

IEEE Singapore Section Report - 2023

PART A - SECTION SUMMARY

A.1 EXECUTIVE SUMMARY

POSITION	NAME
Chairman	Arokiaswami Alphones
Vice Chair (Awards & Recognition Chair)	Michael Ong
Secretary (eBroadcast Chair)	Aishwarya Bandla
Treasurer (Conference Chair)	Nicholas Wong
Committee Member - Student Activities Chair	Nicholas Wong
Committee Member - Membership Chair	Ravinder Pal Singh
Committee Member - Membership Co-Chair	Ernest Kurniawan
Committee Member - Professional Activities Chairs	Shilpa Manandhar
Committee Member - Industrial Activities	Emily Hao
Committee Member - Educational Activities Chairs	Yuen Chau

As at 16 November 2023, the Section organized 186 events, out of which 128 are technical, 9 non-technical, 34 administrative and 15 professional activities. I believe there are still a lot of activities that were organized but not reported in vTools yet. I would like to thank all the active volunteers in Singapore for their time and effort that made the various events possible and even successful for many.

Growing the membership base remains a challenge and our goal would be to strive for a sustainable increase in members. We hope these new members will be engaged in various IEEE activities and would appreciate the value of professional networking.

1. ELEVATED IEEE FELLOWS – 2023

1. Chien C Cheah from NTU
 - *for contributions to task-space robot control and dynamic multi-robot control*
2. Xiao-Li Li from Institute for Infocomm Research
 - for contributions to machine learning models
3. Jun Luo from NTU
 - for contributions to wireless networking and sensing using Internet-of-Things
4. Kui Yao IMRE, ASTAR
 - for contributions to the development of advanced ferroelectric thin films and their sensor applications

2. MEMBERSHIP RENEWAL FOR NOMINATED COMMITTEE MEMBERS

All nominated ExCo members need to renew their membership for the coming year, before submitting their nomination forms. This will ensure that the Section office can update the IEEE

vTools with the new committee at the beginning of the year and signatories of Chapter bank accounts can be updated promptly.

3. MEMBERS' BENEFITS

The Section had signed up for the Singapore Flyer Corporate Card which allows members to bring another 5 family members or friends. The card is valid from 1 November 2023 to 31 October 2024. Besides this, there are also a few special hotel rates listed. Please check the Section's website for more information.

4. IEEE AWARDS

Section met both its recruitment and retention goals for the 2023 membership year and won the 2023 R10 Best Membership Retention Large Section Award.

Congratulations to Aishwarya Bandla (Section Secretary) for winning the 2023 MGA Young Professionals Achievement Award:

"For excellent efforts in mentorship initiatives for young professionals and women in engineering, and programs promoting cross-sector collaboration"

5. IEEE DAY

The IEEE Day was 3 October 2023. Some chapters and the WIE and YP Affinity Groups organized events during the month of October to commemorate this day.

6. STUDENT ACTIVITIES

IEEE Singapore Section has 4 active Student Branches - NUS, NTU, SUTD and SIT. and 2 IEEE-HKN Branches – NUS and SUTD. These Student Branches organize regular educational workshops and competitions for the IEEE Student Members and for reaching out to non-members. They serve as platforms for connecting IEEE Members and the Student Members. They are also effective channels for IEEE to reach out to young Engineering students in the local universities.

7. E-BROADCAST AND SOCIAL MEDIA

Regular broadcasts containing information on seminars, talks, conferences, social events and membership benefits have been sent to IEEE members in Singapore. This was well coordinated by Dr Aishwarya Bandla, who is also the Section Secretary.

Aishwarya is also helping with prompt update of the social media pages.

A.1 FINANCIAL REPORT

Our consolidated financial position continues to remain healthy. The level of reserve is not excessive as the Section comprises 33 sub-entities (30 Chapters and 3 Affinity Groups), each recognized as a full-fledged IEEE Organizational Unit in terms of its privilege to organize events and manage its own finance.

The Section also helped to open 13 conference bank accounts for the conferences – 6 for 2023 and 6 for 2024, with the OCBC Bank.

Our Treasurer Prof Nicholas Wong, together with the Section Accountant, Ms Joy Leong have worked tirelessly over the past year to maintain our accounts in an efficient manner, and would like to thank them for their invaluable services.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 MEMBERSHIP DEVELOPMENT PROGRAMS

IEEE Singapore Section Membership has been steady despite the pandemic or other ongoing geo-political uncertainties. As at October 2022, there are 2,330 active members. The breakdown of the members in various grades is summarized below:

IEEE Grade Description	Active Members (October 2022)
Student Members	128
Graduate Student Members	382
Associate Members	27
Members	1,400
Senior Members	473
Fellow	63
Life Members	40
Life Seniors	26
Life Fellow	13
TOTAL	2,552

The renewal activity for 2024 is already underway, it does not yet impact counts - members who have not renewed yet for 2024 are still included in active member counts. We will continue to attract new members through various channels. Please reach out to the Membership Development team or the Section Secretariat if your Chapter happens to organize an event where new member sign-ups could be expected.

