



2026年第九届**电子技术**国际会议  
2026 9th International Conference on  
**ELECTRONICS TECHNOLOGY**



Chengdu, China | May 29-31, 2026



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## Welcome Address | 欢迎辞

Dear Delegates,

It is our great pleasure to warmly welcome you to the 2026 9th International Conference on Electronics Technology (ICET 2026), held in Chengdu, China.

The conference is jointly sponsored by the IEEE Chengdu Section and the Sichuan Institute of Electronics, hosted by the Youth Talent Work Committee of the Sichuan Institute of Electronics, and strongly supported by the University of Electronic Science and Technology of China, Sichuan University, Southwest Jiaotong University, Xi'an University of Technology, the Singapore Institute of Electronics, Chengdu University of Technology, Chengdu University of Information Technology, and other distinguished institutions.

This year's program features four inspiring plenary speeches, together with a series of invited sessions, parallel oral and poster presentations, an Outstanding PhD Student Forum, and the Best Student Paper Competitions, offering participants a rich platform for academic exchange, technical discussion, and collaborative innovation.

We sincerely hope that the insights and perspectives shared throughout the conference will inspire fresh thinking, encourage interdisciplinary collaboration, and contribute to the advancement of your professional expertise. We warmly invite all participants to engage actively in the discussions, share their experiences, and take this opportunity to build meaningful connections with colleagues from around the world. Beyond the academic program, we hope your time in Chengdu will also be memorable, enriched by the city's profound cultural heritage, vibrant charm, and world-renowned cuisine.

We would also like to take this opportunity to express our sincere gratitude to all experts and scholars for their continued care, support, and contributions to the development of our conference. Our special appreciation goes to the members of the Technical Committee for their careful and rigorous review of the submissions, which has been essential to ensuring the academic quality and success of the conference. We are equally grateful to the Organizing Committee members and volunteers, whose dedication and hard work in planning, promoting, organizing, and supporting the conference have made this event possible. We believe that the ideas exchanged and the outcomes generated through this conference will make meaningful contributions to the continued advancement of electronics technology and its related fields.

Sincerely,

ICET 2026

Organizing Committee

## Conference Schedule | 会议日程概览

### May 28, Thursday

10:00-12:00	Test for Online Session   线上: 测试 	Online Room 1
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### May 29, Friday

线下: 签到及注册资料领取

10:00-17:00	Sign-in & Collect Conference Material	Conference Center (1st Floor) 会议中心 1 楼
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### May 30, Saturday

Jiaozi Hall (Conference Center, 1st Floor) | 交子厅 (会议中心 1 楼)

Host: TBA

8:40-8:50	Opening Remarks from Sichuan Electronics Society	
8:50-9:00	Welcome Address: Yuan Lin, University of Electronic Science and Technology of China, China 林媛, 电子科技大学 (研究生院院长)	
9:00-9:40	Plenary Speech I: Prof. Quan Xue, South China University of Technology, China 薛泉教授, 华南理工大学 (微电子学院院长, IEEE 会士, IEEE 杰出微波演讲人)	
9:40-10:20	Plenary Speech II: Prof. GUO Yongxin, City University of Hong Kong (CityUHK), China 郭永新教授, 香港城市大学 (IEEE 会士)	
10:20-10:50	<b>Group Photo &amp; Coffee Break</b>	
10:50-11:30	Plenary Speech III: Prof. Ken-ya Hashimoto, University of Electronic Science and Technology of China, China Ken-ya Hashimoto 教授, 电子科技大学 (IEEE 终身会士)	
11:30-12:10	Plenary Speech IV: Prof. Yue Li, Tsinghua University, China 李越副教授, 清华大学 (无穹书院副院长, IET 会士)	
12:10-13:30	<b>Lunch Time</b>	Manjinall Day Dining Restaurant (Hotel Center, 2nd Floor) 酒店中心 2 楼曼锦西餐厅

