

IEEE

Queensland Section

NEWSLETTER

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Message from the Queensland Section Chair

Professor Tapan Saha
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Welcome IEEE Queensland Section members. I would like to thank the 2012 committee, led by Dr Abbas Bigdeli, for ensuring very active section activities and overall making the member experience wonderful and dynamic. For 2013, I wish to continue to lead with the same determination and enthusiasm.

For those of you who don't know me; I started my academic career with James Cook University in 1993 and then moved to the University of Queensland in 1996. At UQ I lead a group of 30+ engineers; all involved in power and energy systems teaching and research. I enjoy teaching electrical engineering courses and my research is in solving challenges of renewable energy integration to the electricity grid (e.g. PV, wind and geothermal) and ageing infrastructure condition assessment (e.g. transformer and underground cables). I joined the IEEE Queensland Section committee back in 1997 with advice from my academic mentor Prof Emeritus Mat Darveniza. Over the years I have served the section on many roles including Secretary, Vice Chair, Chair, UQ students Counsellor, Webmaster. This is my second term as the section Chair. In the recent past, I was the Chair of IEEE PES Chapter (2010 & 2011) and Chair of Engineers Australia Queensland Electrical Branch (2012).

This is the first newsletter of 2013. We have already had three section committee meetings this year. During the February meeting we had our first strategic planning session of the section executive committee to have a better plan and targeted goals for 2013. I would like to engage our general members through a number of new activities. I hope you will actively participate in the section/chapter technical activities. Our chapter chairs will contact you in due course to get feedback from you. Please feel free to contact me any time through email or a telephone call.

I have recently participated in the region 10 Section Chairs meeting in Chiang Mai, Thailand. This was a great opportunity for me to meet the R-10 leadership team and a number of IEEE Headquarters office bearers. IEEE now has more than 429,000 members globally and more than half of them are from outside the US. Region 10 is growing very fast with significant growth in China and India. Australian sections are steady and are doing very well, including our Queensland Section. We have more than 1000 members. We have made a plan this year to increase our membership by 10%. We have now active student counsellors in all campuses of Queensland Universities, where there are significant student's presence in IEEE related programs.

As you know IEEE Section and chapters are operated by volunteers and we always encourage members to join the section committee.

There are several vacancies available (<http://ewh.ieee.org/r10/queensland/v2/doku.php/officebearers>). Please drop me an email if you have interest in joining the volunteer team. In the meantime please keep yourself updated by visiting our website (ieee.org/queensland).

Report of 2012 IEEE Queensland Section Award Recipients

Mr Mike Robinson
Awards & Recognition Chair



For 2012 the committee has retained the award structure that was used for previous years. This encompasses the following three categories.

The first category is Recognition of Service awards. These are an official recognition of a person's contribution in a particular role and are awarded at the first AGM following the completion of a person's term in a role. They are awarded to all people in this category without requiring nomination.

The second category is Outstanding Contribution awards. These are awarded to people who have been identified as having made a significant contribution during their term in a role. They are awarded at the first AGM following the completion of a person's term in a role. These awards require a seconded nomination (by members of the IEEE Queensland section) along with a reason for the nomination to be submitted to the section committee.

The third category is for the IEEE Queensland Section Volunteer of the Year. This is awarded to the person who is regarded as having made the most substantial contribution during their time in office. Only people who have completed their term of office are eligible. A single plaque is awarded each year. Nominations (by members of the IEEE Queensland section) are submitted to the section committee.

Recognition of Service

A total of 22 Recognition of Service awards were awarded within the Queensland section during 2012.

Recipient	Contribution
Roelof Swanepoel	Section Chair
Jasmine Banks	Section Vice-chair
Mandar Gujrathi	Section Secretary
Steven Lawrance	Section Student Activities
Jan McSweeney	Section Educational Activities
Peter Lindsay	Chair Aerospace and Electronic Systems
John Davies	Vice-chair Aerospace and Electronic Systems
Garry Einicke	Secretary Aerospace and Electronic Systems
Philip Machanick	Chair Computer Society
Mike Robinson	Secretary Computer Society
Gordon Wyeth	Chair Control Systems / Robotics and Automation Society
Robert Zlot	Vice-chair Control Systems / Robotics and Automation Society
John Billingsley	Secretary Control Systems / Robotics and Automation Society
Jacob Coetzee	Chair Microwave Theory and Techniques / Antennas and Propagation
David Enchelmaier	Vice-chair Microwave Theory and Techniques / Antennas and Propagation
Konstanty Bialkowski	Secretary Microwave Theory and Techniques / Antennas and Propagation
Tapan Saha	Chair Power Engineering Society
Jose Lopez-Roldan	Vice-chair Power Engineering Society
Mehdi Eghbal	Secretary Power Engineering Society
Alexandra Price	Student representative Power Engineering Society
Dharmika Jayalath	Chair Signal Processing and Communications Chapter
Vaughan Clarkson	Vice-chair Signal Processing and Communications Chapter

