



IEEE Hong Kong Section 2019 Report

PART A - SECTION SUMMARY

A.1 Executive Summary –

- Section Executive Committee Member List
 - Chair Nim Cheung
 - Vice Chair Paul Y S Cheung
 - Secretary Kwai Man Luk
 - Treasurer Pak Chung Ching
 - Member-at-large Wan Chi Siu (Institutional Affairs)
 - Member-at-large Vincent K Lau (Student Branch Coordinator)
 - Woman-in-Engineering Paulina Chan
 - All 19 Chapter Chairs or their representatives (AP/MTT, CAS/COM, CE/OE, COMP, PSE, EMC, IT, CI, ED/SSC, IE/PE/IA, SP, EP, MAG, EDU, EMB, SMC, PH, TEM, CS/RA)

- Section Highlights
 - The Section has organized regular meeting every two months with active participation from the key office bearers and many Chapters' representatives. Although the Section has no fund to support activities, as the bank accounts are still under the control of the past Chair, Dr William Cheung, the Section can still do some necessary activities as both the Chair and Vice-Chair have paid the expenses first and will claim reimbursements later when funds are available. Some Chapters could still arrange some activities through their Chapters' accounts.
 - A new account in the Bank of China is being applied. We expect the account will be opened sometime in March 2020.

- Major Events (International, National)
 - An extraordinary general meeting (EGM) was held on 31 May 2019 at which the Interim Officers of the Section appointed by MGA and R10 were made Officers of the Section.
 - The Annual General Meeting (AGM) was held on 12 December 2019. The newly elected 2020 officers of the Section were announced at the AGM. We were greatly honored by the presence of Professor Jose Moura, 2019 IEEE President, Professor Aki Nishihara, Region 10 Director, and Ms. C. J. Jankowski, Managing Director of Member and Geographic Activities, at the AGM.

- Major Chapter Activities
 - Major WIE activities in 2019
 - We were encouraged by our Students and Young Professionals who led and participated in international projects and campaigns in the higher education institutes, professional bodies and local industries with excellent results.
 - AP/MTT Chapter
 - The Chapter is preparing to organize the Asia Pacific Microwave Conference to be held in HK from 10-13 November 2020, with support from the Section. This is a major international conference in the microwaves and related areas in the Asia -Pacific region. It can attract more than 1000 participants in recent years.
 - IT Chapter
 - A Croucher Summer Course in Information Theory was organized from July 22 to 26, 2019.

- Major Student and Affinity Group Activities
 - The Student Branches at OUHK and CityU have actively organized a number of student activities.
- Awards
 - AP/MTT Chapter received the 2019 Best Chapter Award from IEEE AP Society.
 - Photonic Chapter received the Most Innovative Chapter Award for organizing over 26 technical meetings and social events within 2018. Each year the chapter also organizes a Postgraduate Conference and local academic exchanges to gain the interests of students in telecommunications, optoelectronics and bio-photonics fields. Over 70 students were engaged.

A.2 Financial Report – (Please follow the format given below)

- As the Section accounts are controlled by the past Chair, the Treasurer has no information on the funds available, so we are not able to provide a financial report.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members (different grades) in the past 3 years is 3,866 with the following breakdown:
 - Associate Member: 50
 - Fellow: 91
 - Graduate Student Member: 329
 - Life Fellow: 25
 - Life Member: 44
 - Life Senior: 9
 - Member: 2,977
 - Senior Member: 287
 - Student Member: 54
- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members
 - Damage has been done by William Cheung on the reputation of IEEE HK Section. The Interim Officers have offered their great effort to bring the Section back to normal. In fact, this is the strongest term in the history of the Hong Kong Section as they are all well-experienced and world-renowned academic and industrial leaders.

B.2 Chapter Activities

- Total number of Chapters in the Section
 - The Section has 19 Chapters
- Number of Chapters formed in the current year
 - No new chapter was formed in 2019. The Consumer Electronics Chapter has changed to Consumer Electronics and Ocean Engineering Chapter.
- Number of active Chapters (Chapters who have reported required number of meetings during the year)
 - Most of the Chapters are still active even though under financial difficulties. For those Chapters that have their own bank accounts, more activities were organized.
- Summary of Chapter activities (Chapter wise with attachment table/information)
- **IE/PE/IA Chapter**
 - The Chapter has organised three Technical Seminars and one technical excursion including,
 - 1. "A wholesale electricity market design sans missing money and price manipulation" By Prof C. K. Woo, Education University of Hong Kong 13 June, 18:30-20:00 Room Y304, The Hong Kong Polytechnic University

