

Special Issue on
Photoactive Nanomaterials: From Synthesis to Applications

CALL FOR PAPERS

Photoactive engineered nanomaterials have received considerable attention in recent years due to their interesting nanoscale properties which are completely different from those observed in bulk materials. In this regard, the nanostructured materials have shown extensive applications in important fields such as energy production, environmental remediation, and sensing of biological and chemical species. The control and fine-tuning of size, morphology, and microstructural features through classic or novel synthetic routes and special techniques of self-assembling and crystal growth are essential to modulate the properties of these nanomaterials for desired applications. However, the design and engineering of nanostructured materials with photoactive properties still remains as one of the major challenges in the materials science research. The new methods of synthesis and improvement of the properties of these photoactive nanomaterials will provide significant advances in all technological fields through the efficient harvesting of the sunlight.

Here, we kindly invite authors to contribute to this special issue with original high-quality research articles and review papers addressed at highlighting the recent advances and future perspectives of the nanostructured materials with potential light harvesting applications. The themes covered in this special issue include several aspects from synthesis and characterization to the development of new technologies and industrial applications of the photoactive nanomaterials.

Potential topics include but are not limited to the following:

- ▶ Synthesis and characterization of photoactive nanomaterials
- ▶ Self-assemblies and advanced crystal growth techniques
- ▶ Theory and modeling of photoactive materials at nanoscale
- ▶ Nature inspired photoactive nanomaterials and their potentialities
- ▶ Artificial light harvesting and energy management systems
- ▶ Production of solar fuels through nanosized photocatalysts
- ▶ Nanomaterials for Si cells, Grätzel cells, photovoltaics, and other solar cells
- ▶ Fe-based nanomaterials for photo-Fenton process
- ▶ Design and preparation of nanometric materials for optical sensors
- ▶ Quantum dots, plasmonic, and up- and down-conversion nanomaterials
- ▶ Water purification by photocatalytic nanostructured materials using solar energy

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jnm/pnfs/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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Submission Deadline

Friday, 22 December 2017

Publication Date

May 2018