Special Issue

Mechanics, Processing, and Characterization of Polymer Matrix Composites and Nanocomposites

Message from the Guest Editors

Reinforcing polymer matrices with fibers, nanoparticles, or nanofillers enhances these materials' mechanical, thermal, and electrical properties, offering increased fuel efficiency and reduced greenhouse gas emissions. Scaling up the effective reinforcement of soft polymer matrices with nanoscale agents remains challenging, largely due to a limited understanding of multiscale interfacial interactions, structures, and how these interactions and structures influence overall material properties. Topics of interest of this special issue include, but are not limited to, the following:

- Novel design and processing–structure–property relationships of polymer matrix composites and nanocomposites.
- Exploring the applications in various fields, encompassing aerospace, automotive, renewable energy, electronics, and biomedical industries.

We welcome relevant full papers, communications, and reviews to this Special Issue.

Guest Editors

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Deadline for manuscript submissions

closed (20 June 2025)

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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