



ISSCC 2023 Awards

February 2023





2022 Lewis Winner Award for Outstanding Paper
"Ponte Vecchio: A Multi-Tile 3D Stacked Processor for Exascale Computing"



Wilfred Gomes¹



Altug Koker²



Pat Stover³



Doug Ingerly¹



Scott Siers²



Srikrishnan Venkataraman⁴



Chris Pelto¹



Tejas Shah⁵



Amreesh Rao²



Frank O'Mahony¹



Eric Karl¹



Lance Cheney²



Iqbal Rajwani²



Hemant Jain⁴



Ryan Cortez²



Arun Chandrasekhar⁴



Basavaraj Kanthi⁴



Raja Koduri⁶

1Intel, Portland, OR, 2Intel, Folsom, CA, 3Intel, Chandler, AZ, 4Intel, Bengaluru, India 5Intel, Austin, TX, 6Intel, Santa Clara, CA

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.

2022 Anantha P. Chandrakasan Award for Outstanding Distinguished-Technical-Paper
"A Single-Crystal-Oscillator-Based Clock-Management IC with 18x Start-Up Time Reduction and 0.68ppm/C Duty-Cycled Machine-Learning-Based RCO Calibration"



Jaehong Jung



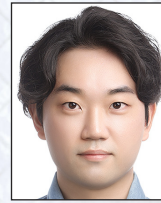
Seunghyun Oh



Joomyoung Kim



Gihyeok Ha



Jinhyeon Lee



Seungjin Kim



Euiyoung Park



Jaehoon Lee



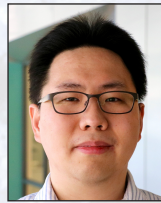
Yelim Yoon



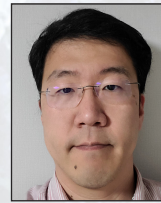
Seungyong Bae



Wonkang Kim



Yong Lim



Kyungsoo Lee



Junho Huh



Jongwoo Lee



Thomas Byunghak Cho

Samsung Electronics, Hwaseong, Korea

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.

2022 Jan Van Vessel Award for Outstanding European Paper

“A Second-Order Temperature-Compensated On-Chip R-RC Oscillator Achieving 7.93ppm/°C and 3.3pJ/Hz in -40°C to 125°C Temperature Range”



Youngwoo Ji^{1,2}



Jiawei Liao¹



Sina Arjmandpour^{1,3}



Alessandro Novello¹



Jae-Yoon Sim²



Taekwang Jang¹

¹ETH Zürich, Zürich, Switzerland, ²Pohang University of Science and Technology, Pohang, Korea
³Sharif University of Technology, Tehran, Iran

The Jan Van Vessel Award for Outstanding European Paper

Jan Van Vessel 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.

2022 Takuo Sugano Award for Outstanding Far-East Paper

“Side-Channel Attack Counteraction via Machine Learning-Targeted Power Compensation for Post-Silicon HW Security Patching”



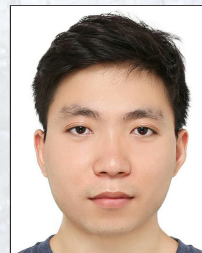
Qiang Fang¹



Longyang Lin^{1,2}



Yao Zu Wong¹



Hui Zhang¹



Massimo Alioto¹

¹National University of Singapore, Singapore, Singapore

²Southern University of Science and Technology, Shenzhen, China

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.

2022 Jack Kilby Award for Outstanding Student Paper

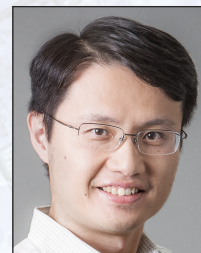
“A 10GS/s 8b 25fJ/c-s 2850µm² Two-Step Time-Domain ADC Using Delay-Tracking Pipelined-SAR TDC with 500fs Time Step in 14nm CMOS Technology”



Juzheng Liu



Mohsen Hassanpourghadi



Mike Shuo-Wei Chen

University of Southern California, Los Angeles, CA

The Jack Kilby Award for Outstanding Student Paper

Jack Kilby, an integrated-circuits pioneer responsible for designing the first monolithic IC, was a long-term ISSCC participant and contributor. The Award in his honour is based on ratings by Conference attendees in the previous year.

