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ASME *Journal of Micro- and Nano-Manufacturing*

Special Issue on Metrology for Micro- and Nano-Manufacturing

Micro- and nano-manufacturing is one of the fastest growing areas of advanced manufacturing with applications in numerous industries including the semiconductor, aerospace, and medical device industries. However, metrology for micro- and nano-manufacturing has not kept pace with the growth in the demand for these manufacturing techniques, due to the difficulties in measuring small scale structures at high enough speeds, and fine enough resolutions to make these measurements useful for micro- and nano-manufacturing applications. In conventional manufacturing processes, metrology is used to inspect the parts being produced and provide process feedback, but due to the limitations of metrology for micro- and nano-scale structures and features, most metrology for micro- and nano-manufacturing currently occurs off-line. This results in only a few parts per run getting measured, and makes it difficult to implement process control in micro- and nano-manufacturing systems, which can lead to high defect and scrap rates. Therefore, new techniques, processes, and strategies are required to bring robust metrology into the micro- and nano-manufacturing field.

This Special Issue of the **ASME *Journal of Micro- and Nano-Manufacturing*** aims to bring together in one issue a broad range of novel metrology methods that can be used to inspect, measure, and control micro- and nano-manufacturing processes, as well as to qualify the parts that are produced.

Topic Areas

- In-situ measurement in micro- and nano-manufacturing
- In-line metrology techniques for micro- and nano-manufacturing
- High-throughput functional metrology of micro- and nano-systems
- Data analytics for process control in micro- and nano-manufacturing
- Novel measurement techniques for micro- and nano-structures
- High resolution optical measurement techniques
- High-speed and large-area probe-based metrology techniques
- Simulation and modeling of metrology methods for micro- and nano-manufacturing
- High-throughput sample handling and positioning
- Metrology for roll-to-roll micro- and nano-manufacturing systems
- Metrology for micro- and nano-scale additive manufacturing
- Metrology for MEMS and NEMS

Publication Target Dates

Paper submission deadline:	**March 1, 2020**
Initial reviews complete:	**June 1, 2020**
Special Issue date:	**September 1, 2020**

Submission Instructions

Papers should be submitted electronically to the journal at **journaltool.asme.org**. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the **ASME *Journal of Micro- and Nano-Manufacturing***, and then select the Special Issue *Metrology for Micro- and Nano-Manufacturing*. Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

Special Issue Guest Editor

Michael A. Cullinan, The University of Texas at Austin, USA
michael.cullinan@austin.utexas.edu