

Special Issue

Fatigue Strength and Mechanical Properties of Conventional and Additive Manufactured Alloys

Message from the Guest Editors

Additive manufacturing (AM) techniques have become widely acknowledged, allowing highly complex mechanical parts to be produced, which are not achievable with traditional manufacturing techniques. One of the major advantages of AM is the possibility to customize the shape and mechanical properties of the component, resulting in more application prospects. However, AM processes cause a high variability in the achieved mechanical properties that are closely related to the process parameters.

Fatigue failure represents the most common in-service failure of mechanical components, and it is highly influenced by the presence of defects. Research efforts are needed both to improve the quality of the produced AM parts and to develop methodologies to directly account for all the factors that influence the fatigue behaviour. Such developments in the AM techniques and in the design methodologies are highly desirable to ensure a sufficient degree of reliability for AM parts and, as a consequence, to promote their use at an industrial scale.

This Special Issue aims to collect original studies on the fatigue characterization of AM alloys.

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Message from the Editorial Board

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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