

Special Issue

Plasmonic Biosensors

Message from the Guest Editors

There are some major limitations which need to be addressed in future research for effective PoC devices based on LSPR biosensing. Some of those challenges are the absorptive losses inherent in some plasmonic metals, specificity of analyte recognition, and the difficulty in immobilizing the target molecule near the plasmonic nanoparticles. While label-free detection is a key advantage in plasmonic biosensing, additional sensor system level advances are needed to address the influence of nonspecific interactions on the plasmonic signal. Finally, theoretical developments at the classical, semi-classical, and quantum mechanical levels for the above-described plasmonic phenomena will lead to better sensor designs. Utilization of any of the above phenomena towards plasmonic biosensing is of interest to this Special Issue, and such contributions are invited.

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Deadline for manuscript submissions

closed (25 February 2023)



Sensors

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Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed



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