



INSTITUTE OF  
ELECTRICAL AND  
ELECTRONICS ENGINEERS

QUEENSLAND SECTION

ABN 67 431 648 974

# ANNUAL GENERAL MEETING REPORT FOR 2017

PRESENTED AT  
BRISBANE EXHIBITION AND  
CONVENTION CENTRE

ON  
14 NOVEMBER 2017

[ieee-qld.org](http://ieee-qld.org)

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# Section Chair's Report



**Daniel Eghbal**  
[m.eghbal@ieee.org](mailto:m.eghbal@ieee.org)

I am pleased to share with you that 2017 was a productive year for IEEE Queensland Section. In 2017, the Queensland Section's chapters and affinity groups organised **70+** technical and professional events including technical seminars, workshops, and distinguished lecture seminars. You can find more information about the 2017 events in three newsletters that were published in 2017 and are available online from [Queensland Section's website](#).

Queensland section was awarded the membership retention award for achieving the membership development goals. I would like to thank our volunteers and 2017 Membership Development Activity Chair, Dr.Sudarshan Dahal for his outstanding contribution.



**2017 Outstanding Section Membership  
Retention Performance  
Queensland Section**

IEEE Sections Congress, the biggest IEEE leadership gathering, was held in Sydney during August 11-13th. The theme of 2017 Sections Congress was "brilliant minds,

BRIGHT FUTURES". It was a great opportunity for Australia and a group of 12 volunteers from Queensland Section attended the Sections Congress. You can find more details about the Sections Congress in the October Newsletter (Issue 3).

I am pleased to share with you that in 2017, the outstanding performance of our PES/DEIS chapter was again recognised internationally. PES/DEIS has been awarded Outstanding Chapter runner up award every year since 2012.

The section committee has about 70+ positions including members of the section executive committee, chapter and affinity groups' officers, student branch volunteers and student councillors. All officers are volunteers and elected annually. The full list of 2018 officers and any vacant positions will be announced during the Annual General Meeting on 14 November. I would like to thank all the nominating committee members and chairs for their help in achieving this result. 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 vacant committee position.

It has been a privilege working with a great team of volunteers. I would like to thank all IEEE volunteers that I had the pleasure to work with in 2017. I look forward to meeting you at the AGM and working with the new committee in 2018.

I wish everyone a Merry Christmas and hope you have happy holidays. Please stay safe during the holiday season.

# Newsletter Editor's Report



**David Russell**  
[davidrussell62@gmail.com](mailto:davidrussell62@gmail.com)

It has again been a pleasure to be involved with IEEE and the Queensland Section this year as Newsletter Editor.

There were three newsletters published this year, namely April, July and October. Newsletters from this year and previous years are available on the Queensland Section website archives area [here](#).

I thank the many members who have contributed content to the newsletters. I sometimes talk to members who indicate they want to hear more about what the local groups are doing and what events may be coming up in the future. Hopefully, the newsletters provide some of this information for members.

While the newsletters often act as a record of the events that have taken place, where we

could we tried to put future events into the newsletters as well in the hope this gives our members a greater chance to plan their attendance. Our last newsletter (October) was probably the most successful so far in highlighting future events.

At the end of the newsletter archive section of our website there are guidelines for submitting content for the newsletter. It is helpful if these are followed.

Finally, please feel free to circulate the newsletters to colleagues and friends who may be interested in the activities of IEEE.

I hope you all have a safe and happy holiday season and you will see more interesting articles in the newsletters next year.  
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# Vice Chair's Report



**Nilesh Modi**

[Nilesh.modi@aemo.com.au](mailto:Nilesh.modi@aemo.com.au)

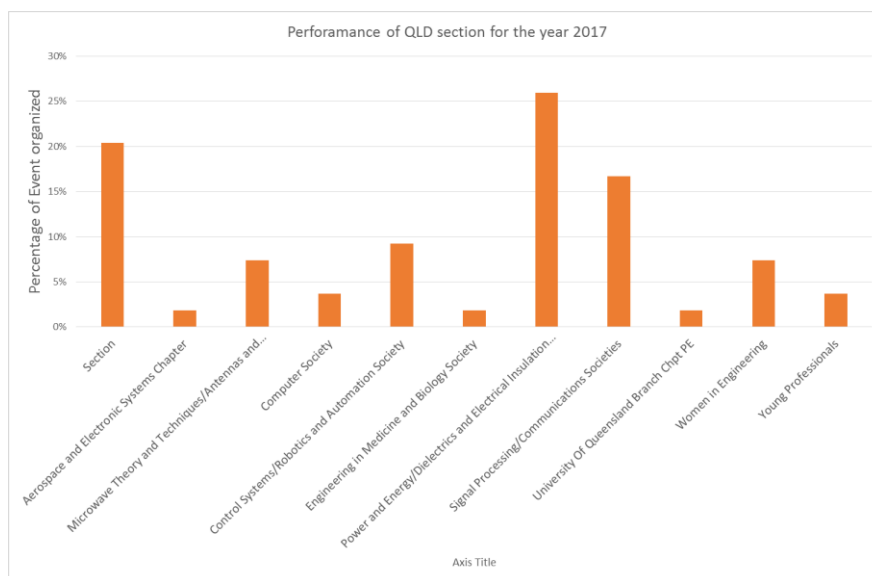
This was my first year as section vice-chair. It was a steep learning curve for me.

This year, section congress was held in Sydney. The theme of the congress was 'brilliant minds, bright futures'. Our section supported the attendance of 12 volunteers. Each volunteer had an amazing experience attending the congress and their key learnings can be found in the section newsletter. Some of our active chapters have been consistently providing value to their members. PES/DEIS once again was awarded the outstanding large chapter runner up award. Our membership development chair, Sudarshan Dahal, has shown remarkable work in his first year at office and the section received a membership retention award.

The call for nominations for next year's positions is now complete. The results of the elected office bearers will be announced at the Annual General Meeting on 14 November 2017. Congratulations to all elected officers. I look forward to working with you all in providing better value to our members.

We had another productive year with 70+ activities held in the section. This includes professional events, technical seminars and distinguished lectures. The breakdown of the events organized by section, chapter and affinity group is shown below.

It was a pleasure to work with active section committee members. I wish you a happy festive season.



# Secretary's Report



**Dr Ghavameddin Nourbakhsh**  
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This year (2017) is my second year elected in the role of the secretary for the Queensland Section of the IEEE.

In this year, I have prepared eight monthly (February – October, except August) committee meeting minutes including; meeting agendas, officers' reports and attendance records. I have also called for the meetings and submitted the minutes to the Webmaster for publication on our site.

I would like to thank all committee members for their active contribution, participation and cooperation, and assisting me in my role as the secretary.

The meetings were held at The University of Queensland in Brisbane, Australia. The attendance was in person and via remote On-line conference call.

