

— Call for Papers —
A Symposium on
State-of-the-Art Research on Smart and Inter-Connected Manufacturing

Sponsored by the ASME Manufacturing Engineering Division's
Manufacturing Systems 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

With the advancement of big data analytics and cyberinfrastructure tools such as high-speed networks, virtual reality, and cloud platform, the production systems, labors, and customers have much more interactions through data sharing/exchange/transmission than decades ago. Such a cyber environment has profoundly transformed the way how products are designed and manufactured. Customers can interact with advanced cyber tools to map their personalized demands to functional requirements in the production processes/systems in real time. In response to the personalized requirements, on-demand manufacturing services can be called via networks and cloud platforms to produce and deliver the products. This cyber-enabled interconnectivity has ushered the paradigm of group intelligence, leading to cost-effective solutions to the improved product quality, production throughput, and process efficiency. The focus of this symposium will be on the most recent research in the areas of smart and inter-connected product design and manufacturing design and optimization, process control, smart factory, and additive manufacturing empowered by analytics and artificial intelligence.

Research topics of interest include, but are not limited to:

- Inter-connected systems and process control for additive manufacturing and/or distributed manufacturing
- Internet-of-Things (IoT) for personalized product design and manufacturing
- Big data analytics using cloud data for manufacturing process modeling, monitoring, diagnosis, and control
- Machine learning and artificial intelligence for advanced manufacturing
- Design and optimization for moveable/transportable factory or factory-in-a-box for on-site flexible manufacturing
- Additive manufacturing for on-demand production of personalized products
- Augmented reality for improving manufacturing operations
- Cybersecurity issues in manufacturing
- Applications of blockchains in advanced manufacturing and/or supply chain networks
- Smart and Connected Communities (SCC) for advanced manufacturing
- Industrie 4.0 in advanced manufacturing

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/.**

Additional Symposium Activities

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

- organize ASME Journal of Manufacturing Science and Engineering special issue
- Invite industry speakers such as IBM
- organize a state-of-the-art paper that will be the lead article in the special issue

Organizers:

Dr. Hui Wang, Industrial Engineering, Florida State University, Tallahassee, FL, USA, hwang10@fsu.edu
Dr. Qing Chang, Mechanical Engineering, Stony Brook University, Stony Brook, NY, USA, qing.chang@stonybrook.edu
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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.