

2014 IEEE Singapore Section Report

PART A - SECTION SUMMARY

A.1 EXECUTIVE SUMMARY

Last year (2013) was another fruitful year for IEEE Singapore Section. Altogether, Chapters and the Section, managed to organize a total of 468 events, comprising of 357 technical events, 32 social events and 79 administrative events.

In addition to holding regular executive committee and general committee meetings, the Section co-organized a short course on "Towards a Smarter Grid" with NTU on 25 July 2013. It also bid for TENCON 2015 and sent proposal to host Section Congress 2017 in Singapore.

1. Formation of Sub-committees for succession planning and gelling of section and chapter members

This year we formed four subcommittees comprising of members from Chapters and the Section, namely, Finance Subcommittee, Membership Development Subcommittee, Publicity Subcommittee and Educational Activities Subcommittee. The committees were tasked with Section level jobs. The idea was to include more active people from Chapters into Section's work and give them opportunity to understand how section operates. Another objective was to gel Section and Chapters closer for the better operation of IEEE in Singapore. The task laid out for the subcommittees are given below.

(a) Finance Subcommittee

Chaired by: Dr SK Sahoo

Review the IEEE Singapore Section Budget and suggest ways to operate the regular and irregular expenses by the Section in such a manner that the service and benefits to members are not compromised. Identify expenses that can be shared by Chapters and propose methods to generate funds for effective running of section.

(b) Membership Development Subcommittee

Chaired by: Dr Huang Ying

The IEEE Membership Development Subcommittee will look into the recruitment, retention and recovery of membership in order to improve the IEEE Singapore Section membership number. Also, the committee will look into ways to encourage members to elevate their membership. In addition, the subcommittee will explore opportunities to co-organize membership development events across different chapters and the section.

(c) Publicity Subcommittee

Chaired by: Dr Li Wei

The Publicity Committee will look into ways to improve the visibility of IEEE in Singapore. It will come out with a proposal (and implement after approval) to publicise IEEE in Singapore and also look into ways as to how IEEE can collaborate with other organizations.

(d) Educational Activities Subcommittee

Chaired by: Dr Lekha Chaisorn

The Educational Activities Committee will be responsible for promoting the engineering education in Singapore. It will propose, plan and execute ways to promote engineering to pre-college students and teachers and also training programs to address the technical and professional development of the members.

2. IEEE NUS HKN Chapter Installation and Induction Ceremony

The new IEEE-HKN Chapter was formed and Installation and Induction Ceremony were held at the, National University of Singapore on 2 February 2013, Saturday.

3. Formation of New Chapter

A new Chapter on the IEEE Singapore Aerospace and Electronic Systems and Geoscience and Remote Sensing Joint Societies Chapter was formed on 22 April 2013. Dr See Kye Yak from NTU is the Interim Chapter Chair.

4. Special Interest Group on Humanitarian Technology (SIGHT)

In recent years, IEEE has placed great emphasis on Humanitarian Technology Activities, instituting the [Humanitarian Ad Hoc Committee \(HAHC\)](#) in 2011. As part of a strategic effort toward member engagement, HAHC has instituted a program called Special Interest Group on Humanitarian Technology (SIGHT). The Chapter has been formed and the Coordinator for Singapore Section is A. Alphones.

The objective of SIGHT is to promote the mission of IEEE regarding humanitarian technology activities. SIGHT can organize any humanitarian activities with the Chapters and so far one had been conducted with the Computer Chapter: Mobile ICT for Humanitarian Impact held on 6 September 2013, Friday

5. Humanitarian Activities

The Section joined with the Singapore Polytechnic for its first community service event held on 30 January 2013. A total of 62 guests from Tai Pei Old People Home and Henderson Moral Welfare Home came for the event.

The Section also sponsored the "Wheelchair Outing" Community Service organized by the Singapore Polytechnic for the Henderson Moral Welfare Home on 10 October 2013.

6. Awards Received

(a) The Past Chair of WIE and current Chair of the newly formed Broadcast Technology Chapter, Dr. Guo Huaqun received the 2012 R10 WIE Volunteer Award.

(b) Prof. Sanjib Kumar Panda, the Chapter Chair of the Industry Applications / Power Electronics Joint Chapter won the 2013 R10 Outstanding Volunteer Award.

(c) The Section Secretary, Prof Perry Shum received the "Business Event Ambassador Award" from STB this year at the Singapore Experience Awards gala presentation ceremony on 21 October 2013.

