

IEEE QUEENSLAND SECTION NEWSLETTER

October 2017

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Section Chair's Report



Daniel Eghbal
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Welcome to third and last issue of IEEE Queensland Section Newsletter in 2017.

2017 IEEE Sections Congress was the main IEEE event since the last newsletter. 12 members from our section attended the Sections Congress and some also attended IEEE ANZSCON. [2017 IEEE Sections Congress](#) was held in Sydney Australia during 11-13 August. The theme of 2017 Sections Congress was “*brilliant minds, BRIGHT FUTURES*”. It was the biggest IEEE leadership gathering and provided many learning opportunities to IEEE volunteers. In this issue, you will find more information from other Queensland Section committee members who attended the Sections Congress. I personally met many IEEE senior leaders from different regions and sections. I also gave a presentation on one of the many panel sessions and shared Queensland Section's experience with IEEE Distinguished Lecturer (DL) program.

All Australian secondary delegates attending the Sections Congress were invited to the IEEE Australia council committee meeting on 11 August. The gathering providing a unique opportunity for Australian volunteers to share ideas and get more information on various IEEE projects including IEEE International Registration project, IEEE Australia Council student paper completion and student branch competitions. Also, IEEE Women In Engineering (WIE) volunteers presented current and future WIE activities. Hosting a WIE leadership summit in Australia was one of the proposed future activities and currently Queensland WIE team is taking the lead preparing a proposal for hosting the next WIE leadership summit in Australia in 2018.



Australia Council committee and secondary delegates group photo including New Zealand Section Chairs – 2017 Sections Congress 11th August 2017, International Convention Centre, Sydney

I also attended IEEE POCO prior to the Sections Congress, which was organised by IEEE Meeting, Conferences and Events (MCE). IEEE POCO was a great opportunity to learn more about IEEE conferences and what it takes to organise a successful international conference. The two day event was full of informative presentations and innovative activities. IEEE POCO is an annual event and will be replaced by IEEE CONVENE from 2018. I encourage IEEE senior volunteers who are planning to host an IEEE conference to contact IEEE MCE and attend IEEE CONVENE in future.

After the Sections Congress, IEEE Region 10 director Professor Kukjin Chun visited IEEE Queensland Section and gave a presentation on R10 activities and plans to the section volunteers.

In another event post Sections Congress, Queensland Section hosted 2017 Program Chair of [IEEEXtreme 24-Hour Programming](#)

[Competition](#) Prasanth Mohan to introduce IEEEExtreme event to us. IEEEExtreme is a very exciting competition that students can benchmark their skills internationally. I strongly encourage our students to consider participating in 2018 IEEEExtreme. You can find more information on IEEEExtreme from the [website](#) and [IEEE.tv](#). Please contact us if you would like to get involved.

Queensland Section is now calling for nominations for chapter and affinity group officers and members of the IEEE Queensland Section executive committee in 2018. You can find more details on the next page of this newsletter as well as Queensland Section's website [here](#). According to the IEEE

MGA manual, that governs our Section, all positions on the committee will become vacant on 31 December each year. If you are looking for an opportunity to give back to your community and work with a great team of enthusiastic volunteers, I encourage you to consider volunteering for a committee position next year.

Similar to previous years, Queensland Section's Annual General Meeting (AGM) will be held on Tuesday afternoon 14 November followed by a formal dinner at Brisbane Exhibition and Convention Centre (BCEC). I would like to invite you to attend the AGM and the dinner [Registration link](#).

Call for Nominations 2018 Queensland

Officers & Members for the 2018 Executive Committee of the Queensland Section / Society

Dear IEEE Queensland Section members,

The IEEE Queensland Section was established in 1985 and currently has close to 1100 members (Worldwide, the IEEE has over 429,000 members in more than 160 countries). The Queensland Section has a proud tradition of volunteer service to the community of technology professionals.

Queensland Section is now calling for nominations for officers and members of the IEEE Queensland Section executive committee in 2018. A full list of current committee members can be downloaded from the [website](#).

According to the IEEE MGA manual, that governs our Section, all elected offices and other positions on the executive committee will become vacant on 31 December each year. Therefore, Queensland section is calling for nominations for the elected offices outlined in the table on the next two pages.

Eligibility: To be eligible, a nominee must be active in the relevant section/society as a Graduate Student Member, Member, Senior Member or Fellow grade. Volunteers are NOT eligible for further service in the same role if:

- They have served four consecutive years in a role immediately prior to next year,
- or six years in their membership period.

IEEE Queensland section always encourage and welcome members to join the committee. However, the nominee should have reasonable experience to conduct the expected duties.

Term: The new committee would serve for one year from 1 January until 31 December.

Duties: The duties of the officers can be downloaded from the resources section of the website under "[officer guides](#)"

Nominations along with a 'position statement' should be submitted to the Chair of the Nominating Committee by email to the address by **16 October 2017**. The details of the Chair of the nominating committee are provided in the table on the next two pages.

The Nominating Committee will then prepare a list of candidates for election by Section/Society members (if necessary) in accordance with IEEE by-laws. The election results will be announced at the Section's Annual General Meeting in Late November-Early December.

IEEE greatly values the contributions of the volunteers and we hope you will consider volunteering for a committee position next year.