This year summary of committee members' participation in the meetings are compiled and provided in the following table. Note that; listed members are based on the October membership list and, attended means present or by Skype/Webex and, the last column gives the overall attendance in percentage for the elected appointment in 2017:

Member	Attended	Apology	Absent	Attended %
Aaron Liu	3	0	3	50.00
Abdul Rehman	1	1	4	16.67
Alexandra Posoldova	6	1	1	75.00
Ali Pourmousavi Kani	1	0	4	20.00
Amin Gharipour	1	5	2	12.50
Aminmohammad Saberian	3	1	1	60.00
Andrew Le	3	0	4	42.86
Andrew Lewis	2	2	4	25.00
Antony Lui	3	2	2	42.86
<i>Arslan Nizami</i>	2	0	5	28.57
Ben John	5	1	2	62.50
Chandima Ekanayake	5	1	2	62.50
Daniel Eghbal	7	1	0	87.50
David Batterham	8	0	0	100.00
David Russell	7	1	0	87.50
Douglas Skinner	1	1	4	16.67
Dzung Nguyen	2	0	5	28.57

Member	Attended	Apology	Absent	Attended %
Ebby Thomas	5	1	2	62.50
Ed Palmer	3	0	5	37.50
Elise Jenkins	1	0	5	16.67
Firuz Zare	0	3	2	0.00
Garry Einicke	5	3	0	62.50
Ghassem Mokhtari	6	1	0	85.71
Ghavam Nourbakhsh	7	1	0	87.50
Glen Javier	2	2	3	28.57
Greg Hislop	1	6	1	12.50
Hamid Amini Moghadam	1	1	6	12.50
Hanxiao Zhang	6	2	0	75.00
Ian Ockenden	2	2	2	33.33
Joseph Simeon	2	1	3	33.33
Jun Wei Lu	1	0	4	20.00
Ken Morris	1	4	3	12.50
Kianoosh Soltani Naveh	3	2	1	50.00
Konstanty Bialkowski	2	1	5	25.00
Kourosh Parsa	5	0	3	62.50
Lakshitha Naranpanawe	4	3	1	50.00
Mac Akmal Jahan	0	0	5	0.00
Marie-Luise Wille	7	1	0	87.50
Mark Broadmeadow	1	3	4	12.50
Mohammadhossein Etesami	5	1	2	62.50
Mohan Karunanithi	1	5	2	12.50
Mojtaba Amjadi Pour	2	2	0	50.00
Mojtaba Moghimi	5	3	0	62.50
Morteza Shahpari	1	3	4	12.50
Muhammad Mohtasim Sajjad	3	3	2	37.50
Nasir Hussain	1	3	4	12.50
Navinda Kottege	3	4	1	37.50
Nazanin Nadian	7	1	0	87.50
Negareh Ghasemi	5	3	0	62.50
Nikodem Rybak	4	2	2	50.00
Nilesh Modi	7	1	0	87.50
Nima Khoshsirrat	5	1	2	62.50
Qing Zhang	0	3	5	0.00

# Treasurer's Report



**Dr Robert Kennedy**  
[dr.robert.kennedy@ieee.org](mailto:dr.robert.kennedy@ieee.org)

## Comments on the 2017 accounts

### Overall status

There were no significant conferences that contributed to the cashflow through the accounts in 2017. The net worth of the section is 30% less than last year.

Expenses were significantly larger this year if we take into consideration the bank transfers. Without bank transfers the expenses still higher than last year due mainly to the travel awards.

The opening balance of the Access Account was \$5,919.44 on 1 December 2016, and the closing balance was \$20,919.58 on 5 November 2017.

This year the committee agreed to sponsor a number of delegates to attend the IEEE Section Congress and ANZCon in Sydney. This contributed \$11,324.67 to the expenses for the section.

The IEEE Qld section has seed funded \$20,000 to the RADAR2018 conference and the section would expect a good return on this investment.

A number of term deposit accounts were closed in 2017, bringing the total value of three remaining term deposits down to \$73, 977.06

### Income

Income from the IEEE membership rebate was approximately the same as 2016.

There were no other significant income streams. The term deposit closures allowed the cash flow for the section during the year.

### Expenses

The main expense items this year were the same as last year with Student activities, AGM, meeting catering, student prizes and the travel sponsorship.

Chapter expenses were a little more than last year at just over \$8,983.

The feature this year was again in the expenses and were the bank transfers with opening and closing conference accounts and term deposits as well as the seed funding of the RADAR2018.



## 2017 IEEE Qld Financial Report

Period:	1st December 2016 - 5 November 2017		
Treasurer:	Dr Robert Kennedy		
INCOME		EXPENSES	
IEEE Member Rebates	\$0.32	Administration	\$96.65
IEEE Various Rebates	\$18,132.49	2016 AGM	\$6,221.29
		2017 AGM	\$1,200.00
2016 AGM dinner payments	\$0.00	Bank Transfers	\$10,937.08
2017 AGM dinner payments	\$1,315.00	Close TermDeposit	\$20,978.76
Transfer TermDeposits	\$41,927.96	Meeting catering expenses	\$532.86
Interest received	\$0.96	R10 Conference	\$1,148.32
ATO Credit	\$0.00	Australia Council Levy	\$331.50
		Engineers Australia sponsorship	\$500.00
		IEEE Section Congress / ANZsCon	\$11,324.67
		EA Dinner	\$150.00
		Electrical Fraternity Dinner	\$211.00
Other Income	\$298.79	Student thesis prizes	\$2,500.00
		Travel Awards	\$2,000.00
		Student branches	
		CQUSB	\$135.51
		GUSB	\$87.36
		QUTSB	\$57.00
		UQSB	\$1,095.60
		USQSB	\$0.00
		Chapters & Affinity Groups	
		AESS	\$0.00
		CIS	\$0.00
		CS	\$0.00
		CSS/RAS	\$1,173.19
		EMBS	\$0.00
		MTT/AP	\$135.00
		PES/DEIS	\$5,207.97
		PE/DEIS	\$0.00
		SP/CS	\$0.00
		WiE	\$525.40
		YPP	\$46.40
		SIT	\$0.00
		EKNU	\$520.00
		Sundry sponsorship	\$538.58
Total Income	<u>\$61,675.52</u>	Total Expenses	<u>\$46,675.38</u>

## IEEE Member &amp; Geographic Activities Rebates - 2017

<b>Section Allowance</b>				<u>\$2,000.00</u>
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<b>Member Rebate</b>	No	rate	Amount
Member	758	3.00	\$2,274.00
Grad Student Member	142	3.00	\$426.00
Student Member	78	3.00	\$234.00
Associate Member	9	3.00	\$27.00
Affiliate	23	1.50	\$34.50
Senior Member	134	4.00	\$536.00
Fellow Member	2	4.00	\$8.00

Total Member Rebate			<u>\$3,539.50</u>
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**Meeting Rebates**

	Chapter		Affinity	
AES10	2	\$200.00	0	
AP03/MTT17	9	\$200.00	0	
C16	2	\$200.00	0	
CIS11	9	\$200.00	0	
CS23/RA24	3	\$200.00	0	
EMB18	5	\$200.00	0	
PE31/DEI32	13	\$200.00	0	
SP01/COM19	10	\$200.00	0	
WIE	0	\$0.00	4	\$200.00
YoungProf	0	\$0.00	6	\$200.00
	53	<u>\$1,600.00</u>	10	<u>\$400.00</u>

	<u>\$2,000.00</u>
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Subtotal 2016 rebate	\$7,539.50
10% bonus	\$753.95
Less Deductions	\$0.00

