Samantha R. Brunhaver

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CURRENT AFFILIATION

Assistant Professor
The Polytechnic School
Ira A. Fulton Schools of Engineering
Arizona State University

EDUCATION

- Ph.D., Mechanical Engineering (Minor: Education), Stanford University, 2015
- M.S., Mechanical Engineering (Focus: Design for Manufacturing), Stanford University, 2012
- B.S., Mechanical Engineering, Northeastern University, 2008

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Engineering, Arizona State University, Ira A. Fulton Schools of Engineering, The Polytechnic School, Mesa, AZ, August 2015-present
- Instructor, Engineering, Arizona State University, Ira A. Fulton Schools of Engineering, The Polytechnic School, Mesa, AZ, August 2014-August 2015

RESEARCH INTERESTS

- Fostering adaptive and entrepreneurial mindsets
- Engineering student persistence (particularly related to online learning)
- Professional engineering practice and school-to-work transition
- Engineering career pathways and decision-making
- Faculty mentorship and professional development
- Use-inspired design and project-based learning

AWARDS & HONORS

- Best Paper Award, ASEE Professional Interest Council IV, 2021
- Best Paper Award, ASEE Women in Engineering Division, 2021
- Nominee, ASU Outstanding Faculty Mentor Award, 2020
- Star Reviewer Award, Journal of Engineering Education, 2019
- Nominee, ASU Polytechnic School Faculty Innovation Award
- Best Paper Award, ASEE Educational Research & Methods Division, 2017
- Selected Participant, NAE Frontiers of Engineering Education Symposium, 2016
- Apprentice Faculty Grant Award, ASEE Educational Research & Methods Division, 2013
- Best Paper Award, ASEE Entrepreneurship & Engineering Innovation Division, 2013
- Diversifying Academia Recruiting Excellence Fellowship, Stanford University, 2012-2014
- Stanford Graduate Fellowship, Stanford University, 2010-2012
- Stanford School of Engineering Graduate Fellowship, Stanford University, 2008-2010

PUBLICATIONS & PRESENTATIONS

Refereed Journal Publications from ASU

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. **Kittur, J.***, Bekki, J., & Brunhaver, S. (2022). Development of a student engagement score for online undergraduate engineering courses using learning management system interaction data. *Computer Applications in Engineering Education, 30*(3), 661-677, DOI: 10.1002/cae.22479.
2. Matusovich, H.*, Carrico, C. Harris, A., Sheppard, S., Brunhaver, S., Streveler, R., & McGlothin Lester, M. B. (2019). Internships and engineering: Beliefs and behaviors of academics. *Education + Training, 61*(6), 650-665, DOI: 10.1108/ET-02-2017-0017.
3. Korte, R.*, Brunhaver, S., & Zehr, S. M. (2019). The socialization of STEM professionals in STEM careers: A study of newly hired engineers. [Special Issue on Exploring Challenges and Solutions Facing Science, Technology, Engineering, and Mathematics (STEM) Careers in the 21st Century.] *Advances in Developing Human Resources, 21*(1), 92-113, DOI: 10.1177/1523422318814550.
4. Brunhaver, S. R.*, Bekki, J. M., Carberry, A. R., London, J. S., & McKenna, A. F. (2018). Development of the Engineering Student Entrepreneurial Mindset Assessment (ESEMA). [Special Issue on Entrepreneurial Mindset.] *Advances in Engineering Education, 7*(1), 1-12. Available online at: https://advances.asee.org/wp-content/uploads/vol07/issue01/Papers/AEE-Mindset-10-Samantha.pdf.
5. London, J. S.*, Bekki, J. M., Brunhaver, S. R., Carberry, A. R., & McKenna, A. F. (2018). A framework for entrepreneurial mindset and behaviors in undergraduate engineering students: Operationalizing the Kern Family Foundation's "3C's". [Special Issue on Entrepreneurial Mindset.] *Advances in Engineering Education, 7*(1), 1-12. Available online at: https://advances.asee.org/wp-content/uploads/vol07/issue01/Papers/AEE-Mindset-6-London.pdf
6. Carberry, A.*, Brunhaver, S., Csavina, K. R., & McKenna, A. (2016). Comparison of written versus verbal peer feedback for design projects. [Special Issue associated with the Harvey Mudd Design Workshop IX: Design Thinking in Design Education.] *International Journal of Engineering Education, 32*(3), 1458-1471.
7. Korte, R.*, Brunhaver, S., & Sheppard, S. (2015). (Mis)Interpretations of organizational socialization: The expectations and experiences of newcomers and managers. *Human Resource Development Quarterly, 26*(2), 185-208, DOI: 10.1002/hrdq.21206.

Refereed Journal Publications Prior to ASU

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Steele, K. M.*, Brunhaver, S. R., & Sheppard, S. D. (2014). Feedback from in-class worksheets and discussion improves performance on the statics concept inventory. *International Journal of Engineering Education, 30*(4), 992-999.
2. Winters, K. E.*, Matusovich, H. M., & Brunhaver, S. R. (2014). Engineering graduates making career choices: Family matters. *Journal of Women & Minorities in Science & Engineering, 20*(4), 293-316, DOI: 10.1615/JWomenMinorScienEng.2014008273.
3. Brunhaver, S. R.*, Lande, M., Sheppard, S. D., & Carryer, J. E. (2012). Fostering an enterprising

learning ecology for engineers. [Special Issue associated with the Harvey Mudd Design Workshop VIII: Entrepreneurship & Innovation.] *International Journal of Engineering Education, 28*(2): 355-363.