### Conference Center 会议中心

Room 102	Room 103	Room 104	Room 202	Room 204
13:30-15:30				
Invited Speech Session I	Invited Speech Session II	Invited Speech Session III	Invited Speech Session IV	Invited Speech Session V
16:00-18:00				
Invited Speech Session VI	Oral Session 1	Outstanding PhD Student Forum	Best Student Paper Competition I	Best Student Paper Competition II
18:30-20:00	<b>Award Ceremony and Conference Dinner</b>		Jiaozi Hall (Conference Center, 1st Floor) 交子厅 (会议中心 1 楼)	

**May 31, Sunday****Conference Center 会议中心**

09:00-12:00

Room 102	Room 103	Room 104	Room 202	Room 204
Invited Speech Session VII	Oral Session 2	Oral Session 3	Oral Session 4	Oral Session 5
10:00-12:00				
Poster Session I		Poster Session II		Conference Center (1st Floor) 会议中心 1 楼
<b>12:15-13:30</b>	<b>Lunch Time</b>	Manjinall Day Dining Restaurant (Hotel Center, 2nd Floor) 酒店中心 2 楼曼锦西餐厅		

**May 31, Sunday****线上: 口头汇报**

	Online Room 1	Online Room 2	Online Room 3
<b>13:30-15:30</b>	Oral Session 6 (Online)	Oral Session 7 (Online)	Oral Session 8 (Online)
<b>16:00-18:00</b>	Oral Session 9 (Online)	Oral Session 10 (Online)	Oral Session 11 (Online)

♦ **Online Platform**

ZOOM, Download link:

<https://zoom.us/download><https://zoom.com.cn/download> (for Chinese authors)♦ **Online Meeting Room****Online Room 1: ZOOM ID: 816 8266 5722, ZOOM link: <https://us02web.zoom.us/j/81682665722>****Online Room 2: ZOOM ID: 844 3489 7451, ZOOM link: <https://us02web.zoom.us/j/84434897451>****Online Room 3: ZOOM ID: 839 6163 1361, ZOOM link: <https://us02web.zoom.us/j/83961631361>**

## Session Information | 分会场信息

Onsite Session Themes	
<b>May 30, Saturday</b>	<b>13:30-15:30</b>
Invited Speech Session I	<b>High-Frequency/High-Speed Vacuum Micro-Nano-Electronic Devices and Technologies</b> 毕津顺, 祁峰, 姜芮芮, 严飞, 于伟华, 王汉斌, 李男男
Invited Speech Session II	<b>Agents Collaboration and Service Computing</b> Nobuo Funabiki, 郑丹阳, 陈香伊
Invited Speech Session III	<b>Intelligent Communications, Radar Sensing, and Space-Air-Ground Integrated Networking Technologies</b> 时晨光, 牛英滔, 刘永军, 柴恒, 区俊辉, 李敏
Invited Speech Session IV	<b>Intelligent Sensing, Flexible Electronics, and Micro/Nano Integrated Systems</b> 陈锦辉, 孙露露, 李翔, 许威, 张天湘, 涂程, 郭俊雄
Invited Speech Session V	<b>Next-Generation Power Systems, Energy Storage Technologies, and Intelligent Electrical Engineering</b> 何川, 郑熙东, 王绍飞, 张施令
<b>May 30, Saturday</b>	<b>16:00-18:00</b>
Invited Speech Session VI	<b>Advanced Materials, Functional Devices, and Interdisciplinary Innovative Applications</b> 文永正, 曹庆梅, 蔺海荣, 谭永红, 熊航
Oral Session 1	<b>Electromagnetic Field Theory and Microwave Circuit Design Techniques</b> T6515, T2067, T5867, T1828, T6094
Outstanding PhD Student Forum	<b>Lei Guo, Haoqi Lyu, Lizeng Gong, Lixia Wang, Xiangyu Zhou</b>
Best Student Paper Competition I	<b>Microelectronic Device Theory and Simulation Design</b> T9842, T0063, T5375, T0241, T0730, T4346, T5425
Best Student Paper Competition II	<b>Digital Signal Detection and Estimation Algorithms in Wireless Communications</b> T9347, T8949, T5710, T4080, T9783, T9175, T2224
<b>May 31, Sunday</b>	<b>09:00-12:00</b>
Invited Speech Session VII	<b>Combination and Applications of Opto-electronic Technology and Biomedicine</b> 罗晗, 樊华, 李舍予, 陈自宇, 王贯, 温静, 姚彩珍, 李玮, 包骥
Oral Session 2	<b>Modeling of Modern Electronic Devices and Low-Power Integrated Circuit Design</b> T9195, T5420, T0566, T5654, T0103, T3786
Oral Session 3	<b>Power System Stability Analysis and Intelligent Control Methods</b> T0262, T3905, T9250, T8453, T0348
Oral Session 4	<b>Wireless Access and Network Resource Management in Mobile Communications</b> Junyu Lai, T3439, T6116, T7348, T9490, T5089
Oral Session 5	<b>Digital Image Analysis and Signal Processing Methods</b>



