### **Special Issue**

# Advanced Manufacturing of Composite Materials: Experimental Techniques and Numerical Modelling

#### Message from the Guest Editors

Recent advances in physics-based simulations, datadriven models, in situ monitoring, and robotics have accelerated composite manufacturing, reducing defects, optimizing processing, and enhancing performance for aerospace, automotive, and renewable energy applications. This Special Issue, "Advanced Manufacturing of Composite Materials: Experimental Techniques and Numerical Modelling", invites cuttingedge research and reviews on experimental, theoretical, and numerical approaches. Topics include: Multiscale characterization of fibrous porous media (permeability, porosity); Resin impregnation dynamics and flow in preforms; Rheology and cure kinetics of polymer matrices; Multiphysics modelling of processes (LCM, RTM, autoclave, AFP); Functional composites for transport, energy, and smart applications; AI/ML-driven process optimization. We seek studies bridging fundamental research with industrial applications, emphasizing reproducibility, sustainability, and scalability.

#### **Guest Editors**

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#### Deadline for manuscript submissions

closed (5 August 2025)



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#### Editor-in-Chief

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