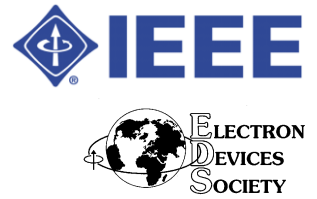


# 55<sup>th</sup> IEEE Semiconductor Interface Specialists Conference

December 11–14, 2024 (Tutorial: December 11)  
Catamaran Resort Hotel and Spa, San Diego, CA  
[www.ieeesisc.org](http://www.ieeesisc.org)



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## 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.

This year, SISC will be held as a fully in-person event.

**The program includes talks and poster presentations (theory and experiment) on the role of materials, interfaces, and defects on performance and reliability of:**

- **Logic Devices** for future technology nodes (Nanosheet, CFET, VFET, etc.),
- **Steep Sub-Threshold** slope logic devices (Tunnel FETs, etc.),
- Insulators on **High-Mobility** substrates (SiGe, Ge, etc.),
- **Low Dimensional** materials and devices,
- Non-Volatile Memory for **AI / In-Memory / Neuromorphic Compute** (ReRAM, PCM, ECRAM, etc.),
- **Ferroelectric** devices (FeFET, FeRAM, etc.),
- **Amorphous Oxide Semiconductor** channel transistors (IGZO, etc.),
- **Monolithic and/or Heterogeneous** ICs (BEOL, interconnects, packaging, etc.),
- **Wide Bandgap** semiconductor power devices (SiC, GaN,  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>, etc.),
- Materials and devices for **Qubits in Quantum Computing and Cryogenic Electronics**, including machine learning / materials discovery techniques developed and used for their study.

### Confirmed Invited Speakers

- **Dr. Sandy Liao**, TSMC, Taiwan  
*CFET Technology for Future Logic Scaling*
- **Prof. Saptarshi Das**, Penn State U., USA  
*Monolithic 3D Integration of Functionally Diverse 2D Devices*
- **Dr. Kwangmin Park**, Samsung, S. Korea  
*Emerging Memory Landscape*
- **Prof. Sumeet Gupta**, Purdue U., USA  
*Variability in Hafnia-based Ferroelectrics: A Phase-Field Simulation based Perspective*
- **Dr. Chris Neumann**, Intel, USA  
*Hafnia-Based FeRAM for High-Density, High-Speed Embedded Memory*
- **Dr. Adrian Chasin**, imec, Belgium  
*IGZO Thin-Film Transistor Reliability: the Last Standing Roadblock for Memory Applications*
- **Prof. Siddharth Rajan**, The Ohio State U., USA  
*Device Engineering for High-Performance Gallium Oxide Electronics*

### Invited Honorary Lecture

- **Prof. Andre Stesmans**, KU Leuven, Belgium  
*Electron Spin Resonance as Powerful Spectroscopy for Assessment of Point Defects in Semiconductor/Insulator Structures: Some Historical Reflections on Interfaces*

### Wednesday evening Tutorial

- **Prof. Shinichi Takagi**, U. Tokyo, Japan  
*Hafnia-Based Ferroelectric FETs and Capacitors for Low-Power Memory and AI Applications: Physical Understanding of Device Operation and Reliability*

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 extended to July 29, 2024 !**

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