

# Region 10 Harbin Section Report

## PART A - SECTION SUMMARY

### A.1 Executive Summary – (Please follow the format given below)

- Section Executive Committee Member List
  - ✧ Dianguo Xu (Chair)
  - ✧ Qun Wu (Vice Chair)
  - ✧ Jiahui FU
  - ✧ Fanyi Meng MTT chapter XXX
  - ✧ Guangren Duan
  - ✧ Lixian Zhang
  - ✧ Qi Wang
  - ✧ Bin Zou
  - ✧ Weixiao Meng
  - ✧ Tao Jiang
  - ✧ Min Jia(Chair for WIE)
  - ✧ Guohui Yang(Secretary,chapter/subsection coordinator)
  - ✧ Kuang Zhang (Chair for student branch, YP)
  - ✧ Shuai Yang (treasurer)

- Section Highlights

in recent years,Harbin section approved over 10 affinities,including student branch and student branch chapters,as follows

#### **AFFINITIES**

- ✧ Harbin Section Affinity Group, WIE(WE00208)

#### **CHAPTERS**

- ✧ Harbin Section Chapter, COM19 (CH10606)
- ✧ Harbin Section Chapter, CS23 (CH10491)
- ✧ Harbin Section Chapter, GRS29 (CH10765)
- ✧ Harbin Section Chapter, GRS29 CHANGCHUN (CH10789)
- ✧ Harbin Section Chapter, IE13 (CH10672)
- ✧ Harbin Section Chapter, PE31 (CH10817)
- ✧ Harbin Section Chapter, SP01 (CH10734)
- ✧ Harbin Section Chapter, VT06 (CH10795)
- ✧ Harbin Section Chapter, IA34 (CH10918)
- ✧ Harbin Section Chapter, IM09 (CH10926)
- ✧ Harbin Section Chapter, SEN39 (CH10925)
- ✧ Harbin Section Chapter, SMC28 (CH10875)
- ✧ Harbin Section Chapter, ED15 DALIAN (CH10411)

#### **JOINT CHAPTERS**

- ✧ Harbin Section Chapter, JOINT CHAPTER, ED15/PHO36 (CH10406)
- ✧ Harbin Section Chapter, JOINT CHAPTER, EMC27/MTT17/AP03 (CH10460)

#### **STUDENT BRANCHES**

- ✧ Hit Shenzhen Graduate School (Shenzhen, CN. Stbc65591a)
- ✧ Hit-Main Campus, (Harbin, CN STH66231b)

#### **SECTIONS**

- ✧ Harbin Section(R00208)

#### **STUDNET BRANCH CHAPTERS**

- ✧ Hit Shenzhen Graduate School, Ia34 (Shenzhen, CN. Sbc65591a)
- ✧ Hit-Main Campus, IM09/SEN39 (Harbin, CN Sbc66231b)
- ✧ Hit-Main Campus, GRS29 (Harbin, CN Sbc66231a)
- ✧ HIT-Main Campus, IA34 (Harbin, CN Sbc66231)

- Major Events (International, National)

In 2020,Harbin section sponsored following International conferences.During the conference gap,some activities have been organized

Conference Name	Date
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2020 IEEE International Conference on Artificial Intelligence and Information Systems (ICAIS)	March 20-22, 2020
2020 Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC)	April 14-16, 2020
2020 IEEE 2nd International Conference on Computer Science and Educational Informatization (CSEI)	June 14-16, 2020
2020 IEEE Global Fluid Power Society PhD Symposium (GFPS)	October 19-21, 2020
2020 IEEE 3rd International Conference on Electronic Information and Communication Technology (ICEICT)	November 13-15, 2020
2020 IEEE 8th International Conference on Computer Science and Network Technology (ICCSNT)	November 20-22, 2020
2020 International Conference on Industrial Application of Artificial Intelligence (IAAI)	December 25-27, 2020

- Major Chapter Activities;

- ✧ Membership Development (April, 2020);
- ✧ Chapter election (June, 2020);
- ✧ Organized distinguished lectures (August, 2020):
  - Lecture 1: Spoof Surface Plasmon Polaritons Supported by Substrate Integrated Waveguide with Arrays of Holes
  - Lecture 2: Research on Electromagnetic Pulse Prediction for Sensitive Equipment on Ship
- ✧ Chapter opening ceremony was held.
- ✧ A talk on EMC and OTA Testing for the Next Generation Communication Devices was given by Zhengpeng Wang from Beihang University (October, 2020)
- ✧ Prof. Hongxing Zheng from Hebei University of Technology was invited to give a report on Spherical Truncation in Cartesian Coordinate System for the FDTD Solver (November, 2020)
- ✧ SIW Slot Array Antenna with Non-Alternating Slot Placement for Impedance Bandwidth Enhancement by Yu Jian Cheng from University of Electronic Science and Technology of China (November, 2020).