Journal Editorials

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Brunhaver, S. R.*, Jesiek, B. K., Korte, R. F., & Strong, A. C. (2021). The early career years of engineering: Crossing the threshold between education and practice. *Engineering Studies, 13*(2), 79-85, DOI: 10.1080/19378629.2021.1961570.

Book Chapters Published

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Carberry, A. R.*, & Brunhaver, S. R. (2019). Second-year engineering design: A model use-inspired design approach. In D. Schaefer, G. Coates, & C. Eckert (Eds.), *Design Education Today: Technical Contexts, Programs & Best Practices* (pp. 23-36), Springer, DOI: 10.1007/978-3-030-17134-6_2.

Invited Book Chapters Published

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Brunhaver, S. R.*, Korte, R. F., Barley, S. R., & Sheppard, S. D. (2018). Bridging the gaps between engineering education and practice. In R. B. Freeman & H. Salzman (Eds.), *U.S. Engineering in a Global Economy* (pp. 129-163), University of Chicago Press, DOI: 10.7208/chicago/9780226468471.001.0001.
2. Gilmartin, S. K.*, Antonio, A. L., Brunhaver, S. R., Chen, H. L., & Sheppard, S. D. (2018). Career plans of undergraduate engineering students: Characteristics and contexts. In R. B. Freeman & H. Salzman (Eds.), *U.S. Engineering in a Global Economy* (pp. 49-85), University of Chicago Press, DOI: 10.7208/chicago/9780226468471.001.0001.
3. Sheppard, S. D.*, Antonio, A. L., Brunhaver, S. R., & Gilmartin, S. K. (2014). Studying the career pathways of engineers: An illustration with two datasets. In A. Johri & B. Olds (Eds.), *Cambridge Handbook of Engineering Education Research* (pp. 283-310), Cambridge University Press, DOI: 10.1017/CBO9781139013451.020.

Refereed Conference Papers

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. **Perkins, J. H.***~, Brunhaver, S., & Carberry, A. (2022). *WIP: Perceptions of effective engineering faculty-to-faculty mentorship practices.* Paper accepted to the American Society for Engineering Education Annual Conference & Exposition, Minneapolis, MN, June 26-29.
2. Brunhaver, S.*~. **Sajadi, S.**, & Makarov, T.∞ (2022). *CAREER: Examining the intersections*

between engineering workplace adaptability and advancement. Paper accepted to the American Society for Engineering Education Annual Conference & Exposition, Minneapolis, MN, June 26-29.

3. ***Zhen, Z.***[*~], Carberry, A., Chandler, J., & Brunhaver, S. (2022). *Developing an instrument to measure mentoring experience's impact on leadership development among engineering graduate student mentors.* Paper accepted to the American Society for Engineering Education Annual Conference & Exposition, Minneapolis, MN, June 26-29.
4. **Abhyankar, R.**[*~], & Brunhaver, S. R. (2021). Exploring the relationships between acculturation attitudes and demographic characteristics in engineering workplaces. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 37159. [Awarded Best Paper in Women in Engineering Division and Best Paper in Professional Interest Council IV.]
5. Brunhaver, S. R.[*~], Lutz, B. D.[~], & Canney, N. E. (2021). Using a values lens to examine engineers' workplace experiences. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 37984.
6. Brunhaver, S. R.[*~], & **Sajadi, S.** (2021). CAREER: Ready for change: Fostering adaptability along the engineering pathway. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 36784.
7. **Kittur, J.**[*~], Brunhaver, S. R., Bekki, J. M., & ***Lee, E***. (2021). Examining the impact of interpersonal interactions on course-level persistence intentions among online undergraduate engineering students. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 37121.
8. ***Ta, T. N. Y.***[*~], Lichtenstein, G., Jenkins, C. D., Smith, K. A., Milcarek, R. J., & Brunhaver, S. R. (2021). The PEERSIST Project: Promoting engineering persistence through peer-led study groups. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 37881.
9. ***Ali, H.***[*~], **Abhyankar, R.**, Brunhaver, S. R., Bekki, J. M., Jordan, S. S., & Lande, M. (2020). An additive innovation-based faculty development program: Methods for case study research. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 34102.
10. **Kittur, J.**[*~], Bekki, J. M., & Brunhaver, S. R. (2020). Learner analytics in engineering education: A detailed account of practices used in the cleaning and manipulation of learning management system data from online undergraduate engineering courses. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 34896.
11. **Kittur, J.**[*~], & Brunhaver, S. R. (2020). Developing an instrument to measure engineering education research self-efficacy. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 34421.
12. ***Lee, E.***[*~], Brunhaver, S. R., & Bekki, J. M. (2020). Developing an instrument to measure online engineering undergraduate students' learning experiences and intentions to persist. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID 34422.
13. ***Zhao, Z.***[*~], & Brunhaver, S. R. (2020). Investigating the relationship between self-efficacy and perceived importance of communication skills among engineering students. In *Proceedings of the American Society for Engineering Education Annual Conference (Virtual)*, Paper ID

34881.