-IEEE Queensland Section

Section/Chapter/Joint Chapter/Affinity Group	List of positions	Nominating Committee Chair
Queensland Section	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary • Webmaster • Newsletter Editor • Chairs of the following Standing Committees: <ul style="list-style-type: none"> • Membership Development Activities Cttee • Professional/Career Activities Cttee • Student Activities Committee • Educational Activities Committee • Awards & Recognition Committee 	Vaughan Clarkson, Independent Consultant v.clarkson@ieee.org
Aerospace and Electronic Systems Society	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Vaughan Clarkson, Independent Consultant v.clarkson@ieee.org
Computational Intelligence Society	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	A/Prof Marcus Gallagher School of Information Technology and Electrical Engineering, University of Queensland marcusg@uq.edu.au
Computer Society	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Jun Zhou, School of Information and Communication Technology, Griffith University jun.zhou@griffith.edu.au
Control Systems/Robotics and Automation Society	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Michael Lees Process Automation Manager – Yatala CU Breweries Michael.Lees@cub.com.au
Engineering in Medicine and Biology Society	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Olivier Salvado, PhD MBA Biomedical Informatics Group Leader CSIRO olivier.salvado@csiro.au
Microwave Theory and Techniques/Antennas and Propagation Societies	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Professor Aleksandar D. Rakic Associate Dean, External Engagement, Faculty of Engineering, Architecture and Information Technology, The University of Queensland E: adee@eait.uq.edu.au
Power and Energy/Dielectrics and Electrical Insulation Societies	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Dr Ruifeng Yan Global Change Institute The University of Queensland ruifeng@itee.uq.edu.au
Power Electronics/Industrial Electronics/ Industry Applications Societies	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	David Batterham, Independent Consultant batterhamd@gmail.com
Signal Processing/Communications Societies	<ul style="list-style-type: none"> • Chair • Vice-Chair • Treasurer • Secretary 	Garry Einicke CSIRO Garry.Einicke@csiro.au

Section/Chapter/Joint Chapter/Affinity Group	List of positions	Nominating Committee Chair
Women in Engineering	<ul style="list-style-type: none">• Chair• Vice-Chair• Treasurer• Secretary	Vaughan Clarkson Independent Consultant v.clarkson@ieee.org
Young Professionals Program	<ul style="list-style-type: none">• Chair• Vice-Chair• Treasurer• Secretary	Daniel Eghbal, Adjunct Research Fellow, The University of Queensland m.eghbal@ieee.org

Newsletter Editor's Report



David Russell
davidrussell62@gmail.com

As Daniel has indicated in the Chair's report this is the final newsletter for 2017.

I hope you have found the newsletters this year both interesting and informative. I am pleased that this newsletter has more focus on future events such as:

- Call for nominations for 2018 Queensland Section committee members.
- Information about the upcoming AGM and dinner to be held at the Brisbane Convention and Exhibition Centre on 14 November (see next page).
- Power and Energy's tutorial to be held on 17 October on IEEE 988 – Direct Lightning Stroke Shielding of Substations.
- Women In Engineering seminar titled "Perspectives, Policy and Programs: An Empirical Analysis of Women in STEM" planned for 20 October.
- Nima Khoshirat's talk on 2 November "Commercialized high efficiency solar cells, fact or fiction?".

Several articles in this issue also provide details of the Sections attendance at the Sections Congress and ANZCON that was held recently in Sydney. From the articles it seems our members who attended found the events very useful and have come away with many ideas which can be worked on to benefit our members and advance the Queensland Sections activities. In the newsletter you will find two personal reports by Nazanin Nadian and Reuben Peterkin on their experiences at the congress.

In addition, it is wonderful to see the Queensland Section was recognised for an outstanding achievement in membership retention and development. Please read more detail in Sudarshan Dahal's Membership Development Report.



Please circulate the newsletter to any of your friends or colleagues who might find it of interest and encourage them to join the IEEE global community of engineers.

If you are attending the AGM and dinner please come and say hello. If you are going on holidays over the coming months I hope you have a great break. I am sure the newsletter will be back next year bigger and brighter than ever.



IEEE Queensland Section

Annual General Meeting and Dinner

14 November 2017

AGM – 5:30pm (no charge)
Dinner will commence after the AGM.
Refer to Registration link for dinner cost.

Arbour Level
Room A2
Brisbane Convention and Exhibition Centre
Corner Merivale and Glenelg Streets
South Bank, Brisbane

RSVP & Register by 7 November 2017 via this [Registration link](#)

IEEE Qld Bank Australia Account details for
dinner payment are:

BSB: 313140
Account: 08300761
Reference: Your Initials & Surname



Treasurer's Report



Dr Robert Kennedy
kennedyrobotics@bigpond.com

In the last quarter since end of financial year, we have had over 35 transactions through our local account.

Started this quarter with \$13,491.06.

The expenses for this period total **\$12,571.87**. The section congress was on during this time and we sent a number of volunteer committee members along to this in Sydney with varying travel grants for the members. We also had a number of organised events.

During this time, there were 2 IEEE Swift payments for particular chapters. The total of Income for the period was \$507.78.

The final balance in the everyday access account is \$1,263.25 at 1 October 2017.

