

**CALL FOR PAPERS— CLIVE L. DYM MUDD DESIGN WORKSHOP XII:
DESIGNING THROUGH MAKING:
2-D and 3-D Representations of Designs
In Campus Facilities and Remotely
HARVEY MUDD COLLEGE, 27-29 MAY 2021**

THE VISION

Fifty to seventy-five engineers, designers, and educators will gather to discuss and share approaches for sketching, drafting, prototyping, and producing artefacts in design related courses and activities, including industrial and entrepreneurial efforts. Prototypes are used for a variety of purposes throughout design processes, including communication, testing, exploring ideas, etc. Appropriate levels of prototyping at all phases of a design process are critical to a good design process and outcomes. Training on use of and selection of the most appropriate means of prototyping and descriptive communication for sharing, learning, exploring, and production are needed for educationally and industrially driven projects. Especially noteworthy is that the increase in distance learning and remote work may reduce access to equipment and staff as well as the informal interactions that improve the product and learning or working environment. We will explore the role of artifact exploration, description, development, and realization throughout the different phases of the design processes and explore how these can be leveraged to improve outcome and process.

THE MISSION

We will identify the best practices, opportunities, and challenges associated with designing and creating artifacts at different stages of a design process with a focus on how educational, cultural, and institutional issues contribute to successful outcomes including:

- Sketching
- Design For Manufacture/Assembly
- Sustainability and Making
- Computer Aided Manufacturing/CNC
- Rapid Prototyping
- Making and Testing Prototypes Safely
- Teaching Manufacturing Methods
- Appropriate Resolution Prototyping
- Prototyping to Understand User Needs
- Prototyping to Test
- Computer Aided Drafting
- Resource Limited Settings
- Prototyping in Online Courses
- Making as Design

in the context of engineering design activities,

- Identification of engineering design problems
- Proposing solutions
- Receiving feedback
- Engaging stakeholders in engineering design
- Making in capstone and cornerstone course projects emphasizing design
- Learning and applying making skills
- Generating creative solutions
- Reducing risk and uncertainty
- Contextualizing solutions
- Student and end-user and customer interaction
- Overcoming institutional or other limits to making
- Scaling solutions

THE EXPERIENCE

Sessions are initiated by brief 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 will receive a preliminary proceedings containing near-final manuscripts of presented papers. Those drafts will subsequently be refined and reviewed for publication in a Special Issue of

the International Journal of Engineering Education to comprise the archival proceedings of the Clive L. Dym Mudd Design Workshop XII.

CALENDAR	Two-page abstracts to be submitted by	10 January 2021
	Authors notified of acceptance by	1 February 2021
	Presenting author registration deadline	1 March 2021
	Final papers to be submitted by	1 April 2021

ABSTRACTS should be submitted **electronically to:** <https://cmt3.research.microsoft.com/MDW2021>
Please note that new users will need to create an account on CMT.

ORGANIZING COMMITTEE A. M. Agogino, University of California, Berkeley; A. Altman, United States Air Force Research Laboratory; R. Bailey, University of Virginia; S. Daly, University of Michigan; G. Fine, Boston University; A. Ibrahim, Yorkville University; M. Kokkolaras, McGill University; G. G. Krauss (committee chair), Harvey Mudd College; M. Lande, South Dakota Mines; C. L. Magee, Massachusetts Institute of Technology; K. H. Sienko, University of Michigan; M. Siniawski, Loyola Marymount University; J. P. Terpenney, The University of Tennessee; J. Turns, University of Washington; and V. Wilczynski, Yale University.

Coronavirus Statement: While the organizing committee is hopeful that the workshop will take place at the scheduled time and location, we remain aware of the continuing global health crisis. In anticipation of restrictions on an in-person workshop, the committee is considering the other options available and will keep participants informed of decisions regarding format, timing, and location.