



## Hydrogen Induced Damages in Metallic Materials

Guest Editors:

**Prof. Dr. Jie Hou**

College of Materials Science and Engineering, Hunan University, Changsha, China

**Dr. Xiao Zhou**

Institute of Composite Materials, Shanghai Jiaotong University, Shanghai, China

Deadline for manuscript submissions:

**closed (29 February 2024)**

### Message from the Guest Editors

Exposing metal materials to hydrogen-rich environments can cause a range of damages, often resulting in premature cracking, ductility loss, bubbling/blistering, and swelling. These damages will deteriorate the performance of metallic materials, posing a great threat to the safety and efficiency of many applications. It is therefore crucial to understand the fundamental mechanisms of hydrogen-induced damages in metallic materials.

With the rapid development of computing of efficient and simulation methods, numerical modeling has become a powerful tool for investigating the microscopic behavior of hydrogen in metallic materials. We invite you to submit original research on the modeling and simulation of hydrogen-induced damages in metallic materials. The topics of interest in this Special Issue include but are not limited to the effect of hydrogen on mechanical performance, hydrogen-defect interaction, kinetics of hydrogen ingress, diffusion, trapping, and desorption, hydrogen damage mechanisms, and predictions regarding materials properties in hydrogen-rich environments.





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## Editors-in-Chief

### Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

### Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

## Message from the Editorial Board

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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Metals Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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