SZU-YU (CYN) LIU

cynsyliu@gmail.com
www.szuyuliu.com
+1-812-361-0167

RESEARCH STATEMENT

My research engages with underserved communities to promote socio-environmental justice. My dissertation contributes to the development of HCI theories and methods that pursue more sustainable, inclusive, and resilient futures, specifically by accounting for a wider range of species as stakeholders. Methodologically, I take a cross-disciplinary approach combining social science methods (e.g., ethnography, interview, survey), arts-and-design approaches (e.g., research through design, material probe, co-design), and methods from the humanities (e.g., design criticism, close reading). As a human-computer interaction (HCI) researcher and an award-winning product designer, my goal is to develop new theories, methodologies, and applications to support participation, justice, and sustainability through design.

EDUCATION

2016 – 2020   **Ph.D., Human-Computer Interaction** (Informatics), Indiana University, Bloomington IN, USA
Dissertation: Posthuman Interaction Design: Designing with, through, and for Human-Nature Interaction
Advisors: Dr. Jeffrey Bardzell and Dr. Shaowen Bardzell

2016 – 2018   **M.S., Human-Computer Interaction** (Informatics), Indiana University, Bloomington IN, USA
Advisors: Dr. Jeffrey Bardzell and Dr. Shaowen Bardzell

2010 – 2013   **M.Des., Product Design**, Taiwan Tech, Taipei, Taiwan
Thesis: Surrealism Expression in Product Design
Advisor: Dr. Jeng-Nang Fan

2011 – 2012   Full-Time Endowed Student, Product Design, Art Center College of Design, Pasadena CA, USA

2006 – 2010   **B.Des., Product Design** (honors), Taiwan Tech, Taipei, Taiwan

2008   Exchange Student, Product Design (honors), College for Creative Studies, Detroit MI, USA

EMPLOYMENT

Aug 2021 – Present   **Microsoft, *Design Researcher,*** Redmond WA, USA
Partnering with the Core OS, Edge, and Infrastructure product team to deliver end-to-end customer experience for hybrid cloud and Azure Stack device.

Jan 2021 – July 2021   **University of California, Irvine, *Postdoctoral Fellow,*** Irvine CA, USA
Design, deploy, and evaluate a collection of (multi-)sensory data representation models to increase public engagement with environmental data and to support community health initiatives. Project funded by NSF under the Computing Innovation Fellow Program.

Aug 2016 – Dec 2020   **Indiana University, *Graduate Researcher,*** Bloomington IN, USA
Design and led multi-sited ethnographic fieldwork on an NSF-funded project to study bottom-up innovation, experimental farming, and environmental sensing—resulting in multiple peer-reviewed publications, workshops, and presentations.

Jan 2020 – May 2020   **Snap Research, *Research Intern,*** Seattle, WA, USA
Led a mixed method field study combining large-scale surveys and semi-structured interviews to understand the landscape of collocated interactions. Identified product development opportunities and outlined design guidelines for engaging, enriching, and augmenting in-person activities.

May 2019 – Aug 2019	**Microsoft Research + AI,** *Research Intern,* Redmond, WA, USA Designed and conducted qualitative design fieldwork to study the experiences, perceptions, and implicit knowledge people have with the air and air pollution. Proposed design strategies and considerations of augmenting environmental measurements to encourage environmental awareness and policy reform.
Mar 2015 – May 2016	**ASUS,** *User Experience Researcher,* Taipei, Taiwan Worked with a research and strategy team to conduct user studies, trend analyses, and cross-functional co-design sessions; laid out 3-10 years of business roadmap that is currently being adopted to align brand image and define new product pathways. Developed and embedded research templates in cross-functional teams to foster a collaborative culture with and advocated user-centered design thinking. Conducted user research that led to the launch of multiple hardware and software products.
Mar 2014 – Mar 2015	**ASUS,** *Product Designer,* Taipei, Taiwan Led the design of the award-winning Google On-Hub router and VivoMini PC; involved in the entire product development process from ideation to mass production. Brainstormed use case scenarios and prototyped design proposals on various pioneering products/services.
Sep 2010 – Dec 2013	**Taiwan Tech,** *Graduate Research Assistant,* Taiwan Tech, Taipei, Taiwan Assisted in brainstorming and creating 3D prototypes to study load bearing structure using sheet material. Designed and conducted anthropological fieldwork to identify strategies of improving user experiences in product design.
May 2010 – Dec 2010	**YunTech,** *Research Assistant,* Yunlin, Taiwan Conducted and analyzed semi-structured interviews with design practitioners to investigate the mechanisms of creativity. Project funded by National Science Council, Taiwan.

