KRISTEN PARRISH, PhD
PO Box 873005, Tempe, AZ 85287-3005
Kristen.Parrish@asu.edu

CURRICULUM VITAE

EDUCATION

PhD in Civil Engineering Systems May 2009
University of California, Berkeley
Dissertation: Applying a Set-Based Design Approach to Reinforcing Steel Design
Advisor: Dr. Iris D. Tommelein

M.S. in Civil and Environmental Engineering (Structural Engineering) May 2005
University of Michigan, Ann Arbor

B.S. in Civil and Environmental Engineering May 2004
University of Michigan, Ann Arbor

ACADEMIC EXPERIENCE

Thrust Lead for Heat Aug 2022 - Present
EXTREME Environments Science & Technology Center, Arizona State University (ASU)

Associate Director Aug 2020 - Present
Research in Inclusive STEM Education (RISE) Center, ASU

Associate Professor Aug 2018 - Present
Del E. Webb School of Construction, ASU

Graduate Programs Chair Aug 2018 - March 2024
Del E. Webb School of Construction, ASU

Senior Sustainability Scientist Aug 2012 - Present
Global Institute of Sustainability, ASU

Assistant Professor Aug 2012 - Aug 2018
Del E. Webb School of Construction, ASU

Lecturer Jan 2010 - June 2010
Department of Civil and Environmental Engineering, University of California, Berkeley

Graduate Student Researcher Jan 2006 - May 2009
Department of Civil and Environmental Engineering, University of California, Berkeley

Graduate Student Instructor Spring 2007, 2008
Department of Civil and Environmental Engineering, University of California, Berkeley

INDUSTRY EXPERIENCE

Proposal Support May 2021 - August 2022
Willmeng Construction, Phoenix, AZ

Technical Writer June 2020 - August 2020
Willmeng Construction, Phoenix, AZ

Affiliate, Commercial Building Systems Aug 2012 - present
Building Technologies and Urban Systems Division
Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA

Scientific Engineering Associate, Commercial Building Systems June 2011 - Aug 2012
Building Technologies and Urban Systems Department, LBNL, Berkeley, CA

Building Technologies Postdoctoral Fellow Oct 2009 - May 2011
Building Technologies and Urban Systems Department
LBNL, Berkeley, CA

Geological Project Scientist June 2009 - Sept 2009
Earth Sciences Division, LBNL, Berkeley, CA

Engineer In Training May 2004 - July 2005
Northwest Consultants, Inc., Canton, MI

PROFESSIONAL LICENSURE

Engineer-In-Training October 2003

AREAS OF EXPERTISE

Teaching: Construction Materials and Methods; Construction Engineering; Lean Construction; Engineering Economics; Retrofit Construction

Research: Low-Energy Design, Construction, and Operation of Commercial Buildings; Alternative Project Delivery (Integrated Project Delivery, Design-Build); Lean Construction; Lean Manufacturing; Engineering Education

HONORS AND AWARDS

Outstanding Service Award, ASCE Architectural Engineering Institute	2023
Outstanding AE Educator Award, ASCE Architectural Engineering Institute	2023
Scottsdale Leadership, Class 37	2022-2023
Editor's Choice Award for "*Identifying and Categorizing Risks Incumbent in US Nuclear Power Plant Construction*" ([J26] below)	2021
Top 5% Teaching Award, Fulton Schools of Engineering, ASU	2021
Outstanding CII Instructor, Construction Industry Institute	2018
PeerLA Leadership Academy Cohort Member, ASU	2018
Penta Faculty Fellow, ASU	2018
Cache Valley Electric Lecturer #4, ASU	2016, 2017
Distinguished Professor Award, Construction Industry Institute	2016
Top 5% Teaching Award, Fulton Schools of Engineering, ASU	2015, 2016, 2017
School of Sustainable Engineering and the Built Environment Service Award, ASU	2013
Outstanding Performance Award, Lawrence Berkeley National Laboratory	2010
Project Production Systems Laboratory (P^2SL) Fellow, UC Berkeley	2009
Summer Institute for Preparing Future Faculty Fellow, UC Berkeley	2008
Civil and Environmental Engineering Fellowship, UC Berkeley	2008
FIATECH CETI Outstanding Student Researcher Award	2007
Civil and Environmental Engineering Fellowship, UC Berkeley	2007
Carl Walker Scholarship, University of Michigan	2005

PUBLICATIONS

Summary of Publications

Editor for Thematic Journal Issues:	**1** (Sustainable Cities and Society)
Invited Journal Publications:	**5** ([J34], [J32], [J30], [J10], [J4])
Refereed Conference Papers:	**61**
Technical Reports or other non-refereed Papers:	**7**
Total Journal Publications (Published, In Press, and/or Accepted):	**36**
Journal Publications (Published, In Press, and /or Accepted) from ASU:	**35**
Journal Publications Prior to ASU (All Published):	**1**
Manuscripts Submitted / In Revision from ASU:	**5**
Manuscripts in Preparation from ASU (to be submitted before Aug. 31, 2024):	**3**