**Activity**

<b>Bonus</b>	1 @ \$75.00 ea	\$75.00
Chapter Bonus	4 @ \$75.00 ea	<u>\$300.00</u>

Total 2016 Rebate	USD 8,668.45	AUD \$0.32
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Assets as at		November 5th 2017	
Bank Australia		Matures	Balance
Access Account			\$20,919.58
Term Deposit 138322014 @ 2.85%		17-Sep-18	\$27,313.11
Term Deposit 307188228 @ 2.65%		13-Sep-18	\$26,117.49
Term Deposit 307188229 @ 3.05%		13-May-19	\$20,546.46
RADAR18 12112794			\$520.59
Total cash at bank			\$95,417.23
Total assets			<b>\$95,417.23</b>
Long-term Liabilities			
8/01/2012	IEEE Reserve Allocation		\$5,779.87
7/01/2013	IEEE Reserve Allocation		\$5,303.01
8/01/2014	IEEE Reserve Allocation		\$591.22
1/07/2015	IEEE Reserve Allocation		\$5,608.87
Total liabilities			\$17,282.97
Net worth			<b>\$78,134.26</b>
AESS	AEROSPACE AND ELECTRONIC SYSTEMS SOCIETY		
CIS	COMPUTATIONAL INTELLIGENCE SOCIETY		
CS	COMPUTER SOCIETY		
CSS/RAS	CONTROL SYSTEMS/ROBOTICS AND AUTOMATION SOCIETIES		
EMBS	ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY		
EKN	ETA KAPPA NU SOCIETY		
MTT/AP	MICROWAVE THEORY AND TECHNIQUES/ANTENNAS AND PROPAGATION SOCIETIES		
PES/DEIS	POWER AND ENERGY/DIELECTRICS AND ELECTRICAL INSULATION SOCIETIES		
PE/IE/IA	POWER ELECTRONICS/INDUSTRIAL ELECTRONICS/INDUSTRY APPLICATIONS SOCIETIES		
SP/CS	SIGNAL PROCESSING AND COMMUNICATIONS SOCIETIES		
SIT	SOCIETY on SOCIAL IMPLICATIONS of TECHNOLOGY		
WIE	WOMEN IN ENGINEERING		
YPP	YOUNG PROFESSIONALS PROGRAM		

# Awards and Recognition Report



**Xinren Jiang**  
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This year the Awards and Recognition committee has retained the award structure used in previous years. The awards process is also the same as 2016, which commenced early in the year immediately following the year being evaluated.

There are three award categories for section volunteers and two award categories for student members. While student awards are not administered by the Awards and Recognition committee they are mentioned here for completeness.

The first volunteer award 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. These awards do not require a nomination.

The second volunteer award category is Outstanding Contribution awards, given 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 from members of the IEEE Queensland Section, along with a reason for the nomination, to be submitted to the section committee.

The third volunteer award category is the Volunteer of the Year award. 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 from members of the IEEE Queensland Section are submitted to the section committee for final selection of Volunteer of the Year.

## Recognition of Service Awards

A total of 20 Recognition of Service awards were presented by the IEEE Queensland Section in 2017.

Recipient	Role
Garry Einicke	Section Chair
Daniel Eghbal	Section Vice-Chair
Tapan Saha	Section Immediate Past Chair
Yateendra Mishra	Section Membership Development Chair
D. M. G. Preethichandra	Section Awards and Recognition Chair
Kalum Udagepola	Section Educational Activities Chair
Jaroslav Krata	Section Student Activities Chair
Luis Mejias Alvarez	Control Systems/Robotics and Automation Chapter Chair
Antony Lui	Microwave Theory and Techniques/Antennas and Propagation Chapter Vice-Chair
Nilesh Modi	Power and Energy/Dielectrics and Electrical Insulation Chapter Chair
David Batterham	Power and Energy/Dielectrics and Electrical Insulation Chapter Secretary

Recipient	Role
Vaughan Clarkson	Signal Processing/Communications Chapter Vice-Chair
Negareh Ghasemi	Women in Engineering Affinity Group Vice-Chair
Alexandra Posoldova	Young Professionals Program Affinity Group Chair Women in Engineering Affinity Group Secretary
Reuben Peterkin	Young Professionals Program Affinity Group Vice-Chair
Rob Makaremi	Young Professionals Program Affinity Group Secretary
Jeremy Taylor	The University of Queensland IEEE Student Branch Chair
Hanxiao Zhang	The University of Queensland PES Student Branch Chair
Mark Broadmeadow	Queensland University of Technology IEEE Student Branch Student Counsellor
Reza Akbarzadeh Sohi	Griffith University (Gold Coast) ITEE Student Branch Chair

### Outstanding Contribution Awards

Five Outstanding Contribution awards were awarded by the Queensland Section in 2017.

Recipient	Role
Negareh Ghasemi	For outstanding contribution to QLD WIE Affinity Group
Nilesh Modi	For outstanding contribution to QLD PES Chapter
David Batterham	For attracting funding from IEEE PES and contribution to QLD PES Chapter
Alexandra Posoldova	For outstanding contribution to QLD YP Affinity Group
Rob Makaremi	For dedication, enthusiasm and outstanding contribution to the QLD YP Affinity Group
Hanxiao Zhang	For outstanding contribution to PES Student branch at UQ.

### Volunteer of the Year Award

A vote was taken by members of the IEEE Queensland Section committee and **Nilesh Modi** was elected Volunteer of the Year for 2016.

### Undergraduate Student Thesis Awards

Each year, the IEEE Queensland Section administers three thesis prizes for undergraduate students in Queensland universities. 2017 winners of undergraduate student thesis awards are:

- The IEEE Student Thesis Prize (General category) James Cooney, Thesis title: "UV Index Sign and Website" from The University of Queensland.
- The IEEE Student Prize (Power Engineering category) Jakob Pallot, Thesis title: "Design and Implementation of a Cost-Effective Thermal Imaging Devices into a Substation" from Griffith University.
- The IEEE Student Prize (Signal & Image Processing) Brent Lauder, Thesis title: "Investigation of a Noise-Robust R-Wave Detection Algorithm for ECG Data" from Griffith University.

### **PES Travel Prize Awards**

IEEE Queensland Section PES/DEIS chapter has been supporting outstanding PES student members from Queensland universities to attend IEEE PES General Meeting to present their papers/posters. In 2017, QLD PES/DEIS chapter allocated \$4000 travel funding and awarded travel grants to four students (\$1,000 each) to attend the PES General Meeting in Chicago, USA. The travel grants were provided to the students prior to the conference in July and the certificates will be presented to the students at 2017 AGM/awards dinner ceremony on 14th November. 2017 recipients were:

- PhD candidate Licheng Wang, Paper titled: “Voltage Regulation for Distribution Systems with Uneven PV Integration in Different Feeders” from The University of Queensland.
- PhD candidate Monirul Islam, Paper titled: “The Impact of Dynamic Behaviour of Transformerless PV System on the Short-term Voltage Stability of Distribution System” from The University of Queensland.
- PhD candidate Alireza Raghmi, Paper titled: “Improved Reactive Power Sharing among Photovoltaic Inverters Using Thevenin's Impedance Based Approach” from Queensland University of Technology.
- PhD candidate Lakshitha Naranpanawa, Paper titled: “Finite Element Analysis to Understand the Mechanical Defects in Power Transformer Winding Clamping Structure” from The University of Queensland.

### **PES Outstanding Engineer Award**

This annual award recognises outstanding technical, professional, and society contribution on behalf of the power and energy profession. The outcome will be announced in late December 2017.

# Webmaster's Report



**Dr Ghassem Mokhtari**  
[Ghassem.mokhtari@csiro.au](mailto:Ghassem.mokhtari@csiro.au)

I was delighted to have the role of IEEE Queensland section webmaster during year of 2017. This report includes my activities during this year.

I started this year with designing the website in WordPress platform which provide a more professional and attractive website for IEEE Queensland section. The new website is more user-friendly with more functionality.

