— Call for Papers —

A Symposium on

Smart Manufacturing System Modeling and Decision Making

Sponsored by the ASME Manufacturing Engineering Division's

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

Modern manufacturing, named Smart Manufacturing, is resulted from the convergence of advanced manufacturing capabilities with information and communication technology (ICT). Smart Manufacturing systems are characterized by the collaboration of human beings with fully or partly autonomous machines in factories, and integration of customers and business partners in business and value-added processes. In this new manufacturing paradigm, systems are becoming increasingly complex, and face more frequent and unpredictable changes and disruptions, in which timely decision making is pressingly needed. The rise of the Internet-of-Things (IoT) and Cyber-Physical Systems (CPS) technology and approaches is driving increased efforts to take advantage of the real-time information from interconnected systems of sensing technology, communication network and physical processes. By utilizing advanced modeling methodology and information analytics, manufacturing systems will be able to perform more efficiently, agile, collaboratively and resiliently. This symposium focuses on innovative analytical approaches and methods for design, modeling and control of advanced manufacturing systems. The aim of this symposium is to bring academic researchers and industry professionals together to review the latest advances and explore future direction in this filed. Specific topics of interest include but are not limited to:

- Smart manufacturing architecture and standardization
- Smart manufacturing informatics and knowledge management
- Data-driven and model-driven approaches for manufacturing process and systems
- Dynamic and adaptive scheduling and close-loop optimization for production systems
- Machine learning based approaches for real-time production planning, control and management
- Mass customization and "lot size 1" production
- Modeling and optimization for sustainable production systems
- Sensor-enabled process and inventory monitoring and control
- Advanced diagnostics, prognostics, and asset health management for production systems

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
- organize a state-of-the-art paper that will be the lead article in the special issue

Organizers:

Dr. Feng Ju, Arizona State University, Tempe, AZ USA, 480-965-1746, fengju@asu.edu
Dr. Cindy Chang, University of Virginia, Charlottesville, VA USA, gc9nq@virginia.edu
Dr. Jorge Arinez, General Motors R&D, Warren, MI USA, Jorge.arinez@gm.com

* 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.