There are 4 remaining term deposits at \$94,558.64, that have continued to gain interest returns.

And the RADAR18 account for the RADAR 2018 conference that our volunteers are organising and the that IEEE Qld / IEEE SA sections have seed funded in 2016/2017 has now transferred the seed funding to the conference organiser as this is well under way. The remaining balance is \$502.72

Currently it is clear that the spending for the section during this period has far outweighed the income as expected with the Section Congress grants approved for \$13,800.00 but with only \$8,709.08 claimed back so far, there is still some more to come from the account. One of the term deposits is currently in the process of being relinquished and put back into the normal transaction account to allow the cashflow to continue for the section. This was approved at the committee meeting prior to the congress.

The AGM Financial Report will detail the year from the last AGM and summarise the entire transactional history.

Webmaster's Report



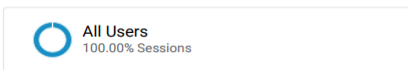
Dr Ghassem Mokhtari
Ghassem.mokhtari@csiro.au

The last three months were not a busy time for the webmaster. The report for the last three months (July - Sep. 2017) of our web site visits is detailed in the following figure. This includes the details of users and page views of the IEEE QLD section website.

We also now have a website for the Power Electronics/Industrial Electronics/ Industry Applications Societies which can be found at this link <http://sites.ieee.org/qld-peieia/>

myDashboard

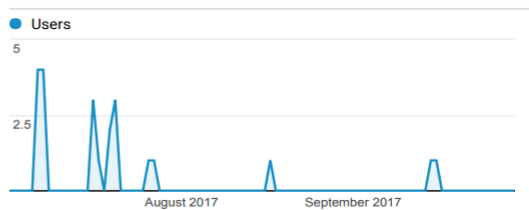
1 Jul 2017 - 30 Sep 2017



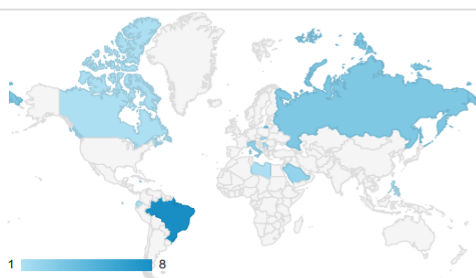
% New Sessions



Users



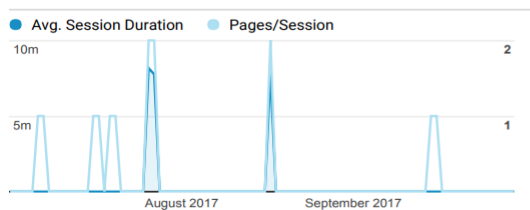
Sessions



Bounce Rate



Avg. Session Duration and Pages/Session



Goal Completions and Users by Country

Country	Goal Completions	Users
Brazil	0	8
Canada	0	1
Ecuador	0	1
Italy	0	2
Jamaica	0	1
Libya	0	1
Philippines	0	1
Serbia	0	1
Russia	0	1
Saudi Arabia	0	2

Membership Development Report



Sudarshan Dahal
sudarshan.dahal@ieee.org

Membership Development Activity - Industry

Energy Queensland Principal Engineer Steven Humphries delivered a presentation outlining their innovative trial on battery energy storage systems. His talk highlighted how careful organisation of grid scale battery systems can deliver benefits to both utilities and customers. Industry collaboration is the key however, to their successful deployment. The seminar was sponsored by IEEE Queensland as a part of membership development activity. Dr Sudarshan Dahal, the membership development chair of IEEE Queensland Section highlighted the benefits of IEEE memberships and elaborated how IEEE can bring various resources both for industry and individuals. IEEE Queensland Section Chair, Dr Daniel Eghbal answered several queries from attendees about IEEE and its activities in Queensland.



IEEE Supports Young Engineering Students

IEEE sponsored the prize for the first-year electrical engineering student demo project competition held in May 2017 at the University of Queensland. The completion was to build a robot detecting radioactive waste. This was one of the highly impressive student activities helping to flourish the

innovation through team projects among the early year engineering students. Dr Sudarshan DAHAL, the membership development chair from IEEE Queensland section proactively approached the faculty and offered to sponsor the prize to encourage the innovation and promote IEEE among very early year engineering students. The winning team of six students has been offered the prize from IEEE. The awardees have been very keen to explore the opportunities within IEEE to help them in their long-term career development.



Membership Development Seminar: Engineering your career

An event for student members was organised at Central Queensland University Brisbane. The objective of the seminar was to discuss maximizing your IEEE membership benefit for career planning and development. Students from various universities around Brisbane were present in the seminar. IEEE Queensland Section Membership Development Chair Sudarshan DAHAL was the speaker. IEEE Member Sangeetha Kutty who is also on faculty at Central Queensland University ran a discussion session to help

student with their career related queries. The seminar discussed various topics about the professional engineering competencies, leadership and communication skills.



Student members were encouraged to maintain their IEEE membership beyond graduation from universities.



Senior Membership Drive

IEEE Queensland section invited applications from eligible members to elevate to senior member. Membership Development Chair Sudarshan DAHAL assisted the applicants to assess whether they are eligible to apply for senior membership. Also, IEEE Queensland section volunteers who are already a senior member assisted the members to find referrals to their applications. About 15 applications were received for elevation into senior members out of which 12 applications have been approved.

