Special Issue

Preparation of Semiconductor Materials and Their Application in Photoelectronic Devices

Message from the Guest Editor

Semiconductor materials with satisfying photoelectric properties can convert light energy to electrical energy. To assemble optoelectronic devices with high performance, not only the morphology and microstructure of the semiconductor material but also the adoption of reasonable device structures and suitable electrode configurations are vital because of their impacts on the behaviors of charge carriers. Topics include, but are not limited to:

- Synthesis of semiconductor materials with novel morphology and microstructure;
- Effects of preparation conditions on the morphology and microstructure of the semiconductor material;
- Semiconductor materials utilized in solar cells, LEDs, and phototransistors;
- Semiconductor materials applied in UV, visible, and infrared-light photodetectors;
- Semiconductor materials used in lasers and display devices;
- Semiconductor materials utilized in X-ray and Terahertz detection;
- Optimized photoelectric performance achieved by modified preparation process of semiconductor materials;
- Effects of material preparation and device assembly on the charge carrier behaviors in photoelectronic devices.

Guest Editor

Dr. Weixin Ouyang

School of Physical Science and Technology, Northwestern Polytechnical University, Xi'an 710072, China

Deadline for manuscript submissions

31 December 2025

Processes

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.5

mdpi.com/si/220274

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

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Prof. Dr. Giancarlo Cravotto
Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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