

— Call for Papers —  
A Symposium on  
**High Performance Computing and Artificial Intelligence for Cyber-  
Manufacturing**

Sponsored by the ASME Manufacturing Engineering Division's  
*Manufacturing Systems Technical Committee*  
2017 ASME International Manufacturing Science and Engineering Conference (MSEC)\*  
June 4 – 8, 2017  
University of Southern California

### Technical Focus

Cyber-manufacturing systems are built upon the integration of computational algorithms and physical infrastructures in a factory floor. Rapid advances in high performance computing (HPC) and artificial intelligence (AI) are having a profound impact on not only innovation in products, but also on processes and systems supporting product realization. Manufacturing has become increasingly complex, characterized as networked cyber-physical systems (CPS) that are reliant on HPC, AI, and data analytics. The emergence of cloud computing, fog computing, machine learning or data mining, and Industrial Internet of Things (IIoT) represent radical changes in the means that manufacturers collect and process large volumes of data generated from manufacturing systems, as well as solve compute- and data-intensive problems in manufacturing. This symposium will focus on the research advances in the areas of HPC (e.g., cloud computing) and AI (e.g., machine learning) for cyber-manufacturing. Specific topics of interest include, but are not limited to:

- High performance computing (e.g., GPUs and Cloud Computing) for manufacturing.
- Supervised learning and unsupervised learning applications for manufacturing.
- Data visualization tools in manufacturing.
- Cyber-physical systems in manufacturing.
- Cybersecurity in manufacturing.
- Advanced manufacturing through the digital thread.
- Cloud-based manufacturing or cloud manufacturing.
- Network modeling for distributed manufacturing systems.
- Machine/process diagnostics and prognostics

### Paper Submission

Authors are encouraged to submit an abstract and full manuscript for review by **November 03, 2016** via the conference website. Final revised manuscripts must be submitted by **March 08, 2017**. The copyright transfer form must be filled out and the presenting author must pre-register by April 06, 2017 or the paper will be withdrawn from the conference.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/msec2017/](http://www.asmeconferences.org/msec2017/).**

### Additional Symposium Activities

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

- organize a special issue in the ASME Journal of Manufacturing Science and Engineering or SME Journal of Manufacturing Systems
- organize a panel on high performance computing and data analytics for digital manufacturing

### Organizers

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\*The conference is collocated with NAMRI/SME's 45th North American Manufacturing Research Conference (NAMRC45) and JSME's International Conference on Materials and Processing (ICMP 2017), both of which have a separate call-for-papers. Please note that submissions of the same papers to more than one conference are not permitted.