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Advances in Carbon Nanotubes: Synthesis, Properties, and Cutting-Edge Applications

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Deadline for manuscript submissions:
closed (15 June 2025)

Message from the Guest Editors

Dear Colleagues,

Carbon nanotubes (CNTs), with their unique cylindrical structures and diverse exceptional properties, have attracted extensive attention over the past three decades. Recently, with the rapid development of artificial intelligence (AI) techniques, the integration of nanoscience and AI has paved the way for innovative approaches to CNT synthesis. From controlled growth mechanisms to tailored structural design, these advancements not only propel the field forward but also open avenues for the unparalleled customization of CNT properties.

This Special Issue of *Nanomaterials* will explore several key themes, incorporating both traditional and AI-enhanced modern research methodologies, including but not limited to scalable and sustainable methods for CNT synthesis, investigations into structural properties, and the transformative impact of CNTs across diverse fields such as nanoelectronics, energy storage, composite reinforcement, and biomedical applications. Researchers are encouraged to contribute original research articles or review articles addressing the current state of advancements in the CNT field.

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Editor-in-Chief

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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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