Membership Retention Award

In recognition of the tireless efforts of IEEE Queensland section volunteers, the section has been awarded the membership retention

award for 2017. The membership development goals were established based on the Section's three-year performance. All the volunteers are to be commended for continuing to grow IEEE membership in the Queensland Section.

A report on IEEE Section Congress 2017 in Sydney

Attending IEEE section congress 2017 was a great opportunity to learn new skills in leaderships and IEEE volunteering. The congress presented very insightful sessions on various aspects of IEEE services. As a membership development chair, I attended most of the IGNITE sessions, vTools sessions and some brief sessions.



2017 Outstanding Section Membership Retention Performance Queensland Section

A report on IEEE Section Congress 2017 in Sydney

Attending IEEE section congress 2017 was a great opportunity to learn new skills in leaderships and IEEE volunteering. The congress presented very insightful sessions on various aspects of IEEE services. As a membership development chair, I attended most of the IGNITE sessions, vTools sessions and some brief sessions.

IGNITE sessions were very popular as most of the talk presented the takeaway messages very succinctly. The talks about smart grid, IEEE Extreme, IEEE humanitarian, Entrepreneurship did attract my interests. IEEE Extreme chair presented how IEEE is collaborating with different sections, and

universities to engage young students to solve interesting engineering problems through competition in programming. Similarly, how IEEE is supporting the rural communities to have access to electricity and basic ICT was discussed in a presentation about the IEEE humanitarian initiative. Another talk discussed about how IEEE is working with relevant stakeholders to raise awareness on climate changes such as melting ice at the Arctic and Antarctic regions. Overall, ignite sessions were very useful to understand how IEEE is working towards technology for humanity.



I also attended some of the brief sessions such as IEEE continuing education and organising speakers and conferences effectively. IEEE is helping members to keep their skills up to date by providing different opportunities on continuing education. The courses can be purchased at reasonable price. The courses have been designed and evaluated to best meet the members requirements. In other sessions, I became familiar with how to effectively utilise the

resources such as travelling speakers and conference volunteers for the benefit of a region.

The key note speeches were highly impressive. IEEE high level officials presented current statistics of IEEE in terms of membership, regional growth, performances and future plans. The invited speakers presented thought provoking speeches on changing technologies. Australian Chief Scientist Dr Alan Finkel talked about how artificial intelligence and robotics can change the way we live, what are the expectations and limitations on such technologies and how the regulations would best help the deployment of such technologies for overall benefits of human beings in the future.

In summary, some of my take away messages to the section from the conference are:

- Section should formulate strategy and action plans for increasing industry reach and industry members.
- Members should be encouraged to elevate to senior member. There are some recommendations on how to apply and how to recommend for senior member elevations.
- Members should be communicated with regularly and plans for member engagement should be in place so that they maintain an attachment with IEEE.
- Outsourcing of distinguished lecturers can be effectively done by collaborating with fellow sections so that the overall area would get highest benefit.
- Members should be communicated about the opportunities of continuing professional development opportunities that IEEE offers regularly.
- Young professionals should take volunteering opportunities to grow their network and career opportunities while serving for IEEE.

Microwave Theory & Techniques/Antennas & Propagation Societies



Konstanty Bialkowski
konstanty@ieee.org

Committee:

Chair: Konstanty Bialkowski
Vice Chair: Morteza Shahpari
Secretary: Antony Liu
Treasurer: Arslan Nizami

During the past few months, we had a couple of events by a number of well-known faces of the AP-MTT community. We also had a plan for a Distinguished Lecture (DL) seminar that was postponed to next year due to personal issues of our distinguished lecturer.

As I am writing these lines, I am very interested and optimistic about the journal club which is about to be held later today in the Griffith University.

An eNotice was sent to members one week before the event

<https://events.vtools.ieee.org/m/47314>.

We hope we can make regular monthly gatherings and discuss papers of interest to the community. This has a variety of advantages: The idea is to learn from each other through discussion and debate. We often discuss pros and cons of the different methods of a solution. We often discuss why and how a particular technique is used.

Power and Energy & Dielectric and Electrical Insulation Societies



Chandima Ekanayake

c.ekanayake@griffith.edu.au

Committee:

Chair: Chandima Ekanayake
Vice Chair: David Batterham
Secretary: Nazanin Nadian
Treasurer: Hossein Etesami

8 August 2017 Seminars

Smart Grid within power substations: specific wireless communications challenges

This talk was presented by Fabrice Labeau who is an Associate Professor in the department of Electrical and Computer Engineering at McGill University. He is currently the Associate Dean (Faculty Affairs) for the Faculty of Engineering at McGill. He holds the NSERC/Hydro-Quebec Industrial Research Chair in Interactive Information Infrastructure for the power grid.

In the talk he reported on the work carried out over the last few years in the framework of an active collaboration with Hydro-Quebec for the deployment of wireless technologies within power substations. The work is positioned within the smart grid framework. The talk covered some of the sources of electromagnetic noise that is present in power substations and which make it a hostile environment for classical wireless communications. He described some of the models which have been developed to characterize the EM noise in substations. He gave an example of a receiver adapted to this type of noise.

