

**Work Address**

Center for Design Research, 424 Panama Mall  
 Stanford, CA 94305  
 xiaog@stanford.edu

## EDUCATION

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- 2016 **Ph.D., Mechanical Engineering, Stanford University, US**  
 – *Reading Committee:*  
 DEC. 2021 *Prof. Larry Leifer (Primary Advisor), Mechanical Engineering*  
 (EXPECTED) *Prof. Sheri Sheppard, Mechanical Engineering*  
*Prof. Hazel Markus, Psychology*  
*Prof. Roy Pea, Graduate School of Education*  
**Dissertation: Emotional Disturbance and its Constructive Role in the Learning Process of Collaborative Design**
- 2010 – 2012 **M.S., Design Methodology, Mechanical Engineering, Stanford University, US**
- 2006 – 2010 **B.Eng., Harbin Institute of Technology, Harbin, China**

## FELLOWSHIPS

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- 2018 – 2021 **Stanford Interdisciplinary Graduate Fellowship—The Hsieh Family Fellow**
- 2006 - 2008 **The People's Fellowship for Top One Student, Harbin Institute of Technology**

## GRANTS & AWARDS

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- 2021 **Rising Stars in Mechanical Engineering**—Nominated and selected for the 2021 Rising Stars for Women in Mechanical Engineering, MIT
- 2021 - 2022 **Human-Centered Artificial Intelligence Seed Grant, Stanford**—Title: What Conception of the “Human” Grounds Human-Centered Artificial Intelligence? A Cultural Framework for Equitable Development of Artificial Intelligence Across the Globe (PI: Hazel Markus, Brian Lowery); Led the proposal writing.
- 2021 - 2022 **Hasso Plattner Design Thinking Research Award**—Title: Cultural Grounding of Affect in Creativity (PI: Hazel Markus, Jeanne Tsai); Led the proposal writing.
- 2020 - 2021 **Hasso Plattner Design Thinking Research Award**—Title: Designers as Culturally-Shaped Shapers: Cultural Values Underpin the Motivation for Problem-Solving (PI: Hazel Markus); Led the proposal writing.

- 2016 **Stanford MediaX Research Grant**—Title: Enabling Impromptu Interaction Through a Robotic Water Cooler (PI: Larry Leifer); Led the proposal writing.

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## WORKING PAPER

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Ge, X. et al. The Disturbance of Insight (under preparation, *Journal of the Learning Sciences*)

Ge, X. et al. Advocating a Need-based, Idiographic Approach to Study Emotion in Learning (under preparation, *Emotion Review*)

Ge, X. et al. “I feel what you feel, but I feel different”: Demystify the Paradox of Emotion Attunement and Divergence in Collaborative Design Work (under preparation, ACM CSCW 2022)

Xu, C. Ge, X. & Markus, H.R. How Does Cultures Affect the Development of Smart Technology and People’s responses to its Development (under preparation, *Current Directions in Psych. Science*)

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## JOURNAL PUBLICATION

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**Ge, X.,** Leifer, L. & Shui, L (2021). Situated Emotion and its Constructive Role in Collaborative Design: A Mixed-method Study of Experienced Designers, *Design Studies*, 75 (101020), ISSN 0142-694X, [[LINK](#)]

Misaki, D. & **Ge, X.** (2019). 工学教育におけるデザイン思考の活用 (Design Thinking for Engineering Education). *Journal of the Japan Society for Precision Engineering*, 85(7), 636-639. [[LINK](#)]

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## CONFERENCE PRESENTATION & PUBLICATION

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**Ge, X.,** Leifer, L. & Shui, L. (2021). A Mixed-methods Study of Learning-at-disturbance in Experienced Designers. In *Proceedings of 15th International Conference of the Learning Sciences*. edited by de Vries, E., Hod, Y., Ahn, J. 307-314 [[LINK](#)]

**Ge, X.,** Misaki, D., Furue, N., Xu, C. (2021). Culturally Responsive Engineering Education: Creativity through “Empowered to Change” in the US and “Admonished to Preserve” in Japan. *2021 ASEE Virtual Annual Conference Content Access*. 10.18260/1-2--36887. [[LINK](#)]

**Ge, X.,** & Leifer, L. (2020). When Tough Times Make Tough Designers: How Perplexing Experiences Shape Engineers’ Knowledge and Identity. *The International journal of engineering education*, 36(2), 650-663. [[LINK](#)]

Misaki, D., **Ge, X.** & Odaka, T. (2020). Toward Interdisciplinary Teamwork in Japan: Developing Team-based Learning Experience and Its Assessment. In *2020 ASEE Virtual Annual Conference, Mechanical Engineering Technical Session: Team/Project-based Pedagogy and Approaches*. American Society for Engineering Educators.