Legend for all Publications

Italic Font: Dr. Parrish's role in publications is listed in *Italic font*
Bold Font: ASU Ph.D. Student for whom Dr. Parrish is the primary advisor
Bold Italic Font: ASU Ph.D. Student for whom Dr. Parrish is a co-advisor or has significant mentoring responsibility
Underline Font: ASU Master's Student for whom Dr. Parrish is the primary advisor or a co-advisor
Underline Italic Font: Non-ASU Ph.D. Student for whom Dr. Parrish has significant mentoring responsibility
(#) ASU Undergraduate Student
(∞) Other/Visiting Undergraduate Student
(✕) ASU Postdoctoral Researcher
(+) Equal Contributions (when not equal, % participation is listed)
(*) Corresponding Author
(~) Presenting author

In my field, authors are typically listed according to contribution. The first author generally leads both the intellectual contribution and the manuscript development and submission process. The faculty advisor(s) are listed following the students who complete the work; in some cases, faculty authors are listed in order of contribution. In other cases, the last faculty author is the faculty author that made the most substantive contribution. Thus, for each

publication, I have indicated the contributions of my students, colleagues, and myself in parentheticals following each citation. Students and I are identified per the Legend above.

REFEREED JOURNAL PUBLICATIONS

I endeavor to publish in journals that support dissemination of my work to colleagues with shared research interests. This supports critical review of my work, which ultimately improves my own scholarship. Moreover, this approach allows me to grow my own network, as readers of the journals where I publish often go on to become collaborators and co-authors. I target American Society of Civil Engineers (ASCE) journals, first and foremost, as these have large readership within my discipline. I ask each PhD student working on building energy to publish at least once in the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) journals, as this is the premier professional organization for that research area and publication there supports my students growing their own professional networks. I also look to publish sustainability and energy-efficiency work in international and open-access journals, since these research issues reach well beyond the United States. In the below table, I summarize the journals I publish in and their impact factors.

Journal	Impact Factor	# of Pubs
Advances in Engineering Education	1.1	1
Associated Schools of Construction (ASC) International Journal of Construction Education and Research	.58	1 (1 in rev)
ASCE Journal of Architectural Engineering	2	2
ASCE Journal of Civil Engineering Education (formerly ASCE J. of Professional Issues in Engineering Educ. & Practice)	1.7	6 (1 in rev)
ASCE Journal of Construction Engineering and Management	5.6	3
ASCE Journal of Management in Engineering	7.4	2
ASCE Practice Periodical on Structural Design and Construction	1.9	2
ASHRAE Science and Technology in the Built Environment	1.9	1
ASHRAE Transactions	.65	3
Buildings	3.8	0 (1 in rev)
Construction Management and Economics	3.8	1
Energies	3.25	2
Energy and Buildings	6.7	2
Energy Policy	9	1
Energy Science and Engineering	4.17	1
ICE Proceedings – Engineering Sustainability	1.4	1
International Journal of STEM Education	6.7	0 (1 in rev)
Journal of Engineering Education	5.1	0 (1 in rev)
Journal of Green Building	.59	1
Journal of Microbiology & Biology Education	1.67	1
Sustainable Cities and Society	11.7	3
Seismological Research Letters	3.3	1

[J36] **Arviso, B.,** Hale, M., Gibson Jr., G. E., and *Parrish, K.** (2024) "Finding Connections Between the Diné Philosophy of Life and a Project Definition Rating Index to Develop a Planning Tool for Construction on Tribal Lands." *ASCE Journal of Architectural Engineering.* In press (Accepted 4 June 2024). (I was the first author's PhD advisor; 60%, 5%, 5%, 30%)

[J35] **El Kassis, R.***, Ayer, S., and El Asmar, M., *Parrish, K.* (2024). "Decision Support for State Departments of Transportation Considering Virtual Reality and Augmented Reality for Construction Management." *ASCE Practice Periodical on Structural Design and Construction,* In press (Accepted 31 March 2024). (I am on the first authors PhD Committee; 65%, 10%, 10%, 15%)

[J34] Rios, F. C. (✕), **Sultan, S. A.**, Chong, O., and *Parrish, K.** (2023). "Empowering Owner-Operators of Small and Medium Commercial Buildings to Identify Energy Retrofit Opportunities." *Energies*, 16(17), 6191. https://doi.org/10.3390/en16176191. (Work with former postdoc and current student; 60%, 15%, 10%, 15%)

[J33] **Gin, L. E.***, Pais, D. C. (#), *Parrish, K.*, Brownell, S. E., and Cooper, K. M. (2022). "New Online Accommodations Are Not Enough: The Mismatch between Student Needs and Supports Given for Students with Disabilities during the COVID-19 Pandemic." *Journal of Microbiology & Biology Education*, 23(1), e00280-21. doi:10.1128/jmbe.00280-21. (Work with RISE Center student, postdoc, and colleagues; 60%, 10%, 5%, 5%, 20%)

[J32] Rybkowski, Z.*, Arroyo, P., and *Parrish, K.* (2022). "Assessment of current Target Value Design practices: a Literature Review." *Construction Management and Economics*, In press. DOI: https://doi.org/10.1080/01446193.2022.2037146 (Work with former colleagues; 35%, 30%, 35%)