IEEE Queensland section website is now also supported by google analytics which provides the statistics related to the website views and users. The report for the whole year of 2017

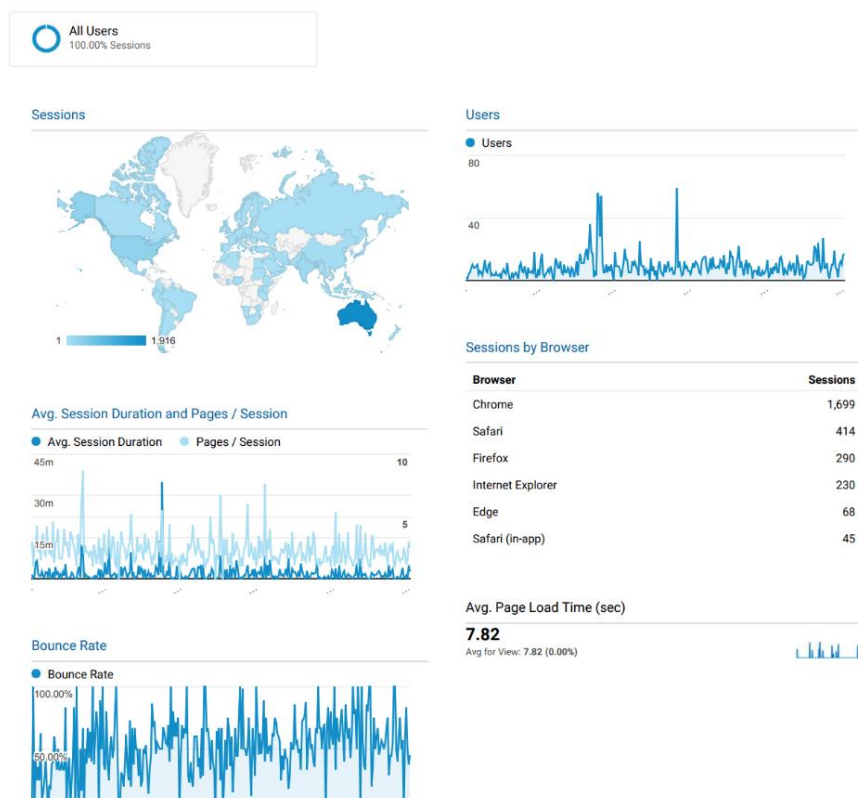
is listed below which include the details of user and page views.

I also added new functionality to the website which provides the event details of chapters in their own page. Now the current and past event are listed for several chapters and affinity groups.

Finally, we now use online forms in the website. The first online form which replaced the hard copy version is the "Funding Request" form. This online form is now available under forms tab in the website.

AGM2017

Jan 1, 2017 - Nov 2, 2017



# Membership Development Report



**Sudarshan Dahal**  
[sudarshan.dahal@ieee.org](mailto:sudarshan.dahal@ieee.org)

IEEE Queensland section has 1105 active members as of 2 November 2017. This is same number as this period last year. At the moment, the section has 2 Fellows, 131 Senior Members, 210 student members, 709 members, 28 Life members, 14 life senior members, and 11 associate members.

IEEE Queensland Section organised various membership development activities this year. Some of the events to highlight are below.

- 1) *Membership Development Activity – Industry*  
This event was organised as a technical seminar promoting IEEE activities and showing how IEEE can bring opportunities to their workplace.
- 2) *Young Engineering Membership Drive*  
This event sponsored a first-year engineering student project prize and encouraged students to engage in IEEE from their early years in engineering education.
- 3) *Engineering your career*  
This was intended for membership retention of graduating student members. The event explained how IEEE can support them in achieving their long-term career goals.
- 4) *Senior membership Drive*  
The section invited applications from eligible members to apply for senior member. The applicants were assisted to find suitable referrers. About 12 of the members have been successful in elevating to senior member so far.
- 5) *Participation to Section Congress 2017*  
Membership Development was a major topic of discussion in IEEE section congress 2017 held in Sydney this year.

Various aspects on membership development were discussed. Some of the examples are industry engagement, membership elevation, and effective communication, collaborating, professional development opportunities, volunteering and networking.

## Membership Retention Award

In recognition to the tireless efforts of IEEE Queensland section volunteers, the section has been awarded a membership retention award for 2017. The membership development goals were developed based on Section's three-year performance. All the volunteers are to be commended for continuing to grow IEEE membership in the Queensland Section.

## What Next

IEEE Queensland section has big potential to increase its membership base. One of the major areas that section can work on is to engage industry professionals in IEEE activities. So far, there has been comparatively low interest and engagement from industry.

The section should also work with local engineering bodies to promote its uniqueness and significance among professional communities.

Section should also organise motivational programs for existing members for member retention. Especially for student members who are aspiring for better careers. The section could bring various supportive programs to help them achieve their goals and keep them connected with IEEE.



# Professional Activities

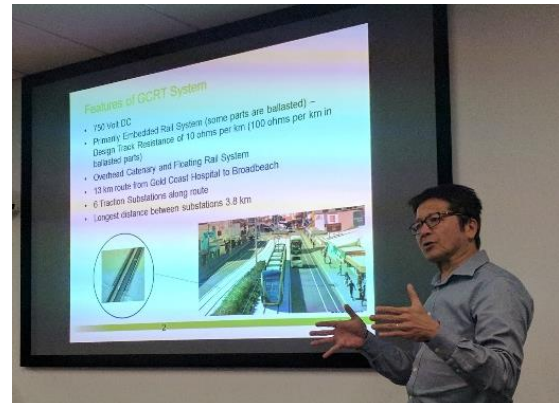


**Reza Akbarzadeh**  
[reza.akbarzadeh@aurizon.com.au](mailto:reza.akbarzadeh@aurizon.com.au)

I have been fortunate to be a part of Queensland committee since late 2016. This year, I started my new position as the professional activities chair.

The goal for the professional activities chair is to increase more collaboration between universities and industry in all area that are affiliated with IEEE Queensland. To achieve this, I organised an event on Thursday 1 June, by the title of 'Earthing, Bonding and Stray Currents in Traction Power Distribution Network'. Speakers of this event were Colin Lee from Energex and James Goffey from Aurizon.

In the presentation, speakers from Aurizon and Energex provided an insight into the traction power distribution with focus on traction earthing and bonding, and impact of the Gold Coast Light Rail project on electricity earthing systems and underground assets. This was also a good opportunity for old colleagues to reconnect again and attract more IEEE members.



*Colin Lee – Principle Engineer Asset (Energex)*



*James Goffey – Principle Traction Engineer (Aurizon)*



# Aerospace and Electronic Systems Society



**Garry Einicke**  
[garry.einicke@csiro.au](mailto:garry.einicke@csiro.au)

## Committee:

Chair: Garry Einicke  
 Vice Chair: Ken Morris

A technical seminar entitled “Engineering Virtual Reality Sports Simulators: A Track Cycling Case Study” was provided by Jonathan Shepherd at Griffith University on Fri 13<sup>th</sup> October 2017.



Virtual reality simulators are becoming of increasing interest to the aerospace community. Simulators can provide novel ways of engaging with inaccessible environments. Virtual reality immersion can be realized by controlling perceptual inputs, measuring kinematic based outputs, and providing concurrent audio-visual-haptic feedback. Jonathan’s seminar delved into design considerations of engineering a track cycling simulator for the 2018 Commonwealth Games Velodrome. The simulator utilises a stationary exercise bike (Wattbike, 2016 Pro) transmitting

performance data wirelessly, via the ANT+ protocol, to a PC connected to an Oculus Rift VR projecting the audio-visual simulated environment. The prototype simulator has been tested on a large reference groups. <https://youtu.be/mg5W2zTswvI> (Video for reference).

Our next technical seminar will be presented at QUT on 22<sup>nd</sup> November. This seminar will develop state-space parameter estimates and a fixed interval smoothing method to aid inertial navigation during outages. Unbiased, consistent, closed-form estimates of a state matrix, an input covariance and a measurement noise covariance are developed. It is established under simplifying conditions that the identified parameters are equal to maximum likelihood estimates and attain the corresponding Cramer-Rao Lower Bounds. Repeated forward and backward predictions are combined using the smoother approach of Fraser-Potter and Monzingo. An upper bound for the error covariance during position outages is derived. This enables the worst-case position performance during outages to be estimated. A simplified inertial navigation example will be discussed which demonstrates that the above developments can provide a reduction in mean square error at a penalty of increased memory cost.

