Personal Statement

I am passionate about understanding how design-oriented practices, technologies, learning environments, and pedagogies can foster transformative systemic and cultural change within schools. My research has focused on the ways in which making, prototyping, and imaginative methods might be catalysts for changing the institutional norms of formal education and how these changes can be sustained over time.

Education

December 2022  PhD, Human and Social Dimensions of Science and Technology  
College of Global Futures  
Arizona State University | Tempe, AZ

May 2008  BA, Classical Studies  
Minors in Physics and Italian Studies  
College of Liberal Arts and Sciences  
University of Florida | Gainesville, FL

Research Experience

May 2021 - Present  Research Analyst  
Center on Reinventing Public Education

Fall 2018 – Fall 2021  Independent Dissertation Research  
Graduate Research Fellowship Program (NSF Solicitation #11-582)  
National Science Foundation

Fall 2016 - Fall 2018  Graduate Research Associate  
Pls: Drs. Shawn Jordan and Micah Lande  
- Maker Educational Pathways (NSF Grant #1329321)  
- Maker Learning Trajectories (NSF Grant #1723802)  
Pl: Dr. Bryan Henderson  
- DiALoG Argumentation Project (NSF Grants #1621496, #1621441)

Key Research Activities

J1, C5, C6, J5  Gathered and analyzed qualitative data from young makers and their parents with critical incident and artifact elicitation interview protocols

J2, J3  Analyzed qualitative data from pre-service and in-practice STEM teachers utilizing thematic analysis and institutionally oriented theoretical frameworks

J1, C5, C6  Led research studies on maker identity using existing and newly gathered data

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1 Details about the referenced journal papers [J] and conference proceedings [C] can be found below
Mentored undergraduates in developing research questions, conducting studies, and writing conference papers and journal articles.

Surveyed and synthesized current literature on maker education within the engineering education academic community.

Peer-Reviewed Journal Publications


Conference Proceedings


**Other Publications**

**November 2022**


**October 2021**

**Weiner, S. (2021)** Pandemic learning pod instructors loved teaching, but don’t want to be traditional classroom teachers. *The Lens*. Center on Reinventing Public Education.

**Awards, Fellowships, and Commendations**

**February 2020**

**Global Horizon Scanning Ambassadorship**, an international program run by the Copenhagen Institute for Futures Studies that engages early-career experts in a wide range of fields in order to “collect, compare and evaluate a wide range of signals – including new and emerging trends, technologies, values, products, concepts, companies, services, and ideas”.

**September 2019**

**Imaginary College Graduate Fellow**, a collaboration with Arizona State University’s Center for Science and the Imagination that “celebrates the
individuals and groups who are already advancing [their] mission of fresh, creative and ambitious thinking about the future”.

November 2018 **University Innovation Fellows**, a year-long fellowship for training and capacity-building in design thinking and organizational change within higher education. Granted through Stanford University’s Hasso Plattner Institute of Design.

April 2018 **HSD Personal Achievement Award**, in recognition of outstanding individual accomplishments during PhD studies. Awarded by Arizona State University’s School for the Future of Innovation in Society.

April 2018 **NSF GRFP Fellowship**, a competitive national fellowship that provides funding and tuition for three years of graduate studies. Granted through the National Science Foundation’s Graduate Research Fellowship Program.

June 2017 **DEED Student Essay Contest**, *How engineering design education will be everywhere and nowhere in 2040*. Written for the Design in Engineering Education Division (DEED) of the American Society for Engineering Education (ASEE). Presented at the 2017 ASEE Annual Conference. Columbus, OH.


