International Symposium on Advanced Transistor Technologies and Scaling Limits

GAA-FET • Nanosheet FETs • 3D CMOS Architectures

This international symposium will be organized within the scope of SEMIMATER 2026 and aims to bring together researchers and industry experts working on next-generation transistor technologies and the fundamental limits of device scaling in advanced semiconductor nodes.

Scope: This symposium focuses on state-of-the-art transistor architectures developed to overcome the physical and technological challenges associated with continued CMOS scaling. It addresses both device-level physics and system-level integration, bringing together researchers from semiconductor physics, nanoelectronics, materials science, and microelectronics engineering. The symposium provides a platform to discuss emerging transistor concepts beyond conventional FinFET technology and their implications for future logic and memory devices.

Topics of interest include, but are not limited to:

- Gate-All-Around (GAA) FET technologies and device physics
- Nanosheet and nanowire FET architectures
- Evolution and scaling limits of FinFET technologies
- Short-channel effects, variability, and reliability challenges
- 3D CMOS architectures and advanced device integration strategies

Applications

Research presented in this symposium is expected to contribute to advanced logic and memory devices, high-performance and low-power integrated circuits, artificial intelligence and high-performance computing (HPC) hardware, and next-generation semiconductor manufacturing technologies.

Symposium Organization Opportunity

Researchers with strong expertise in advanced transistor technologies, CMOS scaling, or nanoelectronic device physics are warmly invited to take an active role in the organization of this symposium. Interested participants may serve as Symposium Chair or Co-Chair, contribute to

shaping the technical program, invite keynote and invited speakers, and lead focused scientific discussions aligned with future semiconductor roadmaps.

How to Apply as Symposium Chair

Researchers who wish to organize or chair this symposium are kindly invited to contact the Conference Chair with a brief statement of interest, including their research background, proposed focus areas within the symposium scope, and potential invited speakers. All applications will be evaluated by the SEMIMATER 2026 Organizing Committee.

Contact Information

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SEMIMATER 2026 Website

https://www.semimater.org