Special Issue

Optimization of Industrial Casting Processes

Message from the Guest Editor

Casting processes have seen continuous technological development for close to 5000 years, largely through a process of trial-and-error improvement. While modern casting is a sophisticated, technologically-advanced process capable of producing high quality parts economically, there remain significant opportunities for the optimization of the existing technologies. This Special Issue aims to present some of the latest research devoted to exploring the application of numerical optimization methodologies to casting. Suitable subjects include, but are not limited to, optimization algorithms and their application to example casting problems, case studies in process parameter optimization, case studies in geometry optimization, advances in cooling or heating technologies and their optimization in casting processes and objective functions and design constraints in casting optimization problems.

Guest Editor

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Deadline for manuscript submissions

closed (31 January 2019)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/11527

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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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