

**KATHERINE FU
ASSISTANT PROFESSOR
MECHANICAL ENGINEERING**

MAY 14, 2020

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KATHERINE FU
ASSISTANT PROFESSOR
MECHANICAL ENGINEERING

I. EARNED DEGREES

Degree	Major	School	Date
Ph.D.	Mechanical Engineering	Carnegie Mellon University	May 2012
M. Sc.	Mechanical Engineering	Carnegie Mellon University	May 2009
B. Sc.	Mechanical Engineering	Brown University	May 2007

II. EMPLOYMENT HISTORY

Job Title	Organization Name	From Date	To Date
Assistant Professor	Mechanical Engineering, Georgia Inst. of Technology (70% from 2014 – 2017, 100% from 2017 – present)	Nov 2014	present
Assistant Professor	Industrial Design (30%), Georgia Inst. of Technology	Nov 2014	May 2017
Postdoctoral Fellow	Singapore University of Technology and Design	Sep 2013	Aug 2014
Postdoctoral Fellow	Massachusetts Institute of Technology	Sep 2012	Aug 2013

III. HONORS AND AWARDS

International or National Awards

Award	Organization/Location	Date
ASME Design Theory and Methodology Young Investigator Award	ASME, New York, NY	Apr 2020
National Science Foundation (NSF) CAREER Award	NSF, Alexandria, VA	Aug 2019
ASME Journal of Mechanical Design 2018 Reviewer of the Year Award	ASME, New York, NY	Jan 2019
ASME Atlanta Section 2015 Early Career Engineer of the Year	ASME, Atlanta, GA	Jan 2015
ASME Design Engineering Division Design Education Committee (DEC) – Certificate of Appreciation for Service to Coordinate and Conduct the Junior Girl Scout Workshop on Mechanical and Design Engineering	ASME, New York, NY	Aug 2015
Reviewer’s Favourite Award – International Conference on Engineering Design 2013	Design Society, Copenhagen, DK	Jan 2013
Best Design Cognition Paper Prize – Design Computing and Cognition Conference (DCC)	Texas A&M University, College Station, Texas USA	Jan 2012
Best Paper Award, 2012 ASME Design Theory and Methodology (DTM) Conference	ASME, New York, NY	Jan 2012
Achievement Rewards For College Scientists (ARCS) Foundation Scholar	ARCS, Pittsburgh, PA	Sep 2007

Institute or School Awards

Award	Organization/Location	Date
GT Class of 1934 Outstanding Service Award	Georgia Institute of Technology	Apr 2020
GT LGBTQIA Faculty/Staff Leadership Award	Georgia Institute of Technology	Apr 2019
GT CTL Thank a Teacher Award (2)	Georgia Institute of Technology	Dec 2018
GT Diversity Champion 2018 Faculty Award Winner	Georgia Institute of Technology	Sep 2018
GT GWW Teaching Fellow	Georgia Institute of Technology	Aug 2016
GT CTL Class of 1969 Teaching Fellow	Georgia Institute of Technology	Aug 2015
John and Claire Bertucci Graduate Fellowship	Carnegie Mellon University, Pittsburgh, PA	Sep 2010

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

A. PUBLISHED BOOKS, BOOK CHAPTERS, AND EDITED VOLUMES

A1. Books

No data.

A2. Refereed Book Chapters

[A2.1] *Fu, K., Schunn, C.D., 2016, Open Innovation through Strategic Design-by-Analogy. Markman A, *Open Innovation: Academic and Practical Perspectives on the Journey from Idea to Market*, Oxford University Press.

A3. Edited Volumes

No data.

B. REFEREED PUBLICATIONS AND SUBMITTED ARTICLES

B1. Published and Accepted Journal Articles

[B1.19] *Song, H., Evans, J., Fu, K., "An Exploration-Based Approach to Computationally Supported Design-by-Analogy using D3", *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, (in press), April 2020.

[B1.18] *Filligim, K.B., Shapiro, H., Paredis, C.J., Fu, K., "Process Heuristics: Extraction, Analysis, and Repository Considerations", *IEEE Systems Journal*, pp. 1-12, doi: 10.1109/JSYST.2019.2959538.

[B1.17] *Filligim, K.B., Nwaeri, R., Borja, F., Fu, K., Paredis, C.J., 2019. "Design Heuristics: Extraction and Classification Methods with Jet Propulsion Laboratory's Architecture Team", *ASME Journal of Mechanical Design*, pp.1-48, doi:10.1115/1.4044160.

[B1.16] *Fu, K., Sylcott, B., Das, K., "Using fMRI to Deepen our Understanding of Design Fixation", *Design Science Journal*, 5, 2019.

[B1.15] *Bonilla-Alicea, R.J. and Fu, K., 2019, "Systematic Map of the Social Impact Assessment Field", *Sustainability*, 11(15), p.4106.

[B1.14] *Song, H., Fu, K., 2019, "Design-by-Analogy: Exploring for Analogical Inspiration With Behavior, Material, and Component-Based Structural Representation of Patent Databases", *ASME Journal of Computing and Information Science in Engineering*, 19(2), p.021014.

