



Advanced Materials under Extreme Conditions

Guest Editor:

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Message from the Guest Editor

Today's advanced technologies (nuclear fusion and new-generation fission reactors, high-powered lasers, concentrated solar power, high-temperature turbines, machinery, aerospace applications, etc.) demand materials that are able to operate under extreme conditions. These extreme conditions include high-radiation environments, high temperature, large thermal loads, aggressive chemical environments, high pressure, and high electric and magnetic fields.

This Special Issue will address, but will not be limited to, the following topics:

- Experimental characterization and multiscale computer simulations on materials working under extreme environments.
- Characterization and modelling of the damage produced in materials when working under extreme conditions.
- Fabrication and characterization of advanced materials with improved properties to withstand these harsh working conditions.
- In-service characterization techniques.
- New fabrication methods for advanced materials manufacturing to work under extreme environments.
- Nanomaterials under extreme environments.





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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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