— Call for Papers —

A Symposium on

Data-Driven Plastics and Composites Manufacturing Systems

Sponsored by the ASME Manufacturing Engineering Division's
Advanced Materials Manufacturing 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

The advances in the areas of digitalization and data analytics such as internet of things, cloud computing, big data, and artificial intelligence can significantly impact manufacturing. In this context, the plastics and composites manufacturing industry is taking a slightly longer time to visibly adopt these technologies. The main reason is that plastics and composites manufacturing is more challenging than other industries in terms of data collection and analysis due to their inherent complexity. The extensive possible combinations of fibers and polymers; multi-physics nature of their manufacturing processes; complex tooling systems; and the requirement of human expertise in some sections complicate every aspect of their design and manufacture. This means the plastics and composites industry has more to gain from the data-driven technologies by implementing real-time process control and quality monitoring, the use of sensors and supplementary measurement systems in the manufacturing process, as well as predictive maintenance and condition monitoring of motors, pumps, and electrical systems. Hence, this special symposium invites papers that are related to plastics and composites manufacturing and deal with one or more of the following topic areas, but not limited to:

- Improved quality control procedures
- Real-time process control and monitoring
- The use of in-mold and external sensors
- Increasing efficiency and flexibility of plastics and composites manufacturing using data analytics
- Predictive maintenance and condition monitoring of plastic and composites machinery
- Digital twins, modeling and simulation of plastics and composites production systems
- Acceleration of advanced plastic and composite materials
- Data-driven sustainability
- New visions of smart factories for plastics and composites

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

To highlight advancements in this technical area, symposium organizers will:
- Work to promote high-quality submissions
- Organize a special issue in the ASME Journal of Manufacturing Science and Engineering

Organizers:

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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.