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IEEE

Queensland Section

NEWSLETTER

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Editor's Remarks

Mr Robert Ellen

Welcome to the third and final edition of the IEEE Queensland Section newsletter for 2008. There is a great deal happening in the section so this is a bumper issue. An important item to note is your invitation to the *Annual General Meeting* and *Annual Dinner Lecture* on page seven. The AGM is a great opportunity to hear about the activities of the Queensland Section for the past year and plans for the future. The Dinner Lecture after the AGM is sure to be insightful and entertaining. I hope to see many of you there.

Even though it is already well into November, there are still several activities planned for the coming weeks (several hosted by myself!). Because of this I have put together a list of reminders for upcoming events that are advertised within.

Putting together this newsletter is both challenging and rewarding. Desktop publishing and typesetting have been interests of mine for some time. As I mentioned in the previous edition of this newsletter, I will be continuing my role into 2009. Between now and the first issue for 2009 I hope to experiment with the format slightly. Any of your suggestions as to what I can make better for your reading comfort are greatly appreciated.

I'd like to close out this year's editors remarks by giving a very big thanks to Vaughan Clarkson, our outgoing Section Chair. Vaughan, I believe, has been an excellent steward of the section and a great leader of the committee. The section has continued it's strong growth and Vaughan leaves it in good shape and in the reliable hands of Joe Dong.

Thanks Vaughan!

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IEEE Queensland Section Dates to Remember

Unit	Activity	Date	Time	Location
Queensland Section	Annual General Meeting	Thursday 4th December	5:30pm	Sofitel Brisbane, Concorde Room
Queensland Section	Annual Dinner Lecture	Thursday 4th December	6:30pm	Sofitel Brisbane, Concorde Room
SP&Comm Chapter	Seminar: Abnormal Behaviour Detection	Thursday 20th November	3:00pm	UQ St Lucia Bld 78 Room 420
AES Chapter & UQ Student Branch	Seminar: Tiger ARH EMC/EMI	Thursday 20th November	5:30pm	UQ St Lucia Bld 78 Room 420
Power&Energy Chapter	Distinguished Lecture: The Evolution of Control and Control Centres for the Smart Transmission Grid	Friday 21st November	9:00am	QUT Gardens Point B508
Computer Chapter	Seminar: Multi-core	Wednesday 26th November	3:00pm	UQ St Lucia Bld 78 Room 420
GOLD Affinity Group & Engineers Australia	Seminar: Slope Stability Radar Commercialisation	Thursday 27th November	5:30pm	Hawken Auditorium, Engineering House
GOLD Affinity Group & UQ Student Branch	Seminar: Simple Steps to Financial Success in the Current Context	Tuesday 2nd December	5:30pm	UQ St Lucia Bld 78 Room 420
GOLD Affinity Group & NICTA	Seminar: Generalisation Error (given by President of SMC Society)	Tuesday 16th December	TBA	UQ Room TBA
CSS/R&A Chapter	Seminar: UAV Human Factors	Thursday 18th December	6:00pm	QUT Room TBA



Message from the Chair IEEE Queensland Section

Assoc. Prof. Vaughan Clarkson

Our Queensland Section continues to be very active. Even as the year moves towards its close, there are still many IEEE activities in the pipeline. There are at least five more events scheduled that I know of. Details of many of them will be found herein in the reports of our Chapter Chairs.

Membership Approaches 1,000

Our membership is growing strongly. From 684 members of all grades at the end of 2005, we had 955 members on 31st October this year, an annual growth rate of over 10%.

We would like to celebrate the achievement of 1,000 members. We expect our 1,000th member will join during November. We plan to honour our 1,000th member at our Annual Dinner on Thursday, 4th December (please see the Vice Chair's report for more details on the Dinner). To our 1,000th member, we will offer a free ticket to the dinner. You can help us to reach this important milestone.

To show our gratitude, if you are the referrer of the 1,000th member, we'd like to offer you a free ticket too. No doubt you know of an eligible someone in your workplace or school who is not yet an IEEE member. Just direct them to ieee.org/join and ask them to enter your name and membership number as the referrer. IEEE HQ will reward you for your recruitment efforts too: see the 'Member Get a Member' initiative: ieee.org/mgm.