14. **Abhyankar, R.**[*~], & Brunhaver, S. (2019). Development of the Value Alignment and Adaptation Strategies (VAAS) instrument. In *Proceedings of the Frontiers in Education (FIE) Annual Conference*, DOI: 10.1109/FIE43999.2019.9028525.
15. **Abhyankar. R. N.**[*~], Brunhaver, S. R., Lande, M., & McKenna, A. F. (2019). Board 1: In the business of innovation: Development of a canvas tool to promote and sustain pedagogical risk taking by faculty. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 32160.
16. ***Ali, H.***[*~], Bekki, J. M., Brunhaver, S. R., Jordan, S. S., & Lande, M. (2019). Pedagogical ninjas: Using an additive innovation cycle for faculty development of teaching-focused faculty. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 33164.
17. ***Huerta, M. V.***[*~], Aukes, D. M., Bekki, J. M., Brunhaver, S. R., Carberry, A. R., Holloway, J. L., Lichtenstein, G., & McKenna, A. F. (2019). The process of conceptualizing and creating the Engineering Faculty Impact Collaborative to support faculty development and mentorship. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 33415.
18. Lutz, B. D.[*~], Canney, N. E.~, & Brunhaver, S. R.~ (2019). "I wish I could do more": A qualitative meta-analysis of early career engineers' perceptions of agency in their workplaces. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 31920.
19. ***Sheppard, M. S.***[*~], Kellam, N. N., & Brunhaver, S. R. (2019). Exploring the unique skills and challenges that veterans with disabilities bring to college: A qualitative study in engineering. In *Proceedings of the Collaborative Network for Engineering and Computing Diversity Annual Conference*, Paper ID 31763.
20. Brunhaver, S. R.[*~], Jesiek, B. K.~, Strong, A. C.~, Korte, R., & Stevens, R. (2018). Research on engineering practice: Catalyzing a scholarly community. In *Proceedings of the Frontiers in Education Conference*, DOI: 10.1109/FIE.2018.8658964.
21. Brunhaver, S.[*~], Carberry, A.~, London, J., Yasuhara, K., Allendoerfer, C., Atman, C., Case, J., Finelli, C., McKenna, A., Newstetter, W., Sheppard, S., Smith, K., Turns, J. & Watson, K. (2018). Meet the engineering education pioneers – Panel and roundtable. In *Proceedings of the Frontiers in Education Conference*, DOI: 10.1109/FIE.2018.8658786.
22. Carrico, C.[*~], Matusovich, H., Brunhaver, S., Rhee, J., Sheppard, S., & Chen, H. L. (2018). Panel: Student self-perceptions regarding the first position after graduation: What are they and how do we help? In *Proceedings of the Frontiers in Education Conference*, DOI: 10.1109/FIE.2018.8659092.
23. ***Sheppard, M.***[*~], Kellam, N., & Brunhaver, S. (2018). Soldier to student: Exploring the unique skills and challenges veterans with disabilities bring to college. In *Proceedings of the Frontiers in Education Conference*, DOI: 10.1109/FIE.2018.8658610.
24. **Abhyankar, R.**[*~], Carrico, C., Matusovich, H. M., & Brunhaver, S. R. (2018). Junior and senior engineers' beliefs about the influence of socializers on their first job-related decisions. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 31182.
25. Carberry, A. R.[*~], Brunhaver, S. R.~, & London, J. S.~ (2018). A way to win: Incentivizing engineering faculty to incorporate entrepreneurship into their courses. In *Proceedings of the*

American Society for Engineering Education Annual Conference, Paper ID 29744.

26. McKenna, A. F.[*~], Bekki, J. M., Brunhaver, S. R., Carberry, A. R., Kellam, N. N., Lande, M., London, J. S., & Jordan, S. S. (2018). Board 100: Progress on the pathway to instigating a revolution of additive innovation. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 29856.
27. Streveler, R.[*~], Sheppard, S., Brunhaver, S., Matusovich, H., Carrico, C., Rhee, J., & Chen, H. (2018). Board 141: Professional Engineering Pathways Study: The value of a community of practice to stimulate use of research findings that inform practice. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 29942.
28. Rhee, J.[*~], Sheppard, S., Brunhaver, S.[~], Carrico, C.[~], & Streveler, R. (2017). Supporting student career development of undergraduate engineering. In *Proceedings of the Frontiers in Education Conference*, DOI: 10.1109/FIE.2017.8190468.
29. Bekki, J. M.[*~], ***Ayela-Uwangue, A.***, Brunhaver, S. R., Kellam, N. N., Lande, M., & McKenna, A. F. (2017). I want to try that too!: Development of a conceptual framework for interventions that encourage pedagogical risk-taking among faculty. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 28454.
30. Brunhaver, S. R.[*~], Carrico, C., Matusovich, H. M., Sama, M., **Abhyankar, R.**, Streveler, R. A., & Sheppard, S. (2017). Measuring students' subjective task values related to the post-undergraduate career search. In *Proceedings of the American Society for Engineering Education Annual Conference,* Paper ID 28657. [Awarded Best Paper in Educational Research and Methods Division.]
31. Schar, M.[*~], Gilmartin, S. K., Rieken, B., Brunhaver, S. R., Chen, H. L., & Sheppard, S. (2017). The making of an innovative engineer: Academic and life experiences that shape engineering task and innovation self-efficacy. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 28986.
32. Streveler, R. A.[*~], Matusovich, H. M., Carrico, C., Brunhaver, S. R., Sheppard, S., Chen, H. L., Harris, A., **Abhyankar, R.**, & Sama, M. (2017). Board 138: Professional Engineering Pathways Study: Using a community of practice model to propagate findings and engage the community. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 27747.
33. Brunhaver, S. R.[*~], Matusovich, H. M., Streveler, R. A., Sheppard, S., Carrico, C., & Harris, A. (2016). Understanding engineering students' professional pathways: A longitudinal mixed-methods study. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 27097.
34. Carrico, C.[*~], Harris, A., Matusovich, H. M., Brunhaver, S. R., Streveler, R. A., & Sheppard, S. (2016). Helping engineering students get jobs: Views from career services professionals. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 25454.
35. McKenna, A. F.[*~], Kellam, N. N., Lande, M., Brunhaver, S. R., Jordan, S. S., Bekki, J. M., Carberry, A. R., & London, J. S. (2016). Instigating a revolution of additive innovation: An educational ecosystem of making and risk taking. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 27315.
36. Brunhaver, S.[*~], Streveler, R., Carrico, C., Matusovich, H., Boylan-Ashraf, P., & Sheppard, S. (2015). Professional Engineering Pathways Study: A longitudinal study of early career preparedness and decision-making. In *Proceedings of the Frontiers in Education Conference*,

DOI: 10.1109/FIE.2015.7344402.

