

# JULIE HUI

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## RESEARCH OBJECTIVE

I am a design researcher with a focus in human-computer interaction and human-centered design. My goal is to understand and design technologies that support skill acquisition, coordination, and social support in communities of innovators with limited resources. I am trained in design and mixed-methods approaches.

## EDUCATION

- 2011-2017  
(expected) **Ph.D. Candidate in Mechanical Engineering**  
*Segal Design Institute*  
*Northwestern University*  
*McCormick School of Engineering*  
Evanston, IL  
Doctoral Committee: Elizabeth Gerber (advisor), Edward Colgate, Darren Gergle
- 2007-2011 **B.S. in Physics**  
*Massachusetts Institute of Technology*  
*School of Science*  
Cambridge, MA  
Minor in Mechanical Engineering

## RESEARCH EXPERIENCE

- 2011-Present **Graduate Research Assistant**  
*Northwestern University*  
*Delta Lab, Segal Design Institute*  
Advisor: Dr. Elizabeth Gerber  
Understanding and leveraging social technologies to support designers and engineers:
- Recruited and interviewed 109 crowdfunders about their motivations and the role of community to inform the design of crowdfunding technologies for social learning [J1, J2, C1, C4, C5].
  - Social network analysis of novice entrepreneurs and supporters on Kickstarter to identify better crowdfunding social networking strategies [C2].
  - Field study of 6 design classes to create a set of activities that help students leverage social media and online crowds in their design process. Activities are currently used at Northwestern University and Carnegie Mellon University [C3].
  - Field experiment to study how anonymity affects feedback quality and quantity provided through social media [C6].
  - Ethnography of a makerspace to understand help-seeking practices and role of technology in a shared workspace [C8].

Fall 2016 **Research Intern**

*Facebook*

*User Experience Research*

- Performed large-scale surveys, interviews, field intercepts, product user testing, and log data analyses to understand how people used online technologies to coordinate event awareness and attendance.

Summer 2015 **Research Intern**

*Microsoft Research*

*FUSE Labs*

Mentor: Dr. Shelly Farnham

- Surveyed 132 entrepreneurs and performed 20 interviews to identify how collaboration tools can better support gender and ethnically diverse project teams [C7].

2010-2011 **Undergraduate Research Assistant**

*Massachusetts Institute of Technology*

*Department of Electrical Engineering and Computer Science*

Mentor: Dr. Steven Leeb

- Designed and built educational tools for MIT's Advanced Power Electronics II Lab class
- Work contributed to a publication in the IEEE Workshop on Control and Modeling for Power Electronics

Summer 2008, 2009 **Undergraduate Research Assistant**

*University of Maryland*

*Department of Economics*

Mentor: Dr. Mark Duggan

- Collected and statistically analyzed 12 years of Medicare data to identify pricing fraud from major pharmaceutical companies.

