Special Issue

Additive Manufacturing of Alloys: Microstructure and Mechanical Performance

Message from the Guest Editors

The inception of additive manufacturing and advances in its technologies have led to a steady increase in the production of advanced materials with unmatched mechanical properties. The adaptability of additive manufacturing made it possible to develop a wide range of alloys that could not be produced via conventional processing routes. These alloys are used in various industries such as the aerospace industry, the automotive industry, biomedical applications and the energy sector. It is imperative that during the production of advanced alloys the synergy between the processing parameters, microstructure, mechanical properties, post processing methods and the environment is well-understood in order to successfully produce materials that meet specific performance requirements. This Special Issue will be dedicated to research that focuses on recent developments in advanced materials and their mechanical performance in various industries. Subjects discussed will focus not only on the development of advanced materials, but also on the optimization of processing parameters, post processing treatments and the interaction of the advanced materials with the environment.

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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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