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Moore, D., **Ge, X.**, Stenholm, D., Sirkin, D., & Ju, W. (2018). ActiveNavigator: Toward Real-Time Knowledge Capture and Feedback in Design Workspaces. *The International Journal of Engineering Education*, 34(2), 723-733. [[LINK](#)]

**Ge, X.**, & Leifer, L. (2017). Design Thinking at the Core: Learn New Ways of Thinking and Doing by Reframing. In *ASME 2017 29th International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*. American Society of Mechanical Engineers. [[LINK](#)]

Maisch, B., Bandyopadhyay, G., **Ge, X.**, Hsu, A. (2013) User-driven Innovation for Industrial Environment in China: Opportunities and Challenges. In *6th ISPIM Innovation Symposium*, Melbourne, Australia. International Society for Professional Innovation Management. [[LINK](#)]

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## INVITED ARTICLE

**Ge, X.**, Xu, C., Furue, N., Misaki, D., Lee, C. & Markus, H.R. (to appear 2023) The Cultural Construction of Creative Problem Solving: A Critical Reflection on Creative Design Thinking, Teaching, and Learning. In *Design Thinking Research*. Springer. [[LINK, please do not further circulate without permission](#)]

**Ge, X.**, & Maisch, B. (2016). Industrial Design Thinking at Siemens Corporate Technology, China. In *Design Thinking for Innovation* (pp. 165-181). Springer International Publishing. [[LINK](#)]

**Ge, X.**, Maisch, B. and Tan, F. (2013). 极端需求主导 非同寻常创新 (Extreme User Needs-driven Innovation). *Tsinghua Business Review*, 6:70-79. [[LINK](#)]

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## INVITED TALK

2021 “*Emotional Disturbance in Design*”, at Learning, Innovation and Technology Lab, Graduate School of Education, Harvard

2017 “*Team Self-Efficacy*”, at ME310: Global Engineering Design Thinking, Innovation, and Entrepreneurship, Stanford [[LINK TO SLIDES](#)]

2015 “*Needfinding*”, at the joint program of Communication University of China, China Film Academy, and China Normal University

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## TEACHING EXPERIENCE

2019 – **Coach**, ME310ABC – *Global Engineering Design Thinking, Innovation, and Entrepreneurship*

+ Coached student team in their design process, including helping them overcome roadblocks and providing critical feedback to their progress; the course is taught by Larry Leifer, Mark Cutkosky, and George Teye. [[LINK TO COURSE INFO](#)].

- 2018 **Coach**, *ME277 – Graduate Design Research Techniques*
- + Coached student groups on various design tasks; this was part of the “Coaching Design Thinking” course by Michael Barry and Michelle Jia.
- 2018 **Lecturer**, *Interdisciplinary Design Innovation Series, Kogakuin University, Japan; Shanghai Jiao Tong University, China.*
- + Created and lectured two-day workshops of interdisciplinary design innovation, offered to students from engineering, business, and other backgrounds. It was targeted to help engineering students collaborate with other disciplines.
  - + A design project I designed for the workshops was later adopted into the curriculums of Mechanical Engineering Department at Kogakuin University, Japan.
- 2017 - 2018 **Coach**, *Stanford - Deutsche Bahn Collaboration for High-Performance Self-organizing Teams at Deutsche Bahn Systel, Germany*
- + Remotely coached software engineering employees to improve team awareness and learn teamwork best practices with Skype call-based coaching meetings.
  - + Participated in creating a coaching methodology for DB Systel self-organizing teams; The work was done with Neeraj Sonalkar, Ade Mabogunje and Larry Leifer.
- 2016 **Coach**, *Product Innovation through Design Thinking (PIDT), Stanford Center for Professional Development Project Management Advanced Certificate program*
- + Coached participants to find user needs, synthesize opportunity areas, brainstorm, prototype and conduct user-testing; The three-day course was offered by Julie Stanford, Pam Hinds and Michael Barry.
- 2012 – 2014 **Lecturer** (Innovation Specialist), *Siemens Corporate Technology China, Beijing, China*
- + Taught and coached Siemens R&D managers and researchers design thinking processes and methods and participated in 12+ tech innovation R&D projects across fields, incl. healthcare, energy, manufacturing, and infrastructure & cities.

