Special Issue

Inorganic Semiconductors in Biosensors: Design, Mechanisms, and Applications

Message from the Guest Editor

In recent years, biosensors have demonstrated outstanding application potential in intelligent interaction, medical diagnostics, and environmental monitoring by precisely emulating the sensing mechanisms of biological senses (e.g., olfaction, vision, and touch). Inorganic semiconductors, owing to their controllable electronic/ionic transport properties, excellent stability, and designable structural features, have become the key to achieving breakthroughs in biomimetic sensing technology. On one hand, precision design strategies such as defect engineering, heterostructure construction, and nanostructuring are employed to achieve efficient replication of biological sensing processes. On the other hand, the deep integration of theoretical calculations, machine learning-assisted material design, and micro/nano-fabrication technologies is accelerating the screening of high-performance biomimetic sensing materials and the integration of devices. In line with these advancements, we are pleased to announce this Special Issue to showcase the latest developments in this research domain. We look forward to receiving your contributions.

Guest Editor

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Inorganic chemistry remains a lynchpin of modern chemistry, not only embracing the function and reactivity of combinations of most elements of the periodic table, but also providing a footing for studies of materials, catalysts, drugs, fuels and industrial chemicals. Arguably, the role and reach of inorganics in society have never been as great as today. Adventurous research at the heart and at the extremes of inorganic chemistry is vital to further advances and Inorganics offers authors the opportunity to publish exciting new research in an open access format.

Editor-in-Chief

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