- [B1.13] *Newton, S., Alemdar, M., Hilton, E., Linsey, J., Fu, K., 2018, "Incorporating Industrial Design Pedagogy into a Mechanical Engineering Graphics Course: A Discipline-Based Education Research (DBER) Approach," *International Journal of STEM Education*, 5: 29. <https://doi.org/10.1186/s40594-018-0122-7>.
- [B1.12] ***Song, H.-I.**, Lopez, R., Linsey, J. S., Fu, K., 2018, "Characterizing the Effects of Multiple Analogues and Extraneous Information in Design-by-Analogy," *ASME Journal of Mechanical Design*, 140(3):031101-031101-13. doi:10.1115/1.4038565.
- [B1.11] *Kirkman, R., Fu, K., **Lee, B.**, 2017, "Teaching Ethics as Design," *Advances in Engineering Education*, v6 n2, Fall 2017.
- [B1.10] Fu, K., Yang, M., and Wood, K. L., 2016, "Design Principles: Literature Review, Analysis, and Future Directions," *ASME Journal of Mechanical Design*, Special Issue in Design Theory and Methodology, 138(10):101103-101103-13, DOI: 10.1115/1.4034105.
- [B1.9] Fu, K., Murphy, J., Yang, M., Otto, K., Jensen, D., Wood, K.L., 2014, "Design-by-Analogy: Experimental Evaluation of a Functional Analogy Search Methodology for Concept Generation Improvement," *Research in Engineering Design*, DOI: 10.1007/s00163-014-0186-4.
- [B1.8] Fu, K., Moreno, D., Yang, M. C., Wood, K. L., 2014, "Bio-Inspired Design: An Overview Investigating Open Questions from the Broader Field of Design-by-Analogy," *ASME Journal of Mechanical Design, Special Issue 2014: Biologically Inspired Design*, 136(11), 111102, DOI: 10.1115/1.4028289
- [B1.7] Murphy, J., Fu, K., Otto, K., Yang, M., Jensen, D., Wood, K., 2014, "Function Based Design-by-Analogy: A Functional Vector Approach to Analogical Search," *ASME Journal of Mechanical Design*, 136(10) 101102, DOI: 10.1115/1.4028093.
- [B1.6] Fu, K., Chan, J., Schunn, C., Cagan, J., and Kotovsky, K., 2013, "Expert Representation of Design Repository Space: A Comparison to and Validation of Algorithmic Output," *Design Studies*, 34(6), 729-762, DOI: 10.1016/j.destud.2013.06.002.
- [B1.5] Fu, K., Cagan, J., Kotovsky, K., and Wood, K., 2013, "Discovering Structure In Design Databases Through Functional And Surface Based Mapping," *ASME Journal of Mechanical Design*, 135 (3), 031006.
- [B1.4] Fu, K., Chan, J., Cagan, J., Kotovsky, K., Schunn, C., and Wood, K., 2013, "The Meaning of "Near" and "Far": The Impact of Structuring Design Databases and the Effect of Distance of Analogy on Design Output," *ASME Journal of Mechanical Design*, 135 (2), 021007.
- [B1.3] Chan, J., Fu, K., Schunn, C., Cagan, J., Wood, K., and Kotovsky, K., 2011, "On the Benefits and Pitfalls of Analogies for Innovative Design: Ideation Performance Based on Analogical Distance, Commonness, and Modality of Examples," *ASME Journal of Mechanical Design*, 133 (8), 081004.
- [B1.2] Fu, K., Cagan, J., and Kotovsky, K., 2010, "Design Team Convergence: The Influence of Example Solution Quality," *ASME Journal of Mechanical Design*, 132 (11), 111005.
- [B1.1] Linsey, J.S., Tseng, I., Fu, K., Cagan, J., Wood, K. L., and Schunn, C. D., 2010, "A Study of Design Fixation, Its Mitigation and Perception in Design Faculty," *ASME Journal of Mechanical Design*, 132 (4), 041003.

B2. Conference Presentation with Proceedings (Refereed)

- [B2.23] *De Vries, C., Fu, K., Starkey, E., Toh, C., Damen, N., Joshi, S., Sylcott, B., Jacobson, K., 2020, "Broadening Participation: Over Ten Years of Outreach within the IDETC DED Community," ASME International Design Engineering Technical Conferences, *Design Education Conference*, (in press).

- [B2.22] ***Filligim, K.B., Nwaeri, R., Borja, F., Fu, K.**, Paredis, C.J., 2018, "Design Heuristics: Analysis and Synthesis From Jet Propulsion Laboratory's Architecture Team," *ASME International Design Engineering Technical Conferences, Volume 7: 30th International Conference on Design Theory and Methodology*, doi:10.1115/DETC2018-85584.
- [B2.21] ***Song H., Fu, K.**, 2018, "Approaches for Supporting Exploration for Analogical Inspiration With Behavior, Material and Component Based Structural Representations of Patent Databases," *ASME International Design Engineering Technical Conferences, Volume 2A: 44th Design Automation Conference*, doi:10.1115/DETC2018-85591.
- [B2.20] ***Filligim, K., Lee, B.**, Binder, W., **Fu, K.**, Paredis, C., 2017, "Design Heuristics: A Conceptual Framework and Preliminary Method for Discovery," *ASME International Design Engineering Technical Conferences 2017*, Cleveland, OH.
- [B2.19] ***Stewart, M., Fu, K.**, de Vries, C. M., Jacobson, L., Nagel, J. K., Jacobson, K., Hughes, A. M., 2017, "Engagement in Practice: A Process for Creating a New "Council's Own" Junior Girl Scout Badge in Mechanical Engineering," *America Society for Engineering Education Annual Conference*, Columbus, OH.
- [B2.18] ***Paige, M., Fu, K.**, 2017, "Spatial Demonstration Tools for Teaching Geometric Dimensioning and Tolerancing (GD&T) to First Year Undergraduate Engineering Students", *America Society for Engineering Education Annual Conference*, Columbus, OH.
- [B2.17] ***Broussard, K., Murphy, L., Fu, K.**, 2017, "A Descriptive Study of the Effect of K-12 Design Education on Changes in Self-Esteem," *International Conference on Engineering Design*, Vancouver, Canada.
- [B2.16] ***Hebbale, C.** and **Fu, K.**, "Wearable On-Demand Oxygen Therapy," IDETC2016-59199, *ASME International Design Engineering Technical Conferences 2016*, Charlotte, NC, Aug 21-24, 2016.
- [B2.15] ***Cvitanic, T., Lee, B., Song, H.I., Fu, K.**, and Rosen, D., "LDA v. LSA: A Comparison of Two Computational Text Analysis Tools for the Functional Categorization of Patents," *Computational Analogy for the 2016 International Conference on Case-Based Reasoning (ICCBR-16)*, Atlanta, GA, October 31- November 2, 2016.
- [B2.14] ***Fu, K.**, Yang, M., Wood, K.L., 2015, "Design Principles: The foundation of Design", *Proceedings of the ASME 2015 International Design Engineering Technical Conferences*, August 2-5, 2015, Boston, MA.
- [B2.13] ***Fu, K.**, Tan, U., Teo, T. H., Soh, G. S., Wood, K. L., "Interdisciplinary Learning Through Design Activities Uniting Fundamentals of Engineering Curriculum", *Proceedings of the International Conference on Engineering Design*, July 27-30, 2015, Milan, Italy.
- [B2.12] **Murphy, J., Fu, K.**, Otto, K., Yang, M., Jensen, D., Wood, K.L., 2014, "Facilitating Design-by-Analogy: Development of a Complete Functional Vocabulary and Functional Vector Approach to Analogical Search", *Proceedings of the ASME 2014 International Design Engineering Technical Conferences*, August 17-20, 2014, Buffalo, NY.
- [B2.11] **Fu, K.**, **Murphy, J.**, Yang, M., Otto, K., Jensen, D., Wood, K.L., 2013, "Investigating the Effect of Functionality Level of Analogical Stimulation on Design Outcomes", *Proceedings of The 13th Design Engineering Workshop*, November 28 - 30, 2013, Kitakyushu, Fukuoka, Japan.
- [B2.10] **Fu, K.**, Reid, T.N., Terpenney, J.P., Thurston, D.L., Vance, J.M., Finger, S., Wiens, G.J., Kazerounian, K., Allen, J.K., Jacobson, K., 2013, "AC 2013 - 6781: Broadening Participation: A Report On A Series Of Workshops Aimed At Building Community And Increasing The Number Of Women And Minorities In Engineering Design," *Proceedings of the America Society for Engineering Education Annual Conference*, June 23-26, Atlanta, Georgia.

