

Shawn S. Jordan, Ph.D.

Associate Professor, The Polytechnic School
Ira A. Fulton Schools of Engineering, Arizona State University
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1. Education

Purdue University, West Lafayette, IN

Doctor of Philosophy in Engineering Education 2010

Dissertation: *Success in Virtual Cross-Disciplinary Engineering Design Teams in Industry*

Master of Science in Electrical and Computer Engineering 2003

Emphases: Software and Hardware Engineering

Bachelor of Science in Computer Engineering 2001

Emphasis: Hardware Engineering

2. Academic Experience

Associate Professor, The Polytechnic School, Ira A. Fulton Schools of Engineering, Arizona State University (ASU), Mesa, Arizona 5/2017 – present

Assistant Professor, The Polytechnic School, Ira A. Fulton Schools of Engineering, Arizona State University (ASU), Mesa, Arizona 1/2011 – 5/2017

3. Honors and Awards

1. Presidential Early Career Award for Scientists and Engineers 2017
2. Named Ira A. Fulton Exemplar Faculty at ASU, an honor given to the top 5% of faculty who demonstrate high research productivity, instructional load, student evaluations, and doctoral student mentoring 2014 – 2016
3. Named top “20 Under 40” faculty by the American Society for Engineering Education (ASEE) *PRISM Magazine* 9/2014
4. Excellence in Scholarly and Creative Activities Award from the ASU College of Technology and Innovation (CTI), an honor given to faculty with a specific contribution that meets the highest standards of their discipline. 2014
5. Nominated for the Ben Dasher Award for best paper and presentation at the IEEE Frontiers in Education Conference 2013
6. Finalist for the best paper in the Design in Engineering Education Division at the ASEE Annual Conference and Exposition 2012
7. Outstanding Faculty Mentor Award from ASU CTI 2011 – 2012
8. Woodside Sustained Community Service Award 2012
9. Outstanding Graduate Student Award from the Purdue Student Engineering Foundation (PSEF) 2010
10. Apprentice Faculty Grant from the ASEE Educational Research and Methods (ERM) Division 2009
11. Hugh W. and Edna M. Donnan Dissertation Fellowship 2009
12. Outstanding Service Scholarship Award from the Purdue College of Engineering 2009
13. Eta Kappa Nu Centennial Student Award for Contributions to Technical and Education Excellence 2006
14. Magoon Award for Excellence in Teaching 2003
15. Graduate Student Award for Outstanding Teaching 2003

4. Research

4.1 Publications

Refereed Journal Publications

Key: **bold** = graduate student

1. Jordan, S. S., Pereira, N., & Dalrymple, O. (2016). The impact of design swapping on student design sketch quality. *International Journal of Engineering Education*, 32(5).
2. Jordan, S., & Lande, M. (2016). Additive innovation in design thinking and making. *International Journal of Engineering Education*, 32(3).

Refereed Journal Publications

Key: **bold** = graduate student

3. Jordan, S., & Adams, R. (2016). Perceptions of success in virtual cross-disciplinary design teams in large multi-national corporations. *CoDesign*, 12(3).
4. **Oplinger, J.**, Lande, M., Jordan, S., & **Camarena, L.** (2016). Making leaders: Leadership characteristics of makers and engineers in the maker community. *American Journal of Engineering Education*, 7(2).
5. Jordan, S., & **Foster, C.** (2017). Learning from the experiences of Navajo engineers: Looking towards the development of a cross-cultural engineering curriculum. *Journal of Engineering Education* (accepted 9/26/2016 with major revisions; resubmitted 10/29/2016)

Refereed Journal Publications – In Review

Key: **bold** = graduate student

underlined = undergraduate student

1. Dickens, M., Lande, M., & Jordan, S. (2017). PARENTAL ADVISORY: The Roles that Parents Take in their Young Maker's Lives and the Implications for the Museum Community. *Journal of Pre-College Engineering Education*. (in review)
2. **Foster, C.**, Jordan, S., & Lande, M. (2017). What is making? Perspectives of adult makers in the engineering field. *Journal of Engineering Education*. (in review)
3. Golka, M., & Jordan, S. (2017). Closing the Gap: An Investigation into the Barriers and Enablers to Cooperative Education at the New American University. *Advances in Engineering Education*. (in review)
4. Orr, M., & Jordan, S. (2017). A Rube Goldberg approach to teaching dynamics of machine elements. *Advances in Engineering Education*. (in review)
5. **Wigner, A.**, **Foster, C.**, Lande, M., Jordan, S., & **Camarena, L.** (2017). Learning from the parallel pathways of Makers to broaden pathways to engineering. *International Journal of STEM Education*. (in review)

Refereed Journal Publications – In Preparation

Key: **bold** = graduate student

underlined = undergraduate student

1. Jordan, S., & **Foster, C.** Learning from the experiences of Navajo students: Looking towards the development of a cross-cultural engineering curriculum. *Journal of Engineering Education*. (in preparation)
2. **Foster, C.**, & Jordan, S. Hybrid spaces for traditional culture and engineering: A narrative exploration of Native American women as agents of change. *Journal of Engineering Education*. (in preparation)

Refereed Journal Publications – In Preparation

Key: **bold** = graduate student underlined = undergraduate student

3. **Schwoerer, K.**, Jordan, S., & Lande, M. Making social capital: The case of the Maker community. *American Sociological Review*. (in preparation)
4. **Schwoerer, K.**, Lande, M., & Jordan, S. Open innovation: Making communities of practice. *American Sociological Review*. (in preparation)
5. Jordan, S. Engineering a better component: A case study of success in a virtual engineering design team. *Journal of Engineering Design*. (in preparation)
6. Jordan, S. New product introduction process: A case study of success in a virtual engineering design team. *Qualitative Research in Organizations and Management*. (in preparation)
7. Jordan, S. Redesigning a component: A case study of success in a virtual engineering design team. *Engineering Studies*. (in preparation)
8. Jordan, S., Lande, M., **Foster, C.**, & **Camarena, L.** Tenants of additive innovation: An ethos of sharing in the Maker community. *CoDesign*. (in preparation)
9. Gemelli, M., Jordan, S., & Lande, M. Making as an extra-curricular activity: Leisure in the family context. *Journal of Pre-College Engineering Education Research*. (in preparation)
10. Douglas, E., Jordan, S., & Lande, M. Artifact elicitation as a method of inquiry. *Qualitative Research*. (in preparation)
11. Pereira, N., Jordan, S., & Dalrymple, O. Measuring the quality of design sketches. *Journal of Engineering Education*. (in preparation)

Refereed Conference Proceedings

Key: **bold** = graduate student underlined = undergraduate student

1. Horton, P., Jordan, S., **Weiner, S.**, & Lande, M. (2017). Project-Based Learning Among Engineering Students During Short-Form Hackathon Events. Abstract accepted to the *IEEE Frontiers in Education (FIE) Conference*, Indianapolis, IN.
2. Jordan, S., White, K., **Anderson, A.**, Betoney, C., Pangan, T., & Foster, C. (2017). Culturally-Relevant Engineering Design Curriculum for the Navajo Nation. Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (NSF Grantees Poster Session)
3. Lande, M., & Jordan, S. (2017). Young Makers Becoming the Engineers of the Future and Implications. Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (NSF Grantees Poster Session)

Refereed Conference Proceedings

Key: **bold** = graduate student

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4. La Place, C., Jordan, S., Lande, M., & **Weiner, S.** (2017). Engineering Student Rapidly Learning at Hackathon Events. Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (*Design in Engineering Education Division*)
5. Larson, J., Lande, M., Jordan, S., & **Weiner, S.** (2017). Makers as Adaptive Experts-in-Training: How Maker Design Practices Could Lead to the Engineers of the Future. Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (*Educational Research and Methods Division*)
6. Mabey, M., Jordan, S., Lande, M., & **Weiner, S.** (2017). A comparison of Maker and Entrepreneurial Characteristics. Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (*Entrepreneurship & Engineering Innovation Division*)
7. **Weiner, S.**, Lande, M., & Jordan, S. (2017). Understanding the roots of Maker Identity: What can educators learn from the origin stories of Young Makers? Paper to be presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Columbus, OH. (*Educational Research and Methods Division*)
8. McKenna, A., Kellam, N., Lande, M., Brunhaver, S., Jordan, S., Bekki, J., Carberry, A., & London, J. (2016). Instigating a revolution of additive innovation: An educational ecosystem of Making and risk taking. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*NSF Grantees Poster Session*)
9. **Wigner, A.**, Lande, M., & Jordan, S. (2016). How can Maker skills fit in with accreditation demands for undergraduate engineering programs? In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*Educational Research and Methods Division*)
10. Mabey, M., Jordan, S., & Lande, M. (2016). Young Makers compare science fairs and Maker Faires. (2016). In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*Pre-College Engineering Division*)
11. Lande, M., & Jordan, S. (2016). What do Young Makers learn? In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*NSF Grantees' Poster Session*)
12. Larson, J., Jordan, S., & Lande, M. (2016). Supporting K-12 student self-direction with a Maker family ecosystem. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*Pre-College Engineering Division*)

Refereed Conference Proceedings

Key: **bold** = graduate student

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13. Dickens, M., Jordan, S., & Lande, M. (2016). Parents and roles in informal Making education: Informing and implications for Making in museums. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, New Orleans, LA. (*Pre-College Engineering Division*)
14. McKenna, A., Kellam, N., Lande, M., Brunhaver, S., Jordan, S., Carberry, A., Bekki, J., & London, J. (2016). Capturing the ecosystem and culture to support risk-taking and additive innovation: Laying the groundwork. Paper presented at the *American Association for the Advancement of Science Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium*, Washington, D.C.
15. Jordan, S., & Lande, M. (2015). Is the engineer of 2035 a maker? In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 1053-1054), El Paso, TX. (*Special Session*)
16. Jordan, S. (2015). CAREER: Engineering design across Navajo culture, community, and society. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #11910). (*NSF Grantees Poster Session*)
17. Douglas, E., Jordan, S., Lande, M., & **Bumbaco, A.** (2015). Artifact elicitation as a method of qualitative inquiry in engineering education. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #13141). (*Educational Research and Methods Division*)
18. **Foster, C.**, **Wigner, A.**, Lande, M., & Jordan, S. (2015). Welcome to the maker movement: Parallel education pathways of adult makers. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #13454). (*Educational Research and Methods Division*)
19. **Foster, C.**, Dickens, M., Jordan, S., & Lande, M. (2015). Learning from toy makers in the field to inform teaching engineering design in the classroom. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #12915). (*Design in Engineering Education Division*)
20. Heiman, A., Lande, M., & Jordan, S. (2015). What is making? What is engineering? In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #13096). (*NSF Grantees Poster Session*)
21. Meadows, L., Sekaquaptewa, D., Paretto, M., Pawley, A., Jordan, S., Chachra, D., & Minerick, A. (2015). Interactive panel: Improving the experiences of marginalized students on engineering design teams. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #11803). (*Minorities in Engineering Division*)

