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Nanoscale Science and Technology on Semiconductor Device Physics

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Deadline for manuscript submissions:
closed (31 May 2023)

Message from the Guest Editors

Dear Colleagues,

The constant downscaling of nanoelectronic technologies pushes need for knowledge on semiconductor-based devices, to design devices, define appropriate and efficient process to generate the complex architectures of materials. This Special Issue aims to present the state-of-the-art of semiconductor devices' physics, from the atomic scale simulation and characterization of materials, interfaces, and defects, to the simulation and electrical characterization of devices. Potential topics include, but are not limited to:

Characterization and modeling of materials, nanostructuring, interfaces between semiconductors and oxides.
New materials, technologies, and device architectures
Processes for 3D integration.
Quantum transport, thermal transport, fluctuation, noise, and reliability.
Compact modeling for circuit simulation.

Process/device/circuit co-simulation in the context of system design and verification modeling and the simulation of all types of semiconductor devices and processes. See more information in:
https://www.mdpi.com/journal/nanomaterials/special_issues/HP

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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