— Call for Papers —

A Symposium on

Advances in AI-Enabled Process Monitoring and Product Quality Assurance

Sponsored by the ASME Manufacturing Engineering Division's
Quality and Reliability Technical Committee
2026 ASME International Manufacturing Science & Engineering Conference (MSEC)
June 14th – June 18th, 2026
State College, Pennsylvania, USA
Hosted by the Penn State University

Technical Focus

Artificial Intelligence (AI) is revolutionizing quality control and process monitoring techniques in modern manufacturing. This symposium will explore the transformative role of AI-driven technologies, ranging from advanced machine learning, sensor integration, computer vision, edge AI, cloud computing, and data analytics to achieve integrated process and product monitoring for a wide range of manufacturing processes and systems. The focus will be on enabling real-time process monitoring, in-situ quality assessment, early-stage defect detection, and product quality assurance in multi-stage manufacturing systems. Submissions highlighting practical implementations, validation studies, emerging frameworks, and novel AI algorithms to deliver actionable insights and continuous improvement in manufacturing quality and reliability are encouraged.

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

- AI-enabled process and product monitoring for automated defect detection, prevention, and reduction
- AI-driven predictive quality analytics and root cause analysis for anomaly detection
- Comprehensive quality assessment and traceability for processes, systems and products supported by AI-driven tools
- Explainable AI (XAI) for transparent and reliable decision-making support in quality-critical processes and systems
- Computer vision and sensor integration techniques for enhanced process and product monitoring
- Physics-informed AI models integrating domain knowledge with data-driven approaches for robust quality prediction
- Edge AI and cloud computing for secure, low-latency quality analytics
- AI techniques for adaptive process control and continuous quality optimization
- AI-based decision support systems for enhancing reliability and mitigating risk

Paper Submission (Dates are subject to change)

Submission of abstract for review (**mandatory**)	October 20, 2025
Submission of full manuscripts for review	October 31, 2025
Paper acceptance notification	January 30, 2026
Submission of revised papers for review	February 16, 2026
Author notification of acceptance of revised papers	February 27, 2026
Submission of final papers and copyright form	March 20, 2026
Author registration deadline	April 17, 2026

- Submissions will only be accepted via the conference website: https://event.asme.org/MSEC/.
- We accept full papers (7-10 pages), brief papers (4-5 pages), and abstract only presentations (industry presenters only).
- The presenting author must register by **April 17, 2026** or the paper will be withdrawn from the conference proceedings.
- **High quality MSEC 2026 papers will be channeled to an ASME journal for fast-tracked review and publication.**
- Accepted papers can be later submitted for review to any ASME journal, such as *ASME Journal of ManufacturingScience and Engineering* or the *ASME Journal of Micro and Nano Science and Engineering.*

Additional Symposium Activities

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

- Host a panel discussion featuring experts from academia and industry
- Organize a special issue in an ASME Journal
- Organize a state-of-the-art paper for the symposium

Organizers

Dr. Purvee Bhatia, University of South Florida, FL, USA, purveebhatia@usf.edu
Dr. Swarit Anand Singh, Clemson University, SC, USA, swarits@clemson.edu
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The conference is collocated with NAMRI/SME's 54th North American Manufacturing Research Conference (NAMRC54), which will have a separate call-for-papers. Please note that submission of the same paper to more than one conference is not permitted.