



International Journal of Optics

Special Issue on
Next-Generation Nanooptics

CALL FOR PAPERS

When physical structures are designed at nanoscales, their interaction with radiation induces peculiar optical phenomena and new possibilities of optical devices. Tailoring the dimension, shape, spacing, and material provides almost infinite flexibility in the variation of optical functions owing to the novel optical properties in nanoscale structures. This is driving researchers to explore new paradigm in the field of nanooptics for applications in next-generation optical systems for consumer electronics (e.g., optical data storage, digital imaging, and display), industrial optics (e.g., sensors and control systems), and optical communications (e.g., transceivers and optical routing). This special issue is intended for the recent research and advances in nanooptics.

Potential topics include, but are not limited to:

- ▶ Nanophotonics: light-matter interaction at the nanoscale, fundamental, and device applications in nanomaterial properties, semiconductor/metallic photonics, optical properties of nanosystems, spectroscopy of nanosystems, absorption, emission energy spectra, and luminescence spectra
- ▶ Plasmonics: plasmonic materials and metamaterials, applications in on-chip optical devices, modulators, and detectors; novel medical therapeutics; efficient molecular sensors; subdiffraction-limited optical microscopies; and plasmons assisted photovoltaics, etc.
- ▶ Nonlinear optics: nonlinear optical materials, optical signal processing, quantum optics, and nonlinear optics at subwavelength scale
- ▶ Photo-electronics: liquid-crystal and light-emitting materials and their devices, optical materials for information display applications and flat-panel-display applications, and electrooptical properties
- ▶ Surface Enhanced Raman Scattering: SERS active materials, theory and models, self-assembled monolayers, optical bioimaging, and application in sensing including detection and identification of proteins, microorganisms, and cellular samples
- ▶ Biophotonics: novel materials and devices for biophotonics, including imaging, microscopy, sensing, therapies, and optogenetics, nanoparticles, nanostructures, and engineered molecules for biosensing and bioimaging, microfluidic structures for bioanalysis, biosensors, and optical properties of DNA and biomaterials

Lead Guest Editor

Manish Kumar, Sungkyunkwan
University, Seoul, Republic of Korea
manishk@skku.edu

Guest Editors

C. S. Suchand Sandeep, University of
Potsdam, Potsdam, Germany
sandeep@uni-potsdam.de

Antonieta D. Millone, Consejo Nacional
de Investigaciones Científicas y
Técnicas, Buenos Aires, Argentina
azamilldone@inifta.unlp.edu.ar

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