Special Issue

Advances in Infrared Spectroscopy and Raman Spectroscopy

Message from the Guest Editors

Molecules vibrate at specific modes, typically in the infrared (IR) frequency range, allowing us to develop advanced label-free techniques to sense them based on absorption or scattering. For example, IR spectroscopy relies on molecular absorption, while Raman spectroscopy utilizes inelastic scattering between the molecule and photons. Both are widely used to determine the vibrational modes of the detected molecules and quantify their signal intensities. When combined with confocal microscopy, label-free techniques can be extended to applications achieving real-time, chemical-specific, in situ imaging/mapping with sub-wavelength resolution. This Special Issue invites manuscripts that introduce the recent advances in "Applications of label-free optical techniques". The topic covers, but is not limited to, molecule detection, identification, and characterization; biomedical screening; light–matter interaction; vibrational coherence; IR spectroscopy; Raman spectroscopy; and time-resolved spectroscopy. All original research and review articles are accepted.

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Deadline for manuscript submissions

closed (20 May 2024)

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Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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