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Mathematical Modeling and Simulation in Ironmaking and Steelmaking

Guest Editor:

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Deadline for manuscript submissions:
closed (31 March 2020)

Message from the Guest Editor

Mathematical modeling and simulation in iron and steelmaking is an active field of research. On the one hand, the growing steel industry is facing new demands, like designing new products and ever more reducing its energy consumption and environmental footprint, which calls for R&D actions. On the other hand, the development and the variety of numerical methods (CFD, DEM, control and systems models, and coupling between methods) and the increase in computational power has allowed us to get results

This Special Issue presents an opportunity to deliver an updated review of the latest research in the field. Papers are expected on modeling topics related to the standard steelmaking route (from iron ore sintering to steel cold rolling, through blast furnace and converter operations, to continuous casting), direct reduction, electric steelmaking, as well as innovative treatments of iron ore, pig iron, and steel.

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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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