

## Special Issue

# Semiconductor Materials for Nanoelectronic and Optoelectronic Quantum Devices

### Message from the Guest Editor

In a Si-MOSFET device, a conducting channel has been created by applying gate voltage for current flow between the source and drain; moreover, a fin field-effect transistor (FinFET) has now been well-established with a channel length from 2nm to 1.8nm, even down to 1.4nm (so-called 18A technology, 1.8 nm = 18 angstroms) to challenge Golden Moore's Law. Compound semiconductors are prospectively applied to high-temperature power devices, high-efficiency micro-LEDs, or quantum computer qubits. To engineer the band profile of semiconductor materials, one can select the host materials of IV-IV (e.g., SiC, SiGe), III-V (e.g., III-Arenites, III-Nitrides), or II-VI compounds (e.g., ZnO, ZnS, ZnSe, CdS, CdSe, CdTe, HgTe, etc.) by means of DUV lithography or self-assembling nanotechnology. The articles presented in this Special Issue will cover various topics, ranging from but not limited to the optimization of deposition methods, thin-film preparations, nanosensors, catalysis, self-assembly, and characterization for the development of nanoelectronic and optoelectronic device applications.

### Guest Editor

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### Deadline for manuscript submissions

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## Materials

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### Message from the Editor-in-Chief

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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### Editor-in-Chief

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