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Laser-Assisted Synthesis and Processing of Nanomaterials

Guest Editor:

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Message from the Guest Editor

Laser-assisted synthesis and processing techniques, such as pulsed laser ablation, laser-induced chemical vapor deposition, and laser-assisted photothermal reactions, offer unprecedented precision and control, enabling scientists to engineer nanomaterials with tailored properties and functionalities. By harnessing laser-induced techniques, researchers have achieved remarkable progress in controlling nanomaterials' size, shape, composition, and surface modifications, leading to innovative applications in various fields, including catalysis, photonics, sensing, and medicine. The interaction between laser beams and nanomaterials at the atomic and molecular levels opens doors to novel material compositions and previously unattainable structures.

We invite leading experts to offer a comprehensive overview of the state-of-the-art laser-assisted synthesis and processing of nanomaterials. Topics of interest include laser ablation, laser annealing, and laser-induced growth. This collection of articles aims to provide insights into the fundamental aspects and practical applications of laser-assisted synthesis, fostering collaboration and innovation in this rapidly evolving field.



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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