Special Issue

Empowering Materials Processing and Performance from Data and AI

Message from the Guest Editors

This Special Issue will address advances in materials engineering, with special emphasis on the bridging from raw materials, processing and the induced properties and performances.The present topical issue aims at addressing four key challenges using data and artificial intelligence: (i) processing data, for enhancing existing physic-based models or creating data-driven models from scratch when the former (physics-based) models are absent or too poor for making valuable predictions; (ii) proposing new techniques for visualizing, classifying, modeling, extracting knowledge, explaining and certifying, data and data-driven models;
(iii) enabling data to be smarter (in the same way that data allow enriching physics-based models, those models allow transforming big-data into smart-data);
(iv) inverting usual material engineering with all the just referred techniques, to discover materials and their processing for optimal properties/performances.
Original papers are solicited on all types of approaches and materials, scales and applications. Of particular interest are recent developments in the use of data and AI in the four axes mentioned before.

Guest Editors

Prof. Dr. Francisco Chinesta

Prof. Elías Cueto

Prof. Benjamin Klusemann

Deadline for manuscript submissions

closed (15 March 2021)

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About the Journal

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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