Vaughan Clarkson and Robert Kennedy have been working diligently behind the scenes on the organisation of the 2018 International Conference on Radar (RADAR 2018). This conference will be held on 27 – 30 August 2018 at the Brisbane Convention and Exhibition Centre. Please see [radar2018.org](http://radar2018.org).

# Computer Society



**Rajib Rana**  
to.rajib.rana@gmail.com

Chair: Rajib Rana  
Vice Chair: Ruslan Puscasu  
Secretary: Rui Zeng

## Summary of 2017:

I took the role of the Chair of IEEE Computer Society, QLD chapter on the 9 May 2017. Since then I have organised two IEEE Seminars at the University of Southern Queensland in its Springfield Campus.

**Seminar 1:** The first seminar was given by Professor Raja Jurdak from CSIRO on the 26 July 2017. Professor Jurdak is a Senior Principal Research Scientist at CSIRO, where he leads the Distributed Sensing Systems Group. He has a PhD in Information and Computer Science from the University of California, Irvine in 2005. His current research interests focus on energy-efficiency and mobility in networks.

The title of his talk was “Tracking everything, everywhere, and all the time: challenges and opportunities”. He discussed the tracking research at the Distributed Sensing Systems Group in Data61 CSIRO, covering the challenges and opportunities, such as energy-neutrality, scalability, security/privacy, and data fusion. He also discussed CSIRO’s tracking projects and applications, ranging



from tracking animals, such as flying foxes, feral pigs and buffaloes, and livestock, to

people, both through mobile devices and geo-tagged social media, and objects of interest.

**Seminar 2:** Professor Xue Li from ITEE UQ gave the second seminar on 14 September 2017. Dr Li is a Professor in Data and Knowledge Engineering (DKE) Division at UQ. His research interests are in data mining, intelligent information systems, and social computing. He was recognized as one of the Top-50 “Most Powerful People in Australia” in 2015 by Australian Financial Review. He is currently a Chief Investigator for three ARC (Australian Research Council) Funding Projects.

The title of his talk was “Big Data Fusion for Mining e-Health Data”. He discussed his case studies and experiments on connecting the relevant medical and health data sets together to rank the most influential treatments for diseases, to predict the health states for ageing individuals, or to predict the



risks of hospital patients.

## Plans for 2018:

1. In 2018 I would like to organise a half-day workshop on ARC Funding in Computer Science & Engineering discipline with members of ARC College of Experts

(i) Professor Margot Brereton (QUT) and  
(ii) Professor Shazia Sadiq (UQ) and Mr Beuu Tydd, General Manager People and Technology – Queensland Airports. Mr Tydd will expand on Industry Linkage ARC Projects.

2. I would also like to organise a short workshop on Deep Learning for Health

Informatics with my PhD students Shezan Haque, Siddique Latif and collaborator Dr Sayan Chakrabarty from USQ.

3. In 2018 I also would like to invite Professor Michael Bruenig head of the school Information Technology and Electrical Engineering, UQ to give a seminar.

# Computational Intelligence Society

## Committee:

Chair	Amin Gharipour (Griffith University)
Vice-Chair	Andrew Lewis (Griffith University)
Secretary	Zahra Jadidi (Griffith University)
Treasurer	Alan Liew (Griffith University)

The Computational Intelligence Society Chapter has organised several successful meetings with students at Gold Coast Campus in 2017. The purpose of these meetings was promoting the CIS chapter and gaining feedback to ensure activities meet student needs. In these meetings, we also had the chance to exchange ideas with students and professionals about emerging AI technologies. We had audiences of students and academics. Our participants were mainly from Griffith University. Thanks to their feedback, IEEE CIS will stage a seminar series about "Deep Learning" beginning in December 2017.

## Membership development meeting

We had two membership development meetings in 2017. The main aim of these meetings was ensuring the future growth of IEEE CIS chapter in Queensland. In the meetings, students learned about the benefits and opportunities of IEEE CIS membership. The IEEE CIS activities in 2017 were as follows:

- 11 May 2017  
Membership development meeting (for undergraduate students)  
Venue: Griffith University Gold Coast campus  
Time: 5:00 pm to 6:00 pm  
Number of attendees: 8

- 15 June 2017  
Membership development meeting (for postgraduate students)  
Venue: Griffith University Gold Coast campus  
Time: 5:00 pm to 6:00 pm  
Number of attendees: 10

## Technical events

- 1 December 2017  
Seminar series on deep learning applications  
Title: To be announced  
Venue: Griffith University Gold Coast campus  
Abstract: to be announced.
- 15 December 2017  
Seminar series on deep learning applications  
Title: To be announced  
Venue: Griffith University Gold Coast campus  
Abstract: to be announced.



# Engineering in Medicine and Biology Society



**Mohan Karunanithi**  
[Mohan.Karunanithi@csiro.au](mailto:Mohan.Karunanithi@csiro.au)

## Committee:

Chair	Mohan Karunanithi
Vice-Chair	Qing Zhang
Secretary	Ghassem Mokhtari

In 2017, the IEEE QLD EMB chapter had the following key committee members:

- Chapter Chair: Dr. Mohanraj Karunanithi
- Vice Chair: Dr. Qing Zhang
- Secretary: Dr. Ghassem Mokhtari

## Activities

The chapter achieved two significant events this year, described below:

- **10 January 2017: INVITED TALKS FROM WOMEN IN BIOMEDICAL**  
 IEEE Qld EMBS together with the IEEE WIE chapter, organized an invited talks event, featuring six young woman researchers in Biomedical Engineering to present their research findings and

share their experiences while working at CSIRO.

- **8 March 2016: SMARTER AUTOMATED HOMES FOR HEALTHY AGEING**  
 IEEE QLD EMBS, together with HISA, invited three talks from researchers representing the aged care industry, research institute and universities to discuss how technology will help to shape the future of the Ageing Industry.



In summary, the IEEE QLD EMB chapter engaged in conducting two prominent events for the year 2017. The chapter events comprised of: a joint event with Women in Engineering of invited talks in biomedical research; a joint event with HISA on Smart homes for healthy ageing; and a talk in virtual reality in health care rehabilitation.

For the year 2018, the chapter plans to organize (among other events), invite a distinguished lecturer and continue our career development event for young graduates in the profession of Biomedical Engineering.

# Mu Kappa Society



**Kianoosh Soltani Naveh**  
[kianoosh.soltaninaveh@uqconnect.edu.au](mailto:kianoosh.soltaninaveh@uqconnect.edu.au)

## Committee:

Chair: Kianoosh Soltani Naveh  
 Vice Chair: Wriece Ponmattam Madassery  
 Treasurer: Ashley Gillman  
 Secretary: Joshua Riddell

The first Chapter of IEEE-Eta Kappa Nu (IEEE-HKN) in Australia and the 247<sup>th</sup> IEEE-HKN Chapter in the world was officially installed at The University of Queensland (UQ) on 1 March 2017. The induction ceremony was attended by IEEE-HKN representative, past and present IEEE Queensland Section Chair, Head of School and Faculty representative. The Chapter is known as Mu Kappa Chapter and operates with the support from the university and Prof. Tapan Saha, the Faculty Advisor to the chapter. Mu Kappa was founded by Kianoosh Soltani Naveh (President), Wriece Ponmattam Madassery (Vice President), Joshua Riddell (Secretary), Ashley Gillman (Treasurer), William Wu (Media Officer), Rollsy Ponmattam Madassery, Lucas Rabenhorst, Zöe Little, Amit Dhoke, Lakshitha Naranpanawe, Nahid Al-Masood, Shohana Deeba, and Guobin Liu.