## **ACADEMIC AWARDS & RECOGNITION**

2017 Northwestern Cabell Fellowship

2013-2016 NSF Graduate Research Program Fellowship

2016 Invited Member of Doctoral Consortium at CHI

2016 Excellent Paper Reviewer Acknowledgment at CHI

2015 Invited Member of Doctoral Consortium at HCOMP

2015 Invited Member of Doctoral Consortium at C&C

2014 CSCW Best Paper Nomination

2014 Grace Hopper Celebration for Women in Computing Scholarship

2013 Northwestern Segal Design Cluster Fellowship

2011-2012 Northwestern Murphy Scholarship

2012 Northwestern Department of Mechanical Engineering Science as Art Competition

2011 MIT Design and Manufacturing II Competition

## PUBLICATIONS

### CONFERENCE PAPERS (PEER-REVIEWED, ARCHIVAL)

- [C8] **Hui, J.**, Gerber, E. (2017) Developing Makerspaces as Sites of Entrepreneurship. *Proceedings of SIGCHI Conference on Computer Supported Cooperative Work and Social Computing*. Portland, USA. To Appear at CSCW '17. ACM Press.
- [C7] **Hui, J.**, Farnham, S.. (2016) Designing for Inclusion: Supporting Gender Diversity in Independent Innovation Teams. *Proceedings of SIGCHI Conference on Supporting Groupwork*. Sanibel Island, USA. GROUP '16. ACM Press. [Acceptance Rate: 30%]
- [C6] **Hui, J.**, Glenn, A., Jue, R., Dow, S., Gerber, E. (2015) Using Anonymity and Communal Efforts to Improve Quality of Crowdsourced Feedback. *Proceedings of AAAI Conference on Human Computation and Crowdsourcing*. San Diego, USA. HCOMP '15. AAAI Press, 72-82. [Acceptance Rate: 30%]
- [C5] **Hui, J.**, and Gerber, E. (2015) Crowdfunding Science: Sharing Research with an Extended Audience. *Proceedings of SIGCHI Conference on Computer Supported Cooperative Work and Social Computing*. Vancouver, Canada. CSCW '15. ACM Press, 31-43. [Acceptance Rate: 26%]
- [C4] Harburg, E., **Hui, J.**, Greenberg, M., Gerber, E. (2015) The Effects of Crowdfunding on Entrepreneurial Self-Efficacy. *Proceedings of SIGCHI Conference on Computer Supported Cooperative Work and Social Computing*. Vancouver, Canada. CSCW '15. ACM Press, 31-43. [Acceptance Rate: 26%]
- [C3] **Hui, J.**, Gerber, E., Dow, S. (2014) Crowd-Based Design Activities: Helping Students Connect with Users Online. *Proceedings of SIGCHI Conference on Designing Interactive Systems*. Vancouver, Canada. DIS '15. ACM Press, 875-884. [Acceptance Rate: 20%]
- [C2] **Hui, J.**, Gerber, E., Gergle, D. (2014) Understanding and Leveraging Social Networks for Crowdfunding: Opportunities and Challenges. *Proceedings of the SIGCHI Conference on Designing Interactive Systems*. Vancouver, Canada. DIS '15. ACM Press, 677-680. [Acceptance Rate: 20%]
- [C1] **Hui, J.**, Greenberg, M., Gerber, E. (2014) Understanding the Role of Community in Crowdfunding Work. *Proceedings of SIGCHI Conference on Computer Supported Cooperative Work and Social Computing*. Baltimore, USA. CSCW '14. ACM Press, pp. 62-74. [Acceptance Rate: 26%]  
**\*Nominated for Best Paper Award\***

### JOURNAL ARTICLES (PEER-REVIEWED, ARCHIVAL)

- [J2] **Hui, J.**, Gerber, E., Easterday, M. Distributed Apprenticeship in Online Communities. Conditionally Accepted with Revisions to the Journal of Human-Computer Interaction.
- [J1] Gerber, E., **Hui, J.** (2013) Crowdfunding: Motivations and Deterrents for Participation. *ACM Transactions on Computer-Human Interaction*. TOCHI. ACM Press, 20(6), Article 34, 677-680.

## BOOK CHAPTERS

- [B1] Gerber, E., **Hui, J.** (2016) Crowdfunding: How and Why People Participate. In Méric, J., Maque, I., Brabet, J. (Eds.) *International Perspectives on Crowdfunding: Positive, Normative, and Critical Theory*. Emerald Group Publishing Limited, Bingley, UK.

## WORKSHOP PAPERS AND POSTERS (PEER-REVIEWED)

- [W10] **Hui, J.** (2017 - forthcoming) Supporting Entrepreneurship in Underserved Populations. In workshop on Reflections on Design Methods for Underserved Communities at SIGCHI Conference on Computer Supported Cooperative Work and Social Computing. Portland, USA. CSCW '17. ACM Press.
- [W9] **Hui, J.** (2016) Online Help-Seeking in Communities of Novice Innovators. In Extended Abstracts of SIGCHI Conference on Human Factors in Computing Systems Doctoral Consortium. San Jose, USA. CHI '16. ACM Press, 218-222.
- [W8] **Hui, J.** (2015) Supporting Online Mentor Connections for Novice Entrepreneurial Engineers. In Extended Abstracts of AAAI Conference on Human Computation and Crowdsourcing Doctoral Consortium. San Diego, USA. HCOMP '15. AAAI Press.
- [W7] **Hui, J.** (2015) Leveraging Online Communities for Novice Designers. In Extended Abstracts of SIGCHI Conference on Creativity and Cognition Graduate Student Symposium. Glasgow, Scotland. C&C '15. ACM Press, 347-348.
- [W6] **Hui, J.,** Gerber, E. (2015) The Role of Community in Crowdfunding Work. Paper presented at Collective Intelligence Conference. Santa Clara, USA.
- [W5] Gerber, E., **Hui, J.** (2014) To Crowdfund or Not. Poster presented at Collective Intelligence Conference. Cambridge, USA.
- [W4] **Hui, J.,** Gerber, E., Gergle, D. (2013) Understanding and Leveraging Social Networks for Crowdfunding: Implications for Support Tools. In Extended Abstracts of SIGCHI Conference on Human Factors in Computing Systems. Paris, France. CHI '13. ACM Press, 2083-2088.
- [W3] **Hui, J.,** Greenberg, M., Gerber, M. (2013) Understanding Crowdfunding Work: Implications for Support Tools. In Extended Abstracts of SIGCHI Conference on Human Factors in Computing Systems. Paris, France. CHI '13. ACM Press, 889-894.
- [W2] Greenberg, M., **Hui, J.,** Gerber, M. (2013) Crowdfunding: A Resource Exchange Perspective. In Extended Abstracts of SIGCHI Conference on Human Factors in Computing Systems. Paris, France. CHI '13. ACM Press, 883-888.
- [W1] Gerber, E., **Hui, J.,** Kuo P-Y. (2012) Crowdfunding: Why People are Motivated to Post and Fund Projects on Crowdfunding Platforms. In workshop on Design Influence and Social Technologies: Techniques, Impacts, and Ethics at SIGCHI Conference on Computer Supported Cooperative Work. Bellevue, USA. CSCW '12.

