Special Issue

Emerging Research on Molecular Sensors

Message from the Guest Editors

Molecular sensors are integrated receptor-transducer devices, which can convert molecular responses into external signals based on different approaches. The orchestration and development of molecular sensors are of primary importance for applications such as biosensing, gas sensing, and chemical sensing. Representative challenges in this field include the improvement of transducer performance, such as “3S+3R”, i.e., Sensitivity, Selectivity, Stability, Reproducibility, Response time, and Recovery time. To overcome the limitations of traditional analytical approaches and establish new methodologies, different techniques have been extensively explored to address the scientific and technical challenges in this area. Hence, in this Special issue, we aim to further explore various emerging techniques in molecular sensing, such as artificial intelligence, micro/nanomotors, microwave, microbalance, microfluidics, electrochemistry, photochemistry, and their combinations, focusing on the fundamental mechanism updates of traditional techniques and attempts to explore novel advanced analytical techniques.

Guest Editors

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