

Call for Papers – ASEE Manufacturing Division

ASEE Annual Conference & Exposition, Montreal, Quebec, Canada, June 20 - 24, 2020

The Manufacturing Division of the American Society for Engineering Education invites abstract submissions for the 2020 ASEE Annual Conference. Papers and presentations related to manufacturing education, practice and assessment in all areas of manufacturing, with attention to new and emerging topics of manufacturing education will be considered.

Submissions must include content related to education. Suggested topics include, but are not limited to:

- Design and development of innovative learning materials and teaching strategies for manufacturing education
- 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
- Development, implementation and/or integration 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
- P16 STEM projects and integration of manufacturing engineering into K-12 curricula
- Entrepreneurship and engineering innovation
- Government policy and manufacturing education
- ABET and ATMAE Accreditation related topics
- Successful stories and best practices in Manufacturing Innovation

New for 2020! We have two joint sessions:

The Materials and Manufacturing divisions encourage the submission of abstracts for a joint session focused on the intersection of materials and manufacturing. Papers addressing curricular strategies, lab-based and hands-on learning, and other innovations in education incorporating both materials science concepts and manufacturing technologies are encouraged.

The Energy Conversion (ECCD) and Manufacturing divisions announce their joint session focused on Green Energy Manufacturing and sustainable energy waste management related to manufacturing. We are looking forward to abstracts addressing development and implementation of pedagogical tools and strategies, hands-on learning and capstone design projects related to education areas in energy conversion and manufacturing processes.

Special Session: Make It! Does your paper include something that you or your students made? If so, apply for the MakeIt Session! This hands-on session is organized by the Manufacturing Division and supported by other divisions of the ASEE. Posters are presented along with 3D printed models, artistic works, fun projects, robotics, and unique materials. Eclectic and multidisciplinary submissions are encouraged. A paper is required but may be written in the form of a how-to that allows others to reproduce the work. Abstracts 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 overall best division paper. A certificate will be provided to awardees. Specific information about deadlines and guidelines will be available at <https://www.asee.org/conferences-and-events/conferences>. 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 2019-2020 ASEE Manufacturing Division Program Chair:

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