- 2. Emerging Research Directions in Smart Grid – Focusing on Reliability, Cybersecurity, and Resiliency By Professor Lingfeng Wang, PhD, Director, Cyber-Physical Energy Systems Laboratory Co-Director, DOE Industrial Assessment Center Department of Electrical Engineering & Computer Science University of Wisconsin-Milwaukee Milwaukee, WI 53211, USA Date: 04 Jan 2019 Time: 6:30 pm – 8:30 pm Venue: Room CF617, The Hong Kong Polytechnic University, Hung Hom, Hong Kong
- 3. Next Generation and AI&Big Data Paradigm (co-organised with HAESCO Hong Kong) Speech title: in what ways, AI and Big Data affect energy industry By Prof Zhao XU, The Hong Kong Polytechnic University 2:30-5:00pm Room 303, Hong Kong Institute of Technology
- 4. Technical Visit to Natural Gas-fired Generating Unit of Hong Kong Electric (HEC) Company Ltd, at Lamma Power Station, on Mar 29 (Fri), 2019
- **AP/MTT Chapter**
- Conferences
- 1. The 20th IEEE SZ/HK AP/MTT Postgraduate conference, at the Southern University of Science and Technology, Shenzhen, China on 9 November 2019 (co-organized)
- 2. IEEE International Workshop on Electromagnetics 2019 (iWEM2019), at the Qingdao International Conference Center, Qingdao, China from 18 to 20 September 2019 (technical cosponsor)
- 3. 2019 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE2019), at Hatten Hotel Melaka, Malacca, Malaysia from 25-27 November 2019 (technical sponsor)
- 4. 2019 Symposium on 3rd Generation Semiconductor, at Hong Kong Science and Technology Park, Hong Kong, China on 26 September 2019 (supporting organization Seminars (Co-organized)):
- Seminars
- Topic: Liquid Antennas for Wireless Communications
Speaker: Prof. Yi Huang, The University of Liverpool, UK
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 8 January 2019, 11:00–12:00
- Topic: DLP-based Additive Manufacturing of Complex Shape Advanced Ceramics
Speaker: Dr. Shanghua Wu, Guangdong University of Technology, Guangzhou, China
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 25 January 2019, 17:00–18:00
- Topic: Time-reversal of Electromagnetic Signals based on Frequency-domain Approach
Speaker: Prof. Mingyu Lu, West Virginia University Institute of Technology, USA
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 16 May 2019, 16:00–17:00
- Topic: Terahertz Metasurfaces and Integrated Platforms
Speaker: Dr. Withawat Withayachumnankul, University of Adelaide, Australia
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 24 May 2019, 10:00–11:00
- Topic: Reconfigurable Antennas for Next Generation Communication Systems
Speaker: Dr. James Kelly, Queen Mary University of London, UK
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 24 May 2019, 11:00–12:00
- Topic: Meta-mirror: Toward Efficient Control of Electromagnetic Wave Scattering
Speaker: Prof. Yijun Feng, Nanjing University, China
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 14 June 2019, 16:00–17:00
- Topic: CEM Applications: Stability Analysis and Efficient High-Resolution SAR Imaging for 3D Electrically Large-Scale Targets in Clutter
Speaker: Prof. Xia Wu, Tongji University, Shanghai, China
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 19 June 2019, 11:00–12:00