7. POCO 2014

With the help of the Section, the IEEE Asia Pacific Ltd and the Singapore Tourism Board, Singapore has been selected by the IEEE Conference Committee as the location for the 2014 IEEE Panel of Conference Organizers. POCO 2014 will be held around the 3rd week of July 2014.

8. Sections Congress 2017

Section has sent a proposal to host Sections Congress 2017 with the help of Singapore Tourism Board (STB). The proposal is for 1,400 delegates with an estimated sponsorship of US\$150K. The STB has in principle agreed to provide us a grant of S\$150K for this event.

9. Joint IES/ IEEE Medal of Excellence Award

For 2013, 9 nominations for the award were received and the committee has selected Prof. Chong Tow Chong (current Founding Provost of SUTD) as the 6th recipient of the Joint IES IEEE Medal of Excellence Award. The award was presented during the IES Annual Dinner and Dance held on 27 November 2013.

10. Student Branch Activities

The Student Activities Committee is following-up with the setting up of a student branch at the Singapore University of Technology and Design (SUTD).

The Section helped in the coordination of the IEEE Region 10 Paper Contest 2013. This year Singapore students managed to get outstanding results in the competition. In the postgraduate section Mohammad Esmaeili Malekabadi from Nanyang Technological

University won 1st prize with US\$350 and a certificate for his paper on "Considering soft constraints during redundant tasks in designing an Exoskeleton".

In the undergraduate section, the 1st prize with US\$300 and a certificate was won by Lin Junwei, Lam Cheng Yen and Wang Hanjie of National University of Singapore for their joint paper on "The Development of Wireless Cuff-less Blood Pressure Sensor for Chronic Disease Management".

11. Visibility of EEE in Singapore

The IEEE Singapore Section website was re-designed and the information updated. IEEE Singapore Section sponsored a Book Prize for the Young Engineer Award which was coordinated by Singapore Polytechnic and Science Centre Singapore. The section jointly organised other national events such as Techventure 2013, etc.

A.2 FINANCIAL REPORT

Our consolidated financial position continues to remain healthy with the active support of all the chapters under our section. Our total assets, which includes seed monies, fixed deposits, cash & cash equivalents and other receivables held by the Section/Chapters and loans to conference accounts, totaling just over S\$2M, have been fairly stable for the last few years. This level of reserve is not excessive as the Section comprises 30 sub-entities (28 Chapters/council and 2 Affinity Groups), each recognized as a full-fledged IEEE Organizational Unit in terms of its privilege to organize events and to manage its own finance. The Section is registered under the category of Trade Association with the Registry of Societies of Singapore. This status allows the Section/Chapters to generate surplus revenues from organizing their activities such as running conferences and short courses, but requires the Section/Chapters to pay income tax.

The IEEE Singapore Section Netsuite Balance Sheet FY13 is given below.

IEEE : Region 10 : Region 10 SGD

Balance Sheet

End of FY 2013

Financial Row Amount

Current Assets

Bank

70319 - SINGAPORE Circuits & Systems Checking	S\$20,044.31
70320 - SINGAPORE Communications Checking	S\$185,538.81
70321 - SINGAPORE Computer Checking	S\$100,069.17
70322 - SINGAPORE Consumer Electronics Checking	S\$62,939.61
70323 - SINGAPORE Control Systems Checking	S\$15,699.11
70324 - SINGAPORE Computational Intelligence Checking	S\$20,430.60
70325 - SINGAPORE Electromagnetic Compatibility Checking	S\$33,509.41
70326 - SINGAPORE Engineering in Medicine & Biology Checking	S\$8,866.90
70327 - SINGAPORE Engineering Management Checking	S\$212,742.08
70328 - SINGAPORE Industry Application/Power Elect. Checking	S\$139,113.54
70329 - SINGAPORE Industrial Electronics Checking	S\$27,263.24
70330 - SINGAPORE Magnetics Checking	S\$7,052.82
70331 - SINGAPORE MTT/AP Checking	S\$46,762.81
70332 - SINGAPORE Nanotech Checking	S\$32,570.90
70333 - SINGAPORE Oceanic Engineering Checking	S\$14,446.26
70334 - SINGAPORE Photonics Checking	S\$50,829.81
70335 - SINGAPORE Power Checking	S\$137,033.43
70336 - SINGAPORE Robotics & Automation Checking	S\$19,351.40
70337 - SINGAPORE Reliability/CPMT/ED Checking	S\$307,162.03
70338 - SINGAPORE Signal Processing Checking	S\$18,653.98
70339 - SINGAPORE Singapore Section Checking	S\$107,880.03
70340 - SINGAPORE Systems, Man & Cybernetics Checking	S\$15,695.92
70341 - SINGAPORE Solid State Circuits Checking	S\$69,973.83
70342 - SINGAPORE Vehicular Technology Checking	S\$17,625.74
70343 - Non IEEE Investment (CD) SINGAPORE	S\$20,814.35

