

## Special Issue

# Functional Nanomaterials: Self-Assembly and Applications

### Message from the Guest Editor

With the rapid development of nanotechnology, great advancements have been witnessed in chemical self-assembly, in which a series of elegant, complex, and adaptable hierarchical structures have been successfully constructed. With the help of assembly technology, these intriguing and exotic chemical, photophysical, and anisotropic mass transport features of nanocomponents were integrated into robust macroscale materials or devices with unprecedented and attractive functionalities. In addition to achievements, several major challenges still exist for further development in terms of nanomaterials' alignment, dynamic mechanism revelation, the discovery of novel properties, and performance optimization. For instance, the questions of how to develop novel assembly strategies to integrate nano-building blocks into macroscale structures with high precision and large scale and how to forecast, regulate, and optimize the properties of nanomaterials-based assemblies remain. In the future, extensive investigation, comprehension, and novel manufacturing protocols for self-assembled nanomaterials are thus required.

### Guest Editor

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### Deadline for manuscript submissions

closed (31 August 2023)



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Impact Factor 3.0  
CiteScore 6.0  
Indexed in PubMed



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