



The Institute of Electrical and Electronics Engineers, Inc.

## VOLUME 50 Issue 3

*Secretariat*

AUSTRALIAN PROFESSIONAL CENTRE  
PO Box 576  
CROWS NEST NSW 1585  
Tel: +61 2 94318600

IEEE NEW SOUTH WALES SECTION  
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Editor: Bill Sloman  
e-mail: [bill.sloman@ieee.org](mailto:bill.sloman@ieee.org)  
Web page: <http://sites.ieee.org/nsw/>

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### Editorial:

This is the twenty-seventh newsletter I've edited. This one is - as usual - being edited with the very latest stable version of Libre Office – 7.5.6.2.

The big event we are reporting in this issue is Karu Esselle's Eureka Award. As he's one of our past chairs we pick up a certain amount of reflected glory. Since his team includes Dr Dushmantha Thalakatuna, (a past NSW section secretary) and Dr Khushboo Singh who was our student branch chair at Macquarie University (back when Karu was a professor and student branch counsellor there) we pick up a bit more from them.

Colin's chairman's message was late, again. We did have had some trouble sorting out where we were going to hold the AGM, which didn't help.

## Chair's Message for October 2023

This is my last message for 2023.

I have made it in point form, highlighting points that I believe members should be aware of.

**Sections Congress** was held in Ottawa Canada 11-13 August. The IEEE Sections Congress is a triennial gathering of Section leadership sponsored by the Member and Geographic Activities (MGA) Board.

The event includes three days of working sessions and networking. It involves hundreds of delegates from all ten Regions. At the congress, they learn how to use the resources of IEEE to maximise their effectiveness as IEEE volunteer leaders. Workshop, panel, and tutorial sessions are held on topics of interest to the Sections. Sections Congress is the one major meeting sponsored by IEEE that brings together the grassroots leadership of IEEE so that they can share ideas, concerns, and solutions.

**Inactive Chapters** – A list of the Chapters with the related Section can be found at <https://iee-ac.org/chapters.html>. Note that the NSW Section has 17 Chapters. Some of these Chapters are very active, having regular events. Other Chapters have not been active since before COVID. All Chapters are expected to have 2 technical events a year. If a few years pass without any events, then the Chapter is dissolved. If you are a member of a Society whose local Chapter is inactive, think about ways you could help make it active again. This could be joining of the committee or just suggesting an event. Maybe your company is putting on a trade show or some technical experts are visiting who could give a presentation. We need to make our members aware of the latest developments and what capabilities there are in Australia.

**ETHW website** – Engineering and Technology History Wiki <https://ethw.org/ETHW>About>  
This site is intended to be the premier global record for preserving and interpreting the history of technological innovation and making that history available to the public. As a Section, we need to add as much history as possible before those who were involved die or forget crucial details.

**Elevation to Fellow** There has been a change in emphasis of the requirement for a member to become a Fellow so that non academics can more easily qualify. Typically 0.1% of the membership can be elevated to Fellow each year. <https://www.ieee.org/membership/fellows/steps.html>

**Elevation to Senior Member** All members with more than 5 years of membership should consider applying for Senior Member. It does not increase your dues, but does increase the rebate the Section gets from HQ (from three to four US dollars a head).

**STEM activities** – The Section has an outreach in providing assistance to those involved in providing STEM activities. Those members who wish to get involved should contact [Graham Town](#). The TISP Australian Curriculum-aligned lesson plans can be found at <https://iee-ac.org/TISP/>

**Networking** – I believe one of the major benefits of being an IEEE member is networking whether on a social or technical basis. I currently organise luncheons every second Tuesday, moving them around the Sydney metropolitan area. I am presently considering what the program will be in 2024. Consideration is being given to having social events outside the Sydney area. Suggestions and help would be appreciated.

**Working with other organisations-** The Section is in discussions with some other like minded groups (eg EA, IET, SMPTE) to maximise the benefits that both groups can gain. If you are a member of a group with interests that cover some of the areas that are in the IEEE mandate, please let me know so that we can start discussions.

### **Membership breakdown-**

Membership Types

Total Active members (including Affiliates)	<b><u>2535</u></b>
Active Life members (LF/LS/LM)	<b><u>284</u></b>
Active Senior members (F/SM)	<b><u>371</u></b>
Active Graduate Student members	<b><u>362</u></b>
Active Student members	<b><u>102</u></b>
Active Female members	<b><u>290</u></b>
Active Chapter members (Note:- A member may belong to more than one Chapter)	<b><u>2121</u></b>

**Student activities-** There are a number of competitions for student members. These include IEEEExtreme <https://ieeextreme.org/> which is a global challenge in which teams of IEEE Student members – advised and proctored by an IEEE member, and often supported by an IEEE Student Branch – compete in a 24-hour time span against each other to solve a set of programming problems. Two teams from UNSW have ranked in the first ten places last year.