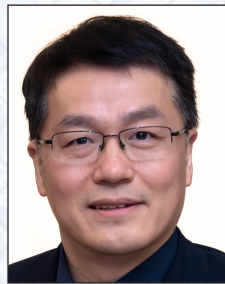
2022 ISSCC Award for Outstanding Forum Presenter
“Sensor Interface, Analog, and Mixed-Signal Circuits for Miniaturized IoT Devices”



Taekwang Jang
ETH Zurich, Zurich, Switzerland

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

2022 ISSCC Award for Outstanding Forum Presenter
“6G Communications: Vision and Challenges”



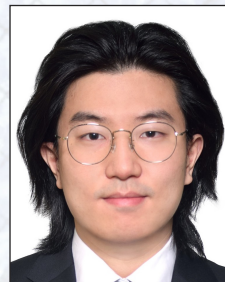
Gary Xu
Samsung, Plano, TX

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

2022 Demonstration Session Certificate of Recognition
“BatDrone: A 9.83M-focal-points/s 7.76 μ s-Latency Ultrasound Imaging System with On-Chip Per-Voxel RX Beamfocusing for 7m-Range Drone Applications”



Lihao Wu¹



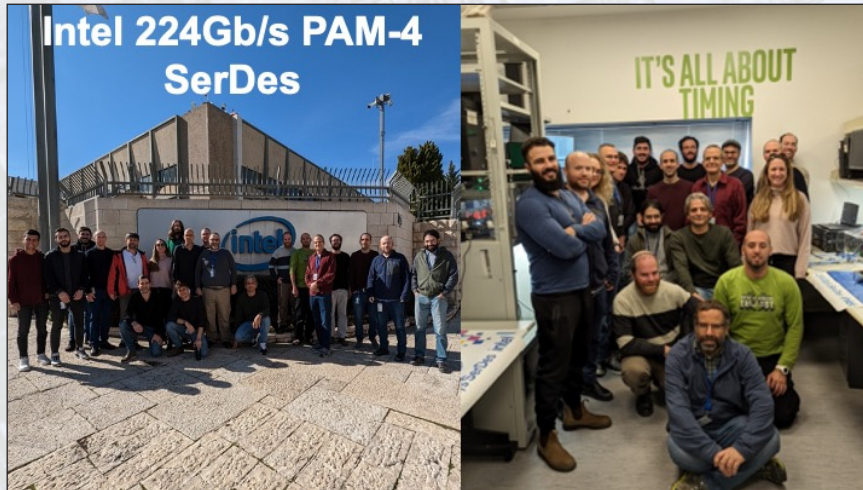
Jiaqi Guo¹

with
**Rucheng Jiang¹, Yande Peng², Han Wu¹, Jiamin Li¹, Yilong Dong¹, Miaolin Zhang¹, Zhuoyue Li¹,
Kian Ann Ng³, Chne-Wuen Tsai¹, Lian Zhang¹, Longyang Lin⁴, Liwei Lin², Jerald Yoo^{1,5}**

¹National University of Singapore, Singapore, Singapore, ²University of California, Berkeley, CA, ³Digipen Institute of Technology, Singapore, Singapore
⁴Southern University of Science and Technology, Shenzhen, China, ⁵The N.1 Institute for Health, Singapore, Singapore

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

2022 Demonstration Session Certificate of Recognition
“A 1.41pJ/b 224Gb/s PAM-4 SerDes Receiver with 31dB Loss Compensation”



Yoav Segal¹, Amir Laufer¹, Ahmad Khairi¹, Yoel Krupnik¹, Marco Cusmai¹, Itamar Levin¹, Ari Gordon¹, Yaniv Sabag¹, Vitali Rahinski¹, Gadi Ori¹, Noam Familia¹, Stas Litski¹, Tali Warshavsky¹, Udi Virobnik¹, Yeshayahu Horwitz¹, Ajay Balankutty², Shiva Kiran², Samuel Palermo³, Peng Mike Li⁴, Ariel Cohen¹