Formation of New Chapter: Engineering in Medicine & Biology

Hard on the heels of the formation of the Aerospace & Electronic Systems Chapter (see the previous newsletter), I'm pleased to announce another new chapter for Queensland: a local chapter of the Engineering in Medicine & Biology Society (EMBS). This follows the successful petition of Dr. Mohan Karunanithi of CSIRO, who has been appointed its inaugural and interim Chair.

Mohan has already been very active in organising the affairs of the new Chapter. I was honoured to be invited to address the inaugural meeting on 31st October. Mohan gives a full report later in this newsletter.

The nominations process for offices in the Chapter in 2009 is now underway. The nominating committee consists of Prof. Stuart Crozier (chair), Dr. Olivier Salvado and Mr. David Anderson. Thanks to Stuart, Olivier and David for your assistance in this. If you would like a copy of the Call for Nominations, please contact me by email at v.clarkson@ieee.org.

Sections Congress 2008

The triennial Sections Congress was held in Quebec City, Canada, on 19th–22nd September. I attended as Queensland's representative. The first day, Friday, was reserved for a Region 10 (Asia-Pacific region) meeting. The programme for the next two-and-a-half days consisted of morning plenaries ('core track') followed by breakout sessions. On the Saturday night, I was fortunate to witness the IEEE Honours Ceremony, at which the 2008 IEEE Medal of Honour was awarded to Gordon Moore, co-founder and long-serving Chairman and CEO of Intel, perhaps best known to the general public as the author of 'Moore's Law'.

The programme was useful to me as Chair of the Section. I was able to fill in some of the gaps in my knowledge about how IEEE works. I was inspired by some of the case studies of successful events held by other Sections and picked up some tips on how our Section could be better run. Of course, the Congress was also a fantastic opportunity to network, to make and renew acquaintances around the world.

The final morning offered a chance for Section Chairs or their delegates to vote on recommendations to be considered by the Board of Directors. I was pleased that the top recommendation was also the one I was most in favour of, namely that 'every member [should] have an annual entitlement to a limited number of free IEEE Xplore downloads'.

And It's Goodnight from Me

This is likely my last piece in this newsletter during my current term as Chair of Queensland Section. While the task has been challenging at times, I've thoroughly enjoyed serving the membership of Queensland. Thanks for your support over the last couple of years and I look forward to great things for Queensland Section under the leadership of incoming 2009 Chair, A/Prof. Joe Dong, and his team of volunteer officers.

Sections Congress 2008 Photo Gallery



Group photo of Region 10 delegates at the 2008 Sections Congress. Queensland's delegate is standing second from the right in the very last row (below the 'E' in 'AD MARE').



The audience at the closing ceremony of the 2008 Sections Congress. This was the opportunity for Section Chairs (or delegates) to vote on recommendations to the Board of Directors.



Networking at the 2008 Sections Congress. From left to right are Queensland Section Chair, Vaughan Clarkson, South New Jersey Section Chair, Dana Whicker, and South New Jersey Women in Engineering Chair, Heather Tomasello.

Invitation to the IEEE Queensland Section 2008 Annual General Meeting and Annual Dinner & Lecture

Assoc. Prof. Zhao Yang (Joe) Dong
Vice-Chair, Queensland Section

and

Mr Abbas Bigdeli
Secretary, Queensland Section

Annual General Meeting

The Section's Annual General Meeting will be held on Thursday, 4th December, 2008, at Sofitel Brisbane, 249 Turbot Street, Brisbane (Tel: 07 3835 3535), commencing at 5:30pm in the Concorde Room for approximately one hour. All IEEE members are welcome to attend the AGM.

Annual Dinner and Lecture

After the AGM, we invite members and their partners to attend the annual dinner. The dinner begins with drinks at 6.30pm before being seated at 7pm. Sofitel Brisbane will provide set-course meals and a beverage package of quality house-selected red, white and sparkling wine, light and full-strength local beer, orange juice, soft drinks and mineral water (see menu below). The total cost of the dinner is as follows:

\$60 for IEEE members

\$80 for partners of participating members

This year's AGM features a VIP guest speech by Emeritus Professor Mat Darveniza entitled 'Modern Thunderstorm Now-Casting' (see details attached). Members planning to attend the dinner should send their payment to the Treasurer of the IEEE QLD Section. Payment can be made by direct deposit (preferred) or by cheque (credit-card payment is not available) by 29th November.

