

Special Issue

Next-Generation Optoelectronic Devices: Semiconductor Materials and Sensing Technologies

Message from the Guest Editors

The evolution of information technology has driven sensor development into a new era, advancing IoT, Industry 4.0, big data, AI, robotics, and digital health, requiring sensors to become more connected and intelligent. The vision of “everything connected” demands sensors perform diverse tasks beyond conventional devices. Advanced optoelectronic sensory devices, providing non-invasive, rapid, and precise optical perceptions, are becoming critical IoT tools. Progress in multimodal, biomimetic, AI-enhanced, all-in-one optoelectronic sensing materials and devices is advancing smart electronics toward low-power and superior functionality. This Special Issue welcomes original articles and reviews in areas including:

- 2D material-based optoelectronic devices
- Quantum dot-based optoelectronics
- Perovskite-based optoelectronic devices
- Organic optoelectronics
- Inorganic thin-film optoelectronics
- Photodetectors and photovoltaics
- Optoelectronic sensory hardware and systems
- Computational optoelectronics and machine vision
- Neuromorphic optoelectronic devices and reconfigurable systems.

We look forward to receiving your contributions.

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

Editor-in-Chief

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