# Special Issue

# Advanced Solidification Metallurgy

### Message from the Guest Editor

Control of the cast structure is the underlying object of solidification metallurgy. Recent advances and developments in solidification metallurgy have made it possible to produce high purity castings for superalloys, aluminum, magnesium, titanium, and copper alloys, and rapidly solidified structural components and castings with unique microstructures. Recent advances in processing technology have also been developed that allow us to have better producibility and reliability in some metal castings. These developments have all stemmed from a good understanding of the science of solidification metallurgy, as well as an appreciation of the merits of structural control by using advanced solidification processing. In addition, numerous works have also been developed on both experimental and analytical/computer modeling aimed at disclosing the fundamental aspects of metallurgical processes, phase formation and growth within liquid melts, and numerous types of calculated software were used to clarify the solidification, such ProCAST, AnyCasting, Magma, Micress, etc.

### Guest Editor

Prof. Dr. Wenchao Yang
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### Deadline for manuscript submissions

closed (30 September 2022)

**Metals**

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**Impact Factor 2.5**
**CiteScore 5.3**

mdpi.com/si/73696

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# About the Journal

## 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.

## Editor-in-Chief

Prof. Dr. Yong Zhang
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indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

### Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.7 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).

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