VLSI SINCE 1983

# 2025 International VLSI Symposium on Technology, Systems and Applications

# Call for Papers

ITRI Industrial Technology Research Institute

IEEE

April 21-24, 2025
Hsinchu, Taiwan

Paper Submission Deadline has been extended until **23:59 (GMT+8) on Monday December 16, 2024**
Details: https://expo.itri.org.tw/2025VLSITSA

## HIGHLIGHTS

The 2025 International VLSI Symposium on Technology, Systems and Applications will be held on April 21-24, 2025 at the Ambassador Hotel, Hsinchu, Taiwan.

The 4-day symposium will include:

- 3 Plenary Sessions
- 7 Special Sessions
- 2 Joint Special Sessions
- 3 Tutorials
- 2 Industrial Sessions
- The outstanding papers

## SUBMISSION INSTRUCTIONS

Prospective authors are invited to submit papers through the symposium website. All paper presenters are required to register for the symposium and accepted papers MUST be presented in person by one of the authors at the symposium, and the presentation must be conducted in English. All accepted manuscripts in the proceeding will be published in IEEE Xplore. No-show papers will not be included in the symposium proceedings and will not be submitted to the IEEE Xplore database.

## TSA SCOPE: Submission to TSA https://expo.itri.org.tw/2025TSA/Submission

### ADVANCED LOGIC TECHNOLOGY
- Front-end Silicon CMOS and Foundry Platform Technology
- Advanced Process Modules and Nano-patterning, including EUV
- Advanced Packaging and 2.5D/3D Heterogeneous Integration
- Advanced Manufacturing Technology, Metrology and Yield

### NEUROMORPHIC and NOVEL COMPUTING
- Neuromorphic Devices and Technologies for AI Hardware such as in-memory Computing

### POWER, MILLIMETER WAVE AND ANALOG TECHNOLOGY
- Power and Analog/RF IC Device and Technology

### RELIABILITY OF SYSTEMS and DEVICES
- Reliability Physics, Characterization and Test

### EMERGING DEVICE and COMPUTE TECHNOLOGY
- Quantum Phenomena and Information Technologies
- Beyond Silicon CMOS Technologies such as Low Dimensional Material

### MODELING AND SIMULATION
- Modeling and Simulation, including DTCO

### OPTOELECTRONICS, DISPLAYS, and IMAGING SYSTEMS
- Silicon Photonics and Integrated Optoelectronic Devices

### MEMORY TECHNOLOGY
- Advanced Memory: DRAM, FLASH, Emerging Memories such as Resistive, Spintronic and Ferroelectric Devices

### SENSORS, MEMS, and BIOELECTRONICS
- MEMS, Imagers and Sensors
- Flexible and Organic Electronics

## DAT SCOPE: Submission to DAT https://expo.itri.org.tw/2025DAT/Submission

### ANALOG, MIXED-SIGNAL, and RF DESIGN
- Analog and Mixed-Signal Circuits
- Data Converters
- Power Management Circuits
- Wireless Transmitter and Receiver Circuits
- Wired System and IO Design
- Sensor and Interface Circuits

### DIGITAL, MEMORY, and AI CHIP DESIGN
- Asynchronous and Neuromorphic Computing Circuits
- Communication Baseband Designs
- Computing-in-Memory
- Digital AI Chips
- Digital Circuits and ASICs
- Hardware Security and Trust Circuits for IoT and AI
- Low Voltage & Ultra Low-Power Circuits and Systems
- Memory Circuits and Systems

### APPLICATION, SOFTWARE and HARDWARE, and AI SYSTEM
- AI for Systems and Systems for AI
- CPU, DSP, and Multicore Architectures
- Domain-Specific Architectures and Accelerators
- Embedded System and Software
- Hardware-efficient AI Methods
- Multimedia Processing Designs
- SoC (System on Chip) and NoC (Network on Chip)
- Software/Hardware Co-Design and System Compiler
- SiP (System-in-Package) and Heterogeneous Integration

### DESIGN AUTOMATION and TEST METHODOLOGY
- AI for Design Automation & Test
- Behavioral, Logic, and Physical Synthesis
- Design Automation & Test for Analog/Mixed-Signal/RF, 2D/3D IC, Memory, Biochip, AI Chips, and Emerging Systems
- Design for Manufacturability, Testability, and BIST
- Design Verification, Modeling, and Simulation
- Power/Thermal/Timing Optimization and On-Chip Monitoring
- Silicon Debug, Diagnosis, ECO, and Yield/Reliability Enhancement
- Test Generation, Compression, and Test Standards

### EMERGING TECHNOLOGY
- Circuit & IP Design Based on New Transistor Technology, e.g., Fork-Fin FET, Sheet FET, GAA FET, and C-FET
- Cryogenic Circuits and Systems
- Flexible and Printable Electronics
- Medical/Bio-electronics/Bio-inspired Chip Designs
- Quantum Computing
- Silicon Photonics