Total Bank	S\$1,692,070.09
Accounts Receivable	
11900 - Accounts Receivable	S\$384,449.61
Total Accounts Receivable	S\$384,449.61
Total Current Assets	S\$2,076,519.70
Current Liabilities	
Accounts Payable	
20105 - Accounts Payable	S\$27,760.52
Total Accounts Payable	S\$27,760.52
Total Liabilities	S\$27,760.52
Current Assets Less Current Liabilities	S\$2,048,759.18
Total Assets Less Current Liabilities	S\$2,048,759.18
Long Term Liabilities	
74246 - Reserve Allocation Payable	S\$289,459.39
Total Long Term Liabilities	S\$289,459.39
Total Assets Less Total Liabilities	S\$1,759,299.79
Capital and Reserves	
Retained Earnings	S\$1,964,712.92
Net Income -	S\$205,413.13
Total Capital and Reserves	S\$1,759,299.79

A.3 LIST OF SECTION OFFICERS AND EXECUTIVE COMMITTEE MEMBERS

IEEE Singapore Section Executive Committee Members - 2014

Dr Rajnish Gupta	Chairman
Dr Arokiaswami Alphones	Vice-Chairman
Dr Sahoo Sanjib Kumar	Secretary
Dr Shum Ping,	Treasurer
Dr Huang Ying	Membership Development Sub-Committee Chairman
Dr P. N. Suganthan	Membership Development Sub-Committee Member
Dr Shao Xuguang, Michelle	Student Activities Chairman
Dr Ji Junhua	E-Communications Chairman
Dr Li Wei	Publicity Chairman
Dr Huang Shaoying	Professional and Educational Activities Chairman

PART B - ORGANIZATIONAL ACTIVITIES

B.1 MEMBERSHIP DEVELOPMENT PROGRAMS

The IEEE promotes the engineering process of creating, developing, integrating, sharing, and applying knowledge about electrical, electronics and information technologies and sciences for the benefit of humanity and the profession. As at 31 October 2013 we have 3049 IEEE members in Singapore. We continue to encourage qualified members to be promoted to Senior Members and Fellows. The membership development sub-committee mounted recruitment drives at social and technical events, by working closely with various chapters. The Membership Development

sub-committee organized IEEE Social Gathering cum membership recruitment drive in March, Membership promotion drives in June and September, WIE Social gathering cum membership drive in August and IEEE Networking session for fellow/senior members in October.

IEEE Singapore Section has made a corporate tie-up with the Singapore Science Centre, National Heritage Board (Museum), Night Safari Singapore, Citibank, HSBC and Diners Credit Card Department. Our members enjoy discounted rates and special privileges at these places.

12. Membership

IEEE Grade Description	Number of Active Members
Student Members	79
Graduate Student Members	578
Associate Members	84
Members	1879
Senior Members	389
Fellow	28
Life Members	7
Life Seniors	4
Life Fellow	1
TOTAL as at 31 October 2013	3049

B.2 PROFESSIONAL AND CONTINUING EDUCATION ACTIVITIES

The Educational Activities Sub-committee organized two Special Training Sessions on “Getting Started with Mobile App Development” together with the WIE Affinity Group - Session 1: Android Programming on 19 July 2013 and Session 2: iOS Programming on 27 July 2013.

This sub-committee also co-organized with ACM SIGGRAPH Singapore (SAS) a Technical Talk & Screening of Electronic Theater of SIGGRAPH 2012 on 31 July 2013.

On 26 August 2013, a session on Yoga for (office) Stress Relief was organized.

Organizing and co-sponsoring conferences has been one of the most important technical activities of the Section and its Chapters. These conferences provide an avenue for bringing technology experts from all over the world to Singapore. In addition, the conferences also generate surplus revenues in most cases, which will in one way or another be redirected as member benefits to our members. The surplus also helps to finance the activities organized by the Section and Chapters. Below is a list of the conferences organized in 2013 and 2014.

