SEDA MCKILLIGAN, CURRICULUM VITAE

Iowa State University
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EMPLOYMENT

Professor, May 2019-Present
Iowa State University
Department of Industrial Design

Interim Department Chair, June 2019-Present
Department of Industrial Design
Iowa State University
College of Design

Associate Dean for Academic Programs, August 2018-Present
Associate Professor, Department of Industrial Design
Iowa State University
College of Design

Associate Professor, May 2015-2019
Iowa State University
Department of Industrial Design
NSF I/UCRC Center for e-Design (co-director of Iowa State University)
Human Computer Interaction Graduate Program (affiliated faculty)

Visiting Professor, 2016 October-2017 May **(sabbatical year)**
Delft University of Technology (TU Delft), the Netherlands
Faculty of Industrial Design Engineering
Department of Product Innovation Management
Design Theory and Methodology Research Group

Assistant Professor, 2010-2015
Iowa State University
Department of Industrial Design

Post-Doctoral Research Fellow, 2010 summer
University of Michigan
Design Science Graduate Program

Graduate Student Research Assistant, 2007-2010
University of Michigan
Design Science Graduate Program

Visiting Scholar, 2008 summer
Sungkyunkwan University, South Korea
Creative Design Institute, College of Engineering

Assistant Professor, 2005-2007
Finlandia University
International School of Art and Design

Director of Corporate Relations, 2005-2007
Finlandia University
Jutila Center for Global Design and Business

Graduate Student Instructor, 2002-2004
University of Michigan
School of Art and Design

EDUCATION

Ph.D. in Design Science, 2007-2010
University of Michigan
Design Science Program
Dissertation Title: Design Heuristics

Master of Fine Arts in Industrial Design, 2002-2004
University of Michigan
School of Art and Design

Bachelor of Industrial Design, 1997-2001
Middle East Technical University, Turkey
Department of Industrial Product Design

HONORS & AWARDS

Best Paper Runner-Up for ASEE DEED Division Annual Conference of American Society of Engineering Education (2017), Examining the effect of a paradigm-relatedness problem-framing tool on idea generation, Rechkemmer, A.E., Makhlouf, M.Z., Wenger, J.M., Silk, E.M., Daly, S.R., McKilligan, S., & Jablokow, K.W.

Best Paper Runner-Up for ASEE DEED Division Annual Conference of American Society of Engineering Education (2017), Case studies of problem exploration processes in engineering design, Studer*, J.A., Daly, S.R., Murray, J.K., McKilligan, S., & Seifert, C.M.

Invited Distinguished Lecture: Best PIC Paper and Best Paper Runner-Up for ASEE DEED Division Annual Conference of American Society of Engineering Education (2016), The impact of teaming and cognitive style on student perceptions of design ideation outcomes. Jablokow, K.W., Teerlink, W., Yilmaz, S., Daly, S.R., Silk, E.M., Wehr*, C.

Invited Distinguished Lecture: Best PIC Paper and Best Paper Runner-Up for ASEE DEED Division Annual Conference of American Society of Engineering Education (2015), The design problem framework: Using adaption-innovation theory to construct design problem statement, Silk, E.M., Daly, S.R., Jablokow, K.W., Yilmaz, S., & Rosenberg*, M.

Best Paper Award in ASEE DEED Division Annual Conference of American Society of Engineering Education (2015), The impact of teaming and cognitive style on student perceptions of design ideation outcomes. Jablokow, K. W., Teerlink, W., Yilmaz, S., Daly, S.R., Silk, E.M., Wehr*, C.

Best Paper Award in ASEE DEED Division Annual Conference of American Society of Engineering Education (2014), A case study analysis of design heuristics in an upper-level cross-disciplinary design course, Kramer, J., Daly, S.R., Yilmaz, S., Seifert, C.M., & Gonzalez, R.

AERA Division I Outstanding Publication Award (invited to be published in Prism Magazine) Journal of Engineering Education (2012), Design Heuristics in engineering concept generation, Daly, S.R., Yilmaz, S., Christian, J.L., Seifert, C.M., Gonzalez, R.

Best Paper Award Runner-Up Design Studies (2011), Creativity through Design Heuristics: A case study of expert product design, Yilmaz, S., & Seifert, C.M.

Best Paper Award in Design Cognition International Conference on Design Computing and Cognition (2010), A comparison of cognitive heuristics use between engineers and industrial designers, Yilmaz, S., Daly, S.R., Seifert, C.M., & Gonzalez, R.

PUBLICATIONS

BOOK CHAPTERS

B.6. DALY, S.R., **MCKILLIGAN, S.**, LEAHY*, K., & SEIFERT, C.M. (2019). Teaching design innovation skills: Design Heuristics pedagogy for idea initiation, idea development, subcomponent design, and group ideation. Design Education Today: Technical contexts, programs and best practices. Edited by Schaefer, D., Coates, G., & Eckert, C.

B.5. DALY, S.R., **MCKILLIGAN, S.** OSTROWSKI, A., & MURPHY, L. (2017). Tracing problem evolution: Factors that impact design problem definition. In B.T. Christensen, L.J. Ball, & K. Halskow (eds). Analysing Design Thinking: Studies of Cross-Cultural Co-Creation, pg. 555-572, FL, US: CRC Press.

B.4. DALY, S.R., & **YILMAZ, S.** (2016). Directing convergent and divergent activity through design feedback. In R.S. Adams & J.A. Siddiqui (eds.), Analyzing Design Review Conversations (pp. 413-430). West Lafayette, IN: Purdue University Press.

B.3. SEIFERT, C.M., GONZALEZ, R., **YILMAZ, S.**, & DALY, S.R. (2015). Boosting creativity in idea generation using Design Heuristics. In Product Development and Management Association (ed.), Design and Design Thinking: Essentials in the PDMA's New Product Development Series (pp. 71-86). Hoboken, NJ: John Wiley and Sons.

B.2. SEIFERT, C.M., GONZALEZ, R., **YILMAZ, S.**, & DALY, S.R. (2015). Design Heuristics: A tool for innovation. In R. Batra, C.M. Seifert, & D. Brei, (eds.). The Psychology of Design: Creating Consumer Desire (pp. 327-343). New York: Routledge.

B.1. DALY, S.R., **YILMAZ, S.**, CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2012). 77 Design Heuristics. H.S. Fogler and S. LeBlanc (eds.), Strategies for Creative Problem Solving 3rd Ed. New York, NY: Prentice Hall.

JOURNAL ARTICLES

J.22. LEAHY*, K.S., DALY, S.R., **MCKILLIGAN, S.**, & SEIFERT, C.M. (2019). Fixated on Design Fixation: Reducing reliance on provided and self-generated examples. *Journal of Mechanical Design (submitted)*.

J.21. STUDER*, J.A., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2019). Cognitive heuristics in the creative exploration of design problems. *Special Issue of AIEDAM on Design Creativity (accepted)*.

J.20. MURRAY, J.A., DALY, S.R., **MCKILLIGAN, S.**, & SEIFERT, C.M. (2019). Design by taking perspectives: How engineers explore problems. *Journal of Engineering Education*, *108*, 248-275. DOI. 10.1002/jee.20263.

J.19. HENDERSON, D., JABLOKOW, K., DALY, S., **MCKILLIGAN, S.**, SILK, E., & BRACKEN, J. (2019). Comparing the effects of design interventions on the quality of design concepts as a reflection of ideation flexibility. *Journal of Mechanical Design*, *141*, 031103-1-11. DOI. 10.1115/1.4042048.

J.18. SILK, E.M., DALY, S.R., JABLOKOW, K.W., & **MCKILLIGAN, S.** (2019). Incremental to radical ideas: Paradigm-relatedness metrics for investigating ideation creativity and diversity. *International Journal of Design Creativity and Innovation*, *7*(1-2), 30-49. DOI. 10.1080/21650349.2018.1463177.

J.17. LEAHY*, K.S., DALY, S.R., MURRAY, J.A., **MCKILLIGAN, S.**, & SEIFERT, C.M. (2018). Transforming early concepts with Design Heuristics. *International Journal of Technology and Design Education.* DOI. 10.1007/s10798-018-9473-0.

J.16. STUDER*, J.A., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2018). Evidence of problem evolution in creative design. *AIEDAM, 32*(4), 415-430.

J.15. DALY, S.R., **MCKILLIGAN, S.**, STUDER*, J.A., MURRAY, J., & SEIFERT, C.M. (2018). Innovative solutions through innovated problems. *International Journal of Engineering Education, 34*(2B), 695-707.

J.14. GRAY*, C.M., **MCKILLIGAN, S.**, DALY, S.R., & SEIFERT, C.M. (2017). Using creative exhaustion to foster idea generation. *International Journal of Technology and Design Education.* DOI. 10.1007/s10798-017-9435-y

J.13. **MCKILLIGAN S.**, JABLOKOW, K.W., DALY, S.R., & SILK, E.M. (2017). Usability tests of ideation flexibility tools with engineering design practitioners. *CoDesign Journal, 1-21.*

J.12. **YILMAZ, S.**, SEIFERT, C.M., DALY, S.R., & GONZALEZ, R. (2016). Design Heuristics in innovative products. ASME. *Journal of Mechanical Design*, *138*(7): 071102-071102-12 **(Invited as a featured article)**.

J.11. **YILMAZ, S.**, SEIFERT, C.M., DALY, S.R., & GONZALEZ, R. (2016). Evidence-based Design Heuristics for idea generation. *Design Studies*, *46*, 95-124.

J.10. DALY, S.R., SEIFERT, C.M., **YILMAZ, S.**, & GONZALEZ, R. (2016). Comparing Ideation Techniques for Beginning Designers. *Journal of Mechanical Design*, *138*(10), 101108.

