Special Issue

Composite Materials in the Data-Driven Era

Message from the Guest Editors

For this Special Issue, entitled "Composite Materials in the Data-Driven Era", we especially welcome contributions that bridge experimental and computational studies, demonstrate methodological rigour, and highlight the value of data-centric approaches to advancing composite materials. This Special Issue seeks to present innovative research at the crossroads of materials science, data science, and advanced manufacturing. Its scope includes, but is not limited to, the following topics:

- Data-driven approaches and artificial intelligence for the characterisation and modelling of composite materials.
- Development and application of new characterisation techniques for composites, including high-throughput and in situ methods.
- Machine learning- and AI-enabled property prediction, digital twins, and process–structure–property optimisation.
- Material modelling for additive manufacturing, including the design and simulation of composite structures.
- Advanced additive manufacturing techniques for composite materials, with an emphasis on process monitoring and performance evaluation, quality control, and the reliability of the final product in various applications.

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About the Journal

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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