

# Preface

This issue targets the following aspects.

- Novel casting techniques, including, for instance, semisolid and thixocasting, vacuum-assisted, counter-gravity and single crystal casting methods. In addition, low-energy melting techniques and the use of recycled materials in novel or established casting methods are of interest.
- Numerical (computational fluid dynamics (CFD) and solidification simulation) as well experimental approaches to enhance casting quality, focusing typically on solidification dynamics, microstructure control, reduction of shrinkage porosity, melt cleanliness. Of interest are alloy modification, optimized mold and gating design, cooling rates etc.
- Process control, leveraging real-time monitoring and digital twins and integrating advanced sensors, coupled with data analytics and machine learning.
- Sustainability assessment of casting technologies, environmental impact assessment, waste minimisation, circular economy initiatives, resource efficiency strategies, lean in foundries etc.

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