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Special Issue on The Role of Design Artifacts in Design

Design artifacts, including sketches, prototypes, simulations, and CAD models, are critical to innovation. Artifacts are vehicles for information transmission and storage and enable designers to communicate across cognitive and social boundaries. Traditionally, the interaction between design artifacts and innovation processes has been studied within the context of geographically co-located teams. However, the COVID-19 pandemic has upended how traditional design occurs, and the use of digital and physical design artifacts by distributed, hybrid, and co-located teams has significantly changed. Further, Industry 4.0 digital technologies, including virtual and augmented reality systems, have fundamentally changed the way designers design. Finally, digital manufacturing technologies, including additive manufacturing, are becoming ubiquitous throughout the design process, shifting the way designers and teams construct physical artifacts. This Special Issue aims to report state-of-the-art design research supporting the effective creation and use of design artifacts within this new paradigm of design work.

Topic Areas

The following is a non-comprehensive list of representative topics within scope of this Special Issue:

- Modalities of artifacts and their relationship to design communication
- Additive manufacturing's role during early-stage artifact generation
- The use of design artifacts by distributed or hybrid design teams
- Creation and use of hybrid digital and physical artifacts using AR/VR technologies
- Digital twins as design artifacts during early-stage design processes
- Use of design artifacts by novice or expert populations
- Educational implications of emerging tools to support the creation of design artifacts
- The role of design artifacts in collaborative design practices and human-centered design processes

Publication Target Dates

Paper submission deadline	April 30, 2023
Initial review completed	June 9, 2023
Final decision	August 25, 2023
Special Issue publication date	December 2023

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Mechanical Design](#) and then select the Special Issue **The Role of Design Artifacts in Design**.

Papers received after April 30, 2023 may still be considered for the Special Issue, if time and space permits. Early submissions to this Special Issue once accepted will be published online first.

Guest Editors

Jessica Menold, The Pennsylvania State University, USA, jdm5407@psu.edu
Maria Yang, Massachusetts Institute of Technology, USA, mcyang@mit.edu
Julie Linsey, Georgia Institute of Technology, USA, julie.linsey@me.gatech.edu
Kate Fu, University of Wisconsin-Madison, USA, kfu26@wisc.edu
Carlye Lauff, The University of Minnesota, USA, carlye@umn.edu
Alison Olechowski, University of Toronto, Canada, olechowski@mie.utoronto.ca
Scarlett Miller, The Pennsylvania State University, USA, scarlettmiller@psu.edu
Nico Soria, The Pennsylvania State University, USA, nicosoria@psu.edu