# Special Issue

# Liquid Steel Alloying Process

### Message from the Guest Editors

In steel technology, the secondary metallurgy, as a metallurgical stage, ensures a required chemical and thermal conditions for advanced steel grades. During secondary metallurgy, the units with vacuum treatment (RH, VD) or without vacuum treatment (LF, CAS-OB) are used for the alloying process. During secondary metallurgy, some elements such as Al, B, Ba, Ca, Co, Cr, Cu, Mn, Mo, Nb, Ni, Si, S, V, and W are fed to liquid steel. Therefore, investigations on thermodynamic and hydrodynamic interactions of the hetero-phases system are essential. The heterogeneous system covers steel, alloy, slag, bubbles, and refractory and nonmetallic inclusions. The flow of liquid steel in the metallurgical units create a variable hydrodynamic structure and mass transport rate between liquid–solid–gas phases. Moreover, local elements concentrations create no equilibrium thermodynamic states. Hence, knowledge on this phenomenon occuring during the treatment of liquid steel is fundamental for the proper activity of the primary and secondary cooling zone in continuous casting technology.

### Guest Editors

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### Deadline for manuscript submissions

closed (31 January 2022)

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## Editor-in-Chief

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