After Mu Kappa's launch, event members worked with Prof. Tapan Saha, the chapter's Faculty Advisor to organize a visit to UQ's solar facility in August. On 4 August the members of the chapter visited the UQ's solar facility located in Gatton campus, Queensland. Prof. Tapan Saha the director of UQ Solar Research gave a talk on PV solar technology and the features of UQ Solar facility such as real-time monitoring, multiple solar panel technologies and data collection. The students visited the site and heard from Dr. Philip Wild about the economics of solar energy and the different types of solar panel technology. Students came back from the visit having learned about solar energy and one of the best facilities in the world that can

help answer many interesting questions such as solar power forecasting, energy storage and energy economics.

*From left: At UQ Solar Facility - Mu Kappa Chapter members Lucas Rabenhorst, Zoe Little,*



*Rollsy Ponmattam Madassery, Kianoosh Soltani Naveh (President), Prof. Tapan (Saha Director of UQ Solar and Faculty Advisor to Mu Kappa Chapter) and Nahid-Al Masood.*

In August, two major IEEE events were hosted in Sydney, Australia. Mu Kappa chapter Vice-President, Mr. Wriece Ponmattam Madassery, attended both events on behalf of the chapter. Mr. Madassery's visit was supported by IEEE Queensland Section and the School of IT and Electrical Engineering at the University of Queensland. Some of the highlights of the visit were:

1. Keynote speech by Dr. Zia Ahmed about IEEE membership.
  2. Talk on Entrepreneurship Initiatives in Region 10.
  3. Darling Harbour Cruise dinner which showcased the great scenes of Sydney.
- "The opportunity to participate in ANZSCON and IEEE SC17 was a great privilege. It enabled me to explore Sydney and engage

with highly motivated professionals and students. These events provided me with a deep understanding of IEEE and how valuable my membership is. I highly recommend that the University of Queensland encourage young students to join IEEE student branches as this will most certainly benefit them.” wrote Mr. Madassery in his report upon return from the visit.

In October, Mu Kappa chapter reached beyond borders and organized a videoconference with the Mu Theta chapter, the IEEE-HKN chapter at Chulalongkorn University, Thailand. The videoconference introduced members of both chapters and provided an opportunity to exchange ideas and experiences for events and the management of chapters.

At the end of October, Mu Kappa chapter hosted the IEEE-HKN Founder’s Day where existing and future members hear about IEEE-HKN and the contributions of IEEE to their professional career.

Mu Kappa chapter ends the year with an invited talk by Prof. Saifur Rahman the President of IEEE Power and Energy Society. Prof. Rahman will present about volunteerism and the history of his work at IEEE.

Next year we plan to attract outstanding postgraduate and undergraduate students from a variety of fields including robotics, computer science, communications, medical engineering, signal processing and more. The hope is that the leading students in each field join Mu Kappa to make an impact together.

Mu Kappa chapter was only formed in March 2017 by a group of outstanding students. The chapter has greatly benefited from the experience and support of Prof. Tapan Saha. We believe as we make IEEE-HKN known in Australia, it can become a strong IEEE force within Queensland and Australia in the next few years. IEEE-HKN can provide outstanding students the opportunity to prepare themselves for greater roles of the future.



# Microwave Theory & Techniques/Antennas & Propagation Societies



**Konstanty Bialkowski**  
[konstanty@ieee.org](mailto:konstanty@ieee.org)

## Committee:

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

In 2017, the MTT/AP joint chapter was pleased to host five events for the calendar year.

The technical program included a DL speaker from both the MTT society and the APS society.

Our first DL speaker for the year was on current research and development of wireless power transfer via radio waves and was presented by Prof Naomi Shinohara from Japan. He presented a talk about various scales of wireless power transfer including ones which can transfer power over 36000km. Using solar power on a space born satellite and then wirelessly transferring this power to the ground is much more efficient than using solar power on the ground. Prof Shinohara is a major advocate of Wireless power to power our future society.

Our second DL speaker will occur after the AGM, and will be from Prof Karu Esselse from Sydney. He will talk about Meta-materials, of which he is a world expert.

We also had a talk on Terahertz QCL and how to coherently model them via a density matrix method. This was presented by a visiting scholar from the UK.

The other presentation this year was about Electromagnetic methods for non-destructive testing, from a visiting researcher from France.

This year Morteza, one of the Vice-Chairs re-started the AP-MTT journal club on the Gold Coast, and the topic of interest was initial boundary value problems involving Maxwell's equations in isotropic media. These events should continue in 2018, and are a great way to get a greater understanding of different topics which others may be more experienced in.

In closing, I would like to thank the MTT/AP committee for 2017 and also in past years for their support in running the chapter and in helping to organise this nice variety of events for our chapter.

# Power and Energy & Dielectric and Electrical Insulation Societies



**Chandima Ekanayake**  
[c.ekanayake@griffith.edu.au](mailto:c.ekanayake@griffith.edu.au)

## Committee:

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

## Highlights of -2017

- Organised 14 events (12 technical seminars and 2 professional development).
- A DL visit of IEEE PES president elect has been organised. The seminar will be on 22 November 2017.
- Chapter was recognized as one of the High Performing Chapters under the High Performing PES Chapters Programs in 2016.
- Chapter was recognized as a Runners-up chapter for 2016 Outstanding PES Large Chapter Award.
- PES Chapter awarded four student travel prizes for student members to attend and present papers at the 2017 IEEE PES General Meeting conference. Mr. Licheng Wang, Mr. Monirul Islam, Mr. A. Raghmi and Mr. Lakshitha Naranpanawa were the award winners. Each winner received a cheque worth \$1000.
- Prof. Peter wolfs was recognized as the 2016 IEEE PES Outstanding Engineer for his professional activities and contribution to the power and energy education.
- Dr. Chandima Ekanayake was recognised as the 2016 IEEE PES outstanding volunteer for his contribution for forming IEEE PES/DEIS joint chapter and his contribution for the success of IEEE APPEEC 2015 conference.
- PES chapter has forwarded 2 bids to organise ISGT 2018 and ISGT 2019. Bid

for the ISGT 2018 was unsuccessful and currently pending for the outcome on the second bid.

- Received financial support from PES headquarters to conduct a seminar on “IEEE Standard 998 Direct lightning Stroke Shielding of Substations”.
- PES chair attended IEEE Section congress held in Sydney.

## Technical Seminars:

1. Energy Efficiency, Renewable Energy and Smart Grid Research @ Virginia Tech - Advanced Research Institute
2. IEEE Standard Direct lightning Stroke Shielding of Substations
3. Technical and economic analysis of the European electricity system with 60% renewable energy sources
4. Integration Renewable Energy Resources to Weak Grids: Interconnection Challenges
5. What makes a good Electrical Engineer? Electrical engineering innovation
6. Smart Grid within power substations: specific wireless communications challenges
7. Using solar and load predictions in battery scheduling at the residential level
8. Real-Time Simulation of Power Systems
9. An introduction to multi agent systems with some applications

10. Energy Forecasting for the Diurnal Management of Community Battery Systems
11. Battery integration into distribution networks
12. Optimising investment decisions for demand management, storage and energy efficiency
13. Sustainable Electrical Energy Systems: Ireland an exemplar for the world

**Professional:**

1. Benefits of IEEE in Energy Industry and overview of Australian Energy Market Operator
2. Engineering within Griffith University



*Prof. Peter Wolfs receiving the IEEE Outstanding Engineer Award from PES Chair Dr. Chandima Ekanayake.*

# Power Electronics / Industrial Electronics / Industry Applications



**Firuz Zare**  
[f.zare@uq.edu.au](mailto:f.zare@uq.edu.au)

## **Committee:**

Chair: Firuz Zare  
Vice Chair: Junwei Lu  
Secretary: Seyyed Ali Pourmousavi

Welcome to our joint IEEE chapter (PELS/IAS/IES) in Queensland.