B.2 CHAPTER ACTIVITIES

The Singapore Section has 30 Chapters and 3 Affinity Groups. As of 16 November 2023, 186 activities have been reported via the vTools system. Activities taking place after 16 November 2023 were reported subsequently after completion of the activities.

Event activity status based on IEEE vTools System as of 16 November 2023:

SN	Section / Chapters / Affinity Groups	Prof	Tech	Non-Tech	Admin	Total
1	Aerospace and Electronic Systems/Geoscience and Remote Sensing Joint Chapter	0	6	0	2	8
2	Broadcast Technology Chapter	1	0	0	0	1
3	Circuits and Systems Chapter	0	6	0	4	10
4	Communications Chapter	0	10	1	1	12
5	Computational Intelligence Chapter	0	0	0	0	0
6	Computer Chapter	0	0	0	0	0
7	Consumer Technology Chapter	1	0	0	0	1
8	Control Systems Chapter	0	0	0	0	0
9	Council on RFID Chapter	0	11	0	1	12
10	Education Chapter	0	0	0	0	0
11	Electromagnetic Compatibility Chapter	0	11	0	2	13
12	Engineering in Medicine and Biology Chapter	0	10	0	9	19
13	Industrial Electronics Chapter	1	11	0	0	12
14	Industry Applications/ Power Electronics Joint Chapter	0	0	0	2	2
15	Intelligent Transportation Systems Chapter	1	0	0	0	1
16	Magnetics Society Chapter	0	0	0	0	0
17	Microwave Theory and Techniques/ Antennas and Propagation Joint Chapter	0	19	1	4	24
18	Nanotechnology Council Chapter	0	1	0	0	1
19	Nuclear and Plasma Science Chapter	0	1	0	0	1
20	Oceanic Engineering Chapter	0	7	0	1	8
21	Photonics Chapter	1	1	1	0	3
22	Power and Energy Chapter	1	10	3	0	14
23	Reliability/ Electronics Packaging/ Electron Devices Chapter	0	0	0	0	0
24	Robotics & Automation Chapter	0	0	0	0	0
25	Singapore Section	1	2	0	0	3
26	Sensors Council Chapter	3	1	0	0	4
27	Signal Processing Chapter	1	0	0	0	1
28	Solid-State Circuits Chapter	0	2	0	2	4
29	Systems, Man and Cybernetics Chapter	1	3	0	0	4
30	Technology and Engineering Management Chapter	0	0	0	0	0
31	Vehicular Technology Chapter	0	7	1	2	10
32	Life Members Affinity Group	0	0	0	0	0
33	Women in Engineering Affinity Group	2	3	2	2	9
34	Young Professionals Affinity Group	1	0	0	2	3
		15	128	9	34	186

B.3 PROFESSIONAL AND CONTINUING EDUCATION ACTIVITIES

The Section supported the Women in Engineering Affinity Group in the following activities:

Date	Event Name	No. of Attendees
16-Feb-23	WiE Networking Nights, "Early Career Researchers in Academia"	25
8-Mar-23	Video Competition to celebrate International Women's Day	10
22-Mar-23	Pannel Discussion on "DigitALL: Innovation and Technology for Gender Equality", theme for IWD 2023	27
25-Mar-23	RoboRoarZ Competition: First Edition	200
29-Apr-23	RoboRoarZ Competition: Second Edition	200
19-Aug-23	9th IRC conference on Science, Engineering, and Technology (IRC-SET) 2023: WIE Special Session	25
31-Aug-23	WiE Networking Nights, for industry meet up, "Sustainable workplace practices"	25
3-Oct-23	IEEE Fest 2023, Inaugural talk	30

B4. STUDENT ACTIVITIES

IEEE Singapore Section has 4 active Student Branches - NUS, NTU, SUTD and SIT. and 2 IEEE-HKN Branches – NUS and SUTD. These Student Branches organize regular educational workshops and competitions for the IEEE Student Members and for reaching out to non-members. They serve as platforms for connecting IEEE Members and the Student Members. They are also effective channels for IEEE to reach out to young Engineering students in the local universities.

