



Advanced Chemical Engineering in Nanoparticles

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Deadline for manuscript
submissions:

closed (31 May 2024)

Message from the Guest Editors

Dear Colleagues,

Nanoparticles, with dimensions ranging from 1 to 100 nanometers, exhibit unique properties due to their high surface-to-volume ratio. Advanced chemical engineering in nanoparticles holds great promise in revolutionizing various scientific and industrial sectors. This emerging field encompasses the synthesis process, materials characterization, physical/chemical properties, and various applications of nanoparticles. Understanding the fundamental principles behind nanoparticle chemistry and engineering is crucial for developing novel materials and devices with tailored functionalities.

The physical/chemical properties of nanoparticles make them suitable for a wide range of applications. For example, Metallic nanorods find applications in catalysis, sensing and biomedical fields, while carbon nanotubes and graphene are utilized in electronics, energy storage, and composite materials. Recent cutting-edge topics in this field include the development of different kinds of nanoparticles, such as Au nanoparticles, up-conversion nanoparticles, and metal-organic frameworks, for tumour-targeting drug delivery and environmental remediation.