37. Brunhaver, S. R.[*~], Gilmartin, S. K., Chen, H. L., Matusovich, H. M., & Sheppard, S. (2015). Comparing disparate outcome measures for better understanding of engineering graduates. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 23710.
38. Rodriguez, J. R.[*~], Chen, H. L., Sheppard, S., Jin, Q., & Brunhaver, S. R. (2014). Exploring entrepreneurial characteristics and experiences of engineering alumni. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 20471.
39. Brunhaver, S. R.[*~], Gilmartin, S. K., Grau, M. M., Sheppard, S, & Chen, H. L. (2013). Not all the same: A look at early career engineers employed in different sub- occupations. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 22315.
40. Schar, M.[*~], Sheppard, S., Brunhaver, S. R., Cuson, M., & Grau, M. M. (2013). Bending moments to business models: Integrating an entrepreneurship case study as part of core mechanical engineering curriculum. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 19256. [Awarded Best Paper in Entrepreneurship & Engineering Innovation Division.]
41. Scutt, H. I.[*~], Gilmartin, S. K., Sheppard, S., & Brunhaver, S. R. (2013). Research-informed practices for inclusive science, technology, engineering, and math (STEM) classrooms: Strategies for educators to close the gender gap. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 22427.
42. Winters, K. E.[*~], Matusovich, H. M., Brunhaver, S. R., Chen, H. L., Yasuhara, K., & Sheppard, S. (2013). From freshman engineering students to practicing professionals: Changes in beliefs about important skills over time. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 19635.
43. Carrico, C. A.[*~], Winters, K. E., Brunhaver, S. R., & Matusovich, H. M. (2012). The pathways taken by early career professionals and the factors that contribute to pathway choices. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 22083.
44. Chen, H. L.[*~], Grau, M. M., Brunhaver, S. R., Gilmartin, S. K., Sheppard, S., & Warner, M. (2012). Designing the Pathways of Engineering Alumni Research Survey (PEARS). In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 21143.
45. Grau, M. M.[*~], Sheppard, S., & Brunhaver, S. R. (2012). Revamping Delta Design for introductory mechanics. *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 21886.
46. Atman, C. J.[*~], Sheppard, S., Brunhaver, S., Chacra, D., Chen, H. L., Gilmartin, S. K., Kilgore, D., Lande, M., Lichtenstein, G., Lund, D., Smith, K. A., Turns, J. A., & Yasuhara, K. (2011). Special session: Discovering implications of the Academic Pathways Study for YOUR campus. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 18521.
47. Brunhaver, S. R.[*~], Sheppard, S., & Eris. O. (2011). Looking at engineering students through a motivation/confidence framework. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 18505.
48. Brunhaver, S.[*~], Korte, R., Lande, M., & Sheppard, S. (2010). Supports and barriers that recent

engineering graduates experience in the workplace. In *Proceedings of the American Society for Engineering Education Annual Conference*, Paper ID 15709.

Refereed Conference Presentations

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Brunhaver, S.*~, Carberry, A., & ***Renteria, R.*** (2021). *Junior engineering faculty's perceptions of effective faculty mentoring practices.* Paper presented at the University of New Mexico Mentoring Institute Virtual Conference, October 18-22.
2. ***Zhao, Z.****~, Chandler, J., Carberry, A., & Brunhaver, S. (2021). *Examining the impact of serving as mentors on leadership development among former engineering graduate student mentors.* Paper presented at the University of New Mexico Mentoring Institute Virtual Conference, October 18-22.
3. Brunhaver, S.*~, Bekki, J., ***Lee, E.***, & **Kittur, J.** (2019). *Understanding the factors contributing to persistence among undergraduate engineering students in online courses.* Paper presented at the Learning Analytics and Knowledge Conference, Tempe, AZ, March 4-8.
4. Kellam, N. N.*~, Brunhaver, S. R., Lande, M., Jordan, S. S., Bekki, J. M., Carberry, A. R., London, J. S., & McKenna, A. F. (2018). *Revolutionizing teaching practices in the mezzanine: Instigating change through faculty risk-taking and additive innovation.* Paper presented at the American Education Research Association Annual Meeting, New York, NY, April 13-17.
5. McKenna, A.*~, Kellam, N., Lande, M., Brunhaver, S., Jordan, S., Bekki, J., Carberry, A., & London, J. (2016). *Capturing the ecosystem and culture to support risk-taking and additive innovation: Laying the groundwork.* Paper presented at the AAAS Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium, Washington, D. C., April 24-29.
6. Carberry, A.*~, Kellam, N., Brunhaver, S., Sugar, T., & McKenna, A. (2015). *Product archaeology: Excavating engineering identities.* Paper presented at the Research in Engineering Education Symposium, Dublin, Ireland, July 13-15.
7. Brunhaver, S.*~, Gilmartin, S., Chen, H., Grau, M., Warner, M., Matusovich, H., Winters, K., Carrico, C., & Sheppard, S. (2013). *Differences in the work characteristics and experiences of early career engineering graduates.* Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA, April 27-May 1.
8. Brunhaver, S.*~, Gilmartin, S., Chen, H. L., & Sheppard, S. (2012). *Factors associated with the current occupational status of early career engineering graduates.* Paper presented at the Association for the Study of Higher Education Annual Conference, Las Vegas, NV, November 15-17.
9. Gilmartin, S. K.*~, Antonio, A. L., Chen, H. L., Brunhaver, S. R., & Sheppard, S. D. (2012). *Retaining engineers: Influences on the postgraduate plans of U.S. undergraduate engineering students in and out of the engineering field.* Paper presented at the Comparative & International Education Society Annual Conference, Puerto Rico, April 22-27.
10. Winters, K. E.*~, Matusovich, H. M., & Brunhaver, S. (2012). *The impacts of economic decline on career decision making among early career engineers.* Paper presented at the American Educational Research Association Annual Meeting, Vancouver, B.C., April 13-17.

