Special Issue

Modeling and Simulation of Metallurgical Processes in Ironmaking and Steelmaking

Message from the Guest Editors

The UN's 2030 Sustainable Development Goals, the Paris Agreement, and the European Green Deal, among other goals, all aim to improve the sustainability of industrial production and to reduce CO2 emissions. This goal cannot be achieved without the ironmaking and steelmaking industries. To reach this goal, further process optimizations with regard to energy and resource efficiency, as well as the development of new processes or process routes, are needed. Modeling and simulation have thus established themselves as an invaluable source of information regarding otherwise unknown process parameters, and as an alternative to plant trials with a lower associated cost, risk, and duration. Models are also applicable for model-based control of metallurgical processes. In this Special Issue "Modeling and Simulation of Metallurgical Processes in Ironmaking and Steelmaking", we aim to collect regular and review articles to showcase the recent advances in the modeling and simulation of unit processes in ironmaking and steelmaking. We also encourage studies that examine the integration of process models to simulate process chains.

Guest Editors

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About the Journal

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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