Special Issue

Metal Additive Manufacturing: Metallic Materials and Advanced Structures

Message from the Guest Editors

Additive manufacturing (AM), also known as 3D printing, is the process of joining materials to make objects layer upon layer from computer-aided design (CAD) model data. Metal AM, which plays an increasingly important role in the AM field, has been advancing in industrial applications of aerospace, automotive, biomedical, energy, space, marine and offshore, molding and tooling, etc., due to the superior strength, hardness, and wear and heat resistance of metallic products as compared to those of polymeric and ceramic counterparts. Recently, rapid advances in metal AM have allowed the fabrication of metallic materials and structures for lightweight, non-assembly, bio-inspiration, and multiple functions, with the development of new methodologies and systems. Representative processes of metal AM include powder bed fusion, directed energy deposition, binder jetting, and sheet lamination, and will be further developed toward hybrid additive and subtractive manufacturing, multiple-energy-sources-aided manufacturing, and large-scale manufacturing techniques in the future.

This Special Issue is devoted to exploring cutting-edge research and recent advances in the field of metal AM.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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