Refereed Conference Proceedings

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22. Oplinger, J., Lande, M., & Jordan, S. (2015). Leadership characteristics within the Making community. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Seattle, WA (Paper ID #13000). (*Engineering Leadership Division*)
23. Jordan, S., & Lande, M. (2015). Additive innovation in design thinking and making. In *Proceedings of the Mudd Design Workshop IX: Design Thinking in Design Education* (pp. 132-140), Harvey Mudd College, Claremont, CA.
24. Pereira, N., Jordan, S., & Dalrymple, O. (2015). Lessons from teaching engineering design in a summer camp for high-ability students: A chain re-action research study. Paper presented at the *Annual Meeting of the American Educational Research Association*, Chicago, IL (Session #70.065-8).
25. Jordan, S., & Lande, M. (2014). Might Young Makers be the engineers of the future? In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 1408-1411), Madrid, Spain.
26. Lande, M., & Jordan, S. (2014). Making it together, locally: A Making community learning ecology in the Southwest. In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 2448-2454), Madrid, Spain.
27. Chavela Guerra, R., Smith, K., McKenna, A., Swan, C., Korte, R., Jordan, S., Lande, M., & MacNeal, R. (2014). Innovation corps for learning: Evidence-based Entrepreneurship™ to improve (STEM) education. In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 2997-3001), Madrid, Spain.
28. **Foster, C.**, & Jordan, S. (2014). A philosophy of learning engineering and a Native American philosophy of learning; An analysis for congruency. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #9857). (*Minorities in Engineering Division*)
29. **Foster, C.**, Lande, M., & Jordan, S. (2014). An ethos of sharing in the Maker community. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #10205). (*Design in Engineering Education Division*)
30. Lande, M., & Jordan, S. (2014). Methods for examining the educational pathways of adult Makers. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #9962). (*Educational Research and Methods Division*)
31. **McCall, S.**, Dalrymple, O., & Jordan, S. (2014). Curriculum exchange: Teaching energy concepts using chain reaction machines. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #10687). (*K-12 & Pre-College Engineering Division*)

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32. **McCall, S.**, Taylor, R., Dalrymple, O., & Jordan, S. (2014). Teaching energy concepts using chain reaction machines. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #10686). (*K-12 & Pre-College Engineering Division*)
33. Oplinger, J., Heiman, A., Dickens, M., **Foster, C.**, Jordan, S., & Lande, M. (2014). Making and engineering: Understanding similarities and differences. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #10686). (*NSF Grantees Poster Session*)
34. Pawley, A., Carberry, A., Cardella, M., Carnasciali, M., Daly, S., Gorlewicz, J., Herman, G., Hynes, M., Jordan, S., Kellam, N., Lande, M., Verleger, M., & Yang, D. (2014). The PEER Collaborative: Supporting engineering education research faculty with near-peer mentoring unconference workshops. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Indianapolis, IN (Paper ID #9048). (*Continuing Professional Development Division*)
35. Jordan, S., Cardella, M., Lande, M., & **Ali, H.** (2013). Out of their world: Using alien-centered design for teaching empathy in undergraduate design courses. In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 907-913), Oklahoma City, OK. (*Nominated for the Ben Dasher Award for best paper and presentation*)
36. Jordan, S., & Lande, M. (2013) Should Makers be the engineers of the future? In *Proceedings of the IEEE Frontiers in Education (FIE) Conference* (pp. 815-817), Oklahoma City, OK.
37. Lande, M., Jordan, S., & Nelson, J. (2013). Defining Makers making: Emergent practice and emergent meaning. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition*, Atlanta, GA (Paper ID #6852). (*NSF Grantees' Poster Session*)
38. Jordan, S., & Lande, M. (2012). Practicing needs-based, user-centered design for electrical engineering project course innovation. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, San Antonio, TX (Paper # AC 2012-4115). (*Electrical and Computer Division*)
39. Jordan, S., Dalrymple, O., Pereira, N., Astatke, Y., & Fletcher, J. D. (2012). Design swapping as a method to improve design documentation. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, San Antonio, TX (Paper # AC 2012-4045). (*Finalist for the best paper in the Design in Engineering Education Division*)
40. Morley, K., Pawley, A., Jordan, S. S., & Adams, R. (2011). Gender and engineering: photo elicitation as a method of inquiry. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Vancouver, British Columbia (Paper # AC 2011-850). (*Educational Research and Methods Division*)

Refereed Conference Proceedings

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41. Adams, R.S., Mann, L., Forin, T., and Jordan, S. (2009). Cross-disciplinary practice in engineering contexts. In N. Bergendahl, M. Grimheden, L. Leifer, P. Skogstad, and U. Lindemann (Eds.), *Proceedings of the 17th International Conference on Engineering Design (ICED'09), Stanford University, Vol. 9: Human Behavior in Design* (pp. 343-355). Glasgow: The Design Society.
42. Jordan, S., & Pereira, N. (2009). Rube Goldbergengineering: Lessons in teaching engineering design to future engineers. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Austin, TX (Paper # AC 2009-2084). (*Design in Engineering Education Division*)
43. Jordan, S., & Adams, R. (2008). ...A good imagination and a pile of junk. In *Proceedings of the American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Pittsburgh, PA (Paper # AC 2008-2031). (*Entrepreneurship & Engineering Innovation Division*)

Refereed Conferences Without Proceedings

1. Adams, R., Mann, L., Forin, T., Daly, S., & Jordan, S. (2008). Ways of experiencing cross-disciplinary practice in engineering contexts. Paper presented at the *Research in Engineering Education Symposium (REES)*, Davos, Switzerland.
2. Jordan, S., & Pereira, N. (2008). Design twice, build once: teaching engineering design in the classroom. Paper presented at the *National Center for Engineering and Technology Education (NCETE) Conference on Research in Engineering and Technology Education*, St. Paul, MN.
3. Jordan, S. (2008). Different teams, different needs: an examination of virtual engineering design teams. Paper presented at the *ACM Conference on Computer Supported Collaborative Work (CSCW)*, San Diego, CA.
4. Adams, R., Mann, L., Jordan, S., & Daly, S. (2007). Exploring the boundaries: Language, roles, and structures in cross-disciplinary design teams. Paper presented at the *7th Annual Design Thinking Research Symposium (DTRS7)*, London.

Refereed Published Works in Progress

1. Jordan, S., Adams, R., Pawley, A., & Radcliffe, D. (2009). Work in progress: The affordances of photo elicitation as a research and pedagogical method. *Proceedings of the IEEE Frontiers in Education (FIE) Conference*, San Antonio, TX.

Book Sections

1. Jordan, S. (2013). Virtual teams. In K. Smith (Ed.), *Teamwork and project management* (4th ed., pp. 12-13). Boston: McGraw-Hill.
2. Adams, R., Mann, L., Jordan, S., & Daly, S. (2009). Exploring the boundaries: Language, roles, and structures in cross-disciplinary design teams. In J. McDonnell, & P. Lloyd (Eds.), *About: designing. Analysing design meetings* (Chapter 19). London: Taylor and Francis Group.

4.2 Invited Presentations

Invited Keynotes

1. Jordan, S. (2016, December 9). *Navajo engineering professionals' experience of design in the context of their culture*. Invited keynote at the Arizona Educational Research Organization Annual Meeting, Tempe, AZ.
2. Anderson, I., Fernandez, J., & Jordan, S. (2016, September 16). *Engineering design across Navajo culture, community, and society*. Invited keynote at the Diné BiOlta School Board Association, Inc. Fall Conference: "Thinking Accountability", Albuquerque, NM.
3. Jordan, S. (2016, April 21). *Inspiring students to invent the future with Rube Goldberg machines*. Invited keynote at the IgniteSTEM Conference sponsored by Princeton University and Columbia University, New York, NY. <http://ignitestem.org>
<https://www.youtube.com/watch?v=4Lm1tAnfTZs>
4. Jordan, S., Pereira, N., White, K., & Phillips, J. (2015, November 12). *The art of invention: Developing engineering talent among Navajo youth with chain-reaction machines*. Invited keynote at the Identifying and serving gifted and talented Native American students: Future directions for research, partnerships, and practices pre-convention for the 62nd Annual Convention & Exhibition of the National Association for Gifted Children, Phoenix, AZ.
5. Jordan, S. (2015, August 4). *Engineering communities of sharing: Insights from the Maker movement*. Invited keynote at the 2015 Freshman Year Engineering Education Conference, Virginia Tech, Blacksburg, VA.
6. Jordan, S. (2015, April 11). *Rube Goldberg and Making: Engineering cultures of innovation*. Invited keynote at the Innovention 2015 weekend, Gonzaga University, Spokane, WA.

Invited Talks

1. Brayboy, B., & Jordan, S. (2016, October 20). *Meaningful research: Effectively engaging with tribal communities and working on tribal lands* Invited talk at conference sponsored by Arizona State University Office of American Indian Initiatives, Tempe, AZ.
2. Lande, M., Jordan, S., & Weiner, S. (2016, October 2). *Making research to educational practice*. Invited talk at the 2016 World Maker Faire New York, Corona, NY.
3. Jordan, S. (2016, September 9). *Putting the Maker in ChangeMaker: Lessons from the Maker Movement*. Invited talk at Next Generation STEM High School: A Forum Supported by the NSF, Washington, D.C.

