



Electric Arc Furnace and Converter Steelmaking

Guest Editors:

Dr. Thomas Echterhof

Department for Industrial
Furnaces and Heat Engineering,
RWTH Aachen University,
Kopernikustr. 10, 52074 Aachen,
Germany

Dr. Ville-Valtteri Visuri

Process Metallurgy Research
Unit, University of Oulu, P.O. Box
4300, 90014 Oulu, Finland

Deadline for manuscript
submissions:

31 December 2024

Message from the Guest Editors

Dear Colleagues,

Electric arc furnace steelmaking is one of the most important steelmaking routes and currently accounts for almost 30% of worldwide crude steel production. The EAF serves as the basis for plans to melt DRI produced using hydrogen reduction to produce carbon-free steel. Traditional converter steelmaking is affected drastically by the challenge to reduce the CO₂ emissions of the steel industry. To confront this challenge, steelmakers are looking for ways to improve the material and energy efficiency of the converter processes further.

In this Special Issue of *Metals*, we welcome contributions on recent advances in all aspects of electric arc furnace and converter steelmaking, including, but not limited to, process optimization and efficiency, the application of new sensors and equipment, reduction in CO₂ emissions and environmental impact, process modelling and simulation, scrap handling and alternative/new charge materials, as well as slag properties and valorisation. We also encourage the submission of reviews on EAF steelmaking technologies.





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 and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
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/Metals_MDPI)