

Kosa Kendall Goucher-Lambert

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Department of Mechanical Engineering
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EDUCATION

Carnegie Mellon University, Pittsburgh, PA August 2012 - May 2017

Ph.D. in Mechanical Engineering, 2017

Dissertation: *Investigating Decision Making in Engineering Design Through Complementary Behavioral and Cognitive Neuroimaging Experiments*

Committee: Jonathan Cagan (Advisor), Jarrod Moss, Erin MacDonald, and Katie Whitefoot

M.S. in Mechanical Engineering, 2014

Occidental College, Los Angeles, CA August 2007 - May 2011

B.A. in Physics, 2011

Exchange student, University of Cape Town, South Africa, Spring 2010

APPOINTMENTS

University of California, Berkeley, Berkeley, CA

2019 - Present Assistant Professor, Department of Mechanical Engineering

2019 - Present Affiliate Faculty, Jacobs Institute for Design Innovation

2019 - Present Affiliate Faculty, Berkeley Institute of Design

2019 - Present Affiliate Faculty, Berkeley Master of Design Program

Carnegie Mellon University, Pittsburgh, PA

2017 - 2018 Postdoctoral Research Associate, Department of Mechanical Engineering

2012 - 2017 Graduate Research Assistant, Department of Mechanical Engineering

Apogee Electronics, Santa Monica, CA

2011 - 2012 New Product Development Operations

Washington State University, Vancouver, WA

Summer 2010 Undergraduate Research Assistant, Department of Electrical Engineering

RESEARCH INTERESTS

Design theory, methodology, and automation; design cognition; decision-making applied to engineering teams and individuals; ideation and creativity; analogical reasoning in design; preference modeling and design attribute optimization; neuroimaging methods applied to design; sustainable design; new product development; crowdsourcing; human-machine collaboration.

AWARDS & HONORS

2022	Best Paper Award, Design Computing and Cognition Conference, for paper titled: “How Does Machine Advice Influence Design Choice? The Effect of Error on Design Decision Making”
2022	Design Theory and Methodology Young Investigator Award, American Society of Mechanical Engineers (ASME)
2022	Selected Participant, National Academy of Engineering Frontiers of Engineering Symposium
2022	National Science Foundation (NSF) CAREER Award
2021	Best Paper Award, ASME International Design Engineering and Technical Conferences (Design Education), for paper titled: “Examining Goal Congruence on Engineering Design and Innovation Student Teams”
2021	ASME Journal of Mechanical Design Reviewer of the Year (2020)
2020	Best Paper Award, ASME International Design Engineering and Technical Conferences (Design Theory and Methodology), for paper titled: “Method Selection in Human-Centered Design Teams: An Examination of Decision-Making Strategies”
2019	Excellence in Design Science Best Paper Award, International Conference on Engineering Design, for paper titled: “Using Hidden Markov Models to Uncover Underlying States in Neuroimaging Data for a Design Ideation Task”
2019	Reviewers Favorite Award, International Conference on Engineering Design, for paper titled: “Exploring the Application of Network Analytics in Characterizing a Conceptual Design Space”
2019	Reviewers Favorite Award, International Conference on Engineering Design, for paper titled: “Using Hidden Markov Models to Uncover Underlying States in Neuroimaging Data for a Design Ideation Task”
2018	Best Paper Honorable Mention, ASME International Design Engineering and Technical Conferences (Design Theory and Methodology), for paper titled: “Inspired Internal Search: Using Neuroimaging to Understand Design Ideation and Concept Generation with Inspirational Stimuli”
2017	Reviewers Favorite Award, International Conference on Engineering Design, for paper titled: “Using crowdsourcing to provide analogies for designer ideation in a cognitive study”
2016 - 2018	Carnegie Institute of Technology Bradford and Diane Smith Fellowship
2015	Reviewers Favorite Award, International Conference on Engineering Design, for paper titled: “Fairness and Manipulation: An Empirical Study of Arrow’s Impossibility Theorem”
2014	Best Paper Award, ASME International Design Engineering and Technical Conferences (Design Theory and Methodology), for paper titled: “The Impact of Sustainability on Consumer Preference Judgments of Product Attributes”
2014 - 2018	National Science Foundation (NSF) Graduate Research Fellowship
2009 - 2011	Occidental College Dell G. Taylor Scholarship
2009	Occidental College Academic-Athletic Achievement Award

PUBLICATIONS

Underlined names denote my student at UC Berkeley.

