Special Issue

Design and Optimization of Chemical Sensors

Message from the Guest Editors

Key topics of interest for this Special Issue include, but are not limited to, the following:

- **Material innovations**, such as the use of nanomaterials, molecularly imprinted polymers, functionalized electrodes, and biorecognition elements, to enhance the sensitivity and selectivity of chemical sensors.
- **Sensor miniaturization** and integration into portable, wearable, and implantable systems, enabling deployment in point-of-care or field settings.
- **Signal amplification and noise reduction techniques** that improve the limit of detection and accuracy under complex or variable conditions.
- **Data processing and machine learning algorithms** for pattern recognition, sensor calibration, and predictive performance optimization.
- **Multimodal and hybrid sensor platforms** that combine multiple detection principles or technologies to improve robustness and adaptability.
- **Modeling, simulation, and AI-driven optimization** approaches for sensor design, system integration, and functional evaluation.

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