Special Issue

Numerical Simulation of Materials Processing

Message from the Guest Editors

Material processing techniques govern the microstructure and properties of a material, which influences the material's performance in engineering applications. Understanding the role of material processing conditions on the material behvaior is crucial for developing new materials and designing new components. Advanced manufacturing techniques have recently gained significant interest across various industries due to their ability to produce complex structures in a shorter time, facilitating faster material developments. These techniques have the potential to change the paradigm of new material and component designs for various engineering applications by producing new alloys and graded materials by facilitating innovative and hybrid component designs. Therefore, it is important to understand how the process conditions influence the material's properties, and behavior. Numerical modeling approaches provide a cost-effective method to simulate different aspects of the manufacturing process and correlate the process conditions to the material's microstructure, properties and performance.

Guest Editors

Dr. Sudipta Biswas

Computational Mechanics and Materials, Idaho National Laboratory, Idaho Falls, ID 83415, USA

Dr. Wen Jiang

Department of Nuclear Engineering, North Carolina State University, Raleigh, NC, USA

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

mdpi.com/journal/materials

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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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