Journal Articles

17. Hu, M., McComb, C., and **Goucher-Lambert, K.** (2022). Uncovering Hidden Patterns of Design Ideation Using Hidden Markov Modeling and Neuroimaging. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, (Under Review).
16. Wang, Y., Goridkov, N., Grandi, D., Cui, D., Rao, V., and **Goucher-Lambert, K.** (2022). Embedding Experiential Design Knowledge in Interactive Knowledge Graphs. *Journal of Mechanical Design*, (Under Review).
15. Chong, L., Raina, A., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2022). The Evolution and Impact of Human Confidence in Artificial Intelligence and in Themselves on AI-Assisted Decision-Making in Design. *Journal of Mechanical Design*, doi: <https://doi.org/10.1115/1.4055123>.
14. Kwon, E., Huang, F., and **Goucher-Lambert, K.** (2022). Enabling multi-modal search for inspirational design stimuli using deep learning. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, 36, E22. doi:10.1017/S0890060422000130.
13. Nandy, A., and **Goucher-Lambert, K.** (2022). Do human and computational evaluations of similarity align? An empirical study of product function. *ASME Journal of Mechanical Design*, 144(4): 041404. <https://doi.org/10.1115/1.4053858>.
12. Nandy, A., Dong, A., and **Goucher-Lambert, K.** (2022). Evaluating Quantitative Measures for Assessing Functional Similarity in Engineering Design. *ASME Journal of Mechanical Design*, 144(3): 031401. <https://doi.org/10.1115/1.4052302>.
11. Chong, L., Zhang, G., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2022). Human confidence in artificial intelligence and in themselves: The evolution and impact of confidence on adoption of AI advice. *Computers in Human Behavior*, 127: 107018.
10. Mirabito, Y., and **Goucher-Lambert, K.** (2021). Factors Impacting Highly Innovative Designs: Idea Fluency, Timing, and Order. *ASME Journal of Mechanical Design*, 144(1): 011401. <https://doi.org/10.1115/1.4051683>.
9. Andersen, E., **Goucher-Lambert, K.**, Cagan, J., Maier, A. (2021). Attention Affordances: Applying Attention Theory to the Design of Complex Visual Interfaces. *Journal of Experimental Psychology: Applied*, 27(3): 338-351. doi: 10.1037/xap0000349.
8. Rao, V., Kim, E., Kwon, J., Agogino, A., **Goucher-Lambert, K.** (2020). Framing and Tracing Human-Centered Design Teams' Method Selection: An Examination of Decision-Making Strategies. *ASME Journal of Mechanical Design*, 143(3): 031403. doi: 10.1115/1.4049081.
7. **Goucher-Lambert, K.**, Gyory, J.T., Kotovsky, K., and Cagan, J. (2020). Adaptive Inspirational Design Stimuli: Using Design Output to Computationally Search for Stimuli that Impact Concept Generation. *ASME Journal of Mechanical Design*, doi: 10.1115/1.4046077.
6. Gecer Ulu, N., Messersmith, M., **Goucher-Lambert, K.**, Cagan, J., and Kara, L.B. (2019). Wisdom of Micro-Crowds in Evaluating Solutions to Esoteric Engineering Problems. *ASME Journal of Mechanical Design*, 141(8), 081102-081102-10. doi: 10.1115/1.4042615.
5. **Goucher-Lambert, K.**, and Cagan J. (2019). Crowdsourcing Inspiration: Using crowd generated inspirational stimuli to support designer ideation. *Design Studies*, 61, 1-29. doi: 10.1016/j.destud.2019.01.001.

4. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2019). A neuroimaging investigation of design ideation with and without inspirational stimuli— understanding the meaning of near and far stimuli. *Design Studies*, 60, 1-38. doi: 10.1016/j.destud.2018.07.001.
3. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2017). Inside the Mind: Using Neuroimaging to Understand Moral Product Preference Judgments Involving Sustainability. *ASME Journal of Mechanical Design*, 139(4):041103-041103-11. doi: 10.1115/1.4035859.
2. McComb, C., **Goucher-Lambert, K.**, and Cagan, J. (2017). Impossible by design? Fairness, strategy, and Arrow’s impossibility theorem. *Design Science*, vol 3. doi:10.1017/dsj.2017.1.
1. **Goucher-Lambert, K.**, and Cagan, J. (2015) The Impact of Sustainability on Consumer Preference Judgments of Product Attributes. *ASME Journal of Mechanical Design*, 137(8), 081401-081401-11. doi: 10.1115/1.4030271.