- Major Student and Affinity Group Activities

Title	Date
Malleable Thermosets and Their Functional Composites	January 8, 2020
Research on Monocular Vision SLAM Based on Multi Sensor Fusion	May 15, 2020 Virtual Meeting Tencent ID: 735385623
Challenges and Outlooks for Robotic Manipulation of (Soft) Deformable Object	September 19, 2020 Virtual Meeting Tencent ID: 357 150 821
Modelling and Approximation in Complex Networked Systems	October 16, 2020 Virtual Meeting Tencent ID: 806 382 299
Advancing Next-Gen IC Chips: Innovations in Nanofabrication and Nanometrology	October 23, 2020 Virtual Meeting Tencent ID: 654 459 734
Convergence in Uncertain Linear Systems	October 30, 2020 Virtual Meeting Tencent ID: 938 648 662
Robust State Estimation for Switched Systems: Application to Fault Detection	November 6, 2020 Virtual Meeting Tencent ID: 816 2713 3557
Prioritizing Features in Process Safety And Security	November 14, 2020 Virtual Meeting Tencent ID: 938 231 970
Achievements and Prospects of Beidou Satellite Navigation System	November 15, 2020
Observability of Large-scale Boolean Control Networks with an Application to the T-cell Receptor Kinetics	November 19, 2020 Virtual Meeting Tencent ID: 945 885 532
On Power System Automation and Control Room of Future	November 27, 2020 Virtual Meeting

	Tencent ID: 752 629 639
Robotic Interaction Control And Human-Robot Collaboration	December 28, 2020 Virtual Meeting Tencent ID: 450 911 312

- Awards

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

- Summary (as per submitted L50)

Date	Transactions	Comments
01/01/2020	\$44.47	Guest reception
30/01/2020	(\$60.08)	Guest reception
01/02/2020	\$44.16	Guest reception
01/03/2020	\$40.96	Guest reception
31/03/2020	(\$47.86)	Guest reception
01/04/2020	\$31.15	Guest reception
20/04/2020	(\$33.06)	Guest reception
01/05/2020	\$540.90	VT06 for chapter events/activities for 2020
01/06/2020	\$6,659.49	SECTION REBATE
01/07/2020	\$22.65	Guest reception
08/07/2020	(\$76.74)	Guest reception
01/08/2020	\$23.24	Guest reception
01/09/2020	\$21.13	reception
14/09/2020	(\$120.73)	Meetings & Social Events
01/10/2020	\$19.61	Guest reception
01/11/2020	\$18.99	Guest reception
01/12/2020	\$17.56	Guest reception
10/12/2020	(\$82.56)	Guest reception
14/12/2020	(\$119.22)	Guest reception

- additional financial activities supported by section buget

Type	Check	Commets
Meetings & Social Events(via local account)	\$70	Malleable Thermosets and Their Functional Composites
Meetings & Social Events(via local account)	\$91	Research on Monocular Vision SLAM Based on Multi Sensor Fusion
Meetings & Social Events(via local account)	\$112	Challenges and Outlooks for Robotic Manipulation of (Soft) Deformable Object
Meetings & Social Events(via local account)	\$49	Modelling and Approximation in Complex Networked Systems
Meetings & Social Events(via local account)	\$96	Advancing Next-Gen IC Chips: Innovations in Nanofabrication and Nanometrology
Meetings & Social Events(via local account)	\$67	Convergence in Uncertain Linear Systems
Meetings & Social Events(via local account)	\$99	Robust State Estimation for Switched Systems: Application to Fault Detection

Meetings & Social Events(via local account)	\$46	Prioritizing Features in Process Safety And Security
Meetings & Social Events(via local account)	\$53	Achievements and Prospects of Beidou Satellite Navigation System
Meetings & Social Events(via local account)	\$101	Observability of Large-scale Boolean Control Networks with an Application to the T-cell Receptor Kinetics
Meetings & Social Events(via local account)	\$47	On Power System Automation and Control Room of Future
Meetings & Social Events(via local account)	\$124	Robotic Interaction Control And Human-Robot Collaboration