- [B2.9] Fu, K., Chan, J., Schunn, C., Cagan, J., Kotovsky, K., 2013, “Substantiating the Basis for an Automated Design-by-Analogy Tool through Comparison to Expert Thinking,” *Proceedings of the ASME 2013 International Design Engineering Technical Conferences*, August 4-7, 2013, Portland, Oregon.
- [B2.8] Fu, K., Dilmore, J., Cagan, J., Dougherty Jr., C.H., 2013, “Using Design Database Structures to Characterize Freedom-to-operate in a Design Space: A Legal Case Study,” *Proceedings of the International Conference on Engineering Design*, August 19-22, 2013, Seoul, South Korea.
- [B2.7] Fu, K., Chan, J., Cagan, J., Kotovsky, K., Schunn, C., and Wood, K., 2012, “The Meaning of “Near” and “Far”: The Impact of Structuring Design Databases and the Effect of Distance of Analogy on Design Output,” *Proceedings of the ASME International Design Engineering Technical Conferences*, Chicago, IL.
- [B2.6] Wood, M., Chen, P., Fu, K., Cagan, J., and Kotovsky, K., 2012, "The Role of Design Team Structure on Individual and Shared Mental Models," *Proceedings of the Conference on Design Computing and Cognition*, College Station, TX.
- [B2.5] Chan, J., Fu, K., Schunn, C., Cagan, J., Wood, K., and Kotovsky, K., 2011, “On the Benefits and Pitfalls of Analogies for Innovative Design: Ideation Performance Based on Analogical Distance, Commonness, and Modality of Examples,” *Proceedings of the 2011 International Conference on Engineering Design*, Copenhagen, Denmark.
- [B2.4] Fu, K., Cagan, J., Kotovsky, K., 2011, “A Methodology for Discovering Structure in Design Databases,” *Proceedings of the 2011 International Conference on Engineering Design*, Copenhagen, Denmark.
- [B2.3] Fu, K., Cagan, J., Kotovsky, K., and Wood, K., 2011, “Discovering Structure In Design Databases Through Functional And Surface Based Mapping,” *Proceedings of the ASME International Design Engineering Technical Conferences*, Washington, D.C.
- [B2.2] Fu, K., Cagan, J., and Kotovsky, K., 2009, “Design Team Convergence: The Influence of Example Solution Quality,” *Proceedings of the ASME International Design Engineering Technical Conferences*, San Diego, CA.
- [B2.1] Linsey, J.S., Tseng, I., Fu, K., Cagan, J., and Wood, K. L., 2009, “Reducing and Perceiving Design Fixation: Initial Results from an NSF-Sponsored Workshop,” *Proceedings of the 2009 International Conference on Engineering Design*, Stanford, CA.

B3. Other Refereed Material

No data.

B4. Submitted Journal Articles (with date of submission)

- [B4.6] ***Bonilla-Alicea, R.**, Fu, K., “Social Life Cycle Assessment (S-LCA) of Residential Rooftop Solar Panels Using Challenge-Derived Framework”, Submitted to *The International Journal of Life Cycle Assessment*, April 2020, Under Review.
- [B4.5] *Murphy, A.R., Floresca, E.A., Fu, K., Linsey, J.S., “Comparing Parallel and Iterative Strategies for Physical Prototyping in Engineering Design”, Submitted to *ASME Journal of Mechanical Design*, April 2020, Under Review.
- [B4.4] ***Bonilla-Alicea, R.**, Fu, K., “Evaluation of a Challenge-Derived Social Lifecycle Assessment (S-LCA) Framework”, Submitted to *The International Journal of Life Cycle Assessment*, April 2020, Under Review.

- [B4.3] ***Filligim, K.B., Nwaeri, R.O.**, Paredis, C.J., Rosen, D., Fu, K., “Examining the Effect of Design for Additive Manufacturing Rule Presentation on Part Redesign Quality”, Submitted to the *Journal of Engineering Design*, June 2019, Under Review.
- [B4.2] ***Paige, M.A., Filligim, K.B., Murphy, A.R., Song, H., Reichling, C.J., Fu, K.**,”Examining the Effects of Mood and Intuition on Design Outcomes”, Submitted to *International Journal of Design Creativity and Innovation*, June 2019, Under Review.
- [B4.1] ***Filligim, K.B., Shapiro, H., Reichling, C.J., Fu, K.**, “The Effect of Physical Activity through Virtual Reality on Design Creativity”, Submitted to *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, Dec 2019, Under Review.

C. OTHER PUBLICATIONS AND CREATIVE PRODUCTS

C1. Patents

- [C1.1] Cheung, T; Fu, K; Jura, J; Kaushal, N; Sato, G; Theis, P. U.S. Patent No. 8096599. *Stowable Table Unit System for a Vehicle*. 2012. Washington DC: U.S. Assignee: International Truck Intellectual Property Company, LLC.

D. PRESENTATIONS

D1. Invited Conference and Workshop Presentations

- [D1.10]**Lightening Talk*, **Filligim, K.B., Fu, K.**, “Framework for the Evolution of Heuristics in Advanced Manufacturing”, Invited for ASME 2020 International Design Engineering Technical Conferences, St. Louis, MO, August 16-19, 2020.
- [D1.9] **Plenary Talk and Workshop*, Fu, K., “Design by Analogy Workshop”, HUE Design Summit, Atlanta, GA, July 26, 2019.
- [D1.8] **Invited Keynote Panel*, Fu, K., “New Perspectives on Leadership in Engineering Design”, ASME Design Education Committee, International Design Engineering Technical Conferences, Anaheim, CA, August 19, 2019.
- [D1.7] **Invited Keynote Panel*, Fu, K., “What I Wish I Knew My First Year of Teaching - Engaging Students in Design”, ASME Design Education Committee, International Design Engineering Technical Conferences, Anaheim, CA, August 19, 2019.
- [D1.6] **Plenary Talk*, Filligim, K., Nwaeri, R., Fu, K., Paredis, C. J., Rosen, D., “Examining the Effect of DFAM Design Rule Presentation on Part Redesign Quality”, Solid Freeform Fabrication Symposium, Austin, Texas, August 13, 2018.
- [D1.5] **Invited Workshop*, Fu, K., “Thinking about Graduate School and a Career in Academia,” SWE Region D Conference, Georgia Institute of Technology, March 11, 2017.
- [D1.4] **Invited Workshop*, Kirkman, R., Fu, K., Lee, B. “Teaching Ethics as Design,” Workshop on Original Policy Research, Georgia Institute of Technology, March 3, 2017.
- [D1.3] **Invited Poster Presentation*, Kirkman, R., Fu, K., Potts, C., “Ethics in Design Practice: Integrating Ethics Education into Engineering Capstone Courses,” Poster Presentation, National Academy of Engineering 2017 Center for Engineering Ethics and Society, Workshop on Overcoming Challenges to Infusing Ethics into Engineering, January 10-12, 2017, National Academy of Engineering, Washington, D.C.
- [D1.2] **Invited Expert Discussion Panelist*, Fu, K., Computational Analogy for the 2016 International Conference on Case-Based Reasoning (ICCBR-16), Atlanta, GA, October 31- November 2, 2016

