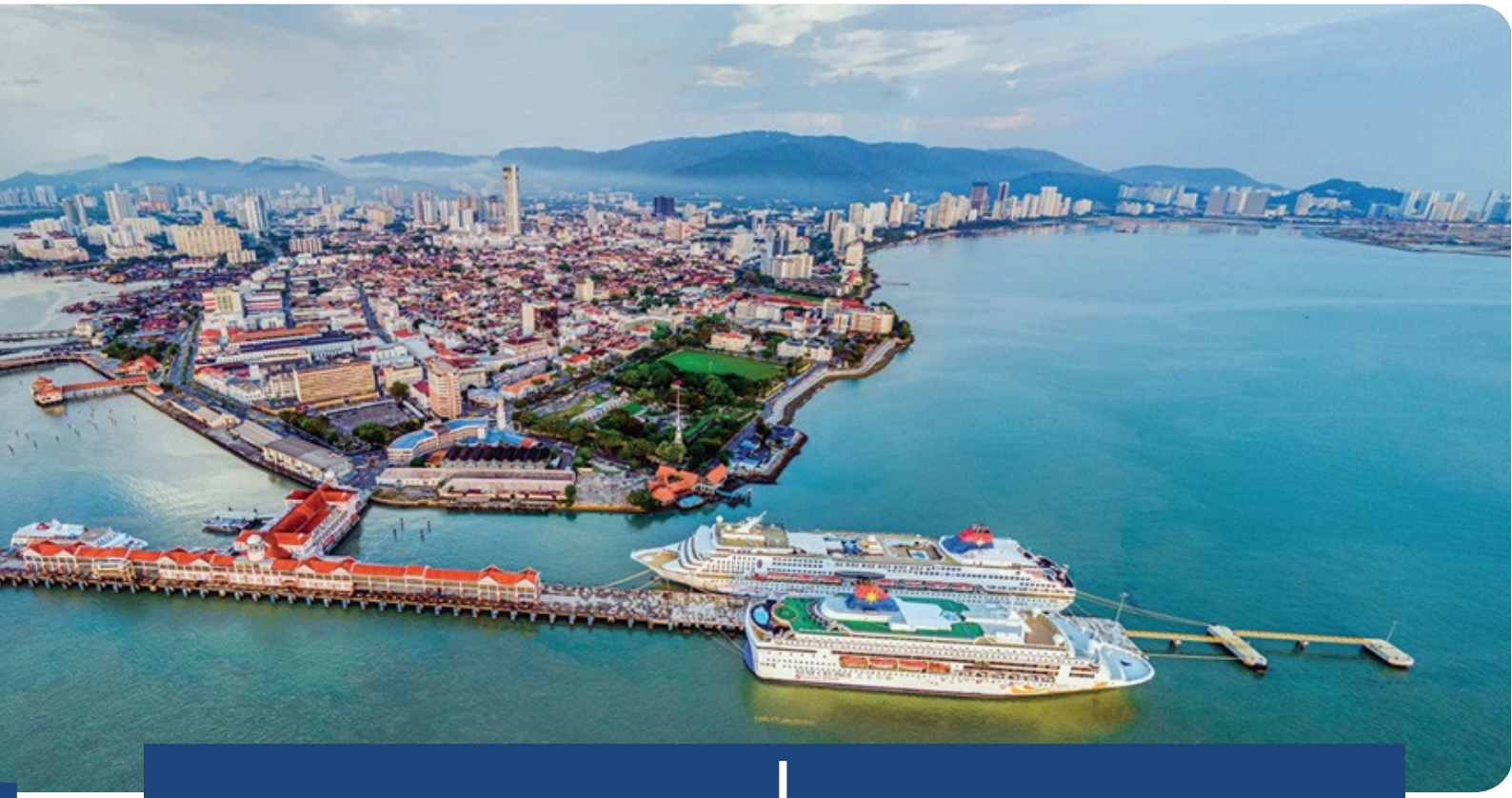
2026

2026 10TH IEEE ELECTRON DEVICE TECHNOLOGY & MANUFACTURING CONFERENCE (EDTM)

The IEEE Electron Devices Technology and Manufacturing (EDTM) Conference 2026 is a three-day meeting to be held at the Hotel Equatorial, Penang, Malaysia from March 16th to 18th, 2026. The IEEE Electron Devices Society (EDS) sponsored EDTM is a premier conference for the electron devices community. The EDTM provides a unique forum for discussions on broad range of device/manufacturing-related topics including materials, processes, devices, packaging, modeling, reliability, and manufacturing and yield. The conference location rotates among the hot-bed of manufacturing countries in Asia and is being held in Malaysia for the second time in 2026.



March 2026 | Penang, Malaysia

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Technical Areas

The EDTM 2026 solicits papers in all areas of materials, processes, devices, packaging, modeling, reliability, and manufacturing and yield. Authors should recommend a technical category based on the detailed descriptions in this flyer during online submission of paper.

Oral and Poster Sessions

The EDTM 2026 will include three days of technical presentations organized into several parallel sessions. The conference will also include poster presentations. Authors should indicate their preference for oral or poster presentation format when submitting their abstracts. A best poster award and a best student paper and a best paper awards will be presented with the selection based on the quality and presentation of the paper in the conference. Partial travel support may be available for students' of the IEEE recognized financially challenged countries to present their accepted papers/posters at the conference by request only.