Outstanding Contribution Award

Three Outstanding Contribution awards were awarded within the Queensland section during 2012.

Recipient	Contribution
Konstanty Bialkowski	Secretary Microwave Theory and Techniques / Antennas and Propagation
Tapan Saha	Chair Power Engineering Society
Dharmika Jayalath	Chair Signal Processing and Communications Chapter

IEEE Queensland Section Volunteer of the Year Award 2012

A vote was taken by members of the IEEE Queensland Section committee and **Professor Tapan Saha** was elected Volunteer of the Year award for 2012.

Thesis prize awards

There were two categories of award for undergraduate theses this year.

1. **IEEE Queensland Section Student Prize for the Best Final Year Thesis in Power Engineering** was awarded to **Edward Bürstinghaus** from The University of Queensland for his thesis entitled '*Preliminary Assessment of the Level of Vulnerability of Queensland's Transmission Network to Geomagnetically Induced Currents*'.
2. **IEEE Queensland Section Student Prize for the Best Final Year Thesis in All Fields of Electrical Engineering and Information Technology** was awarded to **Jack Gaynor** from The University of Queensland for his thesis entitled '*Self-mixing Sensors based on Terahertz Quantum Cascade Lasers*'.

Best Paper awards (Power & Energy Society Chapter)

The IEEE Power & Energy Society (PES) Queensland Chapter Student Conference Travel Prize was awarded to two recipients this year:

1. **Sumit Mazumder** for presenting the paper entitled '*Excess Power Circulation in Distribution Networks Containing Distributed Energy Resources*' during IEEE PES General Meeting 2012, San Diego, USA.
2. **Md.Rakibuzzaman Shah** for presenting the paper entitled '*Design of Robust Power Oscillation Damping Controller for Large-scale PV Plant*' during IEEE PES General Meeting 2012, San Diego, USA.

2012 AGM Photo Gallery



Ms Merryn York CEO of Powerlink, delivers the keynote lecture

Award Recipients

IEEE Volunteers and Student Thesis Prize winners receiving awards from the IEEE Queensland Section 2012 Chair Dr Abbas Bigdeli



Konstanty Bialkowski



Mehdi Eghbal



Dhammika Jayalath



Vaughan Clarkson



Mehdi Eghbal accepting the Volunteer of the Year prize on behalf of Tapan Saha



Edward Bürstinghause



Jack Gaynor



Attendees enjoying the dinner

Update from the Microwave and Transmissions Theory / Antennas and Propagation Chapter

Morteza Shahpari
MTT-AP Chapter Secretary

The MTT-AP chapter had a successful year in 2012. The committee organised four meetings though the year. The speaker of the first meeting was from industry, while three others from academia. These events were scheduled in University of Queensland (once), Queensland University of Technology (once), and Griffith University (twice). The chapter was fortunate to have one distinguished lecturer from University of Hong-Kong.

In 2013, the MTT/AP chapter had a planning meeting to increase the activity of the chapter, and develop our new chapter website:

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

2013 Office Bearers

Chair: Dr Konstanty Bialkowski
Vice- Chair: Dr David Ireland
Secretary: Morteza Shahpari

2013 Previous Event

Technical Seminar

Seminar Title: Chipless RFID: Revolution in Identification in the New Millennium

Speaker: Associate Professor Dr. Nemai Chandra Karmakar

Date & Time: 17-January-2013 1pm

Venue: Building 78, Room 420, General Purpose South, The University of Queensland

Abstract:

