



# ISSCC 2022 Awards

## February 2022







2021 Lewis Winner Award for Outstanding Paper

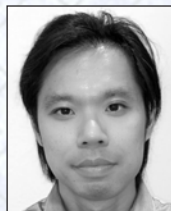
“A 23.9-to-29.4GHz Digital LC-PLL with a Coupled Frequency Doubler for Wireline Applications in 10nm FinFET”



Dongseok Shin



Hyung Seok Kim



Chuan-chang Liu



Priya Wali



Savyasaachi Keshava Murthy



Yongping Fan

Intel, Hillsboro, OR

The Lewis Winner Award for Outstanding Paper

Lewis Winner served ISSCC for three decades (1958 to 1988) as Editor, Publisher, and Conference Coordinator. He was responsible, in considerable part, for establishing and maintaining the high standards of ISSCC publications and presentations. The Award in his honour is based on ratings by Conference attendees in the previous year.

2021 Anantha P. Chandrakasan Award for Outstanding Distinguished-Technical-Paper

“An 8960-Element Ultrasound-on-Chip for Point-of-Care Ultrasound”



Nevada Sanchez<sup>1</sup>



Kailiang Chen<sup>1</sup>



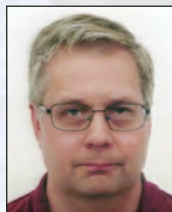
Chao Chen<sup>1</sup>



Dan McMahill<sup>1</sup>



Sewook Hwang<sup>1</sup>



Joseph Lutsky<sup>1</sup>



Jungwook Yang<sup>1</sup>



Liewei Bao<sup>1</sup>



Leung Kin Chiu<sup>1</sup>



Graham Peyton<sup>1</sup>



Hamid Soleimani<sup>1</sup>



Bob Ryan<sup>1</sup>



J. R. Petrus<sup>1</sup>



Youn-Jae Kook<sup>1</sup>



Tyler S. Ralston<sup>2</sup>



Keith G. Fife<sup>2</sup>



Jonathan M. Rothberg<sup>2</sup>

<sup>1</sup>Butterfly Network, Guilford, CT

<sup>2</sup>Catalyzer, Guilford, CT

Anantha P. Chandrakasan Award for Outstanding Distinguished-Technical Paper

This Award is based on ITPC ratings at paper selection, as normalized at paper presentation time by members of the Awards & Recognition Committee (ARC). In recognition of the many decades of contribution by Anantha Chandrakasan, and his retirement as Conference Chair, this Award was renamed in his honour in 2019.



## 2021 Jan Van Vesseem Award for Outstanding European Paper

“A 1.25GHz Fully Integrated DC-DC Converter Using Electromagnetically Coupled Class-D LC Oscillators”



Alessandro Novello<sup>1</sup>



Gabriele Atzeni<sup>1</sup>



Giorgio Cristiano<sup>1</sup>



Mathieu Coustans<sup>2</sup>



Taekwang Jang<sup>1</sup>

<sup>1</sup>ETH Zurich, Zurich, Switzerland

<sup>2</sup>STMicroelectronics, Plan-les-Ouates, Switzerland

**The Jan Van Vesseem Award for Outstanding European Paper**

Jan Van Vesseem served ISSCC as the first Chair of the European Program Committee from 1968 to 1974. The Award in his honour is based on ratings by Conference attendees in the previous year.

## 2021 Takuo Sugano Award for Outstanding Far-East Paper

“A 0.9V 28MHz Dual-RC Frequency Reference with 5pJ/Cycle and  $\pm 200$ ppm Inaccuracy from  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ ”



Woojun Choi<sup>1</sup>



Jan A. Angevare<sup>2</sup>



Injun Park<sup>1</sup>



Kofi A. A. Makinwa<sup>2</sup>



Youngcheol Chae<sup>1</sup>

<sup>1</sup>Yonsei University, Seoul, Korea

<sup>2</sup>Delft University of Technology, Delft, The Netherlands

**The Takuo Sugano Award for Outstanding Far-East Paper**

Takuo Sugano served ISSCC as an early member of what became the Far-East Program Committee, from 1967 to 1989. The Award in his honour is based on ratings by Conference attendees in the previous year.



## 2021 ISSCC Award for Outstanding Forum Presenter

**“Architectural and Design Challenges in High-Resolution Continuous-Time Delta-Sigma Data Converters”**



**Shanthi Pavan**  
IIT Madras, Chennai, India

**The Outstanding Forum-Presenter Award**

This Award is based on Forum-attendee ratings from the previous year.

## 2021 ISSCC Award for Outstanding Forum Presenter

**“Signalling, Modulation, Coding and Signal-Processing Architectures to Support 400GbE and Beyond”**



**Troy Beukema**  
IBM Research, Yorktown Heights, NY

**The Outstanding Forum-Presenter Award**

This Award is based on Forum-attendee ratings from the previous year.