¹Intel, Jerusalem, Israel, ²Intel, Hillsboro, OR, ³Texas A&M University, College Station, TX, ⁴Intel, San Jose, CA

Demonstration-Session Award

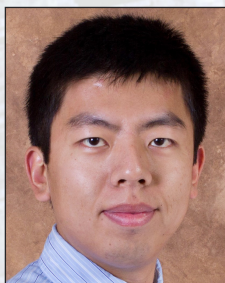
This Award is based on ratings provided by the Demo-Session Committee from the previous year.



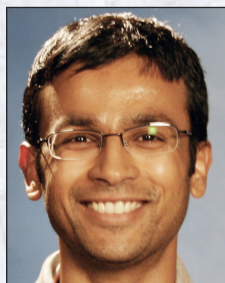
Solid-State Circuits Society Awards

2021 Journal of Solid-State Circuits Best Paper Award

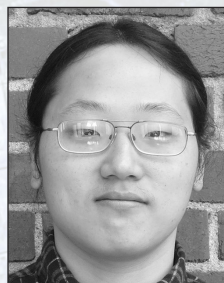
A 3-D-Integrated Silicon Photonic Microring-Based 112-Gb/s PAM-4 Transmitter with Nonlinear Equalization and Thermal Control



Hao Li¹



Ganesh Balamurugan¹



Taehwan Kim¹



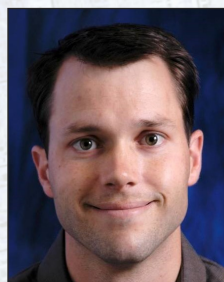
Meer N. Sakib²



Ranjeet Kumar²



Haisheng Rong²



James Jaussi¹



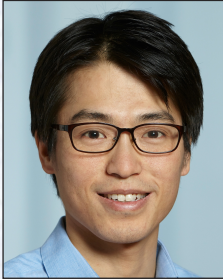
Bryan Casper¹

¹Intel, Hillsboro, OR, ²Intel, Santa Clara, CA



2022 IEEE Solid-State Circuits Society Chapter Awards

Chapter of the Year IEEE SSCS Switzerland Chapter



Taekwang Jang
Chair



Michel Bron
Vice Chair



Mathieu Coustans
Secretary



Domenico Pepe
Industry Relations Coordinator

SSCS Student Branch Chapter of the Year IEEE EDS/SSCS University of Niš Student Branch Chapter



Sandra Veljković
Chair



Vojkan Davidović
Treasurer



Nikola Mitrović
Secretary



Danijel Danković
Faculty Advisor

SSCS Student Branch Chapter of the Year IEEE SSCS University of Science and Technology of China Student Branch Chapter



Muhammad Hunain Memon
Chair

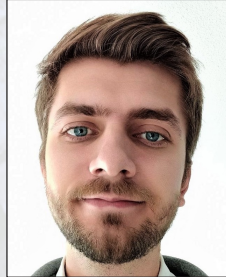


Fujiang Lin
Faculty Advisor



2022 IEEE Solid-State Circuits Society Chapter Awards

SSCS Chapter with Best Educational Program Award IEEE SSCS University of Bordeaux Student Branch Chapter

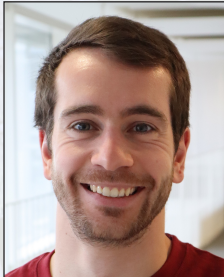


Maxandre Fellmann
Chair



Yann Deval
Faculty Advisor

SSCS Chapter with Best Educational Program Award IEEE SSCS KU Leuven Student Branch Chapter



Carl D'heer
Chair



Ariane De Vroede
Vice Chair



Jonas Pelgrims
Treasurer



Arnaud Van Mieghem
IEEE SB



Bram Veraverbeke
Media & Public Relations



Senne Gielen
Secretary

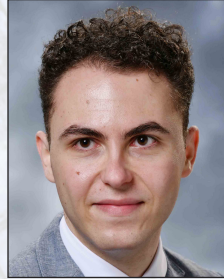


Berke Güngör
Member



2022 IEEE Solid-State Circuits Society Chapter Awards

SSCS Chapter with Best Pre-University Outreach Award IEEE SSCS Ss. Cyril & Methodius University in Skopje Student Branch Chapter



Stefan Momyr
Chair



Solid-State Circuits Society Awards

2023 IEEE Solid-State Circuits Society New Frontier Award



Ruonan Han
Massachusetts Institute of Technology, Cambridge, MA

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.