## PART B - ORGANIZATIONAL ACTIVITIES

### B.1 Membership Development Activities

- Total number of active members in the past 3 years.
- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members
  - ✧ Invited many scholars, Young Professional professors and Women in Engineering from many university (Dalian Jiaotong University, Northeast University, Harbin Engineering University, Heilongjiang University and Harbin University of Science and Technology, etc) to attend the virtual meetings, the topic of meetings are listed as below:
    1. About IEEE (May 2020; Hosted by IEEE Harbin Section Secretary Prof. Guohui Yang)
    2. What opportunities you will get on academic after you join in IEEE (July 2020; Hosted by IEEE Harbin Section Secretary Prof. Guohui Yang)
    3. About IEEE International conferences (September 2020; Hosted by IEEE Harbin Section Vice Chair Prof. Qun Wu)
    4. How to join IEEE (October 2020; Hosted by IEEE Harbin Section Vice Chair Prof. Qun Wu)
    5. How to use the facilities that IEEE afford to member. (November 2020; Hosted by IEEE Harbin Section Prof. Kuang Zhang)
    6. How to write the high quality paper (December 2020, Presented by Yuantao Gu from Tsinghua University, who is a Senior Area Editor for IEEE Transactions on Signal Processing and an Elected Member of both IEEE Machine Learning for Signal Processing (MLSP) Technical Committee and IEEE Signal Processing Theory and Methods (SPTM) Technical Committee.

### B.2 Chapter Activities

- Total number of Chapters in the Section
  - ✧ Up to now, the Harbin Section has 15 chapters including the joint chapter.
- Number of Chapters formed in the current year
  - ✧ some new chapters was formed in 2020
- Number of active Chapters (Chapters who have reported required number of meetings during the year)
  - ✧ There are 15 chapters are active.
- Summary of Chapter activities (Chapter wise with attachment table/information)
  - ✧ Organized several technical activities
  - ✧ Help to organize the international conference
  - ✧ Organized several lectures and tutorials.
  - ✧ Organized members to serve as review for some conferences and journals
  - ✧ Organized members to serve as editors for some journals

### 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

✧ Organized the international conference and lecture program

Conferences and Activities	Date
2020 IEEE International Conference on Artificial Intelligence and Information Systems (ICAIS)	March 20-22, 2020
2020 Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC)	April 14-16, 2020
2020 IEEE 2nd International Conference on Computer Science and Educational Informatization (CSEI)	June 14-16, 2020
2020 IEEE Global Fluid Power Society PhD Symposium (GFPS)	October 19-21, 2020
2020 IEEE 3rd International Conference on Electronic Information and Communication Technology (ICEICT)	November 13-15, 2020
2020 IEEE 8th International Conference on Computer Science and Network Technology (ICCSNT)	November 20-22, 2020
2020 International Conference on Industrial Application of Artificial Intelligence (IAAI)	December 25-27, 2020
Technical activities: Decoupling for MIMO antennas By: Qing-Xin Chu, South China University of Technology	April, 2020
Technical activities: RF Properties of Graphene and its Applications to Antennas for 5G/6G Communications By: Zhengfang Qian, Shenzhen University	July, 2020
Technical activities: Wireless channel model evolution from 5G to beyond 5G By: Zhimeng Zhong, Huawei Technologies CO., LTD	October, 2020
Technical activities: Antenna Technologies for 5G/B5G Communications By: Hui Li, Dalian University of Technology	December, 2020

## B.4 Students Activities

- Total number of Student Branches in the Section
- Number of Student Branches formed in the current year
- Section level student activities (student congress, paper and other contests, awards etc) :
  - ✧ 4 students excellent paper award
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year)
- Summary of Student Branch activities (Student Branch wise with attachment table/information)

Title	Date
IEEE Student Branch organized a seminar on discussion -Decoupling for MIMO antennas	April 2020
How to use Latex to format the conference paper	May 2020
Discussion on avoid the plagiarism problems of paper	May 2020
Organized a tutorial on introduction Matlab	July 2020
Workshop on RF Properties of Graphene and its Applications to Antennas for 5G/6G Communications	September 2020
Wireless channel model evolution from 5G to beyond 5G	October 2020
Webinar on Communication-efficient Decentralized Signal Detection	October 2020
Lecture on to design the oral session PPT and poster	November 2020
Training on to be volunteer in international conference	November 2020
Conducted the contest on Antenna Technologies for 5G/B5G Communications	December 2020

## B.5 Affinity Group Activities

- Young Professional (YP):
  - ✧ Organized the workshop in school to encourage women and young scholars in engineering
- Women in Engineering (WIE)
  - ✧ Please find B.1 in this file. Some Promotional lectures or virtual meetings about IEEE were held.