## ACADEMIC SERVICE

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- 2019–  
PRESENT **Reviewer**, Journal of Engineering Education, American Society of Engineering Education (ASEE) annual conference
- 2019 **Mentor**, PhD Peer Mentorship, Mechanical Engineering, Stanford
- 2019 **Organizer**, Guest Speaker Series—Past PhD Students of Prof. Larry Leifer
- 2019 –  
PRESENT **Course Design and Teaching Support**, ME397: Design Research Theory and Methodology, Stanford
- 2012 – 2015 **Student Coach** on *Human-centered Innovation and Design Thinking*, University of Science and Technology of China; Beijing University of Technology and Communication

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University of China; Joint program of Communication University of China, China Film Academy, and China Normal University

## INDUSTRY EXPERIENCE

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2014 – 2015 **Consultant**, 原创家 (*Originators*), Beijing, China.

- + Worked with two entrepreneurs to build a maker space called 原创家 to guide learning activities for Chinese children to imagine, make and empathize.

2012 – 2014 **Innovation Specialist**, *Integrated and Disruptive Innovation Center, Siemens Corporate Technology China*, Beijing, China

- + Developed, launched, and ran innovation programs with my team; Developed course materials for Industrial Design Thinking, based on Siemens industrial business environment and cultures of China.
- + Built and maintained an innovation community serving innovation-inspiring activities within Siemens.

2011 – 2012 **Software Engineer**, LOCKSS Program, Stanford University Libraries, Stanford, CA, US

- + Processed content testing and wrote plugins for digital preservation of web published cultural heritage; Part-time work while pursuing MS degree at Stanford

## ENGINEERING AND DESIGN EXPERIENCE

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2019 – 2020 *Quirkcam: Subjective Camera for Co-ethnography, Stanford, CA, US*

- + Explored how to build miniature subjective cameras for co-ethnographical design research (teamwork); The project was paused because of COVID-19.

2016 *Enabling Impromptu Interaction Through a Robotic Water Cooler*, Stanford, CA, US

- + Built a robotic water cooler which can move smoothly around an office environment (teamwork). It is remotely controlled over WiFi by a remote operator to simulate autonomous behavior for human-robot experiments; Sponsored by MediaX.

2016 *Biodesign Innovation for Recurrent Diabetic Foot Ulcer*, Stanford, CA, US

- + Can med-tech prevent recurrent foot ulcer in high-risk diabetic patients? Designed an end-to-end service system to prompt early intervention for diabetic foot ulcers (teamwork). This project was based on *ME368AB Biodesign Innovation*.

2013 *Rubber Band-powered Car*, Beijing, China

- + Built a rubber band-powered radio control car with two colleagues at Siemens (teamwork); hand-made all components.

2011 *Interactive Disco Tubes Game*, Stanford, CA, US

- + Designed a dynamic and interactive game in which users interact with the system by moving color-lighting cubes to match specific patterns (teamwork). This project was based on *ME218A Smart Product Design*.

2011 *Joystick-based Haptic Steering System*, Stanford, CA, US

- + Designed a joystick-based haptic steering system for steer-by-wire automobile (teamwork); Built and tested user interface with the haptics interactive simulation software (CHAI3D) and hardware (Novint Falcon); Sponsored by Panasonic.

2011 *Teach ASIMO American Sign Language*, Stanford, CA, US

- + Researched on assistive robotics, generating hand gestures of ASL (American Sign Language) for ASIMO - a humanoid robot, using voice recognition for input and a real-time robot simulator for testing and demo (teamwork). The project was based on *CS327A Advanced Robotics*.
- + Summer research: Improved the robot simulator's user interface with Qt software.

2010 – 2011 *Configure-to-order (CTO) Communication Satellite Bus*, Stanford, CA, US

- + Designed in a team a CTO communication satellite's core structure which satisfied unmet needs of testing engineers and dramatically improved satellite production process (teamwork); Collaborated with Universidad Nacional Autonoma de Mexico; The project was based on *ME310*; Sponsored by Lockheed Martin.

2009 – 2010 *Bachelor Thesis on Satellite Deorbiting by Electrodynamic Tether*, Harbin, China

- + Researched on dynamic and electronic performance of Electrodynamic Tether in satellite's deorbiting system for debris removal.

2009 *Thermal Performance of Open Refrigerator*, Universidade da Beira Interior (UBI), Portugal

- + Researched with UBI professors on the thermal performance of open refrigerated display cabinet, with CFD (computational fluid dynamics) model simulation.

## REFERENCE

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### **Larry Leifer**

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Stanford University  
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### **Hazel Markus**

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