— Call for Papers —

A Symposium on

Simulation Analysis Methodologies for Decision Making in Smart Manufacturing

Sponsored by the ASME Manufacturing Engineering Division's
Manufacturing Systems Technical Committee
2019 ASME International Manufacturing Science & Engineering Conference (MSEC)
June 10-14, 2019
Erie, Pennsylvania
Hosted by Pennsylvania State University, The Behrend College

Technical Focus

Simulation has been a popular tool for analyzing manufacturing systems owing to its flexibility in modeling complex stochastic systems that cannot be represented by simplified deterministic/stochastic models. In the **stochastic simulation** research community, several analysis methodologies have been developed to support rigorous decision making using simulation including **simulation model calibration**, **uncertainty quantification** and **sensitivity analysis**. In particular, there are various **simulation optimization** methods that provide mathematical/statistical guarantee on the optimality of the chosen decision, which differentiates them from simulation-based heuristics. With advances in computing technologies, there have been increasing research interests in developing **efficient large-scale simulation optimization algorithms**, including the parallel computing-based approaches, which are particularly suited for problems in complex manufacturing systems. This symposium focuses on applications of some of the cutting-edge simulation analysis methodologies to support design and operational decision making in manufacturing systems and demonstrating their benefits. Specific topics of interest include, but are not limited to:

- Metamodeling of complex manufacturing simulators
- Data-driven calibration of simulation models
- Simulation-based control of manufacturing systems
- Applications of simulation optimization algorithms to manufacturing systems problems
- Sensitivity analysis and uncertainty quantification of simulation models and their implications to the optimal decisions
- Large-scale/parallel simulation optimization

Paper Submission

Authors are encouraged to submit an abstract and full manuscript for review by **November 02, 2018** via the conference website. Final revised manuscripts must be submitted by **March 15, 2019**. The copyright transfer form must be filled out by March 8, 2018, and the presenting author must pre-register by **April 05, 2019;** or the paper will be withdrawn from the conference. Authors may also consult www.asme.org/divisions/med/call/ for updates. *No papers are to be submitted to the organizers; submissions will only be accepted via the conference website at* www.asmeconferences.org/msec2019/.

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[*] The conference is collocated with NAMRI/SME's 47th North American Manufacturing Research Conference (NAMRC47), which will have a separate call-for-papers. Please note that submissions of the same paper to more than one conferences are not permitted.