	T3631, T8916-A, T0010, T6190, T1696, T5103, T8648, T3293, T7118
<b>May 31, Sunday</b>	<b>10:30-12:00</b>
Poster Session I	<b><i>Advanced Electronic Materials and High-Power Power Electronics Systems</i></b> T0905, T0131, T9775, T6841, T5414, T8396, T6274, T4195, T4870, T8830, T9637, T4630, T5589, T6852, T4811, T0527, T0403, T0867, T9447, T1633
Poster Session II	<b><i>Electronic Systems and Digital Communications</i></b> T6637, T3607, T5165, T0096, T8244, T0074, T0045, T9386, T6410, T8299, T2704, T2168, T2998, T9889, T4200, T2370, T6749, T8119, T9320, T2606, T0201
<b>Online Session Themes</b>	
<b>May 31, Sunday</b>	<b>13:30-15:45</b>
Oral Session 6 (Online)	<b><i>Design and Reliability Optimization of High-Performance Electronic Components</i></b> T4768, T9497, T0032, T7551, T1781, T7838, T4123, T1614
Oral Session 7 (Online)	<b><i>Multi-Band Antenna Design and Performance Evaluation Methods</i></b> T7894, T2864, T6457, T9306, T6558, T0225, T0012, T9247
Oral Session 8 (Online)	<b><i>Low Earth Orbit (LEO) Satellite Communication Networks and Network Resource Management</i></b> Weiwei Jiang, T1694, T8972, T7936, T0947, T7601, T3249, T0049, T5450
<b>May 31, Sunday</b>	<b>16:00-18:00</b>
Oral Session 9 (Online)	<b><i>Knowledge Graph-Based Applications for Energy Management and Power Grid Optimization</i></b> T6984, T8724, T3762, T0800, T3009, T4701, T2242, T2190
Oral Session 10 (Online)	<b><i>Machine Vision-Based Intelligent Control and Human-Robot Collaboration Systems</i></b> T7237, T3097, T1552, T9071, T6319, T0104, T6734, T4007
Oral Session 11 (Online)	<b><i>Image Feature Analysis and Multi-Modal Signal Detection Techniques</i></b> Momiao Zhou, T9690, T9793, T6403, T1910, T2750, T8676, T7923, T7468



## Conference Committees | 组织委员会

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### Advisory Chairs

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Zhining Chen, National University of Singapore

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Shiwen Yang, University of Electronic Science and Technology of China  
Kama Huang, Sichuan University | Vice Chairman, Sichuan Institute of Electronics

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Kai Wang, Southern University of Science and Technology  
Yang Li, Shandong University, China

### Program Co-chairs

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Hongge Li, Beihang University  
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### Local Organizing Committee

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Momiao Zhou, Hefei University of Technology, China  
Yi Luo, Micro/Nano Fabrication Laboratory, Microsystem & Terahertz Research Center Chinese Academy of Engineering Physics Chengdu, China  
Zhengrong Xiang, Nanjing University of Science and Technology, China  
Yuxin Ye, Institute of Microelectronics of the Chinese Academy of Sciences, China  
Jun Chen, Nanjing University of Information Science and Technology, China  
Jun Ren, Liverpool John Moores University, United Kingdom

# History Overview | 会议历史概览

**International Conference on Electronics Technology (ICET) was successfully held in Chengdu from 2018 to 2025.**

The conference garnered attention and support from numerous universities and enterprises, attracting over **300 experts and scholars** in the field of electronics technology each year. They discussed and exchanged the latest trends and future directions in electronics technology. The successful organization of the conference not only contributes to the advancement of electronics technology but also provides a platform for communication within the electronics community.