Integration Renewable Energy Resources to Weak Grids: Interconnection Challenges

The speaker for this seminar was Dr Dharshana Muthumuni, Ph.D., P. ENG. He is the managing director of Manitoba HVDC Research Centre, a division of Manitoba Hydro International. He has over 20 years of experience in engineering studies using a variety of simulation products, including PSCAD™ and PSS/E. In addition to his engineering study experience, Dharshana has been a key developer of the PSCAD simulation tool and he has conducted training workshops on a variety of power system topics for global clients. In his current position, Dharshana is responsible for overseeing the development and deployment of all MHRC's products and services including PSCAD™, HVDC Line Fault Locator System, Engineering consulting, Training, and Research & Development.

Over the years, the power system community has acquired significant experience related to the operation of traditional power systems where the generation is predominantly based on synchronous generators. However, the large penetration of renewable energy is expected to present new challenges.

The renewable energy generation is interfaced to the transmission system with the use of power electronic converters. The dynamic response characteristics of power electronic based generation are much different from conventional generators. Specifically, the converter-based generators

do not contribute to the system inertia and can potentially make the power system vulnerable following system events such as line faults. Key characteristics of renewable energy generators that can affect system stability were discussed during the presentation.

15 August 2017 Seminar

Technical and economic analysis of the European electricity system with 60% renewable energy sources

This seminar was presented by Dr. Vera Siva. She is currently the Director of the research program on Electricity Systems and Markets at EDF Research and Development. She has 18 years of experience in the power systems industry and for the last 11 years she led several studies on the integration of renewables to the European system. Her recent activities include leading a successful European project proposal – EU SysFlex – concerning the development and demonstration of solutions for enhancing system flexibility for the integration of 50% RES in the pan-European systems. She was the project manager for the pan European study “technical and economic analysis of the European system with 60% RES” and she is a member of the advisory board of the IEA System integration of renewables.

The seminar talked about the impacts of the integration of a large share of variable renewable generation into the generation mix of the European inter-connected electricity system. The analysis, which is based on the results of long-term studies performed by EDF R&D, aims at improving the current understanding of the technical and economic feasibility of a massive deployment of wind and PV across the European system.

17 October 2017 Tutorial

IEEE STD. 998 – DIRECT LIGHTNING STROKE SHIELDING OF SUBSTATIONS.

This 4-hour tutorial will provide a review of the recently released IEEE Std. 998 guide. Empirical and EGM shielding methods for direct lightning stroke interception (including

the newly added Eriksson EGM) will be reviewed and examples presented in step-by-step detail. The basic principles behind four alternative models for direct lightning stroke interception will be presented and discussed with a practical example.

Tutorial Outline:

- Overview of changes between 1996 and 2012 version
- Lightning characteristics
- Lightning exposure and substation risk assessment
- Review of traditional methods with examples: fixed angle and empirical curves
- Review of basic electro geometric model with examples: rolling sphere method
- Review of the improved EGM with examples
- Description of four alternative models for substation shielding: LPM, CVM, LIT and SLIM
- Example shielding designs with the four alternative models
- Conclusions
- Q & A

Time: 09:00 AM to 01:00 PM

The link to register for the tutorial is:
<https://events.vtools.ieee.org/m/47331>

The tutorial will be presented by Dr. Franco D'Alessandro of PhysElec Solutions Pty Ltd.

Franco D'Alessandro holds the degree of B.App.Sc., B.Ed. and PhD. He also holds GAICD, MIEAust and SMIEEE. The first decade of his career was in university teaching and research. In 1997, he moved into the private sector and worked on many aspects of lightning protection and earthing from research to products and applications, both in Australia and the United States. In 2007, he set up PhysElec Solutions Pty Ltd, providing independent consultancy services on lightning protection and earthing projects for a wide range of clients globally. In 2003, PhysElec solutions merged with Lightning Protection International Pty Ltd, where it continues to provide independent consultancy services in lightning protection and earthing. Dr. D'Alessandro is currently

Chief Technology Officer at LPI. Franco has delivered many seminars and presentations on lightning protection and earthing in Australia and overseas and has published more than 100 technical papers. Apart from engineering institution membership, he has

been an active contributor to Standards and code-setting committees in Australia (AS/NZ 1768), Europe (TC81, IEC 62305, IEC 62561) and the USA (IEEE998) for almost 20 years..

Signal Processing/Communications Societies



Greg Hislop
gregory.hislop@gmail.com

Committee:

Chair: Nasir Hussain
Vice Chair: Greg Hislop
Secretary: Muhammad Mohtasim

Our chapter has been busy this year with nine events thus far and more to come. We have concentrated on our first Tuesday of the month Journal club meetings. These consist of a different member each week leading a discussion on a classic/well cited journal paper from our field. The paper is chosen in advance to allow all to read it and the discussion takes place in a local Brisbane cafe or restaurant over a drink or light meal. Our latest meeting coincided with international IEEE day and to help celebrate the event the Queensland IEEE Section catered our meeting for which all present were very thankful. The discussion centred around

H. M. FINN, "A NEW APPROACH TO SEQUENTIAL DETECTION IN PHASED-ARRAY RADAR SYSTEMS", IN PROC. WINTER CONVENTION ON MILITARY ELECTRONICS, VOL. II, PP. 4-12, DECEMBER 1963

Which is a very old classic known for transforming the radar community by inventing the Alert-Confirm technique for phased array radars. Our papers range from classics of this nature through to recent works. The paper was presented by Prof Vaughan Clarkson who did an excellent job. The event itself moves between different central Brisbane locations with our latest being at the German Club. Regular attendees include local industry people (roughly 50%), university staff and students and a few government agency employees. All meetings are of a social nature with a technical direction to the conversation. All are welcome!