Conference Workshops & Panels

LEGEND Corresponding Author (*); Presenting Author (~); **Bold:** ASU Ph.D. Student for whom Dr. Brunhaver is/was an advisor/co-advisor; ***Bold Italic*:** ASU Ph.D. student for whom Dr. Brunhaver has/had significant mentorship responsibility as related to publication; Underline: ASU Master's Student; Visiting Undergraduate Student (∞).

1. Bekki, J.*~, Brunhaver, S.~, Carberry, A.~, Kellam, N., Jordan, S., Lande, M., & McKenna, A. (2019). *Becoming a pedagogical ninja with the ASU RED team.* Workshop at the NSF Revolutionizing Engineering Department (RED) Consortium Meeting, Alexandria, VA, November 4-5.
2. Brunhaver, S.*~, & Carberry, A.~ (2019). *Meet the engineering education pioneers redux.* Panel session at the American Society for Engineering Education (ASEE) Annual Conference, Tampa, FL, June 16-19.
3. Carrico, C.*~, Brunhaver, S.~, & Chen, H.~ (2018). *Your proposal was funded – now what? Managing a mixed methods research project.* Workshop at the American Society for Engineering Education (ASEE) Annual Conference, Salt Lake City, UT, June 24-27.
4. Harris, A.*~, Sheppard, S., Brunhaver, S., & Rhee, J.~ (2017). *Supporting student career development: Views from faculty, student advisors, and service staff.* Workshop at the Association of American Colleges & Universities (AAC&U) Annual Meeting, San Francisco, CA, January 25-28.
5. McKenna, A.*~, Brunhaver, S.~, Carberry, A.~, & London, J.~ (2017). *Developing a framework to measure the 3 C's*. Workshop at the Kern Engineering Entrepreneurship Network (KEEN) National Conference, Jacksonville, FL, January 4-6.
6. Brown, P.*~, Brunhaver, S.~, Carrico, C.~, Ekoniak, M.~, & Matusovich, H.~ (2012). *Catalyzing continuing conversations: Informed decisions about majors and possible careers in engineering.* Panel session at the Frontiers in Education (FIE) Conference, Seattle, WA, October 3-6.

Invited Presentations – External

1. Brunhaver, S. (2019). *On the pathway to success: Supporting the job search and career decision-making of engineering students.* Presentation at the Purdue School of Engineering Education Graduate Research Seminar, Purdue University, West Lafayette, IN, February 14.
2. Brunhaver, S. (2014). *Investigating the work and occupations of early career engineering graduates.* Presentation at the National Academy of Engineering Workshop on Pathways for Engineering Talent, Washington, D.C., November 19.

Invited Presentations – Internal at ASU

1. Brunhaver, S. (2016). *An ecological perspective on engineering undergraduate career pathways.* Presentation at the Engineering Education Systems & Design (EESD) Ph.D. Seminar, Arizona State University, Mesa, AZ, November 2.

PRESS ARTICLES WRITTEN ABOUT RESEARCH

1. Albal, K. (2020, April). *Brunhaver seeking to augment engineering education with an adaptive mindset.* ASU Ira A. Fulton Schools of Engineering Full Circle News. Available online at: https://fullcircle.asu.edu/faculty/brunhaver-seeking-augment-engineering-education-adaptive-mindset/.
2. Terrill, M. (2019, November). *Engineering perceived deficits into assets*. ASU Now. Available online at: https://asunow.asu.edu/20191101-discoveries-engineering-perceived-deficits-assets.

3. Zrioka, P. (2017, May). *Brunhaver wins best paper award from ASEE.* ASU In the Loop Faculty and Staff News. Available at: http://intheloop.engineering.asu.edu/2017/05/16/brunhaver-wins-best-paper-award-from-asee/.
4. Lombardozzi, C. (2015, December). *Surprise: New employees want formal training.* Association for Talent Development Science of Learning Blog. Available online at: https://www.td.org/Publications/Blogs/Science-of-Learning-Blog/2015/12/Surprise-New-Employees-Want-Formal-Training.
5. Keeler, S. (2015, June). *ASU's Polytechnic School leading engineering education revolution.* ASU Ira A. Fulton Schools of Engineering Full Circle News. Available online at: https://fullcircle.asu.edu/research/asus-polytechnic-school-leading-engineering-education-revolution/.
6. National Science Foundation. (2015, June). *NSF awards $12 million to spur an engineering education revolution*. NSF News Release. Available online at: https://www.nsf.gov/news/news_summ.jsp?cntn_id=135379.
7. Benderly, B. L. (2015, January). *Checkered careers.* ASEE Prism Magazine. Available online at: http://www.asee-prism.org/checkered-careers-jan/.