Peer-Reviewed Conference Papers

34. Goridkov, N., Wang, Y., Grandi, D., Cui, D., Rao, V., and **Goucher-Lambert, K.** (2022). Capturing Designers’ Experiential Knowledge in Scalable Representation Systems: A Case Study of Knowledge Graphs for Product Teardowns. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 15-17, 2022.
33. Kwon, E., Rao, V., and **Goucher-Lambert, K.** (2022). Investigating the Roles of Expertise and Modality in Designers’ Search for Inspirational Stimuli. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 15-17, 2022.
32. Rao, V., Joshi, A., Kang, S.M., Lin, S., Song, E., Miller, D., **Goucher-Lambert, K.**, and Agogino, A. (2022). Designing Human-Centered Risk Frameworks for Cyber-Physical-Social Systems: The Case of Autonomous Vehicles and Bystander Privacy. ASME International Design Engineering Technical Conferences - Design Automation Conference. August 15-17, 2022.
31. Mirabito, Y., and **Goucher-Lambert, K.** (2022). Investigating How Engineers and Designers Communicate Design Rationale. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 15-17, 2022.
30. Chong, L., Raina, A., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2022). Collaborative Design Decision-Making With Artificial Intelligence: Exploring the Evolution and Impact of Human Confidence in AI and in Themselves. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 15-17, 2022.
29. Kwon, E., Rao, V., and **Goucher-Lambert, K.** (2022). Exploring Designers’ Encounters with Unexpected Inspirational Stimuli. 2022 Design Computing and Cognition Conference. July 4-7, 2022.
28. Rao, V., Kwon, E., and **Goucher-Lambert, K.** (2022). “Like a Moodboard, but More Interactive”: The Role of Expertise in Designers’ Mental Models and Speculations on an Intelligent Design Assistant. 2022 Design Computing and Cognition Conference. July 4-7, 2022.
27. Dybvik, H., Gornitzka, F., Aalto, P., **Goucher-Lambert, K.**, and Steinert, M. (2022). Inspirational Stimuli Attain Visual Allocation: Examining Design Ideation with Eye-tracking. 2022 Design Computing and Cognition Conference. July 4-7, 2022.
26. Mirabito, Y., and **Goucher-Lambert, K.** (2022). Design Strategies that Work: How Engineers Use Sequential Decision Making to Improve Design Performance in Concept Selection. 2022 Design Computing and Cognition Conference. July 4-7, 2022.

25. Dybvik, H., Abelson, F., Aalto, P., **Goucher-Lambert, K.**, and Steinert, M. (2022). Inspirational Stimuli Improve Idea Fluency during Ideation: A Replication and Extension Study with Eye-Tracking. *Proceedings of the Design Society (DESIGN22)*, 2, 861-870. doi:10.1017/pds.2022.88
24. Nandy, A., and **Goucher-Lambert, K.** (2022). How Does Machine Advice Influence Design choice? The Effect of Error on Design Decision Making. 2022 Design Computing and Cognition Conference. July 4-7, 2022. **Best Paper Award - Design Cognition/Neurocognition**
23. Moore, G., Rao, V., **Goucher-Lambert, K.**, Agogino, A. (2021). Journey Mapping the Virtual Prototyping Experience. ASME 2021 International Mechanical Engineering Congress and Exposition. November 1-5, 2021.
22. Nandy, A., and **Goucher-Lambert, K.** (2021). Aligning Human and Computational Evaluations of Functional Design Similarity. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021.
21. Mirabito, Y., and **Goucher-Lambert, K.** (2021). Connecting Design Actions, Reasoning, and Outcomes in Concept Selection. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021.
20. Kwon, E., Huang, F., and **Goucher-Lambert, K.** (2021). Multi-Modal Search for Inspirational Examples in Design. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021.
19. Rao, V., Krishnan, A., Kim, E., Kwon, J., Agogino, A., and **Goucher-Lambert, K.** (2021). The Influence of Team Goal Alignment and Awareness on Human-Centered Design Team Decision-Making Strategy. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021.
18. Beckman, S., Jian, A., Sabharwal, A., and **Goucher-Lambert, K.** (2021). Examining Goal Congruence on Engineering Design and Innovation Student Teams. ASME International Design Engineering Technical Conferences - Design Education Conference. August 17-20, 2021. **Best Paper Award**
17. Wang, Y., Grandi, D., Cui, D., Rao, V., and **Goucher-Lambert, K.** (2021). Understanding Professional Designers' Knowledge Organization Behavior: A Case Study in Product Teardowns. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021.
16. Mirabito, Y., and **Goucher-Lambert, K.** (2020). The Role of Idea Fluency and Timing on Highly Innovative Design Concepts. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 16-19, 2020.
15. Nandy, A., Dong, A., **Goucher-Lambert, K.** (2020). A Comparison of Vector and Network-Based Measures for Assessing Design Similarity. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 16-19, 2020.
14. Moore, G., **Goucher-Lambert, K.**, Agogino, A. (2020). A Life Cycle Analysis of Laser Cutter Embodied Impacts. ASME International Design Engineering Technical Conferences - Design for Manufacturing and the Life Cycle Conference. August 16-19, 2020.
13. Rao, V., Kim, E., Kwon, J., Agogino, A., **Goucher-Lambert, K.** (2020). Method Selection in Human-Centered Design Teams: An Examination of Decision-Making Strategies. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 16-19, 2020. **Best Paper Award**