**Posters, Panels, and Invited Talks**


**Volunteer, Outreach, and Community Service**

**February 2020**
High School Research Project Judge  
Arizona Junior Science & Humanities Symposium  
Mesa, AZ

**October 2019**
Distinguished Advisor: NSF Graduate Research Fellowship Program  
Arizona State University, Graduate College  
Tempe, AZ

**December 2018**
Workshop Leader: Integrating Making, Design, and STEAM Education  
Arizona State University, Polytechnic Campus  
Mesa, AZ  
*Conducted workshops for in-service K-8 teachers and administrators on how design and making activities can bridge the divide between STEM and Art*

**August 2018**  
(On-going)  
Journal Reviewer  
Journal of Engineering Education (JEE), Journal of Pre-College Engineering Education Research (J-PEER), Advances in Engineering Education (AEE), Studies in Engineering Education (SEE)

**April 2018**
Workshop Leader: Maker Education Pedagogy  
Arizona State University, Mary Lou Fulton Teacher’s College  
Mesa, AZ  
*Conducted hands-on introductory seminar for pre-service K-8 STEM teachers on the maker movement, focusing on how to infuse making into their classrooms and curricula.*

**October 2017**
Volunteer, FabLearn Conference  
Stanford University  
Stanford, CA  
*Provided on-site organizational assistance during a 2-day conference on maker education hosted by Stanford University’s Graduate School of Education*

**Fall 2017-Fall 2018**
Mentor, Chief Science Officer Program  
Arizona Technology Council  
Phoenix, AZ  
*Advised high school students and teachers from the Greater Phoenix Metro Area on ways to foster STEM cultures in their schools.*

**Educational Training/Pedagogy Courses**

**July 2014**
Summer Teacher Institute  
Exploratorium  
San Francisco, CA
Competitive summer program for middle and high school science teachers run by world-renowned scientists and educators at a top-tier interactive science center.

June 2010

Postgraduate Studies, Summer Physics Modeling Workshop
Arizona State University
Tempe, AZ

Three-week course on teaching electromagnetism and circuits using an inquiry-based, lab-first pedagogy developed at Arizona State University.

Professional Experience

Oct 2022 - Present
Senior Research Analyst
Center on Reinventing Public Education, Arizona State University
Tempe, AZ (remote)

- Leading direction and thought partnership on several projects focused on innovation and durable change within both traditional educational systems (e.g., schools and districts) as well as non-traditional learning environments (e.g., microschools, community-based organizations).
- Managing relationships with funders as well as organizational leaders participating in organizing large-scale studies.

May 2021 – Oct 2022
Research Analyst
Center on Reinventing Public Education, University of Washington
Seattle, WA

- Engage in systems-level qualitative research focused on the connection between educational policies and practices.
- Co-lead research projects on innovative CTE programs, OST learning, and pandemic-era learning pods, interviewing teachers, parents, school leaders, and district administrators.
- Communicate research findings to grant funders and public through blogs, practitioner-focused journals, and presentations.

March 2020- August 2022
Educational Research Consultant
Seattle, WA

- Partnered with established school district consulting firm to advise on the development of a new project-based high school
- Leveraged academic research for presentation to district leadership team on building a maker-oriented school culture
- Facilitated a summer-long series of Socratic discussions with a cross-functional team focused on exploring how school systems can support deeper learning

July 2014 - August 2016
Program Director
CREATE at Arizona Science Center
Phoenix, AZ

- Contributed to the physical, programmatic, and organizational design of a 6,500 sq. ft. education-oriented, community makerspace
- Developed relationships with local corporate, non-profit, and educational organizations to foster the growth of a Phoenix-based Maker community
- Oversaw a staff of four full-time and four part-time employees, and an annual program budget of $30,000.
- Assisted in the creation and implementation of STE(A)M-based hands-on activities and technical workshops.

**August 2009 - Dec 2014 Science & Math Teacher**
Great Hearts Academies
Phoenix, AZ
- Taught Physics I, Physics II, Earth Science and Pre-calculus using inquiry-based methodologies.
- Served as Curriculum Consultant for Physics I teachers in the Great Hearts Academies charter school network.
- Co-led a making-based STE(A)M club of over 50 students, ranging from rocketry to Rube Goldberg machine.

**August - Dec 2007 Staff Science Reporter**
The Independent Florida Alligator
Gainesville, FL
- Interviewed dozens of scientists, engineers, and school officials on latest University of Florida research.
- Wrote numerous feature-length articles on topics ranging from stem cell research to nano-scale engineering.
- Developed skills in communicating complex scientific ideas to a wide-ranging audience.