RESEARCH SUPPORT

Awarded External Funding at ASU

1. Co-PI – *Research Initiation: PEERSIST – A Formation of Engineers Framework for Understanding Self-Efficacy and Persistence in Transfer Students.* PI: Ryan Milcarek (ASU). Funding agency: National Science Foundation. Total award: $199,999 (Brunhaver recognition: 50%, $100,000). Funding period: 9/2022-8/2024.
2. PI – *Building a Theoretical Foundation for the KEEN 3Cs Framework.* Co-PI: Adam Carberry (ASU). Funding agency: Kern Family Foundation. Subaward to ASU from Rowan University. Total award: $145,802 (Brunhaver recognition: 50%, $72,901). Funding period: 4/2022-3/2024.
3. PI – *CAREER: Ready for Change: Fostering Adaptability along the Engineering Pathway*. Funding agency: **NSF Early Career Development** (EEC-1944847). Total award: $575,284 (Brunhaver recognition: 100%, $575,284). Funding period: 7/2020-6/2025.
4. PI – *Research: Staying the Course: Understanding the Motivational Factors Contributing to Persistence among Undergraduate Engineering Students in Online Courses.* Co-PI: Jennifer Bekki (ASU). Funding agency: National Science Foundation (EEC-1825732). Total award: $372,370 (Brunhaver recognition: 50%, $186,185). Funding period: 9/2018-2/2023.
5. PI – *Collaborative Conference: Research on Engineering Practice: Catalyzing a Scholarly Community.* Funding agency: National Science Foundation (EEC-1833124). Total award: $33,069 (Brunhaver recognition: 100%, $33,069). Funding period: 6/2018-6/2021.
6. Co-PI – *Mentoring Engineering Faculty to Professional Impact.* PI: Ann McKenna, Co-PIs: Daniel Aukes, Jennifer Bekki, Adam Carberry, James Collofello, Julianne Holloway, and Marco Saraniti (ASU). Funding agency: Kern Family Foundation. Total award: $3,206,714 (Brunhaver recognition: 10%, $320,671). Funding period: 5/2018-12/2023.
7. Co-PI – *Transforming Engineering Education through Student and Faculty Mindset Development: Establishing a National Engineering Faculty Training Collaborative and Model EM University.* PI: Ann McKenna, Co-PIs: Jennifer Bekki, Adam Carberry, James Collofello, and Jeremi London (ASU). Funding agency: Kern Family Foundation. Total award: $2,860,000 (Brunhaver recognition: 5%, $143,000). Funding period: 11/2015- 8/2018.

8. PI – *Collaborative Research: Professional Engineering Pathways: A Longitudinal Study of Early Career Preparedness and Decision-Making.* Co-PIs: None. Funding agency: National Science Foundation (EEC-1360958). Subaward to ASU from Stanford University. Total award: $86,863 (Brunhaver recognition: 100%, $86,863). Funding period: 9/2015-8/2018.
9. Co-PI – *IUSE/PFE: RED: Instigating a Revolution for Additive Innovation: An Educational Ecosystem of Making and Risk Taking.* PI: Ann McKenna, Co-PIs: Shawn Jordan, Nadia Kellam, and Micah Lande (ASU). Funding agency: National Science Foundation (EEC-1519339). Total award: $1,993,593 (Brunhaver recognition: 14%, $279,103). Funding period: 7/2015-9/2021.

Awarded Internal Funding at ASU

1. Co-PI – *Embedding Entrepreneurial Mindset into a Use-Inspired Design Course.* Co-PI: Adam Carberry (ASU). ASU Ira A. Fulton Schools of Engineering KEEN Professorship Mini-Grant. Total award: $11,392 (Brunhaver recognition: 50%, $5,696). Funding period: 8/2017-12/2017.

MENTORING ACTIVITIES

Ph.D. Students Chaired or Co-Chaired

1. Chair, Rohini Abhyankar, Ph.D., Engineering Education Systems & Design. Graduated: May 2022. Dissertation: "Using an Acculturation Lens to Assess Diversity-Related Workplace Behaviors." Post-graduation placement: Postdoctoral Scholar, Leonhard Center for the Enhancement of Engineering Education, Pennsylvania State University.
2. Chair, Susan Sajadi, doctoral student, Engineering Education Systems & Design. Graduated: July 2022. Dissertation title: "Understanding Adaptability from Engineering Manager Perspectives." Post-graduation placement: Assistant Professor, Department of Engineering Education, Virginia Tech.
3. Co-Chair, Javeed Kittur, doctoral student, Engineering Education Systems & Design. Graduated: July 2022. Dissertation title: "Understanding the Factors Influencing Students' Persistence Decisions in Undergraduate Online Engineering Courses." Post-graduation placement: Assistant Professor, College of Engineering, The University of Oklahoma.
4. Chair, Amy Trowbridge, doctoral student, Engineering Education Systems & Design. Expected graduation date: May 2024.
5. Co-Chair, Hadley Perkins, doctoral student, Engineering Education Systems & Design. Expected graduation date: May 2025.

Ph.D. Students Committee Membership

1. Committee Member, Michael Sheppard, Ph.D., Engineering Education Systems & Design. Graduation date: December 2020.
2. Committee Member, Zhen Zhao, doctoral student, Engineering Education Systems & Design. Expected graduation date: August 2022.

List of Graduate Students Funded

The following table lists students who have been funded as graduate research assistants with research funds brought in by my grants at ASU (note that this list includes, but is not limited to, students with whom I have had a more formal advising relationship and does not include students who were paid only on an hourly basis). The list is arranged alphabetically. Students who I have directly supervised are denoted with a (*). Students represented in publications elsewhere on the CV are denoted with a (%), illustrating the effectiveness of my mentoring of these students.