Invited Talks

4. Jordan, S. (2016, February 26). *Arts and the Creative Campus II: STEAM Curriculum for College*. Invited talk at Gateway Community College and the Maricopa Center for Learning and Instruction, Phoenix, AZ.
5. Jordan, S., White, K., & Phillips, J. (2015, November 12). *Engineering design across Navajo culture, community, and society*. Invited talk at the Identifying and serving gifted and talented Native American students: Future directions for research, partnerships, and practices pre-convention for the 62nd Annual Convention & Exhibition of the National Association for Gifted Children, Phoenix, AZ.
6. Schlemper, B., Oberhauser, K., Svetlana, D., Popovic, Z., Jordan, S., & Vallieres, K. (2015, November 9). *Engaging students in authentic STEM discovery and innovation*. Invited talk at Next Generation STEM Learning for All: A Forum Supported by the NSF, Washington, D.C.
7. Jordan, S. (2015, October 16). *Navajo engineering professionals' experiences of design in the context of their culture*. Invited talk at Clemson University, Clemson, SC.
8. Jones, B., Jordan, S., Jennings, A., Moore, O., Major, J., & Slow, H. (2015, October 1). *Reaching new communities with STEM*. Invited talk at the 2015 Innovation Arizona Summit, Scottsdale Center for the Performing Arts, Scottsdale, AZ.
9. Jones-Davis, D., Hurst, A., Jordan, S., Bradford, K., & Valadez, J. (2015, September 27). *Building a nation of Makers: Celebrating the creativity, ingenuity, and diversity of the Maker community*. Invited talk at the 2015 World Maker Faire New York, Corona, NY.
10. Jordan, S. (2015, April 14). *Engineering storytelling across cultures*. Invited talk at the Science, Technology, and Society in Museums Conference, Arizona State University, Tempe, AZ.
11. Jordan, S. (2015, April 11). *The art of invention: Design thinking 101*. Invited talk at the Innovention 2015 weekend, Gonzaga University, Spokane, WA.
12. Jordan, S., & Lande, M. (2015, April 10). *Engineering and the Maker movement: Communities of sharing*. Invited talk at the Microchip Technology Inc. headquarters, Chandler, AZ.
13. Jordan, S. (2015, March 27). *Art of the machine: Rube Goldberg and the STEAM movement*. Invited talk as part of the STEM to STE[A]M Lecture Series, Gateway Community College, Phoenix, AZ.
14. Lande, M., & Jordan, S. (2014, October 23). Pathways of Makers. Invited talk at the *Higher Education Maker Summit*, Chandler, AZ.
15. Jordan, S. (2014, October 1). Art of the machine: Rube Goldberg and the Maker movement. Invited talk at Bucknell University, Lewisburg, PA.
16. Jordan, S. (2014, October 1). Rube Goldberg and Making: Engineering communities of sharing. Invited talk for the Bucknell University Culture and Technology Intersections Lecture Series, Lewisburg, PA.

Invited Talks

17. Lande, M., & Jordan, S. (2014, September 17). Should Makers be the engineers of the future? Invited talk at MakerCon 2014, Corona, NY. Watch at <http://makercon.com/session/should-makers-be-the-engineers-of-the-future/>
18. Jordan, S., & Lande, M. (2014, July 24). Pathways of Makers. Invited talk at the National Science Foundation Workshop: *Engineering and the Maker movement*, Washington, D.C.
19. Jordan, S. (2014, July 15). *Context-Centered Embedded Systems Education*. Invited talk at the International Test & Evaluation Association (ITEA) Phoenix Chapter Monthly Meeting, Tempe, AZ.
20. Jordan, S. (2014, May 21). *Inspiring future engineers in the Navajo Nation*. Invited talk at the American Indian Science and Engineering Society (AISES) chapter meeting, Phoenix, AZ.
21. Jordan, S. (2013, November 13). *My experience as a Maker*. Invited moderator at the Arizona State University College of Technology and Innovation Maker Summit, Chandler, AZ.
22. Jordan, S. (2013, October 18). *STEAM Machines™ + Dance*. Invited talk at the AIGA Phoenix Design Week PechaKucha, Phoenix, AZ.
23. Jordan, S. (2013, September 17). *The STEAM Machines™ K-12 enrichment program*. Invited talk at the International Test & Evaluation Association (ITEA) Phoenix Chapter Monthly Meeting, Tempe, AZ.
24. Ornstein, C., Beschloss, S., Dolin, P. A., Eschrich, J., Jordan, S., Mendoza, C., & Rorke-Davis, S. (2013, September 4). *How do interdisciplinary arts foster creative thinking and discovery?* Invited panelist at the Arizona SciTech Kickoff Conference, Scottsdale, AZ. Quoted in the Arizona Republic: <http://www.azcentral.com/community/scottsdale/articles/20130903festival-helps-kids-mentally-plug-science.html>
25. Jordan, S., & Lande, M. (2012, July 29 – 30). Invited guest lecture: *Design thinking*. ENGG1100 Engineering Design, Dr. Carl Reidsema, The University of Queensland, St. Lucia, Australia.
26. Carberry, A., Abulencia, J., Cardella, M., Jordan, S., Kellam, N., & Steinhauer, H. (2011, June 29). *Student Constituent Committee/New Engineering Educators Roundtable panel*. Invited panelist at the American Society for Engineering Education (ASEE) Annual Conference & Exposition, Vancouver, British Columbia.
27. Jordan, S. (2011, May 11). *How to design a winning Rube Goldberg machine*. Invited talk at The Gateway School, New York, NY.
28. Jordan, S. (2008, October 2). *Design Squad: A journey into reality (TV)*. Invited talk for the Purdue University School of Engineering Education Seminar Series, West Lafayette, IN.
29. Jordan, S. (2006, December 11). *...A good imagination and a pile of junk*. Invited talk at The Orchard School 7th grade Rube Goldberg project kickoff, Indianapolis, IN.

Invited Talks

30. Jordan, S. (2006, September 22). ...*A good imagination and a pile of junk*. Invited talk at the Purdue University Eta Kappa Nu Beta Chapter Centennial Celebration dinner, West Lafayette, IN.
31. Jordan, S. (2005, October 7). Lead presenter of *Batteries included. Rube Goldberg 101: From mind to masterpiece*. Invited talk at the Purdue University President's Council Back to Class session, West Lafayette, IN.
32. Jordan, S., & Hollingsworth, K. (2005, September 19). *Rube Goldberg 101: From mind to masterpiece*. Invited talk at the Contemporary Arts Center, Cincinnati, OH.

Invited Poster Presentations

Key: **bold** = graduate student underlined = undergraduate student

1. Jordan, S. (2016, January 28). *Engineering design across Navajo culture, community, and society*. Invited poster presentation at the Arizona State University Learning Innovation Showcase, Tempe, AZ.
2. Betoney, C., **Foster, C.**, & Jordan, S. (2014, December 11). *CAREER: Engineering design across Navajo culture, community, and society*. Invited poster presentation at the Secretary of the Department of Energy Poster Session and Reception, Arizona State University, Tempe, AZ.

Invited Summit/Symposia Participation

1. **Active Learning in STEM Education: A Symposium Supported by the NSF**, Washington, D.C. 9/8/2016
2. **White House Summit on Next Generation High Schools**, Washington, D.C. 11/10/2015
3. **National Science Foundation Maker Summit**, Washington, D.C. 11/2-3/2015
4. **7th Annual National Academy of Engineering Frontiers of Engineering Education (FOEE) Symposium**, Irvine, CA. 10/25-28/2015
5. **Engineering Faculty Engagement in Learning Through Service Workshop**, Boulder, CO. 9/2012

4.3 Research Support

External Awards

Grant Title	Funding Agency	Dates	Total \$	Investigators	Recognition
1. <i>Instigating a Revolution for Additive Innovation: An Educational Ecosystem of Making and Risk Taking</i>	National Science Foundation (NSF) IUSE / Professional Formation of Engineers: Revolutionizing Engineering Departments (EEC-1519339, funding rate 6%)	7/2015 to 7/2020	\$1,993,593	<i>PI</i> McKenna, A. <i>Co-PI</i> Brunhaver, S. <u>Jordan, S.</u> Kellam, N. Lande, M. <i>Senior Personnel</i> Bekki, J. Carberry, A. London, J.	14%

This study seeks to (1) characterize the ecosystem within the Polytechnic School at ASU; (2) Realize a mindset of additive innovation; (3) Establish an understanding of the engineering program culture and dynamics; and (4) identify and implement administrative structures to support cultural change.

2. <i>Leveraging Maker Pathways Research Projects to Scale STEAM + Making Outreach Programs</i>	NSF Innovation Corps for Learning (IIP-1514515)	2/2015 to 7/2016	\$50,000	<i>PI</i> <u>Jordan, S.</u> <i>Co-PI</i> Lande, M.	50%
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This study seeks to sustain and scale STEAM Labs™ and Making + Tinkering camp educational innovations.

External Awards

Grant Title	Funding Agency	Dates	Total \$	Investigators	Recognition
3. Collaborative Research: Foundations of Social and Ethical Responsibility Among Undergraduate Engineering Students: Comparing Across Time, Institutions	NSF Cultivating Cultures for Ethical STEM (SES-1449490)	5/2015 to 5/2020	\$160,000	<i>Purdue PI</i> Jesiek, B. <i>Purdue Co-PI</i> Zoltowski, C. <i>ASU PI</i> (2015 – 2016) <u>Jordan, S.</u> <i>ASU Co-PI</i> (2015 – 2016) Wetmore, J.	50% (2015 – 2016) 0%* (2016 – 2020)

*This multi-institution study (with lead Purdue University, Colorado School of Mines, and Brigham Young University), seeks to (1) understand what engineering students perceive as responsible (and irresponsible) professional conduct, and socially just (and unjust) technical practices; and (2) measure how foundational measures and understandings of social and ethical responsibility change during a four-year engineering degree program. * In summer 2016, I am transferring this grant to ASU faculty Dr. Tom Seager so that I can focus more time on my other awards that are aligned with my trajectory.*

4. <i>I-Corps for Learning (I-Corps-L): A Pilot Initiative to Scale Educational Innovations</i>	NSF TUES CRP Workshop (DUE-1355431)	10/2013 to 9/2015	\$219,165	<i>PI</i> Smith, K. (PI) <i>Co-PI</i> McKenna, A. <i>Senior Personnel</i> <u>Jordan, S.</u> Lande, M.	25%
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This project builds the NSF I-Corps program, which uses an entrepreneurial approach to broaden the impact of engineering research, and extends it to help NSF PIs scale their funded educational innovations.

5. <i>Engineering Design Across Navajo Culture, Community, and Society</i>	NSF Early Career Development (CAREER) (EEC-1351728)	1/2014 to 2/2018	\$455,125	<i>PI</i> <u>Jordan, S.</u>	100%
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This study seeks to (1) explore the ways in which Navajo students and Navajo professionals experience and understand engineering design in the context of their culture, community, and society; (2) conduct a design-based research study on the development of culturally-contextualized theory of learning and curriculum modules that will be piloted in several schools in the Navajo Nation; and (3) create and pilot tools to evaluate Navajo students' experience of engineering design.

External Awards

Grant Title	Funding Agency	Dates	Total \$	Investigators	Recognition
6. <i>Might Young Makers be the engineers of the future?</i>	NSF Research in Engineering Education (EEC-1329321)	9/2013 to 8/2016	\$300,000	PI <u>Jordan, S.</u> Co-PI Lande, M.	50%

The goal of this study is to understand Young Makers in K-12 and how their knowledge, skills, and attitudes might prepare them to pursue advanced STEM education and careers.

