

## Special Issue

# Radiation Damage in Metallic Systems for Fusion Energy Applications

### Message from the Guest Editor

This Special Issue aims to invite papers addressing the characterization of metallic materials after irradiation under different conditions and energetic particles, defect production and their interaction, modelling of the radiation damage, and the thermo-mechanical response of metals after irradiation with respect to their perspective fusion application. Potential research contributions to this Special Issue can focus on the following: (i) The understanding of radiation damage at the atomic-to-mesoscale and related modelling; (ii) Use of characterization techniques, such as transmission electron microscopy, atom probe tomography, positron annihilation spectroscopy, and neutron and synchrotron X-ray scattering, for radiation damage assessment; (iii) Theoretical and experimental investigations of the influence of radiation conditions on damage production and damage microstructure evolution; (iv) Development of novel radiation resistant metals and alloys; (v) Micro/macro-scale testing of irradiated metallic systems; (vi) Impact of damage on performance and structural integrity.

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### Guest Editor

Dr. Konstantina Mergia

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### Deadline for manuscript submissions

closed (15 April 2025)



## Metals

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## About the Journal

### 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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### Editor-in-Chief

Prof. Dr. Yong Zhang

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#### Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /  
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