Special Issue

Machine Design: Numerical Simulation and Experimental Tests of Engineering Materials and Devices

Message from the Guest Editor

New challenges for mechanical design require the use of increasingly integrated and innovative approaches that make use of numerical and experimental methods for the analysis of materials and mechanical components, capable of providing performance response quickly and with good reliability, and for the development of increasingly performing materials (innovative composites, nanomaterials, MEMS, etc.). In this context, some tools emerge towards which research is directed, also under the pressure of demands from the mechanical systems design and production industries. In particular, we intend to point out some specific topics: Methods for development, mechanical and metallurgical characterization, choice and control of materials, reliability and functionality, and the interaction with the environment. Integrated design tools based on the simulation of the performance stability of the components and systems in service condition. Industrial sectors that are of possible interest are mechanical, metallurgical, automotive, aerospace, plant engineering, biomedical, and energy devices.

Guest Editor

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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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