

Tentative Outline

Special Thematic Issue for the journal : Current Chinese Chemistry

Title of the Thematic Issue: "Luminescence Materials and Applications"

Sectional Editor: Dr. Yuanbing Mao

• **Scope of the Thematic Issue:**

Luminescence, as a form of cold-body radiation, is spontaneous emission of light by a substance not resulting from heat. It can be caused by chemical reactions, electrical energy, subatomic motions or stress on a crystal. Accordingly, it has many different types, including chemiluminescence, bioluminescence, cryoluminescence, electrochemiluminescence, lyoluminescence, candoluminescence, crystalloluminescence, electroluminescence, cathodoluminescence, mechanoluminescence, triboluminescence, fractoluminescence, piezoluminescence, sonoluminescence, photoluminescence, radioluminescence, and thermoluminescence. In the meantime, modern society heavily relies on mankind's imagination and ability to manipulate and produce light. As technological capabilities are increasing rapidly to improve people's life, luminescence is at the heart of applications as diverse as lighting, telecommunications, security marking, lasers, luminescent thermometers, barcoding, or immunoassays, etc.

To attract broader readership to be able to follow up with the current status of the fast-developing luminescence materials and their broadening applications, the Editorial Board would suggest thematic issue contributors to write their articles in a plain and easy-to-understand language as much as possible for the current thematic issue on "Luminescence Materials and Applications".

Keywords: Luminescence; Luminescence Materials; Optical Materials; Nanophosphors; Luminescence-Based Applications; Luminescence-Based Devices.

Sub-topics:

The Editorial Board invites experts in the field to contribute chapters in the following topics, but not limited to:

- Human-eye-sensitive luminescent materials
- Luminescent carbon materials
- Luminescent materials for phosphor-converted LEDs
- Luminescent materials for energy conversion
- Luminescent materials for finger-print detection
- Luminescent materials for anticounterfeiting
- Luminescent solar concentrators
- Luminescence thermometry
- Luminescence manometry
- Nano phosphors
- Near-infrared luminescent materials
- Phosphors for displays
- Phosphors for horticultural lighting
- Quantum-splitting materials
- Quantum dots
- Scintillators
- Ultraviolet luminescent materials for germicidal applications
- Upconversion phosphors

Tentative titles of the articles:

- Multifunctional fluorescent and phosphorescent nanostructures for biomedical applications
- Chemical Conversion and Optical Properties of Mixed-Anion Lanthanide Oxyhalides

- Progress on advanced inorganic ceramic scintillators
- Development of Lanthanide-Doped Nanophosphors for Biological Imaging and Bioassay Applications
- Tunable Rare Earth Luminescence
- Multifunctional luminescent nanoparticles for solar and bio imaging applications
- Design efficient metal oxides for actinide speciation and containment
- Rare Earth-based Nanomaterials for Opto-Magnetic Applications
- Biomedical applications of multifunctional nanoparticles integrated with super paramagnetic and luminescent components
- Upconversion: materials design and standardization of the quantum yield measurement
- Development of oxide phosphors as optical temperature sensors for extreme environments
- On development and afterglow mechanism of garnet scintillators
- Preparation, Structure and Scintillation of Halide Crystals
- Development of phosphors for pc-LEDs
- Design and development of quantum dots and their luminescence properties

Schedule:

- Thematic issue submission deadline: **3/31/2023**

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