Our next event will take place the first Tuesday evening of November. Dr Kristian Weegink from UQ will lead the discussion, the paper and location will be announced soon.

Women in Engineering



Marie-Luise Wille
m.wille@qut.edu.au

Committee:

Chair: Marie-Luise Wille
 Vice Chair: Alexandra Posoldova
 Secretary: Negareh Ghasemi
 Treasurer: Hanxiao Zhang

IEEE Australian Council (AC) meeting – Highlights & Achievements



IEEE Australian Council (AC) Meeting

Marie-Luise and Hanxiao both visited the IEEE Section Congress in Sydney and attended the IEEE Australian Council (AC) meeting. During the AC meeting, there was a discussion about the future of IEEE Women in Engineering Affinity Groups (AG) in Australia and what could be done to enhance our profile. With contributions of all WIE AGs we had two presentations, one about the current status and activities and one about potential future joint activities. QLD section proposed to have a WIE International Leadership Summit in Australia 2018 to attract new WIE members and to enhance the visibility of WIE AG Australia within R10. The proposal received very good feedback and QLD WIE AG will now start to create an organising committee and prepare the pitch to WIE Headquarters. 2018 will be exciting!

Another outcome from the AC meeting was that WIE AGs are not interacting with each other and it was discussed that a WIE forum

is created, with the aim to connect and facilitate Australian WIE AGs.

IEEE Sections Congress – Highlights & Achievements



QLD Delegates (Left to Right: Marie-Luise Wille, Hanxiao Zhang, Nazanin Nadian, Daniel Eghbal, Xinren Jiang)

During the Sections Congress, both Marie-Luise and Hanxiao connected with over 1,200 volunteers from the global IEEE community, reviewed the WIE membership model with the goal to have a sustainable increase in membership globally, and gained insights into the common challenges and best practices. Overall, the Sections Congress concluded with three recommendations to the broader IEEE network, and they are:

1. Develop an incentive program for corporations to join IEEE as “Corporate Member”
2. Develop training programs and/or create partnerships with external organizations to allow members to provide STEM activities to pre-college students
3. Strengthen and recognize Industry/Academia/Government Collaboration/Partnerships, i.e. Create a platform to communicate industry issues searching for solutions and possible “applications” of research results

IEEE ANZSCON – Highlights & Achievements



WIE Seminar Group Photo in ANZSCON

Hanxiao also attended the IEEE ANZSCON 2017 in Sydney, which is a congress for Students and Young Professionals, and Women in Engineering from both Australia and New Zealand. The highlights and achievements for this trip include connecting with hundreds of student, YP and WIE members from both Australia and New Zealand, and finding best practices for increasing Public Visibility and Industry Engagement locally and nationally. During the ANZSCON, Hanxiao interviewed several participants on how IEEE can bring more values to them; and the findings are

1. Mentoring, i.e. local/international mentoring program
2. Technical achievement recognition, i.e. tech competitions
3. Career Q&A, i.e. Career progression workshop

Several WIE seminars and forums were held during the congress and they focused on finding solutions for nurturing Industry-Academia-Innovation and Entrepreneurship for Women in STEM, initiating programs for enhanced visibility, and engaging WIE members in IEEE WIE workshops and Technical societies for fostering careers.


Previous Event



Panellists and Audiences


IEEE WIE QLD organized a panel session with senior female and male engineers from industry and academia to discuss the role of male engineers in supporting gender diversity in the workplace. The panel explored the “Why?” and “How?” of gender diversity. The panel discussion aimed to help with “transforming the culture of engineering” and to promote male engineers in supporting gender diversity.

Next Event in October



**Perspectives, Policy and Programs:
An Empirical Analysis of
‘Women in STEMM’**

Dr. Jyoti Sharma




Friday 20th of October 2017,
12.00-13.00 pm
IHBI Seminar Room, QUT, Kelvin Grove

Our next event for this year will be a presentation by Dr Jyoti Sharma, who is working with the Indian and Australian Governments to find out the retention and barriers of women in STEM. To find out more

and to register please visit
<https://events.vtools.ieee.org/m/47567>.

Engineering Queensland Facebook page!
www.facebook.com/ieeewieqld

 To stay up to date, don't forget to like
 and check out the IEEE Women in

IEEE Women in Engineering
Wie



Dr. Jyoti Sharma has a professional career spanning more than 14 years of experience in handling Technology lead interventions for Rural population specially for Women and Weaker section, her profile and experience include the Conceptualization, Formulation and Implementation of Science Communication programs, Gender Initiatives for Women Scientists/Technologists, Quality Assurance and Quality Control in Vaccine manufacturing, Drug Regulation and Implementation of Good Laboratory Practices in Contract Research Organizations and Pharmaceuticals.