12. Chong, L., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2020). Does a Constrained Design Space Constrain Effective Ideation?. 2020 Design Computing and Cognition Conference. Atlanta, GA. June 29 - July 1, 2020.
11. Rao, V., Kim, E., Jung, H.J., **Goucher-Lambert, K.**, and Agogino, A. (2020). Design for Cybersecurity (DfC) Cards: A Creativity-Based Approach to Support Designers' Consideration of Cybersecurity. 2020 Design Computing and Cognition Conference. Atlanta, GA. June 29 - July 1, 2020.
10. **Goucher-Lambert, K.**, Gyory, J.T., Kotovsky, K., and Cagan, J. (2019). Computationally Derived Adaptive Inspirational Stimuli For Real-Time Design Support During Concept Generation. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Anaheim, CA. August 18-21, 2019.
9. **Goucher-Lambert, K.**, and McComb, C. (2019). Using Hidden Markov Models to Uncover Underlying States in Neuroimaging Data for a Design Ideation Task. International Conference on Engineering Design Conference. Delft, Netherlands. August 5-8, 2019. **Reviewers Favorite Award. Excellence in Design Science Award (Best Overall Paper)**
8. Gyory, J.T., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2019). Exploring the Application of Network Analytics in Characterizing a Conceptual Design Space. International Conference on Engineering Design Conference. Delft, Netherlands. August 5-8, 2019. **Reviewers Favorite Award**
7. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2018). Inspired Internal Search: Using Neuroimaging to Understand Design Ideation and Concept Generation with Inspirational Stimuli. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Quebec City, Quebec, Canada. August 26-29, 2018. **Best Paper Award Finalist**
6. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2018). Unsuccessful External Search: Using Neuroimaging to Understand Fruitless Periods of Design Ideation Involving Inspirational Stimuli. 2018 Design Computing and Cognition Conference. Milan, Italy. July 2-4, 2018.
5. **Goucher-Lambert, K.**, and Cagan, J. (2017). Using crowdsourcing to provide analogies for designer ideation in a cognitive study. International Conference on Engineering Design Conference. Vancouver, Canada. August 21-35, 2017. **Reviewers Favorite Award**
4. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2016). The Truth in the Decision: Using Neuroimaging to Understand Product Preference Judgments Involving Sustainability. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Charlotte, NC. August 21-24, 2016.
3. **Goucher-Lambert, K.**, Moss, J., and Cagan, J. (2016). A Meta-Analytic Approach for Uncovering Neural Activation Patterns of Sustainable Product Preference Decisions. 2016 Design Computing and Cognition Conference. Chicago, IL. June 25-29, 2016.
2. McComb, C., **Goucher-Lambert, K.**, and Cagan, J. (2015). Fairness and Manipulation: An Empirical Study of Arrow's Impossibility Theorem. International Conference on Engineering Design Conference. Milan, Italy. July 28-31, 2015. **Reviewers Favorite Award**
1. **Goucher-Lambert, K.**, and Cagan, J. (2014). The Impact of Sustainability on Consumer Preference Judgments of Product Attributes. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Buffalo, NY. August 17-20, 2014. **Best Paper Award**