J.9. GRAY*, C.M., SEIFERT, C.M., **YILMAZ, S.**, DALY, S.R., & GONZALEZ, R. (2016). What is the context of "Design Thinking"? Design Heuristics as conceptual repertoire. *International Journal of Engineering Education, 32(3B)*, 1349-1355.

J.8. **YILMAZ, S.**, & DALY, S.R. (2016). Feedback in concept development: Comparing design disciplines. *Design Studies*, *45*(Part A), 137-158.

J.7. **YILMAZ, S.**, DALY, S., SEIFERT, C.M., & GONZALEZ, R. (2015). How do designers generate new ideas? Design Heuristics across two disciplines. *Design Science*, 1, 1-29. http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=10043439&fulltextType=RA&fileId=S2053470115000049

J.6. KRAMER, J. DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2015). Investigating the impacts of Design Heuristics on idea initiation and development. *Advances in Engineering Education*. http://advances.asee.org/wp-content/uploads/vol04/issue04/Papers/AEE-16-Kramer.pdf

J.5. **YILMAZ, S.**, DALY, S.R., CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2013). Can experienced designers learn from new tools? A case study of idea generation in a professional engineering team. *International Journal of Design Creativity and Innovation*, 2(2), 82-96.

J.4. DALY, S.R., **YILMAZ, S.**, CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2012). Design Heuristics in engineering concept generation. *Journal of Engineering Education*, 101(4), 601-629.
(AERA Division I Outstanding Publication Award for 2012)

J.3. **YILMAZ, S.**, & SEIFERT, C.M. (2011). Creativity through Design Heuristics: A case study of expert product design. *Design Studies*, 32(4), 384-415.
(Nominated for Best Paper Award for 2011)

J.2. DALY, S.R., CHRISTIAN, J.L., **YILMAZ, S.**, SEIFERT, C.M, & GONZALEZ, R. (2011). Assessing Design Heuristics for idea generation in an introductory engineering course. *International Journal of Engineering Education*, 28(2), 463-473.

J.1. **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2010). Cognitive heuristics in design: Instructional strategies to increase creativity in idea generation. *Journal of Artificial Intelligence for Engineering Design, Analysis, and Manufacturing*, 24(3), 335-355.

REFEREED FULL CONFERENCE PAPERS

C.52.CREEGER, S., & **MCKILLIGAN, S.** (2019). Innovative design problem exploration. International Association of Societies of Design Research Conference, September 2-5, Manchester, UK *(submitted)*.

C.51. BOUWMAN, S., VOORENDT, J., EISENBART, B., & **MCKILLIGAN, S.** (2019). Design Thinking: An approach with various perceptions. International Conference on Engineering Design *(accepted)*.

C.50. FILA*, N., & **MCKILLIGAN, S.** (2019). An exploration of course design heuristics identified from design meetings, design artifacts, and educator interviews. Annual Conference of American Society of Engineering Education *(accepted)*.

C.49. HENDERSON, D., JABLOKOW, J.W., DALY, S.R., **MCKILLIGAN, S.**, & SILK, E.M. (2018). Comparing the effects of design interventions on the quality of design concepts as a reflection of ideation flexibility. ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, August 26-29, Quebec City, Quebec, Canada: IDETC.

C.48. PARK*, H.J. & **MCKILLIGAN, S.** (2018). A systematic literature review for human computer interaction and design thinking process integration. International Conference on Human-Computer Interaction, July 15-20, Las Vegas, NV: HCII.

C.47. FILA*, N., GUERIN*, K., & **MCKILLIGAN, S.** (2018). Design thinking in engineering course design. Annual Conference of American Society of Engineering Education, June 24-27, Salt Lake City, UT: ASEE.

C.46. FILA*, N., ABRAMSKY*, S., & **MCKILLIGAN, S.** (2018). How engineering educators use heuristics when redesigning a sophomore-level embedded systems course. Annual Conference of American Society of Engineering Education, June 24-27, Salt Lake City, UT: ASEE.

C.45. LEAHY*, K.S., DALY, S.R., **MCKILLIGAN, S.**, & SEIFERT, C.M. (2017). Overcoming design fixation in idea generation. International Conference of Design Research Society, June 25-28, Limerick, Ireland: DRS.

C.44. CREEGER*, S., **MCKILLIGAN, S.**, DALY, S.R., & SEIFERT, C.M. (2017). Strategies to redefine the problem exploration space for design innovation. International Conference on Engineering and Product Design Education, September 6-7, London, UK: EPDE.

C.43. **MCKILLIGAN, S.**, FILA*, N., ROVER, D., & MINA, M. (2017). Insights on using Design Thinking as a process to changing pedagogical practices in engineering. Frontiers in Education, October 18-21, Indianapolis, IN: FIE.

C.42. **MCKILLIGAN, S.** DHADPHALE, T., & RINGHOLZ, D. (2017). Speed dating with Design Thinking: An empirical study of managers solving business problems with design, International Association of Societies of Design Research Conference, November 1-3, Cincinnati, OH: IASDR.

C.41. STUDER*, J.A., MURRAY, J.K., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2017). Innovative solutions arise from diverse problem definitions. Clive L. Dym Design Workshop X, June 1-3, Claremont, CA.

C.40. SEVIER*, D.C., BAKER*, I., **MCKILLIGAN, S.**, JABLOKOW, K.W., DALY, S.R., SILK, E.M., & HELM, K.C. (2017). Towards the development of a concept elaboration metric. ASME 2017 International Design Engineering Technical Conferences (IDETC); 13th International Conference on Design Education (DEC). Cleveland, OH: ASME.

C.39. HENDERSON, D.A., HELM, K.C., JABLOKOW, K.W., **MCKILLIGAN, S.**, DALY, S.R., & SILK, E.M. (2017). Comparison of variety metrics in engineering design. ASME 2017 International Design Engineering Technical Conferences (IDETC); 13th International Conference on Design Education (DEC). Cleveland, OH: ASME.

C.38. HELM, K.C., HENDERSON, D.A., JABLOKOW, K.W., DALY, S.R., **MCKILLIGAN, S.**, SILK, E.M., & SEVIER*, D.C. (2017). The idea mapping board: A tool for assessing design concepts and visualizing a team's use of the design space. International Conference of Engineering Design. Vancouver, B.C., Canada: ICED.

C.37. ROVER, D., ZAMBRENO, J., MINA, M., JONES, P.H., JACOBSON, D.W., **MCKILLIGAN, S.**, & KHOKHAR, A. (2017). Riding the wave of change in electrical and computer engineering. Annual Conference of American Society of Engineering Education. Columbus, OH: ASEE.

C.36. RECHKEMMER, A., SILK, E.M., DALY, S.R., JABLOKOW, K.W., & **MCKILLIGAN, S.** (2017). Examining the effect of a paradigm-relatedness problem framing tool on idea generation. Annual Conference of American Society of Engineering Education. Columbus, OH: ASEE.

C.35. STUDER*, J.A., MURRAY, J., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2017). Case studies of problem exploration processes in engineering design. Annual Conference of American Society of Engineering Education. Columbus, OH: ASEE.

C.34. MURPHY, L., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2017). Supporting novice engineers in idea generation using Design Heuristics. Annual Conference of American Society of Engineering Education. Columbus, OH: ASEE.

C.33. DALY, S.R., **MCKILLIGAN, S.** OSTROWSKI, A., & MURPHY, L. (2016). Tracing problem evolution and factors that impact problem shifts. 11th Design Thinking Research Symposium (DTRS), Copenhagen, Denmark.

C.32. STUDER*, J.A., **YILMAZ, S.**, DALY, S.R., & SEIFERT, C.M. (2016). Cognitive heuristics in defining engineering design problems. ASME 2016 International Design Engineering Technical Conferences (IDETC); 13th International Conference on Design Education (DEC). Charlotte, NC: ASME.

C.31. SILK, E.M., DALY, S.R., JABLOKOW, K.W., & **YILMAZ, S.** (2016). Using paradigm-relatedness to measure design ideation shifts. ASEE Annual Conference, Design in Engineering Education Division. New Orleans, LA: ASEE.

C.30. HELM, K., JABLOKOW, K.W., **YILMAZ, S.**, DALY, S.R., & SILK, E.M. (2016). Evaluating the impacts of different interventions on quality in concept generation. ASEE Annual Conference, Design in Engineering Education Division. New Orleans, LA: ASEE.

C.29. LEAHY*, K.S., DALY, S.R., **YILMAZ, S.**, SEIFERT C.M., & GONZALEZ, R. (2016). Integrating Design Heuristics into your classroom. ASEE Annual Conference, Design in Engineering Education Division. New Orleans, LA: ASEE.

C.28. GRAY*, C.M., **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2015, August). Creativity 'misrules': First year engineering students' production and perception of creativity in design ideas. In ASME 2015 International Design Engineering Technical Conferences (IDETC); 12th International Conference on Design Education (DEC). Boston, MA: ASME.

C.27. JABLOKOW, K.W., TEERLINK, W., **YILMAZ, S.**, DALY, S.R., SILK, E.M., & WEHR*, C. (2015, August). Ideation variety in mechanical design: Examining the effects of cognitive style and design heuristics. In ASME 2015 International Design Engineering Technical Conferences (IDETC); 12th International Conference on Design Education (DEC). Boston, MA: ASME.

C.26. GRAY*, C.M., **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2015, July). Supporting idea generation through functional decomposition: An alternative framing for Design Heuristics. In Proceedings of International Conference on Engineering Design. Milan, IT: ICED.

C.25. GRAY*, C.M., **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2015, June). What problem are we solving? Encouraging idea generation and effective team communication. In LearnxDesign: The 3rd International Conference for Design Education Researchers and PreK-16 Design Educators. Chicago, IL: School of the Art Institute of Chicago: LearnXDesign.

C.24. GRAY*, C.M., **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2015, June). Idea generation through empathy: Reimagining the 'cognitive walkthrough'. In Proceedings of the ASEE Annual Conference, Design in Engineering Education Division. Seattle, WA: ASEE.

