Special Issue

Additive Manufacturing Methods and Modeling Approaches

Message from the Guest Editors

Materials and technologies related to additive manufacturing (AM) are quickly evolving, both in terms of production processes and in terms of available materials. One should notice that the term AM has basically substituted the terms rapid prototyping and 3D printing, in order to underline a closer link to the end-use components. Regarding AM of metal parts, the main challenges are represented by the costs and the capability to obtain good performances. As for plastic parts, the current issues are similar, although the 3D printing of some low-cost plastics is already widely available. In this case, several materials can now be employed, ranging from the well-known ABS and PLA up to soft, rubber-like polymers. As for composites, this technology is rather new and offers interesting challenges and perspectives (including, also, the potential to replace metal). Within this context, this Special Issue aims to provide an opportunity for researchers from both academia and industry to share recent advances in the field, with special attention to material modeling, design methods and criteria, software tools, and case studies, in this case, including industrial applications.

Guest Editors

Prof. Dr. Massimiliano Avalle

DIME—Department of Mechanical, Energy, Management and Transportation Engineering Polytechnic School, University of Genoa, 16145 Genoa, Italy

Prof. Dr. Giovanni Berselli

1. Department of Mechanical Engineering, Energetics, Management and Transportation, University of Genoa, Via all'Opera Pia 15/A, 16145 Genova, Italy
2. Department of Advanced Robotics, Istituto Italiano di Tecnologia, Via S. Quirico 19d, 16163 Genova, Italy

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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