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Implementation of Nanomaterials for Drug Delivery

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Message from the Guest Editor

Nanomaterials have sparked a new era of therapeutic interventions. By engineering nanomaterials, the obstacles of conventional therapeutic intervention can be surpassed through sustained release, targeted drug therapy, and local delivery to a specific site of action. Local delivery improves the bioavailability of the therapeutic methods and reduces off-target adverse effects. Nanomaterials, such as those composed of lipids or polymers, can be used to carry drugs. Nanoparticles also offer a means to transport agents to diseased cells or tissues or act as diagnostic tools. Implantable devices with specially designed nanochannels allow for controlled and sustained release of therapeutics from a drug reservoir near a target site, minimizing adverse effects associated with systemic drug exposure.

This Special Issue aims to explore the use of nanomedicine and nanomaterials to enhance therapeutic delivery. In harnessing nanotechnology, which consists of small, highly tunable platforms, we can develop effective therapeutics, devices, and techniques to vastly improve drug delivery and improve therapeutic outcomes.



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Special Issue



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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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