Special Issue

Nanoelectromechanical and Plasmonic (NEMP) Biosensors

Message from the Guest Editors

Rapid and sensitive detection of disease biomarkers and pathogens is the fundamental basics for designing efficient biosensors for healthcare. Electromechanical biosensors are used for the rapid and highly sensitive detection of pathogens and target biomolecules by measuring the change in charge and mass on the sensor surface. Cantilever sensors and acoustic wave sensors are two major categories of electromechanical biosensors that have been used successfully for the rapid and sensitive detection of pathogens and important biomarkers. On the other hand, nanoplasmonics-based biosensors combined with microdevices based on microfluidics, lab-on-a-chip, photoacoustic, are showing potential benefits, e.g., sensor miniaturization, multiplex detection, and detection of ultra-low concentration (up to the level of fM) of biomarkers.

Therefore, in the current Special Issue, we are inviting potential research articles from the field of nanoelectromechanics, nanoplasmonics, and related fields of research that cover the development of cost-effective, portable, and point-of-care biosensors, requiring low-sample consumption and providing high sensitivity and a real-time response.

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