



Journal of Thermal Science and Engineering Applications

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Special Issue on Additive Manufacturing for Thermal Engineering Applications

Since the emergence of Additive Manufacturing (AM) in the late 1980s with stereo-lithography, numerous other techniques have been invented and commercialized under the broad umbrella of 3D printing. Significant research has been devoted to process improvement, novel materials, design tools for AM, and applications. However, most real-world applications have only been realized in the last decade. AM has opened a new design space to thermal engineers for realizing unique thermal systems and components by removing the limits of conventional manufacturing. It has reduced the cycle time for design, fabrication, and testing iterations. Today, AM is used for rapid prototyping as well as production parts in fields ranging from biomedical to thermal engineering. AM is becoming a discipline in its own right with recent emphasis on materials, novel processes, and design tools including machine learning and artificial intelligence.

This Special Issue of the *ASME Journal of Thermal Science and Engineering Applications* will highlight original research articles on AM as it relates to thermal engineering applications.

Topic Areas

- Co-design and optimization for AM - including material selection, process development and parameter optimization, thermal-fluidic and structural simulation, and techno-economic cost modeling
- Verification, validation, and uncertainty quantification related to thermal-fluid performance arising from build variability and post processing
- Quality control and reliability assessment - destructive and non-destructive testing
- Materials development and characterization - metals, polymers, ceramics, and novel materials

Publication Target Dates

Paper submission deadline: **February 1, 2021**
Final review completed: **May 1, 2021**
Special Issue publication date: **October 2021**

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Thermal Science and Engineering Applications](#) and then select the Special Issue **Additive Manufacturing for Thermal Engineering Applications**.

Early submissions are strongly encouraged. Papers submitted by February 1, 2021 will be reviewed in time for inclusion in the Special Issue. Papers received after that date may still be considered for the Special Issue, if time and space permit. Papers that are not ready for production in time for inclusion in the Special Issue may be considered for a regular issue of the journal.

Special Issue Editors

Vikrant Aute, Research Professor, University of Maryland, USA, vikrant@umd.edu
Vinod Narayanan, Professor, University of California Davis, USA, vnarayanan@ucdavis.edu