[J31] **Askari, N.***, and *Parrish, K.* (2022). "A Novel Process for Selecting a PCM for a Building Energy Retrofit." *ASHRAE Transactions*, 128(1), 601-610. (I advised the first author; 70%, 30%)

[J30] **Sherman, R.**, Naganathan, H. (✕), and *Parrish, K.** (2021). "Energy Savings Results from Small Commercial Building Retrofits in the US." *Energies*, 14(9), 6207. DOI: https://doi.org/10.3390/en14196207. (I advised the first author's PhD and the second author's postdoc; 35%, 35%, 30%)

[J29] Clark, R., Spisso, A.∞, *Ketchman, K.*, Landis, A. E., *Parrish, K.*, Mohammadiziazi, R., & Bilec, M. M.* (2021). "Gamifying Sustainable Engineering Courses: Student and Instructor Perspectives of Community, Engagement, Learning, and Retention." *Journal of Civil Engineering Education, 147*(4), 04021009. DOI: https://doi.org/10.1061/(ASCE)EI.2643-9115.0000047. (Note: I was on the PhD committee of the third author; 40%, 20%, 10%, 5%, 5%, 10%, 10%)

[J28] **Sherman, R.***, Gibson Jr, G. E., Merrow, E., and *Parrish, K.* (2021). "Examining the Impact of Rate of Return Regulation on Capital Project Planning." *Journal of Construction Engineering and Management*, 147(8), 8pp. DOI: https://doi.org/10.1061/(ASCE)CO.1943-7862.0002069 (I advised the first author; 60%, 10%, 10%, 20%)

[J27] Arababadi, R.* (✕), Naganathan, H. (✕), Dadvar, A., Pour, M. S., *Parrish, K.*, and Chong, O. (2021). "Building Stock Energy Modeling: Feasibility Study on Selection of Important Input Parameters Using Stepwise Regression." *Energy Science & Engineering*, 9(2), 284-296. DOI: https://doi.org/10.1002/ese3.847 (I advised the first two authors; 30%, 30%, 15%, 15%, 5%, 5%)

[J26] **Sherman, R**., Parrish, K. *, and Lamanna, A. (2021). "Identifying and Categorizing Risks Incumbent in US Nuclear Power Plant Construction." *Journal of Construction Engineering and Management*, 147(4), 4021024. DOI: 10.1061/(ASCE)CO.1943-7862.0002018 (I advised the first author; 60%, 30%, 10%)

[J25] Cruz Rios, F.* (✕), ***Naganathan, H.***, Tello, L. (✕), Adams, S., Cook-Davis, A., El Asmar, M., Grau, D., and *Parrish, K.* (2021). "Catalysts and Barriers Faced by Native American Engineering Undergraduate Students in Arizona." *Journal of Civil Engineering Education,* 147(2), 04020017. DOI: https://doi.org/10.1061/(ASCE)EI.2643-9115.0000033. (Note: I was the postdoctoral supervisor for the first author and was for the third author. I was on the PhD committee of the second author; 40%, 20%, 10%, 10%, 5%, 5%, 5%, 5%)

[J24] *Harris, N.*, Shealy, T.*, *Parrish, K.*, and Granderson, J. (2019). "Cognitive Barriers During Monitoring-Based Commissioning of Buildings." *Sustainable Cities and Society*. 46 (2019): 101389, 8 pp. DOI: 10.1016/j.scs.2018.12.017. (I served on the MS Committee of the first author; 70%, 15%, 10%, 5%)

[J23] **El Zomor, M.***, Mann, C., Doten-Snitker, K., *Parrish, K.*, and Chester, M. (2018). "Leveraging Vertically-Integrated Courses and Problem Based Learning to Improve Students' Performance and Skills." *Journal of Professional Issues in Engineering Education and Practice*, 144(4): 12pp. DOI: 10.1061/(ASCE)EI.1943-5541.0000379. (I advise(d) both of the first two authors, one for his PhD, the other for her MS; 30%, 30%, 15%, 20%, 5%)

[J22] **Burke, R.***, ***Antaya-Dancz, C. L.***, *Ketchman, K.*, Bilec, M. M., Boyer, T., Davidson, C., Landis, A. E., and *Parrish, K.* (2018). "Faculty Perspectives on Sustainability Integration in Undergraduate Engineering Curriculum." *Journal of Professional Issues in Engineering Education and Practice*, 144(3): 10pp. DOI: https://doi.org/10.1061/(ASCE)EI.1943-5541.0000373. (First author is a PhD student I advised and I was on the PhD committee for the other two student authors; 50%, 10%, 10%, 5%, 5%, 5%, 5%, 10%)

[J21] *Ketchman, K.**, *Parrish, K.*, Khanna, V., and Bilec, M.M. (2018). "Synergizing Disparate Component-level Energy Resources into a Single Whole Building Tool to Support Energy Conservation Action in Small Commercial Buildings" *Energy and Buildings*, 176(2018): 325-332. DOI: 10.1016/j.enbuild.2018.06.053 (I served on the PhD committee of the first author; 60%, 10%, 10%, 20%)

