

Special Issue

Nanomechanical Biosensors

Message from the Guest Editors

Many fundamental biological processes, such as cellular signaling, biomolecular interactions, biomolecular machinery, and disease manifest as or arise from mechanical responses such as piconewton scale forces, subnanometer-scale displacements, elasticity changes, and mass variations. Advances in micro- and nanofabrication technologies enable us to achieve increasingly smaller mechanical transducers with micro- and nanosized moving parts, in which deformation and vibration are sensitively modified upon molecular adsorption. Nanomechanical biosensor are mechanical transducers with micron- or nanosized moving parts in which deformation and vibration at nanometer-scale are modified by tiny external and internal forces and added mass. In addition, since the size of the biomolecules are comparable to those of the dimensions of a mechanical system, mainly the thickness, the mechanical response is also highly sensitive to the mechanical properties of the adsorbed biomolecules, making this tool unique. Accordingly, this Special Issue seeks to showcase research papers, short communications, and review articles. We look forward to receiving your submissions.

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