Direct deposit can be made to:

Account name: IEEE Queensland Section

BSB: 804 083

Account#: 305832

Payment reference: Your 8 digit IEEE member number along with your last name.

Cheques payable to "IEEE Queensland Section" can be posted to:

A/Prof. Peter Sutton
School of Information Technology & Electrical Engineering
The University of Queensland
St Lucia, QLD 4072

In either case, please also email Peter at p.sutton@itee.uq.edu.au so that he can confirm receipt by return email. Please also advise Peter or alternatively Abbas Bigdeli (abbas.bigdeli@ieee.org) of any special dietary requirements.

Dinner Menu and Lecture Flyer are provided on the following pages.

S O F I T E L
L U X U R Y H O T E L S

Entrée

- *Smoked Atlantic salmon with a fennel and rocket salad, grilled lime and confit garlic aioli*

Main

- *12 hour slow roasted beef rib eye with creamed roasted garlic potatoes, asparagus with smoked tomato tapenade and natural pan juices*

Alternately served with....

- *Chicken breast with roasted Pontiac chat potato, green beans and hollandaise sauce*

Dessert

- *Caramel chocolate crème brulee tartlet with whisky sabayon and fruits of the season*
- *Freshly brewed espresso coffee and traditional, infused and herbal teas served with petit fours*

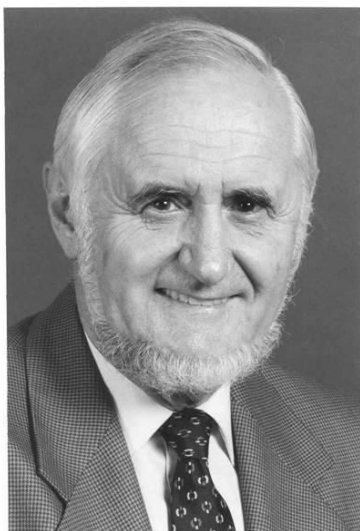


The IEEE Queensland Section presents
AGM Dinner Lecture for 2008

Modern Thunderstorm Now-Casting

Speaker: EM. PROF. MAT DARVENIZA,
Principal Executive Officer, Lightning & Transient Protection Pty. Ltd.,
and
Director, ENERGEX.

Abstract: After a brief review of earlier methods for fore-casting thunderstorms and lightning, descriptions are given of the use of modern digital radar and lightning location systems to provide real-time information about the occurrence and progress of thunderstorms and the resulting lightning flashes to ground. The recent major advance in now-casting is the development of the Bureau of Meteorology's Storm Tracker. Several thunderstorms in south-east Queensland are used to illustrate the now-casting techniques and their application.



Biography: Mat Darveniza is now Emeritus Professor of the University of Queensland, Principal Executive Officer of Lightning and Transient Protection Pty. Ltd., and a Director of ENERGEX. After many years of University work on electrical engineering education, high voltage technology and lightning protection, his present research interests are on the reliability of power systems, with particular reference to distribution network faults/outages/interruptions caused by thunder-storms and wind-storms.

New Chapter for the Section: Engineering in Medicine and Biology

Dr. Mohanraj Karunanithi
Chair, Queensland EMBS Chapter

The Queensland (QLD) Chapter of the IEEE EMBS had its inaugural event on the 31st October 2008 at the University of Queensland Clinical Research Centre, Royal Brisbane and Women's Hospital (RBWH). The main purpose of this event was to launch, introduce the chapter and the activities of QLD EMBS chapter to the potential audience that we would like to engage in the future. With this purpose in mind, it was a successful launch with 35 attendees consisting of academics from the most prominent universities, clinical researchers, healthcare management representatives in Queensland Health (QH), and researchers/scientists from the national research body of Australia, CSIRO.