- [D1.1] *Invited Poster Presentation, Fu, K., “Ethics in Design Practice: Integrating Ethics Education into Engineering Capstone Courses,” National Academy of Engineering 2016 Frontiers of Engineering Education, Sept. 25-28, 2016, National Academies Beckman Center, Irvine, CA

D2. Conference and Workshop Presentations

- [D2.2] *Poster Presentation, Fu, K., Sylcott, B., **Hao, Y.**, 2016, CABI Callosum Conference, “Design Fixation: What Can the Brain Tell Us?” April 2016, Georgia State University/Georgia Tech Center for Advanced Brain Imaging, Atlanta, GA
- [D2.1] *Workshop Co-Leader, Fu, K., Kirkman, R., 17th International Conference on Ethics Across the Curriculum, Integrating ethics into design curriculum for feedback on new course development, Fall 2015

D3. Invited Seminar Presentations

- [D3.11] *Principles and Heuristics in Engineering Design Professional Practice, Education, and Beyond, Massachusetts Institute of Technology, Cambridge, MA, November 4, 2019
- [D3.10] *Principles and Heuristics in Engineering Design Professional Practice, Education, and Beyond, University of Michigan, Ann Arbor, MI, October 2019
- [D3.9] *Principles and Heuristics in Engineering Design Professional Practice, Education, and Beyond, Clemson University, Clemson, SC, February 2019
- [D3.8] *Principles and Heuristics in Engineering Design Professional Practice, Education, and Beyond, Oak Ridge National Laboratory, Oak Ridge, TN, April 2019.
- [D3.7] *National Science Foundation Circle of Design Workshop, Purdue University, West Lafayette, IN, Oct 2019
- [D3.6] *Principles and Heuristics in Engineering Design Professional Practice, Education, and Beyond, Pennsylvania State University, State College, PA, Oct 2018
- [D3.5] *Understanding the Role of Design Heuristics in Complex Systems Design at Jet Propulsion Laboratory, Jet Propulsion Lab., Pasadena, CA, May 2018
- [D3.4] *Discovering and Exploring Structure in Design Databases and Its Role in Stimulating Design-by-Analogy, UC Berkeley, Berkeley, CA, March 2017
- [D3.3] *Discovering and Exploring Structure in Design Databases and Its Role in Stimulating Design-by-Analogy, University of Maryland College Park, College Park, MD, Oct 2016
- [D3.2] *Supporting Innovation through Patent-based Design-by-Analogy, Intellectual Ventures Laboratory, Bellevue, WA, May 2016
- [D3.1] *Discovering and Exploring Structure in Design Databases and Its Role in Stimulating Design-by-Analogy, Univ. of Texas at Austin, May 2016

D4. Other Presentations

- [D4.12] *Human Factors and Industrial Design*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Jan 22, 2020
- [D4.11] *Idea Generation*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Jan 13, 2020
- [D4.10] *Human Factors and Industrial Design*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Monday, August 26, 2019
- [D4.9] *Building a Research Lab*, Fu, K., Future Faculty – Are you thinking of becoming an academic? Course, Georgia Institute of Technology, Monday, October 28, 2019.
- [D4.8] *Customer Needs*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Jan 15, 2019

- [D4.7] *Human Factors and Industrial Design*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Tuesday, Jan 17, 2019
- [D4.6] *Human Factors and Industrial Design*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Tuesday, August 30, 2018
- [D4.5] *Human Factors and Industrial Design*, Fu, K., Senior Capstone Design, Georgia Institute of Technology, Tuesday, Jan 17, 2017
- [D4.4] **Poster Presentation*, Fu, K., CETL Celebrating Teaching Day, *Design Ethics: A New Course at GaTech*, March 15, 2016
- [D4.3] **Invited Speaker*, Fu, K., GWW School of Mechanical Engineering Gold Carpet Day, "Understanding Engineering, Design, and Innovation through Research at Georgia Tech," April 15, 2016
- [D4.2] **Invited Speaker*, Fu, K., School of Industrial Design Gold Carpet Day, "Understanding Engineering, Design, and Innovation through Research at Georgia Tech," April 15, 2016
- [D4.1] **Guest Lecture on Design Research*, Fu, K., Invited 2015 Guest lecture to David Ku's Class, ME 3141, "Cutting Edge Technologies"

E. GRANTS AND CONTRACTS

Total Funds Awarded to Candidate as PI: \$1,312,419
 Total Funds Awarded to Candidate as Co-PI: \$1,614,708

E1. As Principal Investigator

- [E1.11] Title of Project: Supplemental NSF Research Experience for Undergraduates (REU): CAREER: Characterizing Cognitive Bias in Design - A Path to Better Design
 Agency/Company: National Science Foundation – Engineering Design and Systems Engineering
 Total Dollar Amount: \$16,000
 Role: PI
 Collaborators: None
 Period of Contract: 1/24/2020-1/23/2021
 Candidate's Share: 100% (\$16,000)

- [E1.10] Title of Project: CAREER: Characterizing Cognitive Bias in Design - A Path to Better Design
 Agency/Company: National Science Foundation – Engineering Design and Systems Engineering
 Total Dollar Amount: \$500,000
 Role: PI
 Collaborators: None
 Period of Contract: 9/1/2019-8/31/2024
 Candidate's Share: 100% (\$500,000)

- [E1.9] Title of Project: Supplemental NSF Research Experience for Undergraduates (REU): Theoretical Foundation for the Use of Approximations and Heuristics in Systems Engineering and Design
 Agency/Company: National Science Foundation – Engineering Design and Systems Engineering
 Total Dollar Amount: \$32,000
 Role: PI
 Collaborators: None
 Period of Contract: 2/1/2016-2/1/2019
 Candidate's Share: 100% (\$48,000)

- [E1.8] Title of Project: Understanding the Role of Design Heuristics in Complex Systems Design at Jet Propulsion Laboratory (JPL)
 Agency/Company: Georgia Institute of Technology CSTAR Summer Fellowship
 Total Dollar Amount: \$24,982
 Role: PI
 Collaborators: None.
 Period of Contract: 05/01/2017-06/30/2020
 Candidate's Share: 100% (\$24,982)
- [E1.7] Title of Project: Exploring for Design Inspiration: A Probabilistic Visual Approach to Design by Analogy
 Agency/Company: National Science Foundation – Engineering Systems Design
 Total Dollar Amount: \$379,019
 Role: PI
 Collaborators: None.
 Period of Contract: 06/01/2017 – 05/31/2020
 Candidate's Share: 100% (\$379,019)
- [E1.6] Title of Project: Theoretical Foundation for the Use of Approximations and Heuristics in Systems Engineering and Design
 Agency/Company: National Science Foundation – Engineering Systems Design
 Total Dollar Amount: \$299,520
 Role: PI
 Collaborators: Chris Paredis (former Co-PI)
 Period of Contract: 07/15/16 – 07/14/2020
 Candidate's Share: 100% (\$149,760) (full funds transferred to me with Paredis departure)
- [E1.5] Title of Project: Broadening Participation of Underrepresented Groups in ASME DED
 Agency/Company: ASME Design Engineering Division
 Total Dollar Amount: \$25,000
 Role: PI
 Collaborators: None
 Period of Contract: 08/05/2015 - 08/05/2018
 Candidate's Share: 100% (\$25,000)
- [E1.4] Title of Project: Mechanics of Materials: Facilitating a Hands-On Learning Experience with 3D Printing
 Agency/Company: National Science Foundation – Improving Undergraduate STEM Education: Education and Human Resources (IUSE:EHR)
 Total Dollar Amount: \$ 299,163
 Role: PI
 Collaborators: Jerry Qi (Co-PI), Ruth Poproski (Senior Personnel), Gordon Kingsley
 Period of Contract: 7/01/2017 - 06/30/2020
 Candidate's Share: ~40% (~\$120,000)
- [E1.3] Title of Project: Design Fixation and its Mitigation: What Can the Brain Tell Us?
 Agency/Company: Georgia State University/Georgia Institute of Technology Center for Advanced Brain Imaging (CABI)
 Total Dollar Amount: \$ 8,500 (in the form of 20 hours of MRI Scanning Time)
 Role: PI