[J20] *Ketchman, K.**, *Parrish, K.*, Khanna, V., and Bilec, M.M. (2018). "Small Business Electricity Disaggregation: Where can we improve? Towards increased transparency of appliance modal parameters" *Energy and Buildings*, 176(2018):194-202. DOI: doi.org/10.1016/j.enbuild.2018.07.020 (I served on the PhD committee of the first author; 60%, 10%, 10%, 20%)

[J19] **El Zomor, M.**, **Burke, R.***, *Parrish, K.*, and Gibson Jr, G. E. (2018). "Front End Planning for Large and Small Infrastructure Projects: Comparison of Project Definition Rating Index Tools." *Journal of Management in Engineering*, 34 (4), p. 04018022-1-04018022-12. DOI: https://doi.org/10.1061/(ASCE)ME.1943-5479.0000611 (I advised both of the PhD student authors; 50%, 25%, 20%, 5%)

[J18] **Burke, R.***, *Parrish, K.*, and El Asmar, M. (2018). "Environmental Product Declarations: Use in the Architectural and Engineering Design Process to Support Sustainable Construction." *Journal of Construction Engineering and Management*, 144(5): 04018026-1-04018026-10. DOI: 10.1061/(ASCE)CO.1943-7862.0001481. (I advised the first author; 70%, 20%, 10%)

[J17] Arababadi, R. (✕), ***Mosleh, S.***, El Asmar, M., Haavaldsen, T., & *Parrish, K.** (2017). "Energy Policy Assessment at Strategic, Tactical, and Operational Levels: Case studies of EU 20-20-20 and U.S. Executive Order 13514." *Energy Policy,* 109, 530-538. (note that first author was a PhD student I advised; 70%, 10%, 5%, 5%, 10%)

[J16] ***Dancz, C. L. A.****, Ketchman, K. J., **Burke, R.**, ***Hottle, T. A.***, *Parrish, K.*, Bilec, M. M., and Landis, A. E. (2017). "Utilizing Civil Engineering Senior Design Capstone Projects to Evaluate Students' Sustainability Education Across Engineering Curriculum." *Advances in Engineering Education*, 6 (2), 27pp. (note that I serve(d) on the PhD committee for the first two authors and advise the PhD thesis of the third author; 40%, 25%, 15%, 5%, 5%, 5%, 5%)

[J15] **Collins, W.***, *Parrish, K.*, and Gibson Jr., G. E. (2017). "Development of a Project Scope Definition and Assessment Tool for "Small" Industrial Construction Projects." *Journal of Management in Engineering*, 33(4): 15pp. DOI: 10.1061/(ASCE)ME.1943-5479.0000514 (note that first author was a PhD student I advised; 80%, 15%, 5%)

[J14] Arababadi, R.(✕), and *Parrish, K.** (2017). "Reducing the Need for Electrical Storage by Coupling Solar PVs and Precooling in Three Residential Building Types in the Phoenix Climate." *ASHRAE Transactions*, 123(Part 1): 279-290. (note that first author was a PhD student I advised; 85%, 15%)

[J13] Ketchman, K., ***Dancz, C. L. A.***, **Burke, R. D.**, *Parrish, K.*, Landis, A. E., & Bilec, M. M.* (2017). "Sustainable Engineering Cognitive Outcomes: Examining Different Approaches for Curriculum Integration." *Journal of Professional Issues in Engineering Education and Practice*, 143(3), 10pp. DOI: 10.1061/(ASCE)EI.1943-5541.0000324. (note that I serve(d) on the PhD committee for the first two authors and advise the PhD thesis of the third author; 55%, 15%, 10%, 5%, 5%, 10%)

[J12] ***Antaya-Dancz, C. L.****, *Parrish, K.*, Bilec, M. M., and Landis, A. E. (2017). "Assessment of Students' Mastery of Construction Management and Engineering Concepts through Board Game Design." *Journal of Professional Issues in Engineering Education and Practice*, 143(4), 12 pp. DOI: 10.1061/(ASCE)EI.1943-5541.0000340. (note that I served on the PhD committee for the first author; 70%, 20%, 5%, 5%)

[J11] Arababadi, R. (✕), **El Zomor, M.***, & *Parrish, K.* (2017). "Selection of Energy Efficiency Measures to Enhance the Effectiveness of Precooling in Residential Buildings in a Hot Arid Climate." *Science and Technology in the Built Environment*, 23(5), 858-867. DOI:10.1080/23744731.2016.1262660. (note that first authors are PhD students I advise(d); 55%, 25%, 20%)

[J10] Barnes, E. A., and *Parrish, K.** (2016). “Small Buildings, Big Impacts: the Role of Small Commercial Building Energy Efficiency Case Studies in 2030 Districts.” *Sustainable Cities and Society*, *27*(2016), p. 210-221. (note that first author was an MS student I advised; 70%, 30%)

[J9] **Arababadi, R.***, and *Parrish, K.* (2016). “Modeling And Testing Multiple Precooling Strategies In Three Residential Building Types In The Phoenix Climate.” *ASHRAE Transactions*. 122(2). (note that first author is a PhD student I advised; 70%, 30%)

