshio Fukuda. Please book your diary now. Further details will be provided in due course.

In the meantime, feel free to contact the Chapter Chair, Associate Professor Ljubo Vlacic, either by phoning him on 07 3875 5024 or email him at L.Vlacic@griffith.edu.au

Dr. Ljubo Vlacic
Chair, Control Systems Society/Robotics & Automation Chapter
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Event Notification

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

From the Chair of the Computer Chapter

Upcoming Technical Activities

Our final event for this year is a very interesting Seminar with intriguing and fascinating dynamic visual simulations.

Dr. A. H. (Tony) Dekker

Defence Science and Technology Organisation,
Department of Defence, Canberra, ACT, Australia.

"Using Agent-Based Modelling to Engineer More Effective Organisations"

This event will be held twice, on the Gold Coast at lunch time, and in Brisbane on the early evening:

Date: 29 October 2003 (for both presentations)

At the Gold Coast

Venue: Griffith University, Gold Coast, Business 1 Building Room G01_2.31

Time: 12:00pm (to start 12:30pm), 29 Oct 2003

Catering: Refreshments will be served. Please RSVP (see below)

Parking: for non Griffith visitors, please obey Griffith's parking restrictions. Outside Griffith it is free, inside a parking ticket must be purchased.

In Brisbane:

Venue: Mathison Room, Ground Floor, Engineering House (IEAUST, 447 Upper Edward Street)

Time: 5:30 PM (to start 6:00 PM), 29 Oct 2003

Catering: Wine and cheese, and refreshments will be served. Please RSVP

Parking: There are several parking houses in the vicinity, consult your Refidex for the one most convenient for you.

RSVP: For catering purposes, please send an e-mail to K.Melih@griffith.edu.au, indicating which presentation you are going to attend

Abstract:

In the 21st century, both the Department of Defence and the business world are facing new challenges. In addressing those challenges, new partnerships and coalitions are important, and new communication

technologies are available to facilitate finding solutions. In this new environment, much established wisdom on structuring organisations may no longer hold. One approach to designing effective organisations for these 21st-century challenges is to use agent-based modelling. DSTO's CAVALIER project is using such models to help design more effective organisations. This talk will give a brief overview of the CAVALIER project, and discuss some of our discoveries about organizational design, decentralisation, and communication across cultural barriers.

Biography:

Tony Dekker obtained his PhD in Computer Science and Mathematics at the University of Tasmania in 1991. After teaching at Griffith University here in Queensland, and also at the National University of Singapore, Tony joined DSTO, the Defence Science and Technology Organisation (DSTO), where he has been working since 1995. Tony has published work on functional programming languages, neural networks, computer security, networks, and agent-based modelling, but his recent work is on analysing, modelling, and measuring organisational structures within DSTO's CAVALIER project. Tony is a senior member of the IEEE. He has a web site at <http://members.ozemail.com.au/~dekker/ORGNET.HTML>

Please Contact the Computer Chapter if you ...

- have an interesting topic that you wish to share with the IEEE Computer community by presenting a seminar or a workshop (e.g. your most recent international conference paper)
- wish to contribute to the Computer Chapter's technical activities in any other way (e.g. organizing a conference or workshop and need support)
- have any question or issue that you would like to discuss with a panel of experts

Please contact r.sitte@mailbox.gu.edu.au

Dr. Renate Sitte

IEEE Computer Chapter Chair (Qld Section)

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