The program for the day started with refreshments and food for the attendees, followed by 1 hour of presentations/lectures (chaired by the vice-chair of QLD EMBS chapter, Assoc. Prof. Stephen Wilson). This presentation was opened by a speech by the director of the Information Communication and Technologies (ICT) division of CSIRO, Dr. Alex Zelinsky, to formally launch the chapter. This was followed by a presentation by the chair of the new QLD EMBS chapter, Dr. Mohanraj Karunanithi, to highlight QLD EMBS's mission/objectives, committee of IEEE EMBS volunteers and plan of activities for 2008/2009. The chair of the QLD IEEE section, Prof. Vaughan Clarkson, then presented an overview of IEEE, its societies, membership and QLD activities. The presentations concluded with an example of an engineering application in medical intervention, from research work done in the Australian E-Health Research Centre, CSIRO. which was a colonoscopy simulator for surgical training demonstration by Josh Passenger.

After the presentations, the event concluded with a 1 hour tour through the QH Skills Development Centre, RBWH, which was conducted by the director of the facility, Prof. Marcus Watson. The facility demonstrated the pros and cons of the various simulations models used for anaesthesia and surgical training, and patient-clinical interactions. We would like to thank the Australian E-Health Research Centre, ICT Centre, CSIRO for hosting the event.



QUT Student Branch Update

Dr Jasmine Banks
QUT Student Branch Counsellor

First I would like to welcome all our new members. We welcome your input! If you are interested in being an office bearer in the branch, or have an idea for an activity, please contact one of us (contact details at bottom of page).

Recent Function

On Sep 19 the QUT Student Branch held a membership function, combined with two technical talks. The function was a huge success, attracting over 65 attendees. Our two guest speakers both had a background of open source programming. The first speaker, Michael Ventnor, was a recent student from The University of Queensland. He shared his journey of how he became involved with open source programming in his spare time and ended up completing an internship in the Auckland Mozilla office. The second guest speaker, Russel Keith-Magee, participated remotely from Perth, Western Australia. He also shared his experiences with open source programming as a core developer on the Django project and talked about the opportunities available and the culture of the open source programming community.

We had a raffle draw at the end of the presentations with prizes of an IEEE T-shirt and cap, followed by lunch (pizzas and softdrinks). Some photos taken at the event are below:



a



b



c



d

Pictures from the recent event: (a) Chris De Vries introducing the speakers with Russel Keith-Magee (projected on the wall). (b) Michael Ventnor and Russel Keith-Magee. (c) The rush for a slice of pizza and can of softdrink afterwards. (d) New members signing up (Jasmine Banks in the background).

Open Source Programming

Vice Chair Chris De Vries, a former open source software programmer, has been organising the QUT open source software programme, in which students are encouraged to become involved with Open Source Software projects such as Mozilla. We are involved in promoting an active student group in this area where students can mentor other students. If you are interested in becoming involved please contact Chris (below).

Future events

Possible future events for the Branch include a networking and social function with GOLD, technical talks from students or recent past students, and membership drive functions. Through these activities, we would like to create strong connections between students and professionals.

QUT Student Branch Contacts

Dr. Jasmine Banks Branch Counsellor jbanks@ieee.org	Jishu Das Gupta (JD) Chair j.dasgupta@qut.edu.au	Chris De Vries Vice-Chair cdevries@ieee.org
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Website: <http://ewh.ieee.org/sb/queensland/qut/>



GOLD Affinity Group Update

Mr Robert Ellen
Chair, Queensland GOLD Affinity Group

Events for the Remainder of 2008

Since the last newsletter there have been some changes to the activities for 2008. Our activity on Thursday 27th November, a seminar on the commercialisation of *Slope Stability Radar* by Dr David Noon of GroundProbe is confirmed. This seminar is hosted jointly with Engineers Australia ITEE Branch and will be held at Engineering House. We have two other activities planned but there are different to those alluded to last time. On Tuesday 2nd December at the University of Queensland we have Scott Keefer and Scott Francis from A Clear Direction speaking on the topic of *Simple Steps to Financial Success in the Current Context*. Scott Francis is a frequent contributor to Australia's financial media. Finally, to round off the year we have a bonus seminar on Tuesday 16th December also at the University of Queensland by Professor Daniel S Yeung from South China University of Technology on the topic of *Generalisation Error*. Professor Yeung is the President of the IEEE Systems, Man and Cybernetics Society (SMC).

Each of these seminars will appeal to members outside of the GOLD demographic as there are general technical or educational components to them. We encourage all interested IEEE members and their colleagues to attend.

