Contents

Special Issue

Clive L. Dym Mudd Design Workshop X Design and the Future of the Engineer of 2020

Guest Editor

Gordon Krauss—Harvey Mudd College, USA

Gordon Krauss	547-548	Guest Editorial		
Aaron Altman, Gordon G. Krauss, Micah Lande, Cynthia J. Atman and Jennifer Turns	549–557	The Key Ideas of MDW X: A Summary		
Richard J. Aleong, Cole Joslyn and Robin S. Adams	558–566	Capitalizing on Surprise and Doubt in Design Experiences		
Reid Bailey and Matthew E. McFarland	567-573	Prototyping and the Engineer of 2020		
Colin M. Gray and Todd M. Fernandez	574–589	When World(view)s Collide: Contested Epistemologies and Ontologies ir Transdisciplinary Education		
Adam R. Carberry, Elizabeth M. Gerber and Caitlin K. Martin	590-598	Measuring the Innovation Self-Efficacy of Engineers		
Jay R. Goldberg and David Rank	599–608	A Student-Centered Learning Approach to Design for Manufacturability Meeting the Needs of an Often-Forgotten Customer		
Molly H. Goldstein, Robin S. Adams and Şenay Purzer	609–618	Investigating Middle-School Students' Conceptions of Trade-offs in Desi		
Pierce Gordon, Julia Kramer, Alice M. Agogino, Rachel Dzombak and Sophi Martin	619–631	Building 21st Century Skills through Development Engineering		
Meg H. Handley, Sarah C. Ritter and Dean H. Lang	632–643	Design Your Future: Embedding Leadership and Career Development In a Cornerstone Design Course		
Ethan Clark Hilton, Julie Linsey, Wayne Li and Tracy Hammond	644–652	Effectively Teaching Sketching in Engineering Curricula		
Susannah Howe	653–658	Cultivating the Capstone Ecosystem to Educate the Engineer of 2020		
Deborah Kilgore, Cynthia J. Atman, Andrew Jocuns and Kathryn Shroyer	659–673	From Research to Action in the Classroom: Encouraging Broad Thinking in Engineering Design with Significant Learning Experiences		
Gordon G. Krauss, Andrea Vasquez, Joseph Sinopoli and Laura Palucki-Blake	674–685	Upping the Average: Manipulating Peer Feedback Quantity and its Effects on Feedback Quality		
Ade Mabogunje, Neeraj Sonalkar and Larry Leifer	686–694	What If We Have Become Trees?		
Shanna R. Daly, Seda McKilligan, Jaryn A. Studer, Jaclyn K. Murray and Colleen M. Seifert	695–707	Innovative Solutions through Innovated Problems		
Jackson L. Autrey, Jennifer Sieber, Zahed Siddique and Farrokh Mistree	708–722	Leveraging Self-Assessment to Encourage Learning Through Reflection of Doing		
Dylan Moore, Xiao Ge, David Sirkin, Daniel Stenholm and Wendy Ju	723–733	ActiveNavigator: Toward Real-Time Knowledge Capture and Feedback in Design Workspaces		
William Oakes, James Huff, Carla B. Zoltowski and Devendra Canchi	734–745	Impact of the EPICS Model for Community-Engaged Learning and Design Education		
David Ollis	746–750	Designing the Graduate Research Experience to Catalyze the Student-to-Researcher Transition		
Wendy Roldan, Julie Hui and Elizabeth M. Gerber	751–768	University Makerspaces: Opportunities to Support Equitable Participation for Women in Engineering		
C. R. Saulnier and J. G. Brisson	769–779	Design for Use: A Case Study of an Authentically Impactful Design Experience		
Kathleen H. Sienko, Maria R. Young, Elsie Effah Kaufmann, Samuel Obed, Kwabena A. Danso, Henry S. Opare-Addo, Alex T. Odoi, Cornelius A. Turpin, Thomas	780–800	Global Health Design: Clinical Immersion, Opportunity Identification and Definition, and Design Experiences		
O. Konney, Zerihun Abebe, Ibrahim Moheda Aileen Huang-Saad and Timothy R. B. John				
Freddy Solis and Joseph V. Sinfield	801-823	Designing for Big X: Characterizing Design for Major Challenges		
Steven T. O'Shields and Joshua D. Summers	824–832	Collaborative Design Between Industry Practitioners: An Interview-Based Study		
Steven Weiner, Micah Lande and Shawn Jordan	833–842	The Engineer of 2020, in the Making: Understanding how Young Adults Develop Maker Identities and the Implications for Education Reform		
	843	Guide for Authors		