

Special Issue

Silicon Based Nanostructures for Nanoelectronics

Message from the Guest Editors

The era extending since the late 20th century to our times has been termed the Silicon age due to the enormous contribution of microelectronics-based silicon to world economy and to our way of life. More recently, the advent of nanotechnology introduced electronics based on nanostructures, or nanoelectronics, defined as structures in which quantum mechanical effects need to be accounted for, and more generally defined as structures with at least two dimensions that are in the range of several hundreds of nanometers. The advancement of silicon-based electronics into nanoelectronics is normally considered a disruptive technology that departs from traditional silicon devices in terms of fabrication, application, and performance among others. Specifically, this Special Issue focuses on recent advancements in silicon nanoelectronics in terms of fabrication methods, electronic device designs (nanocircuitry), applications (optoelectronics, nanosensors, NEMS, quantum computers, energy production, medical diagnostics, etc.), hybrid electronic devices, etc.

Guest Editors

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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.

Editor-in-Chief

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