2023 IEEE Solid-State Circuits Society Industry Impact Award



Samuel Naffziger
Advanced Micro Devices, Fort Collins, CO

The IEEE SSCS Industry Impact Award recognizes and honors SSCS members who have had a seminal impact and made distinctive contributions to the field of solid-state circuits and the integrated circuits industry. The award recognizes extraordinary accomplishments in entrepreneurship, leadership and/or technical excellence that led to significant breakthroughs and paradigm shifts in the IC business, thereby enabling new products and services within the ten year period prior to the application deadline.



Solid-State Circuits Society Awards

2023 IEEE Solid-State Circuits Society James D. Meindl Innovators Award

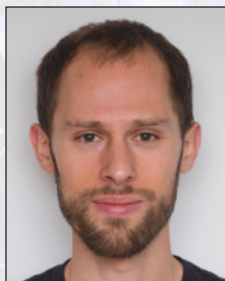


Daniel Limbrick

North Carolina Agricultural and Technical State University, Greensboro, NC

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.

2023 IEEE Brokaw Award for Circuit Elegance



Benjamin Hershberg

Intel, Hillsboro, OR

This Award was created to enhance appreciation and encourage innovation of simple, smart, and elegant circuit design. The award is presented in recognition of a unique, innovative, simple, smart, and elegant circuit design, created during the past decade that has demonstrated its viability.



IEEE Technical Field Awards

2023 IEEE Donald O. Pederson Award in Solid-State Circuits



Ingrid Verbauwhede

KU Leuven, Leuven, Belgium

"For pioneering contributions to energy-efficient and high-performance secure integrated circuits and systems."

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

2023 Fellows



Walid Y Ali-Ahmad
Apple, San Carlos, CA

"For leadership in development of low-cost direct-conversion cellular RF systems"



Donhee Ham
Harvard University, Cambridge, MA

"For contributions to semiconductor electronic interfaces with biological systems"



Woogeun Rhee
Tsinghua University, Beijing, China

"For contributions to phase-locked circuits and systems"



Jason H. Anderson
University of Toronto

"For contributions to high-level synthesis and low-power FPGAs"



Muhammad M. Khellah
Intel, Tigard, OR

"For contributions to co-optimization of on-die dense memory and fine-grain power- management circuits"



Sriram Vangal
Intel, Portland, OR

"For contributions to network-on-chip architectures"



Keith Bowman
Qualcomm, Raleigh, NC

"For contributions to variation-tolerant adaptive processor designs"



Thomas Mikolajick
NaMLab, Dresden, Germany

"For contributions to nonvolatile memory"



Marian Verhelst
K.U. Leuven, Heverlee, Belgium

"For contributions to energy-efficient near-sensor processing and embedded Machine Learning Processors"



Tetsuo Endoh
Tohoku University, Sendai, Japan

"For contributions to nonvolatile memory and spintronic logi"



Kenichi Okada
Tokyo Institute of Technology, Tokyo, Japan

"For contributions to millimeter-wave communication circuits design"



Hua Wang
Georgia Institute of Technology, Atlanta, GA

"For contributions to high-efficiency microwave and millimeter-wave power amplifiers"



Roberto Gomez-Garcia
University of Alcalá Getafe, Madrid Spain

"For contributions to planar multi-function microwave filters"