There is also the IEEE Circuits and Systems Society (CASS) annual CASS Student Design Competition. The [CASS Student Design Competition](#) is a worldwide competition where undergraduate students will suggest and execute projects on electrical engineering and related areas. The focus should be on finding a solution to a real-life problem based on circuits and systems. The competition takes place in three phases, the first at the chapter level, the second at the regional level, and a final at the world level.

More student competitions can be found at <https://students.ieee.org/student-opportunities/contests-for-students/>

**Industry involvement-** The Section gives industry an opportunity let other members know what is happening here in Australia. It may be a facility tour or a presentation. May be you want to encourage students to join your company. Most of us are inquisitive about what is happening. It is also an opportunity for research groups at universities to make others aware of what they are doing.

**Women in Engineering** (WIE) is not only for women. We should all join WIE to be part of a global network of IEEE members who have an interest in promoting women engineers and scientists, and inspiring girls around the world to follow their academic interests in a career in STEM.

**Conferences** – The Section is a [technical co-sponsor](#) to a number of conferences held in Sydney. The Section is also sponsoring some conferences such as RADAR 2023 which is on 6 - 10 November. Some of the profits from these sponsored conferences, where the Section had put up some money, goes to the Section for activities. The Section only receives a few dollars per member from HQ to pay for events, and profits from conferences can be quite significant.

**Membership of Societies** – It would appear that many of our members are not a member of any society. This may be true for undergraduate students but I would expect all other members to have an interest in at least one society related to their current work interests. Society membership will keep you up to date with advances in that area as well as participating in the local chapter, if there is one. Otherwise, if the section has a few interested members a chapter can be formed or they can join a joint chapter with those having common/similar interests.

**Local groups** - They can be formed by the Section when two IEEE members are prepared to organise activities. Membership of Local groups is not limited to IEEE members. I can see two distinct groups being formed in NSW. One being those living around ACT and also northern NSW near the Queensland border, so those members can be involved in the events that are physically close to them. The other is 'special' interest groups such as AI, cyber security etc.

A list of Local groups can be found [https://vtools.vtools.ieee.org/home/local\\_groups](https://vtools.vtools.ieee.org/home/local_groups)

### **Annual General Meeting and Election**

The AGM will be held on Thursday 23 November at UTS. The only position for which there was more than one nomination was Section Chair. There will be an electronic election for this position, and an e-notice with details will be sent out shortly.

I would like to thank all those who have served served on Committees this year.

The Section is always looking for volunteers for all positions, at Section, Chapter, Student Branch and Group level. Come and help, we need people who understand what it takes to do these jobs.

Wishing you all the best for the festive season.

Regards,

Colin Elston

Chair, NSW Section.

## IEEE NSW Members Shine at the “Oscars” of Australian Science!



(Left

photo from Australian Museum, Photographer Tim Levy; Right photo from Karu Esselle)

MetaSteerers Team, led by IEEE NSW Past Chair Distinguished Professor Karu Esselle, was awarded the 2023 Department of Defence ***Eureka Prize for Outstanding Science in Safeguarding Australia*** at a ceremony held at the Australian Museum in August. Eureka Prizes are the nation’s highest awards for science and technology, considered the “Oscars” of Australian Science.

The trophy was presented to Karu by the Assistant Minister for Defence, The Hon. Matt Thistlethwaite MP. The team was nominated for this prize by Australia’s first Astronaut Dr Paul Scully-Power, AM, DSM. The team includes current/past researchers at UTS, DSTG and Macquarie University. Most are past or current members of IEEE NSW; some served in the Section, Chapter and/or Student Branch Committees as well.

Editor's note. Specifically, in the photo above, the four people pictured are Dr. Dushmantha Thalakatuna, a past secretary Dr. Khushboo Singh, a past Macquarie University student branch chair, Karu himself, as past NSW section chair and Dr Manik Attygalle who is a member of the IEEE but not somebody I've had to send money to in my capacity as treasurer of the NSW IEEE, unlike the other three.

“It is pleasing to see our contributions to Science being recognised at the highest level,” Karu says. “We thank all who contributed to our research and achievements in many ways.” Karu’s brief acceptance speech is [here](#). Australian Museum’s 30-second video on MetaSteering is [here](#).

Karu’s and his team’s contributions to Engineering have been recognised in many Engineering and Research Excellence awards from IEEE, Engineers Australia and Institute of Engineers Sri Lanka NSW Chapter.

