



Development of Advanced High-Strength Steels

Guest Editors:

Dr. Haijiang Hu

State Key Laboratory of
Refractories and Metallurgy,
Wuhan University of Science and
Technology, Wuhan 430081,
China

Dr. Junyu Tian

The State Key Laboratory of
Refractories and Metallurgy,
Wuhan University of Science and
Technology, Wuhan 430081,
China

Deadline for manuscript
submissions:

31 July 2024

Message from the Guest Editors

The automobile and mechanical engineering industries are continuously challenged to reduce weight and improve fuel efficiency due to economic and environmental requirements. For this purpose, advanced high-strength steels (AHSS) are popular, such as quenching and partitioning (Q&P), medium Mn transformation-induced plasticity (TRIP), TRIP-aided bainitic ferrite (ABF) steels, etc. AHSSs are commonly designed with the addition of various alloying elements to achieve a favorable combination of strength and toughness. Via hot rolling, heat treatment, ausforming, etc., the phase transformation and microstructure can be optimized, including how to refine hard matrix and how to tailored the retained austenite, which can contribute to an excellent combination of strength, ductility and toughness.

The topics addressed in this Special Issue may include, but are not limited to, advanced high strength steels, novel heat treatment processes, new methods to tailor retained austenite, mechanical performance and fatigue behavior.





an Open Access Journal by MDPI

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.

Author Benefits

Open Access: free for readers, with **article processing charges (APC)** paid by authors or their institutions.

High Visibility: indexed within **Scopus**, **SCIE (Web of Science)**, **Inspec**, **CAPLUS / SciFinder**, and **other databases**.

Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (*Metals and Alloys*)

Contact Us

Metals Editorial Office
MDPI, St. Alban-Anlage 26
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/X@Metals_MDPI)