Collaborators: Brian Sylcott (Asst. Professor, East Carolina University) (Co-PI)
Period of Contract: 11/19/2015 - 01/30/2017
Candidate's Share: 100% (\$8,500)

[E1.2] Title of Project: Georgia Institute of Technology Foundation Donation
Agency/Company: Insolves
Total Dollar Amount: \$15,492.81
Role: PI
Collaborators: None
Period of Contract: 05/01/2015
Candidate's Share: 100% (\$15,492.81)

[E1.1] Title of Project: Design for Additive Manufacturing
Agency/Company: NNMI America Makes
Total Dollar Amount: \$1,000,000
Role: PI (since 06/01/2016)
Collaborators: David Rosen, Carolyn Seepersad, Stratasys, Senvol, Siemens, GE
Period of Contract: 10/1/15 – 8/31/17
Candidate's Share: \$41,666
Notes: Original PI David Rosen transferred award when departing to new position

E2. As Co-Principal Investigator

[E2.2] Title of Project: Supplemental NSF INTERN to GRFP for Myela Paige
Agency/Company: National Science Foundation – INTERN Program
Total Dollar Amount: \$12,000
Role: Co-PI
Collaborators: PI Bonnie Ferri (OGS)
Period of Contract: 1/1/2017-2/1/2019
Candidate's Share: 100% (\$12,000)

[E2.1] Title of Project: Enhanced Preparation for Intelligent Cybermanufacturing Systems (EPICS)
Agency/Company: Department of Energy
Total Dollar Amount: \$4,006,771
Role: Co-PI
Collaborators: PI Chris Saldana
Period of Contract: 08/15/2018 – 8/14/2023
Candidate's Share: 40% (\$1,602,708)

E3. As Senior Personnel or Contributor

No data.

E4. Pending Proposals

[E4.2] Title of Project: Enhancing Leadership and Education in Manufacturing Engineering Technologies (Project ELEMENT)
Agency/Company: Department of Defense - National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics Education, Outreach, and Workforce Initiative Programs
Total Dollar Amount: \$3,000,000

Role: Co-PI

Collaborators: PI Lizabeth Stuck (MxD USA – Submitting Institution), Co-PIs Tom Kurfess, Chris Saldana

Period of Contract: 09/01/2020 - 08/31/2023

Candidate's Share: ~16.6% (\$500,000)

[E4.1] Title of Project: Advancing Social Engagement within Engineering Education

Agency/Company: National Science Foundation - Division Of Undergraduate Education

Total Dollar Amount: \$2,000,000

Role: Co-PI

Collaborators: PI Shanna Daly, Co-PIs: Jin Woo Lee, Steven Skelos, Colleen Seifert (University of Michigan – Submitting Institution)

Period of Contract: 08/01/2020 – 07/31/2025

Candidate's Share: ~4% (\$79,964)

F. OTHER SCHOLARLY AND CREATIVE ACCOMPLISHMENTS

No data.

G. SOCIETAL AND POLICY IMPACTS

Dr. Fu has been invited to present her work at the National Academy of Engineering twice since starting at GT. She was been recognized for her service to the mechanical engineering community with the Early Career Engineer of the Year Award from the ASME Atlanta Chapter. Her research has impacted design research methods and practice through journal publications and conference presentations, helping to add formalism to the field of design science and improve techniques for more successful innovation outcomes.

H. OTHER PROFESSIONAL ACTIVITIES

No data.

V. EDUCATION

A. COURSES TAUGHT

Year	Term	Course Number	Course Title	Credit Hours	No. of Students
2020	Spring	ME8893A	Future Faculty Practicum	3	7
2020	Spring	ME6101A	Engineering Design	3	40
2020	Spring	ME6101Q	Engineering Design	3	16
2019	Fall	ME1770B	Intro to Engr Graphics	3	46
2019	Spring	ME6101A	Engineering Design	3	40
2019	Spring	ME6101Q	Engineering Design	3	23
2018	Fall	ME1770A	Intro to Engr Graphics	3	45
2018	Fall	ME1770B	Intro to Engr Graphics	3	46
2018	Spring	ME 1770H	Intro to Engr Graphics	3	44
2017	Fall	ME 1770F	Intro to Engr Graphics	3	45
2017	Spring	ME 1770F	Intro to Engr Graphics	3	45
2016	Fall	ME 1770F	Intro to Engr Graphics	3	45

2016	Spring	ID 8900	Special Topics in ID	3	4
2016	Spring	ID 3813DE / PHIL 3109DE	Special Topics/ Design Ethics	3	10 / 26
2015	Fall	ME 1770F	Intro to Engr Graphics	3	48
2015	Spring	ME 1770D	Intro to Engr Graphics	3	43

B. INDIVIDUAL STUDENT GUIDANCE

B1. Ph.D. Students

B.1.a. Graduated Ph.D. Students

	Name	Start Date	Grad Date	Program	Thesis Title	Publications	Current Position
1	Ricardo Bonilla-Alicea	Fall 2017	May 2020	ME PhD	<i>Novel Social Impact Assessment Framework</i>	B1.15, B4.5, B4.6	Research Assistant, Georgia Tech

B.1.b. In Process Ph.D. Students

	Name	Start Date	Program	Thesis Title	Status	Publications
1	Kenton Fillingim	Fall 2016	ME PhD	<i>Understanding the Development and Implementation of Heuristics and Biases in Design</i>	Passed quals, passed proposal, ARCS Fellow	B1.18, B1.17, B2.22, B2.20, B4.1, B4.2, B4.3
2	Myela Paige	Fall 2016	ME PhD	<i>Educational Interventions in Mechanical Engineering: The Impact of Active Learning on Learning of Core Engineering Topics</i>	Passed quals, NSF GRFP	B2.18, B4.2
3	Hyeonik Song	Fall 2016	ME PhD	<i>Exploration-Based Approach for Computationally Supported Design-by-Analogy</i>	Passed quals, passed proposal	B1.14, B1.12, B1.19, B2.21, B2.15, B4.2
4	Bumsoo Lee	Spring 2016	ME PhD	<i>Advancing and Automating Mindmapping Technologies to Enhance and Enable Human Creativity and Virtual Collaboration</i>	Passed quals, passed proposal	B1.11, B2.20, B2.15