Plans for 2009

GOLD has been a relatively quiet unit within the Queensland Section. We plan to ramp up the level of activity in 2009 and serve the section's GOLD membership more than we have so far. The desired result is to provide technical, educational and social events throughout the year on a regular basis. Four activities for 2009 (two technical and two educational) are already in the planning stages so stay tuned to E-Notice and future newsletters.

Please read on for the details of each of the GOLD events for the remainder of the 2008 calendar year. We hope to meet you at one of these events and many more in the coming year.

Slope Stability Radar

Successful commercialisation from University R&D to become global best practice in open-pit mining

Speaker: Dr David Noon
Chief Commercial Officer and Co-Founder
GroundProbe

Time&Venue: Thursday November 27th
5:30pm (refreshments) for 6:00pm start
Hawken Auditorium
Engineering House
447 Upper Edward St, Brisbane

Synopsis

As the global mining industry strives towards improved safety and productivity, it is essential that overall risks associated with unstable slopes are reduced. To better manage these risks, GroundProbe has developed and commercialised its proprietary "Slope Stability Radar" (SSR) at major mines in Australasia, Africa, North America and South America. The SSR technology is now considered best-practice by the global mining industry for managing unstable and production-critical slopes.

This seminar will present the commercialisation stages undertaken by GroundProbe, from University R&D to achieving best practice recognition by the global mining industry.

Registration:

As this is a joint Engineers Australia / IEEE activity please register by contacting Lauren Moon
Phone: (07) 3832 3749
Email: lmoon@engineersaustralia.org.au

The Simple Steps to Financial Success in the Current Context

Speakers: Scott Keefer, General Manager and Scott Francis, Principal Financial Planner
A Clear Direction Financial Planing

Time&Venue: Tuesday 2nd December
5:30pm (refreshments) for 6:00pm start
The University of Queensland,
St Lucia Campus
Building 78 (GP-South), Room 420 (Level 4)

More details to be announce via E-Notice

Sensitivity Based Generalization Error for Supervised Learning Problem with Applications in Model Selection and Feature Selection

Speaker: Daniel S Yeung
Chair Professor, School of Computer Science and Engineering
South China University of Technology, Guangzhou, China
President, IEEE Systems, Man and Cybernetics Society
Fellow of IEEE

Date: Tuesday 16th December
The University of Queensland

Abstract

Generalization error model provides a theoretical support for a classifier's performance in terms of prediction accuracy. However, existing models give very loose error bounds. This explains why classification systems generally rely on experimental validation for their claims on prediction accuracy. In this talk we will revisit this problem and explore the idea of developing a new generalization error model based on the assumption that only prediction accuracy on unseen points in a neighbourhood of a training point will be considered, since it will be unreasonable to require a classifier to accurately predict unseen points "far away" from training samples. The new error model makes use of the concept of sensitivity measure for an ensemble of multilayer feed-forward neural networks (Multilayer Perceptrons or Radial Basis Function Neural Networks). Two important applications will be demonstrated, model selection and feature reduction for RBFNN classifiers. A number of experimental results using datasets such as the UCI, the 99 KDD Cup, and text categorization, will be presented.

More details to be announce via E-Notice

Aerospace and Electronic Systems Chapter Update

**Mr Robert Ellen
Chair, AESS Queensland Chapter**

UAV Challenge Outback Rescue 2008

Over the 23rd and 24th of September the 2008 UAV Challenge Outback Rescue was held at Kingaroy Airport. The Challenge, in its second year, was a venture of Boeing, State Government and the Australian Research Centre for Aerospace Automation. The IEEE Aerospace and Electronic Systems Society was a sponsor. The aim of the Challenge was to promote Australia's civilian UAV (Unmanned Aerial Vehicle) industry by providing a Grand Challenge-like competition open to high-schools, universities and privateers. The levels of the competition included Airborne Delivery for high schools (deploy a package to a target within the Airport) and the Open Search and Rescue (autonomously locate a simulated lost bush-walker in a search zone and deploy a survival package). There were also two documentary competitions. The UAVs in the completion were to be low-cost airframes and were around the size of a model-aircraft.

I attended the Challenge as the IEEE representative. On the 23rd an IEEE morning tea was held for attendees which was a good way to acknowledge the support the IEEE provided.

The high school teams that entered put on an impressive show with many teams achieving deployments close to the target. A series of technical hitches hampered the open competition, with none of the teams leaving the airport for the search zone.