[J8] Holloway, S. (#), and *Parrish, K.** (2015). “The Contractor’s Role in the Sustainable Construction Industry.” *ICE Proceedings - Engineering Sustainability*, 168(2). 53-60. http://dx.doi.org/10.1680/ensu.14.00026. (note that first author is an undergraduate student whose thesis I advised; 60%, 40%)

[J7] *Parrish, K.**, Singh, R., and Chien, S.-C. (2015). “The Role of International Institutional Partnerships in Delivering Low-Energy Building Design: A Case Study.” *Sustainable Cities and Society*, 14, 383-389. http://dx.doi.org/10.1016/j.scs.2014.05.007. (First author; work completed before arrival at ASU; 70%, 25%, 5%)

[J6] ***Ghosh, A.****, *Parrish, K.*, and Chasey, A. (2014). “Implementing a Vertically Integrated BIM Curriculum in an Undergraduate Construction Management Program.” *International Journal of Construction Education and Research*, 11(2). 121-139. DOI: 10.1080/15578771. (note that first author is a student I mentored; 55%, 40%, 5%)

[J5] Ladhad, A., and *Parrish, K.** (2014). “Phoenix's First Zero-Net Energy Office Retrofit: A Green and Lean Case Study.” *Journal of Green Building*, 8(4), 3-16. (note that first author is an MS student I worked with; 55%, 45%)

[J4] *Parrish, K.**, and Chester, M. (2014). “Life-Cycle Assessment for Construction of Sustainable Infrastructure.” *Practice Periodical on Structural Design and Construction*, 19(1), 89-94. http://dx.doi.org/10.1061/(ASCE)SC.1943-5576.0000187. (First author; work completed with a colleague at ASU; 60%, 40%)

[J3] Sanders, M., *Parrish, K.**, and Earni, S. (2013). “Savings to Sustainability: Application of a Novel Approach to Delivering a Sustainable Built Environment.” *Journal of Architectural Engineering*, 19 (Special Issue: Emerging Trends of Sustainable Engineering, Design, and Construction), 156-163. http://dx.doi.org/10.1061/(ASCE)AE.1943-5568.0000119. (note other authors are former colleagues from the Berkeley Lab; 40%, 40%, 20%)

[J2] *Parrish, K.**, and Regnier, C. (2013). "A Proposed Design Process for Deep Energy Savings in Commercial Building Retrofit Projects." *Journal of Architectural Engineering*, 19(2), 71-80. (First author; work completed with a colleague at the Berkeley Lab; 70%, 30%)

[J1] Green, R. A.*, K. Gunberg, *K. Parrish*, T. Munger. (2007). "A Simple Uniform Hazard Design Spectral Shape for Rock Sites." *Seismological Research Letters* 78(2): 323 – 343. (first author was the faculty advisor on the project, other authors were graduate students who worked on the project; 20%, 50%, 20%, 10%)

MANUSCRIPTS SUBMITTED OR IN REVISION

[JS5] *Vaden, J.M.*, Brooks, A., Dukes, A.A., *Parrish, K.*, Hermundstad Nave, A., Landis, A.E., Bilec, M.M.* (2024). "Inclusive Engineering Classroom Learning Communities: Reflections and Lessons Learned from Three Partner Institutions." *International Journal of STEM Education*, In review (Submitted 1 April 2024) (I serve on the first author's PhD committee; 60%, 10%, 10%, 5%, 5%, 5%, 5%)

[JS4] Esmailzadeh, P., Gibson Jr., G. E., and *Parrish, K.** (2024). "Comparing the Efficacy of Front End Planning Tools for Large and Small Building Projects." *Buildings*, In review (Submitted 11 May 2024) (I co-advised the MS student author; 70%, 10%, 20%)

[JS3] **El Gamal, S.**, Ayer, S., and *Parrish, K.** (2024). "A Review of VR in Undergraduate Construction Education and Training: Unveiling the Opportunities to Address Content Areas from ACCE's SLOs." *International Journal of Construction Education and Research*, In Revision (Reviews received 12 May 2024; original submission 20 Jan 2024). (I served on the first author's MS committee; 60%, 20%, 20%)

[JS2] Rios, F. C.* (✕), El Asmar, M., Grau, D., and *Parrish, K.* (2024). "Increasing Representation of Native Americans in Engineering Faculty: Insights from an Interview Study." *Journal of Engineering Education*, In review (Submitted 14 February 2024), 34 pp. (Note that I was the postdoctoral advisor for the first author; 80%, 5%, 5%, 10%)

[JS1] *Vaden, J.M.*, Dukes, A.A., *Parrish, K.*, Hermundstad Nave, A., Landis, A.E., Bilec, M.M.* (2024). "Developing and Implementing an Inclusive Practices Menu in Undergraduate Engineering Classrooms." *Journal of Civil Engineering Education*, In review (Submitted revisions 15 March 2024; original submission 7 Aug 2023). (I serve on the PhD Committee of the first author; 60%, 10%, 5%, 5%, 5%, 5%)

MANUSCRIPTS IN PREPARATION FOR SUBMISSION (BY AUGUST 31, 2024)

[JP3] **Shaibh, A.*,** Wijesuriya, S., Kishore, R., Booten, C., and *Parrish, K.* (2024). "Exploring the Impact of Occupancy on Heating Energy Consumption and Demand in Prototypical Office Buildings." *Energy and Buildings*, In preparation (Submission planned 31 August 2024). (I advise the first author, 60%, 20%, 5%, 5%, 10%).