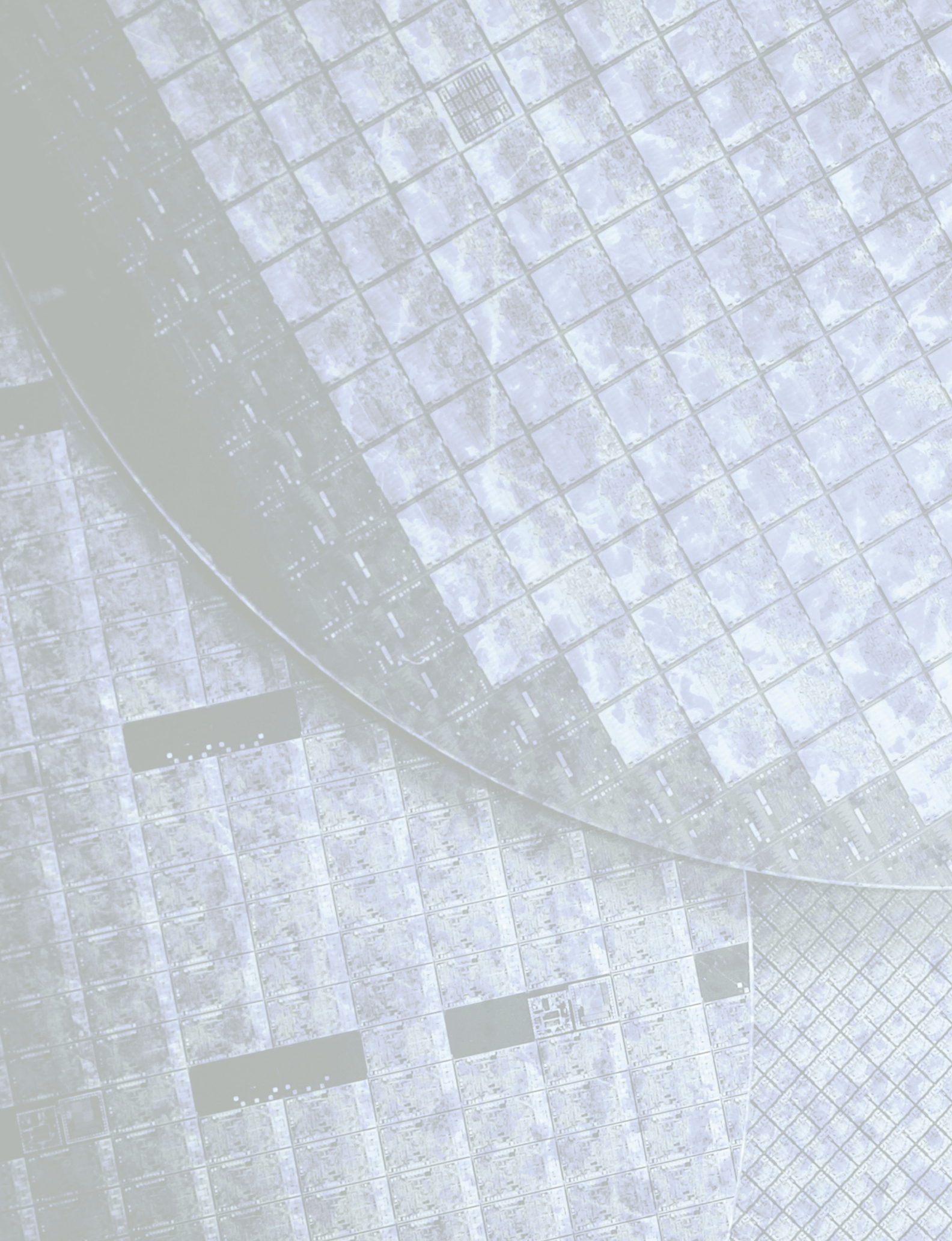
Omer Oralkan
North Carolina State University, Raleigh, NC

"For contributions to micromachined ultrasonic transducers and integrated microsystems development, for imaging, therapy, and sensing"



Qiangfei Xia
University of Massachusetts Amherst, Winchester, MA

"For contributions to resistive memory arrays and devices for in-memory computing"



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)
Anantha Chandrakasan (Massachusetts Institute of Technology)
Nicky Lu (Etron)
Willy Sansen (K.U. Leuven), Member-at-Large
Bruce Wooley (Stanford University)