Abstracts

3. Hanafiah, R., Grandi, D., and **Goucher-Lambert, K.** (2021). Linking Design Inquiries to Design Features in Engineering Design. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. August 17-20, 2021. (w/ Oral Presentation)
2. Vasudevan, V., Huang, A., **Goucher-Lambert, K.**, Kim, E., and Agogino, A. (2019). theDesignExchange.org: innovation archive of design methods and case studies. International Conference on Engineering Design Conference. Delft, Netherlands. August 5-8, 2019. (w/ Public Demonstration)
1. Gyory, J.T., **Goucher-Lambert, K.**, Kotovsky, K., and Cagan, J. (2019). A Proposed Metric to Assess the Overall Innovative Potential of Conceptual Designs. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Anaheim, CA. August 18-21, 2019. (w/ Oral Presentation)

Posters

3. **Goucher-Lambert, K.**, McComb, C. and Cagan, J. “Fairness and Manipulation: An Empirical Study of Arrow’s Impossibility Theorem”, Carnegie Mellon University Bennett Conference. Pittsburgh, 2015.
2. Tigli, O., Baciuc, H.J., and **Goucher-Lambert, K.** “Effects of Growth Conditions on ZnO Nanowire Synthesis”, IEEE Nanotechnology Materials and Devices Conference, Shilla-Jeju, Korea, Oct. 18-21, 2011.
1. **Goucher-Lambert, K.**, Tigli, O., and Baciuc, H.J. “Effects of Growth Conditions on ZnO Nanowire Synthesis”, Occidental College Summer Research Conference. Los Angeles, 2010.

INVITED TALKS

Presentation: “Developing an Extendable Bi-Directional Model of Human-AI Trust for Joint Action”, Trusted AI Challenge Meeting (AFOSR), Hybrid: Virtual/In-Person, May 2022.

Seminar: “ Inspirational Stimuli in Early Stage Engineering Design Problem Solving”, UC Santa Cruz, Cognitive Science Colloquium, Virtual/Online, April 2022.

Seminar: “Discovering Inspirational Examples in Engineering Design Using Computational, Behavioral, and Neuroimaging Techniques”, Stanford University, People, Computers, and Design Seminar Series, Palo Alto, CA, October 2021.

Presentation: “How to Leverage fMRI for Engineering Design Research”, International Conference on Engineering Design, Design Neurocognition Special Event, Virtual/Online, August 2021.

Seminar: “AI for Process Planning and Design Advising”, Northwestern University DEMAND Workshop, Virtual/Online, August 2021.

Seminar: “How studies of design cognition can help us create better data-driven design tools”, Pennsylvania State University, School of Engineering Design, Technology, and Professional Programs (SEDTAP), Virtual/Online, July 2021.

Seminar: “Developing an Extendable Bi-Directional Model of Human-AI Trust for Joint Action”, Trusted AI at Scale (AFOSR), Virtual/Online, July 2021.

Seminar: “Team Science in Engineering Design”, Journal of Mechanical Design, Virtual/Online, March 2021.

Seminar: “How studies of design cognition can help us create better data-driven design tools”, Autodesk AI Lab, Virtual/Online, August 2020.

Presentation and Panel: “Strategies for Success”, NextProf Workshop Series, Georgia Institute of Technology, October 2019.

Seminar: “Unpacking Design through Behavior, Cognition, and Computation”, Georgia Institute of Technology, Woodruff School of Mechanical Engineering, October 2019.

Presentation: “Engineering Design at UC Berkeley” (Flash Talk), Academic and Research Leadership Symposium, Detroit, MI, March 2019.

Seminar: “Engineering Design Decision-Making: Using Behavior, Cognition and Computation to Create Design Tools of the Future”, Stevens Institute of Technology, School of Systems and Enterprises, March 2018.

Seminar: “Engineering Design Decision-Making: Using Behavior, Cognition and Computation to Create Design Tools of the Future”, University of California, Berkeley, Department of Mechanical Engineering and Jacobs Institute of Design Innovation, March 2018.

Seminar: “Engineering Design Decision-Making: Using Behavior, Cognition and Computation to Create Design Tools of the Future”, Oregon State University, Department of Mechanical, Industrial, and Manufacturing Engineering, February 2018.

Seminar: “Engineering Design Decision-Making: Using Behavior, Cognition and Computation to Create Design Tools of the Future”, Loyola Marymount University, Department of Mechanical Engineering, December 2017.

Presentation: “Inside the Mind: Using Neuroimaging to Understand Open Engineering Design Research Questions”, International Conference on Engineering Design — Young Member Keynote Event. Milan, Italy, July 2015.