[JP2] Sabek, M. M., Czerniawski, T., and *Parrish, K.** (2023). "A Performance Study of Different Deep Learning Architectures for Detecting Construction Equipment in Sites." *Sensors*, In preparation (Submission planned 31 August 2024). (I advised the first author's MS thesis; 60%, 10%, 30%)

[JP1] **Al Sultan, S.***, Becker, T.C., *Parrish, K.* (2024). "The Construction Industry of 2040: Results of a Delphi Study." *Journal of Construction Engineering and Management*, In preparation (Submission planned 31 August 2024). (I advise the first author's PhD; 70%, 10%, 20%)

REFEREED CONFERENCE PUBLICATIONS

[C61] **Shaibh, A**. and *Parrish, K.*~ (2024). "Leaning operations in commercial buildings via Demand Response: A Plan-Do-Check-Act approach." *Proc. IGLC Annual Conference*, 3-5 Jul 2024, Auckland, New Zealand, 10 pp. (60%, 40%)

[C60] *Vaden, J. M.**~, Dukes, A. A., *Parrish, K.*, Nave, A. H., Landis, A. E., and Bilec, M. M. (2024). "Improving and Sustaining Inclusive Classroom Environments in Engineering: Findings from Year 4." *Proc. ASEE Annual Conference*, 23-26 Jun 2024, Portland, OR, 4 pp. (50%, 20%, 5%, 5%, 5%, 15%)

[C59] Heier, N., Chakravarti, A. (∞), Royne, A., and *Parrish, K.*~ (2023). "Achieving Lean and Green through Carbon Capture, Utilization, and Storage Technology Retrofits: A Case Study in Cement." *Proc. IGLC Annual Conference*, 23-25 Jun 2023, Lille, France, 12 pp. (60%, 20%, 5%, 15%)

[C58] *Vaden, J. M.* *~, Dukes, A. A., *Parrish, K.*, Nave, A. H., Landis, A. E., and Bilec, M. M. (2023). "Improving and Sustaining Inclusive Classroom Environments in Engineering: Findings from Year 3." *Proc. ASEE Annual Conference*, 25-28 Jun 2023, Baltimore, MD, 4 pp. (50%, 20%, 5%, 5%, 5%, 15%)

[C57] *Vaden, J. M.* *~, Dukes, A. A., *Parrish, K.*, Nave, A. H., Landis, A. E., and Bilec, M. M. (2022). "Improving and Sustaining Inclusive Classroom Environments in Engineering." *Proc. ASEE Annual Conference*, 26-29 Jun 2022, Minneapolis, MN, 4 pp. (50%, 20%, 5%, 5%, 5%, 15%)

[C56] Hammam, M. *~, *Parrish, K.*, and Feghaly, J. (2021). "A New Look at Designing Electrical Construction Processes." In S. Walbridge (Ed.) *Proc. Canadian Society for Civil Engineering (CSCE) Annual Conference* 26-29 May 2021, Virtual, 10 pp. (70%, 10%, 20%)

[C55] Landis, A. E., ***Dancz, C. L. A***. *~, *Parrish, K.*, and Bilec, M. M. (2021). "What works? Sustainability grand challenges in engineering curricula via experiential learning." *Proc. EESD2021: Proceedings of the 10th Engineering Education for Sustainable Development Conference*, 14 Jun 2021, Cork, Ireland, 6 pp. (40%, 40%, 10%, 10%)

[C54] **Askari, N.***~, Nozaripour, M., and *Parrish, K.* (2020). "Using Bio PCM as Sensible Heat Storage in a Hot Arid Climate: A Case Study." *ASHRAE Conference 2020*, Virtual, 8 pp. (50%, 40%, 10%)

[C53] **Sherman, R**.*~, and *Parrish, K.* (2020). "Regulation and the Impact it has on Power and Pipeline Construction." *Proc. CRC 2020*, 8-10 March, Tempe, AZ, 9 pp. (75%, 25%)

[C52] Cruz Rios, F.* (✕)~, El Asmar, M., Grau, D., and *Parrish, K.* (2020). "Challenges against Hiring Native American Engineering Faculty: An Institutional Perspective." *Proc. CRC 2020*, 8-10 March, Tempe, AZ, 9 pp. (75%, 5%, 10%, 10%)

[C51] **Sherman, R.*~**, and *Parrish, K*. (2019). "US Nuclear Power Plant Project Risks: An Analysis Across Nuclear Regions." *Proc. Engineering Sustainability 2019* Pittsburgh, PA. 8-10 April. 2pp. (75%, 25%)

