Special Issue

Novel Materials and Processes for Metal Additive Manufacturing

Message from the Guest Editor

Additive manufacturing (AM) is a new paradigm for the design and production of high-performance components for aerospace, medical, energy, and automotive applications. The goal of this Special Issue is to highlight research on two frontiers. The first one concerns the materials used in additive manufacturing. The intrinsic properties of AM (i.e., rapid solidification, melt pool dynamic, cyclic heat treatment) can provide a unique opportunity to design novel materials. The second frontier regards novel/modified processes that address some of the limitations/challenges associated with melt-based metal additive manufacturing.

In particular, the topics of interest include, but are not limited to:

Novel additive manufacturing processes, including solid-state AM (e.g., cold spray, friction stir welding), hybrid AM processes, etc.
The relationship between AM process parameters, microstructure, and the resulting properties
Alloy design for additive manufacturing or design of new alloys with additive manufacturing

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About the Journal

Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.
Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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