ICAM25

International Conference on Advanced Manufacturing

Research to Application through Standardization

October 6-10 | Las Vegas, NV

Industrial Sector: Space

Spaceflight is a unique industry that utilizes several forms of advanced manufacturing to its fullest potential, often resulting in geometrically complex and integrated designs that can only be fulfilled by these processes that include additive manufacturing (AM). Structural integrity, new materials, and novel designs are key enablers for, and by, AM; however, there is a need to revise current standards, qualifications, and certification practices before they can be fully leveraged for AM parts used in spaceflight applications.

TOPICS OF INTEREST INCLUDE BUT ARE NOT LIMITED TO:

- Qualification strategies for AM Space Flight hardware
- Certification strategies for Suppliers of AM Space Flight hardware
- In-situ inspection or automated process control
- Quality Assurance including testing for the cleanliness of AM Space Flight hardware
- Application of computational approaches to accelerate AM across the full lifecycle
- Material development, post-processing, and mechanical testing
- Novel design approaches for AM Space hardware
- Innovation for in-space manufacturing
- Cost factors and business case analysis for printed spaceflight hardware
- Sustainability, waste, and environmental concerns in the production of AM parts for space exploration
- AM for extreme environment materials
- Applications and development of multi-material assemblies to meet diverse requirements
- Functional integration and part count reduction opportunities for AM space hardware
- Innovative design strategies for AM Space hardware: leveraging AI tools for enhanced development and real-time monitoring

Symposium Organizers

- **Christo Dordlofva**, GKN Aerospace, Sweden
- **Eliana Fu**, TRUMPF, USA
- **Xueyong Qu**, The Aerospace Corporation, USA
- **Shahrooz Nafisi**, Rocket Lab, USA
- **Andrew Norman**, ESA, Netherlands
- **Maximilian Strixner**, The Exploration Company, Germany
- **John Vickers**, NASA, USA

Submit an abstract

amcoe.org/icam2025

ASM INTERNATIONAL

Journal of Materials Engineering and Performance

An ASM Publication

Call for Papers

Space and Aerospace Exploration Revolution: Metal Additive Manufacturing

Additive manufacturing (AM) has been experiencing significant growth in both industry and academia and is widely recognized as a major disruptive technology for the future. Following the successful publication of the first special issue in August 2022, ASM International's *Journal of Materials Engineering and Performance* (*JMEP*) will release a second special issue focused on Metal Additive Manufacturing (MAM) in conjunction with the 2025 ASTM International Conference on Advanced Manufacturing (ICAM 2025). This edition will emphasize its applications in aerospace vehicles, rockets, satellite systems, and space exploration.

Topics to be considered in this issue include (but not limited to): metal 3D printing in microgravity; metal additive manufacturing processes and methods; metallurgical design optimization and simulation; recent developments of AM-specific metallic materials/metallic-based composites; application, service performance, and failure analysis and prevention; post-processing treatments; and alloy design and adaptation.

Prospective authors are invited to submit manuscripts for review and potential publication in this special issue. The journal publishes only original research of high technical value and is focused on materials. Submitted manuscripts will be subject to the journal's normal rigorous peer review process and must be accepted by the reviewers and editors to be included in this special issue.

Guest Editors:
Shahrooz Nafisi, Rocket Lab (USA)
Douglas Hofmann, NASA Jet Propulsion Laboratory/California Institute of Technology (USA)
Paul Gradl, NASA Marshall Space Flight Center (USA)

Potential authors are highly encouraged to submit an abstract to Dr. Shahrooz Nafisi (shahrooznafisi@gmail.com) for consideration and comment prior to preparation of a full manuscript.

Abstract submission deadline: April 25, 2025
Manuscript submission deadline: December 5, 2025

JMEP submission procedures and advice on preparing your manuscript can be found under the heading "Submission Guidelines" using the following link:
http://www.springer.com/materials/characterization+%26+evaluation/journal/11665
Please indicate in your cover letter that you are submitting a contribution to the special issue on "Metal Additive Manufacturing."

For further information please contact:
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