

— **Call for Papers** —  
A Symposium on  
**Advances in Micro- and Nano-  
Additive Manufacturing**

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

Products with micro- and nano-scale features find widespread applications in industries including medical, automotive, optics, electronics, energy and biotechnology sectors. The tendency towards miniaturization and development of small features (upto 1mm) in many industries exposed the limitations of established micro- and nano-manufacturing methods in terms of processing capability, speed, flexibility, accuracy, scalability, etc. To respond to these challenges, many micro- and nano-Additive Manufacturing technologies have been developed. Compared to traditional micro/nano-fabrication methods, Additive Manufacturing (AM) has the merits of simpler processing, shorter fabrication time, lower cost, and capability of fabricating high aspect ratio structures and almost any complicated freeform structures.

This symposium will focus on the research advances in the areas of AM processes that can produce small features with sizes less than 1 millimeter, and processes that include the use of micro/nano-scale materials. The symposium will highlight process innovation, micro/nano-scale materials utilization, design methodologies, process control and modeling, manufacturing performance, machines and applications. Specific topics of interest include, but are not limited to:

- Novel AM or hybrid processes that fabricate products with the feature size in micro/nano- range (upto 1mm)
- Novel AM or hybrid processes that involve the use of micro/nano-scale materials
- Manufacturing process characterization, control, modeling and simulation
- Processing and characterization of micro/nano-scale materials in AM systems
- Design methods for AM processes or products that involve micro/nano-scale features
- Relationship between feedstock materials, designs, processes, part micro/nano-scale structures, and properties
- Manufacturing performance analysis, including manufacturing flexibility, reliability, cost, printing quality, etc.
- Micro/nano-AM enabled applications including biomedical, mechanical, sensing & actuating applications, MEMS/NEMS, etc.

Other Micro/Nano-AM research not included in the above list is also welcome.

### 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/](http://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/](http://www.asmeconferences.org/msec2017/).**

### Additional Symposium Activities

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

- work to attract a high profile international invited speaker including honorarium
- organize a special issue in the ASME J. of Micro and Nano-Manufacturing
- organize a state-of-the-art paper that will be the lead article in the special issue

### Organizers:

Dr. Yayue Pan, The University of Illinois at Chicago, Chicago, IL, USA. Ph: (312)996-8777; [yayuepan@uic.edu](mailto:yayuepan@uic.edu)  
Dr. Jae-Won Choi, The University of Akron, Akron, OH, USA. Ph: (330) 972-5276; [jchoi1@uakron.edu](mailto:jchoi1@uakron.edu)  
Dr. Ping Guo, Chinese University of Hong Kong, Shatin, China. Ph: (852)3943-9487; [pguo@mae.cuhk.edu.hk](mailto:pguo@mae.cuhk.edu.hk)  
Dr. Jun Zeng, HP Labs, Palo Alto, CA, USA. Ph: (650) 236-8086; [jun.zeng@hp.com](mailto:jun.zeng@hp.com)

---

\*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.