Radio Frequency Identification (RFID) is one of the fastest growing technologies in recent decades. RFID is an omnipotent identification technology that has many significant applications. As for an example, car immobilisers use RFID technology. However, the penetration of RFID in low cost item level tagging is hindered due to its high cost. The application specific integrated circuit (ASIC) micro-chip in the RFID tag is the most expensive item in a tag. Researchers have been working to remove the chip from the tag so that the tag can be made fully printable and low-cost. However, printing microwave circuits on low grade packaging and labelling materials is not a trivial task. Tremendous design flexibility and high precision printing with high conductivity ink are needed to design microwave circuits on these materials. Additionally to these stringent requirements, reading of this tag is tremendous challenging due to its low fidelity response. No conventional protocols can be added in the chip-less RFID tag as they have no on-board signal processing capability. Therefore, a fully new development of chip-less RFID reader is needed. This seminar will present chip-less RFID tag and reader for low cost item level tagging.



Associate Professor Dr. Nemai Chandra Karmakar presenting the Chipless RFID seminar

Update from the Power and Energy Society (PES) Chapter

Dr. Daniel (Mehdi) Eghbal
PES Chapter Chair



Seminars and workshops (Since August 2012)

<http://ewh.ieee.org/r10/queensland/v2/doku.php/chapters:pes:events2012>

Technical Seminar

Title: Suboptimal model based engine control and calibration

Date: 3 August 2012 (Friday)

Speaker: Associate Professor Chris Manzie, Department of Mechanical Engineering, The University of Melbourne

Venue: The University of Queensland, St Lucia Campus

Technical Seminar (joint with PES student branch)

Title: Power System Stability Analysis Using DlgSILENT PowerFactory

Date: 31 August 2012 (Friday)

Speaker: Miss Mai Nguyen, Power and Energy research group, School of ITEE, The University of Queensland

Venue: The University of Queensland, St Lucia Campus

Technical Seminar (DLP Region 10)

Title: Resilient and Expandable Distribution Network for Smart Community

Date: 4 October 2012 (Thursday)

Speaker: Professor Ryuichi Yokoyama, Waseda University, Japan (IEEE Fellow)

Venue: Energex, Brisbane

Workshop

Title: Overview Resilient and Expandable Distribution Network for Smart Community

Date: 5 October 2012

Speakers:

Professor Ryuichi Yokoyama, Waseda University, Japan

Professor Tapan Saha, the University of Queensland, Brisbane

Dr. Ruifeng (Richard) Yan, the University of Queensland, Brisbane

Venue: The University of Queensland

Technical Seminar (Distinguished lecture)

Title: Aging and Diagnostics of High Voltage XLPE Power Cables

Date: 2 November 2012

Speaker: Dr. John Densley, IEEE Fellow, Canada

Venue: The University of Queensland

Workshop (2-days workshop)

Title: Aging of Electrical Insulation Systems and Power Cable Diagnostics Seminar

Date: 5-6 November 2012

Speaker: Dr. John Densley, IEEE Fellow, Canada

Venue: Hawken Auditorium, Engineers Australia



From left to right, Tapan Saha (Vice Chair IEEE PES Chapter), Daniel Eghbal (Chair IEEE PES Chapter), Ryuichi Yokoyama (Distinguished lecturer), Lucas Skoufa (Engineers Australia Innovation subcommittee)



Professor Saha (left) and Professor Yokoyama (right) presenting at the Overview Resilient and Expandable Distribution Network for Smart Community workshop

PES Outstanding Engineering Award

The IEEE PES Queensland chapter launched the 'Outstanding Engineer Award' in 2010.

Dr. Dave Allan, Manager Research and Development at Powerlink Queensland, was recognised as the outstanding engineer in 2011 and the plaque of "IEEE Power & Energy Society of Queensland Outstanding Engineer Award" was presented to him during the IEEE DL workshop at the University of Queensland in November.



Dr. Dave Allan receives IEEE PES Outstanding Engineer Award from Professor Tapan Saha (PES Chapter Chair 2011)

Your 2013 IEEE Queensland Section Volunteer Office Bearers

Executive

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Vice-Chair

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Secretary

Rahul Sharma
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Ruifeng (Richard) Yan
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Ross Hayward
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Computer Society

Chair

Mike Robinson
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Control Systems Society / Robotics and Automation Society

Chair

John Billingsley
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Graduates of the Last Decade (GOLD)

Chair

Alexandra Price
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Engineering in Medicine and Biology Society

All positions vacant

Microwave Theory & Techniques Society / Antennas & Propagation Society

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Konstanty Bialkowski
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Vice-Chair

David Ireland

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