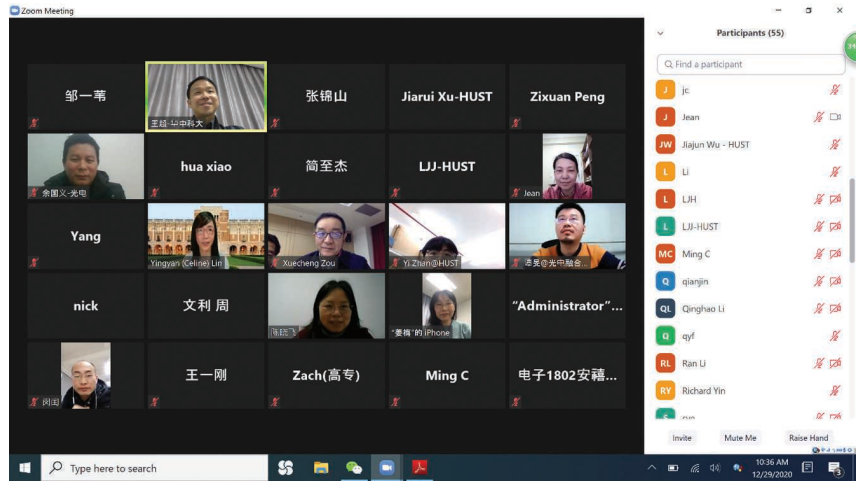


Undergraduate student Jiajun Wu said, "From this talk, I have learned a lot about energy-efficient AI accelerators. Before this talk, I thought developing the accelerator is the responsibility of hardware scholars and engineers. However, Prof. Lin showed me a broader vision on AI accelerators. Generally, there are different directions for reducing the energy consumption, including optimized algorithms, architectures, and basic circuits. Besides, one of her works, ShiftAddNet, inspired me to find some other algorithms or calculations to substitute-multiply in conventional DNNs. I believe that, with the development of energy-efficient training algorithms and accelerators, green AI will become a reality. Thanks very much to Prof. Lin for her thorough introduction in this talk!"



Prof. Lin with audience members from HUST for a snapshot after the talk.

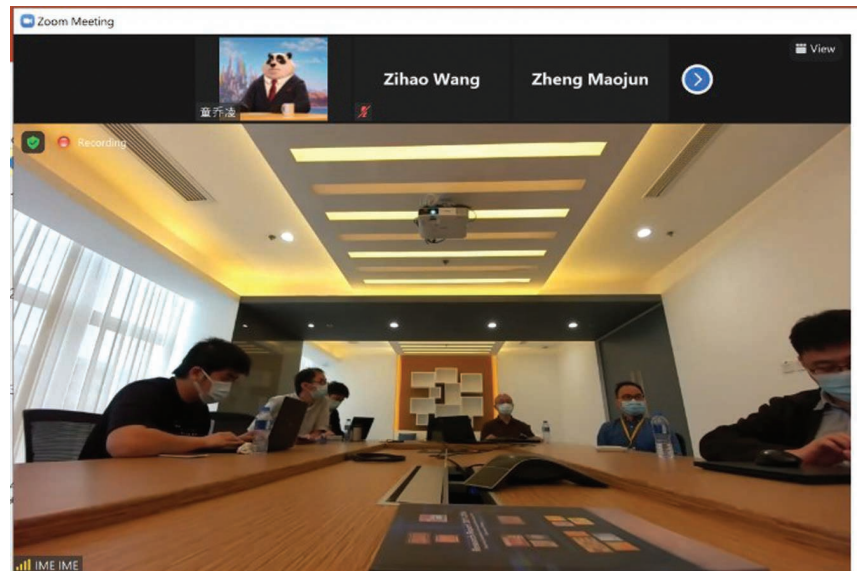
This virtual technical talk was very successful. It attracted more than 80 attendees across China, including audience members from Wuhan, Shenzhen, Shanghai, and Beijing.