C.23. JABLOKOW, K.W., TEERLINK, W., **YILMAZ, S.**, DALY, S.R., SILK, E.M., WEHR*, C. (2015, June). The impact of teaming and cognitive style on student perceptions of design ideation outcomes. In Proceedings of the ASEE Annual Conference, Design in Engineering Education Division. Seattle, WA: ASEE.
(Selected for DISTINGUISHED LECTURE: Best PIC Paper Presentation)
(ASEE DEED Division Best Paper Award)

C.22. WRIGHT, S., SILK, E.M., DALY, S.R., JABLOKOW, K.W., **YILMAZ, S.**, TEERLINK, W., & WEHR*, C. (2015, June). Exploring the effects of problem framing on solution shifts: A case analysis. In Proceedings of the ASEE Annual Conference. Seattle, WA: ASEE.

C.21. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., GONZALEZ, R., & GRAY*, C.M. (2015, June). Expanding evidence-based pedagogy with Design Heuristics. In Proceedings of the ASEE Annual Conference, NSF Grantees Poster Session. Seattle, WA: ASEE.

C.20. **YILMAZ, S.**, ROSENBERG*, M., DALY, S.R., JABLOKOW, K.W., SILK, E.M. & TEERLINK, W. (2015, June). Impact of problem contexts on the diversity of design solutions: An exploratory case study. In Proceedings of the ASEE Annual Conference, NSF Grantees Poster Session. Seattle, WA: ASEE.

C.19. GRAY*, C.M., SEIFERT, C.M., **YILMAZ, S.**, DALY, S.R., & GONZALEZ, R. (2015, May). What is the content of 'design thinking'? Design Heuristics as conceptual repertoire. In Proceedings of the Harvey Mudd Design Workshop, Claremont, CA.

C.18. **YILMAZ, S.**, & DALY, S.R. (2014, October). Influences of feedback interventions on student concept generation and development practices. Design Thinking Research Symposia, West Lafayette, IN: DTRS.

C.17. KOTYS-SCHWARTZ, D., DALY, S.R., **YILMAZ, S.**, & KNIGHT, D. (2014, June). Evaluating the implementation of Design Heuristic cards in an industry-sponsored capstone design course. In Proceedings of the ASEE Annual Conference, Indianapolis, IN: ASEE.

C.16. KRAMER, J., DALY, S.R., **YILMAZ, S.**, & SEIFERT, C.M. (2014, June). A case-study analysis of Design Heuristics in an upper-level cross-disciplinary design course. In Proceedings of the ASEE Annual Conference, Indianapolis, IN: ASEE.
(ASEE DEED Division Best Paper Award)

C.15. SILK, E.M., DALY, S.R., JABLOKOW, K.W., **YILMAZ, S.**, & ROSENBERG, M. (2014, June). The design problem framework: Using adaption-innovation theory to construct design problem statements. In Proceedings of the ASEE Annual Conference, Indianapolis, IN: ASEE.
(Selected for DISTINGUISHED LECTURE: Best PIC Paper Presentation)
(Nominated for ASEE DEED Division Best Paper Award)

C.14. **YILMAZ, S.**, DALY, S.R., JABLOKOW, K.W., SILK, E.M., & ROSENBERG*, M. (2014, June). Investigating impacts on the ideation flexibility of engineers. In Proceedings of the ASEE Annual Conference, NSF Grantees Poster Session, Indianapolis, IN: ASEE.

C.13. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014, June). Design Heuristics: An evidence-based tool to improve ideation. In Proceedings of the ASEE Annual Conference, NSF Grantees Poster Session, Indianapolis, IN: ASEE.

C.12. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014, May). Design Heuristics as a tool for innovation. Conference on Psychology of Design: Creating Consumer Desire. Ann Arbor, MI: Society for Advertising & Consumer Psychology.

C.11. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2013, September). Comparison of design approaches between engineers and industrial designers. In Proceedings of International Conference of Engineering and Product Design Education, Dublin, Ireland: EPDE.
(Best Paper Award)

C.10. CHRISTIAN, J.L., DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2012, June). Design Heuristics support two modes of idea generation: Initiating ideas and transitioning among concepts. In Proceedings of the ASEE Annual Conference, San Antonio, TX: ASEE.

C.9. **YILMAZ, S.**, DALY, S.R., CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2012, May) How do Design Heuristics affect outcomes? In: M. M. Andreasen, H. Birkhofer, S. J. Culley, U. Lindemann, and D. Marjanovic (Eds.), In Proceedings of 12th International Design Conference (DESIGN), pp. 1195-1204. Dubrovnik, Croatia: DESIGN.

C.8. **YILMAZ, S.**, DALY, S.R., CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2011, August). Collaborative idea generation using design heuristics. In A.M. Maier, K. Mougaard, T. J. Howard, and T. C. McAloone (eds.), In Proceedings of 18th International Conference on Engineering Design: Impacting Society through Engineering Design, Copenhagen, Denmark: ICED.

C.7. DALY, S.R., **YILMAZ, S.**, CHRISTIAN, J.L., SEIFERT, C.M. & GONZALEZ, R. (2011, June). Teaching design ideation. In Proceedings of the ASEE Annual Conference, Vancouver, B.C., Canada: ASEE.

C.6. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2010, September). Design Heuristics in ideation across engineering and industrial design domains. In C. Boks, C. McMahon, W. Ion, and B. Parkinson (eds.), In Proceedings of the 12th International Conference on Engineering and Product Design Education: When Design Education and Design Research Meet, Trondheim, Norway: EPDE.

C.5. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2010, July). A comparison of cognitive heuristic use between engineers and industrial designers. In: J. S. Gero ed. Proceedings of the 4th International Conference on Design Computing and Cognition, pp. 3-22, Stuttgart, Germany: DCC.
(Best Paper Award in Design Cognition)

C.4. **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2010, July). Design Heuristics: Cognitive strategies for creativity in idea generation. In: J. S. Gero ed. Proceedings of the 4th International Conference on Design Computing and Cognition: pp. 35-54, Stuttgart, Germany: DCC.

C.3. DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2010, June). Cognitive heuristic use in engineering design ideation. In Proceedings of the ASEE Annual Conference, Louisville, Kentucky: ASEE.

C.2. **YILMAZ, S.**, & SEIFERT, C.M. (2010, May). Cognitive heuristics in design ideation. In Proceedings of International Design Conference, pp. 1007-1016, Dubrovnik, Croatia: DESIGN.

C.1. **YILMAZ, S.**, & SEIFERT, C.M. (2009, October). Cognitive heuristics employed by design experts: A case study. In the Proceedings of the 3rd Conference of International Association of Societies of Design Research, Seoul, South Korea: IASDR.

REFEREED SHORT CONFERENCE PAPERS

S.2. GRAY*, C.M., SEIFERT, C.M., **YILMAZ, S.**, DALY, S.R., & GONZALEZ, R. (2015, April) What happens when creativity is exhausted? Design tools as an aid for ideation. Annual Conference of American Educational Research Association, Chicago, IL: AERA.

S.1. SILK, E.M., DALY, S.R., JABLOKOW, K.W., **YILMAZ, S.**, & ROSENBERG, M. (2014, April). Interventions for ideation: Impact of framing, teaming, and tools on high school students' design fixation. Annual Conference of American Educational Research Association, Philadelphia, PA: AERA.

INVITED PAPERS

I.4. **YILMAZ, S.**, PAEPCKE-HJELTNESS, V., & DHADPHALE, T. (2016). The nature of design thinking in academia and industry. Introduction to the Additional Theme on Design Thinking, Design Research Society's 50th Annual Conference, June 27-30, Brighton, UK.

I.3. KRAMER, J., DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2015). Leap of Imagination. ASEE Prism Magazine – Advanced From AEE Selects.

I.2. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2013). Different perspectives. Engineering Designer Magazine – Institution of Engineering and Design Education Selects, March, 24-27.

I.1. DALY, S.R., **YILMAZ, S.**, CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2012). Uncovering design strategies. ASEE Prism Magazine - Journal of Engineering Education Selects, 22(4), 41-44: JEE SELECTS

REFEREED SYMPOSIUM PAPERS

SP1. DALY, S.R., & **YILMAZ, S.** (2014, April). Using think-aloud verbal protocol methodology to explore engineering design ideation. Symposium on Using Novel Research Methods to Understand Teaching and Learning in the Professions, Annual Meeting of American Education Research Association, Philadelphia, PA: AERA

REFEREED POSTER PAPERS

P.5. BAKER*, I., SEVIER*, D., **MCKILLIGAN, S.**, JABLOKOW, K.W., DALY, S.R. & SILK, E.M. (2017). Investigating ideation flexibility through incremental to radical design heuristics, International Association of Societies of Design Research Conference, November 1-3, Cincinnati, OH: IASDR.

P.4. **YILMAZ, S.**, STUDER*, J.A., DALY, S.R., & SEIFERT, C.M. (2015). Characterizing cognitive heuristics used in defining engineering design problems. National Science Foundation, Envisioning the Future of Undergraduate STEM Education: Research and Practice, Washington, DC.

P.3. DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2015). Disseminating the Design Heuristics evidence-based ideation pedagogy in engineering education. National Science Foundation, Envisioning the Future of Undergraduate STEM Education: Research and Practice, Washington, DC.

P.2. DALY, S.R., **YILMAZ, S.**, JABLOKOW, K.W., SILK, E.M., TEERLINK, W., & WEHR*, C. (2015). The implications of ideation preferences for design thinking education. Mudd Design Workshop IX: Design Thinking in Design Education, May 28-30, Claremont, CA.

P.1. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014). What happens when creativity is exhausted? The role of design tools. Poster presented at the International Conference on Design Computing and Cognition (DCC), London, UK.

