

Manufacturing Division – Call for Papers

ASEE Annual Conference & Exposition,
Portland, Oregon, June 23-26, 2024

The **Manufacturing Division** of the American Society for Engineering Education invites abstract submissions of full length and work-in-progress papers for the 2024 ASEE Annual Conference. **The abstract submission starts on October 1, 2023, and ends on November 1, 2023.** Papers and presentations related to manufacturing education, practice, assessment, and promoting diverse learning and fostering inclusive environments in all areas of manufacturing, with particular attention to new and emerging topics of manufacturing education will be considered. Submissions must include content related to manufacturing and technology related education. Suggested topics include, but are not limited to:

- Design and development of innovative learning materials and teaching strategies.
- Advances in additive, hybrid, distributed and direct digital manufacturing education.
- Four-pillars of manufacturing engineering.
- Implementation of new technology into manufacturing education, such as nano/micro-manufacturing, biomedical manufacturing, automation and robotics, additive manufacturing, energy manufacturing, and digital manufacturing.
- Integration of current issues into manufacturing education, such as globalization, lean/green manufacturing, alternative energy resources, supply chain, smart manufacturing facilities, IoT, Industry 4.0.
- Implementation of instructional technology such as simulation tools, virtual, remote labs and distance learning.
- Implementation of sustainability into manufacturing education, such as materials, sustainable product/process design, energy efficiency, waste recycle, life cycle assessment, and emerging potentials.
- Integration of research and development into manufacturing programs
- Industry-based projects and capstone experiences
- STEM integration in the classroom, laboratory, and projects from design to prototype and manufacturing.
- Artificial Intelligence, Digital Twin, Data Analytics applications in Manufacturing.
- P16 STEM projects and integration of manufacturing engineering into K- 12 curricula.
- Entrepreneurship and engineering innovation.
- Manufacturing education for defense and aerospace industry.
- Government policy and manufacturing education.
- ABET and ATMAE Accreditation related topics.
- Successful stories and best practices in Manufacturing Innovation.
- Understanding academic and social barriers for entry and retention.
- Inclusive teaching and culturally relevant pedagogy
- Addressing gender gap and disparities

Special Session: Make It!

Does your paper include something that you or your students made? If so, apply for the Make It Session! This hands-on session is organized by the Manufacturing Division and supported by other divisions of the ASEE. This session is open for faculty, students, and researchers. Accepted papers for the Make It session will be presented in form of posters. We encourage the authors to present their posters and accompany them along with 3D printed models, artistic works, fun projects, robotics, and unique materials. Abstracts to be considered for this session should begin with the word 'MAKER:' in upper case. This is an excellent venue for personal hobbies and student projects.

The ASEE Manufacturing Division is a publish-to-present division which selects an overall best division presentation and an overall best division paper. All full paper submissions to the division will be considered for the awards and will be announced at the division dinner. A certificate will be provided to awardees. Specific information about deadlines and guidelines will be available at <https://www.asee.org/events/Conferences-and-Meetings/2024-Annual-Conference/Paper-Management/2023-Authors> . The submission and review processes are blind. Do not include the names of institutions or authors anywhere in the abstract. Please refer to the ASEE Author's Kit for more information. Questions may be directed to the 2023-2024 ASEE Manufacturing Division Program Chair:

Md Fashiar Rahman, Ph.D.

2023-2024 Manufacturing Division Program Chair

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