Group photos 2018-2025

ICET won "The Most Influential Academic Activity of the Year in Sichuan and Chongqing" for two years.



ICET 2018-2025 Conference Proceedings has been archived in **IEEE Xplore** and indexed by **Ei Compendex** and **Scopus**.



- ICET 2025 (ISBN: 979-8-3315-1938-4)    ICET 2024 (ISBN: 979-8-3503-6394-4)    ICET 2023 (ISBN: 979-8-3503-3768-6)
- ICET 2022 (ISBN: 978-1-6654-8507-4)    ICET 2021 (ISBN: 978-1-7281-7672-7)    ICET 2020 (ISBN: 978-1-7281-6282-9)
- ICET 2019 (ISBN: 978-1-7281-1616-7)    ICET 2018 (ISBN: 978-1-5386-5750-8)



## Conference Notice | 会议须知

### ◆ Conference Venue



### Jinbin International Hotel

## 锦宾国际酒店

**Address:** 20 Xingke North Road, Jinniu District, Chengdu City, Sichuan Province

**地址:** 四川省 · 成都市 · 金牛区 · 兴科北路 20 号

### **For room reservations:**

please contact Ms. Lan at +86 18482123234.

### ◆ Time Zone

**Beijing Time: UTC/(GMT+8)**

### ◆ Oral Presentation

- Invited Speech Timing/ Parallel Competition Speech Timing: a maximum of 20 minutes in total, including 3 minutes for Q&A; Parallel Oral Speech Timing: a maximum of 15 minutes total, including 3 minutes for Q&A. Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.
- You can use USB flash drive (memory stick), make sure you scanned viruses in your own computer. Each presenter is required to copy the slide file (PPT or PDF) to the computer in the corresponding session rooms 10 minutes before the session starts.
- It is suggested that you email a copy of your presentation to your personal in box as a backup. If for some reason the files can't be accessed from your flash drive, you will be able to download them to the computer from your email.

### ◆ Poster Presentation

- We expect that at least one author stands by the poster for (most of the time of) the duration of the poster session. This is essential to present your work to anyone interest into it.
- If you wish to leave your poster to attend a lecture, please leave a message on the board to inform visitors.
- Posters should be set-up at least 15 minutes before the session starts and removed at the end of the session. Left behind posters at the end of the session will be disposed of.
- The size of poster is A1, approximately 60cm\*80cm in color print. Posters must be in portrait format(height>width). This cannot be modified.
- Materials to hang the poster will be made available on-site. Our staff will be available onsite to assist you.



◆ **Online Presentation**

28th May 2026	
Test for Online Sessions	<b>ZOOM ID: 816 8266 5722</b> <b>link: <a href="https://us02web.zoom.us/j/81682665722">https://us02web.zoom.us/j/81682665722</a></b>
31th May 2026	
Online Session 6/9	<b>ZOOM ID: 816 8266 5722</b> <b>link: <a href="https://us02web.zoom.us/j/81682665722">https://us02web.zoom.us/j/81682665722</a></b>
Online Session 7/10	<b>ZOOM ID: 844 3489 7451</b> <b>link: <a href="https://us02web.zoom.us/j/84434897451">https://us02web.zoom.us/j/84434897451</a></b>
Online Session 8/11	<b>ZOOM ID: 839 6163 1361</b> <b>link: <a href="https://us02web.zoom.us/j/83961631361">https://us02web.zoom.us/j/83961631361</a></b>

- a) Parallel Presentation Timing: a maximum of 15 minutes in total, including 3 minutes for Q&A.
- b) The whole conference will be recorded. We appreciate you proper behavior and appearance.
- c) The recording will be used for conference program and paper publication requirements. The video recording will be destroyed after the conference and it cannot be distributed to or shared with anyone else, and it shall not be used for commercial nor illegal purpose. It will only be recorded by the staff and presenters have no rights to record.