REFEREED PANEL ABSRACTS

PA.2. **YILMAZ, S.**, DALY, S.R., & JABLOKOW, K.W. (2014, November) Researching ideation across disciplines and universities. Panel session to be presented at the National Conference of The Alliance for the Arts in Research Universities, Ames, IA: A2RU.

PA.1. **YILMAZ, S.**, RINGHOLZ, D., SELEK, H., PRINDLE, W., MINA, M., & HEISE, J. (2014, November) Designing 'multidisciplinary design teaching'. Breakout session to be presented at the National Conference of The Alliance for the Arts in Research Universities. Ames, IA: A2RU.

POSTERS

P.21. AUSENHUS*, A. & MCKILLIGAN, S. (2018). UX learning in design. Graduate and Professional Research Conference, Iowa State University, Ames, IA.

P.22. PARK*, H-J., & MCKILLIGAN (2018). Human Computer Interaction and Design Thinking: Two complementary design processes. Graduate and Professional Research Conference, Iowa State University, Ames, IA.

P.20. BAKER*, I., SEVIER*, D., **MCKILLIGAN, S.**, JABLOKOW, K.W., DALY, S.R. & SILK, E.M. (2017). Investigating ideation flexibility through incremental to radical design heuristics, International Association of Societies of Design Research Conference, November 1-3, Cincinnati, OH: IASDR.

P.19. STUDER*, J.A., **YILMAZ, S.**, DALY, S.R., & SEIFERT, C.M. (2016, April) Supporting innovative ideation behavior in problem exploration. Center for e-Design Industry Advisory Board Annual Meeting, Chicago, IL.

P.18. STUDER*, J.A., & **YILMAZ, S.** (2016, April) Tackling the 'right' problems: Investigating cognitive strategies used in understanding engineering problems. Graduate and Professional Research Conference, Iowa State University, Ames, IA.

P.17. SEVIER*, D., BAKER*, I., & **YILMAZ, S.** (2016, April) Differential impact of cognitive style and Design Heuristics upon engineering and design students' perceptions. Graduate and Professional Research Conference, Iowa State University, Ames, IA.

P.16. DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2016, April) Evidence-based pedagogy in engineering education: Generating ideas with Design Heuristics. Envisioning the Future of Undergraduate STEM Education: Research and Practice, Washington, DC: NSF.

P.15. **YILMAZ, S.**, STUDER*, J.A., DALY, S.R., & SEIFERT, C.M. (2016, April) Characterizing cognitive heuristics used in defining engineering design problems. Envisioning the Future of Undergraduate STEM Education: Research and Practice, Washington, DC: NSF.

P.14. **YILMAZ, S.**, SEIFERT, C.M., DALY, S.R., GONZALEZ, R. & GRAY*, C.M. (2015, June) Expanding evidence-based pedagogy with Design Heuristics. Annual Conference of American Society of Engineering Education, Seattle, WA: ASEE.

P.13. **YILMAZ, S.**, ROSENBERG*, M., DALY, S.R., JABLOKOW, K.W., SILK, E.M. & TEERLINK, W. (2015, June) Impact of problem contexts on the diversity of design solutions: An exploratory case study. Annual Conference of American Society of Engineering Education, Seattle, WA: ASEE.

P.12. DALY, S.R., **YILMAZ, S.**, JABLOKOW, K.W., SILK, E.M., TEERLINK, W., & WEHR*, C. (2015, May) The implications of ideation preferences for design thinking education. Mudd Design Workshop IX: Design Thinking in Design Education, Claremont, CA.

P.11. KRAMER, J., DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. Design processes in an upper-level design course: An evaluation of design heuristics. Poster presented at the University of Michigan's Center for Research on Learning and Teaching in Engineering's 8th Annual Research and Scholarship in Engineering Education Poster Fair, Ann Arbor, MI, USA.

P.10. WRIGHT, S., SILK, E.M., DALY, S.R., JABLOKOW, K.W., **YILMAZ, S.**, ROSENBERG*, M., & TEERLINK, W. An expanded ideation metric for assessing the variety of design ideas. Poster presented at the University of Michigan's Center for Research on Learning and Teaching in Engineering's 8th Annual Research and Scholarship in Engineering Education Poster Fair, Ann Arbor, MI, USA.

P.9. TEERLINK, W., JABLOKOW, K.W., **YILMAZ, S.**, ROSENBERG*, M., DALY, S.R., & SILK, E.M. (2014, June). Investigating the impact of problem framing, design heuristics, and teaming on design ideation. Poster presented at the Penn State College of Engineering Research Symposium (CERS), State College, PA, USA.

P.8. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014, June). What happens when creativity is exhausted? The role of design tools. Poster presented at the International Conference of Design Computing and Cognition, London, UK: DCC.

P.7. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014, June). Design Heuristics as a tool to improve innovation. Poster presented at the NSF Grantees Poster Session as part of Annual Conference of American Society of Engineering Education, Indianapolis, IN: ASEE.

P.6. **YILMAZ, S.**, DALY, S.R., JABLOKOW, K.W., SILK, E.M., & ROSENBERG*, M. June, 2014) Investigating impacts on the ideation flexibility of engineers. Poster presented at the NSF Grantees Poster Session as part of Annual Conference of American Society of Engineering Education, Indianapolis, IN: ASEE.

P.5. KRAMER, J., DALY, S.R., **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2014, May) Design processes in an upper-level design course: An evaluation of design heuristics. Poster presented at the University of Michigan's Center for Research on Learning and Teaching in Engineering's 8th Annual Research and Scholarship in Engineering Education Poster Fair, Ann Arbor, MI, USA.

P.4. WRIGHT, S., SILK, E.M., DALY, S.R., JABLOKOW, K.W., **YILMAZ, S.**, ROSENBERG*, M., & TEERLINK, W. (2014, May) An expanded ideation metric for assessing the variety of design ideas. Poster presented at the University of Michigan's Center for Research on Learning and Teaching in Engineering's 8th Annual Research and Scholarship in Engineering Education Poster Fair, Ann Arbor, MI, USA.

P.3. TEERLINK, W., JABLOKOW, K.W., **YILMAZ, S.**, ROSENBERG*, M., DALY, S.R., & SILK, E.M. (2014, May) Investigating the impact of problem framing, design heuristics, and teaming on design ideation. Poster presented at the Penn State College of Engineering Research Symposium (CERS), State College, PA, USA.

P.2. KIM, Y.S, PARK, J., & **YILMAZ, S.** (2008, June) Using visual reasoning model in the analysis of sketching process. Poster presented at the 'Informing Computational Support for Conceptual Design: Lessons Learned from Sketching Studies' Workshop as part of the Design Computing and Cognition Conference, Atlanta, Georgia: DCC.

P.1. PARK, J., **YILMAZ, S.**, & KIM, Y.S. (2008, July) Effects of cognitive activities on designer creativity and performance: A detailed look into the visual reasoning model. Poster presented at the Korea-Japan Design Engineering Workshop, South Korea.

CONFERENCE, PANEL, POSTER PRESENTATIONS

PP.24. CREEGER*, S., **MCKILLIGAN, S.**, DALY, S.R., & SEIFERT, C.M. (2017). Strategies to redefine the problem exploration space for design innovation. International Conference on Engineering and Product Design Education, September 6-7, London, UK: EPDE.

PP.23. **MCKILLIGAN, S.** DHADPHALE, T., & RINGHOLZ, D. (2017). Speed dating with Design Thinking: An empirical study of managers solving business problems with design, International Association of Societies of Design Research Conference, November 1-3, Cincinnati, OH: IASDR.

PP.22. STUDER*, J.A., MURRAY, J., DALY, S.R., **MCKILLIGAN, S.** & SEIFERT, C.M. (2017). Innovative solutions arise from diverse problem definitions. Mudd Design Workshop, June 1-3, Claremont, CA.

PP.21. DALY, S.R., **MCKILLIGAN, S.** OSTROWSKI, A., & MURPHY, L. (2016). Tracing problem evolution and factors that impact problem shifts. 11th Design Thinking Research Symposium (DTRS), Copenhagen, Denmark.

PP.20. **YILMAZ, S.** & DALY, S.R. (2016, May) Doing cross-disciplinary work. Invited Panel Presentation, NSF Work Climate in Organizations Workshop: Multidisciplinary Perspectives on Innovation and Productivity, Penn State University, University Park, PA.

PP.19. VAUGHAN*, A., STUDER*, J.A. & **YILMAZ, S.** (2016, April) Heuristics used in problem exploration. Undergraduate Research Symposium, Iowa State University, Ames, IA.

PP.18. CREEGER*, S., LEAHY*, K. & **YILMAZ, S.** (2016, April) Comparison of heuristic-based strategies in problem solving. Undergraduate Research Symposium, Iowa State University, Ames, IA.

PP.17. BAKER*, I., SEVIER*, D., & **YILMAZ, S.** (2016, April) Impact of cognitive style on the use of Design Heuristics. Undergraduate Research Symposium, Iowa State University, Ames, IA.

PP.16. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., GONZALEZ, R., & GRAY*, C.M. (2015, June) Expanding evidence-based pedagogy with Design Heuristics. Poster presented at the NSF Grantees Poster Session as part of ASEE Annual Conference, Seattle, WA: ASEE.

PP.15. **YILMAZ, S.**, ROSENBERG*, M., DALY, S.R., JABLOKOW, K.W., SILK, E.M. & TEERLINK, W. (2015, June) Impact of problem contexts on the diversity of design solutions: An exploratory case study. Poster presented at the NSF Grantees Poster Session as part of ASEE Annual Conference, Seattle, WA: ASEE.

PP.14. DALY, S.R., **YILMAZ, S.**, JABLOKOW, K.W., SILK, E.M., TEERLINK, W., & WEHR*, C. (2015, May) The implications of ideation preferences for design thinking education. Poster presented at Mudd Design Workshop IX: Design Thinking in Design Education, Claremont, CA.

