

IEEE Xi'an Section Report

PART A - SECTION SUMMARY

A.1 Executive Summary

- Section Executive Committee Member List

Chair: Jingdong Chen, Northwestern Polytechnical University

Vice-chair: Jinjun Liu, Xi'an Jiaotong University

Min Sheng, Xidian University

Steering Committee Chair: Jianguo Huang, Northwestern Polytechnical University

Fellow Recommend Committee Chair: Xiaohong Guan, Xi'an Jiaotong University

Awards & Recognition Committee Chair: Xinbo Gao, Xidian University

Membership Development Committee Chair: Zhen Wang, Northwestern Polytechnical University

Technical Activities Committee Chair: Zhiwen Yu, Northwestern Polytechnical University

Student Activities Committee Chair: Feng Gao, Xi'an Jiaotong University

WIE Committee Chair: Wen Zhang, Northwestern Polytechnical University

Newsletter Editor Committee Chair: Qunfei Zhang, Northwestern Polytechnical University

Young Scholars Committee Chair: Jie Chen, Northwestern Polytechnical University

Educational Activities Committee Chair: Qunfei Zhang, Northwestern Polytechnical University

Conference Committee Chair: Chengbing He, Northwestern Polytechnical University

Treasurer: He Xiang, Northwestern Polytechnical University

Office of IEEE Xi'an Section Director: He Xiang, Northwestern Polytechnical University

Secretary of IEEE Xi'an Section:

- Section Highlights

- Major Events (International, National)

Successfully Organized IEEE ICSPCC2022 (2022 IEEE International Conference on Signal Processing, Communications and Computing)

Successfully Organized MLSP 2022(The 32nd IEEE International workshop on Machine Learning for Signal Processing)

- Major Chapter Activities
- Major Student and Affinity Group Activities
- Awards

A.2 Financial Report

- Summary (as per submitted on NetSuite)

In 2022, the total receipts of Xi'an section is about \$25276.85 . It includes the balance of 2021 about \$11320.22, the section rebate is about \$12350.8, the student branch funding is \$1475.21, the interest is about \$130.62 .

The 2022 expenses of Xi'an section mainly refers to the Xi'an section student branches activities. Such as student membership fee, reception, transportation, etc.

The balance of 2022 is about \$ 25276.85 .

- Any other financial activities

Extra financial support mainly comes from the Northwestern Polytechnical University.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members in the past 3 years.

By Dec, 2022, the total amount of active members of IEEE Xi'an Section is 2805, while the number was 2281 for the year 2020 and 2985 for the year 2021.

In 2022, we continue our effort to increase membership, especially the student members.

- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members

B.2 Chapter Activities

- Total number of Chapters in the Section

By 2022,in total, there are 21 chapters in Xi'an Section, all of which are active. The chapters are as follows:

IEEE Xi'an Signal Processing Chapter
 IEEE Xi'an Computer Chapter
 IEEE Xi'an Computational Intelligence Chapter
 IEEE Xi'an Communication Chapter
 IEEE Xi'an Systems, Man, and Cybernetics Chapter
 IEEE Circuits and Systems Society Xi' an Chapter
 IEEE Xi'an Microwave Theory and Techniques Chapter
 IEEE Xi'an Electromagnetic Compatibility Chapter
 IEEE Xi'an Power & Energy Chapter
 IEEE Xi'an Reliability Chapter
 IEEE Xi'an Electronic Device Chapter
 IEEE Xi'an Dielectrics and Electrical Insulation Chapter
 IEEE Xi'an Broadcast Technology Chapter
 IEEE Xi'an Geoscience & Remote Sensing Chapter
 IEEE Xi'an Antenna and Propagation Chapter
 IEEE Xi'an Nuclear and Plasma Sciences Society Chapter
 IEEE Council on RFID Xi'an Chapter
 IEEE Xi'an Industrial Electronics Society Chapter
 IEEE Xi'an Instrumentation and Measurement Society Chapter
 IEEE Xi'an Power Electronic Chapter
 IEEE Xi'an Section, Systems, Man,and Cybernetics and Control Systems Societies Joint Chapter

- Number of Chapters formed in the current year

1

IEEE Xi'an Section, Systems, Man,and Cybernetics and Control Systems Societies Joint Chapter

The effective date of this chapter formation is July 8,2022.