SN	Title of Conference	Date of Conference
1	IEEE ICCA 2013	12 - 14 June 2013
2	IEEE ICIEA 2013	19 - 21 June 2013
3	IEEE ICEM 2013	1 - 4 October 2013
4	IEEE CIS-RAM 2013	12 - 15 November 2013

5	IEEE IMWS 2013	9 - 11 December 2013
6	IEEE ICON 2013	11 - 13 December 2013
7	IEEE EPTC 2013	11 - 13 December 2013
8	IEEE ASP-DAC 2014	20 - 23 January 2014
9	IEEE ICIEA 2014	9 - 11 June 2014
10	IEEE ICCA 2014	18 - 20 June 2014
11	IEEE IPFA 2014	30 June - 4 July 2014
12	IEEE INEC 2014	28 - 31 July 2014
13	IEEE ICMIT 2014	23 - 25 September 2014
14	IEEE ISIC 2014	10 - 12 December 2014

B.3 STUDENTS ACTIVITIES

The Student Activities Committee helped with the setting up of a student branch at the Singapore University of Technology and Design (SUTD).

The Section coordinated the IEEE Region 10 Paper Contest 2013. This year Singapore students managed to get outstanding results in the competition. In the postgraduate section Mohammad Esmaeili Malekabadi from Nanyang Technological University won 1st prize with US\$350 and a certificate for his paper on "Considering soft constraints during redundant tasks in designing an Exoskeleton".

In the undergraduate section, the 1st prize with US\$300 and a certificate was won by Lin Junwei, Lam Cheng Yen and Wang Hanjie of National University of Singapore for their joint paper on "The Development of Wireless Cuff-less Blood Pressure Sensor for Chronic Disease Management".

B.4 E-COMMUNICATION, SOCIAL & EDUCATIONAL LINKS

As at 31 October 2013, 22 broadcasts with 52 news, containing information on seminars, talks, conferences, social events and member benefits that are vital for our members, have been sent to IEEE members in Singapore.

For the first time, the AGM announcements were made via two eBroadcasts and no printed forms were posted this year, hence saving on printing and postage costs.

Section Website

Singapore Section Website has been revamped, including a new-look Exco-members page, job advertisements and regular updates on information pages and photo gallery. The online booking system for Night Safari and Science Centre continues to receive popular response from the members.

B.5 Affinity Group Activities

The IEEE **Graduates of the Last Decade** (GOLD) Affinity Group has worked actively in organizing technical events for student community in Singapore. They organized the following events in collaboration with the Section to promote student membership:

- IEEE GOLD Public Talk I 2013 by Mr. Jack Sim in February
- NUS ECE Graduate Student Symposium in March
- IEEE GOLD Public Talk II: 'Reader-Friendly Scientific Writing', by Lean Luc Lebrun on

15 August 2013

This year is another fulfilling year for IEEE **Women In Engineering** (WIE) Affinity Group. They organized the 1st WIE Training Workshop - iOS Programming for Students on 29 June 2013 and two other Mobile Apps Development Workshops with the Section's Educational Activities Subcommittee.

The 1st IEEE Singapore WIE Conference for Young Engineers & Scientists (YES 2013) received R10 WIE funding and organized the event on 8 November 2013 at NUS. IEEE Singapore Section Chairman was invited as Guest of Honour for the event.

B.6 AWARDS

The Section Awards and Recognition Committee led by Immediate Past Chair made decisions on two local awards to recognize our volunteers. The Microwave Theory and Techniques / Antennas and Propagation Joint Chapter won the "2013 Best Chapter of Singapore Section Award" after a keen competition from other Chapters.

The Outstanding Volunteer Award is given to an outstanding IEEE Volunteer resident in Singapore, and who has not received the award before, and who has contributed significantly to IEEE activities in the Section, its Chapters and/or its Conferences in his/her life. Prof Lalit Goel from the Nanyang Technological University won the 2013 Outstanding Volunteer Award.

The Past Chair of WIE and current Chair of the newly formed Broadcast Technology Chapter, Dr. Guo Huaqun received the 2012 R10 WIE Volunteer Award.

Prof. Sanjib Kumar Panda, the Chapter Chair of the Industry Applications / Power Electronics Joint Chapter won the 2013 R10 Outstanding Volunteer Award.

The Section Secretary, Prof Perry Shum received the "Business Event Ambassador Award" from STB this year at the Singapore Experience Awards gala presentation ceremony on 21 October 2013.

B.6 CHAPTER ACTIVITIES

The IEEE Singapore Section and the Technical Society Chapters organized numerous technical, educational and social activities for the members, which were regularly broadcasted through email and web pages. A record number of 468 activities were reported in 2013. The list of activities of the IEEE Singapore Section and Society Chapters in 2013 (as at 8 February 2014) is given below.