[C50] **El Zomor, M.*~**, and *Parrish, K.* (2018). "Integrating PDRI Tools Into Introductory Construction Classrooms." *Proc. Construction Research Congress 2018*, 3-5 April, New Orleans, LA, 10 pp. (80%, 20%)

[C49] **Burke, R.*~**, and *Parrish, K.* (2018). "System Engineering Analysis Approach to Building Material Selection for Sustainable Buildings." *Proc. Construction Research Congress 2018*, 3-5 April, New Orleans, LA, 10 pp. (80%, 20%)

[C48] **Arviso, B.*~**, Dalla Costa, W., and Parrish, K. (2018). "Unique Features of Construction on Tribal Lands." *Proc. Construction Research Congress 2018*, 3-5 April, New Orleans, LA, 10 pp. (80%, 20%)

[C47] **Sherman, R.***, Clark, R., *Parrish, K.*~, Bilec, M. M., & Landis, A. E. (2017). *Developing a Framework to Better Engage students in STEM via Game Design: Findings from Year 1*. Paper presented at the 124th Annual Conference of the American Society for Engineering Education, Columbus, OH. 25-28 June. 7pp. (60%, 15%, 15%, 5%, 5%)

[C46] **El Zomor, M.***, *Parrish, K.*~, & Chester, M. (2017). *Positioning Students to Understand Urban Sustainability Strategies through Vertical Integration: Years One through Four*. Paper presented at the 124th Annual Conference of the American Society for Engineering Education, Columbus, OH. 25-28 June. 7 pp.(80%, 15%, 5%)

[C45] **Sherman, R.** *~, *Parrish, K.*~ (2017). "Small Buildings, Big Impacts: The Role of Small Commercial Building Energy Efficiency Case Studies in 2030 Districts." *Proc. Engineering Sustainability 2017* Pittsburgh, PA. 9-11 April. 2pp. (75%, 25%)

[C44] **Burke, R.*~**, and *Parrish, K.* (2017). "I Can See Clearly Now: Illuminating the Material Selection Process for High Performance Buildings." *Proc. Engineering Sustainability 2017* Pittsburgh, PA. 9-11 April. 2pp. (90%, 10%)

[C43] Algassaf, A., and *Parrish, K.*~ (2016). "Developing a Project Management Framework for Maintaining and preserving Historic buildings in Jeddah City, Saudi Arabia." In T. Alves, J. Reginato, and C. Pasquire (Eds.) *Proc. 24th Annual Conference of the International Group for Lean Construction (IGLC-24)*, 20-22 July, Boston, MA. (80%, 20%)

[C42] Maris, K. (#), and *Parrish, K.*~ (2016). "The Confluence of Lean and Green Construction." In T. Alves, J. Reginato, and C. Pasquire (Eds.) *Proc. 24th Annual Conference of the International Group for Lean Construction (IGLC-24)*, 20-22 July, Boston, MA. (80%, 20%)

[C41] ***Dancz, C. L. A.****~, *Ketchman, K. J.*, **Burke, R.**, Bilec, M. M., Adams, E. A., Allenby, B., Chester, M., Khanna, V., *Parrish, K.*, Seager, T. P., and Landis, A. E. (2016). "Integrating Sustainability Grand Challenges and Experiential Learning into Engineering Curricula: Years 1 through 3." *Proc. 123rd ASEE Annual Conference*, 26-29 June, New Orleans, LA, 4 pp. (80%, 5%, 5%, 1%, 1%, 1%, 1%, 1%, 1%, 1%, 1%, 1%, 1%)

[C40] **ElZomor, M.***, Mann, C., *Parrish, K.*~, and Chester, M. (2016). "Positioning Students to Understand Urban Sustainability Strategies through Vertical Integration: Years 1 through 3." *Proc. 123rd ASEE Annual Conference*, 26-29 June, New Orleans, LA, 4 pp. (40%, 40%, 15%, 5%)

[C39] **Collins, W.***~, *Parrish, K.*, and Gibson Jr., G. E. (2016). "Comparison of Front End Planning Practices for Small and Large Industrial Construction Projects." *Proc. Construction Research Congress 2016*, 31 May - 2 June, Puerto Rico, 10 pp. (75%, 15%, 10%)

[C38] **Burke, R.***~, *Parrish, K.*, and Gibson Jr., G. E. (2016). "Defining Small Projects in Developing the PDRI for Small Infrastructure Projects." *Proc. Construction Research Congress 2016*, 31 May - 2 June, Puerto Rico, 10 pp. (75%, 15%, 10%)

[C37] Valdez-Vasquez, R., Simmons, D., Zhao, D.*~, and *Parrish, K.* (2016). "The Michael Horman Symposium: Developing a Network of Researchers and Mentorship for Sustainability Topics." *Proc. Construction Research Congress 2016*, 31 May - 2 June, Puerto Rico, 10 pp. (40%, 40%, 15%, 5%)

[C36] **Arababadi, R.***~, *Parrish, K.*, and El Asmar, M. (2016). "Waging War on Climate Change." In O. Chong and K. Parrish (Eds.) *Proc. International Conference on Sustainable Design, Engineering, and Construction (ICSDEC 2016)*, 18-20 May, Tempe, AZ, 8 pp. (60%, 30%, 10%)

