XIAO GE

Mom, Researcher, Teacher, Designer

131 Running Farm Lane, Apt 102, Stanford, CA 94305

xiaog@stanford.edu

(765)586-1351

EDUCATION

2016 – JUN. 2021 (EXPECTED) **Stanford University**
Ph.D., *Design Research, Mechanical Engineering*
Reading Committee:
Prof. Larry Leifer (Primary Advisor), Mechanical Engineering
Prof. Sheri Sheppard, Mechanical Engineering
Prof. Hazel Markus, Psychology
Prof. Roy Pea, Graduate School of Education
Dissertation: "Disturbance in the Wild: Understanding Designers as Emotional Learners"

2010 – 2012 **Stanford University**
M.S., *Design Methodology, Mechanical Engineering*

2006 – 2010 **Harbin Institute of Technology,** Harbin, China
B.Eng., *Spacecraft Design and Engineering*

FELLOWSHIPS

2018 - 2021 **Stanford Interdisciplinary Graduate Fellowship - The Hsieh Family Fellow,** Stanford

2006- 2008 **The People's Fellowship for Top One,** Harbin Institute of Technology

RESEARCH GRANTS

2020 - 2021 Hasso Plattner Design Thinking Research Award – Research Project: "Designers as Culturally-Shaped Shapers: Cultural Values Underpin the Motivation for Problem-Solving"

2016 Stanford MediaX Research Grant - Research Project: "Enabling Impromptu Interaction Through a Robotic Water Cooler"

WORKING PAPERS

Ge, X., Leifer, L. & Shui, L. Situated Emotion: How to Measure The "Oh no", "Oh phew" and "Oh yay" of Design Thinking in the Wild. (Manuscript submitting to the journal ***Design Studies*** in Dec. 2020)

Ge, X. & Shui, L. A Mixed-methods Study of Learning-at-disturbance in Experienced Designers. (Full conference paper under review at *International Conference of the Learning Science, 2021*)

Ge, X. The Cultural Construction of Professional Identity, From Engineering to Design. (**Accepted**, full paper to be presented at *Design Thinking Research Symposium 13*, Haifa, Israel)

Ge, X., Misaki, D., Furue, N., Xu., C., Culturally Responsive Engineering Education: Creativity through "Empowered to Change" in the US and "Admonished to Preserve" in Japan. (**Accepted**, full paper to be presented at *American Society of Engineering Education Conference*, 2021)

Ge, X., Xu, C. & Markus, H. Cultural Values Underpin the Motivation for Problem-Solving. (Book chapter, proposal **accepted** in *Design Thinking Research*, Springer, 2021)

RECENT PUBLICATIONS

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.

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.

Misaki, D. & **Ge, X.** (2019). Design Thinking for Engineering Education. *Journal of the Japan Society for Precision Engineering*, 85(7), 636-639. doi:https://doi.org/10.2493/jjspe.85.636

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.*

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.

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

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.

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.

TEACHING EXPERIENCES

2019 – 2010 Coach**,** *ME310ABC – Global Engineering Design Thinking, Innovation, and Entrepreneurship*

2018 Coach, *ME277 – Graduate Design Research Techniques*

2018 Lecturer, *Interdisciplinary Design Innovation Series, Kogakuin University, Japan*
Lecturer, *Interdisciplinary Design Innovation Series, Shanghai Jiao Tong University, China.*

+ Created and lectured two-day workshops of interdisciplinary design innovation in Tokyo and Shanghai, 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 general team awareness, methods and tools to empower teams doing agile development, and coaching best practices and strategies to enable a team to perform effectively
+ Participated in creating a coaching methodology for DB Systel self-organizing teams
+ The work was done with Neeraj Sonalkar, Ade Mabogunje and Larry Leifer

2012 – 2014 Lecturer, Coach, *Siemens Corporate Technology China*, Beijing, China

+ Taught and coached Siemens R&D managers and researchers with i.DT by participating in 12+ R&D projects across various fields, incl. healthcare, energy, manufacturing, and infrastructure & cities.

INDUSTRY EXPERIENCES

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: i.DT (Industrial Design Thinking), based on Siemens industrial business environment and cultures of China.
+ Built and maintained an i.DT innovation community serving innovation-inspiring activities within Siemens.

2011 – 2012 Programmer, LOCKSS Program, Stanford University Libraries, Stanford, CA, US

+ Processed content testing and wrote plugins for digital preservation of web published cultural heritage (www.lockss.org); Part-time work while pursing Stanford degree

ENGINEERING AND DESIGN EXPERIENCES

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

+ Designed and built miniature subjective cameras for co-ethnographical design research (teamwork); Sponsored by Roy Pea; 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 has the ability to 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 (report link: https://mediax.stanford.edu/research-projects/spd-leifer/); 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; S*ponsored 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.

ACADEMIC SERVICES

2019 *Reviewer,* Journal of Engineering Education

2019 *Organizer of Guest Speaker Series – Past PhD Students of Prof. Larry Leifer*

2019 – PRESENT *Course Design and Teaching Support,* ME397: Design Research Theory and Methodology, Stanford

2017 *Guest Lecturer on Team Self-Efficacy*, ME310: Global Engineering Design Thinking, Innovation, and Entrepreneurship, Stanford

2012 – 2015 *Guest Lecturer on Human-centered Innovation and Design Thinking*, University of Science and Technology of China; Beijing University of Technology and Communication University of China; Joint program of Communication University of China, China Film Academy, and China Normal University

REFERENCES

Larry Leifer
Professor
Mechanical Engineering
Director of Center for Design Research
Stanford University
leifer@stanford.edu

Bettina Maisch
Professor
Head of Education and Qualification
Strascheg Center for Entrepreneurship
Munich University of Applied Sciences, Germany
bettina.maisch@sce.de

Ade Mabogunje
Senior Research Scientist
Center for Design Research
Stanford University
ade@stanford.edu

Daigo Misaki
Associate Professor
Mechanical Systems Engineering
Kogakuin University, Japan
misaki@cc.kogakuin.ac.jp