

— Call for Papers —
A Symposium on
Advances in Micro and Nano Manufacturing – Kornel Ehmann Symposium

Sponsored by the ASME Manufacturing Engineering Division's
Manufacturing Processes Technical Committee

Co-sponsored by the *Nano/Micro/Meso Manufacturing TC*

Co-sponsored by the SME North American Manufacturing Research Institution (NAMRI)
2020 ASME International Manufacturing Science and Engineering Conference (MSEC)

June 22-26, 2020, Cincinnati, Ohio

Hosted by the University of Cincinnati, College of Engineering and Applied Science

Technical Focus

Micro- and nano-scale manufacturing is gaining more attention due to production miniaturization and customization. High precision and product quality is difficult to achieve at this length scale; thus, deeper understanding of the processes, development of characterization methods, modeling and simulations, and monitoring are required for improvement of product quality. Process and system technologies need to be advanced for scalable manufacturing. In addition, due to the size effects and difficulties in monitoring and control, simulation and prediction are particularly important at the small scale. Thus, digital or virtual manufacturing technology is becoming essential. This symposium will focus on advances in micro- and nano-scale manufacturing technologies that address the aforementioned requirements. Both theoretical and experimental contributions, as well as application-oriented innovations are welcome. Papers from the industrial sector are also strongly encouraged. This session is dedicated to Prof. Kornel F. Ehmann for his visionary leadership and profound impact on the field.

Specific topics of interest at the micro- and nano-scale include, but are not limited to:

- Mechanical, nontraditional, additive, and hybrid manufacturing processes and systems
- Process and system characterization, modeling, and simulation
- Scalable micro and nano manufacturing
- Micro and nano scale digital or virtual manufacturing
- Surface texturing, surface integrity and process improvement
- Process monitoring and control
- Measurement and metrology
- Novel product designs and assembly technologies
- Design and fabrication methods for micro-sensors
- Equipment for micro- and nano-scale manufacturing
- Tip-based manufacturing
- Manufacturing related to micro- and nano-composites
- Use of nano additives and fluids for manufacturing

Paper Submission

Authors are encouraged to submit an abstract and full manuscript for review by **November 15, 2019** via the conference website. Final revised manuscripts must be submitted by **March 26, 2020**. The [copyright transfer form](#) must be filled out by March 19, 2020 and the presenting author must [pre-register](#) by **April 15, 2020** or the paper will be withdrawn from the conference. **No papers are to be submitted to the organizers; submissions will only be accepted via the conference website at <https://event.asme.org/MSEC/>.**

Additional Symposium Activities

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

- work to attract high profile international keynote speakers
- organize a special issue in the *ASME Journal of Micro and Nano-Manufacturing*
- organize a state-of-the-art paper that will be the lead article in the special issue

Organizers:

Dr. Ping Guo, Northwestern University, Evanston, IL, Ph: 847-491-4029, ping.guo@northwestern.edu (SME/NAMRI Liaison)

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Dr. Chandra Nath, Hitachi America Ltd, Farmington Hills, MI, Ph: 217-607-3029, nathc2@asme.org

*The conference is collocated with NAMRI/SME's 48th North American Manufacturing Research Conference (NAMRC48) and LEM&P (Leading Edge Manufacturing / Materials and Processing) by The Japan Society of Mechanical Engineers (JSME), which will have a separate call-for-papers. Please note that submissions of the same paper to more than one conferences are not permitted.