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# Advanced Mechanical Modeling of Nanomaterials and Nanostructures

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Deadline for manuscript submissions:
**closed (23 April 2021)**

## Message from the Guest Editors

Dear colleagues,

This Special Issue aims at gathering together experts and young researchers for the mechanical modeling of materials and structures in the small-scale range. The physical and mechanical properties of small-scale structures are well known to be size-dependent. This represents a key aspect, largely explored both theoretically and computationally by means of advanced nonlocal approaches. These are here explored to handle both the continuum solid mechanics and fracture mechanics, for which the nonlocal aspect is a requisite for a realistic description of fracture, including the crack inception or propagation and the structural size effect related to the existence of a finite size fracture process zone. Advanced theories and high-performance computational modeling on the statics or dynamics of nano-systems and nano-structures are welcome, together with the development of enhanced nonlocal damage and fracturing models, able to capture the formation and propagation of the internal cracks related to the heterogeneity of complex materials and interfaces.

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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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