- Number of active Chapters (Chapters who have reported required number of meetings during the year)

21

- Summary of Chapter activities (Chapter wise with attachment table/information)

Signal Processing Chapter

No.	Date	Topic
1	10/25-26/2022	Held IEEE ICSPCC2022, Xi'an, China.
2	08/22-25/2022	Held IEEE MLSP 2022, Xi'an, China

Computer Chapter

No.	Date	Topic
1	11/18/2022	Held The first Human-Machine-Things Intelligent Computing Forum
2	10/07/2022	Held the Special PHD Interest Group
3	12/29/2022	Held the 10 years anniversary Forum of CCF Xi'an

Communication Chapter

No.	Date	Topic
1	12/2022	The 29 th Annual Forum of Chinese Institute of Electronics
2	9/2022	ISCIT 2022
3	11/2022	Held the Forum on Intelligent spectrum management and applications
4	12/2022	MIIS2022

Systems, Man, and Cybernetics Chapter

No.	Date	Topic
1	02/26/2022	Dr. Rong Su delivered online report on privacy-preserving supervisory control of discrete-event systems for opacity enforcement and requirement satisfaction
2	06/20-24/2022	Prof. Gang Zheng delivered a series of online reports on soft robotics.
3	07/17/2022	Prof. Kamel Barkaoui delivered online report on linear-time properties evaluation based on structure theory and true concurrency of Petri net formalism.
4	10/2022	Dr. Jorge Davila was invited to give a series of online reports on introduction to sliding mode control.
5	11/04/2022	Prof. Witold Pedrycz was invited to give an online report on frontiers of machine learning: technology and society
6	12/13/2022	Prof. Sebastien Nicolas Gros was invited to give an online report on reinforcement learning-based model predictive control
7	07/16-17/2022	Held the International Colloquium on Discrete Event Dynamic Systems

IEEE Circuits and Systems Society Xi'an Chapter

No.	Date	Topic
1	8/8/2022	Prof. Dr. Hamid Reza Karimi delivered lectures on Multiagent Deep Reinforcement Learning
2	2/14/2022	Prof. Shi Guangming delivered lectures
3	11/16/2022	Co-held the 2022 Belt and Road Forum for Artificial intelligence

Microwave Theory and Techniques Chapter

No.	Date	Topic
1	12/30/2022	Held the 2022 Mini Seminar on Sensing Technology of Electromagnetic Information
2	10/13/2022	Prof. Zhang Linjie delivered lectures

Electromagnetic Compatibility Chapter

No.	Date	Topic
1	12/24/2022	Held the annual meeting on Intelligent power equipment and systems
2	4/24/2022	Co-held New Power Systems for Sustainable Dual Carbon Goals seminar
3	12/7/2022	Prof. Rene Smeets nad Prof. Ray Boxman delivered lectures

Power&Energy Chapter

No.	Date	Topic
1	1/6/2022	Held the Forum on Academic frontiers of electrical engineering
2	4/24/2022	Co-held the IEEE PES DAY
3	11/13/2022	Held the 2022 Silk Road International Symposium on the Cooperation and Integration of Industry, educatuon, research and application of electrical engineering

Electronic Device Chapter

No.	Date	Topic
1	3/8/2022	Prof. Qi-jun Zhang delivered lectures on Parallel Space Mapping Algorithm
2	4/12/2022	Prof. Wu Hanming delivered lectures
3	10/17/2022	Prof. Vazgen Melikyan delivered lectures
4	6/10/2022	Dr. En Yunfei delivered lectures
5	1/11-13/2022	6 young scholars delivered several lectures
6	4/11-6/6/2022	Held lectures on EDA