7. <i>Broadening the reach of engineering through community engagement (BRECE)</i>	NSF Scholarships in Science, Technology, Engineering, and Mathematics (DUE-1259356)	8/2013 to 7/2018	\$621,428	PI <u>Jordan, S.</u> Co-PI Dalrymple, O. Henderson, M.	40% (2013) 60% (2014 to present)
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The BRECE Scholars Program provides 4 years of mentoring, academic and financial support to a cohort of financially challenged, and academically talented students to pursue and earn engineering baccalaureate degrees at ASU.

8. <i>STEAM Machines™ Club: An integrative after-school engineering design experience</i>	ASU Women & Philanthropy	3/2013 to 3/2014	\$98,077	PI Dalrymple, O. Co-PI <u>Jordan, S.</u>	50%
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The goal of this project was to establish 35 after-school STEAM Machines Clubs™ in middle schools in the greater Phoenix area.

9. <i>Should Makers be the engineers of the future?</i>	NSF Research in Engineering Education (EEC-1232772, funding rate 21%)	8/2012 to 7/2014	\$249,385	PI Lande, M. Co-PI <u>Jordan, S.</u>	50%
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The goal of this study is to develop a theory illuminating the knowledge, skills, and attitudes of Makers and describing their pathways in formal engineering education.

4.4 Presentations

Presentations

Key: **bold** = graduate student

underlined = undergraduate student

1. Jordan, S., Anderson, I., Betoney, C., & Pangan, T. (2016, August 5). *Engineering design across Navajo culture, community, and society*. Presented at the Navajo Nation Board of Education Department of Diné Education Regular Meeting, Window Rock, AZ.
2. Jordan, S., Pereira, N. (2016, November 5). *STEAM Labs: Connecting creativity, STEM, and arts*. Presented at the 63rd Annual Convention & Exhibition of the National Association for Gifted Children (NAGC), Orlando, FL.
3. Jordan, S., Pereira, N., & White, K. (2016, November 5). *Developing engineering talent among Navajo youth with chain-reaction machines*. Presented at the 63rd Annual Convention & Exhibition of the National Association for Gifted Children (NAGC), Orlando, FL.
4. Jordan, S., & White, K. (2016, November 4). *Engineering design across Navajo culture, community, and society*. Presented at the 63rd Annual Convention & Exhibition of the National Association for Gifted Children (NAGC), Orlando, FL.
5. Jordan, S. (2016, September 7). *Navajo engineering professionals' experiences of design in the context of their culture*. Fall Engineering Education Seminar presentation, Arizona State University, Mesa, AZ.
6. Jordan, S., & Lande, M. (2016, May 21). *Making it in college*. Presented at the Bay Area Maker Faire 2016, San Mateo, CA.
7. Jordan, S. (2015, November 20). *Engineering design across Navajo culture, community, and society*. Presented at the 2015 American Indian Science and Engineering Society (AISES) National Conference, Phoenix, AZ.
8. Pereira, N., & Jordan, S. (2015, November 15). *STEAM Machines club: An integrative after-school engineering experience*. Presented at the 62nd Annual Convention & Exhibition of the National Association for Gifted Children, Phoenix, AZ.
9. Jordan, S., & Lande, M. (2015, November 14). *The Maker movement: Empowering kids through creative engineering*. Presented at the 62nd Annual Convention & Exhibition of the National Association for Gifted Children, Phoenix, AZ.
10. **Wigner, A.**, Lande, M., Jordan, S., & **Foster, C.** (2015, October 28). *Maker educational pathways*. Presented at the Case Western Reserve University Innovation Summit, Cleveland, OH.
11. Jordan, S., & Betoney, C. (2015, October 21). *Engineering design across Navajo culture, community, and society: A student perspective*. Presented at the 2015 Navajo Nation Human Research Review Board Conference, Navajo Nation Museum, Window Rock, AZ.

Presentations

Key: **bold** = graduate student

underlined = undergraduate student

12. Lande, M., & Jordan, S. (2015, September 26). *Majoring in Making in college*. Presented at the 2015 World Maker Faire New York, Corona, NY.
13. Pereira, N., Jordan, S., & Dalrymple, O. (2015, July). *Inspiring Inventive Genius in Middle and High School Students with Chain-Reaction STEAM Machines™*. Presented as part of the Transition to Teaching/STEM Goes Rural seminar series, Purdue University, West Lafayette, IN.
14. Jordan, S., & Lande, M. (2015, May 16). *Making it in college*. Presented at the Bay Area Maker Faire 2015, San Mateo, CA.
15. Pereira, N., Jordan, S., & Dalrymple, O. (2014, November 13). *Utilizing engineering activities in K-12 grades to promote interdisciplinary understanding of science, technology, and mathematics*. Session presented at the 61st Annual Convention of the National Association for Gifted Children, Baltimore, MD.
16. Jordan, S. (2014, September 29). *CAREER: Engineering design across Navajo culture, community, and society*. Poster presented at the National Science Foundation Engineering Education Awardees' Meeting, Arlington, VA.
17. Jordan, S., Lande, M., Vigeant, M., & Cheville, A. (2014, September 20). *Major in making*. Presented at the 2014 World Maker Faire New York, Corona, NY.
18. Pereira, N., Jordan, S., & Dalrymple, O. (2014, February 24). *Inspiring inventive genius in middle and high school students with chain-reaction STEAM Machines™*. Session presented at the 34th Kentucky Association for Gifted Education Annual Conference, Lexington, KY.
19. Pereira, N. & Jordan, S. S. (2013, November 10). *Inspiring inventive genius in middle and high school students with chain-reaction STEAM Machines™*. Session presented at the 60th Annual Convention of the National Association for Gifted Children, Indianapolis, IN.
20. Pereira, N., Jordan, S. S., & Dalrymple, O. (2013, November 7). *Inspiring inventive genius in middle and high school students with chain-reaction STEAM Machines™*. Session presented at the 60th Annual Convention of the National Association for Gifted Children, Indianapolis, IN.
21. Pereira, N., Jordan, S. S., & Dalrymple, O. (2013, August 12). *STEAM Labs™: Using chain reaction machines to teach gifted students engineering design*. Session presented at the 20th World Conference on Gifted and Talented Children, Louisville, KY.
22. Pereira, N., Jordan, S. S., & Dalrymple, O. (2013, July 18). *Inspiring inventive genius in middle and high school students with chain-reaction STEAM Machines™*. Session presented at the Center for STEM Education for Girls Think Tank & Conference, Nashville, TN.

Presentations

Key: **bold** = graduate student

underlined = undergraduate student

23. Pereira, N., Jordan, S., & Dalrymple, O. (2013, June). *STEAM Machines™ and engineering design*. Session presented at the School of Teacher Education Annual Summer Conference, Western Kentucky University, Bowling Green, KY.
24. Pereira, N., Jordan, S., & Dalrymple, O. (2013, February). *Teaching engineering design using STEAM Machines™*. Session presented at the 33rd Kentucky Association for Gifted Education Annual Conference, Lexington, KY.
25. Lande, M., & Jordan, S. (2012, September 29). *Major in making in college*. Presented at the Maker Education Stage, 2012 World Maker Faire New York, Corona, NY.
26. Pereira, N., Jordan, S., & Dalrymple, O. (2012, July). *STEAM Labs™: Inovacao tecnologica no ensino de ciencias [STEAM Labs: Technological innovation in science teaching]*. Session presented at the 5th Annual Meeting of the Brazilian Council for Giftedness, Rio de Janeiro, Brazil.
27. Dalrymple, O., Fernandez, J., Diaz, M., & Jordan, S. (2012, April 20). *Student perceptions of innovative technology in a team-based design environment*. Presented at the *American Society for Engineering Education Pacific Southwest (ASEE PSW) Conference*, San Luis Obispo, CA.
28. Pereira, N., Jordan, S., & Dalrymple, O. (2011, November 3). *Invest in America's future: Maximize the challenge for middle and secondary STEM students*. Presented at the National Association for Gifted Children 58th Annual Convention & Exhibition, New Orleans, LA.
29. Jordan, S. (2011, March 26). Announced the First International Online Rube Goldberg Machine Contest for Ages 11 – 14 at the National Collegiate Rube Goldberg Machine Contest, West Lafayette, IN.
30. Jordan, S. (2011, February 19; 2010, February 13; 2009, February 7). *Social computing technologies in the classroom*. Presented at the Indiana Purdue Fort Wayne (IPFW) Graduate Technology Workshop for Teachers, Fort Wayne, IN.
31. Jordan, S. (2010, October 4). *Batteries included: A 125-step journey on Planet Rube*. Brownsburg East Middle School, Brownsburg, IN.
32. Jordan, S. (2010, July 20). *Social computing technologies in the classroom*. Presented at the Indiana Purdue Fort Wayne (IPFW) Graduate Computer Camp for Teachers, Fort Wayne, IN.
33. Jordan, S. (2010, July 15). *Batteries included: A 125-step journey on Planet Rube*. ENGINEERING FYI: For Your Imagination Summer Camp, Purdue University, West Lafayette, IN.
34. Purzer, S., Jordan, S., & McNeill, N. (2010, April 8). *Obtaining a faculty position: Interviewing and campus visits*. Presented as part of the Purdue University School of Engineering Education Seminar Series, West Lafayette, IN.

Presentations

Key: **bold** = graduate student

underlined = undergraduate student

35. Jordan, S. (2010, March 24). *Design Squad: A behind-the-scenes journey into reality (TV)*. Presented during “tea time” at IDEO, Boston, MA.
36. Jordan, S. (2010, February 18). *Inspiring design scholarship: Integrating research, teaching, and practice*. Presented as part of the Purdue University School of Engineering Education Seminar Series, West Lafayette, IN.
37. Bagiati, K., Jordan, S., Mena, I., & Pollock, M. (2010, February 4). *How to succeed in ENE*. Presented as part of the Purdue University School of Engineering Education Seminar Series, West Lafayette, IN.
38. Pereira, N., & Jordan, S. (2009, November 6). *The simplicity of complexity: Rube Goldbergengineering in the classroom*. Presented at the National Association for Gifted Children 56th Annual Convention & Exhibition, St. Louis, MO.
39. Jordan, S. (2009, September 15). *Rethinking success in virtual cross-functional teams*. Presented at the Collaboration and Innovation 2009 conference, West Lafayette, IN.
40. Pereira, N., & Jordan, S. (2009, August 4). *Design twice, build once: Teaching engineering design with Rube Goldberg*. Presented at the 18th World Conference on Gifted and Talented Children, Vancouver, Canada.
41. Jordan, S., & Pereira, N. (2009, March 31). *Design twice, build once: Teaching engineering design in a Saturday enrichment program*. Poster presented at the Purdue University Annual Graduate Student Educational Research Symposium (AGSERS), West Lafayette, IN.
42. Pereira, N., & Jordan, S. (2008, October 1). *Design twice, build once: Teaching engineering design in a Saturday enrichment program*. Presented at the 2nd Annual Purdue University Latino Scholars Forum, West Lafayette, IN.