PP.13. **YILMAZ, S.**, DALY, S. R., & JABLOKOW, K.W. (2014, November) Researching ideation across disciplines and universities. Panel presented at the National Conference of The Alliance for the Arts in Research Universities, Ames, IA: A2RU.

PP.12. **YILMAZ, S.**, RINGHOLZ, D., SELEK, H., PRINDLE, W., MINA, M., & HEISE, J. (2014, November) Designing 'multidisciplinary design teaching'. Panel presented at the National Conference of The Alliance for the Arts in Research Universities, Ames, IA: A2RU.

PP.11. **YILMAZ, S.**, & DALY, S.R. (2014, October) Influences of feedback interventions on student concept generation and development practices. Paper presented at the Design Thinking Research Symposia, West Lafayette, IN: DTRS.

PP.10. **YILMAZ, S.** (2014, October) How do designers think? Panel presented at Center for Excellence in the Arts and Humanities (CEAH) Research Summit, Ames, IA.

PP.9. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2014, June) Design Heuristics as a tool to improve innovation. Poster presented at the NSF Grantees Poster Session as part of Annual Conference of American Society of Engineering Education, Indianapolis, IN: ASEE.

PP.8. **YILMAZ, S.**, DALY, S.R., JABLOKOW, K.W., SILK, E.M., & ROSENBERG*, M. (2014, June) Investigating impacts on the ideation flexibility of engineers. Poster presented at the NSF Grantees Poster Session as part of Annual Conference of American Society of Engineering Education, Indianapolis, IN: ASEE.

PP.7. DALY, S.R., & **YILMAZ, S.**, (2014, April) Using think-aloud verbal protocol methodology to explore engineering design ideation. Paper presented at the Symposium on Using Novel Research Methods to Understand Teaching and Learning in the Professions, Annual Meeting of American Education Research: AERA.

PP.6. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2013, September) Comparison of design approaches between engineers and industrial designers. Paper presented at the International Conference of Engineering and Product Design Education, Dublin, Ireland: EPDE.

PP.5. **YILMAZ, S.**, DALY, S.R., CHRISTIAN, J.L., SEIFERT, C.M., & GONZALEZ, R. (2012, May) How do Design Heuristics affect outcomes? Paper presented at the International Design Conference, pp. 1195-1204. Dubrovnik, Croatia: DESIGN.

PP.4. **YILMAZ, S.**, DALY, S.R., SEIFERT, C.M., & GONZALEZ, R. (2010, July) A comparison of cognitive heuristic use between engineers and industrial designers. Paper presented at the International Conference on Design Computing and Cognition, pp. 3-22, Stuttgart, Germany: DCC.

PP.3. **YILMAZ, S.**, SEIFERT, C.M., & GONZALEZ, R. (2010, July) Cognitive heuristics in design. In: J. S. Gero ed. Paper presented at the International Conference on Design Computing and Cognition: 35-54, Stuttgart, Germany: DCC.

PP.2. **YILMAZ, S.**, & SEIFERT, C.M. (2010, May) Cognitive heuristics in design ideation. Paper presented at the International Design Conference, pp. 1007-1016, Dubrovnik, Croatia: DESIGN.

PP.1. **YILMAZ, S.**, & SEIFERT, C.M. (2009, October) Cognitive heuristics employed by design experts: A case study. Paper presented at the Conference of International Association of Societies of Design Research, Seoul, South Korea: IASDR.

UNDERGRADUATE and GRADUATE STUDENT CONFERENCE PRESENTATIONS

SC.9. CONANT*, B., REYNOLDS*, K., FILA*, N., & **MCKILLIGAN, S.** (2018, April) Engineering students' perceptions on the impact and value of design thinking. Presented at the National Conference on Undergraduate Research, Oklahoma City, OK.

SC.8. ABRAMSKY*, S., FILA*, N., & **MCKILLIGAN, S.** (2018, April) How engineering educators use heuristics when redesigning a sophomore-level embedded systems course. Presented at the National Conference on Undergraduate Research, Oklahoma City, OK.

SC.7. KOCEK*, C., GUERIN*, K., FILA*, N., & **MCKILLIGAN, S.** (2018, April) Design thinking in engineering course design. Presented at the National Conference on Undergraduate Research, Oklahoma City, OK.

SC.6. AUSENHUS*, A., & **MCKILLIGAN, S.** (2018, April) Course design through multimodality and assessing the impacts on students with diverse learning styles. Presented at the Graduate and Professional Research Conference, Iowa State University, Ames, IA.

SC.5. CREEGER*, S., & **MCKILLIGAN, S.** (2018, April) Strategies to redefine the problem space for design innovation. Presented at the Graduate and Professional Research Conference, Iowa State University, Ames, IA.

SC.4. BAKER*, I., SEVIER*, D., & **MCKILLIGAN, S.** (2016, April) Investigating ideation flexibility through incremental to radical heuristics. Presented at the National Conference on Undergraduate Research, Asheville, NC.

SC.3. BAKER*, I., SEVIER*, D., & **MCKILLIGAN, S.** (2016, April) Impact of cognitive style on the use of Design Heuristics. Presented at the Undergraduate Research Symposium, Iowa State University, Ames, IA.

SC.2. VAUGHAN*, A., STUDER*, J.A., & **MCKILLIGAN, S.** (2015, April) Identifying problem exploration heuristics used in problem statements. Presented at the Undergraduate Research Symposium, Iowa State University, Ames, IA.

SC.1. CREEGER*, S., & **MCKILLIGAN, S.** (2015, April) Comparing heuristic-based ideation methods. Presented at the Undergraduate Research Symposium, Iowa State University, Ames, IA.

WORKSHOP ORGANIZATIONS

W.30. **Workshop Title:** *Measuring design cognition (committee member)*
Organizers: Laura Hay (University of Strathclyde), Alex Duffy (University of Strathclyde) and Philip Cash (Technical University of Denmark)
Design Computing and Cognition Conference.

W.29. **Workshop Title:** *Teach what you preach: transferring practice and skills from design of things to design of thinking, to change organizational cultures*
Co-organizers: Christine de Lille (TU Delft)
IDE Academy, TU Delft, Delft, the Netherlands (attendance: 50 graduate students in the Faculty of Industrial Design Engineering).

W.28. **Workshop Title:** *Introduction to Design Heuristics for Creative Idea Generation in K-12*
Co-organizers: Jaclyn Murray, Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), Annual ASEE K-12 Workshop, Columbus, OH (attendance: 8 faculty members, 30 high school teachers).

W.27. Workshop Title: *Incremental to radical idea generation: Using Ideation Flexibility Tools to support design success*
Co-organizers: Kathryn W. Jablokow (Penn State) and Shanna R. Daly (University of Michigan)
ASME International Design Engineering Technical Conferences (IDETC) and Computer and Information in Engineering Conference (CIE), Charlotte, NC, August 2016 (attendance: 34 faculty members).

W.26. Workshop Title: *First year engineering design idea generation with Design Heuristics*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
8th Annual First Year Engineering Experience Conference (FYEE), Columbus, OH, July 2016 (attendance: 40 faculty members from 35 institutions).

W.25. Workshop Title: *Capstone product design idea generation with Design Heuristics*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Capstone Conference, Columbus, OH, June 2016 (attendance: 91 faculty members from 42 institutions).

W.24. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), New Orleans, LA, June 2016 (attendance: 65 faculty members from 52 institutions and 20 different departments).

W.23. Workshop Title: *Using Design Heuristics for Creative Idea Generation in K-12 Engineering Design*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), Annual ASEE K-12 Workshop, New Orleans, LA, June 2016 (attendance: 58 teachers from 45 schools and 11 different disciplines).

W.22. Workshop Title: *Innovation and creativity in teams*
Co-organizers: Shanna R. Daly (University of Michigan)
NSF Work Climate in Organizations Workshop: Multidisciplinary Perspectives on Innovation and Productivity.
Penn State University, University Park, PA, in May 2016 (attendance: 28 faculty members from 14 institutions and 5 different departments).

W.21. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
ASME Student Professional Development Conference, Mankato, MN in April 2016 (attendance: 19 students from 7 institutions).

W.20. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Minnesota State University, Mankato, MN in April 2016 (attendance: 13 faculty members from 4 different departments).

W.19. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Olathe Northwest High School, Olathe, KS in April 2016 (attendance: 17 high school teachers from 10 departments).

W.18. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Harding University, Searcy, AR in March 2016 (attendance: 26 faculty members from 16 departments).

W.17. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Rowan University, Glassboro, NJ in February 2016 (attendance: 16 faculty members from 8 departments).

W.16. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Arizona State University, Tempe, AZ in February 2016 (attendance: 9 faculty members from 5 departments).

W.15. Workshop Title: *Teaching idea generation: How to use Design Heuristics in your courses*
Co-organizers: Keelin S. Leahy (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Iowa State University, Ames, IA in January 2016 (attendance: 22 faculty members from 11 departments).

W.14. Workshop Title: *Design Thinking: Define meaning, Refine values, and Reframe the vision*
Co-organizers: David Ringholz, Tejas Dhadphale, Verena Paepcke-Hjeltness (Iowa State)
Invited workshop for RDG Planning and Design Company, held in Nebraska City, NE in January 2016 (attendance: 21 executive board members).

W.13. Workshop Title: *Developing Ideation Flexibility at Your Institution: Co-Creation of the Ideation TRIO*
Co-organizers: Kathryn W. Jablokow (Penn State) and Shanna R. Daly (University of Michigan)
ASME International Design Engineering Technical Conferences (IDETC) and Computer and Information in Engineering Conference (CIE), held in Boston, MA in August 2015.

W.12. Workshop Title: *Building students' ideation ability through Design Heuristics*
Co-organizers: Colin M. Gray (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
LearnXDesign Conference, held in Chicago, IL in June 2015.

