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Advanced Studies in Wide-Bandgap Nanomaterials and Devices

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Message from the Guest Editors

This Special Issue's focus includes, but not limited to following:

Structural design and optimization for improving the performance of semiconductor materials and devices, including designing reasonable materials structures using DFT calculations and molecular dynamic simulations, and high-performance device structures using TCAD;

New preparation and doping technologies for regulating the properties of semiconductor materials, including achieving the precise control of semiconductor materials at the atomic scale, and adding an appropriate amount of impurity atoms in order to change their band structure, carrier concentration, and other performance parameters;

Surface treatment methods and technologies for improving the performance of semiconductor materials, including surface cleaning, etching, passivation, and other treatment methods;

Performance characterization for experimentally investigating wide-bandgap semiconductor nanomaterials;

Diverse applications of wide-bandgap semiconductor nanomaterials.

See more information in: <https://www.mdpi.com/si/207363>

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Prof. Dr. Wei Huang
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Special Issue



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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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