- Topic: An Advocated Base Station Antenna Design Scheme, From 4G to 5G
Speaker: Dr. Can Ding, University of Technology Sydney, Australia
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 2 August 2019, 11:00–12:00
- Topic: Lab for Nanoscale Sensors and Systems
Speaker: Dr. Daquan Yang, State Key Laboratory of Information Photonics and Optical Communication (IPOC), Beijing University of Posts and Telecommunications (BUPT), China
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 24 September 2019, 11:00–12:00
- Topic: SIW Antenna and SIW-SSPP Hybrid Structure
Speaker: Dr. Dongfang Guan, College of Electronic Science and Technology, National University of Defense Technology (NUDT), Hunan, China
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 4 November 2019, 11:00–12:00
- Topic: MIMO Antennas for 5G Multi-Gbps Smartphones and Their MIMO Throughput Verification
Speaker: Prof. Kin-Lu Wong, National Sun Yat-sen University, Taiwan
Venue and Time: Rm. 15-202, State Key Laboratory of Terahertz and Millimeter Waves, 15/F, Lau Ming Wai Academic Building, City University of Hong Kong, 4 December 2019, 16:00–17:00
- **MAG Chapter**
- Distinguished lecture by Prof. Victorino Franco (University of Seville, Spain, IEEE Magnetics Society Distinguished Lecturer): 17 Jun 2019, City University of Hong Kong.
- **ED/SSC Chapter**
- Distinguished Lecturer talks:
Prof. Ming Liu (Institute of Microelectronics, CAS) on April 6, 2019, Hosted by Yang at PolyU
- Education activities:
IEEE Electronic Endeavor Match, Apr. 27, 2019 at HKUST
IEEE Electronic Exploration Day Camp, August at the Hong Kong University
- Supporting organizations:
Seminar organized by Vocational Training Council (VTC)
The 1st and 2nd AI Chips Summit at Science Park
- **EMC Chapter**
- IEEE EMC Society Distinguished Lecturer Talk
Topic: Common-mode Electromagnetic Noise Mitigation for High Speed Electronics
By: Dr. Richard Xian-Ke GAO, A*STAR, Singapore
Venue: City University of Hong Kong G6302
Tat Chee Avenue, Kowloon Tong, Hong Kong
Date & Time: 21 October 2019 (Monday), 6:00pm – 7:15pm
- Supporting Organization to the Hong Kong International Outdoor and Tech Light Expo 2019 Seminar
Seminar topic: Electrical Products Energy Efficient Certification and Testing – Global Market
By Mr. Dickson Mak, Senior Technical Manager, Hong Kong Standards and Testing Centre (STC)
Date & Time: 31 October 2019 (Thursday), 2:30pm – 3:30pm
- **IT Chapter**
Croucher Summer Course in Information Theory (CSCIT 2019), July 22-26, 2019
The Julia Robinson Mathematics Festival in Hong Kong, Mar 23, 2019
- **Photonics Chapter**

- Technical meeting
The 19th IEEE Photonics Society - Hong Kong Chapter Postgraduate Conference
 January 19, 2019
24 papers and speakers
 Key activities:
 Three best paper awards: Champion, the 1st and 2nd runner-up; and One Best Presentation
- **Report on our Chapter's recent award Most Innovative Chapter in 2018** (IEEE Photonics Society) (See below)
- Technical Seminar
 30 July 2019
Quantum Photonics Using 2D Materials
 Prof. Vinod Menon
 IEEE Photonics Society Distinguished Lecturer,
 City University of New York, U.S.A.
- Technical Seminar
 9 January 2020
Photonics-based Measurement for Broadband Cognitive Radio
Prof. Shilong Pan
 Nanjing University of Aeronautics and Astronautics
 Key Laboratory of Radar Imaging and Microwave Photonics, the Ministry of Education
 2019 IEEE Photonics Society Distinguished Lecturer
- Technical Seminar
 28 Aug, 2019
Deep learning for massive super-resolution imaging & deep learning for the masses
 Dr. Christophe Zimmer
 Unité Imagerie et Modélisation
 (Imaging and Modeling Unit)
 Département Biologie Cellulaire et Infections
 Institut Pasteur
- Technical Seminar
 28 Aug, 2019
Deep learning for massive super-resolution imaging & deep learning for the masses
 Dr. Christophe Zimmer
 Unité Imagerie et Modélisation
 (Imaging and Modeling Unit)
 Département Biologie Cellulaire et Infections
 Institut Pasteur
- Technical Seminar
 13 Mar, 2019
Surgeons as Engineers: from ideas to scalable patient impact
 Dr. Victor X.D. Yang,
 Faculty of Engineering and Applied Science,
 Ryerson University
- Technical Seminar
 30 Jan, 2019
Lithium niobate nanophotonics – giving new life to an old material
 Dr. Cheng Wang
 Assistant Professor
 City University of Hong Kong
- Technical Seminar
 11 Jan, 2019
Analyzing Cell Behaviour: From Mitotic Cell Shape to Intracellular Delivery

Dr. Martin P. Stewart
Lecturer (Assistant Professor)
University of Technology Sydney

B.3 Professional and Continuing Education Activities

Summary of continuing Educational activities including conferences, technical activities, training courses, and distinguished lecture programs with attachment table / information