W.11. Workshop Title: *Transforming idea generation using Design Heuristics*
Co-organizers: Colin M. Gray (Iowa State), Shanna R. Daly and Colleen M. Seifert (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), held in Seattle, WA, in June 2015.

W.10. Workshop Title: *Design Thinking*
Co-organizers: Tejas Dhadphale and David Ringholz (Iowa State)
Invited Workshop, Annual Meeting of the Iowa State 4-H Youth Development Management Team, held in Ames, IA in May, 2015.

W.9. Workshop Title: *Taking a Creative Thinking Approach to Business*
Co-organizers: Tejas Dhadphale and David Ringholz (Iowa State)
Invited Workshop, Entrepreneurial Agribusiness Executive Conference, held in Ames, IA, in January 2015.

W.8. Workshop Title: *Ideation Flexibility*
Co-organizers: Kathryn W. Jablokow (Penn State) and Shanna R. Daly (University of Michigan)
ASME International Design Engineering Technical Conferences (IDETC) and Computer and Information in Engineering Conference (CIE), held in Buffalo, NY, in August, 2014.

W.7. Workshop Title: *Creative and diverse idea generation using Design Heuristics*
Co-organizers: Shanna R. Daly (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), held in Indianapolis, IN, in June 2014.

W.6. Workshop Title: *Design Thinking*
Co-organizers: David Ringholz (Iowa State)
Invited Workshop, College of Design Advancement Council Members, Iowa State University, held in Ames, IA, in April 2014 (attendance: 21 Advancement Council members)

W.5. Workshop Title: *Innovation*
Co-organizers: Erdem Selek, Hale Selek and David Ringholz (Iowa State)
College of Design, Iowa State University, held in Ames, IA, in January 2014 (attendance: 40 undergraduate students from 12 different disciplines, over three days)

W.4. Workshop Title: *Collaborative problem solving and ideation*
Co-organizers: Kathryn W. Jablokow (Penn State), Shanna R. Daly (University of Michigan) and Meisha Rosenberg (Iowa State)
Invited Workshop, American Packaging Corporation, held in Story City, IA, in October 2013.

W.3. Workshop Title: *Idea generation with 77 cards: Design Heuristics for inspiring ideas*
Co-organizers: Shanna R. Daly (University of Michigan)
Invited Workshop, University of Pittsburgh, held in Pittsburgh, PA, in October 2013.

W.2. **Workshop Title:** *Creative and diverse idea generation using Design Heuristics*
Co-organizers: Shanna R. Daly (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), held in Atlanta GA, in June 2013.

W.1. **Workshop Title:** *Creative and diverse idea generation using Design Heuristics*
Co-organizers: Shanna R. Daly (University of Michigan)
Annual Conference of American Society of Engineering Education (ASEE), held in San Antonio, TX, in June 2012.

GRANTS

G.12. Iowa State University: College of Human Sciences Innovative Teaching Initiatives grant
Design Thinking and Entrepreneurship in Learning Technologies
Investigators: Evrim Baran [SOE], Denise Crawford [SOE], Seda McKilligan [COD], Judi Eyles [BUS]
Period: 2019-2021
Amount: $20,000

G.11. National Science Foundation
IUSE/PFE: RED: Reinventing the Instructional and Departmental Enterprise (RIDE) to Advance the Professional Formation of Electrical and Computer Engineers
Investigators: David Jiles (PI), Sarah Rajala, Diane Rover, Mack Shelley, Joseph Zambreno, Seda Yilmaz, Brian Burt, Doug Jacobson, Mani Mina, Lisa Larson, Sarah Rodriquez
Period: 2016-2021
Amount: $1,999,869

G.10. Iowa State University: Foreign Travel Grant
Travel to Netherlands for Faculty Professional Development Assignment
The Study of Innovation Education: Impactful Feedback Framework
Period: 2016-2017
Amount: $1,500

G.9. National Science Foundation DUE – 1504028
IUSE: Collaborative Research: Tackling the 'Right' Problem: Investigating Cognitive Strategies Used in Understanding Engineering Problems
Investigators: Seda Yilmaz (PI)
Period: 2015-2019
Amount: $166,263 ($250,000 total across two institutions)

G.8. Center for e-Design
Supporting Innovative Ideation Behavior in Problem Exploration
Investigators: Seda Yilmaz (PI)
Period: 2015-2017
Amount: $70,000

G.7. National Science Foundation DUE – 1323251
TUES TYPE II: Collaborative Research: Evidence-based Pedagogy in Engineering Education: Design Heuristics for Concept Generation
Investigators: Seda Yilmaz (PI)
Period: 2013-2017
Amount: $403,924 ($600,000 total across two institutions)

G.6. National Science Foundation EEC – 1265018
REE: Collaborative Research: Investigating Impact on the Ideation Flexibility of Engineers
Investigators: Seda Yilmaz (PI)
Period: 2013-2018
Amount: $235,437 ($703,000 total across three institutions)

G.5. National Science Foundation IIP – 1238335
I/UCRC: Center for e-Design
Investigators: Janis Terpenny (PI), Seda Yilmaz
Period: 2012-2019
Amount: $849.242

G.4. National Science Foundation DUE – 1140256
TUES: Integrating Design Heuristics into Engineering Education as a Pedagogy for Ideation
Investigators: Shanna R. Daly (PI), Colleen M. Seifert, Seda Yilmaz, Richard Gonzalez
Period: 2012-2014
Amount: $199,778

G.3. P&G Higher Education Grant
Designing a Better World: Design Thinking to Tackle Complex Issues
Investigators: Seda Yilmaz (PI), David Ringholz
Period: 2012-2013
Amount: $6,800

G.2. Iowa State University: Vice President for Extension and Outreach Strategic Initiative
Pre-Collegiate Collaborative Innovation Workshops for Children with Cognitive Disabilities and their Neurologically Typical Peers for K-12 Audiences
Investigators: Debra Satterfield (PI), Seda Yilmaz, Sung Kang
Period: 2012-2013
Amount: $87,451

G.1. Iowa State University: Provost's Strategic Initiative
Interdisciplinary Design Education, Research and Engagement
Investigators: David Ringholz (PI), Judy Vance, Janis Terpenny, Seda Yilmaz
Period: 2012-2015
Amount: $1,521,500

INVITED LECTURES, SEMINARS AND PRESENTATIONS

Invited Panelist, July 2017
Association of Public and Land-grant University (APLU) Council on Research, New/Future VPR Workshop
"Bridging departmental cultures"
Reno, LV

Invited Guest Lecturer, May 2017
Mechanical Engineering, Clemson University
Advanced Methods for Engineering Design Research: Summer School ESD Research Methods for case study, protocol analysis and designer experiments
"Protocol Design, Analysis and Documentation"
Clemson, SC

Guest Speaker and Workshop Organizer, March 2017
Faculty of Industrial Design Engineering, TU Delft, Delft, Netherlands
Department of Product Innovation Management
IDE Academy course for the graduate students
"Teach what you preach: Design thinking workshop for designing the next generation design education with feedback from design industry"

Guest Speaker, January 2017
Faculty of Industrial Design Engineering, TU Delft, Delft, Netherlands
Department of Product Innovation Management research talk for faculty and graduate students
"Hows and Whys for fostering innovation"

Guest Lecturer, December 2016
Faculty of Industrial Design Engineering, TU Delft, Delft, Netherlands
Design Theory and Methodology course for the graduate students
"Design heuristics for inspiring ideas"

Invited Panel Presenter, May 2016
Penn State University, University Park, PA
NSF Work Climate in Organizations Workshop: Multidisciplinary Perspectives on Innovation and Productivity
"Doing cross-disciplinary work"

Guest Lecturer, January 2016
Department of Management Information Systems, Iowa State University, Ames, IA
"Design thinking"

Invited Radio Interview, October 2015
The Everyday Innovator – Resources for Product Managers, Developers, and Innovators.
"Use design heuristics to improve idea generation"
http://theeverydayinnovator.com/050

Invited Presenter, April 2014
President of Iowa State University, College of Design Dean's Advancement Council, and Department Chairs at the President's House, the Knoll, Ames, IA
"Design Thinking"

Guest Lecturer, October 2013
Department of Mechanical Engineering, Creativity and Imagination in Engineering Design Course, Iowa State University, Ames, IA.
"Cognitive diversity in engineering design"

Guest Lecturer, October 2012
Department of Mechanical Engineering, Creativity and Imagination in Engineering Design Course, Iowa State University, Ames, IA.
"Creative design strategies"

Colloquium Speaker, October 2012
Department of Industrial Design, Iowa State University, Ames, IA.
"Navigating graduate degree decisions"

Invited Presenter, April 2011
Presentation for Ignite Ames, Iowa State University, Ames, IA.
"Why study design"

Invited Presenter, February 2011
Presentation for Human Computer Interaction Graduate Program Open House, Iowa State University, Ames, IA.
"Design research"

Colloquium Speaker, October 2010
Human Computer Interaction Graduate Program, Iowa State University, Ames, IA.
"Design heuristics"

Colloquium Speaker, October 2009
International Conference of International Association of Societies of Design Research, Seoul, Korea: IASDR.
"Cognitive heuristics employed by designers"

Colloquium Speaker, February 2009
Department of Psychology, Decision Consortium, University of Michigan Ann Arbor, MI.
"Design cognition"

Invited Presenter, November 2008
National Science Foundation (NSF) Design Workshop: Design as a Discipline, University of Michigan, Ann Arbor, MI.
"Design heuristics and creativity"

PROFESSIONAL ASSOCIATIONS and SERVICE

The Way Up Conference
Planning Council member
For over thirty years, women in the State of Iowa have hosted The Way Up Conference to assist women in higher education institutions as they continue to develop their leadership and administrative skills and expertise. The conference has always been designed to provide value for presenters and participants as well as networking opportunities for all.

