DIGITAL MANUFACTURING TECHNOLOGY
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ADVANCED MATERIALS IN ADDITIVE MANUFACTURING

Deadline for Submissions: **15 October 2023**

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SPECIAL ISSUE INFORMATION

Dear Colleagues,

Additive Manufacturing (AM) is a group of processes that produce a desired geometry by adding a series of 2D layers. Owing to this tool-free fabrication, AM offers design flexibility thereby allowing the fabrication of complicated structures which was not possible in the past. The AM techniques are gaining increasing interest from several areas ranging from the biomedical to the aerospace industry, and the AM revenues are exponentially rising expected to reach 21 b$ in 2025 (Frost & Sullivan). The AM has targeted several areas of the manufacturing sector including automotive, biomedical, aerospace and consumer electronics with the largest share of 28%.

Special Issue

The present decade has witnessed massive global investment leading to numerous advancements in AM technology thereby rendering it more competitive. The material plays a pivotal role in the success of an AM product as its properties decide design limits and service loads. Substantial research efforts are being made in this area. This special issue aims to put forth the pertinent latest advances. These advances include new homogeneous, composite and blended materials; novel cellular structures; characterization of materials and structures; defects in the printed structures; mechanisms; and material modelling.

The research and review articles are welcomed on the following broad topics:

- Novel polymer, metallic and composite materials for additive manufacturing
- Mechanical and microstructural characterization of pre- and-post printed materials
- Meta materials and their characterization
- Printing defects and their effects on the mechanical performance of printed materials
- Bonding mechanisms
- Material modelling

We encourage academics and industry professionals to contribute their original research papers, critical reviews, and case studies on the aforementioned subjects. To guarantee the calibre and applicability of the published articles, every contribution will go through a thorough peer-review procedure. We believe that this special issue will offer insightful knowledge on the most recent advances and uses of advanced materials in additive manufacturing.

KEYWORDS:

- Polymers
- Metals
- Composites
- Mechanical characterization
- Microstructural characterization
- Cellular structures
- Defects
- Material modeling
- Mechanisms

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This special issue is now open for submission.