◆ **Important Notes**

- f) Please wear formal clothes or national characteristics of clothing.
- g) Please take care of your belongings during the conference. The conference organizer does not assume any responsibility for the loss of personal belongings of the participants.
- h) Please wear your participation badge during the conference. There will be NO access for people without a badge. NEVER discard your badge at will.
- i) Accommodation is not provided. Delegates are suggested to make early reservations.
- j) Please show the badge and meal coupons when dining. Please be advised that lost coupons will not be replaced.



## Plenary Speaker I

**Date** May 30, Saturday

**Time** 9:00-9:40

**Venue** Jiaozi Hall



### Prof. Quan Xue 薛泉教授

South China University of Technology, China 华南理工大学

*Fellow of IEEE, IEEE distinguished microwave lecturer*  
微电子学院院长, IEEE 会士, IEEE 杰出微波演讲人

#### BIO

Quan Xue received the B.S., M.S., and Ph.D. degrees in electronic engineering from the University of Electronic Science and Technology of China (UESTC), Chengdu, China, in 1988, 1991, and 1993, respectively. In 1993, he joined the UESTC as a Lecturer and became a Professor in 1997. From October 1997 to October 1998, he was a Research Associate and then a Research Fellow with the Chinese University of Hong Kong. In 1999, he joined the City University of Hong Kong and was a Chair Professor of Microwave Engineering before he left in 2017. He also served the University as the Associate Vice President, and the Director of Information and Communication Technology Center, and the Deputy Director of the State Key Lab of Millimeter Waves (Hong Kong). In 2017, he joined the South China University of Technology, where now he is a professor and serves as the dean of the School of Microelectronics, and the Director of the Guangdong Key Laboratory of Terahertz and Millimeter Waves. He also served as the Antenna Chief Scientist of Huawei Technologies 2012 Labs (2020-2023), a member of the National 6G Technology General Expert Group.

His research interests include microwave/millimeter-wave/THz integrated circuits and antennas. He has authored or co-authored more than 650 internationally refereed journal papers and more than 420 international conference papers. Professor Xue is a Fellow of IEEE and an IEEE distinguished microwave lecturer for the 2022-2024 term. He served the IEEE as an AdCom member of MTT-S (2011-2013) and the Associate Editor of IEEE Transactions on Microwave Theory and Techniques (2010-2013), the Editor of International Journal of Antennas and Propagation (2010-2013), the Associate Editor of IEEE Transactions on Industrial Electronics (2010-2015), the Associate Editor of IEEE Transactions on Antenna and Propagations (2016), and , a track editor Eletromagnetic Science. Professor Xue is the winner of the 2017 H. A. Wheeler Applications Prize Paper Award.

**Speech Title: Electromagnetic Lens Based on Honeycomb Structure and Its Applications in Communications and Radars**

## Plenary Speaker II

**Date** May 30, Saturday

**Time** 9:40-10:20

**Venue** Jiaozi Hall



### Prof. Yongxin Guo 郭永新教授

City University of Hong Kong (CityUHK), China 香港城市大学

Fellow of IEEE  
IEEE 会士

#### BIO

Dr Yongxin Guo is currently a Chair Professor of Electronic Engineering under the Global STEM Professorship Scheme at the Department of Electrical Engineering, City University of Hong Kong (CityUHK). Concurrently, he is serving as Director for City University of Hong Kong Qingdao Research Institute (CityUHK-QRI). Dr Guo was a Professor at the Department of Electrical and Computer Engineering, National University of Singapore (NUS). He has authored or co-authored over 700 international journal and conference papers, 2 books and 4 book chapters. He holds over 70 granted/filed patents in USA, China and Singapore. His current research interests include Electromagnetics in Biomedicine, Antennas, Microwave, Millimeter-Wave and Terahertz Integrated Circuits, Wireless Power Transfer, Radar Systems, Microwaves in Quantum Computing, AI for Antennas, RF Circuits and Wireless Sensing. He is currently leading a team of 7 postdoctoral researchers and 8 PhD students at CityUHK. He has graduated 29 PhD students and hosted and supervised more than 110 research staff, visiting PhD students, and visiting scholars at NUS.