The high point so far was when Engineers Australia awarded Karu the national title of the ***Professional Engineer of the Year*** late last year. In 2022 before he got the national title, he received both the ***Bradfield Award*** and the ***Sydney Professional Engineer of the Year Award*** at Engineers Australia Sydney Division Engineering Excellence Awards.

Karu's most recent IEEE awards include the 2021. the ***Outstanding Volunteer Award*** from IEEE Region 10, the 2020 ***Outstanding Volunteer Award*** from IEEE NSW, and the 2019 ***Motohisa Kanda Award for the most cited paper*** in five years in IEEE Transactions on Electromagnetic Compatibility.

Karu is not a stranger to awards in defence and space sectors. Last year he won both the ***Academic of the Year Award*** and the prestigious "Best of the winners" ***Excellence Award*** at the 2022 *Australian Space Awards*. In 2021, he was awarded the same double - the ***Academic of the Year Award*** and the ***Excellence Award*** at *Australian Defence Industry Awards*.

Karu also won the UTS ***Chancellor's Medal for Research Excellence*** this year. Karu is a Fellow of IEEE, the Royal Society of NSW and Engineers Australia.

Editors Note: We haven't yet tested his capacity for walking on water.

The prize-winning MetaSteerers Team consists of Distinguished Professor Karu Esselle, Dr Manik Attygalle, Dr Abu Sayem, Dr Affan Baba, Mr Daniel Borg, Dr Dushmantha Thalakatuna, Dr Foez Ahmed, Dr Khushboo Singh, Ms Maira Nabeel, Dr Maria Kovaleva, Dr Muhammad Afzal, Dr Nishat Koli and Dr Raheel Hashmi.

## Education Activities Committee update

The Education Activities committee has been involved in a number of activities over recent years, and is now seeking to encourage more members to get involved with this committee. In particular we are seeking members who have formal teaching qualifications. If you have completed an accredited course in education in the Australian VET or other structure, regardless of the level from Primary to Post Graduate, I would like to hear from you.

The principal activity of that committee is the STEM Education programme which grew from the IEEE Educational Activities Board Teacher In Service Programme (TISP). To avoid confusion in the schools this was re-badged in NSW as the Teacher Student Support Programme (TSSP).

While it has been going in NSW since 2016, the IEEE STEM Education programme is now under the control of Emeritus Professor Graham Town, who is looking to expand his team to give presentations and workshops in schools, education conferences and at other STEM activities organised by the NSW Section or others. Graham has an urgent need for more support.

I look forward to hearing from you soon. [gbgbill@bigpond.com](mailto:gbgbill@bigpond.com) if you are able to assist and participate in any way.

As an unrelated point, in 2022 an agreement was reached where NSW Section IEEE members could enrol in the courses conducted by Engineers Australia at a reduced rate. These courses have been developed by Engineers Australia to serve Australian engineers, and are most suitable for our members who have come from other countries to help them assimilate and conform to Australian engineering practice (or at least its more respectable elements).

Dr Graeme Gwilliam,  
Chair, Educational Activities Committee.

# IFEEC 2023



## IEEE INTERNATIONAL FUTURE ENERGY ELECTRONICS CONFERENCE

IFEEC 2023  
NOVEMBER 20-23  
SYDNEY AUSTRALIA

### Call for Papers



#### General Chair

Dylan Lu  
University of Technology Sydney,  
Australia

#### Technical Program Chair

Georgios Konstantinou  
The University of New South  
Wales, Australia

The IEEE International Future Energy Electronics Conference, IFEEC 2023 as a biannual event, continues its traditions to bring together academicians, students, researchers and practising engineers from all over the world to present emerging topics on electronic technologies for future energy applications.

#### Keynote Speakers:



Prof. Toshihisa Shimizu  
TMU, Japan  
Passive Components for  
Advancements of Power  
Electronics



Prof Ron S.Y. Hui  
NTU, Singapore  
Wireless Power Transfer  
Technologies



Prof Firuz Zare  
QUT, Australia  
Impacts of grid-  
connected inverters in  
distribution networks:  
planning, regulations  
and standardisation



Prof Grahame Holmes  
RMIT, Australia  
Advances in the Control of  
Grid Connected Power  
Electronic Converters

Technical papers are solicited in the following areas: Power Conversion Technologies, Renewable Energy and Applications, Transportation Electrification, Motor Drives, Devices and Components, Smart-Grid Technologies, and Emerging Technologies.

All submissions will go through a single-blind peer review process to ensure confidentiality and fair review. Please refer to the conference website for a detailed list of technical topics and the digest submission method at <https://ifeec2023.org/> or via <http://www.ifeec.tw>.





