Special Issue

Smart Materials and Devices in Heat and Mass Transfer

Message from the Guest Editors

We are pleased to announce a new Special Issue in Materials titled "Smart Materials and Devices for Energy Applications." The use of intelligent manufacturing technologies is the future of industry. The constantly growing demand for energy forces designers of energy devices to use more innovative solutions, both in terms of material properties and geometry. These needs are met by broadly understood innovative materials that increase the performance of energy machines, i.e. heat exchangers while reducing their weight. Smart materials also include future-proof Latent Functional Thermal Fluids, i.e. working fluids based on phase change materials, which are useful wherever there is a need to receive high-density heat fluxes. Phase change materials used in many branches of the global economy are also the subject of interest in this Special Issue. This Special Issue is devoted to but not limited to:

- Phase change materials
- Microencapsulation
- Heat exchangers
- Phase transitions (also boiling and condensation)
- 3D printing
- Triply periodic minimal surface
- Latent Functional Thermal Fluids
- Thermal storage
- Energy efficiency

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Deadline for manuscript submissions

closed (20 April 2026)

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About the Journal

Message from the Editorial Board

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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