Dr. Guo is a Fellow of IEEE and Singapore Academy of Engineering. He is serving as the Chair for IEEE MTT-S Inter-Society Distinguished Lecturer Program (2025-2026). He was serving as Editor-in-Chief, IEEE Journal of Electromagnetics, RF and Microwave in Medicine and Biology for two terms from 2020 to 2025. He was a Distinguished Lecturer for IEEE Antennas and Propagation Society (2022-2024). He received the CityU HK 1st EE Outstanding Alumni Award in 2022. He was the recipient of 2020 IEEE Microwave and Wireless Components Letters Tatsuo Itoh Prize of the IEEE Microwave Theory and Techniques Society. He was serving as IEEE Biomedical Engineering Award Committee and served as the IEEE Fellow Evaluation Committee for IEEE Engineering in Medicine and Biology Society (2019-2020). Dr Guo was the Chair for IEEE AP-S Technical Committee on Antenna Measurement in 2018-2020. He served as Associate Editor for IEEE Antennas and Propagation Magazine (2018-2020), IEEE Journal of Electromagnetics, RF and Microwave in Medicine and Biology (2017 – 2020), Electronics Letters (2015-2019), IEEE Antennas and Wireless Propagation Letters (2013-2018), and IET Microwaves, Antennas & Propagation (2014-2017). He has served as General Chair/Co-Chair for a number of international conferences/workshops.

#### Speech Title:

#### ABSTRACT



## Plenary Speaker III

**Date** May 30, Saturday

**Time** 10:50-11:30

**Venue** Jiaozi Hall



### Prof. Ken-ya Hashimoto

University of Electronic Science and Technology of China, China 电子科技大学

Life Fellow of IEEE  
IEEE 终身会士

#### BIO

Ken-ya Hashimoto received the B.S. and M.S. degrees in electrical engineering from Chiba University, Chiba, Japan, in 1978 and 1980, respectively, and the D. Eng. degree from the Tokyo Institute of Technology, Tokyo, Japan, in 1989. He joined Chiba University as a Research Associate in 1980 and retired there as a Professor Emeritus in 2021. Right after the retirement, he moved to the University of Electronic Science and Technology of China (UESTC), Chengdu, China, as a professor. He had Visiting Professor/Researcher positions in various institutions and is now the visiting professor of Shanghai Normal University and Shanghai Institute of Microsystem and Information Technology. He was awarded the IEEE Fellow in 2005 and is now the IEEE Life Fellow. He also received the International Distinguished Lecturer Award of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control (UFFC) Society in 2005, the Ichimura Industrial Award from the New Technology Development Foundation in 2015, the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology for Research in 2018, and the Distinguished Service Award from the IEEE UFFC Society in 2019. His current research interests include simulation and design of various high-performance surface and bulk acoustic wave devices.

*Speech Title: Nonlinearity in Radio Frequency Acoustic Devices for Mobile Communications*

#### ABSTRACT

Owing to excellent linearity, radio frequency (RF) surface and bulk acoustic wave (SAW/BAW) devices are indispensable in the RF frontend of current mobile communication equipment. Nevertheless, tiny nonlinearity still remains, and its ultimate suppression is highly demanded.

Since nonlinearity in RF SAW/BAW devices is weak, the first-order perturbation analysis is enough in general for the simulation. The authors proposed an equivalent-circuit-based simulation method for nonlinear behavior of RF SAW/BAW resonators, and its accuracy was proven experimentally. Recently, the simulation procedure was also applied to the laterally excited bulk acoustic resonator (XBAR), and its applicability was also demonstrated. The theory was extended to include multiple spurious resonances, and it was revealed why nonlinear responses by spurious resonances are more emphasized than those by the main resonance.

This talk starts with the introduction of RF SAW/BAW/XBAR devices and explains the necessity of excellent linearity for their use in mobile communications. Then the first-order perturbation analysis is explained for nonlinear responses of RF SAW/BAW/XBAR devices, and effectiveness of the method is demonstrated.

The talk will be extended to the linear and nonlinear properties in wafer probes which are necessary for the characterization of linear properties of these devices.

Finally, anomalous phenomena caused by nonlinearity in RF acoustic wave devices are introduced. They include subharmonics, chaos, and anomalous power dependence.