## 2021 Demonstration Session Certificate of Recognition

**“1.5 $\mu$ W 0.135pJ·%RH<sup>2</sup> CMOS Humidity Sensor Using Adaptive Range-Shift Zoom CDC and Power-Aware Floating Inverter Amplifier Array”**

**Heyi Li<sup>1</sup>, Zhichao Tan<sup>2</sup>, Yuanxin Bao<sup>3</sup>,  
Han Xiao<sup>3</sup>, Hao Zhang<sup>1</sup>, Kaixuan Du<sup>1</sup>,  
Yihan Zhang<sup>1</sup>, Le Ye<sup>1,3</sup>, Ru Huang<sup>1</sup>**

<sup>1</sup>Peking University, Beijing, China

<sup>2</sup>Zhejiang University, Hangzhou, China

<sup>3</sup>Advanced Institute of Information Technology of Peking University, Hangzhou, China

**Demonstration-Session Award**

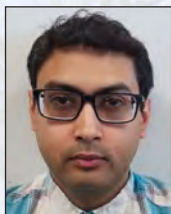
This Award is based on ratings provided by the Demo-Session Committee from the previous year.



**2021 Demonstration Session Certificate of Recognition**  
**“A 224Gb/s DAC-Based PAM-4 Transmitter with 8-Tap FFE in 10nm CMOS”**



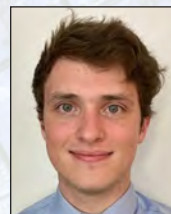
**Jihwan Kim<sup>1</sup>**



**Sandipan Kundu<sup>1</sup>**



**Ajay Balankutty<sup>1</sup>**



**Matthew Beach<sup>2</sup>**



**Bong Chan Kim<sup>1</sup>**



**Stephen Kim<sup>1</sup>**



**Yutao Liu<sup>1</sup>**



**Savyassachi Keshava Murthy<sup>1</sup>**



**Priya Wali<sup>1</sup>**



**Kai Yu<sup>1</sup>**



**Hyung Seok Kim<sup>1</sup>**



**Chuan-chang Liu<sup>1</sup>**



**Dongseok Shin<sup>1</sup>**



**Ariel Cohen<sup>3</sup>**



**Yongping Fan<sup>1</sup>**



**Frank O'Mahony<sup>1</sup>**

<sup>1</sup>Intel, Hillsboro, OR

<sup>2</sup>Foundation Devices, Boston, MA

<sup>3</sup>Intel, Jerusalem, Israel

**Demonstration-Session Award**

This Award is based on ratings provided by the Demo-Session Committee from the previous year.

**2021 Demonstration Session Certificate of Recognition**  
**“An 8960-Element Ultrasound-on-Chip for Point-of-Care Ultrasound”**



**Nevada Sanchez<sup>1</sup>**



**Kailiang Chen<sup>1</sup>**



**Chao Chen<sup>1</sup>**



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**Demonstration-Session Award**

This Award is based on ratings provided by the Demo-Session Committee from the previous year.





## Solid-State Circuits Society Awards

### 2020 Journal of Solid-State Circuits Best Paper Award

**“A 0.32–128 TOPS, Scalable Multi-Chip-Module-Based Deep Neural Network Inference Accelerator With Ground-Referenced Signaling in 16 nm”**



**Brian Zimmer**



**Rangharajan Venkatesan**



**Yakun Sophia Shao**



**Jason Clemons**



**Matthew Fojtik**



**Nan Jiang**



**Ben Keller**



**Alicia Klinefelter**



**Nathaniel Pinckney**



**Priyanka Raina**



**Stephen Tell**



**Yanqing Zhang**



**William J. Dally**



**Joel Emer**



**Thomas Gray**



**Stephen Keckler**



**Brucek Khailany**

Nvidia, Santa Clara, CA

### 2022 IEEE Solid-State Circuits Society New Frontier Award



**Kaushik Sengupta**  
*Princeton University, Princeton, NJ*

The IEEE SSCS New Frontier award recognizes and honors SSCS members in their early career who are exploring innovative and visionary technical work within the field of solid-state circuits. The award aims to pioneering developments that are at the frontiers of IC design or possess an imminent potential to expand the field through new categories of circuit technologies, system design, and/or emerging applications.





## Solid-State Circuits Society Awards

### 2022 IEEE Solid-State Circuits Society Innovative Education Award



**Behzad Razavi**  
*UCLA, Los Angeles, CA*

The IEEE SSCS Innovative Education Award recognizes and honors SSCS members in their early/mid-career, who are making significant contributions to education in the field of solid-state circuits using innovative approaches. The award aims to highlight distinguished and unique educational methods or programs that have a broad impact on the education of our community.

