

Special Issue

Inorganic Functional Materials: From Precise Synthesis to Application

Message from the Guest Editors

Inorganic functional materials serve as essential platforms in energy storage, catalytic conversion, optoelectronic devices, and green building technologies. Their physicochemical properties are strongly correlated with microstructural characteristics, including morphology, crystal structure, interface engineering, and defect modulation. In recent years, substantial progress has been achieved in the precise chemical synthesis, multiscale in situ characterization, and intelligent material design, which has deepened the mechanistic understanding of photocatalysis, electrocatalysis, and pollutant degradation, while also promoting preliminary applications in energy conversion, environmental remediation, and the development of novel devices. Nevertheless, establishing a controllable relationship between structural design and functional realization, as well as advancing emerging research in areas such as AI-assisted synthesis and green building materials, remains a critical challenge. This Special Issue will cover the entire pathway from precise synthesis to practical applications of inorganic functional materials, to highlight the latest research achievements and future perspectives...

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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