Special Issue

Recent Developments in Ironmaking

Message from the Guest Editors

This Special Issue on "Recent Developments in Ironmaking" focuses on the latest advancements and innovations in the field of iron and steel production. This issue highlights the growing emphasis on reducing environmental impacts and improving energy efficiency within the industry. Key topics include the integration of hydrogen-based technologies, which offer significant potential for decarbonization by replacing traditional fossil fuels. The use of hydrogen in processes such as the direct reduction of iron ore and in electric arc furnaces is gaining traction, with trials underway to enhance its feasibility and cost-effectiveness. This Special Issue also includes significant advancements in sintering and pelletization processes. These technologies are crucial for the efficient utilization of iron ore fines and concentrates, addressing both environmental concerns and the need for efficient resource utilization. Furthermore, the development of new materials and process optimization techniques is also discussed, emphasizing the role of advanced engineering and data science in enhancing production efficiency and product quality.

Guest Editors

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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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