53rd IEEE Semiconductor Interface Specialists Conference

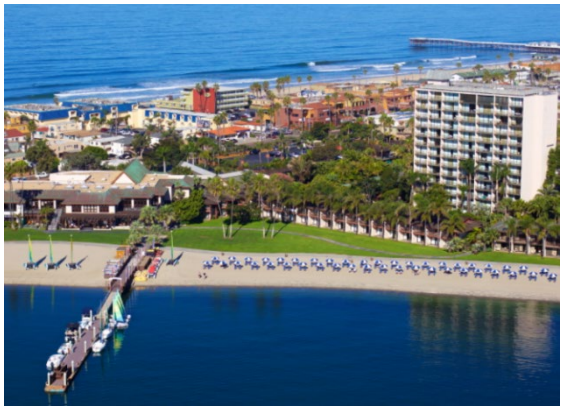
SISC 2022

December 7–10, 2022 (Tutorial: December 7)
Catamaran Resort Hotel, San Diego, CA
www.ieeesisc.org

IEEE ELECTRON DEVICES SOCIETY

Call for Papers

The SISC is a workshop-style conference that provides a forum for device engineers, solid state physicists, and material scientists to discuss topics of common interest, formally through invited and contributed presentations, and informally during poster and rump sessions. SISC is sponsored by the IEEE Electron Devices Society and is held right after IEDM.



The program includes talks and poster presentations (*theory and experiment*) from all areas of semiconductor interface science and technology, including but not limited to:

- Insulators on **high-mobility** and **alternative substrates** (SiGe, Ge, III-V and III-N, SiC, etc.)
- **2D materials** and **devices**
- **Steep slope logic devices** including **"negative capacitance" gates, ferroelectric HfO_2, tunnel FETs**
- **Non-volatile memory materials,** including their application to **in-memory compute** and **AI**
- **Electrical characterization, performance,** and **reliability** of MOS-based devices
- Dielectrics on **nanowires/-tubes**
- **Oxide electronics** and **multiferroics**
- Interfaces in **photovoltaics,** e.g., semiconductor passivation
- Interfaces in **semiconductor lighting** and **optical communications**
- Interfaces and surfaces in **biotechnology** such as **bio-sensing**
- **Neuromorphic** and **quantum computing**

Confirmed Invited speakers

- **Dr. Takashi Ando,** IBM, USA
  Hardware Algorithm Co-optimization for Scalable Analog Compute Technology
- **Dr. Hiroaki Arimura,** imec, Belgium
  Gate Stack Technology for Advanced Logic and Memory Periphery Devices
- **Prof. Gong Cheng,** U. Maryland, USA
  Controlling 2D magnetism for efficient spintronics
- **Dr. Nick Chiang,** TSMC, Taiwan
  Device engineering and benefit maximization for advanced cryo-CMOS
- **Prof. Asif I. Khan,** Georgia Tech, USA
  Reliability of ferroelectric field-effect transistors
- **Prof. John Robertson,** U. Cambridge, UK
  Reduced contact resistances for Moire Lattice Interfaces of MoS_2 and other Layered Compounds
- **Prof. Gong Xiao,** National University of Singapore, Singapore
  Oxide Semiconductor Back-end-of-line (BEOL)-Compatible Transistors and Memories
- **Prof. Grace Xing,** Cornell U., USA
  Heterointerfaces in the AlN material system

Wednesday evening Tutorial

- **Prof. Ashraf Alam,** Purdue U., USA
  Reliability Physics in Post-Moore Era Electronics: Material, Devices, and System Perspective

A **Best Student Presentation Award** will be given in memory of E. H. Nicollian.

A **Best Poster Award** will be given in memory of T. P. Ma.

Abstract submission deadline August 1, 2022

Abstract submission, previous technical programs, contact information, etc.: **https://www.ieeesisc.org**