



Additive Manufacturing for Tooling Applications: Materials, Design, Processes & Impacts

Guest Editor:

Prof. Dr. Nader Asnafi

1. Engineering Sciences and
Mathematics, Luleå University of
Technology, SE-971 87 Luleå,
Sweden

2. Zhejiang Chuangge
Technology Co. Ltd., No. 32
QianXi Road, Zhuji 311800, China

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Message from the Guest Editor

Additive manufacturing (AM), an alternative to conventional manufacturing processes, is often considered a disruptive production method. However, it can also improve upon conventional manufacturing by providing a better way to produce and repair/remanufacture tools and enhancing their operational performance. Part manufacturers use tooling to make other parts. Tooling incorporates AM into the production chain.

This Special Issue focuses on AM for tooling applications. Topics of interest include, but are not limited to:

- Materials;
- Design including generative design, topology optimization, lattice structure and surface optimization, and DfAM;
- Processes from powder atomization and AM to post-processing for toolmaking, tool repair and remanufacture, and tool surface treatment/functionalization, from cyber-physically controlled processes and systems to quality assurance;
- Advantages including shorter lead and cycle times, minimized scrap rate, total cost reduction, faster time to market, lower break-even points, smaller material and energy usage, a circularity in the economy, sustainability, etc.





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Department of Materials Science
and Engineering, College of
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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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Metals Editorial Office
MDPI, St. Alban-Anlage 26
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