Special Issue

Advances in Nano-Electrochemical Sensors

Message from the Guest Editors

The development of nanostructured materials for high-performance electrochemical sensors has become an active and globally significant research area due to their broad range of potential applications, including medical diagnostics (e.g., biomarker detection), environmental monitoring (pollutant and contaminant detection), and food quality and safety analysis. Despite remarkable progress, current electrochemical sensors still face major challenges such as cross-sensitivity, limited operational stability, frequent calibration requirements, and sensitivity to environmental factors like temperature. Achieving both high selectivity and sensitivity simultaneously also remains a critical hurdle. Advances in functional nanomaterials are expected to address these challenges and enable the development of next-generation electrochemical sensing platforms. In this Special Issue, we invite the submission of Research Articles and Review Articles focusing on all aspects of advanced nanoscale materials for electrochemical sensors.

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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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