Special Issue

Durability of Additively Manufactured Metals

Message from the Guest Editor

Metal additive manufacturing is one of the most important research fields that has recently captured the interest of industrial and academic communities, due to the possibility to produce near net shape products with higher quality. This Special Issue aims to improve the knowledge regarding degradation resistance of the additively manufactured alloys under different environmental conditions, mainly in terms of corrosion, wear, and fatigue and, in addition, in combination with the previously mentioned degradation mechanisms. In particular, studies on the effect of surface and heat treatments on AM alloy performance are warmly welcome. No less important is the effect of surface finishing, as produced by surface treatments or by the simple control of process parameters, on the previously listed degradation mechanisms. Of equal importance is the correlation of internal/subsurface defects to these performances (inclusions, voids, etc.). In conclusion, the durability of reticular structures, easily produced by some AM techniques, are of great interest for this issue.

Guest Editor

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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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