—Jiajun Wu  
Student member

—Chao Wang  
Chair chair

## IEEE CASS/EDS/SSCS Wuhan Joint Chapter and IEEE CASS Macau Chapter Organize an Outreach Online Seminar

The IEEE Circuits and Systems Society (CASS), IEEE Electron Devices Society (EDS), and IEEE Solid-State Circuits Society (SSCS) Wuhan joint Chapter, along with the IEEE CASS Macau Chapter, held an outreach program on 10 December 2020. Due to the COVID-19 pandemic, the outreach activity was held virtually through a Zoom meeting. Technical lectures were presented by nine professors from the University of Macau, Macau, China, and the Huazhong University of Science and Technology (HUST), Wuhan, China. Macau Chapter Chair Prof. Jun Yin and Wuhan Joint



The IEEE CASS/EDS/SSCS Wuhan joint Chapter and IEEE CASS Macau Chapter held a virtual outreach meeting; this view shows the Macau meeting site.

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Chapter Chair Prof. Chao Wang co-chaired this online technical seminar.

The event started with talks from five professors at the State Key Laboratory of Analog and Mixed-Signal VLSI at the University of Macau. Prof. Yong Chen introduced his recent work on oscillators, phase-locked loops, and wireline transmitter circuits. Prof. Mo Huang presented his works on power management ICs and systems, focusing on low-dropout regulator and switching-mode power converter designs. Prof. Minglei Zhang introduced work from the Data Converter Research Group, focusing on high-speed analog-to-digital converter and low-jitter clock circuit designs. Prof. Ka-Meng Lei presented his recent work on ultralow-power ICs for chemical/biological assay. Prof. Ka Fai Un introduced his work on the digital transmitter and low-power analog circuits for artificial neural networks.

Part two of the event included four professors from HUST who introduced research activities at the School of Optical and Electronic Information (SOEI). Prof. Qiaoling Tong provided general information on the research, teaching, and students of SOEI as well as his research on aerospace high-frequency power systems and integrated power chips. Prof. Chun Zhao presented his work on high-performance microelectromechanical systems resonant sensors. Prof. Min Tan introduced his work on basic and recent advances of the circuit-level convergence of electronics and photonics. Prof. Wang presented his research work on ultralow-power and intelligent circuits and systems.

After the lectures, speakers from both sides had friendly discussions with attendees and answered questions. Participants also exchanged information about their experiences with student recruitment and development. The outreach activity attracted around 39 students and faculty members and provided an excel-

The slide titled "Overview" features two diagrams. The left diagram shows a "Torus-actuated valve" with "Example wires PCR chambers" and a "Mixing channel". The right diagram shows a "DMF Microcoil Assembly" with "Cr electrodes", "Sample", "Teflon", "Dielectric", "FEP film", and "Microcoil". Below the diagrams are citations: "M. Liang et al. (Nat. Comm. '13)" and "I. Swyer et al. (Lab Chip '16)". A bulleted list states: "Nuclear Magnetic Resonance (NMR) is a powerful tool to explore molecular information" and "Standard research tool for different fields", including "Chemical analysis", "Food quality inspection", and "Particles dynamics". The slide is dated 12/10/2020 and has a slide number 13.

Prof. Lei from the University of Macau presents his recent work on ultralow-power ICs for chemical/biological assay.

The slide titled "学院发展里程碑" (College Development Milestones) features a timeline from 1952 to 2017. Key milestones include: 1952 (Hit), 1970 (Hit), 1976 (China's first optical fiber), 1982 (East Lake High-tech Development Zone), 1984 (Hit), 1988 (Hit), 1991 (Hit), 1998 (Hit), 2001 (Hit), 2003 (Hit), 2008 (Hit), 2010 (Hit), 2012 (Hit), and 2017 (Hit). The slide also includes the text "打造万亿级光电子信息产业" (Building a trillion-level optoelectronic information industry) and "建设世界一流光电信息学科" (Building a world-class optoelectronic information discipline). The slide is dated 12/10/2020 and has a slide number 2.

Prof. Tong introduces the SOEI, HUST, China.

lent opportunity for SSCS and CASS members from both universities to learn from each other and explore possible collaborations in the future.

—Yi Zhan  
Student member

—Jun Yin  
Macau Chapter chair

—Chao Wang  
Wuhan Joint Chapter chair