AWARDS

Research Grants

2020 – 2022	National Science Foundation, USA Computing Innovation Fellow; PI From Data to Knowledge: Environmental Sensing and Data Narration ($253,800)
2017 – 2019	Ministry of Education, Taiwan PI. Civic Making: Bottom-Up Innovation and IoT Proposition in Taiwan ($32,000)

Best Paper and Honorable Mention Awards

2019	ACM CHI 2019 Honorable Mention Award (2 awards, top 5% of accepted papers)
2019	ACM TEI 2019 Honorable Mention Award (top 5% of accepted papers)

Research and Travel Awards

2019	ACM Graduate Student Travel Award. NSF. $1500
2019	GISA Spring 2019 Travel Award, Indiana University. $950
2019	SICE HCI/d Travel Award. Indiana University. $950
2019	Department Nominee of the Wells Graduate Fellowship, Indiana University. $42,000
2019	GPSG Travel Award. Graduate Professional Student Government, Indiana University. $500
2017	ACM Graduate Student Travel Award. NSF. $2,000
2016	Government Fellowship for Overseas Study. Ministry of Education, Taiwan. $51,000
2010	Graduate Student Fellowship. College of Design, Taiwan Tech, Scholar Grant. $2,400
2010	Valedictorian, School of Design, Class of 2010, Taiwan Tech

Design Awards

2015	Winner, Good Design Award, "ASUS VivoMini (UN62)"
2013	Finalist, Taiwan International Design Competition, "Turn: pencil extender"
2012	Winner, iF Concept Award, "Go Dutch: bill redesign"
2010	Honorable Mention, Nagoya Design Do! Competition, "Save Energy, Save Me: wind slot sticker"
2010	Sponsor Award, Taipei Industrial Design Award, "Under the Tree: bus stop redesign"
2009	Honorable Mention, Universal Design Award, "Wave: universal cutting board"

Service Awards

2022   Special Recognitions for Outstanding Reviews. ACM CHI 2022
2021   Special Recognitions for Outstanding Reviews (2 awards). ACM DIS 2021
2021   Special Recognitions for Outstanding Reviews (5 awards). ACM CHI 2021
2020   Special Recognitions for Outstanding Reviews. ACM CHI 2020

PUBLICATIONS

Refereed Conference Publications

2021   **Szu-Yu (Cyn) Liu**, Brian A. Smith, Rajan Vaish, and Andrés Monroy-Hernández. 2021. Understanding the Role of Context in Creating Enjoyable Co-Located Interactions. *Proceedings of the ACM Conference on Computer-Supported Cooperative Work and Social Computing: CSCW '21.*

2020   **Szu-Yu (Cyn) Liu**, Justin Cranshaw, and Asta Roseway. Making Air Quality Data Meaningful: Coupling Objective Measurement with Subjective Experience through Narration. *Proceedings of the 2020 Designing Interactive Systems Conference: DIS '20*. ACM: New York. (Acceptance rate: 24%).

2019   **Szu-Yu (Cyn) Liu**, Shaowen Bardzell, and Jeffrey Bardzell. Symbiotic Encounters: HCI and Sustainable Agriculture. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems: CHI '19*. ACM: New York. (Acceptance rate: 23.8%). (**Honorable Mention, top 5%**).