B.5 AFFINITY GROUP ACTIVITIES

1. IEEE WOMEN IN ENGINEERING AFFINITY GROUP

(A) ACTIVITIES FOR THE YEAR 2023:

- **Administrative Meetings**
 1. We had 4 administrative meetings.
 2. We discussed the activities to be conducted for the year.
- **Technical Seminars and Talks: 8**

(B) FUTURE PLANS

1. To create events for participation from students. To actively channelize WiE in universities. So that we have enough support from student members too.
2. To create a special event for only WiE members. Sort of AGM for WiE.

(C) SUMMARY:

This year we did a good number of technical events. Few of the events were in collaboration with industry and other IEEE chapters. We are looking forward to creating more impactful and meaningful events next year too.

2. IEEE YOUNG PROFESSIONALS AFINITY GROUP

(A) ACTIVITIES FOR THE YEAR 2023:

- **Administrative Meetings**
 - 1) 12 Jan 2023: YP Committee meeting
 - 2) 30 May 2023: YP Committee meeting

- 3) 30 June 2023: Committee meeting to organize "IEEE Education Society - Singapore Young Professionals YP Connect 2023"
- 4) 04 July 2023: Committee meeting to organize "IEEE India Council - Singapore Young Professionals INSIN YP Connect 2023"
- 5) 05 July 2023: Committee meeting to organize "IEEE Sri Lanka - Singapore Young Professionals YP Connect 2023"
- 6) 21 Jul 2023: YP Committee meeting
- 7) 24 Jul 2023: Committee meeting to organize "IEEE Education Society - Singapore Young Professionals YP Connect 2023"
- 8) 07 Aug 2023: Committee meeting to organize "IEEE India Council - Singapore Young Professionals INSIN YP Connect 2023"
- 9) 22 Sep 2023: Committee meeting to organize "IEEE Vancouver - Singapore Young Professionals YP Connect 2023"
- 10) 22 Sep 2023: Committee meeting to organize "IEEE Sri Lanka - Singapore Young Professionals YP Connect 2023"
- 11) 08 Nov 2023: Committee meeting to organize "IEEE Sri Lanka - Singapore Young Professionals YP Connect 2023"

- **Technical Seminars and Talks**

- 13 June 2023: Technical Talk "Wireless Communication Design Constraints in Automotive Applications" by Mr. Brian Fernandes, held at NTU Singapore, jointly organized by IEEE Singapore YP & NTU EEE GSC.
- 25 July 2023: Technical Talk "Attention Is All You Need: Navigating in Ecosystem of Academic and Industry Settings" by Dr. Wang Yuan, held online, jointly organized by IEEE ComSoc Asia-Pacific Young Professionals (YP), IEEE Singapore YP, and the IEEE ComSoc Singapore Chapter.
- 05 Aug 2023: Technical Talk "Educational Pedagogy and Practice & Instruction within a Subject Area" by Ms. Leslie Martinich, held online, jointly organized by IEEE Education Society YP and IEEE Singapore YP – as part of "IEEE Education Society - Singapore Young Professionals YP Connect 2023".
- 05 Aug 2023: Panel Discussion "How Graduating Students obtain industry relevant skill set before transiting into Industry?" by Dr. Paolo Adragna, Dr. Aishwarya Bandla, Dr. Brian Premchand, held online, jointly organized by IEEE Education Society YP and IEEE Singapore YP – as part of "IEEE Education Society - Singapore Young Professionals YP Connect 2023".
- 16 Sep 2023: Technical Talk "The Rise of Reconfigurable Robots" by Prof. Rajesh Elara Mohan, held online, jointly organized by IEEE India Council YP and IEEE Singapore YP – as part of "IEEE India Council - Singapore Young Professionals INSIN YP Connect 2023".
- 16 Sep 2023: Panel Discussion "Career Opportunities in India and Singapore" by Puneet Kumar Mishra, Jacob Zhao, Arif Hussain, held online, jointly

organized by IEEE India Council YP and IEEE Singapore YP – as part of “IEEE India Council - Singapore Young Professionals INSIN YP Connect 2023”.