Student Name	Dates Funded	Program	Level
1. Rohini Abhyankar * %	2016 – 2021	Engineering Education Systems & Design	Ph.D.
2. Hadi Ali * %	2018 – 2021	Engineering Education Systems & Design	Ph.D.
3. Marvyn Arevalo Avalos *	2016 – 2018	Counseling Psychology	Ph.D.
4. Aisosa Ayela-Uwangue %	2016 – 2017	Engineering Education Systems & Design	Ph.D.
5. Mark Huerta %	2016 – 2019	Engineering Education Systems & Design	Ph.D.
6. Javeed Kittur * %	2019 – present	Engineering Education Systems & Design	Ph.D.
7. Cecilia La Place *	2019 – 2021; 2022 – present	Engineering Education Systems & Design	Ph.D.
8. Eunsil Lee * %	2019 – 2019	Engineering Education Systems & Design	Ph.D.
9. Ivet Parra Gaete *	2022 – present	Educational Policy & Evaluation	Ph.D.
10. Hadley Perkins * %	2021 – present	Engineering Education Systems & Design	Ph.D.
11. Roberto Renteria * %	2020 – 2021	Counseling Psychology	Ph.D.
12. Mitikaa Sama * %	2016 – 2017	Software Engineering	M.S.
13. Michael Sheppard * %	2017 – 2019	Engineering Education Systems & Design	Ph.D.
14. Thien Ta %	2017 – 2019	Engineering Education Systems & Design	Ph.D.
15. Shreya Vaishnav *	2016 – 2016	Counseling Psychology	M.S.
16. Susan Sajadi * %	2020 – 2021	Engineering Education Systems & Design	Ph.D.
17. Zhen Zhao * %	2018 – 2018	Engineering Education Systems & Design	Ph.D.

Undergraduate Projects Supervised

1. NSF Research Experience for Undergraduates (REU) Advisor, Talia Makarov (Clemson University), Summer 2021.
2. Barrett Honors Thesis Second Reader, Isabella Bushroe & Bridget Koehl, 2021-2022 .
3. Barrett Honors Thesis Co-Director, Michaela Dye, 2018-2019.
4. Barrett Honors Thesis Director, Samantha Twet, 2014-2015.
5. Barrett Honors Contract Advisor, EGR 201: Use Inspired Design Project I, 2 students, Fall 2017.
6. Barrett Honors Contract Advisor, EGR 217: Engineering Mechanics Fundamentals, 9 students, Spring 2016.
7. Barrett Honors Contract Advisor, EGR 202: Use Inspired Design Project II, 1 student, Spring 2015.
8. Senior Capstone Design Mentor, Refrigerated Merchandiser Design. Sponsored by Ice King, (Company Mentor: Ryan Maasen), 5 students, 2014-2015.

FSE Undergraduate Teaching Assistants (UGTA) Mentored

1. EGR 201: Use Inspired Design Project I, Skylynn Lepore, Fall 2022.
2. EGR 201: Use Inspired Design Project I, Jose Macias, Spring 2021.
3. EGR 201: Use Inspired Design Project I, Charlotte Deming, Fall 2019.
4. EGR 201: Use Inspired Design Project I, Alexis Contreras, Spring 2018.
5. EGR 201: Use Inspired Design Project I, Andrew Creasman, Fall 2017.
6. EGR 201: Use Inspired Design Project I, Jaime Valles, Fall 2017.

TEACHING ACTIVITIES

Courses Taught at ASU

Courses with a grey background indicate a new course for me. Courses in **bold** indicate new course development (i.e., this represents the first time the course was taught within the program, and all new course materials were developed). Courses in *italics* indicate a significant course evolution. Courses that were co-taught are marked with an (*). The score column represents the average response to the student evaluation questions about the instructor across all students who submitted the course evaluation. Scores are on a 5-point scale, where "5" is best.

Semester	Course Number: Title (Section)	Class	# Students	Score
1. Fall 2014	EGR 201: Use-Inspired Design Project I	Sophomore	40	4.54
2. Spring 2015	EGR 202: Use-Inspired Design Project II	Sophomore	40	3.86
3. Fall 2015	EGR 201: Use-Inspired Design Project I	Sophomore	39	4.44
4. Spring 2016	EGR 217: Mechanical Engineering Fundamentals	Sophomore	54	4.59
5. Fall 2016	ASU 101: The ASU Experience	First-year	19	4.59
6. Fall 2016	EGR 201: Use-Inspired Design Project I	Sophomore	39	4.03
7. Fall 2016	**EGR 572: Quantitative Methods for Engineering Education Research ***	**Ph.D.**	**5**	**4.89**
8. Spring 2016	**EGR 671: Applications of Qualitative Methods for Engineering Education Research ***	**Ph.D.**	**7**	**4.80**
9. Fall 2017	*EGR 201: Use-Inspired Design Project I (Section 1)*	*Sophomore*	*40*	*3.60*
10. Fall 2017	*EGR 201: Use-Inspired Design Project I (Section 2)*	*Sophomore*	*31*	*3.81*
11. Spring 2018	EGR 201: Use-Inspired Design Project I	Sophomore	31	4.69
12. Spring 2018	EGR 671: Applications of Qualitative Methods for Engineering Education Research	Ph.D.	4	5.00
13. Fall 2018	EGR 572: Quantitative Methods for Engineering Education Research	Ph.D.	5	4.72
14. Spring 2019	EGR 673: Applications of Quantitative Methods for Engineering Education Research	Ph.D.	4	4.78
15. Fall 2019	*EGR 201: Use-Inspired Design Project I (Section 1)*	*Sophomore*	*37*	*3.94*
16. Fall 2019	*EGR 201: Use-Inspired Design Project I (Section 2)*	*Sophomore*	*40*	*4.06*
17. Spring 2020	EGR 673: Applications of Quantitative Methods for Engineering Education Research	Ph.D.	5	4.89
18. Spring 2021	EGR 201: Use-Inspired Design Project I	Sophomore	25	5.00
19. Spring 2021	EGR 673: Applications of Quantitative Methods for Engineering Education Research	Ph.D.	3	4.43

