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Recent Innovations in Alloy Design and Processing of Microalloyed Steels

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Message from the Guest Editor

Microalloyed steels have been produced globally by the steel industry for around 50 years at an ever-increasing volume. The well-known metallurgical effects are related to microstructural refinement and precipitation of microalloy particles in the form of carbides or nitrides. Utilizing these mechanisms have allowed designing low-carbon steels with high strength while having excellent weldability and formability.

Over the years, the knowledge on the physical metallurgy of microalloys has been steadily increasing as new characterization techniques have allowed deeper insights into the specific functionality of microalloying elements and their interactions with other alloying elements.

This Special Issue invites authors to report on recent innovations in alloy design and processing of microalloyed steels. Contributions should focus on physical metallurgical effects and the interaction with processing and application properties. Reviews reflecting on the state-of-the-art as developed over the more than five decades of microalloying are also welcome.

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Message from the Editor-in-Chief

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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