

Science of Advanced Materials

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A Special Issue on

“Optical Nanomaterials: Challenges and Opportunities”

Call for Papers

The synthesis and optical properties of nanoparticles have recently garnered considerable attention due to their potential use for photonic and bio-photonic applications. Intensive research efforts are therefore devoted to designing and tuning of the optical properties of both doped and undoped oxide and semiconductor nanocrystals. Doped nanomaterials have shown great promise as a new class of materials for photonic devices and bio-photonic applications as bio-labels and in biological assays. Core-shell particles have also been attracting a great deal of interest to improve the luminescence efficiency by reducing the surface defects of the nanocrystals. Of particular interest is how the optical properties of these materials vary with the modification of the size, shape, crystal structure and surface coating with the hope that such knowledge will enable us to construct efficient nanomaterials. The research in the field of quantum dots (QD)-based fluorescence energy transfer has recently been paid great attention to find out potential applications in the areas of luminescence tagging, imaging, medical diagnostics, multiplexing and most recently as biosensors. In the recent years, there has been a growing focus on utilizing quantum dots (QDs) in fluorescence resonance energy transfer (FRET). This interest stems from their tunable electronic structure, narrow emission and broad excitation spectra.

This special issue is devoted to all topics related to optical nanomaterials and their applications.

We invite the submission of **Original research articles, communications and review articles** to this special issue in the following fields:

- Synthesis and characterization of optical nanomaterials and nanostructures
- Core-shell optical nanomaterials
- Upconverted nanophosphors
- Nanophosphors
- Energy transfer

- Photocatalysis
- All other related to optical properties and applications with nanomaterials, including lighting, solar cells, sensors and biomedical applications.

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Manuscript Submission

Manuscripts must be prepared according to Journal's guidelines, available at <http://www.aspbs.com/sam>. Submit your manuscripts in MS Word or PDF format directly to Guest Editors by email.

All papers submitted to this issue which will be subject to a strict peer review process to ensure high quality articles. Please make sure in the cover letter submitted that the paper has not been published previously and is not currently submitted for review to any other journal and will not be submitted elsewhere before a decision is made by this journal.

Please notify in advance for your intension to submit a research article/communication/ review paper.

Important Dates

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