## B.6 Awards & Recognition Activities

- Award constituted by the Section:
  - ✧ IEEE Harbin Section sponsored or technical supported several international conferences, in some conferences best paper awards, best oral paper awards, best poster awards were constituted.
  - ✧ Electronic design contest was held; the rankings were constituted.
  - ✧ Outstanding Section Membership award.
  - ✧ Outstanding Chapter award
- Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ during the year 2015
  - ✧ IEEE Harbin Section team received a Gold award for membership development in 2020.
  - ✧ Prof. Kuang Zhang, the chair for Young Professional Affinity Group, Harbin section won an award from IEEE for notable services and contributions towards the advancement of IEEE and the engineering profession during the 2016-2018.
  - ✧ Prof. Jiahui Fu, won an award for outstanding achievement in member recruitment for the Harbin section during the 2018membership year, which is recognized by the IEEE member recruitment and recovery committee.

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

- Newsletter (name and number of issues in the year)
- Home Page of the Section (give the URL and how often it is updated):
- Other means of contacts with Section members including social media

## B.8 Industry Relations

- Membership growth and retention
- Activities for/with industrial members
  - ✧ Shanghai EM-Testing Technology Co., Ltd, Shenzhen ZhongKe Wireless Technology Co., Ltd, Shenzhen SouthStar Technology Co., Ltd, Hengda Microwave Technology Co., Ltd, King Radio Technology Co., Ltd etc., the above industries have sponsored or afforded support to conference or technical activities.
  - ✧ Afford the exhibition opportunities to the industries.
  - ✧ Visit the factory of Hengda Microwave Technology Co., Ltd.

## B.9 Humanitarian Technology Activities

- Humanitarian Technology related activities supported by the Section including collaboration with other OUs.
- SIGHT Activities

## B.10 Community Activities

- IEEE Social activities (Family day, IEEE day, Engineers Week)”

- ◇ IEEE Member luncheon was organized (August, 2020)
- ◇ IEEE Harbin Section Establishment day celebration (September 20, 2020)
- ◇ Chapter establishment day celebration (October, 2020)

## **PART C - OTHERS**

### **C.1 Special Events**

- Please briefly describe the importance of special events and the outcomes achieved
- Funding secured from the IEEE and external sources including sponsorships

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

- Nature of relationship and details of any formal agreement signed
- Details of joint activities
  - ◇ Work with Research Center for Medical and Healthcare Management, Ritsumeikan University, JAPAN to organize the workshop (August,2020)
  - ◇ Work with Liaoning Province Software Industry School-Enterprise Alliance to organize the seminar (October, 2020)
  - ◇ Work with Heilongjiang Association for Science and Technology to organize a lecture for student branches.
  - ◇ Cooperate with Heilongjiang Electronic Society to organize social practice activities
- Benefit to IEEE members (for example discounts, access to technical information etc.)
  - ◇ Invited member as conference peer reviewer.
  - ◇ Afford the fee concession when member publish papers on IEEE conference
  - ◇ Introduce the opportunities for member to deliver invited speeches and keynote speeches on international conference.
  - ◇ Attend the international conference as listeners for free.
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)
  - ◇ Help to recruit new member.
  - ◇ Help to organize the activities
  - ◇ Give the lecture to member or student branch
  - ◇ Afford technical support
  - ◇ Serve as volunteer in activities

### **C3. Collaboration with other IEEE Sections**

- Support extended to neighboring Sections:
  - ◇ Worked with Beijing Section and Guangzhou Section
  - ◇ Intend to co- work with Xi'an Section in 2021.
- Joint activities with any other Section:
  - ◇ Held an international conference with IEEE Guangzhou Section; afford technical support to other sections;

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

- Support extended for organising technical, educational and professional activities
- Joint activities for membership development
- Support extended for the formation of a Sub-section or transition of a Sub-section into a full Section

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

- ◇ Regular organization of technical activities
- ◇ Establish the new chapters
- ◇ Maintaining active student branches
- ◇ Held virtual international conferences

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

### **PART D - GOALS AND PLANS**

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

#### **D.2 Goals and Future Plans**

- ◇ Recruit more membership
- ◇ Organize more technical activities
- ◇ Sponsor international conferences
- ◇ Increasing training to members

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

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

- ◇ Search for Golden/ Silver sponsors to afford the financial sponsorship to conference