An interesting part of the Challenge programme was the demonstration of the Insitu (Boeing) ScanEagle UAV, which is in operation with the US Military and Australian Army. A video feed from the ScanEagle's on-board camera was displayed on the big-screen for the audience. The most impressive moment was the recovery in which the ScanEagle flew into a rope hung from a 10 metre pole and was captured.

Overall the Challenge was a successful event and I am happy the AESS was a part of it. Hopefully the Challenge will have an ongoing role in the IEEE calendar.



Upcoming AESS Chapter Event

At short notice the following event is scheduled for Thursday 20th November. AESS members were notified of this event via email.

Tiger Armed Reconnaissance Helicopter EMI & EMC Environmental Certification

- Speaker:** **Mr Mark Cook**
Senior Systems Engineer
Nova Defence
- Venue:** The University of Queensland,
St Lucia Campus
Building 78 (GP-South), Room 420 (Level 4)
Map of the Campus showing location attached
- Time:** Refreshments from 5:30pm
Presentation 6:00pm
- RSVP:** An RSVP to Robert Ellen <rellen@ieee.org> by Tuesday November 18th for catering purposes would be greatly appreciated.

Synopsis

This presentation will provide an overview of the EMI & EMC certification of the EC-665 Tiger Armed Reconnaissance Helicopter (ARH) for the Australian Defence Force. The background history and capabilities of the ARH will be discussed, as well as the military standards applicable to its testing and certification. The test requirements and processes that have been implemented will be described. Analysis of the results of the testing process will be covered. Finally the test outcomes and service release parameters of the ARH will be discussed.



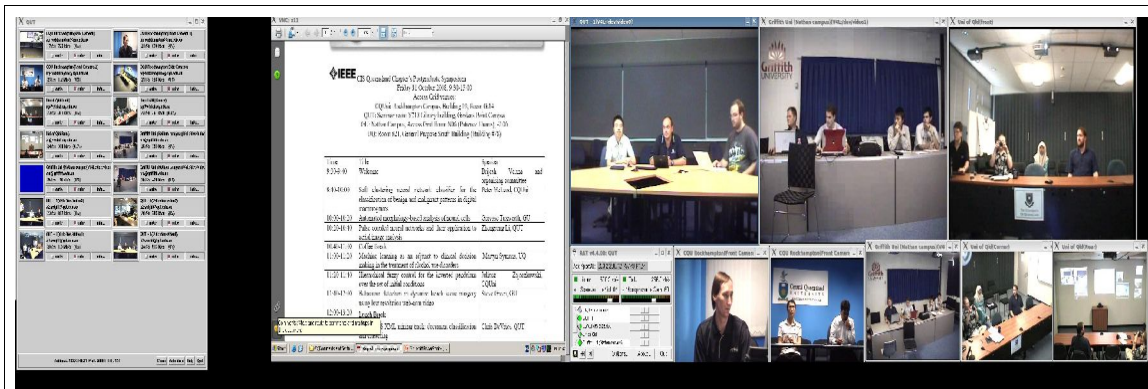
Computational Intelligence Chapter Update

**A/Prof. Brijesh Verma
Chair, Computational Intelligence Society
Queensland Chapter**

The Queensland CIS Chapter has members at four Queensland universities (CQUniversity, Griffith University, Queensland University of Technology, University of Queensland). The chapter members are spread over six hundred kilometres so the only practical yet inclusive way to conduct chapter's meetings and presentation is to use the AccessGrid teleconferencing system which is available at all four universities. The chapter organises all its events using AccessGrid. This use of technology is one of the innovations that has lead the chapter to be awarded the IEEE Computational Intelligence Society's 2008 Outstanding Chapter Award.

The chapter has been very active since its establishment a few years ago. It organises a number of events including presentations by distinguished visitors each year. One of the premium events of CIS chapter is annual postgraduate symposium which consists of presentation by students from all four universities.

Chapter's 2008 postgraduate symposium was held on 31 October. The symposium started at 9:30am and closed at 3:00pm. The symposium had ten presentations by PhD and Masters students from the four mentioned Queensland universities.