 **IEEE**
 Advancing Technology
 for Humanity

All welcome

Perspectives, Policy and Programs: An Empirical Analysis of 'Women in STEMM'

Dr Jyoti Sharma

**Friday 20th of October 2017,
 12.00-13.00 pm
 IHBI Seminar Room, QUT, Kelvin Grove**

International research shows that 75 per cent of the fastest growing occupations require science, technology, engineering, mathematics and medicine (STEMM) skills. However, a recent survey report said that almost a third of Australian women working in STEMM expect to leave the sector within the next five years. This loss is very significant and wastage of resources, talent and expertise with respect to nation's growth. Although number of national policies and programs have been implemented to promote and increase the participation of women in the field of science and technology. There is need to understand the interplay of inclusive policies, organizational, societal and personal factors that exclude women from formal spaces in STEMM and impact of Government initiatives to bring back them/retain in main stream.

**Institute of Health and Biomedical Innovation (IHBI),
 60 Musk Avenue, Kelvin Grove**
 Please register via <https://events.vtools.ieee.org/m/47567>

Young Professionals

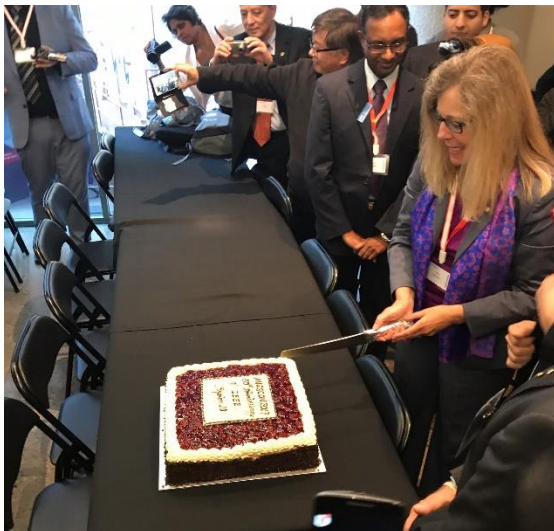


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Committee:

Chair: Rob Makaremi
Vice Chair: Alexandra Posoldova
Secretary: Rueben Peterkin
Treasurer: Hamid Moghadam

Young Professionals Affinity has remained active over the past three months. I was privileged to represent IEEE Queensland Section as a secondary delegate to ANZSCON and IEEE Section Congress. Both events were held consecutively in Sydney.



Karen Bartleson cutting the cake for Region 10's anniversary

ANZSCON kicked off in the University of Technology Sydney. It included several events and talks for two days where people discussed membership development for students, young professionals, and women in engineering, as well as how IEEE can deliver better value to members. The highlight of the ANZSCON event was IEEE President, Karen Bartleson's talk about the importance of

having young members and IEEE's commitment to creating the next generation of innovators, technologists and leaders. The talk was followed by celebrating the 50th anniversary of IEEE Region 10.

ANZSCON was followed by Section Congress at the International Convention Centre Sydney.

Delegates assembled from all around the world including some prominent figures from industry and academia. This created a great networking opportunity to get to know IEEE members from different regions. Australia's Chief Scientist Alan Finkel delivered a thought provoking keynote on the future of artificial intelligence. There were also panel talks from different regions on encouraging young professionals to become IEEE members and providing better value for them.

Connect with us on [Facebook](#) as well as IEEE's integrated online community [Collabratec](#).

We look forward to seeing you at our events.

ANZSCON and Sections Congress Report

Nazanin Nadian provided the following report on her experiences at the ANZCON and Section Congress.



I attended both ANZSCON and Section Congress as a secondary delegate from Queensland. Both events were very interesting and unique in their own way. ANZSCON was held at UTS and most of its attendees were students, in which I could network with many IEEE student members. I was part of Griffith University's student chapter for a year. During that time I believed more diverse and interesting activities should be arranged for the student members. ANZSCON provided a great opportunity to communicate with other student members



and find out what they thought about IEEE events and their opinion regarding how they can be improved. Also, there were many inspiring lectures about the work journey of many senior IEEE members which I found to

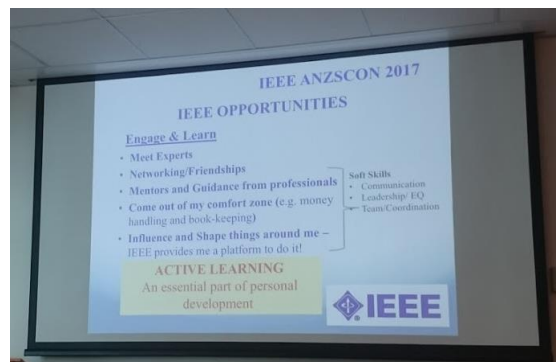
be very educating and learnt lessons from them which I could implement in my own professional career.

Section Congress was held at the Sydney's Convention and Exhibition Centre. There were attendees from all around the world. I found section congress to be magnificent and unique as it showed that IEEE is more than just seminars and meetings. I met people from all around the world with different professional and educational backgrounds. We learnt about different activities held by IEEE affinities around the globe. There were many useful lectures held in different aspects. In particular, there was a speech about 'how to build your network' which was very helpful, especially for me as I have recently graduated.