Dielectrics and Electrical Insulation Society Chapter

No.	Date	Topic
1	4/24/2022	Co-held the IEEE PES DAY
2	11/13/2022	Held the 2022 Silk Road International Symposium on the Cooperation and Integration of Industry, educatuon, research and application of electrical engineering

Broadcast Technology Chapter

No.	Date	Topic
1	1/5-22/2022	Held Forum on Mobile communication, Internet of vehicles, intelligent driving, meta-universe
2	6/2/2022	Prof. Wu Wen delivered lectures on RAN Slicing for Vehicular Networks
3	4/11/2022	Prof . Rahim Tafazolli delivered lectures on 6G vision for 2030+

Antenna and Propagation Chapter

No.	Date	Topic
1	11/30/2022	Held the 2022 Mini Seminar on Sensing Technology of Electromagnetic Information
2	12/30/2022	Held the IEEE AP-S Young Professional Ambassador Talk

Nuclear and Plasma Sciences Society Chapter

No.	Date	Topic
1	10/14/2022	Prof. Naoki Shinohara delivered lectures on All about Wireless Power Transfer (WPT)
2	10/13/2022	Prof. Cheng-Wei Qiu delivered lectures on 2D-material and van der Waals metasurfaces

IEEE Council on RFID Xi'an Chapter

No.	Date	Topic
1	5/22/2022	Held the Member's Day activities
2	10/25/2022	Co-held the RFID Merlion Forum 2022 Paper Sharing Series
3	9/12/2022	Served as TPC in IEEE RFID-TA 2022 meeting

Industrial Electronics Society Chapter

No.	Date	Topic
1	6/21/2022	Held the seminar concerning the standard introduction and development of IEEE IES
2	10/18/2022	Held the 2nd Symposium on Industrial Electronics, Control and Information Processing (SIECIP)
3	12/12/2022	Prof Juan J. Rodriguez-Andina delivered lectures on Wearable devices, Embedded Systems, and Artificial Intelligence for Medical Applications

Instrumentation and Measurement Society Chapter

No.	Date	Topic
1	7/2022	Participate the The 15th International Conference on Frontiers of Design and Manufacturing
2	1/3-7/2022	Participate the 2022AIAA SciTech Forum
3	11/12-13/2022	Participate the World Young Scientist Summit 2022
4	11/18/2022	Participate 2022 Digital Twin Global Forum
5	11/30/2022	Dr. Xiaowei Yu delivered lectures on Stochastic Surrogate Models
6	11/23/2022	Prof. Lu Lu delivered on Deep neural operators for multiphysics, multiscale& multifidelity problems

Systems, Man, and Cybernetics and Control Systems Societies Joint Chapter

No.	Date	Topic
1	11/20/2022	Prof. Peng Shi delivered lectures on Issues of AI Technologies in Complex Open Environment
2	11/20/2022	Prof. Changyu Wen delivered lectures on Distributed Adaptive Consensus for Uncertain Multi-agent Systems
3	11/20/2022	Prof. Shouyu Wang delivered lectures on Can Robots Contribute to an Aging Society
4	11/21/2022	Prof. Keqiang Lin delivered lectures on Intelligent Control and Machine Learning: Concepts and Applications
5	11/22/2022	Prof. Yang Shi delivered lectures on Adaptive Model Predictive Control for Constrained Nonlinear Systems
6	11/25/2022	Prof. Michael V. Basin delivered lectures on Predefined-Time Stabilization of Full-Scale 4D Permanent-Magnet Synchronous Motor System with Incompletely Measure States
7	12/1/2022	Prof. Guanya Shi delivered lectures on Neural-Control Family: Safe Agile Deep-Learning-Based Robotic Control in Dynamic Environments
8	11/27/2022	Prof. Yan Shi delivered lectures on Neuro-Fuzzy Learning Algorithms and Fuzzy PLL IC
9	12/3/2022	Prof. Hamid Reza Karimi delivered lectures on Intelligent Fault Diagnosis of Rotary Machinery Systems

B.3 Professional and Continuing Education Activities

1. Successfully Organized IEEE ICSPCC2022 (2022 IEEE International Conference on Signal Processing, Communications and Computing) .

