Call for Papers

The 9th IEEE Electron Devices Technology and Manufacturing (EDTM)

IEEE Advancing Technology for Humanity

Electron Devices Society

edtm 2025 Electron Devices Technology and Manufacturing Conference

The 9th IEEE Electron Devices Technology and Manufacturing (EDTM) Conference 2025

Hong Kong, China, March 9th – 12th, 2025

Theme: Shaping the Future with Innovations in Devices and Manufacturing

Three-page camera-ready paper submission starts: **August 15, 2024**

Paper submission deadline: **October 15, 2024**

Notification for Acceptance: **December 15, 2024**

https://edtm2025.com/

The 9th IEEE Electron Devices Technology and Manufacturing (EDTM 2025) Conference will be held for the first time in Hong Kong, Asia's World City and the epicenter of finance and trade. EDTM 2025 will be a full four-day conference, established and sponsored by the IEEE Electron Devices Society (EDS). It is a premier conference, which aims to bring together experts/researchers from industry and academia around the world on a common platform, to showcase new discoveries and discuss on a broad range of topics covering semiconductor device technology and manufacturing.

Technical Areas

EDTM 2025 solicits papers in all areas of electronic devices, including materials, processes, modeling, device/circuit/system design, reliability, packaging, manufacturing, testing, and yield.

EDTM 2025 will include parallel technical sessions of oral and poster presentations.

Publication Opportunities

The accepted and presented papers will be published in the EDTM 2025 Proceedings included in IEEE Xplore. The authors of a selected number of high-impact papers will be invited to submit extended versions for publication in the special issue of IEEE Journal of Electron Devices Society (J-EDS) or IEEE Transactions on Electron Devices, subjected to J-EDS and TED policy.

Award Opportunities

EDTM 2025 offers one Best Paper Award in each sub-technical area.

Short Courses and Tutorials

EDTM 2025 will start with a set of short courses and tutorials on March 9, 2025. Tutorials will cover selected topics from the basics to the state-of-the-art. The Short Courses will discuss the latest research and challenges on emerging and advanced topics.

Exhibition

EDTM 2025 offers vendors to showcase their newest products and technologies, allowing attendees to learn about new tools and techniques.

General Chair:
Yang Chai (HK PolyU)

General Co-Chair:
Tim Cheng (HKUST)

TPC Chair:
Mansun Chan (HKUST)

TPC Co-Chair:
Yansong Yang (HKUST)

Steering Committee:
Shuji Ikeda (TEI Solutions) – Chair
Bin Zhao (CTI)
Arokia Nathan (Cambridge U.)
Ravi Todi (Synopsys)
Murty Polavarapu (BAE)
Roger Booth (Qualcomm)
Samar Saha (Prospicient Devices)
Albert Wang (UC Riverside)
Kazunari Ishimaru (Rapidus)
Yogesh Chauhan (IIT Kanpur)

Executive Committee:
Yang Chai (HK PolyU)
Roger Booth (Qualcomm)
Mansun Chan (HKUST)
Yansong Yang (HKUST)
Ru Huang (Southeast)
Qiming Shao (HKUST)
Merlyne De Souza (U Sheffield)
Pei-Wen Li (NCTU)
Can Li (HKU)
Masumi Saito (Kioxia)
Zhongrui Wang (HKU)
Meiki Ieong (Simbury)
Carmen Fung (HKSTP)
Man Hoi Wong (HKUST)
Roger Booth (Qualcomm)
Huaqiang Wu (Tsinghua)
Rino Choi (Inha U.)
Bernard Lim (Appscard)
Shinichi Yoshida (SONY)
Bill Nehrer (Atomera)
Bich-Yen Nguyen (SOITEC)
Benjamin Iniguez (URV)
Edmundo Gutierrez (INAOE)
Ming Yang (HK PolyU)

About Hong Kong:

Hong Kong is a vibrant city blending Eastern and Western cultures, offering world-class cuisine, shopping, a stunning skyline, and beautiful Victoria Harbour, making it a unique and captivating place to explore.

The sub-technical areas are:

1. **Materials:** All device-related materials, including semiconductors, magnetics, ferroelectrics, insulators, and metals, etc. Smart materials enabling intelligent devices are highly welcome.
2. **Process, Tools, Yield, and Manufacturing:** Semiconductor processes and equipment, including process modules, process integration, process control, equipment impact on devices, reliability and yield, self-assembly techniques, process sensing, process enhancement by AI/ML, etc.
3. **Advanced Semiconductor (Logic) Devices:** All semiconductor devices including Si/Ge CMOS, interconnects, compound semiconductors, oxide semiconductors, low-dimensional nanomaterials, ferroelectric, spintronics, 3D devices, Logic for Memory, etc.
4. **Memory Technologies:** Embedded and standalone, volatile and nonvolatile memories, in-memory and neuromorphic computing. Topics: charge-based memories, RRAM, MRAM, PCM, FeRAM, cross-point and selectors, bio-inspired memory, 3D integration, and novel hierarchies/architectures for memory-centric computing.
5. **Photonics, Imaging and Display:** Topics include photonics for energy, optoelectronics, microwave photonics, nano-photonics, optical sensors, optical communications/networking, optical switches, bio-photonics, lasers, optical systems, bio-imaging, imagers, display technology, and other emerging technologies in photonics, imaging, and display.
6. **Wide-Bandgap Power and RF Devices:** Power device materials such as wide bandgap and ultra-wide bandgap materials (SiC, GaN, AlN, etc.). Discrete and integrated high frequency devices and physics, RF modules and systems, III-V devices for RF application, Active and passive component design for RF.
7. **Modeling and Simulation:** Advances in modeling/simulation of electron devices, packages, and processes. Includes numerical, analytical, and statistical modeling of electronic, optical, or hybrid devices; interconnects; technology CAD; benchmarking; monolithic/heterogeneous integration.
8. **Reliability and testing:** Reliability of devices, circuits and systems; Design for reliability and variability aware design; Degradation mechanism of emerging devices and memories; stress testing, reliability enhancement techniques, and innovative testing solutions for electronic devices.
9. **Packaging and Heterogenous Integration:** 2.1D, 2.5D, and 3D integrations; wafer-level packaging; chiplets; ultra-fine-pitch interconnection; sub-micron package-level wiring; optical/wireless interconnect; power/sensor device packaging; thermal-expansion coefficient; thermal management.
10. **Sensor, MEMS, Bio-electronics:** Advances in sensors, transducers, and actuators; Intelligent sensors with embedded AI; MEMS/NEMS devices; Microfluidics and BioMEMS; CMOS on MEMS; RF MEMS; Micro-optical and opto-chemical devices; MEMS for energy harvesting and on-chip energy storage; Bio-sensors
11. **Flexible and Wearable Electronics:** Flexible devices for wearable applications; Materials for flexible electronics.
12. **Nanotechnologies:** Advances in nanomaterials, nanoelectronics, 2D materials and devices, nanophotonics, nanofabrication, nanoenergy, nanobiomedicine, nanosensors, and related techniques.
13. **Disruptive Technologies:** Metaverse; Neuromorphic Computing; Quantum Computing; in-memory, neuromorphic, and bio-inspired computing; AI/ML for next-generation computing; Quantum machine learning; Logic-in-memory.