L31 Submission status based on IEEE VTool System as of 8 February 2014:

No.	Section / Chapters / Affinity Groups		Tech	Admin	Non-Tech	Total
1	Photonics Chapter	PHO36	40	7	12	59
2	Antennas & Propagation / Microwave Theory & Techniques Joint Chapter	AP03/MTT17	46	5	2	53
3	Computational Intelligence Chapter	CIS11	36	2	1	39
4	Communications Chapter	COM19	17	3	1	21
5	Solid State Circuits Chapter	SSC37	16	3	1	20
6	Electromagnetic Compatibility Chapter	EMC27	17	2	0	19
7	Magnetics Chapter	MAG33	15	2	1	18
8	Industrial Electronics Chapter	IE13	11	4	1	16

9	Reliability / Components, Packaging & Manufacturing Technology / Electron Devices Joint Chapter	R07/CPMT2 1/ED15	13	2	1	16
10	Computer Chapter	C16	11	3	1	15
11	Circuits & Systems Chapter	CAS04	11	3	1	15
12	Control Systems Chapter	CS23	11	2	0	13
13	Industry Applications / Power Electronics Joint Chapter	IA34/PEL35	9	4	0	13
14	Section	Section	5	5	2	12
15	Vehicular Technology Chapter	VT06	8	3	1	12
16	Graduates of the Last Decade Affinity Group	GOLD	5	4	2	11
17	Nuclear and Plasma Science Chapter	NPS05	9	2	0	11
18	Engineering in Medicine & Biology Chapter	EMB18	8	2	0	10
19	Power & Energy Chapter	PE31	7	3	0	10
20	Systems, Man & Cybernetics Chapter	SMC28	9	1	0	10
21	Signal Processing Chapter	SP01	8	2	0	10
22	Technology Management Chapter	TM14	8	2	0	10
23	Nanotechnology Chapter	NAN042	8	1	0	9
24	Oceanic Engineering Chapter	OE22	4	4	1	9
25	Robotics & Automation Chapter	RA24	8	0	1	9
26	Broadcast Technology Chapter	BT02	6	1	1	8
27	Women in Engineering Affinity Group	WIE	1	4	2	7
28	Aerospace and Electronic Systems / Geoscience and Remote Sensing Joint Chapter	AES10/GRS 29	5	0	0	5
29	Sensors Chapter	SEN39	2	2	0	4
30	Consumer Electronics Chapter	CE08	1	1	0	2
31	Education Chapter	E25	2	0	0	2
	Total		357	79	32	468

PART C - OTHERS

C.1 RELATIONSHIP WITH NATIONAL SOCIETIES

- a. IEEE Singapore Section has signed an MOU with the local Engineering Society, Institute of Engineers, Singapore. The Joint IES/ IEEE Medal of Excellence Award has been established and given out to distinguished person who has made a difference in the field of engineering.
- b. The Section is also part of National Committee of Engineering Organisation.
- c. Section works closely with local universities and polytechnics to promote engineering through joint activities. IEEE book prizes are also given in the graduation ceremonies of some of the IHLs.

C.1 HUMANITARIAN SERVICE

Going with the theme of serving Humanity, the IEEE Singapore Section co-sponsored the following two community services.

- a. Tai Pei Old People Home visit on 6 June 2012
- b. 10 wheelchair-bound residents of Henderson Moral Welfare Home outing on 11th October 2012

The SIGHT Chapter has been formed in Singapore Section.

PART D - GOALS AND PLANS

D.1 GOALS

- A. To promote engineering (EEE) and increase the visibility of IEEE in Singapore
- B. To recruit and retain members and encourage members to obtain higher grade membership

D.2 IMPLEMENTATION PLANS

A. Promote Engineering (EEE) & Increase the visibility of IEEE

- 1) To collaborate with other institutions and companies to jointly organize activities in Singapore.
- 2) To publicize the IEEE achievements and activities (conferences, etc) through various channels
- 3) To actively participate in activities leading to the promotion of engineering in Singapore.
- 4) To approach Universities and Polytechnics to set up student branches.

B. Membership recruitment and retention & upgrading to higher membership grade

- 1) To organize membership drives
- 2) To build relationship with engineering company and encourage their employees, through talks and activities, to join the IEEE
- 3) Sending membership renewal reminder
 - a) Create an attractive membership renewal reminder email with list of benefits of IEEE membership
 - b) Send monthly email reminder 3 months before membership expire date
 - c) Send weekly reminder 3 weeks before membership expire date
- 4) Formation of Higher Grade Members Elevating Committee to help members to upgrade and recommend Fellow Candidates to IEEE Fellow Committee