Publications

The EDTM 2026 papers will be subjected to IEEE-EDS standard review processes and IEEE conference publishing guidelines. The accepted papers presented at the meeting will be published in the EDTM 2026 proceedings and may be available on IEEE Xplore. Besides, the authors of a selected number of high-impact presented papers will be invited to submit an extended version of the same for the consideration of publication in the IEEE Journal of Electron Devices Society (J-EDS). All such submissions must comply with J-EDS author-guidelines and will be subjected to the standard IEEE and J-EDS review and publication policy.

Short Courses and Tutorials

The EDTM 2026 will be preceded by several short courses on March 15th, 2026, encompassing the latest advancements in niche application areas of interest, which include hardware security, sensors for IoT, flexible and wearable electronics, artificial intelligence (AI) and machine learning, and heterogeneous integration of different device technologies. The short courses are focused to provide the attendees the latest ongoing applied research in these areas that will pave the way for the successful realization of internet of everything (IoE), Industry 4.0 technology, and AI-driven economy.

The EDTM 2025 will, also, be preceded by several tutorial sessions on topics ranging from front-end to back-end-of-line CMOS process, packaging and emerging memory technology. These tutorials sessions are catered towards students and young engineers in the industry and are intended to offer a comprehensive overview of the topical areas presenting a roadmap of the evolution of the technology over the past few decades.

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Papers for presentations at EDTM 2020 are invited in the following topical areas

Materials:

papers invited in all areas of materials to achieve high performance and manufacturability of systems. Materials for the deposition of films of semiconductors, magnetics, ferroelectrics, insulators, metals, and liquid crystals are highly welcome. And, to achieve their structures, the resist, organic films, etching gas, and CMP materials and their chemical materials, gas chemistries, wafers, filament, phase change memory materials, cost-effective, reliability, high yield, manufacturability are also scope of EDTM. Smart-materials for sensors and actuators enabling IoT are highly welcome.

Process and Tools for Manufacturing:

papers include all areas of process, tools, and manufacturing systems with novel sensing technologies, and artificial-intelligence and deep-learning algorithms. Process and equipment including process module, process integration and process control, and equipment that improve device performance, reliability, and yield, or enable new products are also solicited. The topics are substrates, isolation technologies, integration of heterogeneous channel materials, dielectrics and metal electrodes for gate stacks and MIM capacitors, shallow junctions, and silicides, low dielectric constant materials, contact and via processes, multi-patterning and EUV lithography, self-assembly techniques, deposition techniques include CVD, ALD and PVD, dry and wet etch techniques, cleaning, planarization, integration process for sensors, MEMS, RF devices, and photonics electronics, and process and tool design or process control techniques to reduce variation or improve reliability or yield.

Devices and Smart Systems for Internet of Things (IoT):

papers include all areas of devices and manufacturing for IoT – sensing, connectivity, and computing enabling smart environments and integrated ecosystems. High-performance devices include CMOS technology, platform technologies, stand-alone and embedded memory technologies, interconnects, optical interconnects, compound semiconductors, low-dimensional systems including 2D materials, nanowires, nanotubes, and quantum dots, and 3D-ICs. The devices for mobile computing correspond to ultra-low power devices, energy harvester, RF devices, sensors, sensor networks, displays, and actuators, MEMS, power devices, flexible and stretchable electronics, printed electronics, and organic and inorganic displays. Papers are also solicited on the manufacturing issues of process control, manufacturability, yield improvements, and failure analysis as well as smart power and renewable energy devices.

Modeling and Simulation:

papers discussing modeling of electron devices, packages, and processes, including numerical, analytical, and statistical modeling and simulation of electronic, optical or hybrid devices, interconnects, integration, parasitic elements, fabrication processes, physical phenomena, mechanical systems, electro-thermal effects, model test structures and methodologies.

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Reliability:
papers on the reliability of materials, processes, and devices including interconnects, electro-static discharge, latch-up, soft errors, noise and mismatch behavior, hot carrier effects, bias temperature instabilities, test structures and methodologies, defect monitoring and control, electromagnetic robustness, and design-for-reliability.

Packaging and Heterogeneous Integration:
papers include all areas of advanced packaging and package-related manufacturing technologies. Especially, heterogeneous integration technologies such as 2.1D, 2.5D and 3D integrations, wafer-level packaging and panel-level packaging are strongly encouraged. Papers on breakthrough technologies in ultra-fine-pitch interconnection, sub-micron package-level wiring, optical/wireless interconnect, power/sensor device packaging, control in thermal-expansion coefficient and thermal management are also recommended. Package design methodology and technique for miniaturization of sub-systems, and the manufacturability of all the technologies above are of course interested. Emerging topics, such as bio-compatible package, neuromorphic interconnection, and flexible/bendable package for wearables are very much welcome.

Manufacturing Yield:
papers discussing semiconductor manufacturing and yield technologies for including clean-room management, wafer handling, uniformity of process, repeatability of tool, design for manufacturability (DFM), design for test (DFT), defect density, yield management, use of sensors, connectivity, machine-to-machine communications, data collection and analysis.
Emerging Photonics, Bio-photonics, and Optoelectronics Technologies: papers on discussions on the topics of photonics, photonics for energy, optoelectronics devices, microwave photonics, photonic devices and applications, nano-photonics, optical sensor technologies and types, optical communications and networking, optical switching technology and devices, bio-photonics, laser, optical systems, and emerging technologies in photonics, optics, and lasers as well as emerging methods or technologies, advanced prototypes, systems, tools and techniques.

Artificial Intelligence (AI) and Machine Learning:
papers on device technology and systems integration are invited for the development of intelligent machines that work and react like humans through learning – machine learning. Areas include, but not limited to, the areas of narrow artificial intelligence, artificial general intelligence, and artificial super intelligence, and deep machine learning and predictive analysis as well as big data.

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