



Structure and Performance of Nanoparticle Improved Ferrous Alloys

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Deadline for manuscript
submissions:

closed (10 June 2023)

Message from the Guest Editor

Dear Colleagues,

Ferrous alloys, particularly steels, are currently the most widely used structural materials due to their high mechanical performance, abundance and reasonable prices. In recent years, nanoparticle-enabled methodologies have emerged to overcome the limitations of conventional metallurgical approaches and revolutionize metal processing and manufacturing technologies, providing a novel avenue to significantly improve the performance of ferrous alloys. It is well documented that in situ and ex situ nanoparticles can be employed to tailor materials, incorporating controllable nano/micro-structures with unique physical/chemical/mechanical properties. An in-depth understanding of nanoparticle-induced evolution mechanisms of structure and performance of ferrous alloys can lay a scientific foundation for the development of high-performance ferrous alloys.

This Special Issue aims to cover a wide range of subjects related to the structure and performance of nanoparticle-improved ferrous alloys. It will emphasise resolving the issue of how nanoparticles can be utilized to tailor the nano/micro-structures and physical/chemical/mechanical behaviours of ferrous alloys.





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Message from the Editor-in-Chief

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