January 2025 DEED News Letter

DEED Members,

Happy New Year and welcome back!!.

MONTREAL 2025

From the Program Chair - Lisa Kames (ekames@floridapoly.edu)

- The call for papers is available on the DEED website.
- The author's kit is available here.
- As a reminder, in addition to the ASEE "Publish to Present" requirements, DEED requires the support of its authors in "Review to Publish" at both the abstract and manuscript stages.

UPCOMING DEADLINES:

- **Wednesday Jan 15, 2025:**
  - **Drafts due in NEMO** There will **not** be an extension of the draft paper deadline (barring a natural disaster like we experienced in the fall).
- Draft decisions February 7, 2025
- Revised papers due February 21, 2025
- Revised papers decisions March 7, 2025
- Author registration deadline / early registration April 7, 2025
- Final paper upload deadline May 1, 2025

DEED Announcements for January 2025

Event Announcements

1. **EVENT ANNOUNCEMENT: ASEE Commission on P-12 Opportunities**

Now Accepting Proposals for the 2025 CP12 Teacher Workshop in Montreal

Reach Canadian preK-12 engineering educators at the ASEE CP12 Teacher Workshop on the Saturday before ASEE in Montreal (June 21, 2025). ASEE is partnering with the Canadian Engineering Education Association (CEEA) and Polytechnique Montréal to provide this FREE opportunity to Canadian educators. Learn more and apply here. Flyer attached. Proposals are due January 15, 2025.

2. ***Calling ASEE members for preK-12-related sessions at ASEE 2025.***

Do you have an excellent idea for a session for the ASEE audience related to preK-12 engineering education? Would you like to teach your colleagues about your incredible outreach or developing programs? Contact CP12 Chair Katey Shirey (aseecp12@gmail.com) to propose a special CP12 session. All ideas are welcome.

3. **CLIVE L. DYM MUDD DESIGN WORKSHOP XIV**

UPDATE: Mudd Design Workshop has extended its deadline through **January 20** for 2-page abstracts. This is a great opportunity to meet like-minded engineering design educators for anyone in the DEED community.

Call for papers for the Clive L. Dym Mudd Design Workshop XIV: Engineering Design Education and Artificial Intelligence: Bridging Creativity and Technology for Future Innovators, scheduled to take place at Harvey Mudd College in Claremont, California from May 29-31, 2025. The workshop is a highly interactive event that promotes exchange of ideas and experiences in engineering design education between educators and practitioners alike.

I hope that you will submit a two page abstract by December 1, 2024 to this link: https://www.conftool.com/mudddesignworkshop2025 (which requires the creation of a free account by new users). I look forward to seeing you at the workshop this spring in Claremont.

CALL FOR PAPERS

CLIVE L. DYM MUDD DESIGN WORKSHOP XIV

ENGINEERING DESIGN EDUCATION AND ARTIFICIAL INTELLIGENCE: BRIDGING CREATIVITY AND TECHNOLOGY FOR FUTURE INNOVATORS

HARVEY MUDD COLLEGE (LOCATION SUBJECT TO CHANGE), DATE: 29-31 May 2025

THE VISION

Our vision is to convene a diverse assembly of fifty to seventy-five engineers, designers, and educators with a shared goal of exploring and advancing the integration of generative Artificial Intelligence (AI) in engineering design education. We aim to foster a collaborative environment where participants can exchange innovative approaches for leveraging AI to enhance cross-disciplinary and inter-institutional partnerships in design education and addressing or limiting negative issues arising from AI that might impact design education. Established versions of AI such as expert systems and automated shape optimization in CAD have been widely used and previously explored. We believe that innovations in generative AI have the potential to significantly impact engineering design education by offering new perspectives, enhancing domain knowledge through data-driven insights, and augmenting the skill sets of students to meet the evolving demands of the industry and will introduce new challenges. We want to now revisit and further explore how to incorporate generative AI in a way that prepares our students to take advantage of the positives of AI and while mitigating the negatives.

Within the realm of engineering design education, the opportunity to integrate AI technologies presents a unique challenge and an immense opportunity to broaden students' horizons beyond traditional methodologies. By embracing AI, we can expose students to diverse paradigms, automate complex design tasks, enhance creativity, and encourage the development of solutions that are both innovative and feasible. Cultivating an educational environment that appropriately promotes the exploration of AI in design will not only expand the students' design experience beyond conventional detailed design exercises but also equip them with an ability to manage a broad set of perspectives and computational

approaches. This vision is grounded in the belief that the fusion of AI with engineering design education can create powerful synergies, driving forward the mission to prepare students for the future of design and innovation.

THE MISSION

In alignment with our vision, our mission is to delineate and disseminate the best practices, opportunities, and challenges associated with the integration of AI in cooperative partnerships and the expansion of design perspectives within engineering design education. We will explore and articulate how educators, students, courses, and curricula can be strategically developed and positioned to harness AI technologies in service of fostering robust partnerships and enhancing the design education landscape. Our discussions and explorations will encompass a wide array of AI-related topics, including but not limited to:

- Sharing AI design resources institution-wide
- Building AI-community and industry partnerships in design
- Engaging AI design-innovative industrial partners
- Managing AI expectations
- Boosting interdisciplinary AI collaboration to design
- Encouraging design across engineering fields
- Overcoming AI adoption challenges in engineering design education
- Implementing AI in specific design processes and phases
- Creating diverse AI-skilled teams
- Innovating design with AI
- Aligning AI insights with educational goals
- Maintaining AI partnerships
- Considering AI's cultural and ethical impact in design
- Evaluating AI design projects end-to-end

These considerations will be framed within the context of key engineering design activities, including needs assessment, problem definition, ideation, prototyping, user interaction, and ethical design, among others. Our focus will extend to leveraging rather than creating AI tools such as machine learning models, generative design algorithms, and data analytics to enrich these design activities, thereby preparing students to navigate and lead in a future where AI is integral to engineering solutions.

THE EXPERIENCE

Workshop sessions are initiated by brief summary or position statements from panelists followed by an open discussion. A wrap-up session will collect the most important outputs for improving engineering design education for dissemination to the community. Participants are invited to further refine their Dym work and submit to peer review for publication in a Special Issue of the International Journal of Engineering Education containing the resulting proceedings of the Clive L. Dym Mudd Design Workshop XIV. In this case, authors will be requested to distinguish their workshop submission as scholarly research, position papers, or provocative observations so that they may be appropriately included in the IJEE Special Issue or elsewhere as appropriate.

ABSTRACTS should be submitted electronically to:
https://www.conftool.com/mudddesignworkshop2025 Please note that new users will need to create an account on CMT.