Special Issue

Data-Driven Modeling, Simulation and Design for Additive Manufacturing

Message from the Guest Editors

As additive manufacturing (AM) technology surges forward, it is important to remain aligned with the most recent developments in modeling and simulation methodologies. Such advancements not only foster effective design for additive manufacturing (DfAM), but also provide guidance on process planning to ensure the desired properties are obtained and to control the uncertainties. This Special Issue delves extensively into AM with an acute focus on the mathematical and numerical strategies that underpin our comprehension and predictions concerning material behaviors and the AM workflow. A novel and particularly exciting avenue being explored is the application of machine learning in AM. By adopting data-driven methodologies, these machine learning techniques are used to meticulously analyze vast datasets collected from AM processes. These data-driven insights bring forth remarkable enhancements in the realms of the efficiency, precision, and overall capabilities of AM. It is our pleasure to invite you to submit your work to this Special Issue. Research papers, reviews, and communications are welcome.

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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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