IEEE CIS Queensland Chapter's 2008 Postgraduate Symposium (View of the Access Grid teleconferencing system)



Chapter Chair Prof. Brijesh Verma (centre) with CQU student presenters Mr. Peter McLeod (left) and Mr. Hong Lee (right)

Computer Society Chapter Update

Mr Simon Ellis
Chair, Queensland Computer Chapter

Upcoming Event

If "more cores" is the answer, what is the question?

Date&Time: 3pm, Wednesday 26th November 2008.

Venue: University of Queensland,
St Lucia Campus
Building GP-South (78), room 420

Abstract

As improvement in single-processor designs has run out of steam, hardware designers are increasingly ramping up the number of cores per chip. However, the mere fact that something can be done doesn't mean it is necessarily a good idea. In this talk, the reason for the multi-core trend is outlined, along with some ideas for designs – contrasted with successes and failures from the past. Ultimately, the question to be answered is what practical difference it makes to historical problems of multiprocessor system design if the parts are cheaper, and there are fewer off-chip transactions.

Speaker

Philip Machanick, a Senior Member of IEEE, holds a PhD in computer science, and has worked as an academic in Australia, South Africa and the US. He is currently a researcher at the Institute for Molecular Bioscience at the University of Queensland.



Control Systems / Robotics & Automation Joint Chapter Update

Assoc. Prof. Duncan Campbell
Chair, CSS/R&A Queensland Joint Chapter

In September, many were treated to a very interesting and topical seminar by Mr Paul Brodie, Site Services Manager at Foster's Yatala Brewery, jointly sponsored by IEEE RA/CSS and Engineers Australia ITEE Branch. The topic was the holistic approach to energy management using automation and technology that has been taken at Foster's Yatala brewery. I was unable to attend at the last moment and thank Rob Ellen for chairing the event in my stead. Paul's talk is available for video streaming via the EA Queensland Division Webcast Playlist (<http://eaq.mediavisionz.com.au/>). We thank Paul for his enthusiastic presentation.

In December, we are indeed fortunate to have the opportunity to host Professor Gilles Coppin from TELECOM-Bretagne, France. Prof. Coppin is an international expert on Uninhabited Airborne Vehicle (UAV) control, human decision making, man-machine interfaces and cognitive modeling. His research looks at how we can move toward one person controlling several UAVs as opposed to the current scenario of multiple people controlling one UAV. Prof. Coppin has kindly agreed to give a seminar on this topic scheduled for 6pm, Thursday 18 December at QUT. I invite you to come to this seminar to hear a most entertaining speaker presenting world leading research. I will circulate further details closer to the event.



Mr Paul Brodie (top-left) discusses the benefits that Foster's Yatala brewery has seen by embracing automation and technology such as PLCs (top-right) for energy management of key energy consumers including the refrigeration plant (bottom-left) and the Brewhouse (bottom-right). Photos from Paul's presentation are used with kind permission of Fosters Group.

Power and Energy Society Update

Professor Gerard Ledwich
Chair, Power&Energy Queensland Chapter

Upcoming Distinguished Lecture

THE EVOLUTION OF CONTROL AND CONTROL CENTERS FOR THE SMART TRANSMISSION GRID

Anjan Bose, Regents Professor
School of EECS Washington State University
Pullman, Washington, USA 99164 bose@wsu.edu

On FRIDAY 21st November 2008 9am till 1pm in B508 QUT Gardens Pt
Morning Tea provided

Abstract

The smart transmission grid is a major topic of discussion but a comprehensive description of such a grid is still developing. It is expected that such a transmission system will have significantly more measurements, communications and control than the present grid but no consensus has been reached on what the specifications of such new functionality should be. Of course, the technical specifications depend on the new applications of monitoring and control that we would like to see for the operation of the grid. Matching the available technology of measurement, communication and control to our wish-list of applications is the way to develop this technical vision of the smart grid.

In this presentation, we will develop a specific view of what the smart transmission grid will look like and what new monitoring and control functions will be feasible with existing technologies of measurements, communications, computers and controllers. The new development will be mainly in software which will be covered. The material will be covered in four parts:

Part 1: Introduction - Power System Controls Today and What is Feasible Tomorrow

Part 2: The Needed Communications and Information Infrastructure

Part 3: The Feasible Wide-Area Automatic Controls

Part 4: The Future Control Center and a New State Estimator

Anjan Bose is a Regents Professor and the Distinguished Professor of Electric Power Engineering at Washington State University in Pullman, Washington, where he also served as the Dean of the College of Engineering & Architecture from 1998 to 2005. He is a leading researcher on the operation and control of the electric power grid. He has worked in the electric power industry as well as academe for over 35 years.

