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Finite Element Modeling of Microstructures in Composite Materials

Guest Editor:

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Deadline for manuscript submissions:
closed (10 March 2024)

Message from the Guest Editor

Composite microstructures, including both composition and geometry, play a crucial role in the regulation of composite macroscopic properties. Fully understanding the relationship between composite microstructure and macroscopic properties is the fundamental base for the effective design of novel composites. Although finite element modeling is believed to be a more efficient approach than analytical and experimental methods for further the understanding of this relationship, it also faces a number of challenges. For this Special Issue, we invite high-quality papers showing recent progress in addressing these challenges. Topics of interest include, but are not limited to:

- Finite element models of composite microstructure validated by experiments;
- Analytical formulas established from finite element modeling;
- Design and analysis of functionally graded materials;
- Multiscale modeling of composite microstructure;
- Relation between composite nonlinear behavior and microstructural local damage;
- Finite element modeling of 3D-printed composites.

All submissions will undergo a rigorous peer-reviewing process.

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Message from the Editor-in-Chief

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