We have a very enthusiastic and professional group of engineers and researchers in many different fields of industrial and power electronics in Queensland. Our main goal is to continue to grow the Chapter in terms of members and the quality of the contribution.

I do believe we should take a leadership role in better presenting and introducing Power Electronics systems as an enabling technology in many power system applications such as grid connected renewable energy systems and smart & efficient loads.

As the chapter chair I can promise that we will plan to set very high standards in professional learning, information sharing and career development.

I encourage you to get involved and contribute to your profession through this joint chapter and let us know if you have any comments or feedback.

Since the inaugural meeting of the chapter on 5 May 2017, several meetings at the committee level and a handful of events have been held so far. A report of the chapter activities since its commencement in May follows.

We were privileged to have *Dr. Tomy Sebastian*, the president of the IEEE Industry Applications Society, and *Professor Peter Magyar*, IEEE IAS Chapters and Membership Department (CMD) Chair, in August. *Dr. Sebastian* gave a short introduction of the society and a presentation on the most recent applications of industrial electronics and power electronics in the automobile industry. Prof. Magyar presented a comprehensive report on the IAS activities to attract members to the society.

Later in August, we hosted *Professor Arindam Ghosh* from Curtin University. He talked about the microgrid interconnection and clustering.

On 10 November, *Prof. Gerard Ledwich* from Queensland University of Technology (QUT) will delivered a speech at the QUT- Gardens Point campus from 1 PM to 2

# Signal Processing and Communications Societies



**Greg Hislop**  
[gregory.hislop@gmail.com](mailto:gregory.hislop@gmail.com)

**Committee:**

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

The Signal Processing and Communications joint Chapter has been very active this year, with nine events to date and eleven planned for the year. Our events are held every first Tuesday of the month and take part in a local cafe or restaurant. Several weeks prior to each meeting a volunteer is chosen to lead the following one. They propose a high-ranking journal paper, which everyone reads and which is discussed at the meeting over drinks and/or a meal. Our meetings are informal and at the same time technical and

social. With a regular attendance of around a dozen people from different organisations and signal processing or communications specialisations as well as drinks/dinner and above all an interesting paper to discuss, the meetings are always very enjoyable. Our regulars include Professors and Lecturers from UQ and QUT, as well as post graduate and undergraduate students, while about half of our attendees are from companies around Brisbane.

# Women in Engineering



**Marie-Luise Wille**  
[m.wille@qut.edu.au](mailto:m.wille@qut.edu.au)



## Committee:

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

The Women in Engineering QLD committee welcomed Hanxiao Zhang to the team and we organised a variety of events throughout 2017 with the aim to recruit new members and to inspire and encourage women to pursue careers in STEM fields.

## Activities

In 2017 the WIE Affinity Group organised four major events: three seminars and one panel discussion about gender equity.

Early in the year we started with a joint event between IEEE EMB and WIE featuring project presentations of female students in biomedical engineering. The best student presentation was awarded to Ms Vanessa Smallbon with a certificate and a \$50 gift card.

In July a visitor from the Technical University Munich gave a seminar about Deep Learning. Also in July, WIE organised a panel discussion on the topic of “Transforming the Culture of Engineering: The Role of Male Engineers in Supporting Gender Diversity”. Five distinguished panellists from both genders and both industry and academia explored the question of the “Why?” and “How?” of gender diversity and initiated an open discussion with the audience.

In October, WIE invited Jyoti Sharma to talk about the perspectives, policies and programs and her empirical analysis of women in STEMM in Australia and India.

In addition to the above-mentioned activities, Marie-Luise attended the WIE International Leadership Conference in San Jose, California, USA. Further, Hanxiao and Marie-Luise attended the Electrical Fraternity Annual Dinner in Brisbane and the Australia Council Meeting and IEEE Sections Congress in Sydney. Hanxiao had also the opportunity to attend IEEE ANZSCON 2017. The outcome of the activities gave the WIE team new perspective and inspiration for 2018:

- Interaction with other WIE AG across Australia via Collabratec
- Enhance the visibility of WIE Australia within R10 by organising a summit
- Develop a strategy to attract mid-career and senior members via workshops.

## Conclusion

We concluded a very successful year in 2017 with a lot of inspiration for 2018, which will include a proposal to host the WIE International Leadership Summit in Queensland! I am very grateful to be re-elected as Chair for the 2018 WIE committee and I look forward to an exciting New Year with my team Negareh (Vice-Chair) and Hanxiao (Secretary).



Don't forget to like the IEEE Women in Engineering Queensland Facebook page! [www.facebook.com/ieeewieqld](https://www.facebook.com/ieeewieqld)

# Young Professionals



**Rob Makaremi**

[rob.makaremi@suncorp.com.au](mailto:rob.makaremi@suncorp.com.au)

## Committee:

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

2017 was my first year serving as the chair of Young Professional Affinity. We continued our activities with two main goals: recruiting new IEEE members (both students and professionals), and assisting young members to develop their professional skills and transition into professional engineers. In addition, this year we had the opportunity to be involved in two IEEE conferences, namely ANZSCON and Section Congress.

## Activities:

This year, like the years before, our focus has been on organising events about cutting-edge topics. Our first event was an interactive tutorial and seminar titled “*Introduction to Tensorflow and Google Cloud Platform*” at the River City Labs. Our speaker, Randal Fernando, is a software engineer and a data scientist who has won multiple hackathons and tech awards from the Australian Government, CSIRO, Hitachi, ODIQ, River City Labs, and the Brisbane City Council. He has background in Behavioural Psychology and Information Technology.

Our next event was titled “*Automated Identification - NFC and RFID Applications*” was held at Griffith University Nathan Campus. Our speaker, Bertus Pretorius who is a Solutions Architect at LycenSys discussed automated identification systems and the application of NFC and RFIDs. He also elaborated on the security of IoT, including asymmetric encryption systems. His work and research area includes authenticity and integrity services for positive vehicle identification, and has experience in various areas, including payment systems, information and communication security, and intelligent transportation systems.

This August, I had the privilege of representing IEEE Queensland Section as a secondary delegate to ANZSCON and IEEE Section Congress in Sydney. ANZSCON went for two days at the University Technology Sydney, 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. Following that, we attended Section Congress at the International Convention Centre Sydney. The section congress kicked off by Australia’s Chief Scientist Alan Finkel’s thought provoking keynote on the future of artificial intelligence. That was followed by two days of panel talks and events. Attendees included some prominent figures from industry and academia from all around the world.

## Conclusion:

Young Professional Affinity committee look forward to next year and hope to deliver value to our members. We would like to extend our gratitude to IEEE Queensland Section for their support throughout previous years. Please stay in touch with us on [Facebook](#) as well as IEEE’s integrated on-line community [Collabratec](#). We look forward to seeing you at our future events in 2018.

I hope that you all have a Merry Christmas and a Happy Holidays.



# Student Activities Chair



**Mojtaba Moghimi**

[m.moghimi@griffith.edu.au](mailto:m.moghimi@griffith.edu.au)

As the IEEE Queensland Student Activities Chair, it was a privilege for me to work with a great group of people at IEEE QLD. It was a fantastic experience for me both personally and professionally. The main purposes I had in mind to achieve were:

1. Higher student engagement in IEEE related activities at universities in QLD.
2. Initiating collaboration with other sections and R10.
3. More active student branches and higher cooperation between universities in QLD.
4. Getting more industry graduate students involved in IEEE activities after they leave university.