B2. M.S. Students

B2.a. Graduated M.S. Students

	Name	Start Date	Grad Date	Program	Thesis Option	Publications	Current Position
1	Catherine Johnson (Reichling)	Fall 2015	Spring 2017	MS Human Comp. Interaction	Non-thesis	B4.2, B4.1	Bain and Company, Senior Product Designer
2	Sidney Brinson	Fall 2013	Spring 2016	M. Industrial Design	Non-thesis		Creative Director, Orange Sparkle Ball, Inc.
3	Chandan Hebbale	Fall 2014	Spring 2017	M. Industrial Design	Non-thesis	B2.16	Cox Automotive, User Experience Researcher II

4	Richard Nwaeri	Fall 2018	Fall 2019	MS ME Thesis Title: <i>Examining the Effect of Design for Additive Manufacturing Rule Presentation on Part Redesign Quality</i>	Thesis	B1.17, B4.3, B2.22	Ford Motor Company, System Engineer
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B2.b. In Process M.S. Students

	Name	Start Date	Program	Thesis Option	Status
1	David Gamero	Fall 2019	BSMS ME	Thesis	
2	Anastasia Schauer	Fall 2019	MS ME, ME PhD	Thesis	NSF GRFP, staying for PhD
3	Patrick Jung	Spring 2019	MS ME, ME PhD	Thesis	Co-advised by Chris Saldana
4	Lisa DeWitte	Fall 2019	MS ME, ME PhD	Thesis	Co-advised by Chris Saldana
5	Nathan DeVol	Fall 2019	MS ME, ME PhD	Thesis	Co-advised by Chris Saldana
6	Zoe Klesmith	Fall 2019	MS ME, ME PhD	Thesis	NSF GRFP, Co-advised by Chris Saldana

B3. Undergraduate Students

	Name	Period	Program	Publications/Notes
1	Haley Stokes	Spring 2020	BS AE	
2	Nisha Detchprohm	Fall 2019-Spring 2020	BS ME, BSMS	Will continue MS in my lab in Fall 2020
3	Jacob Evans	Summer-Fall 2019	BS ME	B1.19
4	Tammy VuPham	Spring 2019	BS ID	
5	Alexis Davis	Fall 2018 – Spring 2020	BS AE	
6	Cameron Whigham	Summer 2018	Summer Undergraduate Research Experience (SURE)	
7	Gardy Anger	Summer 2018	BS ME	
8	Erik Shuster	Summer 2018, 2019	BS ME	
9	Rebecca Zheng	Summer 2018	BS ME	
10	Hannah Shapiro	Spring-Summer 2018, Spring, Fall 2019, Spring 2020	BS ME	B1.18, B4.1, 2020 Award ME Outstanding Undergraduate Researcher
11	Mykala Sinclair	Spring, Fall 2017	BS ME	
12	Felipe Borja	Summer 2017	(SURE)	B1.17, B2.22

13	Richard Nwaeri	Summer, Fall 2017, Spring 2018	BS ME, BSMS ME	B1.17, B4.3, B2.22
14	Max Massella	Fall 2016, Spring, Fall 2017	BS ISYE	
15	Kaustav Das	Fall 2016, Spring 2017	BS ME	B1.15
16	Youssef Assad	Fall 2016	BS ME	I2P Instructor
17	Yu Wu	Spring 2016	BS MSE	
18	Spencer Obsitnik	Summer 2015	BS ME	
19	Joseph May	Summer 2015	BS ME	
20	Kevin Cho	Fall 2015	BS ME	

B4. Service on thesis or dissertation committees

B4.a. Internal

Degree	Name	Date	Advisor	School
MS	Lance Lu	2020	Chris Saldana	Mechanical Engineering
PhD	Marguerite Matherne	2020-	David Hu	Mechanical Engineering
PhD	Pierrick Rauby	2020-	Tom Kurfess	Mechanical Engineering
MS	Ivan Ren	2020	Tom Kurfess, Chris Saldana	Mechanical Engineering
MS	Edward Nguyen	2020	Chris Saldana	Mechanical Engineering
MID	Caitlin Ryan	2019-2020	Steven Sprigle	Industrial Design
PhD	Stephen Malone	2020-	Bert Bras	Mechanical Engineering
PhD	Zackery Morris	2019-	Bert Bras	Mechanical Engineering
MS	Alexander Murphy	2019-2020	Julie Linsey	Mechanical Engineering
MS	Jaime Berez	2019	Chris Saldana	Mechanical Engineering
PhD	Max Pranievicz	2019-	Chris Saldana	Mechanical Engineering
MS	Elliott Jost	2019	Chris Saldana	Mechanical Engineering
MS	Sam Kersten	2019-2020	Tom Kurfess	Mechanical Engineering
PhD	Thomas Feldhausen	2019-	Tom Kurfess	Mechanical Engineering
PhD	Kyle Saleeby	2019-	Tom Kurfess	Mechanical Engineering
MS	Kyle Saleeby	2019	Tom Kurfess	Mechanical Engineering
MS	Eymard Prevost	2019	Tom Kurfess	Mechanical Engineering
PhD	Ethan Hilton	2019-2020	Julie Linsey	Mechanical Engineering
PhD	Megan Tomko	2018-2019	Julie Linsey	Mechanical Engineering
PhD	Dongmin Han	2018-2019	Tom Kurfess	Mechanical Engineering
MS	William Martin	2017	Cassandra Telenko	Mechanical Engineering
MS	John-Travis Hansen	2016-2017	David Rosen	Mechanical Engineering
PhD	William Binder	2014-2017	Chris Paredis	Mechanical Engineering
MID	Deepak Selvaraj	2016	Kevin Shankwiler	Industrial Design
MS	Mitchell Kelley	2016	David Rosen	Mechanical Engineering
PhD	Yitao Liu	2016	Roger Jiao	Mechanical Engineering
MS	Eric Kim	2015-2016	Julie Linsey	Mechanical Engineering
MS	Ricardo Morocz	2015-2016	Julie Linsey	Mechanical Engineering
MID	Mark Husack	2014-2015	Stephen Sprigle	Industrial Design

B5. Mentorship of postdoctoral fellows or visiting scholars

No data.