In October 25-26, 2022, we hosted “2022 IEEE International Conference on Signal Processing, Communications and Computing” in Xi’an(online), China.

More than two hundreds of specialists and scholar from America, French, Japan, Australia, India, South Korea, etc. attended this conference.

2. Successfully Organized IEEE MLSP 2022 (32nd IEEE International Workshop on Machine Learning for Signal Processing)

In August 22-25, 2022, we hosted “32nd IEEE International Workshop on Machine Learning for Signal Processing” in Xi’an(online), China.

More than one hundreds of specialists and scholar from America, French, Japan, Australia, India, South Korea, etc. attended this conference.

B.4 Students Activities

- Total number of Student Branches in the Section

By 2022, there are 4 student branches in IEEE Xi'an Section. No new student branch is formed in 2022.

1. Xi'an Jiaotong University Student Branch
2. Northwestern Polytechnical University Student Branch
3. Xidian University Student Branch
4. Xi'an Institute of Optics and Precision Mechanics Student Branch

- Number of Student Branches formed in the current year

0

- Section level student activities (student congress, paper and other contests, awards etc)
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year)

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- Summary of Student Branch activities (Student Branch wise with attachment table/information)

Xi'an Jiaotong University Student Branch

No.	Date	Topic
1	6/18/2022	Co-host IEEE PELS DAY Event in China
2	7/15-16/2022	Co-host PEREC 2022
3	7/15/2022	Held PEREC young scholars Exchange Meeting
4	4/26/2022	Held IEEE PES Day round-table conference for students

Northwestern Polytechnical University Student Branch

No.	Date	Topic
1	10/25-27/2022	Volunteer work for IEEE ICSPCC 2022
2	8/22-25/2022	Volunteer work for IEEE MLSP 2022
3	10/29/2022	Volunteer work for Ship and Ocean Engineering Summit Forum

Xidian University Student Branch

No.	Date	Topic
1	11/16/2022	Co-held the 2022 Belt and Road Forum for Artificial intelligence

B.5 Affinity Group Activities

- Young Professional (YP)

There is currently no affinity group in IEEE Xi'an Section.

- Women In Engineering (WIE)

- Life Member(LM)

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B.6 Awards & Recognition Activities

- Award constituted by the Section
- Please list all Awards and Recognitions received by the Section, and members in the Section, from R10 and IEEE HQ during the year

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)

www.ieeexiansection.org, updated about every three months.
- Other means of contacts with Section members including social media

IEEE Xi'an Section normally contact with its members directly with Emails, informing them when there is some activities or some important information. We also provide support to students who present papers at international conferences

B.8 Industry Relations

- Membership growth and retention
- Activities for/with industrial members

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)"

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

- Benefit to IEEE members (for example discounts, access to technical information etc.)
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)

C3. Collaboration with other IEEE Sections

- Support extended to neighboring Sections
- Joint activities with any other Section

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)

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

- 1) Perfect IEEE Xi'an Section and establish new chapters.
- 2) Prepare establishing WIE for woman and GOLD for young scientists.
- 3) Develop service of membership and upgrading of member class.
- 4) Prepare assisting and holding for international conference.
- 5) Invite worldwide famous specialists and scholars for academic communication.
- 6) Establish long-term partnership with Hi-Tech enterprises in Xi'an.
- 7) Enhance the work of student branches for communication, training and competition.
- 8) Perfect the website of IEEE Xi'an Section.
- 9) Upload related summaries and reports in time.
- 10) Enhance the relationship with Northwestern Polytechnical University for more support.

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.