

MANUFACTURING DIVISION – CALL FOR PAPERS 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. 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.