C. EDUCATIONAL INNOVATIONS AND OTHER CONTRIBUTIONS

C1. Course Development

[C1.1] Developed interdisciplinary course on Design Ethics with Dr. Robert Kirkman (Philosophy) taught Spring 2016

C2. Course Improvement

[C2.1] Re-designed Required Freshman Course – ME1770 – Introduction to Engineering Graphics and Visualization

- Developed 12 lectures, used by 3 other instructors as well (Linsey, Pucha, Dorozkhin) for ME1770
- Developed 2 ME1770 projects in collaboration with Dr. Julie Linsey
- Developed new hands-on learning tools and interactive module for teaching geometric dimensioning and tolerancing – now used by 3 instructors

[C2.2] Developed and assembled 4 hands-on learning kits for 4 instructors of ME1770 – Fall 2017

- Clear plastic models demonstration Geometric Dimensioning and Tolerancing rules
- In-class group exercise involving checking aluminum blocks for Geometric Dimensioning and Tolerancing specifications, 10 blocks, 10 calipers, worksheets and slides
- 3D printing example kits to illustrate joint types and tolerances for the new Formiga Selective Laser Sintering machine
- Set of manufacturing process examples, including products that were made with different processes and corresponding slides and worksheets

[C2.3] Collaborated with ECE team to cross-list 2 Future Faculty courses in ME to help graduate students consider and prepare for academic jobs; teaching 7 person special topics course in Spring 2020 to guide ME graduate students through the academic job package preparation process

C3. Professional Development/Continuing Education

Professional Development Activity	Organization/Location	Date
Question, Persuade, Refer (QPR) Suicide Prevention Gatekeeper Training	Georgia Institute of Technology	Spring 2020
Implicit Bias Workshop, College of Engineering	Georgia Institute of Technology	Spring 2020
Increasing Reviewer Risk Tolerance Through Awareness (IRRTA) Training	NSF, CMMI Division, virtual training	Spring 2020
NSF Engineering Design and Systems Engineering Circle of Design Workshop	NSF, Purdue University	Fall 2019
Oak Ridge National Lab EESD (Energy and Environmental Sciences Directorate) AI in Image and Sensor Analytics Workshop	Oak Ridge National Lab	Fall 2019
LGBTQIA Resource Center Level Up Part 2	Georgia Institute of Technology	Spring 2018
LGBTQIA Resource Center Level Up Part 1	Georgia Institute of Technology	Fall 2017

LGBTQIA Resource Center Trans 101 Training	Georgia Institute of Technology	Spring 2017
GWW School of Mechanical Engineering Teaching Fellow, Fall 2016	Georgia Institute of Technology	Fall 2016
Adaptive Leadership Workshop: Applied and selected, led by Robert Thomas	Georgia Institute of Technology	Spring 2016
Nominated (Invite Only) Symposium, National Academy of Engineering 2016 Frontiers of Engineering Education	National Academies Beckman Center, Irvine, CA	Fall 2016
GT Center for Teaching and Learning (CTL) Class of 1969 Teaching Fellows	Georgia Institute of Technology	Fall 2015 – Spring 2016
GT Center for Teaching and Learning (CTL) Teaching Enrichment Workshop: <i>Developing Good Global Citizens: Practical Opportunities in Class and Beyond</i>	Georgia Institute of Technology	Fall 2014
GT Center for Teaching and Learning (CTL) Teaching Enrichment Workshop: <i>Disrespect and Disruption in the Classroom</i>	Georgia Institute of Technology	Spring 2015
GT Center for Teaching and Learning (CTL) Teaching Enrichment Workshop: <i>The Reflective Student: Fostering Learning Through Mindfulness,</i>	Georgia Institute of Technology	Spring 2015
LGBTQIA Resource Center Safe Space Training	Georgia Institute of Technology	Fall 2015
NSF Career Proposal Writing Workshop at Northeastern University	NSF, Northeastern University	Spring 2015
NSF Career Proposal Writing Workshop at ASME International Design Engineering Technical Conferences	NSF, ASME	Fall 2015
NSF Day at Spelman College	NSF, Spelman College	Fall 2015
Workshop and NSF Engineering Systems Design (ESD) and Systems Science (SYS) Grantees meeting: Engineering Design and Systems Engineering	NSF, Clemson University	Fall 2015
DARPA Wait What? A Future Technology Forum	DARPA	Fall 2015

C4. Other Teaching Activities

- Advised team of students from Georgia Institute of Technology and Morehouse College to design and fabricate 5 real-fire relay torches for 150 mile relay race to commemorate 150th Anniversary of Morehouse College, \$15,000 budget, Spring 2017
- Advised Grand Challenges Team Hydro, Fall 2015 - Spring 2016

VI. SERVICE

A. PROFESSIONAL CONTRIBUTIONS

A1. Editorial Board Memberships

- Design Studies Journal, Editorial Board, Spring 2019-present
- Artificial Intelligence for Engineering Design, Analysis and Manufacturing, Guest Editor, Special Issue on Design Creativity, Spring 2017-Summer 2018

A2. Society Offices, Activities, and Membership

Committee Offices/Membership	Role	Dates of Service
American Society of Mechanical Engineers, Design Engineering Division, Committee for Broadening Participation of Underrepresented Groups	Committee Member	Fall 2017-present
Design Theory and Methodology Technical Committee, Design Engineering Division, ASME	Chair	October 2018 – October 2019
Design Theory and Methodology Technical Committee, Design Engineering Division, ASME	Vice Chair and Treasurer	October 2017 – September 2018
Design Theory and Methodology Technical Committee, Design Engineering Division, ASME	Secretary	August 2016 – September 2017
Steering Committee for the North American Chapter of the Design Society	Committee Member/ Founding Member	Spring 2015 – October 2017
American Society of Mechanical Engineers, Design Engineering Division, Committee for Broadening Participation of Underrepresented Groups	Committee Co-Chair	Fall 2010 - Fall 2017
American Society of Mechanical Engineers, Design Engineering Division, Committee for Broadening Participation of Underrepresented Groups	Workshop Chair	2011, 2013, 2014 (vice chair)

Society Membership	Dates of Membership
Design Society	2009-present
American Society of Mechanical Engineers	2008-present
Industrial Designers Society of America	2006-present

A3. Organization and Chairmanship of Technical Sessions, Workshops and Conferences

Committee Name	Role	Dates of Service
2019 International Design Engineering Technical Conferences, Design Theory and Methodology	Symposium Chair, Review Coordinator	Fall 2019
Design Research Symposium at Georgia Tech (with UGA and Clemson)	Symposium Chair and Organizer	Fall 2019
2018 International Design Engineering Technical Conferences, Design Theory and Methodology	Symposium Chair, Review Coordinator	Fall 2018
2017 International Design Engineering Technical Conferences, Design Theory and Methodology	Session Chair	Fall 2017

The Eighth International Conference on Computational Creativity (ICCC-17), Atlanta, Georgia, USA	Program Committee Member	Summer 2017
Computational Analogy for the 2017 International Conference on Case-Based Reasoning (ICCBR-17), Trondheim, Norway	Program Committee Member	Summer 2017
2016 International Conference on Design Creativity (ICDC) Program Committee	Committee Member	Spring - Fall 2016
Advisory Board of the Seventh International Conference on Design Computing and Cognition (DCC'16)	Committee Member	2016
DESIGN 2016 conference Scientific Advisory Board, 14th International Design Conference	Committee Member	2016
International Programme Committee Member for the 6th International Conference on Research into Design (ICoRD'17)	Committee Member	2016
Organizing Committee, Computational Analogy for the 2016 International Conference on Case-Based Reasoning (ICCBR-16), Atlanta, GA,	Committee Member	Fall 2016
Scientific Committee for Design Society's International Conference on Engineering Design	Committee Member	Fall 2014- Spring 2015