B.4 Students Activities

- Total number of Student Branches in the Section
 - Six institutions in Hong Kong have student branches
- Number of Student Branches formed in the current year
 - No
- Section level student activities (student congress, paper and other contests, awards etc)
 - No
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year)
 - The branches in CityU and OUHK are very active.
- Summary of Student Branch activities (Student Branch wise with attachment table/information)

B.5 Affinity Group Activities

- Young Professional (YP)
 - No
- Women In Engineering (WIE)
 - **1. International Women in Engineering, June 2019 Campaign at Imperial College London**
 - WIE Student Members joined the Department of EEE @Imperial College London to campaign in schools and universities, governments, industry and professional engineering institutions helping to generate maximum social impact to promote engineering as an exciting, inclusive, and rewarding career.
 - The campaign also highlighted the diverse opportunities that exist for women as professionals in engineering and technology.
 - **2. Young Professionals in Startup Exhibition and Competition @ IET and major industries in Hong Kong**
 - Supported Young Professionals of WIE to present startup projects to renowned professional bodies e.g. IET and industries including Hong Kong Electric, CLP, MTR. The presentation entitled: Project Sunbyte won the first round of IET YPEC.
- Life Member (LM)
 - No

B.6 Awards & Recognition Activities

- Award constituted by the Section
 - No
- Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ during the year
 - No

B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)

- Newsletter (name and number of issues in the year)
 - ◇ No

- Home Page of the Section (give the URL and how often it is updated)
 - ✧ No
- Other means of contacts with Section members including social media
 - ✧ No

B.8 Industry Relations

- Membership growth and retention
 - ✧ No
- Activities for/with industrial members
 - ✧ No

B.9 Humanitarian Technology Activities

- Humanitarian Technology related activities supported by the Section including collaboration with other OUs.
 - ✧ No
- SIGHT Activities
 - ✧ No

B.10 Community Activities

- IEEE Social activities (Family day, IEEE day, Engineers Week)”
 - ✧ No

PART C - OTHERS

C.1 Special Events

- Please briefly describe the importance of special events and the outcomes achieved
 - No
- Funding secured from the IEEE and external sources including sponsorships
 - No

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

- Nature of relationship and details of any formal agreement signed
 - No
- Details of joint activities
 - No
- Benefit to IEEE members (for example discounts, access to technical information etc.)
 - No
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)
 - No

C3. Collaboration with other IEEE Sections

- Support extended to neighboring Sections

- No
- Joint activities with any other Section
 - Collaborate with Xian Section, China to organize the ICSPCC2019 conference in Dalian, China on 20-23 September 2019, and ICSPCC2020 conference in Macau, SAR China on 21-24 August 2020.

C.4 Support extended to Sub-sections & Society Chapters within the Section

- Support extended for organising technical, educational and professional activities
 - No
- Joint activities for membership development
 - No
- Support extended for the formation of a Sub-section or transition of a Sub-section into a full Section
 - No

C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)

By working with industry, academic and government partners, the IEEE Hong Kong Section was able to organize events in 2019 supported entirely by sponsorship and exhibitors without charging registration fees. This enabled IEEE to enhance its impact to non-IEEE practitioners in the technical community, for example, the Symposium on 3rd Generation Semiconductor in September was jointly organized with Hong Kong Science Park and university partners.

C.6 Problems anticipated and suggestions for solutions, if any

No

PART D - GOALS AND PLANS

D.1 Continuation of project/activity in progress and their implementation plans

No

D.2 Goals and Future Plans

We need to get back the control of the bank accounts before we can arrange more activities.

D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.

No

D.4 Business Plan for Sustainable Growth and Financial Stability.

Looking forward to 2020

Recovering from the social unsettlement and the epidemic of the novel coronavirus, the Hong Kong Section is determined to revitalise our positive image which has been established over the past 40 years. We will strengthen our internal collaboration among chapters and affinity groups with multidisciplinary focus, prioritise recruitment in students, young professionals, women and life member development, improve Hong Kong Section's visibility in the Region and via MGA around the world. We shall also build closer relationships with industry, other professional bodies and government to make IEEE Hong Kong an influential voice for advancing in technology in humanity.

Appendix Important Photos



Figure 1. Hong Kong Section AGM meeting held in December 2019.



Figure 2. Hong Kong Section AGM meeting held in December 2019, Group Photo.