## Plenary Speaker IV

**Date** May 30, Saturday

**Time** 11:30-12:10

**Venue** Jiaozi Hall



### Assoc. Prof. Yue Li 李越副教授

Tsinghua University, China 清华大学

Fellow of IET

清华大学无穹书院副院长, IET 会士

#### BIO

Yue Li is a Tenured Associate Professor at Tsinghua University. He serves as Associate Dean of Wuqiong College, and Deputy Director of the Microwave and Antenna Institute of Tsinghua University. Dr. Li is internationally recognized for his pioneering contributions to antenna theory and techniques. He established the systematic framework of zero-order-mode antennas based on epsilon-near-zero (ENZ) and mu-near-zero (MNZ) media or structures. He is the first Chinese recipient of both URSI Issac Koga Gold Medal and IEEE APS Leopold B. Felsen Research Grant. He also received the Deng Jiaxian Youth Science and Technology Award, the Second Prize Natural Science Award of the Ministry of Education and the Chinese Institute of Communications as the first contributor. He has published over 250 SCI-indexed papers, including in Science, Science Advances, Nature Communications, Physical Review Letters, and IEEE Transactions on Antennas and Propagation, with over 5000 SCI citations. His innovations in antennas have been deployed in commercial products by Huawei, Xiaomi, and Lenovo, and were featured and reported by People's Daily. In education, his undergraduate course "Antenna Principles" has been honored as a National First-Class Undergraduate Course.

*Speech Title: From Zero-index Media to Zero-order Mode Antennas*

#### ABSTRACT

This report systematically elaborates on the electromagnetic theory based on zero-index media and the key technologies of zeroth-order mode antennas in response to the inherent "frequency-size-bandwidth" physical constraints of antenna radiation. Firstly, it focuses on zero-index media such as epsilon-near-zero (ENZ) and mu-near-zero (MNZ), revealing their space-time decoupling characteristics due to infinite wavelengths, and studies impedance matching methods based on optical doping and spectral regulation methods based on Fano resonance phenomena. Secondly, in response to the problem that natural zero-index media cannot exist and be applied in practice due to high losses, this report achieves the space-time decoupling characteristics of zero-index media by constructing zeroth-order modes, and successfully develops multiple zeroth-order mode antennas independent of geometries through technologies such as cutoff waveguides and composite left-right-handed transmission lines, catering to engineering demands such as wide bandwidth and wide beamwidth. Through industry-university-research cooperation, the first flat terminal equipped with zero-order mode antennas has been launched. Thirdly, in response to the demand for wider bandwidths in future communications, this report combines active circuit technology to break through the bandwidth bottleneck of zeroth-order mode antennas, promoting the development of active zeroth-order mode antennas and providing a new technical path for the next-generation wideband antenna systems. The related achievements have established an application framework for zero-index media and zeroth-order mode antennas in the field of antennas, supporting the research and development of new-generation high-performance space-constrained electromagnetic systems.



## Invited Speakers

01



**Han Luo**, West China Hospital  
of Sichuan University  
罗晗 四川大学华西医院

02



**Hua Fan**, University of  
Electronic Science and  
Technology of China  
樊华 电子科技大学

03



**Ji Bao**, West China Hospital of  
Sichuan University  
包骥 四川大学华西医院

04



**Sheyu Li**, West China  
Hospital of Sichuan University  
李舍予 四川大学华西医院

05



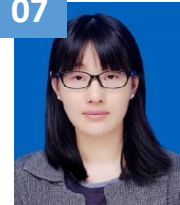
**Ziyu Chen**, Sichuan  
University  
陈自宇 四川大学

06



**Guan Wang**, West China  
Hospital of Sichuan University  
王贯 四川大学华西医院

07



**Wenjing Jie**, Sichuan Normal  
University  
接文静 四川师范大学

08



**Chenguang Shi**, Nanjing  
University of Aeronautics and  
Astronautics  
时晨光 南京航空航天大学

09



**Heng Chai**, Eighth Research  
Institute of China State  
Shipbuilding Corporation  
柴恒 中国船舶集团有限公司  
第八研究院

10



**Tianxiang Zhang**, Beijing  
Spacecraft Overall Design  
Department  
张天湘 北京空间飞行器总体  
设计部

11



**Shiling Zhang**, Chongqing  
Electric Power Research  
Institute  
张施令 重庆电力科学研究院

12



**Nobuo Funabiki**, Okayama  
University, Japan

## Invited Speakers

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**Jing Wen**, China Academy of Engineering Physics  
 温静 中国工程物理研究院激光聚变研究中心

