Special Issue

Additively Manufactured Alloys: Process, Microstructure and Properties

Message from the Guest Editors

Additive manufacturing (AM) for metallic alloys represents a technological platform to produce the customized, on-demand, and even on-site production of engineering components. Moreover, it presents an opportunity to design and develop new and/or modified metallic alloys that can desensitize inherent AM process variables and take advantage of unique thermo-kinetic environments which can lead to novel microstructure and properties. We would like to invite your contribution to add to the rapidly expanding body of knowledge that would establish the fundamental processing-structure-properties relations in additively manufactured metallic alloys. We seek contributions that elucidate the AM process optimization, detailed microstructural analysis and assessment of properties such as mechanical and other functional properties. This Special Issue would help to establish a new paradigm in advanced materials development with built-in component manufacturing considerations by utilizing the AM technology as tools to rapidly produce, characterize and assess metallic alloys.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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