

— **Call for Papers** —  
A Symposium on  
**Advances in Modeling, Analysis, and Simulation  
of Manufacturing Processes**

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

### **Technical Focus**

The industrial use of trial and error approaches in manufacturing process design have been reduced with advances in computer simulation capabilities, which have resulted in a reduction of the manufacturing processes costs and decreased development time. Currently, it is feasible to simulate a complete process with the appropriate conditions optimized before the actual industrial process is carried out. However, caution has to be taken when introducing physically-motivated simplifications into the simulations. Among these simplifications, for example, is to neglect material dependency parameters, use dimensionally reduced models, or assume overly-simplified constitutive laws. This symposium will focus on the research advances in the areas of finite element modeling and mathematical simulation of traditional or novice manufacturing processes, and application of such models to process design and control. Such models will have industrial impact in terms of achieving better dimensional or process accuracy, better understanding of factors affecting the specific manufacturing process, and ultimately reduction of manufacturing costs through improved control and reduced process development time. Specific topics of interest include, but are not limited to:

- Advanced methods and tools for computer integrated manufacturing.
- Technical innovations in algorithms, material models, and new applications.
- The use of computer aided engineering in the integration of the product development process.
- Characterization of the engineering problem and definition of the required simulations.
- Simulation strategies and their effect on cost reduction of both part and process.
- Virtual control design and process planning
- Virtual manufacturing to reduce process development time
- Factory-level simulation and process flow optimization strategies
- Model-based process control

### **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 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/](http://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/msec2018/](http://www.asmeconferences.org/msec2018/).**

### **Additional Symposium Activities**

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

- work to attract a high profile international keynote speaker including honorarium
- organize a special issue in the ASME J. of Manufacturing Science and Engineering or ASME J. 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 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 conference are not permitted.