



Call for Papers

Announcing a Special Issue of the
IEEE Photonics Journal

Progress in Metamaterials-based Biosensors

Submission Deadline: **May 1, 2023**

The *IEEE Photonics Journal (PJ)* will publish a special issue dedicated to Progress in Metamaterials-based Biosensors. Metamaterials and metasurfaces represent a group of artificially designed materials and nanostructures that manipulate the properties of light, such as intensity, phase, and polarization, at a subwavelength scale. This gives tremendous opportunities for discoveries of new phenomena, such as improving the detection limit of biosensors based on resonances. Technologies such as surface-enhanced Raman scattering (SERS) biosensors, surface-enhanced infrared absorption (SEIRA) biosensors, surface plasmon resonance (SPR) biosensors, and specialty optical fiber integrated biosensors are at the forefront of the development. The detection limit has been constantly updated to single molecule, attomolar, and beyond. Metamaterials-based biosensors made of plasmonic or dielectric materials provide a novel analytical tool with the advantages of rapid, label-free, and sensitive detection for various biological samples. They have been applied for the targeted detection of antibodies and proteins, DNAs, cells, and cancer biomarkers to name a few. Tunable and wearable metamaterials-based biosensors with flexibility, stretchability, foldability, and actuability are emerging areas.

This special issue aims to provide a platform for researchers to present the most recent discoveries and developments in the related areas, which include but are not limited to the following topics:

Metamaterials, Metasurfaces, Plasmonics, SERS, SEIRA, SPR, Nanomaterials, Nanoparticles, Nanostructured fibers, Cancer biomarkers, Cells, Lipids, Proteins, DNAs/RNAs, Antibodies, Bacteria, VOCs, Single molecule detection.

Fundamental research and application-related contributions as well as reviews are welcome.

Guest Editors:

Dr. Shuwen Zeng	French National Centre for Scientific Research (CNRS), France
Dr. Shuyan Zhang	Institute of Bioengineering and Bioimaging, A*STAR Singapore
Prof. Qiyin Fang	Department of Engineering Physics, McMaster University, Canada
Prof. Jacob Khurgin	Whiting School of Engineering, Johns Hopkins University, USA

Website submissions: ScholarOne Manuscripts: <https://mc.manuscriptcentral.com/pj-ieee>
Manuscript type: "Metamaterials-based Biosensors"

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