

Special Issue

Mechanical Properties and Modeling of Structural Composites

Message from the Guest Editors

Composite materials have revolutionized various engineering sectors over the past few decades. Let us delve into how these materials play a pivotal role across various domains. In industrial and mechanical engineering, composite materials offer exceptional strength/weight ratios, making them ideal for structural components within several applications as follows:

- Automotive components: Lightweight composites enhance fuel efficiency and reduce emissions in vehicles.
- Sports equipment: From tennis rackets to bicycle frames, composites provide high performance.
- Wind turbine blades: Composites withstand dynamic loads and harsh environmental conditions.

In civil engineering, composites contribute to infrastructure durability and sustainability, generally being used in the following:

- Bridge decks: Composite materials enhance load-bearing capacity and corrosion resistance.
- Reinforced concrete: External reinforcement with fiber-reinforced polymers (FRPs) improves structural integrity.
- Seismic retrofitting: FRP composites strengthen existing structures against earthquakes [...]

Guest Editors

Dr. Valentino Paolo Berardi

Department of Industrial Engineering, University of Salerno, 84084 Fisciano, Italy

Dr. Francesco Di Caprio

CIRA—Italian Aerospace Research Center, Capua, Italy

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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