TEACHING

University of California, Berkeley, Berkeley, CA

- 2022 (Spring) DESINV 15: Design Methodology [GSI: Ananya Nandy]
- 2021 (Fall) ME 292C/DESINV 190: Human Centered Design Methods [GSI: Elisa Kwon]
- 2021 (Spring) DESINV 15: Design Methodology [GSI: Elisa Kwon]
- 2020 (Fall) ME 292C/DESINV 190: Human Centered Design Methods [GSI: Ananya Nandy]
- 2019 (Fall) ME 292C/DESINV 190: Human Centered Design Methods [GSI: Elena Duran]
- 2019 (Spring) ME 290H: Green Product Development: Design for Sustainability [co-Instructor w/ Euiyoung Kim, GSI: George Moore]

Carnegie Mellon University, Pittsburgh, PA

- 2017 (Fall) Integrated Product Conceptualization [Instructor, TA:Daksh Jayaswal]
- 2015 (Spring) Technology-Based Product Innovation and Enterprise Creation [Technology Expert for Jon Cagan and Stuart Evans]
- 2014 (Spring) Senior Mechanical Design II: Conceptualization and Realization [Teaching Assistant for L. Burak Kara]
- 2013 (Fall) Design for Manufacturing and the Environment [Teaching Assistant for Drew De-gentesh]

Metropolitan Water District of Southern California, Los Angeles, CA

- 2009 - 2011 Lead Student Advisor, Solar Cup
Note: Solar Cup is the largest high school competition involving solar powered locomotion in the nation.

ADVISING

Postdoctoral Researcher Advising

- 2022 - Present Dr. Mo Hu (PhD: Virginia Tech, CEE)
2021 - Present Dr. Vivek Rao (PhD: UC Berkeley ME, w/ Prof. Alice Agogino)

PhD Student Advising

- 2022 - Present Kevin Ma (ME)
2022 - Present Caseysimone Ballestas (ME, *Chancellor's Fellow*)
2021 - Present Nicole Goridkov (ME, *GEM Fellow, Chancellor's Fellow*)
2020 - Present Elisa Kwon (ME, *NSERC Graduate Fellow*)
2020 - Present Omar Betancourt (ME, w/ Prof. Tarek Zohdi, *Chancellor's Fellow*)
2019 - Present Yakira Mirabito (ME, *Chancellor's Fellow, GEM Fellow, NSF Graduate Fellow*)
2019 - Present Ananya Nandy (ME)

2019 - Present George Moore (ME, w/ Prof. Alice Agogino)

Undergraduate Student Advising

- 2022 - Present Megane Tchatchouang (Data Science/Jacobs Design Scholar)
2022 - Present Kelly Ye (EECS/Jacobs Design Scholar)
2022 - Present Holly Pilling (Cognitive Science/Jacobs Design Scholar)
2021 - 2021 Resham Khanna (Cognitive Science/Jacobs Design Scholar)
2021 - 2021 Nseke Ngilbus (Design/Jacobs Design Scholar)
2020 - 2022 Rafi Hanafiah (ME/Jacobs Design Scholar)- Position after lab: M.S @ UC Berkeley
2020 - 2021 Amy Jiang (ME/Jacobs Design Scholar)
2020 - 2021 Ananya Krishnan (Data Science) - Position after lab: M.S @ MIT
2019 - 2021 Jonathan Wong (ME)
2019 - 2022 Dixun Cui (ME) - Position after lab: Hardware Engineer @ Rivian
2019 - 2021 Ahan Sabharwal (Data Science) - Position after lab: Software Engineer @ Salesforce

Masters of Engineering Capstone Student Advising

- 2021 - 2022 *"Hardware Design Tool for Sustainability"* (w/ Dani Grandi and Ye Wang, Autodesk Research)
Samuel Lee (ME), Kefei Xu (ME)

2020 - 2021 *"Human-AI Collaboration for Sustainable Product Design"* (w/ Dani Grandi, Autodesk Research)
Chih Heng Lai (ME), Jiaming Luo (ME), Xianjiu Wu (ME), Xiaolin Wang (ME)

2019 - 2020 *"Data Driven Creativity Enhancement for Improved Product Design"*
Fred Hertlein (IEOR), Leonardo Huerta (ME), Bailing Zhan (IEOR)