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CHAPTER MEMBERS

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## **New and Upgraded Members.**

For the period from the 1st March 2023 to the 30th June 2023.

### **New Fellows**

None

### **Life Fellows**

None.

### **Life Senior Members**

We have one new life senior members.

Stephen J Phillips

### **Life Members**

We have no new life members.

### **Senior Members**

We have 9 new senior members.

Paul ane Adriana-Simona Negin Dushmantha Yang	A  Nuwan Prasanna	Barton  Mihaita Shariati Thalakotuna Yang	Kalpani  Rajib Yulei Hoang	Kosala  Rahman Sui Duong	Gunaward-  Tuan
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### **Members**

We have a 159 new members

Suleiman Fahad Haider Meshal William Timothy Blake Shyamal Yunshu Chia-Wei Indra Phillip	Moahmmed  David  Shivneel  Neil Andrew	Abahussein Al Maraee Ali Alsharif Baxter Boye Burgess Chand Chen Cheng Choudhury Cunningham	Muhammed Muhammad Balsam Basim Gisele Chris Lloyd Xiaocong Quanhao Yufei Ziping Raveen	Mubashir  Juliette Ly	Akram Alam Alkouz Azam Bentley Bull Chan Chen Chen Cheng Chu de Silva
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Sagar			Deokar	Thanh	Nho	Do
Manqing			Dong	Yumeng		Du
Dave			Durbin	Elizabeth		Englezos
Brahma	Teja		Gandhari	Navid		Golshani
Artur			Grigorev	Lewis		Hamilton
Imad			Hashmi	Renjie		He
Boyang			Hu	Huanzhi		Hua
Jing-Kai			Huang	Sheng		Huang
Edward			Hughes	Alan	Leslie	Ibbett
Seikh Mohammed	Shahidul		Islam	Jasleen		Jasleen
Maleen	Nipun		Jayasuriya	Gary		Jin
David	Graham		Johnson	Jincymol		Joseph
Cooper	James		Joyce	Joarder	Mohammad Mustafa	Kamal
Md	Sarwar		Kamal	Kavindie	Hansika	Katuwandeniya
David	Alexander		Katzmarek	Jagjit		Kaur
Grace			Kennedy	Tanya		Lau
Christina	Jessica		Lauw	Hong	Quan	Le
Nathan			Lee	Ming		Li
Siyuan			Li	Jizhizi		Li
Mingjian			Li	Xinyue		Li
Qijun			Liang	Yunfeng		Lin
Qi			Liu	Shiqi		Liu
Jinshu			Liu	Wayne		Liu
Fiona			Long	Emma		Lu
Adam			Lucas	Keith		Ly
Minzhao			Lyu	Ashish		Mahajan
Andrew			Mattingly	Stephen	J	McIntosh
Tim			Milledge	Fereshteh		Moradi
Rahma			Mukta	Madhu		Murundi
Nirav			Naik	Preeti		Nair
Duy	Huynh	Anh	Nguyen	Nhung	Th	Nguyen
Qing			Ni	Andrew		Nisbet
Mehdi			Nobakht	Tomohiko		Nojiri
Ray			Owen	Geetha		Pai
Michael	John		Parkes	Xiaohuan		Pei
Yige			Peng	Tom		Penyikie
Madison	Parker		Phillips	Watcharakorn		Pinthurat
Pablo	Martin		Poblete	Franck		Poubeau
Nathaniel	C		Puffer	Zakria		Qadir
Peijun			Qin	Obaidur		Rahman
Sheikh	Mizanur		Rashid	Muhammad	Ahmad	Raza
Nabi			Rezvani	Michael	William	Rushmer
Ayoob			Salari	Andrea		Samore
Yuval	Rishu		Sanders	Raymond		Schleibs
Ahasan	Habib Md.	Shahid	Anowar	Mostafa	Ali	Shahin
Baoling			Shan	Tom		Shanahan
Qinyu			Shi	Omar		Shindi
Mohammad	Khubeb		Siddiqui	Rukshani	Nilakshika	Somarathna
Thomas			Spooner	Jing		Sun
Yifei			Sun	Yaroslav		Syasegov
Rebecca			Sykes	Anna		Szmalenberg
Felice			Tan	Peggy		Tang

