

— Call for Papers —
A Symposium on
**Advances in Modeling, Analysis, and Applications of
Smart and Sustainable Manufacturing Systems**

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

The rapid growth of the industrial internet of things offers new opportunities in the design and operation of sustainable manufacturing systems. For example, cyber-physical systems can enable resource-efficient manufacturing; continuous monitoring and prognostics can help ensure worker safety and extend the remaining useful life of critical assets; machine learning models can inform production planning in real time and enable the implementation of a circular economy; or predictive process control can optimize the quality of production runs and facilitate waste reduction. This symposium explores advances in the modeling, analysis, and application of smart manufacturing systems through the lens of sustainability. Challenges remain in the implementation of these advanced systems, including the incorporation of uncertainty into the models and assessments, the lack of available and trained operators, and the inability to scale-up from pilot projects. Moreover, the tradeoffs associated with improvements to any system or process should be well understood, and sustainability assessments provide a methodology to consider a holistic perspective that accounts for the environment, economy, and society. Specific topics of interest include, but are not limited to:

- Life cycle environmental and/or economic assessments of smart manufacturing systems or processes
- Development of sustainability indicators, frameworks, or tools for connected systems
- Cyber-physical systems for resource-efficient manufacturing
- Sustainable innovations in the manufacturing, operation, maintenance and/or end-of-life of equipment
- Optimization of manufacturing systems or processes across environmental, economic, and/or social indicators
- Machine learning applied to the modeling, design, or operation of sustainable production systems
- Workforce development and their integration with smart systems
- Academic or industrial case studies

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.

Organizers:

Dr. Nancy Diaz-Elsayed, University of South Florida, Tampa, FL USA. 760-220-8167; nancyd1@usf.edu
Ms. K. C. Morris, National Institute of Standards and Technology, Gaithersburg, MD USA. 301-975-8286; kcm@nist.gov
Dr. Julius Schoop, University of Kentucky, Lexington, KY USA. 859-323-8308; julius.schoop@uky.edu

* 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.