20. Fall 2022	EGR 594: Topic: EESD Seminar	Ph.D.	8	5.00
21. Spring 2022	EGR 201: Use-Inspired Design Project I	Sophomore	22	4.67
22. Spring 2022	EGR 673: Applications of Quantitative Methods for Engineering Education Research	Ph.D.	7	4.92

PROFESSIONAL ACTIVITIES & SERVICE

ASU Committees

- Member, TPS IAB Diversity, Equity, and Inclusion Committee, 2021-present
- Member, TPS Undergraduate Engineering Curriculum Committee, 2019-present
- Member, Executive Committee, Ira A. Fulton Schools of Engineering, 2016-2022
- Co-Chair, EESD Virtual Graduate Program Open House Organizing Committee, 2021
- Co-Chair, EESD Graduate Research Seminar Organizing Committee, 2021
- Chair, EESD Graduate Research Seminar Organizing Committee, 2018
- Member, EESD Tenure Track Faculty Search Committee, 2019-2020
- Member, EESD Tenure Track Faculty Search Committee, 2015-2016

ASU College Engagement

- Instructor, ASU Barrett Summer Scholars Program (2-week course), 2018
- Volunteer, TPS Women in Science & Engineering (WISE) Courtyard Chat, 2019
- Volunteer, Fulton Schools of Engineering Women in Engineering Dinner, 2016-2019
- Volunteer, Fulton Schools of Engineering E2 Camp, 2014-2016, 2019-2020

Professional Society Service

- Director, ASEE Education Research and Methods Division Executive Board, 2018-2020
- Co-Chair, ASEE ERM Division Apprentice Faculty Grant Committee, 2016-2018
- Reviewer, ASEE ERM Division Apprentice Faculty Grant Committee, 2014-2015, 2019

Journal Service

- Assistant Editor, *Journal of Engineering Education*, 2022-present
- Associate Editor, *Engineering Studies*, 2022-present
- Guest Co-editor, *Engineering Studies*, 2021
- Reviewer, *Australian Journal of Engineering Education*, 2021
- Reviewer, *Advances in Engineering Education*, 2020
- Reviewer, *Engineering Studies*, 2020
- Reviewer, *European Journal of Engineering Education*, 2018, 2022
- Reviewer, *Journal of Engineering Education*, 2012-2021

Conference Service

- Reviewer, ASEE Annual Conference, 2010-present
- Reviewer, ASEE Pacific Southwest Regional Conference, 2017
- Reviewer, Frontiers in Education Conference, 2015, 2018-2019
- Session Moderator, ASEE Annual Conference, 2011-2018

- Session Moderator, ASEE Pacific Southwest Regional Conference, 2017
- Session Moderator, Frontiers in Education Conference, 2015

Proposal Review Service

- Panel Reviewer, National Science Foundation, 2016-2017, 2021

NSF Advisory Boards

- Advisory Board Member, *NSF Research: Evidencing epidemic change in engineering education: Shedding light on instructor adaptability and course complexity for sustained change* (PI: Heidi Diefes-Dux, University of Nebraska-Lincoln), 2021-2024.
- Advisory Board Member, *NSF Research Initiation: The role of internships in developing engineering professional identity for first generation low-income students* (PI: Sarah Atwood, Elizabethtown College), 2018-2023.
- Advisory Board Member, *NSF EAGER: Student support in STEM: Developing and validating a tool to assess the magnitude of college-level support provided to undergraduate students* (PI: Walter Lee, Virginia Tech), 2017-2018
- Advisory Board Member, *NSF Pathways from School to Work (PATHS): A longitudinal study of undergraduate engineering students from college into the workforce* (PI: Sheri Sheppard, Stanford University), 2016-2019

NSF Workshop Service & Participation

- Lead Organizer, NSF Workshop on Research on Engineering Practice, October 2018.
- Participant, NSF Workshop on Catalyzing a Research Agenda for Enhancing Engineering Education through Institutional Collaborations, April 2017.
- Participant, NSF Graduate Engineering Education Consortium for Students, March 2012.
- Participant, NSF Interdisciplinary Graduate Design Workshop, August 2009.

PROFESSIONAL WORK EXPERIENCE

- Graduate Engineering Intern, Engineering & Implementation Group, Procter & Gamble, Boston, MA, May 2008-September 2008
- Undergraduate Engineering Co-Op, Endoscopy R&D Division, Boston Scientific Corporation, Marlborough, MA, January 2007-August 2007
- Undergraduate Engineering Co-Op, Vascular Surgery R&D Division, Boston Scientific Corporation, Watertown, MA, January 2006-June 2006
- Undergraduate Engineering Co-Op, Mechanical Seals Division, A. W. Chesterton, Groveland, MA, January 2005-June 2006

PROFESSIONAL MEMBERSHIPS

- American Educational Research Association (AERA)
- American Society for Engineering Education (ASEE)
- American Society of Mechanical Engineers (ASME)
- Society of Women Engineers (SWE)
- International Network for Engineering Studies (INES)
- Pi Tau Sigma Mechanical Engineering Honor Society
- Tau Beta Pi Engineering Honor Society