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Environment-Assisted Fracture and Fatigue Behavior of Metals

Guest Editor:

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Deadline for manuscript submissions:
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Message from the Guest Editor

Crack formation often leads to unexpected sudden failure of normally ductile materials. Fatigue failure is one of the most common mechanical failure modes, where cracks are initiated mostly at microstructural heterogeneity and impurities. Therefore, the correlation between the complex microstructure/defects of metals and corrosion-related behavior is becoming important in those applications where the environmental effect plays a critical role.

For this Special Issue of *Metals*, we welcome reviews and articles in the area of environment-assisted fracture and fatigue behavior of metallic materials. The idea is to demonstrate the recent advancement on this topic in a broad range, including but not limited to: the evaluation of novel metallic materials such as advanced manufactured alloys and high-entropy alloys in terms of their environment-assisted fracture and fatigue behavior, the development of multiphysics computational modeling framework for environment-related phenomena, data-driven approaches to predict the failure mode of fatigue behaviors in corrosive environments, etc.

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Message from the Editor-in-Chief

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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