Application of Artificial Neural Networks in Studies of Steels and Alloys

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Message from the Guest Editors

Computer-aided modeling is present both in research and industrial practice. Nature-inspired methods are being used more and more often.

Artificial neural networks are a universal tool for modeling and are capable of mapping complex functions. In order to prepare artificial neural networks to perform a particular task, an algorithm does not have to be precisely defined or recorded as a computer program. This process is replaced by training using a series of typical excitations and the desirable reactions that correspond to them. Neural networks are often associated with other computational methods, such as evolutionary algorithms, fuzzy logic, and the finite element method, to create so-called hybrid methods that combine the advantages of both methods. Artificial neural networks can be used to solve problems related to data processing and analysis, classification, prediction, and control.

It is our pleasure to invite you to submit a manuscript to this Special Issue. Manuscripts submitted to this Special Issue should demonstrate how the application of artificial neural networks extends the modeling in ways that traditional approaches cannot.

Special Issue

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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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