Special Issue

Regularly Structured Porous Materials and New Discoveries in Additive Manufacturing

Message from the Guest Editor

New types of sophisticated components are composed of materials characterized by a periodic or stochastic arrangement of open or closed pores, leading to differing characteristics in terms of their topology, whether they are two-dimensional configurations of structures (e.g., honeycomb), three-dimensional polyhedral arrangements (e.g., lattice structures), or three-dimensional periodic complex shapes (e.g., minimum areas). These specific materials can provide a product with an extraordinary combination of mechanical, physical, and chemical properties compared to full-volume materials. The desire to incorporate sophisticated structures into component design is motivated by the aspiration to increase the added value of the product, shorten the production time, and reduce the consumption of expensive materials. Potential topics include, but are not limited to, the following: Recent innovations in materials with a regular distribution of pores (cellular materials/mesoporous materials/metamaterials/lightweight materials); Mechanical/chemical/physical properties; Testing, analysis, simulation, and behavior; Production and processing; Application.

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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.

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