

Special Issue on
**Advanced Materials Assisted Micro-Photonics for
Sensing Applications**

CALL FOR PAPERS

This special issue aims to highlight the recent progress and trends in photonics technologies that deal with the light in microscopic scale for various sensing applications. In the past few decades, the research and development in micro-photonics technologies has experienced a significant growth, partially fueled by their broad applications for in situ measurement of a wide variety of quantities (i.e., physical, chemical, biomedical, etc.). Recent progress in advanced functional materials (i.e., graphene, zeolite, acrylic, gallium, etc.) and high precision three-dimensional (3D) micro/nanofabrication techniques (ultrafast lasers, additive manufacturing, focused ion beam, etc.) have also greatly broadened the flexibility and potential of micro-photonics to link many subareas, such as fiber optic sensors, whispering gallery mode microresonators, micro/optofluidics, surface plasmon resonance, photonic crystals, and metamaterials. The merits of these advanced materials and manufacturing techniques enable the integration of micro-photonics devices and structures with enhanced functionality, enriched intelligence, improved robustness, and unprecedented performance.

In this special issue, manuscripts submissions are encouraged to share the latest progress and achievements in advanced materials assisted micro-photonics technologies for sensing applications. Both experimental and theoretical/simulated results are welcome to this special issue.

Potential topics include but are not limited to the following:

- ▶ Design, characterization, packaging, and demonstration of novel micro-photonics devices and structures for sensing applications
- ▶ New photonic functional and structural materials for sensing applications
- ▶ Novel manufacturing methods to fabricate photonic sensors and key sensor components
- ▶ Mechanical modeling and analysis such as finite element method (FEM) on micro-photonics sensors
- ▶ Ultrafast laser micromachining and mechanism of light-material interaction
- ▶ Novel photonic sensing mechanisms, sensor interrogation, and signal processing methods
- ▶ Investigation, characterization, and mitigation of environmental effects on sensor performance
- ▶ Multimodality and functional enhancement/expansion through integration of other functions such as nanomaterials and microfluidics with photonic devices and structures for sensing applications

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

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

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