

# IEEE SSCS USTC Student Branch Chapter Hosts an Invited Lecture by Dr. Zhiyuan Chen

The IEEE Solid-State Circuits Society (SSCS) University of Science and Technology of China (USTC) Student Branch Chapter organized a talk on 22 October 2020 by Dr. Zhiyuan Chen, School of Microelectronics, Fudan University, China. The lecture was held at the Micro/Nano Electronic System Integration Center Laboratory, School of Microelectronics, with the assistance of Prof. Lin Cheng.

Zhiyuan briefly discussed two integrated piezoelectric energy-harvesting interfaces that do not have external inductors. Instead of relying on bulky external inductors with a high quality factor, as in the conventional approach that employs a parallel synchronized switch harvesting on an inductor, the first work proposes a flipping-capacitor rectifier topology to achieve the voltage inversion of the piezoelectric energy harvester through a reconfigurable capacitor array. This fundamentally preserves a fully integrated solution without inductors while achieving a high energy

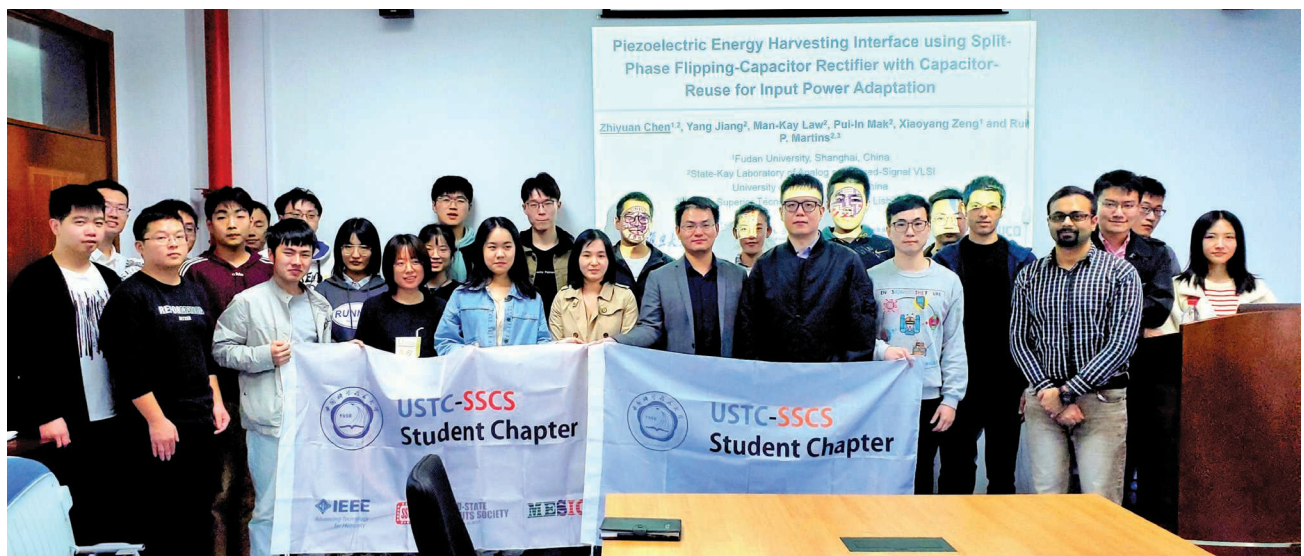


Prof. Lin (at podium) briefly introduces Dr. Zhiyuan.



Students listen to Dr. Zhiyuan's lecture.

Digital Object Identifier 10.1109/MSSC.2020.3035993  
Date of current version: 25 January 2021



SSCS-USTC Student Branch Chapter members pose with Dr. Zhiyuan and Prof. Lin (center).

extraction capability. The second work proposes a split-phase flipping capacitor that achieves energy extraction efficiency for capacitive piezoelectric energy harvesting by splitting the capacitor usage into multiple phases. After the talk, an

interactive session was held, during which Zhiyuan answered questions and shared his experiences.

—Muhammad Hunain Memon,  
chair, SSCS USTC Student  
Branch Chapter

—Fujiang Lin and Patrick Yue,  
advisors, SSCS USTC Student  
Branch Chapter

---

## IEEE SSCS–EDS Joint South Brazil Chapter Launches Webinar Series of Distinguished Talks

The IEEE Solid-State Circuits Society (SSCS) and IEEE Electron Devices Society (EDS) Joint Chapter in South Brazil was founded in June 2019. It has members and activities covering the three southernmost states of Brazil, a geographic region with 29 million people. In June 2020, a series of Distinguished Talk webinars was initiated and organized by the Chapter, and eight were held through November 2020.

The webinars included the following presentations:

- “ULP Circuits for the Internet of Things,” by Jorge Fernandes, Instituto de Engenharia de Sistemas e Computadores-Investigação e Desenvolvimento, Lisbon, Portugal
- “Systematic Design of Analog ICs,” by Paul Jespers, Université Catholique de Louvain, Belgium
- “Optical Receivers in CMOS,” by Filip Tavernier, Katholieke Universiteit Leuven, Belgium
- “Nanoelectronic Characterization Using CAFM,” by Mario Lanza, Suchow University, China

- “Analog-to-Digital Converter Performance Limits,” by Marcel Pelgrom, Delft University, The Netherlands
- “Analog Processing by Digital Circuits,” by Paolo Crovetti, Polito, Italy
- “Microfluidic Circuits and Antennas in Millimeter-Wave,” by C. Saavedra, Queen’s University, Kingston, Ontario, Canada
- “Design of Operational Amplifiers for Advanced Analog-to-Digital Converters,” by J. Silva-Martinez, Texas A&M University, College Station, Texas, United States.

Webinars are available on the South Brazil Chapter YouTube channel (<https://youtube.com/sscsedsouthbrazil>). There were more than 1,500 views of the webinars during the four months since the series started.

### SSCS President Kenneth O Gives the Keynote at an Online Event

Prof. Kenneth K. O (University of Texas at Dallas, United States), SSCS president, was a keynote speaker on 27 August 2020 at the

33rd Symposium on ICs and System Design in Campinas, Brazil, jointly organized by IEEE, the Association for Computing Machinery, and the Brazilian Microelectronics Society. Prof. O’s talk was “Opening Terahertz for Everyday Applications.” The event, in its 33rd edition, had 260 registrants.

### Microelectronics Schools Organized

SSCS, EDS, and IEEE Circuits and Systems Society members joined forces in Brazil to organize two microelectronics schools in the South Brazil Region in 2020. These educational activities, drawing large student audiences, were held online 27–30 April 2020 during EMICRO, an event held annually since 1999 in the Rio Grande do Sul state, and during the Parana state’s Microelectronics Days, 7–9 October 2020.

—Sergio Bampi

Digital Object Identifier 10.1109/MSSC.2020.3037447  
Date of current version: 25 January 2021

SSC