Norman		Thien	Xiaoyi		Tian
Darren		Tsai	Bruce	D	Tulloch
Muhammad		Umar	Lauren		Veenstra
Rene		Vuljanic	Yingying		Wang
Qiao		Wang	Ruigang		Wang
Gengming		Wei	Yubo		Wen
Yixiao		Wu	Lan		Wu
Jizhong		Wu	Meng		Xu
Alice		Xu	Zhengjie		Yang
Yaxi		Yang	Shuchang		Ye
Shiduo		Yu	Hijab		Zahra
Sergei		Zaitsev	Saif	U	Zaman
Ruizhe		Zhang	Tianming		Zhao
Yisheng		Zheng	Weiming		Zhi
Shuai		Zhou	Yuxuan		Zhou
Kevin		Zhu			

### New Graduate Student Members

We have 69 new graduate student membership

Yasmin	Nigar	Abdul Rasheed	Abdullah	Jameel	Abualhamayl
Amani		Abusafia	Nada	Atetallh M	Alghanmi
Bassam	Mohammad	Alshennawy	Ogwu	Joseph	Audu
Joel		Bottin-Noonan	Yue		Cai
Yutong		Cao	Tong		Chen
Joseph	Vincent	Cincotta	Zhaoqi		Cui
Giovanni		d'Urso	Ajit		Dash
Corina	Cheng	Ai Ding	Jing		Du
Hafizna	Arsyil	Fadhli	Jianan		Fan
Leo		Fitzgerald	Jingying		Gao
Jason		Gavriel	Reza		Ghanavi
Thomas	Patrick	Gollan	James	Lyndon	Gray
Xinyi		Gu	Shaokang		Guan
Lissy	Maike	Hartmann	Yi		He
Amran		Hossain	Shaokang		Hu
Kehan		Huang	Nishant		Jha
Shuang		Jiao	Chris		Johnathon
Ashish	Kumar	Karmaker	Jun		Li
Zhiyuan		Li	Yu		Lu
Leon		Luo	Haoshuang		Ma
Asuquo	Alexander	Okon	Daniel Alejandro		Perez Banuelos
Bawantha	Indrajith	Bandara Polgolle Mudiyansele	Hamzeh		Qutaish
Ilyas		Saleem	Rui		Sang
Heba	Mahmoud	Shehata	Wahid Md. Sharfuddin		Sk
Rachange		Stanton	Yang		Sun
David		Sweeney	Zhiyi		Tian
Tram	Thi Minh	Tran	Harpreet	Singh	Virk
Xinlei		Wang	Xinmeng		Wang
Fubara	George	Warmate	Cynthia		Wilkinson
Muxin		Xu	Yang		Xu

Kuan	Yan	Zhiwei	Yin
Zakia	Zaman	Hongsheng	Zhang
Yijia	Zhang	Kaiyue	Zhang
Chenxi	Zhang	Ruotong	Zhao
Kayla	Zou		

### New Student Members

We have 26 new student members. One has a famous surname - Ignaz Semmelweis (1818 - 1865) was a pioneer of antiseptic procedures in medicine.

Suleiman		Abahussein	Samar	Alsulaimani
Jack	Lawson	Barber	Abdullah	Bin Sawad
Elizabeth		Fisher	Yousef	Hosseini
Ali		Husnain	Md.	Islam
Jeffrey		le Compte	Yuan	Liu
Lilith	Scarlett	McGoldrick	Ben	Parker
Sam		Qurusu	Dharshiena	S Yogesan
Lachlan		Scott	Kristjan	Semmelweis
Rohan		Sharma	Jeevan	Siju
Doo	Ri	Song	Henry	Wheeler
Tianyi		Xu	Yuxin	Yang
Rama		Yasin	Suqin	Yuan
Yuchen		Zeng	Zijian	Zhao

### New Affiliate Members

We have one.

Yingbo	Zhu
--------	-----

### New Associate Members

We have five of them

Husam	Al-najjar	Samantha	J	Booth
Kehao	Chen	Katrina	Ann	Rolley
Zhongyan	Zhang			

Any student members who would like to be on the Student Branch Committees and any members, especially academic staff, who would like to be their mentors, please contact Arslan Kiyani [arslan.kiyani@mq.edu.au](mailto:arslan.kiyani@mq.edu.au) (student activities chair) or [bruce.poon@ieee.org](mailto:bruce.poon@ieee.org) (0414 662 766) to register your interest.

There are a number of members who are qualified to be senior members. If you are interested in upgrading your membership, please do not hesitate to contact Bruce Poon at 0414 662 766.

"Membership" for Life members is free. However, you do need to renew it annually.

Renewal is simple and easy and can be done via the IEEE web site.

If you have not renewed your Life Membership, please log onto IEEE website to do it.

Submitted by Dr. **Bruce Poon** – e-mail [bruce.poon@ieee.org](mailto:bruce.poon@ieee.org)



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<https://site.ieee.org/nsw/newsletters/>

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