### 2022 IEEE Solid-State Circuits Society Distinguished Service Award



**Lewis Terman**



**Robert Swartz**



**Harry Mussman**

This award recognizes exceptional and distinguished service to the IEEE Solid-State Circuits Society.

### 2022 IEEE Solid-State Circuits Society James D. Meindl Innovators Award



**Azad J. Naeemi**  
*Georgia Institute of Technology, Atlanta, GA*

This award supports innovation in the field of solid-state circuits by funding projects that build excitement around the field among future generations, encouraging their participation, and awarding applicants whose project proposals are selected.





# Solid-State Circuits Society Awards

## 2021 Solid-State Circuits Society Outstanding Chapter Awards

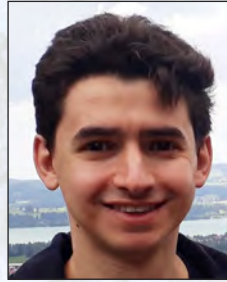
### IEEE SSCS/EDS South Brazil Joint Chapter



**Sergio Bampi**  
Chapter Chair  
2019-2021



**Gilson Wirth**  
Chapter Chair  
2021-2023



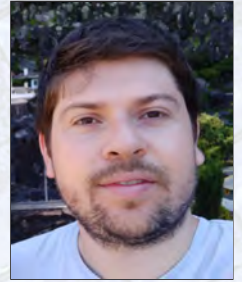
**Vinicius V. Camargo**  
Treasurer



**Filipe Baumgartz**  
Treasurer  
2019-2021



**Sandro B. Ferreira**  
Vice-Chair



**Paulo Aguirre**  
Secretary & Events  
Coordinator

### IEEE CASS/EDS/SSCS Wuhan Joint Chapter



**Chao Wang**  
Chapter Chair



**Chun Zhao**  
Secretary



**Run Min**  
Treasurer



**Xuecheng Zou**  
Chairman Emeritus



# IEEE

## Technical Field Awards

### 2022 IEEE Donald O. Pederson Award in Solid-State Circuits



**Akira Matsuzawa**  
Tokyo Institute of Technology, Tokyo, Japan

*"For pioneering contributions to low-power, analog-to-digital converters in systems on a chip (SoCs) for digital video applications."*

The IEEE annually recognizes outstanding contributors worldwide to the art and science of electro- and information technologies with technical awards in 3 dozen technical specialties. The IEEE Donald O. Pederson Award for Solid-State Circuits for outstanding contributions in the field of solid-state circuits goes to an individual or team of not more than three. The award includes a bronze medal, certificate, and cash honorarium which are presented at the ISSCC.





# IEEE

# 2022 Fellows



**James Buckwalter**

University of California, Santa Barbara,  
Santa Barbara, CA

*for contributions to high-efficiency  
millimeter-wave power amplifiers and optical  
transceivers in SOI technologies*



**Daniel Friedman**

IBM, Yorktown Heights, NY

*for contributions to RFID and  
phase-lock-loop systems*



**Arijit Raychowdhury**

Georgia Institute of Technology, Atlanta, GA

*for contributions to energy-efficient adaptive  
integrated circuit design*



**Anthony Chan Carusone**

University of Toronto, Toronto, Canada

*for contributions to integrated circuits for  
digital communication*



**Shih-Chii Liu**

University of Zurich, Zurich, Switzerland

*for contributions to  
neuromorphic engineering*



**Euisik Yoon**

University of Michigan, Ann Arbor, MI

*for contributions to bio-microelectromechanical  
systems (BioMEMS) technologies for  
opto-electrical neural interfaces  
and microfluidic biochips*



**Baoxing Chen**

Analog Devices, Westford, MA

*for contributions to integrated signal-power  
isolation and integrated magnetics*



**Hiroyuki Mizuno**

Hitachi, Tokyo, Japan

*for contributions to leakage current  
reduction in integrated circuits*



**Carl Zetterling**

KTH Royal Institute of Technology,  
Kista, Sweden

*for contributions to silicon carbide devices*



**Thomas Cho**

Samsung Electronics, South Korea

*for leadership and contributions in  
CMOS RFIC design and commercialization  
of wireless mobile systems*



**Masato Motomura**

Tokyo Institute of Technology, Tokyo, Japan

*for contributions to memory-logic integration  
of reconfigurable chip architecture*



**Anding Zhu**

University College Dublin, Dublin, Ireland

*for contributions to behavioral modeling and  
digital predistortion of RF power amplifiers*



Note that all ISSCC Awards are scrutinized and vetted by a special group, the Awards and Recognition Committee (ARC) whose current members are:

Kenneth (KC) Smith, Chair (University of Toronto)  
Bryan Ackland (Old Bridge, NJ)  
Anantha Chandrakasan (Massachusetts Institute of Technology)  
Nicky Lu (Etron)  
Willy Sansen (K.U. Leuven), Member-at-Large  
Bruce Wooley (Stanford University)