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Micro/Nano-Chemo-Mechanics in Deformation & Fracture

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Message from the Guest Editors

Dear Colleagues,

Research on “nano-chemo-mechanics” is rapidly growing due to the needs of high-energy density storage technology and neurology—two apparently different sectors interconnected through similar physical mechanisms and corresponding mathematical models.

The collections of articles in the proposed book fall into four major categories: (i) physically based mathematical models of chemomechanic at the micron and nano scales; (ii) applications to next-generation batteries; (iii) applications to neurons; (iv) applications to other emerging technologies.

Emphasis is placed on the effect of mechanical stress either externally imposed or internally generated due to the evolution of underlying micro/nano processes.

The term chemomechanics was introduced by one of the editors in 1980 and has been used since then in hundreds of articles.

Keywords

- nanomechanics
- chemomechanics
- hydrogen embrittlement
- geo-instabilities
- li-ion batteries
- neurons



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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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