Special Issue

Optoelectronic Nanomaterials and Nanodevices for Neuromorphic Application

Message from the Guest Editor

Inspired by the biological system, the development of neuromorphic visual systems is at the cutting-edge of research, showing great promise for applications in neuromorphic intelligence technologies and smart robotics. Optoelectronic nanomaterials, including quantum dots, perovskites, and optoelectronic nanodevices have emerged as a promising candidate for artificial synapses in the construction of neuromorphic visual systems. Their novel optical and photophysical properties allow them to closely resemble biological functions. This Special Issue focuses on the development of emerging optoelectroinc nanomaterials, the design of fucntional nandevices, and the exploration of neuromorphic applications. Original research articles, reviews, and perspectives are welcome. Research areas may include (but are not limited to) the following: microstructure design of optoelectronic nanomaterials; manufacture of optoelectronic nanodevices mainly including memristors, photosensors, phototransistors, and other optoelectronic synaptic devices; neuromorphic applications in artificial synapses/neurons; and artificial visual systems. We look forward to receiving your contributions.

Guest Editor

Dr. Ya Lin

Key Laboratory for UV Light-Emitting Materials and Technology of Ministry of Education, Northeast Normal University, Changchun, China

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Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

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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

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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