IowaWHE: Women's Network of Iowa
Board member
The Iowa Network for Women in Higher Education is part of the national network coordinated by the Inclusive Excellence Group of the American Council on Education (ACE). The ACE Women's Network facilitates the networking of women interested in pursuing leadership opportunities in higher education. The IOWAWHE Annual Leadership Conference brings women together from all corners of the state to network and discusses the issues facing leaders in higher education today.

The Design Science Journal ICED19 Selection Committee
Committee member
This award recognizes papers published in the ICED DS Proceedings that exhibit excellence in Design Science.

Associate Editor
Design Science Journal
Invited by Editors Panos Y. Papalambros and John Gero.
Responsibilities include assigning four reviewers, following up to obtain the reviews within three-week period, making decisions on to whether to ask the authors for major revisions or to recommend acceptance or rejection. The Editorial Board typically has 4 teleconferences per year to discuss the journal's direction.

Invited Co-Guest Editor
Design Science Journal
Thematic collection on "Understanding Design through Empirical Measurement"
Co-Guest Editors: Drs. Laura Hay, Department of Design, Manufacture and Engineering Management, Strathclyde University, Glasgow, and Phillip Cash, Department of Management Engineering, Technical University of Denmark

Conference Chapter Organizer
International Conference of Design Research Society (DRS), March 2016
Chapter Theme: Design thinking in industry and academia

Meeting Organizer
NSF I/UCRC Center for e-Design, April 2016
Industry Advisory Board Meeting, Chicago, IL
57 participants from 7 universities and over 30 companies

Founding Faculty Member
North American Chapter of the Design Society, 2015

Editorial Board Member
Design Science Journal, 2018-present
Journal of Art and Design Review, 2014-present

Advisory Board Member
International Conference on Design Creativity (ICDC), 2016, 2018
International Design Conference (DESIGN), 2014, 2016, 2018
International Conference on Design Computing and Cognition (DCC), 2014, 2016, 2018
International Conference of Engineering Design (ICED), 2013, 2015, 2017
Engineering and Product Design Education Conference (EPDE), 2014

Member
Design Society, 2015-present
Design Research Society, 2017-present
American Society of Engineering Education, 2011-present

REFEREE SERVICE

Funding Agency Panelist
National Science Foundation Panelist, 2012, 2015, 2016, 2017, 2018

Referee for Journal Articles
Design Science, 2015, 2016, 2017, 2018
Artificial Intelligence for Engineering Design, Analysis and Manufacturing, 2010, 2011
Design Studies, 2012, 2014, 2018
International Journal of Engineering Education, 2010, 2017
Journal of Engineering Design, 2013
Journal of Engineering Education, 2014, 2015, 2016
Journal of Mechanical Design, 2013, 2014, 2015, 2016, 2017, 2018
She Ji, 2017

Referee for Conference Proceedings
International Design Conference (DESIGN), 2012, 2014, 2016
International Conference on Design Cognition and Computing (DCC), 2012, 2014, 2016
International Conference of Design Research Society (DRS), 2010, 2012, 2014, 2016
Annual Conference of American Society of Engineering Education (ASEE), 2014, 2015, 2016, 2017, 2018
International Design Engineering Technical Conference and Computers and Information in Engineering Conference (ASME IDETC), 2012, 2014, 2015, 2016, 2017, 2018
International Conference on Engineering Design (ICED), 2013, 2015, 2017
International Conference of International Association of Societies of Design Research (IASDR), 2011, 2013, 2015, 2017
Design Thinking Research Symposia (DTRS), 2012, 2014, 2016
International Conference on Engineering and Product Design Education (EPDE), 2011, 2012, 2013, 2014

UNIVERSITY, COLLEGE and DEPARTMENT SERVICE

Search Committee

University: Director of Research Development, 2014
University: Associate Director of Center for e-Design, 2014
University: Vice President for Research, 2013
University: Administrative Executive, Center for e-Design, 2015- present
College: Graphic Design Faculty, 2012
Department: Industrial Design Faculty (Chair), 2012, 2014, 2016, 2018

Curriculum and Degree Planning Committee

University: Strategic Enrollment Management Steering Committee, 2019-current
University: Computer Curriculum Coordinating Committee, 2018-current
University: Associate Deans for Graduate Programs Committee, 2018-current
University: Council for International Programs, 2018-current
University: Associate Deans for Distance Education Committee, 2018-current
University: Undergraduate Programs Council, 2018-current
University: Student Innovation Center Academic Programming (Chair), 2018-current
University: Graduate Council, 2012-2013
University: Graduate Council ad-hoc Committee, 2015
University: Interdisciplinary Integrated Design Innovation PhD Curriculum Planning, 2012
College: Strategic Planning for Interdisciplinary Curriculum (Chair), 2018-current
College: Academic Affairs Council, 2014-2016
College: Master of Design in Sustainable Environments Curriculum Planning, 2012-2015
College: Liaison Council, 2013
College: Core Board Instructional Model Planning, 2010-2014
College: Bachelor of Design Curriculum Planning, 2012
Department: Director of Industrial Design Undergraduate Education, 2014- 2016
Department: Director of Industrial Design Graduate Education, 2017 Fall
Department: Industrial Design Curriculum Committee (Chair), 2014-2016

Review Committee

University: International Service Award Committee, 2019
University: Presidential Interdisciplinary Research Seed Grant Internal Review Committee, 2018
University: Miller Graduate Student Fellowship Awards, 2012
University: Center for Excellence in the Arts and Humanities (CEAH) Research Grants, 2012
College: Advancement, Promotion and Tenure Committee, 2017 – present (7 cases)
Department: Advancement, Promotion and Tenure Committee (Chair), 2017 – 2018 (3 cases)
Department: Industrial Design Chair Performance Review, 2014

Faculty Advisor

University: Undergraduate Student Research Conference, 2015, 2016, 2018
University: International Leadership Program, 2015
University: Undergraduate Research Assistantship Program, 2010-2018
University: Honors Program, 2010-2014
University: NSF REU Site, 2011
Department: Director of Graduate Education, 2017 (responsible for advising all MID students)

ADVISING

THESIS / DISSERTATION COMMITTEES

Yun Dong, Dissertation Committee Member, 2018-Present
Human Computer Interaction Graduate Program, Doctor of Philosophy
Thesis Title: *TBD*
Anticipated Graduation: August 2020

Priyankaa Krishnan, Thesis Committee Chair, 2018-Present
Department of Industrial Design, Master of Industrial Design
Thesis Title: *TBD*
Anticipated Graduation: August 2021

Alex Voitenko, Dissertation Committee Member, 2018-Present
Human Computer Interaction Graduate Program, Doctor of Philosophy
Thesis Title: *TBD*
Anticipated Graduation: August 2021

Samantha Creeger, Thesis Committee Chair, 2017-2019
Human Computer Interaction Graduate Program, Master of Science
Thesis Title: *Innovative design problem exploration*

Alex Ausenhus, Dissertation Committee Chair, 2017-Present
Human Computer Interaction Graduate Program, Doctor of Philosophy
Dissertation Title: *Impact of multimodal teaching on student learning*
Anticipated Graduation: August 2019

Alex Ausenhus, Thesis Committee Chair, 2017-Present
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Designing a User Experience Design course*
Anticipated Graduation: August 2019

Hye Jeong Park, Dissertation Committee Chair, 2016-Present
Human Computer Interaction Graduate Program, Doctor of Philosophy
Thesis Title: *Design thinking integration into Human Computer Interaction education*
Anticipated Graduation: May 2020

Daniel Sevier, Thesis Committee Member, 2015-Present
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Raise: Parental monitoring and facilitation of child visual-spatial development*

Jaryn A. Studer, Thesis Committee Chair, 2015-2017
Human Computer Interaction Graduate Program, Master of Science
Thesis Title: *Tackling the 'right' problem: Investigating cognitive strategies used in understanding design problems*
Current Position: UX Designer at Renaissance

Monica Amman, Thesis Committee Member, 2016-2017
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Transitions in the design process*

Nadia Jaramillo, Dissertation Committee Member, 2014-Present
Department of Curriculum and Instructional Technology, Doctor of Philosophy
Dissertation Title: *Examining the impact of technology-mediated oral communicative tasks on students' willingness to communicate and communicative performance*
Anticipated Graduation: May 2019

Qing Guo, Thesis Committee Member, 2015-2016
Human Computer Interaction Graduate Program, Master of Science
Thesis Title: *An icon preferences study on colors*
Current Position: UI/UX Designer, Suning International USA

Sang-Duck Seo, Dissertation Committee Member, 2014-2016
Human Computer Interaction Graduate Program, Doctor of Philosophy
Dissertation Title: *A study on interaction-driven comparison between analog and digital user centered design for gaming control interface on smartphone*
Current Position: Associate Professor, University of Nevada, Las Vegas

Asime Dika, Thesis Committee Member, 2014-2016
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Designing compact dishwashers*
Current Position: Designer at General Electrics

Linsey Croghan, Thesis Committee Member, 2014-2016
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Food waste management and composting*
Current Position: UX Design Lead, John Deere

Hye Jeong Park, Thesis Committee Member, 2014-2016
Department of Graphic Design, Master of Fine Arts
Thesis Title: *Service design elements in graphic design*
Current Position: PhD student in Human Computer Interaction at ISU

Matthew Darden, Dissertation Committee Member, 2013-2016
Department of Mechanical Engineering, Doctor of Philosophy
Dissertation Title: *Human perception of tactility*
Current Position: Quality assurance engineer, Lockheed Martin

Dan Neubauer, Thesis Committee Member, 2014-2015
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Need finding strategies employed by non-designers*
Current Position: Lecturer at Iowa State University

Meisha Rosenberg, Thesis Committee Member, 2013-2014
Department of Mechanical Engineering, Master of Science
Thesis Title: Exploring the role of large-scale immersive computing environments in design education
Current Position: User Experience Lead at 3M

