

Call for Papers

Paper Submission Deadline: **23:59 (GMT+8) Monday, December 2, 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
- 2 Joint Special Sessions
- 2 Industrial Sessions
- 7 Special Sessions
- 3 Tutorials
- 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

GENERAL CHAIR, 2025 VLSI TSA SYMPOSIUM

Shih-Chieh Chang
Industrial Technology Research Institute

TSA SYMPOSIUM CHAIRS

Peide Ye
Purdue University
Tri-Rung Yew
National Tsing Hua University

TSA PROGRAM CHAIRS

Shimeng Yu
Georgia Institute of Technology
Wei-Chung Lo
Industrial Technology Research Institute

DAT SYMPOSIUM CHAIRS

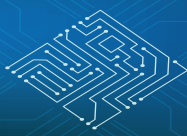
Shigeki Tomishima
Tohoku University
Chih-Wei Liu
National Yang Ming Chiao Tung University

DAT PROGRAM CHAIRS

Kenichi Okada
Tokyo Institute of Technology
Tai-Cheng Lee
National Taiwan University
Ming-Der Shieh
Industrial Technology Research Institute

VLSI TSA SECRETARIAT

Doris Chiang
Cindy Liu
Email: tsa@itri.org.tw; dat@itri.org.tw



TSA Call for Papers

April 21-24, 2025
Hsinchu, Taiwan

The 2025 International VLSI Symposium on Technology Systems and Applications (VLSI TSA) will be held on April 21-24, 2025 at the Ambassador Hotel Hsinchu, Taiwan. Original and unpublished papers on all aspects of advanced VLSI technology and applications are solicited.

SCOPE

■ 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
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■ NEUROMORPHIC and NOVEL COMPUTING

- Neuromorphic Devices and Technologies for AI Hardware such as in-memory Computing

■ POWER, MILLIMETER WAVE AND ANALOG TECHNOLOGY

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■ RELIABILITY OF SYSTEMS and DEVICES

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■ MODELING AND SIMULATION

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■ OPTOELECTRONICS, DISPLAYS, and IMAGING SYSTEMS

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■ SENSORS, MEMS, and BIOELECTRONICS

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PAPER SUBMISSION GUIDELINES

1. Camera-ready manuscript (**2 pages** including figures and tables) should be submitted electronically in PDF format through the symposium website at <https://expo.itri.org.tw/2025TSA/Submission>
2. Accepted papers **MUST** be presented by one of the authors **in person** at the symposium to guarantee publication in the symposium proceedings. Presentations will be in English and will be limited to 15 minutes, with an additional 5 minutes for discussion.
3. Any changes on the title or author list or withdrawal after acceptance must be approved by Mentors or TSA Program Chairs.
4. All papers presented at the symposium will be published in the proceedings as submitted without revisions. Authors of accepted papers must transfer copyright to IEEE by utilizing the electronic IEEE Copyright Form (eCF) for inclusion in the IEEE Xplore database.
5. All paper presenters are required to register for the symposium
6. No-show papers will not be included in the symposium proceedings, nor will they be submitted to the IEEE Xplore database.

STUDENT SUBSIDY

- Student Travel Financial support for attending 2025 VLSI TSA is available for full-time student presenters living outside of Taiwan.

BEST STUDENT PAPER AWARD

The selection will be based on the paper quality evaluated by technical committee members, as well as the presentation of the paper at the symposium. The paper should be presented by the key author who is a full-time student at the time of paper presentation. The Best Student Paper Award will be presented to the winning student at the next year's symposium.

LATE NEWS PAPERS (Submission Start Date: December 23, 2024)

A very limited number of quality Late News Papers will be accepted. Note that Late News Papers are not eligible for the best student paper award.

IMPORTANT DATES (Note: All are based on Taiwan time, which is eight hours ahead of Greenwich Mean Time (GMT+8).)

Paper Submission Deadline	December 2, 2024
Late News Paper Submission Deadline	January 16, 2025
Notification of Acceptance	January 24, 2025
Notification of Acceptance (Late News Papers)	February 10, 2025
Final Paper Submission	February 28, 2025
Author Registration Deadline	February 28, 2025

TSA PROGRAM CHAIRS:

Shimeng Yu, Georgia Institute of Technology

Wei-Chung Lo, Industrial Technology Research Institute

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EMERGING TECHNOLOGY

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- Cryogenic Circuits and Systems
- Flexible and Printable Electronics
- Medical/Bio-electronics/Bio-inspired Chip Designs
- Quantum Computing
- Silicon Photonics

GENERAL INSTRUCTIONS

- Prospective authors must electronically submit the self-contained paper with figures and tables via the conference submission page (<https://expo.itri.org.tw/2025DAT/Submission>) before December 2, 2024 (23:59 GMT+8).
- The submitted manuscript must be 2 or 4 pages including references, double-columned, IEEE-style compatible, in PDF format only. Any submissions not adhering to the rules will be rejected immediately without review.
- Before submitting your abstract/paper, please review the information on IEEE Intellectual Property Rights at <https://www.ieee.org/publications/rights/index.html>
- The review process will be double-blind.
 - Please do **NOT** reveal any authors' information (names, affiliations, email, grant information, personal acknowledgment, etc.) anywhere in the initial manuscript. You must also ensure that the metadata in the PDF does not include such information.
 - All references, including authors' previous work, should be referred as 3rd-persons' works. E.g., you should use "This paper presents a new method to improve XXX's approach [1]." instead of "This paper presents a new method to improve our previous approach [1]." Do NOT omit or anonymize references for blind review.
 - The initial manuscript violating the double-blind review policy will be rejected.
- 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.
- Any changes on the title or author list or withdrawal after acceptance must be approved by DAT Program Chairs.
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- Please refer to the detailed information on the conference website for authors: <https://expo.itri.org.tw/2025VLSITSA>

STUDENT SUBSIDY

- Student Travel Financial support for attending 2025 VLSI TSA is available for full-time student presenters living outside of Taiwan.

BEST PAPER AWARD

Three best papers will be selected this year through a rigorous evaluation process conducted by the DAT technical program committee and session chairs.

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Deadline for Author Registration	February 28, 2025

DAT PROGRAM CHAIRS:

Kenichi Okada, Tokyo Institute of Technology

Tai-Cheng Lee, National Taiwan University

Ming-Der Shieh, Industrial Technology Research Institute