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Emerging Research in Nanoplasmonic Biosensing: From Fundamentals to Novel Applications

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Message from the Guest Editors

Nanoplasmonic biosensors, utilizing localized surface plasmon resonance (LSPR) effects, have the potential to transform biomedical diagnostics by offering high sensitivity, reduced fabrication complexity, and seamless integration. These biosensors enable the detection of various biomolecules, with applications spanning diagnostics, environmental monitoring, and drug discovery. The performance of nanoplasmonic biosensors depends on the optimization of resonant structures, materials, and sensor interrogation methods. This Special Issue aims to explore the diverse landscape of nanoplasmonic biosensor configurations and their underlying principles, as well as the role of machine learning in refining their capabilities.

As an interdisciplinary research domain, nanoplasmonic biosensing brings together experts from various fields, including material science, biochemistry, nanotechnology, and electronic systems. This Special Issue invites researchers to submit original research papers, reviews, and perspectives related to this exciting area, fostering the exchange of knowledge and propelling advancements in the field.



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Special Issue



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Message from the Editor-in-Chief

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