

Special Issue

Microstructure and Mechanical Properties of Casting Alloys

Message from the Guest Editor

As is well-known, foundry processes allow the obtaining of complex near net shape parts, characterized by high performance and good appearance. The properties of castings depend on different factors, as the alloy type, the use of corrective elements, the treatment of the liquid metal, the design of the mould, the process parameters, as well as heat treatment and finishing operations. Each one affects the microstructure of the component and, therefore, the final in-service properties. The aims of this Special Issue are to present recent research and developments on casting alloys, molten metal and post processing treatments, characterization methods, and prediction models, with a particular focus on the correlation between microstructure and performance. Hence, the different aspects related to the advances in the design, characterization and evaluation of the properties of casting alloys, based on experimental, analytical and computer simulation methods are welcomed in this Special Issue.

Guest Editor

Prof. Dr. Annalisa Pola

Department of Mechanical and Industrial Engineering, University of Brescia, via Branze 38, 25123 Brescia, Italy

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

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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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Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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