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**Caizhen Yao**, China Academy of Engineering Physics  
 姚彩珍 中国工程物理研究院激光聚变研究中心

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**Wei Li**, Sichuan University  
 李玮 四川大学

16



**Chuan He**, Sichuan University  
 何川 四川大学

17



**Mingze Zhang**, Harbin University of Science and Technology  
 张明泽 哈尔滨理工大学

18



**Xiang Li**, Guilin University of Electronic Technology  
 李翔 桂林电子科技大学

19



**Junyu Lai**, University of Electronic Science and Technology of China  
 赖俊宇 电子科技大学

20



**Min Li**, Southwest Jiaotong University  
 李敏 西南交通大学

21



**Jinhui Chen**, Xiamen University  
 陈锦辉 厦门大学

22



**Momiao Zhou**, Hefei University of Technology  
 周墨淼 合肥工业大学

23



**Danyang Zheng**, Southwest Jiaotong University  
 郑丹阳 西南交通大学

24



**Weiwei Jiang**, Beijing University of Posts and Telecommunications  
 姜蔚蔚 北京邮电大学



## Invited Speakers

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**Yonghong Tan**, Shanghai Normal University  
谭永红 上海师范大学

26



**Lulu Sun**, RIKEN/The University of Tokyo  
孙露露 日本理化学研究所/东京大学

27



**Jinshun Bi**, Guizhou Normal University  
毕津顺 贵州师范大学

28



**Qingmei Cao**, Shanghai University of Science and Technology  
曹庆梅 上海理工大学

29



**Wei Xu**, Shenzhen University  
许威 深圳大学

30



**Hairong Lin**, Central South University  
蔺海荣 中南大学

31



**Ruirui Jiang**, Nantong University  
姜芮芮 南通大学

32



**Fei Yan**, China Academy of Engineering Physics  
严飞 中国工程物理研究院电子工程研究所

33



**Hanbin Wang**, China Academy of Engineering Physics  
王汉斌 中国工程物理研究院微系统与太赫兹研究中心

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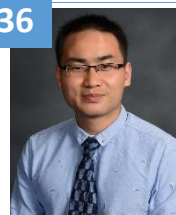
**Nannan Li**, China Academy of Engineering Physics  
李男男 中国工程物理研究院微系统与太赫兹研究中心

35



**Yongzheng Wen**, Tsinghua University  
文永正 清华大学

36



**Yongjun Liu**, Xi'an University of Electronic Science and Technology  
刘永军 西安电子科技大学

## Invited Speakers

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**Weihua Yu**, Beijing Institute of Technology  
于伟华 北京理工大学

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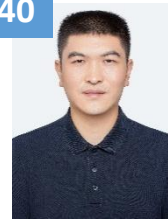
**Xiangyi Chen**, Southwest Jiaotong University  
陈香伊 西南交通大学

39



**Junxiong Guo**, Chengdu University  
郭俊雄 成都大学

40



**Yingtai Niu**, National University of Defense Technology  
牛英滔 国防科技大学

41



**Cheng Tu**, University of Electronic Science and Technology of China  
涂程 电子科技大学

42



**Shaofei Wang**, Xi'an Jiaotong University  
王绍飞 西安交通大学

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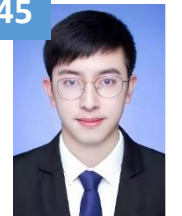
**Junhui Qu**, South China University of Technology  
区俊辉 华南理工大学

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**Feng Qi**, Chinese Academy of Sciences  
祁峰 中国科学院沈阳自动化研究所

45



**Xidong Zheng**, Fuzhou University  
郑熙东 福州大学

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**Hang Xiong**, Jiaxing University  
熊航 嘉兴大学