## WORKS-IN-PROGRESS

- [R1] Roldan, W., **Hui, J.,** Gerber, E. (Under Review) Designing for Gender Inclusion in College Makerspaces.

## INVITED TALKS AND PAPER PRESENTATIONS

- 2017 Paper-based Talk - Developing Makerspaces as Sites of Entrepreneurship. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW). February 27 - March 1, 2017. Portland, OR, USA.
- 2016 Invited Talk - University of Illinois - Urbana Champaign, Human-Computer Interaction Seminar. December 6, 2016. Champaign, IL, USA.
- 2016 Invited Talk - Arizona State University, Engineering Education Systems and Design PhD Seminar. November 28, 2016. Tempe, Arizona, USA.
- 2016 Paper-based Talk - Designing for Inclusion: Supporting Gender Diversity in Independent Innovation Teams. ACM Conference on Groupwork (GROUP). November 13-16, 2016. Sanibel Island, FL, USA.
- 2016 Invited Talk - Northwestern University, Segal Design Seminar. August 30, 2016. Evanston, IL, USA.
- 2016 Doctoral Consortium Talk - Online Help-Seeking in Communities of Novice Innovators. ACM Conference on Human Factors in Computing Systems Doctoral Consortium (CHI). May 7-12, 2016. San Jose, CA, USA.
- 2015 Doctoral Consortium Talk - Supporting Online Mentor Connections for Novice Entrepreneurial Engineers. AAAI Conference on Human Computation and Crowdsourcing Doctoral Consortium (HCOMP). November 8-11, 2015. San Diego, CA, USA.
- 2015 Paper-based Talk - Using Anonymity and Communal Efforts to Improve Quality of Crowdsourced Feedback. AAAI Conference on Human Computation and Crowdsourcing (HCOMP). November 8-11, 2015. San Diego, CA, USA.
- 2015 Doctoral Consortium Talk - Leveraging Online Communities for Novice Designers. ACM Conference on Creativity and Cognition Graduate Student Symposium (C&C). June 22-26, 2015. Glasgow, Scotland.
- 2014 Paper-based Talk - The Role of Community in Crowdfunding Work. Collective Intelligence Conference. May 31-June 2, 2015. Santa Clara, CA, USA.
- 2015 Paper-based Talk - Crowdfunding Science: Sharing Research with an Extended Audience. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW). March 14-18, 2015. Vancouver, British Columbia, Canada.
- 2014 Paper-based Talk - Crowd-Based Design Activities: Helping Students Connect with Users Online. ACM Conference on Designing Interactive Systems (DIS). June 21-25, 2014. Vancouver, British Columbia, Canada.
- 2014 Paper-based Talk - Understanding and Leveraging Social Networks for Crowdfunding: Opportunities and Challenges. ACM Conference on Designing Interactive Systems (DIS). June 21-25, 2014. Vancouver, British Columbia, Canada.
- 2014 Paper-based Talk - Understanding the Role of Community in Crowdfunding Work. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW). February 15-19, 2014. Baltimore, MD, USA.

