

— Call for Papers —

A Symposium on

Internet and Digital Twins Technology for Smart Manufacturing

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

Various new technologies have transformed manufacturing into a highly inter-connected “open” space, where manufacturing becomes increasingly smarter, agile and service-oriented. Internet technology allows manufacturing companies to “digitize” manufacturing resources so that they become “manufacturing services” that can be provisioned over the network. Different IT approaches facilitate the management of distributed resources in an efficient way, building scale, maximizing resource utilization and increasing productivity. Meanwhile, Digital Twins provide the power of trust-worthy simulation, low-cost testing, remote analytics, and new possibilities on the digital replica. The transformation from current manufacturing solution to the next generation of system relies on a number of key technologies, including IoT, digital twins, Cloud, Industrial Internet, cyber-physical systems, etc. This symposium focuses on all of these key technologies in the areas of Internet and Digital Twins. Papers are invited in, but not limited to, the following areas:

- Industrial Internet supporting Manufacturing Systems
- Digital Twins
- Industrial Internet of Things
- Cyber-physical production systems
- Cloud platform and architecture
- Cloud resources management and servicelisation
- Semantics and ontology
- Information and communication technologies for Cloud manufacturing
- Service-oriented manufacturing
- Cloud manufacturing for supply chain management
- Blockchain in Manufacturing
- Industrial case studies of the above-mentioned technologies

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out by March 19, 2020 and the presenting author must [pre-register](#) by **April 15, 2020** or the paper will be withdrawn from the conference.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

The symposium organizers will work to attract a high profile international keynote speaker to highlight cutting edge advances in the field. In order to generate new insights and foster new collaborations, the organizers will host a workshop during the symposium. A preliminary topic and title for this workshop is *Additive Manufacturing in a Mass Produced World*, and will focus on development pathways and applications of additive manufacturing for large manufacturers familiar with mass production technologies.

In order to communicate the knowledge generated through this symposium to a wide audience, the organizers will:

- 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. Xi (Vincent) Wang, KTH Royal Institute of Technology, Sweden. 46 8 790-9024; wangxi@kth.se

Prof. Xun Xu, University of Auckland, New Zealand. 814-898-6469; xun.xu@auckland.ac.nz

Dr. Yujie Chen, Caterpillar Inc. 1 309 494 3683; chen_yujie@cat.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.