A4. Technical Journal or Conference Referee Activities

Peer-Reviewed Archival Journals

- [1] Journal of Engineering Design
- [2] Design Studies
- [3] Design Science
- [4] Research in Engineering Design
- [5] Artificial Intelligence for Engineering Design, Analysis and Manufacturing
- [6] Journal of Mechanical Design
- [7] International Journal of Design Creativity & Innovation
- [8] IEEE Transactions of Engineering Management
- [9] Engineering Systems with Applications

Peer-Reviewed Conferences

- [1] International Conference on Design Creativity (ICDC) (2016)
- [2] Design Computing and Cognition Conference (DCC) (2016)
- [3] International Conference on Research into Design (2017)
- [4] ASME International Design Engineering Technical Conferences (IDETC) (2009-2019)
- [5] International Conference on Engineering Design (ICED) (2009-2019)
- [6] International Conference on Case Based Reasoning (ICCBR) (2016-2017)
- [7] CogSci2019: Creativity + Cognition + Computation (2019)

A5. Proposal Panels and Reviews

Committee Name	Role	Dates of Service
NSF Engineering Design and Systems Engineering Proposal Review Panel	Panel Member	Fall 2019
NSF Engineering Systems and Design Proposal Review Panel	Panel Member	Fall 2014

B. PUBLIC AND COMMUNITY SERVICE

Committee Name	Role	Dates of Service
Advisory Board, <i>FORGE</i> , Non-profit for increasing gun safety	Member and Data Expert	Fall 2017 - present
Workshop on Girl Scout Mechanical Engineering Badge: Helped to organize and deliver workshop on Girl Scout Mechanical Engineering Badge, hosted in Charlotte, NC with ASME International Design Engineering Tech. Conferences (IDETC) and Lockheed Martin	Co-organizer	Fall 2016
Next Generation Mobility Challenge design sprint at Emory University, Presented by Toyota and Net Impact	Expert Advisor and Judge	Spring 2016
Dodgen Middle School Science Olympiad Invitational: Volunteered as scorer and award distributor at Dodgen Middle School Science Olympiad Invitational	Scorer and Award Distributor	Spring 2015
Workshop on Girl Scout Mechanical Engineering Badge: Helped to organize and deliver workshop on Girl Scout Mechanical Engineering Badge, hosted at MIT in conjunction with ASME IDETC and Lockheed Martin	Co-organizer	Fall 2015

C. INSTITUTE CONTRIBUTIONS

C1. School Committee Service

School of Mechanical Engineering

Committee Name	Role	Dates of Service
Ad Hoc PhD Qualifying Exam Committee	Committee Member	Spring 2019 – present
Georgia Tech FOCUS Program Panel, Mechanical Engineering	Panelist	Spring 2020
Woodruff School Graduate Women	Faculty Advisor	Fall 2019-present
GaTech ME Communications Director Hiring Committee	Committee Member	Fall 2018
GaTech LGBTQIA Resource Center Liaison to Mechanical Engineering	Liaison	Fall 2018-present
GaTech ME Graduate Student Development Committee <ul style="list-style-type: none"> Organized ME Graduate Student Town Hall (1/11/18) Designed and deployed ME Graduate Student Survey Drafted report and action plan based on town hall and survey Updated and improved the degree checklists for MSME thesis, MSME coursework, and ME PhD degrees Wrote faculty handbook entry for this committee 	Committee Member	Fall 2016 - present
GaTech ME CAE/Design Research Area Group – prepared and facilitated distribution of special recruiting flier to increase PhD student applications in design; prepared and facilitated recruiting slide deck and posters for graduate recruiting days, describing each CAE/Design Research Area Group member’s research	Committee Member	Fall 2014 - present

ME Graduate Committee	Committee Member	Fall 2014 – Fall 2015
ME1770 Academic Professional Hire Search Committee	Committee Member	Fall 2014 – Spring 2015
ME Transforming Engineering Culture to Advance Inclusion and Diversity (TECAID) Committee	Committee Member	Fall 2014
CLASS Assessment Committee: Evaluator: ME1770 Section F	Committee Member/ Evaluator	Fall 2015
ME Design Qualifying Exam Committee	Chair	Spring, Fall 2019, Spring 2020
ME Design Qualifying Exam Committee Assembled, vetted and finalized <ul style="list-style-type: none"> • Design qual topic list • Design qual equation sheet • Missing design qual historic exams 	Committee Member	Spring 2015- Spring 2019

School of Industrial Design (from 30% joint appointment Fall 2014-Spring 2017)

Committee Name	Role	Dates of Service
ID Graduate Committee	Committee Member	AY 2014/15, AY 2015/16, AY 2016/17
GaTech Masters in Industrial Design Graduate Admissions Committee	Committee Member	AY 2014/15, AY 2015/16
GaTech Masters in Industrial Design Curriculum Committee – Design Methods	Committee Member	AY 2015/16
Industrial Designers Society of America Student Merit Award Committee	Judge	Spring 2015, Spring 2016

C2. Program Development: Academic

Committee Name	Role	Dates of Service
GaTech ID PhD Program Committee: Spearheaded, coordinated and significantly contributed to Proposal for new ID PhD Program	Committee Member	AY 2015/16, AY 2016/17
Developed/finalized the ME design concentration for ME majors, in collaboration with the ME CAE/Design RAG	Collaborator/ Champion	Spring 2016

C3. Other Institute Service Contributions

Committee Name	Role	Dates of Service
NextProf Nexus at Georgia Tech	Panel and Co-host	Fall 2019
Lavender Awards Committee, Georgia Tech LGBTQIA Resource Center Director	Committee Member	Spring 2017, 2020
Search Committee for Georgia Tech LGBTQIA Resource Center Director	Search Committee Member	Summer, Fall 2019, Spring 2020

College of Engineering Strategy Team Leader: Inclusive, collegial community among students, faculty, staff, and alumni	Team Leader	Spring 2019- present
Georgia Tech Center for Biologically Inspired Design	Co-Director	Fall 2018 - present
SWE/SASE Diversity Panel, Student Success Center Clary Theater, Georgia Institute of Technology	Expert Discussion Panelist	Fall 2016
InVenture Prize Preliminary Round	Judge	Spring 2016, 2017, 2018
Georgia Tech Career, Research, and Innovation Development Conference (CRIDIC)	Poster Session Judge	Spring 2016
Senior Capstone Design Review, Instructor: Kathryn Wingate, Thursday	External reviewer	Spring 2016
GaTech Senior Capstone Design	Judge	Spring 2015
GaTech Undergraduate Research Symposium	Judge	Spring 2015
GaTech Industrial Design Gold Carpet Day	Presenter	Spring 2016
GaTech ME Gold Carpet Day	Presenter	Spring 2016