## TEACHING, LEADERSHIP, AND OUTREACH

- Fall 2016 -  
Spring 2017 **Lead Organizer**  
*Segal Design Cluster*  
*Northwestern University*
- Organize and facilitate 9 meetings between the 40 faculty and students to discuss topics in human-centered design, share feedback on projects, and present current work.
- Winter 2016 **Head Teaching Assistant**  
*ME 398-1: Engineering Design*  
*Northwestern University*
- Developed and gave lectures on user research, ideation, and user testing.
  - Met with all project teams for an hour every week to provide guidance and feedback.
  - Attended all instructor team meetings to plan class direction.
- October 2015 **Hackathon Lead Organizer and Facilitator**  
*Crowdcamp Workshop*  
*AAAI Conference on Human Computation and Crowdsourcing*
- Recruited 25 participants, including faculty, graduate students, and industry researchers.
  - Organized and led a day-long hackathon to design and build crowdsourcing technologies.
- 2014-Present **President, Co-Founder of Northwestern Toastmasters Chapter (Public Speaking Team)**  
*Northwestern University*
- Founded the Northwestern Toastmasters chapter of over 30 graduate and undergraduate students from 10 different departments.
  - Organize and lead 1.5 hour weekly meetings to improve student public speaking skills.
- Spring 2014,  
2015 **Design Guest Lecturer**  
*DSGN 305: Human-Centered Service Design*  
*Segal Design Institute, Northwestern University*
- Designed and delivered lectures and activities to undergraduate and masters students on how to identify problems, brainstorm ideas, and seek feedback from users.
- Spring 2014 **Curriculum Design Mentor**  
*LRN\_SCI 429: Design of Learning Environments*
- Selected by course professor to mentor a graduate student team on their class projects to design a maker learning environment for a local middle school.
- Summer 2013 **Design Guest Lecturer**  
*Design for America*  
*Northwestern University*
- Led workshops on Communication Design and Prototyping to Design for America undergraduate students.
- 2014-Present **Career Mentor**  
*Segal Design Institute Professional Bridge*  
*Northwestern University*
- Meet regularly and provide design career advice to undergraduate students.
- Winter 2008 **Teaching Assistant**  
*Edgerton Center Outreach Program*  
*Massachusetts Institute of Technology*
- Taught project-based activities to local elementary and middle school students.

## RESEARCH MENTORSHIP

- 2015 (10 mo.) Wendy Roldan, Northwestern undergraduate
- 2015 (6 mo.) Shannon Nachreiner, Northwestern undergraduate (Computer Programmer at Course Hero)
- 2015 (6 mo.) Sofia Sami, Northwestern undergraduate
- 2014 (3 mo.) Joona Hamad, Northwestern undergraduate
- 2014 (1 yr.) Hannah Hudson, Northwestern undergraduate (Designer at Intuit)
- 2013 (3 mo.) Nichole Zhu, Northwestern undergraduate (Computer Science Intern at Vox)
- 2013 (1 yr.) Lauren Tindal, Northwestern undergraduate (User Support at Box)
- 2013 (3 mo.) Alan Besquin, Northwestern undergraduate (Design Intern at Apple)
- 2013 (6 mo.) Cassandra Coravos, Northwestern undergraduate (Fellow at Venture for America)
- 2013 (3 mo.) Catherine Jameson, High school student (Mechanical Engineering student at Yale)
- 2012 (1 yr.) Megan Sherich, Northwestern undergraduate (Engineer at CareFusion)

## ACADEMIC SERVICE

*Program Committee:* ACM Creativity & Cognition 2017 Papers, ACM Creativity & Cognition 2015 Posters and Demonstrations

*Conference Paper Reviewer:* CHI 2013-2017, CSCW 2013-2017, UIST 2015, HICSS 2016

*Journal Paper Reviewer:* Transactions on Human Computer Interaction (TOCHI), American Society of Mechanical Engineers Journal, Journal of Business Ethics, Information Systems Frontiers

*Web Designer:* HCOMP 2017

## PRESS

Work featured in: Harvard Business Review (2016), The Wall Street Journal (2014), ABC News (2012), Toronto Star (2012), and Physics Today (2013),

## SKILLS

*Mastery:* Interviews, Participatory Observation, Survey Design, Qualitative Data Analysis, Usability Studies

*Proficiency:* Experimental Design, Quantitative Data Analysis, Statistics (R), Python, HTML, CSS, Javascript, Social Network Analysis, SQL, SolidWorks

*Familiarity:* Mechatronics, Machining, Woodworking

## REFERENCES (UPON REQUEST)

Dr. Elizabeth Gerber - Associate Professor of Mechanical Engineering (Segal Design Institute, Northwestern University)

Dr. Darren Gergle - Associate Professor of Communication Studies, Director of Graduate Studies - Technology and Social Behavior (Northwestern University)

Dr. Steven Dow - Assistant Professor of Cognitive Science (University of California San Diego)