Ruben Peterkin provided the following report on his experience at the ANZCON and Section Congress.

I had the opportunity in August to visit Sydney to attend ANZSCON 2017 and Sections Congress.



I had previously attended ANZSCON when held locally at the University of Queensland in 2014. It was at this event I learned about volunteering as a committee member and subsequently nominated for the Queensland Section. At this year's ANZSCON, I primarily attended sessions related to my volunteering in the Young Professionals team. These included "Building a Community of Young Professionals in Asia Pacific", "Effectively Running the YP Chapter in your Section".

On the second day of ANZSCON, I learned about the IEEE Xtreme student programming competition, as well as initiatives to increase retention from students to Young Professionals such as IEEEExplore credits and discounts on conferences. I also attended sessions on Smart Cities, On-Chip Technology and Internet of Things.

I gained a great deal of insight into IEEE at Sections Congress, into how the organisation runs as well as opportunities for members. I learned about Collabratec at the congress and joined it. In addition to the Young Professionals sessions, I also attended related sessions such as: "The Future of Young Professionals in IEEE".

I learnt a lot about the various technical societies and services in the exhibition hall. As part of this I participated in the various activities at the numerous stands. One of these was a quiz to determine what kind of Innovator I was (realist). I also attended the Ignite sessions during the breaks.



Unfortunately, I did not experience the entirety of both events as was not feeling 100% while in Sydney. While I did find it to be a great experience I feel that had I felt better I would have been able to participate in both events fully.

Griffith University Nathan Student Report

Ian Ockenden Soto

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Committee:

Chair: Ian Ockenden Soto

Griffith's (Nathan Campus) latest Event, was held on the 25 July 2017.

The event was designed to give insight to students of both how IEEE can benefit members whilst studying and its roles and benefits in industry.

IEEE's Dr Nilesh Modi gave a fantastic presentation in two parts. The first a presentation of IEEE's benefits, and some of the past opportunities that were available to IEEE members.

The second part of the event was a discussion of industry, in particular AEMO.

This gave students some insight to career opportunities and what they can expect to be doing within the industry. There was also a discussion about the south Australia black out in 2016, and how AEMO assessed the causes of the network collapse.

Approximately 15 students attended the event and based from feedback all enjoyed the event.

I believe more events like this within the campus could attract more members.

QUT Student Report



Nima Khoshsirat

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Committee:

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 Vice Chair: Aminmohammad Saberian
 Secretary: Mac Akmal Jahan
 Treasurer: Aaron Liu

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IEEE QUT student Branch activities: July to December period

1- **“Application of Natural Fibre Composites in Aerospace Industry”**. Is the title of a technical talk given by Dr Parnia Zaki Khani on 28 July 2017. In this event Parnia built a bridge between nanotechnology and aerospace industry by reviewing the natural fibre composites electrical and mechanical properties and their application in aerospace industry. The event held at QUT science and Engineering centre (P block, room P638), Gardens Point campus.



2- **“What makes a good Electrical Engineer? Electrical engineering innovation”** seminar by Mr Patrick Naidoo on 8 August 2017. Innovation was discussed with real world project examples. The seminar provided a better understanding of real world engineering design, construction and maintenance. The key message of this talk to our members was as young engineers philosophy, knowledge and experience behind the real-world innovation has broader application, not only to electrical projects.



3- **“IEEE-Day 2017”**. Introduction and promotion of IEEE membership and its benefits was done on 3 October during the celebration of IEEE-DAY 2017.

4- **“Commercialized high efficiency solar cells, fact or fiction?”**. This technical talk is planned to be held on 2 November in QUT science and Engineering centre. Mr. Nima Khoshsiraf, IEEE member and current chairman of IEEE QUT-Student branch will give this talk. He is also founder and current chairman of QUT-solar energy scientific society. He has more than 5 years industry experiences in photovoltaic industry on solar systems as well as 5 years research experiences on solar cells. As a person who worked on PV systems and is doing research on device level, he will share his knowledge and thought about the prospects of solar cells efficiency and commercialization as well as their role in our future energy schemes.

UQ PES Student Report



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Committee:

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Vice Chair: Ebby Thomas
Secretary: Xinren Marcus Jiang
Treasurer: Vacant

As the second major event of this year, we invited Dr. Seyyed Ali Pourmousavi Kani, Electrical Engineer - Research Fellow, Global Change Institute at the University of Queensland to deliver a technical talk on IEEE Day to celebrate the day engineers worldwide and IEEE members gathered to share their technical ideas in 1884 for the first time in history. The venue was UQ St Lucia campus. The title of the talk was "BIG DATA TOOLS AND PROCEDURES IN POWER SYSTEMS RESEARCH". In his talk, Ali presented a comprehensive comparison

between the tools available for handling and processing big data for power system related research purposes. Moreover, he presented a live demonstration of standard procedure (used by many Data Scientists) to prepare and polish data for further analysis. Our audience was a mix of Post-graduate students, undergraduate students, senior and junior academics from the University of Queensland.

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We look forward to seeing you at our events.



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