



## Microstructure Evolution in Welded Joints

Guest Editor:

**Dr. Wenjian Zheng**

School of Mechanical  
Engineering, Zhejiang University  
of Technology, Hangzhou  
310023, China

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### Message from the Guest Editor

Dear Colleagues,

The microstructure of a weld is the connection between the manufacturing processes and mechanical properties. Thus, understanding the Microstructure Evolution of the weld during forming, welding, heat treatment, and service is very important to welding theory development and engineering applications. This Special Issue aims to collect innovative studies on welding metallurgy theory regarding the influence of welding parameters on microstructure evolution, such as dendrite growth in the welding pool, solid-state phase transformation in the cooling progress, hydrogen diffusion behavior throughout the whole welded joint's formation, and so on. Additionally, we are interested in the latest investigations into the effect of microstructure characteristics on the mechanical properties of welds in engineering applications, such as strength, toughness, fatigue, creep, corrosion resistance, friction and wear resistance.





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### 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 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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Metals Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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