2019   Guo Freeman, Jeffrey Bardzell, Shaowen Bardzell, **Szu-Yu (Cyn) Liu**, Xi Lu, and Diandian Cao. Smart and Fermented Cities: An Approach to Placemaking in Urban Informatics. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems: CHI '19.* ACM: New York. (Acceptance rate: 23.8%). (**Honorable Mention, top 5%**).

2019   **Szu-Yu (Cyn) Liu**, Jeffrey Bardzell, and Shaowen Bardzell. Decomposition as Design: Co-Creating (with) Natureculture. *Proceedings of the Thirteenth International Conference on Tangible, Embedded, and Embodied Interaction: TEI '19.* ACM: New York. (Acceptance rate: 33%). (**Honorable Mention, top 5%**).

2018   **Szu-Yu (Cyn) Liu**, Shaowen Bardzell, and Jeffrey Bardzell. Out of Control: Reframing Sustainable HCI Using Permaculture. *Proceedings of the 2018 Workshop on Computing within Limits: LIMITS '18.* ACM: New York.

2018   **Szu-Yu (Cyn) Liu**, Jeffrey Bardzell, and Shaowen Bardzell. Photography as A Design Research Tool into Natureculture. *Proceedings of the 2018 Designing Interactive Systems Conference: DIS '18*. ACM: New York. (Acceptance rate: 25%; Pictorial).

Refereed Conference Abstracts and Extended Abstracts

2019   **Szu-Yu (Cyn) Liu.** 2019. Designing for Multispecies Collaboration and Cohabitation. *Proceedings of the 2019 ACM Conference on Computer-Supported Cooperative Work and Social Computing: CSCW '19*. ACM: New York. (Doctoral Consortium).

2019   **Szu-Yu (Cyn) Liu**, Jen Liu, Kristin Dew, Patrycja Zdziarska, Maya Livio, and Shaowen Bardzell. 2019. Exploring Noticing as Method in Design Research. *Proceedings of the 2019 Designing Interactive Systems Conference: DIS '19.* ACM: New York. (Workshop Proposal).

2019   **Szu-Yu (Cyn) Liu**. 2019. Designing with, through, and for Human-Nature Interaction. *Proceedings of the 2019 Designing Interactive Systems Conference: DIS '19*. ACM: New York. (Doctoral Consortium).

2017   **Szu-Yu (Cyn) Liu.** 2017. To Decompose Is to Create: Supporting Creativity by Incorporating Nature in Design. *Proceedings of the 2017 ACM SIGCHI Conference on Creativity and Cognition: C&C '17.* ACM: New York. (Graduate Student Symposium Paper).

2016   **Szu-Yu (Cyn) Liu**, Tung-Jen Tsai, Daniel Alenquer. 2016. Exploring Computational Composite: An Approach to Sensorial Interaction. *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion: CSCW '16*. (Extended Abstract and Poster).

2013 **Szu-Yu (Cyn) Liu**, Jeng-Neng Fang. 2013. Surrealism Expression in Product Design. The second Global Chinese Industrial Design Conference. (Graduate Student Symposium Paper).

Book Chapters (Editor-Reviewed)

2018 Jeffrey Bardzell, Shaowen Bardzell, and **Szu-Yu (Cyn) Liu**. (2018). "Beautifying IoT: The Internet of Things as a Cultural Agenda". *Social Internet of Things*. Alessandro Soro, Margot Brereton, and Paul Roe (ed.). Springer.

TEACHING EXPERIENCE

Research Group Mentorship

2017 - 2019 Ethnographic Fieldwork and Research Through Design on Experimental Farming
Cultural Research in Technology (CRIT) group; PI: Shaowen Bardzell and Jeffrey Bardzell

Individual Student Mentorship

2019 Dominic Matthys (Undergraduate Research Opportunities in Computing)
2019 Noor Hussein (Undergraduate Research Opportunities in Computing)
2019 Pei-Ni Chiang (Master student in HCI/d)
2019 Lu Xi (Master student in HCI/d)
2018 Wei Zheng (Undergraduate Research Opportunities in Computing)