Michael Tschampl, Thesis Committee Chair, 2011-2014
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Interaction design strategies for open-ended play*
Current position: Visual designer at Hach Company

Ellora Hans-Price, Thesis Committee Co-Chair, 2011-2015
Department of Industrial Design, Master of Industrial Design
Thesis Title: *Meeting Stockholm*
Current position: Packaging Designer at AERON Lifestyle Technology

Jinjuan She, Dissertation Committee Member, 2011-2014
Department of Mechanical Engineering, Doctor of Philosophy
Dissertation Title: *Creation and validation of design methods for increasing customer sustainability considerations*
Current position: Senior User Experience Specialist, MathWorks, MA

Christopher Miller, Thesis Committee Member, 2012-2013
Department of Mechanical Engineering, Master of Science
Thesis Title: *Innovation in engineering design*
Current position: Ph.D. student at Carnegie Mellon University

Patrick Finley, Thesis Committee Member, 2011-2013
Department of Graphic Design, Master of Fine Arts
Thesis Title: *Effectiveness of desktop websites to mobile websites conversions*
Current position: Assistant Professor in Graphic Design, at Oklahoma State University

UNDERGRADUATE ADVISEES

Undergraduate Research Assistant Advisees

Sadie Lewman, 2018
Junior in the Department of Industrial Design in 2018

Colette Kocek, 2017-2019
Junior in the Department of Industrial Design in 2017

Kelly Guerin, 2017-2019
Junior in the Department of Industrial Design in 2017

Kendall Reynolds, 2017-2019
Junior in the Department of Industrial Design in 2017

Blake Conant, 2017-2019
Junior in the Department of Industrial Design in 2017

Steven Abramsky, 2017-2018
Junior in the Department of Industrial Design in 2017

Melody Rausch, 2016-2017
Sophomore in the Department of Industrial Design in 2016

Dustin Heimer, 2016-2017
Sophomore in the Department of Industrial Design in 2016

Ian Baker, 2015-2017
Junior in the Department of Industrial Design in 2015
Current position: Design/Build Specialist at Flux Design

Justin Monaco, 2015-2016
Junior in the Department of Industrial Design in 2015
Current position: Industrial Designer at One3 Design, Inc.

Allie Vaughan, 2014-2016
Junior in the Department of Industrial Design in 2014
Current position: Product Designer at Tegu

Samantha Creeger, 2014-2016
Junior in the Department of Industrial Design in 2014
Current position: Graduate Student in Human Computer Interaction at ISU

Luigi Rausch, 2013-2015
Junior in the Department of Industrial Design in 2013
Current position: Industrial Designer at 21am, Milan, IT

Nicholas Holland, 2013-2015
Junior in the Department of Industrial Design in 2013
Current position: Co-founder, Pact

Taylor Allenback, 2013-2014
Junior in the Department of Industrial Design in 2013
Current position: Industrial designer at Paris Presents Inc.

Peter Ducato, 2012-2014
Junior in the Department of Industrial Design in 2012
Current position: Co-Founder, STEL Design

Adam MacDonald, 2013-2014
Senior in the Department of Industrial Design in 2013
Current position: Product Designer at TC&B Corporate Wearables, Inc.

Adam Anderson, 2013-2014
Senior in the Department of Industrial Design in 2013
Current position: UX Designer at Zulily

Paul Trieu, 2012-2013
Senior in the Department of Mechanical Engineering in 2012
Current position: Lead Engineer at Moxie Solar

Michael Kuiken, 2012-2013
Junior in the Department of Industrial Design in 2012
Current position: Industrial Designer at BUILT Design

Undergraduate Advisees. 64 students in the Class of 2017, 36 students in the Class of 2015, 2016.

First-Year Honors Mentor Program, Advisees. 4-5 freshmen students each year; from Mechanical Engineering, Pre-Architecture and Pre-Design.

National Science Foundation (NSF) Summer Program for Interdisciplinary Research and Education and Emerging Interface Technologies (SPRE-EIT), Co-Advisor.
Project Title: *Conceptual Design System*

POSTDOCTORAL RESEARCHERS

Nicholas Fila, 2017-present
Department of Industrial Design and Electrical and Computer Engineering, Iowa State University

Jaclyn Murray, 2016-2017
Department of Mechanical Engineering, University of Michigan

Keelin Leahy, 2015-2016
Department of Industrial Design, Iowa State University
Current Position: Associate Professor of Technology Education at University of Limerick

Colin M. Gray, 2014-2015
Department of Industrial Design, Iowa State University
Current Position: Assistant Professor of Computer Graphics Technology at Purdue University

UNDERGRADUATE STUDENT ACCOMPLISHMENTS

Guerin, K. (2019). "Discovering the role of empathy in a course redesign process". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). Kennesaw State University, Kennesaw, GA.

Kocek, C. (2019). "Prototyping the intangible: Exploring methods for prototyping during engineering course redesign". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). Kennesaw State University, Kennesaw, GA.

Reynolds, K. (2019). "Design Thinking Mindsets demonstrated by engineering students". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). Kennesaw State University, Kennesaw, GA.

Abramsky, S. (2018). "Instructional heuristics in innovative educational practices". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). University of Central Oklahoma, Edmond, OH.

Guerin, K. (2018). "The integration of design thinking in engineering course redesign". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). University of Central Oklahoma, Edmond, OH.

Reynolds, K. & Blake, C.B. (2018). "Engineering students' perceptions on the impact and value of design thinking". Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). University of Central Oklahoma, Edmond, OH.

Baker, I. (2017). "Integrating ideation flexibility through incremental to radical design heuristics. Selected for presentation at National Conference of Undergraduate Research (chosen from more than 4000 submissions). University of Memphis, Memphis, Tennessee.

TEACHING

CURRICULUM DEVELOPMENT

IndD 231, Introduction to Industrial Design: This required course covers the history, definition, scope and basic principles of industrial design. Through a series of lectures, discussions and projects, students learn basic tools and techniques for supporting industrial design activity, including, research, idea generation, and visual communication. It is the first course students take within the Industrial Design department, right after they fulfill their requirements for the CORE program as a freshman. This course serves as an initial exposure to the profession and practice of industrial design by covering topics, such as design communication, universal design, product branding, emotional design, and sustainable design.

IndD232, Creative Thinking: This is a required course for both Industrial Design students and Bachelor of Design students. It focuses on enhancing group and individual creativity and developing problem solving skills. Through diverse activities, students learn how to break out of fixation, redefine design problems, and apply creative thinking within their work. A variety of idea generation techniques are explored, and idea searching processes are introduced. The topics also include theory of creativity and cognition, creative person, process, product and press described with case studies.

IndD332, Design Research Methods: This required course surveys both qualitative and quantitative research methods, with an emphasis on data collection, analysis, synthesis, and visualization, as factors in the design process. Research methods commonly used by sociologists, psychologists and anthropologists can be adapted for use in the design process. This course explores different types of research, tools, procedures and data analysis methods that are commonly used in design. In both Fall 2012 and Fall 2013, students worked with Allsteel Office Furniture Company, exploring issues related to company spaces, such as café, classroom and training, and private office. These issues were then embedded in the Junior Studio course as design problems. In Fall 2014, student teams worked with Tupperware Corp. to gather insights for millennium eating habits and the future of food consumption.

ONLINE COURSE DEVELOPMENT

DALY, S.R., GONZALEZ, R., GRAY*, C.M., LEAHY, K., MCKILLIGAN, S., & SEIFERT, C.M. (2015, Sept). Cultivating Innovation in Your STEM Classroom with Design Heuristics. C2GEN Chautauqua Project, Professional Development Online Short Course Series, NSF. (Authors in alphabetical order).

IndD532, Design Thinking Methods: This graduate-level elective course is designed to be delivered 100% online and focuses on design thinking as a problem-solving and a decision-making approach with a unique set of qualities: it is human-centered, possibility-driven, option-focused and iterative. Design thinking emphasizes the importance of deep exploration into the lives and problems of the people we want to improve. It facilitates reframing our definition of the problem and engages stakeholders in co-creation practices. This course aims to teach students to be design thinkers who apply this problem finding and solving process to a wide variety of problems. Students will be exposed to the definitions, tools, practices, mindsets and theory of Design Thinking, with an emphasis on both practical and theoretical applications. This course is student-driven and focuses on exploration, questioning, critical

thinking and reflection. Collaborative learning and diverse expertise are at the core of this course however will be practiced based on the student body.

COURSES TAUGHT

Term	Course #	Course Title	Cr	Size
Fall 2018	IndD 532	Design Thinking	3	18
Fall 2017	IndD 301	Junior Studio	6	19
Fall 2015	IndD 301	Junior Studio	6	15
Fall 2015	IndD 332/IndD 631	Design Research Methods	3	72
Spring 2015	IndD 502	Graduate Studio Intensive II (co-taught)	6	9
Fall 2014	IndD 301	Junior Studio with Tupperware	6	20
Fall 2014	IndD 332	Design Research Methods	3	39
Spring 2014	IndD 232/DES 230	Creative Thinking/Design Thinking	3	55
Spring 2014	IndD 507	Sponsored Studio with Boeing	6	28
Fall 2013	IndD 301	Junior Studio with Allsteel	6	16
Fall 2013	IndD 332	Design Research Methods	3	34
Fall 2012	IndD 231	Introduction to Industrial Design	3	37
Fall 2012	IndD 332	Design Research Methods	3	32
Spring 2012	IndD 232/DES 230	Creative Thinking/Design Thinking	3	54
Spring 2012	IndD 502	Graduate Studio Intensive II	6	8
Fall 2011	IndD 231	Introduction to Industrial Design	3	35
Fall 2011	IndD 332	Design Research Methods	3	19
Spring 2011	IndD 232	Creative Thinking	3	19
Fall 2010	IndD 231	Introduction to Industrial Design	3	20