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Maria C. Yang

Associate Professor of Mechanical Engineering and Engineering Systems (dual)

Room 3-449B
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge MA 02139-4307
Phone: 617-324-5592
Email: mcyang@mit.edu
Web: <http://ideation.mit.edu>



Administrative Contact:

Maral Banosian
Room 3-449
Phone: 617-324-4029
Email: maralb@mit.edu

Professor Maria C. Yang is an Associate Professor of Mechanical Engineering and Engineering Systems at the Massachusetts Institute of Technology. Professor Yang earned her SB in Mechanical Engineering from MIT, and her MS and PhD from Stanford University's Mechanical Engineering Department, Design Division. She joined the MIT faculty in 2007. Professor Yang's industrial experience includes serving as Director of Design at Reactivity, Inc., a Silicon Valley software company now a part of Cisco Systems. She has done research into collaborative design tools at Apple Computer and Lockheed. In addition, she has explored the user interaction issues for software design, as well as ergonomics issues of force-feedback devices for Immersion Corporation.

Professor Yang's research interests are in design of products and systems. Currently, her work focuses on the fundamental role of informal design representation in driving the early stages of the design process. Her work has advanced our understanding of how informal representations influence the way a design team engages in the process of design, and how they are linked to a design's eventual performance. Professor Yang's goal is to deepen the theoretical foundations of early stage design process across product design, engineering design, system design, and beyond in order to develop transformational strategies for the creation of compelling new products and innovative systems.

Professor Yang has been recognized for her research in several ways, including an NSF Graduate Fellowship, an NSF Faculty Early Career Development (CAREER) award and the Robert N. Noyce Career Development Assistant Professorship, and a Best Paper award from the ASME Design Theory and Methodology Conference in 2013. For her work with undergraduates, she received the Earll M. Murman Award for Excellence in Undergraduate Advising from MIT.

Selected Journal Publications



People

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LECTURERS
RESEARCH STAFF
TECHNICAL STAFF
SUPPORT STAFF
POSTDOCS
VISITORS
FACULTY CLOUD

D. Faas, Q. Bao, D. Frey, and M. C. Yang (Accepted) "The Influence of Immersion and Presence in Early Stage Engineering Designing and Building," *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing*.

H. Chen, T. Honda, and M. C. Yang, (2013) "Approaches for Identifying Consumer Preferences for the Design of Technology Products: A Case Study of Residential Solar Panels," *ASME Journal of Mechanical Engineering Design*, 135 (6), 061007.

J. Austin-Breneman, T. Honda, M. C. Yang (2012) "A Study of Student Design Team Behaviors in Complex System Design." *ASME Journal of Mechanical Design*. 134, 124504.C. Elsen, J. Demaret, M. C. Yang, and P. Leclercq (2012). "Sketch - Based Interfaces for Modeling and Users' Needs: Redefining Connections." *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing*. 24(3):303-316.

H. Ji, M. C. Yang, and T. Honda (2012) " An approach to the extraction of probabilistic preference-related information from design team language." *Research in Engineering Design*. 23(2):85-103

T. Honda, F. Ciucci, and M. C. Yang. (2012) " An Information Passing Strategy for Achieving Pareto Optimality in the Design of Complex Systems." *Research in Engineering Design*. 23(1):71– 83

C. J. Walthall, S. Devanathan, K. Ramani, E. D. Hirtleman, L. G. Kisselburgh, and M. C. Yang. (2011) " Evaluating Wikis as a Communicative Medium for Collaboration within Co-located and Distributed Engineering Design Teams." *ASME Journal of Mechanical Design*. 133(7):071001.

M. C. Yang (2010). "Consensus and Single Leader Decision-making in Teams Using Structured Design Methods." *Design Studies*. 31(4):345-362.

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M. C. Yang.(2009) " Observations on Concept Quantity and Sketching in Design." *Research in Engineering Design*. 20(1):1-11 .

Z. Li , M. C. Yang, and K. Ramani (2009). "A Methodology for Engineering Ontology Acquisition and Validation." *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing*. 23(1): 37-51.

M. C. Yang and Y. Jin. (2008) " An Examination of Team Effectiveness in Distributed and Co-located Engineering Teams." *International Journal of Engineering Education*. 24(2): 400-408.

M. C. Yang and J. G. Cham (2007) " An Analysis of Sketching Skill and its Role in Early Stage Engineering Design." *ASME Journal of Mechanical Design*. 129 (5): 476-482.

M. C. Yang. (2005) "A study of prototypes, design activity, and design outcome." *Design Studies*. 26 (6): 649-669.