Assistant Instructor

2018 - 2020 SICE, Indiana University, Bloomington IN, USA
I453: Computer & Information Ethics (Fall, 2020)
I694: Thesis in Human-Computer Interaction (Spring 2018, Spring 2019)
I544: Experience Design (Fall 2019)

2013 College of Design, Taiwan Tech, Taipei, Taiwan
DT5017701: Anthropological Approach in Design (Spring, 2013)

2011 Department of Product Design, Art Center College of Design, Pasadena CA, USA
PRD252: Visual Communication IV (Winter 2011)

EXHIBITIONS

2015 Good Design Exhibition, Tokyo, Japan
2013 The Art & Design Elite Scholarship Program Press Conference, Taipei, Taiwan
2012 Student Gallery, Art Center College of Design, Pasadena CA, USA
2012 Dwell Design Exhibition, Los Angeles CA, USA
2011 Taiwan Designers' Week, Taipei, Taiwan
2010 Taiwan Designers' Week, Taipei, Taiwan
2010 Young Designers' Exhibition (YODEX), Taipei, Taiwan

INVITED TALKS

2021 The Diversity and Interdisciplinary Collaboration in HCI Design Research (Panel) (with Wen-Chieh Tasi and Yi-Wen Tseng). TAICHI x DIS. Moderator: Amy Yo Sue Chen
2021 Methodologies of Hope (Panel). Y613 Critical Qualitative Inquiry. Indiana University Department of Education. Moderator: Barbara Dennis
2019 Qualitative Methods for Social Science Studies. S110 Understanding Social Data. Indiana University Department of Sociology. Guest Lecture
2019 Mapping Air: Hyper-Local Perceptions of Pollution. Microsoft Research Redmond Lab HCI Intern Talk
2016 International Design Trends (with Dr. Jeng-Nang Fan). National Education Radio, Taipei, Taiwan
2013 The Art & Design Elite Scholarship Program Press, Taipei, Taiwan
2011 School of Design Admission Seminar, Taiwan Tech, Taipei, Taiwan

PROFESSIONAL ACTIVITIES AND SERVICES

Conference Program Committee

2021	Associate Chair, ACM Conference on Designing Interactive Systems (DIS), Papers and Pictorials
2021	Associate Chair, ACM Conference on Human Factors in Computing Systems (CHI), Design
2020	Associate Chair, ACM Conference on Human Factors in Computing Systems (CHI), Late Breaking Works
2019	Associate Chair, ACM Conference on Designing Interactive Systems (DIS), Pictorials

Conference Organizing Committee

2019	Student Volunteer Co-Chair, ACM Conference on Designing Interactive Systems (DIS)
2019	Social Media Chair, ACM Conference Tangible, Embedded and Embodied Interaction (TEI)

Conference Peer Reviewer

ACM Transactions on Computer-Human Interaction (TOCHI) 2021
ACM Conference on Human Factors in Computing Systems (CHI) 2018-2022
ACM Conference on Computer Supported Collaborative Work (CSCW) 2020-2021
ACM Conference on Designing Interactive Systems (DIS) 2019-2021
ACM Conference Tangible, Embedded and Embodied Interaction (TEI) 2020-2021
ACM Conference on Creativity & Cognition (C&C) 2019, 2021

Conference Student Volunteer

ACM Conference on Human Factors in Computing Systems (CHI) 2019-2020
ACM Conference on Designing Interactive Systems (DIS) 2019

Community Services

2021 - Present	Mentor, Microsoft Reach Mentorship Program
2018 - 2020	Ambassador, Informatics Graduate Studies Office, Indiana University
2017 - 2020	Student Volunteer, Prospective Student Visit, SICE, Indiana University
2016	Mentor, GU2IU Prospective Student Program, SICE, Indiana University
2016	Coordinator, Industry-University Collaboration, ASUS Design Center
2005 - 2016	Mentor, ASUS Foundation Community Service, ASUS
2009 - 2010	Co-Director, Graduation Show, Taiwan Tech