Poster Presentations

Key: **bold** = graduate student

underlined = undergraduate student

1. **Weiner, S.**, Lande, M., & Jordan, S. (2016, November 13 – 16). *CREATE-ing a welcoming space for Maker culture*. Poster accepted to be presented at the International Symposium on Academic Makerspaces (ISAM), Massachusetts Institute of Technology, Cambridge, MA.
2. Dickens, M., Jordan, S., & Lande, M. (2016, April 22). *Parents and roles in informal Making education: Informing and implications for Making in museums*. Poster presented at the Fulton Undergraduate Research Initiative Poster Session, Tempe, AZ.
3. Pangan, T. J., & Jordan, S. (2015, November 20). *Engineering design across Navajo culture, community, and society*. Poster presented at the 2015 Fulton Undergraduate Research Initiative Fall Symposium, Tempe, AZ.

Poster Presentations

Key: **bold** = graduate student

underlined = undergraduate student

4. Oplinger, J., Lande, M., & Jordan, S. (2015, May). *Leadership in the Maker community*. Poster presented at the Fulton Undergraduate Research Initiative Poster Session, Tempe, AZ.
5. Heiman, A., Jordan, S., & Lande, M. (2015, May). *Understanding Making and engineering*. Poster presented at the Fulton Undergraduate Research Initiative Poster Session, Tempe, AZ.
6. Heiman, A., Jordan, S., & Lande, M. (2014, December). *Understanding Making and Making communities*. Poster presented at the Fulton Undergraduate Research Initiative Poster Session, Tempe, AZ.

Workshops

1. Jordan, S. (2016, August 15). *STEAM Machines™*. Workshop presented at the Arizona State University (ASU) Polytechnic School faculty retreat, Gilbert, AZ.
2. Pereira, N., Jordan, S., & Dalrymple, O. (2015, July). *Inspiring Inventive Genius in Middle and High School Students with Chain-Reaction STEAM Machines™*. Workshop presented at Purdue University, West Lafayette, IN.
3. Jordan, S., & George, J. (2015, March 14). *The Rube Goldberg Machine Contest: Invention in the classroom*. Workshop presented at the National Science Teachers Association (NSTA) National Conference, Chicago, IL.
4. Jordan, S., Wischer, D., & George, J. (2015, February 22). *Rube Goldberg: The art of complicated contraptions*. Two workshops presented at the Intrepid Museum Kids Week, New York, NY.
5. Jordan, S. (2014, November 7). *STEAM Machines™*. Workshop presented at the Arizona State University (ASU) President's Weekend, Tempe, AZ.
6. Jordan, S., & George, J. (2014, April 5). *The Rube Goldberg Machine Contest: Invention in the classroom*. Workshop presented at the National Science Teachers Association (NSTA) National Conference, Boston, MA.
7. Jordan, S., & Dalrymple, O., & Pereira, N. (2014, April 4). *Blending the arts with chain-reaction STEAM Machines™*. Workshop presented at the National Science Teachers Association (NSTA) National Conference, Boston, MA.
8. Jordan, S., Dalrymple, O., & Pereira, N. (2013, October 23). *Inspiring Inventive Genius in Middle and High School Students with Chain-Reaction STEAM Machines™*. Workshop presented at the IEEE Frontiers in Education (FIE) Conference, Oklahoma City, OK.

Workshops

9. Jordan, S., Dalrymple, O., & Pereira, N. (2013, June 22). *Inspiring Inventive Genius in Middle and High School Students with Chain-Reaction STEAM Machines*. Workshop presented at the American Society for Engineering Education (ASEE) 10th Annual K-12 Workshop on Engineering Education, Atlanta, GA.
10. Jordan, S., Dalrymple, O., & Pereira, N. (2013, June 21). *Teaching Engineering Design to Middle and High School Students using STEAM Machines™*. Workshop presented at the Indiana Purdue Fort Wayne (IPFW) Graduate Science Workshop for Teachers, Fort Wayne, IN.
11. Jordan, S., & George, J. (2013, April 12). *The Rube Goldberg® Machine Contest: Invention in the classroom*. Workshop presented at the National Science Teachers Association (NSTA) National Conference, San Antonio, TX.
12. Pereira, N., Jordan, S., & Dalrymple, O. (2013, January 22). *STEAM Labs™: Teaching engineering design using STEAM Machines™*. Workshop presented at the Western Kentucky University Center for Gifted Studies, Bowling Green, KY.
13. Jordan, S., & Dalrymple, O. (2012, December 7). *Teaching engineering design to middle and high school students using chain reaction STEAM Machines™*. Workshop presented at the National Science Teachers Association (NSTA) Phoenix Area Conference, Phoenix, AZ.
14. Pereira, N., & Jordan, S. (2012, November 16). *Rube Goldberg: Developing engineering talents*. Workshop presented at the National Association for Gifted Children 59th Annual Convention & Exhibition, Denver, CO.
15. Pereira, N., Jordan, S., & Dalrymple, O. (2012, October). *STEAM Labs™: Teaching engineering design using STEAM Machines™*. Workshop presented at the Western Kentucky University Center for Gifted Studies, Bowling Green, KY.
16. Jordan, S., Dalrymple, O., & Pereira, N. (2012, October 3). *Teaching engineering design to middle and high school students using STEAM Machines™*. Workshop presented at the IEEE Frontiers in Education (FIE) Conference, Seattle, WA.
17. Jordan, S., Dalrymple, O., & Pereira, N. (2012, June 18). *Teaching STEAM concepts to middle and high school students using engineering design to create STEAM Machines™*. Workshop presented at the Indiana Purdue Fort Wayne (IPFW) Graduate Science Workshop for Teachers, Fort Wayne, IN.
18. Dalrymple, O., Jordan, S., Astatke, Y., Pereira, N., & Fletcher, J. D. (2012, June 10). *Teaching engineering design to middle and high school students using Rube Goldbergengineering*. Workshop presented at the *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, San Antonio, TX.
19. Jordan, S., Dalrymple, O., & Pereira, N. (2012, June 9). *Teaching engineering design to middle and high school students using Rube Goldbergengineering*. Workshop presented at the *2012 American Society for Engineering Education (ASEE) Workshop on K-12 Engineering Education*, San Antonio, TX.

Workshops

20. Dalrymple, O., & Jordan, S. (2012, April 19). *Teaching engineering design to middle and high school students using Rube Goldbergengineering*. Workshop presented at the *American Society for Engineering Education Pacific Southwest (ASEE PSW) Conference*, San Luis Obispo, CA.
21. Jordan, S. (2010, June 25). *Rube Goldbergengineering 101*. Hands-on workshop presented at the Indiana Purdue Fort Wayne (IPFW) graduate Science Workshop for K-6 Teachers, Fort Wayne, IN.
22. Jordan, S., & Pereira, N. (2010, February 5). *Introduction to Rube Goldbergengineering*. Hands-on workshop presented at the Hoosier Association of Science Teachers Inc. (HASTI) Annual Conference, Indianapolis, IN.
23. Jordan, S. (2009, June 29). *Rube Goldbergengineering 101*. Hands-on workshop presented at the Indiana Purdue Fort Wayne (IPFW) graduate Science Workshop for K-6 Teachers, Fort Wayne, IN.
24. Jordan, S., & Pereira, N. (2009, February 6). *Rube Goldbergengineering 101*. Hands-on workshop presented at the Hoosier Association of Science Teachers Inc. (HASTI) Annual Conference, Indianapolis, IN.
25. Jordan, S., & Rinzel, B. (2008, October 25). Rube Goldberg demonstration at the Indiana Purdue Fort Wayne (IPFW) Fall into Learning Festival, Fort Wayne, IN.

Mass Media (On-Camera Roles – see <http://www.imdb.com/name/nm1236174/>)

1. Jordan, S. (2014, June 22). Rube Goldberg expert in “Amazing Gadgets Countdown” episode, *Modern Marvels*, The History Channel.
2. Jordan, S. (2011, November 28). Rube Goldberg expert in “Weird Machines” episode, *Modern Marvels*, The History Channel.
3. Jordan, S. (2009). *Mousetrap to Mars: The True Story of Building the World’s Most Complex Machine*.
Mousetrap to Mars is a professional 82-minute docu-comedy movie on the Rube Goldberg Machine Contest, where teams build overly complex machines to complete simple tasks. Had starring role as “the Michael Jordan of Rube Goldberg;” provided expert commentary and insight into the inner workings of the Rube Goldberg team that I founded at Purdue University
4. Jordan, S., Foglesong, J., Hollingsworth, K., Mehl, A., & Rinzel, B. (2006, July 13). Presentation of giant “Mission to Mars” machine that made ice cream sundaes and poured water, *Master of Champions*, ABC, Los Angeles, CA.
5. Jordan, S., Mann, R., & Wischer, D. (2006, April 14). Presentation of national champion “The Rube Machine Ate My Homework” machine that shredded 5 sheets of paper in 215 steps, *Jimmy Kimmel LIVE*, ABC, Los Angeles, CA.

Mass Media (On-Camera Roles – see <http://www.imdb.com/name/nm1236174/>)

6. Jordan, S., & Hollingsworth, K. (2005, April 15). Presentation of national champion “Blackout on Planet Rube” machine that replaced the batteries in a flashlight and turned it on in 125 steps, *Jimmy Kimmel LIVE*, ABC, Los Angeles, CA.
7. Jordan, S. (2005). Key interviewee in Rube Goldberg Machine Contest segment, *Attack of the Show*, G4TV.
8. Jordan, S. (2005). Key interviewee in Rube Goldberg Machine Contest segment, *ESPN*.
9. Jordan, S. (2005). Key interviewee in Rube Goldberg Machine Contest segment, *Games Across America*, GSN.
10. Jordan, S. (2005, April 18). Lead presenter in Rube Goldberg Machine Contest segment, *The Daily Planet*, Discovery Channel Canada.