- 03 Oct 2023: Technical Talk “Reducing Carbon Footprint” by Ms. Shaleen Mohd Shahrin, held at Fusionopolis Singapore, jointly organized by IEEE YP Singapore and IEEE WIE Singapore.
- 07 Nov 2023: Technical Talk “Trends in IoT Technologies: Wireless Communication Perspective” by Dr. Shravan Kumar Kalyankar, held online, jointly organized by IEEE Vancouver YP and IEEE Singapore YP – as part of “IEEE Vancouver - Singapore Young Professionals YP Connect 2023”.
- 07 Nov 2023: Technical Talk “Engineering career for young professionals” by Dr. Bob Gill, held online, jointly organized by IEEE Vancouver YP and IEEE Singapore YP – as part of “IEEE Vancouver - Singapore Young Professionals YP Connect 2023”.
- 07 Nov 2023: Panel Discussion “Career Opportunities in Vancouver and Singapore” by Dr. Bob Gill and Assoc. Prof. Liu Nan, held online, jointly organized by IEEE Vancouver YP and IEEE Singapore YP – as part of “IEEE Vancouver - Singapore Young Professionals YP Connect 2023”.
- 18 Nov 2023: Technical Talk by Sampath Thrimavithana, held online, jointly organized by IEEE Sri Lanka YP and IEEE Singapore YP – as part of “IEEE Sri Lanka - Singapore Young Professionals YP Connect 2023”.
- 18 Nov 2023: Technical Talk by Dr. Arjun Ramaswami Palaniappan, held online, jointly organized by IEEE Sri Lanka YP and IEEE Singapore YP – as part of “IEEE Sri Lanka - Singapore Young Professionals YP Connect 2023”.
- 18 Nov 2023: Panel Discussion “Career Opportunities in Sri Lanka and Singapore” by Dr. Shravan Kumar Kalyankar and Mr. Denver De Zylva, held online, jointly organized by IEEE Vancouver YP and IEEE Singapore YP – as part of “IEEE Vancouver - Singapore Young Professionals YP Connect 2023”.

(B) FUTURE PLANS:

- 1) IEEE EMC-YP Singapore Conference 2024, jointly organized with IEEE Singapore EMC and IEEE Singapore YP.
- 2) Collaborating with NTU to organize a one-day event for IEEE Young Professionals
- 3) Collaborating with Amity University Singapore to organize a conference
- 4) Continue to jointly organize online YP Connect series with overseas YP groups
- 5) To organize IEEE Singapore Family Day as its flagship event on annual basis

(C) SUMMARY:

IEEE Singapore YP continues to drive events for IEEE young professionals within and beyond our Singapore borders.

3. IEEE LIFE MEMBER AFFINITY GROUP (LMAG)

(A) ACTIVITIES FOR THE YEAR 2023:

- Technical Seminars and Talks: 1 technical site visit planned for Dec 2023

- Social Events: 1 social event planned for Dec 2023

(B) FUTURE PLANS:

- 2 technical event for 2024
- 1 social event planned for 2024

B.6 AWARDS & RECOGNITION ACTIVITIES

Section met both its recruitment and retention goals for the 2023 membership year and won the 2023 R10 Best Membership Retention Large Section Award.

Congratulations to Aishwarya Bandla (Section Secretary) for winning the 2023 MGA Young Professionals Achievement Award:

"For excellent efforts in mentorship initiatives for young professionals and women in engineering, and programs promoting cross-sector collaboration"

PART C - OTHERS

C.1 Special Events - Nil

C.2 Relationship with National and International Societies and Non-Government Organizations (NGO)

- IES-IEEE Joint medal of excellence being continued. The Institution of Engineers, Singapore (IES) and the Institute of Electrical and Electronics Engineers, Inc. (IEEE) intend to continue with the IES/IEEE Joint Medal of Excellence Award. The aim of the award is to promote engineering as a profession and to recognize an individual for his/her contributions in Engineering that have had far-reaching impacts on society. The award is expected to inspire the young to take up engineering as a profession. This award is highly prestigious and the recipient will be recognized not only in Singapore but also the region and around the world. After the pandemic period, there was not much of time to receive and evaluate the applications in 2023, so it was decided to bring the award to 2024.

PART D - GOALS AND PLANS

D.2 Goals and Future Plans

Membership Development

To attract new members as well as make existing ones retain their membership.

1. Tie up with hotels and popular attractions for special discounts
2. Hold regular net-working events with topics that are of interest members
3. To add other attractions as membership benefits

Engaging Students

To increase support for HKN activities. To encourage the HKN chapters to lead outreach activities in schools.

To continue to support activities like Graduate Student Symposium (GSS) organized by YP at NUS and towards membership development.

Engaging Industry

The section EXCO has formed a sub-committee headed by Dr. Amit Gupta to brainstorm about ways to promote IEEE membership among industry professionals in Singapore.

Industry Activities:

Industry activities team has started co-organizing activities and events. In 2021 we had co-organized “**IEEE Dedicated Day**” along with IES to celebrate the World Engineers Summit (WES) and National Engineers Day (NED) on 10th November 2021. And in the following years also there were industrial visits organized for members.