Dr. Bose is a Member of the US National Academy of Engineering, a Foreign Fellow of the Indian National Academy of Engineering, a founding member of the Board of Directors of the Washington State Academy of Science, and a Fellow of the Institute of Electrical & Electronics Engineers (IEEE). He was the recipient of the Outstanding Power Engineering Educator Award, the Third Millennium Medal, and the Herman Halperin Electric Transmission & Distribution Award from the IEEE. He has been recognized by both Iowa State University and the Indian Institute of Technology with their distinguished alumnus awards. He has served on several editorial boards and on many technical committees and conference organizations. He was appointed by the governor to the board of directors of the Washington Technology Center, and by the US Secretary of Energy on the committee to study the 1999 and 2003 power blackouts. He has served on several committees of the US National Academies including those for Engineering Education, Cybersecurity Research and Power Grid Security. He has consulted for many electric power companies and related government agencies throughout the world.

PLEASE SEND RSVP TO G.LEDWICH@QUT.EDU.AU FOR CATERING & ROOM

Signal Processing / Communications Joint Chapter Update

Dr. Garry Einicke
Chair, SP/Comms Queensland Joint Chapter

APRCCC Meeting

I attended the IEEE Communications Society Asia Pacific Regional Chapters Chair Congress APRCCC, which was held in Tokyo, October 13 -14, 2008. The meeting was well-attended.

Roberto Saracco, ComSoc Sister Societies Director, opened the meeting after the welcome address by Abbas Jamalpour, Chapter Coordinator, and Zhisheng Niu, APB Director who also gave a welcome address on behalf of Nim Cheng who couldn't join the meeting.



APRCCC attendees, Tokyo, October 13 -14, 2008.

The discussions that took place were varied, spanning: courses, professional development, recent conferences and technology trends. The Asia-Pacific region has significant telecommunications technologies take-up rates, for example, in China alone, there are 600 million mobile phone subscribers. The chapter chairs gratefully acknowledge Ms Fanny Su, ComSoc Operations Manager, who organised the APRCC.

Signal Processing Society Distinguished Lecture Tour

As planned we had a very successful Distinguished Lecture Presentation sponsored by the IEEE Signal Processing Society at QUT Gardens Point campus on 7th October. The presenter was Prof. Tsuhan Chen, Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania USA. The presentation was titled "Face Recognition for the Rest of Us: Working with Consumer Images". About 45 people including 17 IEEE members attended the event. Presenter did a great job in making the presentation accessible to general audience. You can find more information about Prof. Tsuhan's work by visiting <http://amp.ece.cmu.edu>.



Prof. Tsuhan Chen(left) and a view of the audience (right) at the Signal Processing Society Distinguished Lecture on the 7th of October.

Upcoming Event

The next IEEE seminar entitled “Global Abnormal Behaviour Detection Using a Network of CCTV Cameras” will be presented by Emanuel Zelniker at 3 pm on Thursday, 20th November, 2008 in (University of Queensland) 78-420.

It is a pleasure to welcome back Emanuel who is a Postdoctoral Research Assistant at Queen Mary, University of London. He is a former UQ student who received the B.E. degree with first-class honors and the Ph.D. degree in electrical engineering in 2001 and 2006, respectively.

Emanuel will discuss the detection of global abnormal behaviours across a network of CCTV cameras. Although the problem of multiple camera tracking has attracted much attention recently, little work has been done on modelling global behaviours of objects monitored by a network of CCTV cameras with disjointed camera views, and no effort has been taken to tackle the challenging problem of detecting abnormal global behaviours, which are only meaningful and recognisable when observed over space and time across multiple camera views. To that end, a novel framework is proposed, which consists of object tracking across camera views, global behaviour modelling based on unsupervised learning, and probabilistic abnormality inference. The effectiveness of the framework is demonstrated with experiments on real-world surveillance video data.

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NOTE: full contact details may be found at <http://www.ewh.ieee.org/r10/queensland/OfficeBearers.html>

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