2018 - 2019 *“Reimagining Autonomous Driving Scenarios with Human-Centered Design”* (co-Advisor w/ Alice Agogino and Euiyoung Kim)
Team 1: Aaron Ong (ME), Arnold Yeung (ME)
Team 2: Changhao Zheng (ME), Shreyas Bhayana (ME), Zheng Sun (ME), Ziwei Zhang (ME)

Doctoral Candidate Committees and Exams

2022 Zifeng Huang (Dissertation Committee, EECS), George Moore (Dissertation Committee, ME), Zeqing Jin (Qualifying Exam, ME), Deniz Dogruer (Thesis Proposal, SESAME), Leah Chong (Thesis Defense, External: Carnegie Mellon Univ.)

2021 Zifeng Huang (Qualifying Exam, EECS), Payton Goodrich (Qualifying Exam, ME), Avery Rock (Qualifying Exam, ME), Deniz Dogruer (Qualifying Exam, SESAME), Leah Chong (Thesis Proposal, External: Carnegie Mellon Univ.)

2020 George Moore (Qualifying Exam, ME), Zhizhou Zhang (Qualifying Exam, ME)

Masters Theses and Exam Committees

2022 Bo Peng (M.Eng. Modelling and Simulation), Adeen Bilal (M.Eng. Product Design), Adrian Neoh (M.Eng. Product Design), Aryan Nainy-Nejad (M.Eng. Product Design), Benjamin Lowe (M.Eng. Product Design), David Xiao (M.Eng. Product Design), Morgan LaMarca (M.Eng. Product Design), Efe Yavuz (M.Eng. Robotics and Controls), Victor Detavernier (M.Eng. Product Design), Olivier Masse (M.Eng. Aerospace), Samuel Lee (M.Eng. Product Design), Kefei Xu (M.Eng. Product Design)

2021 Dunja Panic (MBA/M.Eng.), Julie Yu (M.Eng. Product Design), Katherine Henshaw (M.Eng. Product Design), Lance Miranda (M.Eng. Product Design), Matthew Mesman (M.Eng. Product Design), Miyuki Weldon (5th Yr. ME M.S), Jessica Yuan (5th Yr. ME M.S), Kevin Widjaja (5th Yr. ME M.S), Roger Valverde (5th Yr. ME M.S), Miles Luhn (5th Yr. ME M.S), Jung Ahn (5th Yr. ME M.S), Eric Jacobs (5th Yr. ME M.S), Tony Ngo (5th Yr. ME M.S), Kristin Yamane (5th Yr. ME M.S), Alina Rai (5th Yr. ME M.S), Quoc Ho (5th Yr. ME M.S), Andrew Plewe (5th Yr. ME M.S), Paul Hsaio (5th Yr. ME M.S)

2020 Abhishek Bhagwat (M.Eng. Product Design), Anita Zhao (M.Eng. Product Design), Eliana Abbas (M.Eng. Product Design), Elise Perez y Landazuri (M.Eng. Product Design), Kunj Jain (M.Eng. Product Design), Mruthun Thirumalaisamy (M.Eng. Product Design), Sharnam Shah (M.Eng. Product Design), Varun Save (M.Eng. Product Design)

2019 Aaron C. Ong (M.Eng. Product Design), Arnold Yu Hin Yeung (M.Eng. Product Design), Changhao Zheng (M.Eng. Product Design), Jingbo Yang (M.Eng. Product Design), Shreyas Bhayana (M.Eng. Product Design), Xianxin Zhang (M.Eng. Product Design), Zheng Sun (M.Eng. Product Design), Zhijiong Huang (M.Eng. Product Design), Ziwei Zhang (M.Eng. Product Design), Yu Zhang (M.Eng. Product Design)

FUNDING

Funding Agency	Active Dates	My Role	Award	Project Title
Peder Sather Center	06/20 - 07/23	PI (w/ M. Steinert, NTNU)	\$20,000	Comparative Multi-Modal Neurocognition Experiments for Enhanced Engineering Design Research
CITRIS Seed Fund	01/21 - 12/21	Co-Lead PI (w/ M. El-Nasr, UCSC)	\$57,889	Integrating Theory of Mind in AI Models: Strategy Discovery from Human Behavioral Data (2020-0139)
Sandia National Labs	05/21 - 09/21	Single PI	\$48,543	Assessing Cognitive Impacts of Errors from Machine Learning and Deep Learning Models
Air Force Office of Scientific Research	09/21 - 09/22	PI (w/ J. Cagan, CMU)	\$100,000	Developing an Extendable Bi-Directional Model of Human-AI Trust for Joint Action
National Science Foundation	09/21 - 08/26	Co-PI (10 Total)	\$3,000,000	NRT-AI: Digital Transformation of Development (DToD)
National Science Foundation	01/22 - 12/26	Single PI	\$580,515	CAREER: Synthesizing Neuroimaging and Data Driven Approaches to Discover Inspirational Examples in Design