Interviews

1. Jordan, S. (2016, August 18). PhD Alumni Career Profile: Shawn Jordan. Purdue University School of Engineering Education video interview. Retrieved from <https://youtu.be/1DzyXvtUAMg>
2. Jordan, S. (2016, August 17). PhD Student Profile: Shawn Jordan’s Research in Engineering Education. Purdue University School of Engineering Education video interview. Retrieved from <https://youtu.be/aVWi5k0BwqI>
3. Grant, T. (2015, May 6). Polytechnic engineers field popular exhibits at Emerge 2016. ASU Ira A. Fulton Schools of Engineering Inner Circle. [Key Interviewee]. Retrieved from <http://innercircle.engineering.asu.edu/2016/05/06/polytechnic-engineers-field-popular-exhibits-at-emerge-2016/>
4. Jordan, S. (2015, November 20). Featured “Transform Society” example in Arizona Board of Regents Breakfast Design Aspirations video produced by the ASU Faculty Senate. Retrieved from <http://vimeo.com/111791046>
5. Creno, C. (2014, December 22). Schools use arts to generate passion for science. *The Arizona Republic*. [Key interviewee]. Retrieved from <http://www.azcentral.com/story/news/local/mesa/2014/12/21/schools-use-arts-generate-passion-science/20744629/?from=global>
6. Toscano, J. (2014, October 28). ASU professor hosts STEAM camps on Navajo reservation. *The State Press*. [Key Interviewee]. Retrieved from <http://www.statepress.com/2014/10/28/asu-professor-hosts-steam-camps-on-navajo-reservation/>
7. Nichols, J. (2014, October 21). Award-winning educator bridges engineering and art. *ASU News Science & Tech*. [Key Interviewee]. Retrieved from <https://asunews.asu.edu/20141021-shawn-jordan-career-award>

Interviews

8. Nichols, J. (2014, October 13). ASU professor brings engineering camps to Navajo students. *ASU News Science & Tech*. [Key Interviewee]. Retrieved from <https://asunews.asu.edu/20141013-steam-machine-camps>
9. Nichols, J. (2014, October 3). STEAM Machine camps held on Navajo reservation. *ASU Ira A. Fulton Schools of Engineering Full Circle*. [Key Interviewee]. Retrieved from <http://fullcircle.asu.edu/faculty/steam-machine-camps-held-on-navajo-reservation/>
10. Khan, S., Lord, M., & Matthews, M. (2014, September 15). 20 under 40. *American Society for Engineering Education PRISM*. [Key Interviewee], 24(1), 24-35.
11. Devoe, M. (2014, September 8). Making: The gateway to an engineering career. *Embedded Computing Design*. [Key Interviewee], 12(6), 10-11. Retrieved from <http://embedded-computing.com/articles/making-gateway-an-engineering-career/>
12. Devoe, M. (2014, September 8). Bringing creative engineering to students. *Embedded Computing Design*. [Key Interviewee], 12(6), 22. Retrieved from <http://embedded-computing.com/articles/bringing-creative-engineering-students/>
13. Keane, C. (2014, June 19). To-hajiilee camp integrates art into STEM education. *Navajo Times*, pp. C-1. [Key Interviewee]. Retrieved from <http://www.navajotimes.com/education/2014/0614/061914steam.php#.VNftZ0JurAM>
14. National Science Foundation. (2014, June 18). National Science Foundation celebrates do-it-yourself engineers, tinkerers and inventors everywhere [Press release]. Retrieved from http://www.nsf.gov/news/news_summ.jsp?cntn_id=131769&org=NSF&from=news
15. WebsEdgeEducation. (2014, June 13). Ira A. Fulton Schools of Engineering, Arizona State University – Excellence, Access and Impact. [Key Interviewee]. Retrieved from http://www.websedge.com/videos/education/#/excellence_access_and_impact
16. Beschloss, S. (2013, August 13). Killing creativity in our kids, just when we need it. *The Arizona Republic*. [Key interviewee]. Retrieved from <http://www.azcentral.com/opinions/articles/20130729creativity-common-core-education-viewpoints.html>
17. Lande, M., & Jordan, S. (2012, February 23). *Making innovations*. Workshop presented at the Making Your Future event at the Arizona State University at the Polytechnic Campus, Mesa, AZ. Retrieved from http://www.eastvalleytribune.com/local/education/article_644b44b6-5f1d-11e1-b893-001871e3ce6c.html
18. Hibsman, J. (2012, February 1). Professor's work with Rube Goldberg machines earns recognition. *ASU News: Science & Tech*. [Key interviewee]. Retrieved from https://asunews.asu.edu/20120201_ShawnJordanRubeGoldberg
19. Johnson, P., Hung, N., Binh, N., Loan, L., Manh, V., Jordan, S., & Lande, M. (2011, October 29). Higher Engineering Education Alliance Project (HEEAP) Vocational Program 2011. [Key interviewee]. Retrieved from <https://www.youtube.com/watch?v=cQH0YVioKx8>

Interviews

20. Jordan, S., Mann, R., & Wischer, D. (2006). Key interviewees in Rehagen, T. (2006). *One hundred twenty-five steps*. [Feature]. *Indianapolis Monthly*, 29(9), 128-133, 212, 214.

Exhibitions

1. Jordan, S. (2016, November 13). *Rube Goldberg* and *STEAM Machines™* booth. Exhibited at the Shasta County Mini Maker Faire, Redding, CA.
2. Jordan, S., & Lande, M. (2016, October 1 – 2). *Maker educational pathways research project*. Exhibited at the 2016 World Maker Faire New York, Corona, NY.
3. Jordan, S., & Lande, M. (2016, May 20 – 22). *Maker educational pathways research project*. Exhibited at the Bay Area Maker Faire 2016, San Mateo, CA.
4. Jordan, S. (2016, March 12). *STEAM Machines™* booth. Exhibited at the Southwest Maker Fest, Mesa, AZ. **Winner of Best in Festival award**
5. Lande, M., & Jordan, S. (2015, September 26 – 27). *Maker educational pathways research project*. Exhibited at the 2015 World Maker Faire New York, Corona, NY.
6. George, J., & Jordan, S. (2015, May 15 – 17). *Rube Goldberg / STEAM Labs™* speed build booth. Exhibited at the Bay Area Maker Faire 2015, San Mateo, CA. **Winner of Best in Class ribbon**
7. Jordan, S., & Lande, M. (2015, May 15 – 17). *Maker educational pathways research project*. Exhibited at the Bay Area Maker Faire 2015, San Mateo, CA.
8. Jordan, S. (2015, March 28). *STEAM Machines™* booth. Exhibited at the Southwest Maker Fest, Mesa, AZ.
9. Jordan, S., & Lande, M. (2014, September 20 – 21). *Maker educational pathways research project*. Exhibited at the 2014 World Maker Faire New York, Corona, NY.
10. Jordan, S., & Lande, M. (2014, May 17 – 18). *Maker educational pathways research project*. Exhibited at the Bay Area Maker Faire 2014, San Mateo, CA.
11. Ornstein, C.; Jordan, S. (core team member). (2013 – 2014). *21st Century Café Society*. Project funded by Artplace (<http://www.artplaceamerica.org/loi/>). *This project with the Mesa Arts Center will build an activated and interactive environment and gathering place on the Mesa Arts Center campus. It is supported by an iProject team in the ASU Department of Human-Environment Systems, a sophomore-level ASU Polytechnic School design course, members of the arts community, and contractors.*
12. Lande, M. & Jordan, S. (2013, September 21 – 22). *Maker educational pathways research project*. Exhibited at the 2013 World Maker Faire New York, Corona, NY.
13. Lande, M. & Jordan, S. (2013, May 18 – 19). *Maker educational pathways research project*. Exhibited at the Bay Area Maker Faire 2013, San Mateo, CA.

Exhibitions

14. Jordan, S., Dolin, P., Alghamdi, S., Berry-Crenshaw, M., Ebuehi, O., Fikel, S., Hall, M., Jenkins, T., McDanell, M., Slinker, D., Williams, W., Briggs, M., Ibrahim, L., Murabata, S., & Pillow, M. (2013, March 28). *The ugly cactus*. Chain-reaction machine exhibited at the Arizona Science and Engineering Fair, Phoenix, AZ.
15. Jordan, S., Dolin, P., Alghamdi, S., Berry-Crenshaw, M., Ebuehi, O., Fikel, S., Hall, M., Jenkins, T., McDanell, M., Slinker, D., Williams, W., Briggs, M., Ibrahim, L., Murabata, S., & Pillow, M. (2013, March 13 – 17). *The ugly cactus*. Chain-reaction machine exhibited at spark! Mesa’s Festival of Creativity, Mesa Arts Center, Mesa, AZ.
16. Lande, M. & Jordan, S. (2012, September 29 – 30). *Maker educational pathways research project*. Exhibited at the 2012 World Maker Faire New York, Corona, NY.
17. Jordan, S. (2005, August 26 – 2006, April 6). Lead Presenter and Exhibit Organizer of Rube Goldberg exhibit, Muncie Children’s Museum, Muncie, IN.
18. Jordan, S. (2004, August 21; 2003, August 9; 2002, August 14). Lead presenter and organizer of Rube Goldberg machine exhibit at the governor’s *Indiana 2016* booth, Indiana State Fair, Indianapolis, IN.

5. Teaching

5.1 Courses Taught

Semester	Course Number: Title (Section)	Class
1. Fall 2016	<i>EGR 304: Electrical Systems Project I</i> <i>EGR 305: Robotics Systems Project I</i> <i>(Section 1, cross-listed)</i>	Junior
2. Fall 2016	<i>EGR 304: Electrical Systems Project I</i> <i>EGR 305: Robotics Systems Project I</i> <i>(Section 2, cross-listed)</i>	Junior
3. Fall 2016	EGR 565: Qualitative Methods in Engineering Education	Ph.D.
4. Spring 2016	<i>EGR 314: Electrical Systems Project II</i> <i>EGR 315: Robotic Systems Project II</i> <i>(Section 1, cross-listed)</i>	Junior
5. Spring 2016	<i>EGR 314: Electrical Systems Project II</i> <i>EGR 315: Robotic Systems Project II</i> <i>(Section 2, cross-listed)</i>	Junior
6. Fall 2015	<i>EGR 304: Electrical Systems Project I</i> <i>EGR 305: Robotics Systems Project I</i> <i>(Section 1, cross-listed)</i>	Junior
7. Fall 2015	<i>EGR 304: Electrical Systems Project I</i> <i>EGR 305: Robotics Systems Project I</i> <i>(Section 2, cross-listed)</i>	Junior

