

— **Call for Papers** —
A Symposium on
Nanofluids for Lubrication and Thermal Management in Manufacturing

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

Nanofluids as colloidal dispersions of nanoparticles in a base cutting fluid have recently received much attention for use in conventional and emerging manufacturing processes. In machining operations such as grinding, high-speed milling, sheet metal forming, drilling and turning, a large amount of frictional heat is generated at the tool/workpiece interface. A substantial fraction of this heat flux is transferred to the tool and workpiece, which could adversely affect their surface integrity, quality and dimensional accuracy. Excessive tool wear also increases the cost. Thus efficient heat removal and better lubrication are the benefits that nanofluids may offer in machining operations and other manufacturing processes such as sheet metal forming. Specific topics of interest include, but not limited to:

- Energy-efficient heat transfer by nanofluids in manufacturing processes
- Improved lubrication by nanofluids in manufacturing processes
- Effect of nanofluids in machining on production time, energy consumption and cost
- Effect of nanofluids on tool wear and machining temperature
- Minimum quality lubrication using nanofluids
- Nanofluids and green manufacturing
- Environmental aspects of using nanofluids in 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be filled out by March 19, 2020 and the presenting author must pre-register by **April 15, 2020** or the paper will be withdrawn from the conference.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/>.**

All papers accepted by MSEC2020 can be further submitted to any ASME journals, such as the highly prestigious journal of Manufacturing Science and Engineering, for consideration of archival publication. In addition, high quality MSEC2020 papers will be automatically channeled to relevant ASME journals for fast-tracked publications.

Additional Symposium Activities

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

- work to attract a high profile international keynote speaker
- organize a special issue in the ASME Journal of Manufacturing Science and Engineering or 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:

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* 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.