

— Call for Papers —
A Symposium on
Additive Manufacturing Process Improvements for Part Functionality

Sponsored by the ASME Manufacturing Engineering Division's
Manufacturing Processes Technical Committee
2017 ASME International Manufacturing Science and Engineering Conference (MSEC)*
June 4-8, 2017
University of Southern California

Technical Focus

Recent advances in additive manufacturing technology have provoked widespread research and development due to its potential to revolutionize every facet of the manufacturing industry; from design, modeling and prototyping to fabrication, assembly and component functionality. Though components are now manufactured with minimal limitations in terms of geometry and personalization, the full capacity and impact of additive manufacturing in terms of design optimization, component functionality, mechanical performance and productivity are yet to be realized. **This symposium will focus on research advances in additive manufacturing relating to physical characteristics of the final part such as density, lattice structures, surface finish, accuracy, deformation, and design for functionality.** This includes the influence of process parameters and component design on density, stiffness and fatigue life, as well as advances in design for functionality, modeling of full-density and porous parts, and characterization of lattice structures for improved specific strength and stiffness. Related aspects of business analysis will also be considered as a new era in manufacturing brings universal changes. Such research is fundamental for the integration of additive manufacturing in the present-day industrial setting and revolution of component supply-chains into the future. Specific topics of interest include, but are not limited to:

- Design for additive manufacturing, software development and optimization.
- Development and analysis of innovative lattice structures for improved specific strength and stiffness.
- Characterization of density, structural integrity and fatigue life as functions of process parameters and component design.
- Simulation of strength, density and functionality of components produced via additive manufacturing, including those with internal lattice structures.
- Automation and integration of additive manufacturing in mass-production environments.
- Post-processing and finishing operations performed on components produced by additive manufacturing.
- New business models for production schemes based around additive manufacturing.

**** Note: Material microstructure effects are not part of this call . Please refer Symposium titled “Additive Manufacturing Process Improvements for Microstructure and Material Properties” for the submissions under that category.**

Paper Submission

Authors are encouraged to submit an abstract and full manuscript for review by **November 03, 2016** via the conference website. Final revised manuscripts must be submitted by **March 08, 2017**. The copyright transfer form must be filled out and the presenting author must pre-register by April 06, 2017 or the paper will be withdrawn from the conference. Authors may also consult www.asme.org/divisions/med/call/ for updates. **No papers are to be submitted to the organizers; submissions will only be accepted via the conference website at www.asmeconferences.org/msec2017/.**

Additional Symposium Activities

To highlight advancements in this technical area, symposium organizers will:

- work to attract a high profile international keynote speaker including honorarium
- organize a state-of-the-art paper that will be the lead article in the special issue

Organizers

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The conference is collocated with NAMRI/SME's 45th North American Manufacturing Research Conference (NAMRC45) and JSME's International Conference on Materials and Processing (ICMP 2017), both of which have a separate call-for-papers. Please note that submissions of the same paper to more than one conference are not permitted.