Semester	Course Number: Title (Section)	Class
8. Fall 2015	<i>EGR 598: Topic: Embedded Systems Design Project</i>	M.S.
9. Spring 2015	<i>EGR 314: Electrical Systems Project II EGR 315: Robotic Systems Project II (Section 1, cross-listed)</i>	Junior
10. Spring 2015	<i>EGR 314: Electrical Systems Project II EGR 315: Robotic Systems Project II (Section 2, cross-listed)</i>	Junior
11. Spring 2015	<i>EGR 598: Topic: Embedded Systems Design Project II</i>	M.S.
12. Fall 2014	<i>EGR 304: Electrical Systems Project I EGR 305: Robotics Systems Project I (Section 1, cross-listed)</i>	Junior
13. Fall 2014	<i>EGR 304: Electrical Systems Project I EGR 305: Robotics Systems Project I (Section 2, cross-listed)</i>	Junior
14. Fall 2014	<i>EGR 598: Special Topics: Embedded Systems Design Project</i>	M.S.
15. Spring 2014	<i>EGR 314: Electrical Systems Project II EGR 314: Robotic Systems Project II (cross-listed)</i>	Junior
16. Fall 2013	<i>EGR 216: Fundamentals of Engineering Systems I (Electrical)</i>	Sophomore
17. Fall 2013	<i>EGR 301: Fall Electrical and Robotics Concentration Project I</i>	Junior
18. Spring 2013	<i>EGR 302: Spring Electrical Concentration Project II</i>	Junior
19. Spring 2013	<i>EGR 339: Fabrication of Electrical Systems</i>	Junior
20. Fall 2012	<i>EGR 301: Fall Electrical Concentration Project I</i>	Junior
21. Fall 2012	<i>EST 160: Introduction to Electronic Systems</i>	Freshman
22. Spring 2012	<i>EGR 302: Spring Electrical and Robotics Concentration Project II</i>	Junior
23. Spring 2012	<i>EGR 494: Special Topics: Electrical Systems Design</i>	Senior
24. Fall 2011	<i>EGR 301: Fall Electrical Concentration Project I</i>	Junior
25. Spring 2011	<i>EGR 302: Spring Electrical Concentration Project II (Lecture) EGR 302: Spring Electrical Concentration Project II (Laboratory) (cross-listed)</i>	Junior
26. Spring 2011	<i>EGR 332: Electrical Power and Heat</i>	Junior

5.2 Teaching Experience

- Co-Instructor**, NSF I-Corps for Learning (I-Corps-L) 1/2014 – 2/2014
- The purpose of the I-Corps-L initiative is to “propagate and scale educational innovations”
 - <http://docs.asee.org/public/I-Corps-L/ICorpsLBrochure.pdf>
- Instructor**, Higher Engineering Education Alliance Program (HEEAP), Arizona State University 9/2011 – 9/2012
- Co-taught (with Micah Lande, ASU) project-based learning to Vietnamese university faculty
 - HEEAP program received U.S. Secretary of State’s 2012 Award for Corporate Excellence (ACE) from Hillary Clinton
https://asunews.asu.edu/20121212_award_intelcollaboration
 - Interview: <http://www.youtube.com/watch?v=cQH0YVioKx8>
- Engineering Assistant**, *Design Squad*, WGBH, Boston, Massachusetts 5/2008 – 8/2008
- *Design Squad* is a Peabody and Daytime Emmy-award winning engineering design reality TV show for kids
 - Played many as-needed roles for the entire 10-episode season, including “just in time” teacher, mentor, interdisciplinary engineer, problem solver and troubleshooter, researcher, logistician, and tester
 - Website: <http://pbskids.org/designsquad>

5.3 Community Engagement

- Co-Founder**, *STEAM Labs™ Center for K-12 Research and Engagement*, Mesa, AZ 1/2010 – present
- The Center, located in Peralta Hall Rooms 231A and 231C, develops and promotes informal engineering education outreach activities to engage middle and high school students in chain-reaction *STEAM Machine™* projects that integrate science, technology, engineering, arts, and math concepts
 - Supported by \$1,224,630 across 4 externally-funded grants
 - Impact: 60+ camps, 35+ after-school clubs, and 75+ workshops and teacher conferences impacting over 5,000 students and 2000 teachers worldwide
- Education Outreach Director**, Rube Goldberg Inc., Westport, CT 3/2011 – present
- Responsible for the design, implementation, and study of the Rube Goldberg Machine Contest
- Board of Directors Member**, i.d.e.a. Museum, Mesa, AZ. 3/2014 – present
- Responsible for helping design and develop an official Rube Goldberg traveling exhibit for the museum

5.3 Community Engagement

- Judge**, Navajo Nation Science Fair, Gallup, NM 2012, 2013
- Judge**, Arizona Science & Engineering Fair, Phoenix, AZ 2011, 2014
- Instructor and Course Developer**, Gifted Education Resource Institute (GERI), Purdue University, West Lafayette, IN 7/2010
7/2009
- Co-designed curriculum for new Rube Goldberg engineering class to teach middle and high school students to use an engineering design process to create Rube Goldberg machines, with special focus on design iteration, storyboarding, and teamwork 10 – 11/2008
1 – 3/2008
 - Partnered with a class at Arizona State University to expose students to geographically distributed design teams (July 2010)

5.4 Graduate and Honors Student Advising

Doctoral Students

<i>Committee Role</i>	<i>Name</i>	<i>Program</i>	<i>Current Position</i>
1. Co-Chair	Steven Weiner Started: 8/2016 Research Interests: Engineering Education and the Maker Movement	Human and Social Dimensions of Science and Technology, School for the Future of Innovation in Society	Graduate Research Assistant, Ira A. Fulton Schools of Engineering, ASU
2. Chair	Christina Foster, Ph.D. Graduated: 5/2016 Dissertation: <i>Hybrid Spaces for Traditional Culture and Engineering: A Narrative Exploration of Native American Women as Agents of Change</i>	Engineering Education Mary Lou Fulton Teacher’s College	Postdoc, Ira A. Fulton Schools of Engineering, ASU
3. Committee member	Patrick Schwab, Ph.D. Graduated: 12/2013 Dissertation: <i>Evaluation of Online Teacher and Student Materials for the Next Generation Science Framework Crosscutting Science and Engineering Concepts</i>	Engineering Education Mary Lou Fulton Teacher’s College	Assistant Professor, Department of Teacher Education and Human Performance Development, Minot State University

Master of Science Students

1. Chair	James Oplinger Graduated: 12/2016	Engineering, The Polytechnic School, Ira A. Fulton Schools of Engineering	IP Legal Engineer, On Semiconductor
2. Committee Member	Harsha Kadekar Expected Graduation: 8/2017	Software Engineering, Ira A. Fulton Schools of Engineering	Amazon

Bachelor of Science Honors Thesis Students

1. Chair	Kylee Burgess Expected Graduation: 5/2018	Engineering, Electrical The Polytechnic School, Ira A. Fulton Schools of Engineering	TBD
2. Chair	Margaret Golka Graduated: 2017	Engineering, Electrical The Polytechnic School, Ira A. Fulton Schools of Engineering	TBD
3. Chair	Matthew Dickens Graduated: 2016	Engineering, Robotics The Polytechnic School, Ira A. Fulton Schools of Engineering	Engineer at Microchip, Inc.
4. Second Reader	James Oplinger Graduated: 2015	Engineering, Electrical The Polytechnic School, Ira A. Fulton Schools of Engineering	Finishing a M.S. in Engineering at The Polytechnic School in the Ira A. Fulton Schools of Engineering

Bachelor of Science Honors Thesis Students

5. Chair	Travis Marshall Graduated: 2014	Engineering, Robotics The Polytechnic School, Ira A. Fulton Schools of Engineering	M.S. in Electrical Engineering from Boston University Staff engineer at Triton Systems, Inc.
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5.5 Graduate and Undergraduate Students Funded

Student Name	ASU Department	Dates of Employment	Student Level
1. Steven Weiner	Human and Social Dimensions of Science and Technology, School for the Future of Innovation in Society	2016 – present	Ph.D.
2. Christina Foster	Engineering Education Mary Lou Fulton Teacher’s College	2013 – present	Ph.D.
3. Aubrey Wigner	Human and Social Dimensions of Science, School for the Future of Innovation in Society	2014 – 2017	Ph.D.
4. Leonor Camarena	Public Administration School of Public Affairs	2015 – 2016 (some volunteer)	Master’s / Ph.D.
5. Kayla Schwoerer	Public Administration School of Public Affairs	2015 – 2016 (some volunteer)	Master’s / Ph.D.
6. Ieshya Anderson	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – present	B.S.
7. Courtney Betoney	Engineering, Mechanical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
8. Matthew Dickens	Engineering, Robotics Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2012 – 2016	B.S.
9. Paul Horton	Software Engineering, School of Computing, Informatics, and Decision Systems Engineering Ira A. Fulton Schools of Engineering	2015 – 2017	B.S.
10. Cecilia La Place	Software Engineering, School of Computing, Informatics, and Decision Systems Engineering Ira A. Fulton Schools of Engineering	2015 – present	B.S.

Student Name	ASU Department	Dates of Employment	Student Level
11. James Larson	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – present	B.S.
12. Miles Mabey	Engineering, Robotics Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – 2017	B.S.
13. Tyrine Pangan	Software Engineering, School of Computing, Informatics, and Decision Systems Engineering Ira A. Fulton Schools of Engineering	2014 – present	B.S.
14. Andrew Heiman	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2015	B.S.
15. James Oplinger	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2015	B.S.
16. Stephanie Dolinger	Manufacturing Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2014	B.S.
17. Andres Neal	Engineering, Mechanical Systems College of Technology and Innovation	2014	B.S.
18. Randi Taylor	Engineering, Mechanical Systems College of Technology and Innovation	2013 – 2014	B.S.
19. Cameron Owens	Engineering, Robotics Systems College of Technology and Innovation	2012 – 2013	B.S.
20. Andrew Carr	Applied Computer Science Arizona State University	2011 – 2012	B.S.
21. Maria Diaz	Interdisciplinary Sciences Arizona State University	2011 – 2012	B.S.
22. Jay Fernandez	Engineering, Electrical Systems College of Technology and Innovation	2011 – 2012	B.S.
23. Ben Tieni	Visual Communication Design Arizona State University	2011 – 2012	B.S.

5.6 Undergraduate Student Mentoring

Capstone iProjects

The list below represents the year-long capstone projects that I have mentored while at ASU.

- i.d.e.a. Museum (2015 – 2016)
- Lockheed Martin (2014 – 2015)
- Mesa Arts Center (2012 – 2013)
- Vyykn (2011 – 2012)
- ON Semiconductor (2011)

Independent Studies

I regularly mentor students in independent study courses and with their external internships. The list below represents the students that I have mentored while at ASU.

