RESEARCH STATEMENT

My work engages with underserved communities to support civic participation and 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

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

Jan 2021 – Present  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.

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**AWARDS**

**Research Grants**

<table>
<thead>
<tr>
<th>Year</th>
<th>Grant Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 – 2022</td>
<td>National Science Foundation, USA Computing Innovation Fellow; PI From Data to Knowledge: Environmental Sensing and Data Narration ($253,800)</td>
</tr>
<tr>
<td>2017 – 2019</td>
<td>Ministry of Education, Taiwan Pl. Civic Making: Bottom-Up Innovation and IoT Proposition in Taiwan ($32,000)</td>
</tr>
</tbody>
</table>

**Best Paper and Honorable Mention Awards**

<table>
<thead>
<tr>
<th>Year</th>
<th>Award Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>ACM CHI 2019 Honorable Mention Award (2 awards, top 5% of accepted papers) ACM TEI 2019 Honorable Mention Award (top 5% of accepted papers)</td>
</tr>
</tbody>
</table>

**Research and Travel Awards**

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

**Design Awards**

<table>
<thead>
<tr>
<th>Year</th>
<th>Award Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Winner, Good Design Award, “ASUS VivoMini (UN62)”</td>
</tr>
<tr>
<td>2013</td>
<td>Finalist, Taiwan International Design Competition, “Turn: pencil extender”</td>
</tr>
<tr>
<td>2012</td>
<td>Winner, iF Concept Award, “Go Dutch: bill redesign”</td>
</tr>
<tr>
<td>2010</td>
<td>Sponsor Award, Taipei Industrial Design Award, “Under the Tree: bus stop redesign”</td>
</tr>
<tr>
<td>2009</td>
<td>Honorable Mention, Universal Design Award, “Wave: universal cutting board”</td>
</tr>
</tbody>
</table>

**Service Awards**

<table>
<thead>
<tr>
<th>Year</th>
<th>Award Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>Special Recognitions for Outstanding Reviews (5 awards). ACM CHI 2021</td>
</tr>
<tr>
<td>2020</td>
<td>Special Recognitions for Outstanding Reviews. ACM CHI 2020</td>
</tr>
</tbody>
</table>
PUBLICATIONS

Refereed Conference Publications


Refereed Conference Abstracts and Extended Abstracts


Book Chapters (Editor-Reviewed)

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)
2021  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  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 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 Designing Interactive Systems (DIS) 2019

Community Services

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