

# Special Issue

## Novel Semiconductor Devices and Nanomaterials for Energy, Power and High-Frequency Applications

### Message from the Guest Editors

There is a continuous quest in novel semiconductors and nanomaterials to address the current challenges in energy efficient, high-power, and high-frequency devices. The integration of new semiconductor materials into conventional devices and circuits offers unique advantages, which often lead to significant breakthroughs. The objective of this Special Issue of *Materials* is to report the novel electronics concepts and device designs based on new semiconductors and nanomaterials. Topics of interest include, but are not limited to, the following:

- Semiconductor materials for renewable energy;
- Device designs for energy efficient electronics;
- New wide-bandgap semiconductors for high power;
- Integration of nanomaterials for electronics and photonics;
- New device concepts for energy harvesting;
- Nanoscale semiconductor field effect transistors;
- Semiconductor and nanomaterials for THz electronics;
- Diamond-based electronics;
- Ga<sub>2</sub>O<sub>3</sub> and GaN devices for high-power and high-frequency applications;
- Semiconducting Telluride and Selenide films for thermoelectric applications;
- Metal-organic frameworks as semiconductors.



## Materials

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### Deadline for manuscript submissions

closed (20 June 2024)





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## About the Journal

### 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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