Independent Study Student Name	ASU Department	Dates of Mentorship	Student Level
1. Matthew Dickens	Engineering, Robotic Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2015	B.S.
2. Joe Burggraff	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – 2015	B.S.
3. Levi Morton	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014	B.S.
4. Courtney Betoney	Engineering, Mechanical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014	B.S.
5. Aaron Cooper	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014	B.S.
6. Jared Morton	Engineering, Electrical Systems Department of Engineering College of Technology and Innovation	2013	B.S.
7. Monica Reynoso	Engineering, Electrical Systems Department of Engineering College of Technology and Innovation	2012	B.S.

Broadening the Reach of Engineering through Community Engagement (BRECE) Program Scholars

The NSF-funded BRECE Scholars Program provides 4 years of mentoring, academic and financial support to a cohort of financially challenged, and academically talented students to pursue and earn engineering baccalaureate degrees at ASU. As a mentor, I meet with all of the students on a weekly basis and mentor them on outreach opportunities and academic choices.

BRECE Scholar Name	ASU Department	Dates of Mentorship	Student Level
1. Rebecca Bell	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
2. Courtney Betoney	Engineering, Mechanical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
3. Michael Chatham	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – present	B.S.
4. Dallin Cluff	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – present	B.S.
5. Grady Henkel	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2015 – present	B.S.
6. Paul Horton	Software Engineering, School of Computing, Informatics, and Decision Systems Engineering Ira A. Fulton Schools of Engineering	2014 – present	B.S.
7. James Larson	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
8. Miles Mabey	Engineering, Robotics Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
9. Noah Major	Engineering, Mechanical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
10. Alejandra Mayoral	Engineering, Electrical Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.
11. Miles Miller	Engineering, Automotive Systems The Polytechnic School Ira A. Fulton Schools of Engineering	2014 – present	B.S.

BRECE Scholar Name	ASU Department	Dates of Mentorship	Student Level
12. Tyrine Pangan	Software Engineering, School of Computing, Informatics, and Decision Systems Engineering Ira A. Fulton Schools of Engineering	2014 – present	B.S.
13. Jorge Calederon	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2014	B.S.
14. Tanner Landis	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2014	B.S.
15. Leah Lindberry	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2014	B.S.
16. Juan Paez	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2014	B.S.
17. Jesse Welch	Engineering The Polytechnic School Ira A. Fulton Schools of Engineering	2013 – 2014	B.S.

5.7 Faculty Collaborators

The list below shows my formal collaborators (e.g., on publications or grants). The list is sorted alphabetically.

Faculty Collaborator Name	Current Position	University / Department
1. Robin Adams	Associate Professor	Purdue University, College of Engineering, School of Engineering Education
2. Yacob Astatke	Interim Associate Dean for Undergraduate Studies	Morgan State University, School of Engineering
3. Jennifer Bekki	Associate Professor	Arizona State University (ASU), Ira A. Fulton Schools of Engineering (FSE), The Polytechnic School (TPS)
4. Samantha Brunhaver	Assistant Professor	ASU FSE TPS
5. Adam Carberry	Assistant Professor	ASU FSE TPS
6. Monica Cardella	Associate Professor	Purdue University, College of Engineering, School of Engineering Education

Faculty Collaborator Name	Current Position	University / Department
7. Maria-Isabel Carnasciali	Assistant Professor	University of New Haven, Tagliatela College of Engineering, Mechanical Engineering
8. Debbie Chachra	Associate Professor	Olin College of Engineering, Materials Science
9. Rocio Chavela Guerra	Director	American Society for Engineering Education, Education & Career Development
10. Odesma Dalrymple	Assistant Professor	University of San Diego, Shiley-Marcos School of Engineering, Industrial and Systems Engineering
11. Shanna Daly	Assistant Professor	University of Michigan, College of Engineering, Mechanical Engineering
12. Elliot Douglas	Program Director Associate Professor	National Science Foundation University of Florida, Department of Materials Science and Engineering
13. Jerry-Daryl Fletcher	Adjunct Instructor	Morgan State University, School of Computer, Mathematical, & Natural Sciences, Department of Mathematics
14. Marcella Gemelli	Lecturer	Arizona State University, College of Liberal Arts and Sciences, T. Denny Sanford School of Social and Family Dynamics
15. Jenna Gorlewicz	Assistant Professor	Saint Louis University, Parks College of Engineering, Aviation and Technology
16. Geoffrey Herman	Teaching Assistant Professor	University of Illinois at Urbana-Champaign, College of Engineering, Department of Computer Science
17. Morgan Hynes	Assistant Professor	Purdue University, College of Engineering, School of Engineering Education
18. Brent Jesiek	Associate Professor	Purdue University, College of Engineering, School of Engineering Education
19. Nadia Kellam	Associate Professor	ASU FSE TPS
20. Russel Korte	Associate Professor	Colorado State University, College of Health & Human Sciences, School of Education
21. Micah Lande	Assistant Professor	ASU FSE TPS
22. Jeremi London	Assistant Professor	ASU FSE TPS
23. Llewellyn Mann	Associate Dean, Learning Innovation	Swinburne University of Technology, School of Engineering, Department of Mechanical Engineering and Product Design Engineering

Faculty Collaborator Name	Current Position	University / Department
24. Lorelle Meadows	Dean	Michigan Tech, Pavlis Honors College
25. Ann McKenna	School Director, Professor	ASU FSE TPS
26. Adrienne Minerick	Associate Dean for Research and Innovation, Professor	Michigan Tech, College of Engineering, Department of Chemical Engineering
27. Marisa Orr	Assistant Professor	Louisiana Tech University, College of Engineering and Science, Mechanical Engineering
28. Alice Pawley	Associate Professor	Purdue University, College of Engineering, School of Engineering Education
29. Marie Parette	Associate Professor	Virginia Tech, Department of Engineering Education
30. Nielsen Pereira	Assistant Professor	Purdue University, College of Education, Department of Educational Studies
31. David Radcliffe	Professor	Purdue University, College of Engineering, School of Engineering Education
32. Denise Sekaquaptewa	Professor	University of Michigan, College of Literature, Science, and the Arts, Department of Psychology
33. Karl Smith	Morse-Alumni Distinguished Teaching Professor Cooperative Learning Professor	University of Minnesota, College of Science and Engineering, Civil Engineering Purdue University, College of Engineering, School of Engineering Education
34. Chris Swan	Associate Professor	Tufts University, School of Engineering, Department of Civil and Environmental Engineering
35. Matthew Verleger	Associate Professor	Embry-Riddle Aeronautical University, College of Engineering, Engineering Fundamentals
36. Jamey Wetmore	Associate Professor	ASU, School for the Future of Innovation in Society
37. Dhazi Yang	Assistant Professor	Boise State University, Department of Educational Technology
38. Carla Zoltowski	Co-Director	Purdue University, College of Engineering, Engineering Projects in Community Service (EPICS)

6. Service

6.1 Professional Service

Advances in Engineering Education (AEE) Reviewer	2011, 2013
American Educational Research Association (AERA) Reviewer	2015, 2016
American Society for Engineering Education (ASEE) Annual Conference Reviewer	2008 – 2015
IEEE Frontiers in Education (FIE) Conference Reviewer	2009 – 2015
IEEE Frontiers in Education (FIE) Technical Program Committee Reviewer	2015
International Journal of Engineering Education (IJEE) Reviewer	2015
International Journal of Engineering, Social Justice, and Peace (IJESP) Reviewer	2015
Journal of Engineering Education Reviewer	2011 – 2012, 2014 – 2016
Journal of Online Engineering Education Reviewer	2011
National Science Foundation Grant Proposal Reviewer	2011 – 2017
National Science Foundation Maker Summit Planning Committee Member	2015 – 2016
PEER Collaborative National Workshop Planning Committee Member and Facilitator	2014 – 2015
<i>Peer mentoring for early-career faculty in engineering education research</i>	

6.2 Professional Affiliations

American Educational Research Association (AERA)	2012 – 2013
American Society for Engineering Education (ASEE)	2006 – present
Eta Kappa Nu (HKN)	2000 – present
National Science Teacher's Association (NSTA)	2011 – present
Tau Beta Pi	2009 – present
The Design Society	2009 – 2010

6.3 Arizona State University (ASU) Service

Member	The Polytechnic School Engineering Education Faculty Search Committee	8/2016 – 5/2017
Member	School for the Future of Innovation in Society Public Science and Maker Summit Planning Committee	1/2016 – 4/2016
Member	Ira A. Fulton Schools of Engineering Executive Committee <i>Provides advice and recommendations to the Dean; led the Dean's Distinguished Lecture subcommittee</i>	8/2014 – 8/2016
Member	Polytechnic School Director Faculty Search Committee <i>Successfully hired candidate</i>	3/2014 – 4/2014

6.3 Arizona State University (ASU) Service

Member	College of Technology & Innovation Collaboratory Council <i>Committee was responsible for the iProject program</i>	8/2013 – 4/2014
Faculty Advisor	Engineering Education Enhancement (EEE) Club <i>This club engaged in extracurricular design projects</i>	7/2012 – 7/2014
Member	Department of Engineering Energy Systems Faculty Search Committee <i>Successfully hired candidate</i>	9/2012 – 5/2013
Co-Chair	Engineering and Engineering Technology Merger – Electrical Program Subcommittee <i>This committee was responsible for determining curricular changes necessary to merge the Engineering and Electrical Engineering Technology programs.</i>	1/2012 – 8/2012
Chair	College of Technology and Innovation K-12 Task Force <i>This committee was responsible for recommending K-12 initiatives for the college</i>	8/2011 – 5/2012

6.4 Arizona State University (ASU) Affiliations

Barrett, the Honors College	Honors faculty	
Aerospace Engineering	Graduate faculty	
Curriculum & Instruction (Engineering Education)	Graduate faculty (chair)	
Electrical, Computer, and Energy Engineering	Graduate faculty (chair)	
Engineering Education Systems and Design	Graduate faculty (chair)	
Mechanical Engineering	Graduate faculty	
School for the Future of Innovation in Society	Affiliate	
GlobalResolve™ <i>Social entrepreneurship program</i>	Affiliate	1/2011 – present
Quantum Energy and Sustainable Solar Technologies (QESST) Center <i>NSF-DOE Engineering Research Center</i>	Affiliate	5/2012 – present

7. Industry Experience

Intern, Digital Systems Department , Shure Incorporated, Niles, Illinois	5/2006 – 8/2006
Intern, DSP-Embedded Controls Department , Shure Incorporated Niles, Illinois	5/2004 – 8/2004
Technical Intern 4, Optical Networking Group , Tellabs Burlington, Massachusetts	5/2001 – 8/2001
Technical Intern 3, TITAN 5500 Product Development , Tellabs Lisle, Illinois	5/2000 – 8/2000
Summer Technical Intern , Raytheon Systems Company Fort Wayne, Indiana	5/1999 – 8/1999 5/1998 – 8/1998