To achieve these goals, I organized student driven events at different QLD universities with R10 support.

I am going to give a summary of the events within the year 2017. As I am reaching the end of my commitment at IEEE QLD, I would like to thank IEEE QLD committee for giving me this chance and help me during the year to organize and hold the events. I would especially like to express my gratitude to Daniel Eghbal, chair, for his support and supervision, Nilesch Modi, vice-chair, for his support and contribution, Sascha Stegen, Griffith counsellor, Ian Ockenden Soto, Griffith student chair, and Glen Javier, UQ student chair, for their help and support.

## IEEE R10 STUDPRO: October 2017

Queensland Section was successful at being selected as part of IEEE Region 10 STUDPRO project and winning the grant for the project. The project aimed to maintain the student membership until they graduate by opening a pathway for them to find their career through IEEE.

To achieve this goal, a special event was organized on 16 October 2017 at the University of Queensland for students to practice their interview skills and receive feedback on their CV from industry personnel. Industry representatives from AEMO, Powerlink Queensland and Jacobs were invited to interview students. In total, 45 students registered for the event, where 35 of them had the chance to sit for a 15-minute interview session and receive feedback on their resume.

The event was free of charge for active IEEE student members and \$10 for non-members. To attract new members and encourage members to renew their membership, non-members had the opportunity to join the IEEE on a discounted rate and attend the event. As a result, we achieved a total number of 15 new IEEE student sign ups.

The outcome of the event was an absolute success with a very good record of turnouts and feedback from both interviewers and students. It is a good opportunity to continue such events in the next years with a more diverse range of industry representatives.





**IEEEExtreme: August 2017**

Queensland section invited program chair of IEEEExtreme 24-hour Programming Competition, Prasanth Mohan to give a presentation about IEEEExtreme to IEEE QLD students. Prasanth Mohan is an Associate Engineer at REDD, an Indian company that manufactures 3D Printers. He is the 2017 Program Chair of IEEEExtreme and serves on a committee of the IEEE Educational Activities Board.

In his presentation, Prasanth gave a better understating of IEEEExtreme and explored opportunities within the QLD section. He talked about his tasks at IEEEExtreme and covered IEEEExtreme from various perspectives (Proctor, Participant, Volunteer, and Host). He explained how this competition could be used as a case study for QLD IEEE section to establish and scale up.

**Benefits of IEEE in the Energy Industry and Overview of Australian Energy Market Operator: July 2017**

With the help of Griffith University Student Branch, Dr. Nilesh Modi gave a presentation about IEEE and the role of IEEE can play in shaping your future career and providing a bridge between university and industry. The talk also provided useful information about the Australian Energy Market Operator (AEMO) and the role of AEMO in managing the Australian energy system security. The talk also covered the South Australian black out event in brief.

Dr. Nilesh Modi is a Senior Engineer at the Australian Energy Market Operator and Vice-chair of IEEE Queensland Section. He completed his Ph.D. from the University of Queensland in electrical engineering. He joined AEMO in 2012.

# Griffith University Gold Coast Student Report

**Ben John**[Ben.John@griffith.edu.au](mailto:Ben.John@griffith.edu.au)**Committee:**

Chair: Ben John  
Vice Chair: Carl Kleinschmidt  
Treasurer: Elise Jenkins

This year the Griffith University Branch hosted students, academics as well as industry members to a plethora of IEEE events. In 2017 the branch grew on the successes of previous years and held several events with many attendees. This will report encompasses the key 2017 events.

This year's annual meet and greet event was held in late March 2017. Dr. Stephen So and Ben John presented on the benefits and the opportunities available for IEEE members. Additionally, they outlined the annual plan of the 2017 events and elected the annual office holders. Jade Newing and Carl Kleinschmidt joined the executive team. Finally, this event generated new undergraduate memberships and expanded the Griffith IEEE community.

The second annual "Know Your Industry" Networking Event was the highlight of the year, held in the study week of semester 1. The event was held to foster a sense of collaboration between industry and academia, providing students with a unique insight into real world applications of their studies.

The event hosted 54 attendees encompassing students from electrical, electronic, biomedical and mechatronic cohorts, Griffith academics as well as a large number of industry representatives. The attendees had multiple opportunities to network over light refreshments and were lucky enough to have three keynote speakers throughout the night. The event's three presenters were Mr. Scott Reid of RIoT Solutions and Cisco, who focused on an engineer's role in future of the internet of things. Mr. Paul Liddell of Red Back Technologies who investigated harnessing

solar power and the challenges of start-ups. As well as, Reza Akbarzadeh of Aurizon and the previous branch chair presented on his experience in a graduate program and the transition from university to industry.

All the presenters answered audience questions and the students were greatly inspired by the diverse accomplishments of the presenters. Mr. Scott Reid would present again in the second semester, on the importance of student internships and real-world experience to a student engineer.

The highlight of the second semester was a private tour of the control systems of the Burleigh Brewery company. Members of the branch were personally guided throughout the factory by the system engineers who work there. The tour focused on the control systems, safety and standards in place, system maintenance as well as stability. This was highly beneficial as many of the students reported a direct correlation to current course content. After the tour the attendees had the opportunity to network with the company's engineers.

To raise funds for future events and promotions the GUGC branch hosted a sausage sizzle on 12 September. The event raised \$200 and a proportion of the funds have been dedicated to purchasing a promotional banner for the branch. Additionally, the event recruited several new members and raised awareness of the IEEE within the local community.

Overall, 2017 was a highly successful year for the GUGC branch and the current executive committee is incredibly excited to continue to develop the branch in 2018.

# QUT Student Report



**Nima Khoshsirar**  
[khoshsirar@ieee.org](mailto:khoshsirar@ieee.org)

## Committee:

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

## Follow us on



## IEEE QUT student Branch activities

1. In a non-technical talk on 3 May 2017, Mr. Aaron Lei Liu who is an IEEE member and IEEE-QUT student branch committee member shared his experiences with members in a talk, titled: **“Success and Lessons for a PhD”**. The goal of this event was to help early year research students to get more prepared for the PhD journey by discussing and answering a few common questions for PhD scholars. For example, when should I start doing tutoring? what it takes to get a PhD? What will happen after getting a PhD?
2. **“Big data management of future smart homes”** seminar by Dr. Ghassem



Mokhtari on 12 May 2017. Ghassem is an IEEE Queensland section committee member and postdoc fellow at CSIRO Australian E-Health Research Centre. The aim of this seminar was to present a new smart home architecture which can deal with big data generation and processing of future smart homes. This presentation also included some real world IOT and data driven studies in the smart home environment.



3. **“Young engineers and scientists career development”** non-technical talk was given by Adjunct Professor Else Shepherd on 29 June 2017. Else was named one of the most influential engineers in Australia for a number of times. She was the first chairperson of Powerlink holding the role for 17 years. Powerlink is a Queensland government owned electricity utility company with billions of dollars of assets and is responsible for high voltage electricity transmission in Queensland. Else has also served on several other boards and she was a director of the Australian national electricity market management company. She is a trained musician and a pioneer in breaking barriers for women's professional

acceptance. She shared stories about engineers' career path and development with our members.



4. **“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 detailed how to build a bridge between nanotechnology and the aerospace industry by reviewing the natural fibre composite's electrical and mechanical properties and their application in the aerospace industry.



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



6. **“IEEE-Day 2017”**. Introduction and promotion of IEEE membership and its benefits was undertaken on 3 October during the celebration of IEEE-DAY 2017.
7. **“Commercialized high efficiency solar cells, fact or fiction?”**. This technical talk is planned to be held on 10 November in QUT science and Engineering centre. Mr. Nima Khoshsir, 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.

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