PROFESSIONAL ACTIVITIES

Society Memberships

- 2014 - Present Design Society
- 2013 - Present American Society of Mechanical Engineers
- 2013 - Present National Society of Black Engineers (2018+ as Professional Member)

Referee

Journals: ASME Journal of Mechanical Design, Design Studies, Design Science, IEEE Transactions on Engineering Management, Journal of Human Computer Interaction, Artificial Intelligence in Engineering Design and Manufacturing, Research in Engineering Design

Conferences: ASME IDETC Design Theory and Methodology Conference, ASME IDETC Design Automation Conference, Design Computing and Cognition, DESIGN, International Conference on Engineering Design, ASME IDETC Design for Manufacturing and the Life Cycle Conference, ASME IDETC Design Education Conference

External Funding Reviewer: National Science Foundation CMMI (2019, 2021), National Science Foundation Graduate Research Fellowship Program (2021)

Internal Funding Reviewer: France-Berkeley Fund (2019), Peder Sather Center

Editorships

- 2018 - 2021 Co-Guest Editor for Design Science Journal Thematic Collection on Design Neurocognition (w/ John Gero, Tripp Shealy, and Yong Zeng)

Conference Organizing

2022	ASME IDETC Design Theory and Methodology Conference: Design People Track (Session Chair)
2022	Design Computing and Cognition Conference '22 (Review Coordinator)
2021	ASME IDETC Design Theory and Methodology Conference: Design Methods Track (Review Coordinator, Session Chair)
2020	ASME IDETC Design Theory and Methodology Conference: Creativity and Ideation (Review Coordinator, Session Chair)
2020	Design Computing and Cognition Conference '20 (Review Coordinator)
2019	ASME IDETC Design Theory and Methodology Conference: Human Behavior in Design Track (Review Coordinator, Session Chair)

University Service

College

2020 - Present	Member, UC Berkeley Master of Design Education Committee
2020 - Present	Member, College of Engineering, Ethics Committee
2019 - Present	Founding Member, Jacobs Institute for Design Innovation, Diversity, Equity, and Inclusion Committee
2019 - Present	Member, Director's Council, Jacobs Institute for Design Innovation

Department

2021 - 2022	Member, Department of Mechanical Engineering, Data-Driven Design Faculty Search Committee
2021 - Present	Member, Department of Mechanical Engineering, Equity, and Inclusion Committee
2020 - 2021	Member, Department of Mechanical Engineering, Committee on Strategic Planning
2020 - Present	Member, Department of Mechanical Engineering, Committee on Masters of Engineering
2019 - 2020	Member, Department of Mechanical Engineering, Equity, and Inclusion Committee
2019 - 2020	Member, Department of Mechanical Engineering, Committee on Courses
2019 - 2020	Member, Department of Mechanical Engineering, Committee on Seminars

Diversity, Equity, Inclusion, and Outreach

2020 - Present	Founder and Lead: Berkeley Engineering Design Scholar Program
July 2019	Technology Expert/Advisor, Lawrence Hall of Science (Learning Science Design Group) for NSF Project: <i>"Digital Engineering Internship for Middle School Students"</i>
April 2019	Panelist, Berkeley Graduate Engineering and Science Students Speaker Series: <i>"From Representation to Power"</i>
March 2019	UC Berkeley Faculty Representative, 2019 National Society for Black Engineers Convention (Detroit, MI)
March 2019	Participant, Professionals of Color Career Day, Flynn Elementary School

February 2019 Speaker, UC Berkeley Mechanical Engineering First Year Scholars Seminar Series

Certifications and Training

2019 UC Berkeley Teaching Excellence Colloquium

2018 Carnegie Mellon University Future Faculty Program Certificate

2016 Diversity and LGBTQIA+ Safe Zone Training

PERSONAL

Born in Portland, OR (1989). Occidental College Men's Varsity Soccer (2007-2011). Carnegie Mellon Men's Club Soccer President (2014-15) and Head Coach (2017-2018).