[C35] Santiago, K. (#)~, Vasquez, J. (#)~, and *Parrish, K.**~ (2016). "The Role of Small Commercial Buildings in Achieving Energy Efficiency." In O. Chong and K. Parrish (Eds.) *Proc. International Conference on Sustainable Design, Engineering, and Construction (ICSDEC 2016)*, 18-20 May, Tempe, AZ, 8 pp. (40%, 40%, 20%)

[C34] Nikolin, B.*, Herrera, J., McCready, T., Grau, D.~, and *Parrish, K.* (2015). "A Call for New Research in the Lean Construction Community: Alternative Work Schedules." In O. Seppanen, P. Arroyo, and V. Gonzalez (Eds.) *Proc. 23rd Annual Conference of the International Group for Lean Construction (IGLC 23)*, 29-31 July, Perth, Australia, 9 pp. (Published with industry authors. 15%, 15%, 15%, 25%, 30%)

[C33] **Arababadi, R**.*~, and *Parrish, K.* (2015). "Developing and Modeling Potential Precooling Strategies for Residential Buildings in the Phoenix Climate." *Proc. ASHRAE 2015 Annual Conference*, 27 June - 1 July, Atlanta, GA, 7 pp. (80%, 20%)

[C32] **Collins, W.***, *Parrish, K.*, and Gibson Jr., G. E.~ (2015). "Improving Project Performance within Industrial-Focused Organizations with the Project Definition Rating Index for Small Industrial Projects." In P. Chan and R. Leicht (Eds.) *Proc. 2015 Engineering Project Organizations Conference*, 24-26 June, Edinburgh, Scotland, 18 pp. (75%, 20%, 5%)

[C31] **Collins, W*.**, *Parrish, K.*, and Gibson, G. E.~ (2015). "Development and Utilization of the Project Definition Rating Index for Small Industrial Projects." In A. Javernick-Will (Ed.) *Proc. 5th International/11th Construction Specialty Conference*, 8-10 June, Vancouver, British Columbia, 10 pp. (75%, 20%, 5%)

[C30] **Arababadi, R.***, ***Naganathan, H.***~, *Parrish, K.*, and Chong, W. K. (2015). "Determining the Feasibility of Statistical Techniques to Identify the Most Important Input Parameters of Building Energy Models " In O. Chong (Ed.) *Proc. International Conference on Sustainable Design, Engineering, and Construction*, 11-13 May, Chicago, IL, 8 pp. (40%, 40%, 10%, 10%)

[C29] Barnes, E. A., and *Parrish, K.**~ (2015). "Small Buildings, Big Impacts: Developing a Library of Small Commercial Building Energy Efficiency Case Studies." In O. Chong (Ed.) *Proc. International Conference on Sustainable Design, Engineering, and Construction*, 11-13 May, Chicago, IL, 8 pp. (70%, 30%)

[C28] Mann, C., *Parrish, K.**~, and Chester, M. (2015). "Positioning Students to Understand Urban Sustainability Strategies through Vertical Integration". Paper presented at the 122nd ASEE Annual Conference, Seattle, WA, 14-17 June. (75%, 20%, 5%)

[C27] ***Dancz, C. L. A.*~***, *Ketchman, K. J.*, **Burke, R.**, Bilec, M. M., Adams, E. A., Allenby, B., Chester, M., Khanna, V., *Parrish, K.*, Seager, T., and Landis, A. E. (2015). "Integrating Sustainability Grand Challenges and Experiential Learning into Engineering Curricula: Years 1 and 2." *Proc. 122nd ASEE Annual Conference*, 14-17 June, Seattle, WA, 4 pp. (I serve on the PhD committees of the two student authors I do not advise. 72%, 10%, 10%, 1%, 1%, 1%, 1%, 1%, 1%, 1%, 1%)

[C26] Mann, C.~, *Parrish, K.**, and Chester, M. (2015). "Teaching Urban Sustainability Strategies Through Vertical Integration and Problem-Based Learning." Paper presented at the Engineering Sustainability 2015, Pittsburgh, PA, 20-21 April. (75%, 20%, 5%)

[C25] *Parrish, K.**~ (2015). "Small Buildings, Big Impacts: Promoting Energy Efficiency in Small Commercial Buildings Through 2030 Districts." *Proc. Engineering Sustainability 2015* Pittsburgh, PA, 20-21 April. 4 pp.

[C24] ***Dancz, C. L. A.****~, *Parrish, K.*, Bilec, M., and Landis, A. E. (2014). "Assessing Comprehension With Student-Developed Construction Games." In B. Gehrig (Ed.) *Proc. 121st ASEE Annual Conference & Exposition*, 15-18 June, Indianapolis, IN, 13 pp. (I serve on the PhD committee of the student author; 75%, 10%, 10%, 5%)

[C23] *Parrish, K.*~ (2014). "Towards a Language-Action Paradigm: Experiences of a Trade Contractor." In B. T. Kalsaas (Ed.) *Proc. 22nd Annual Conference of the International Group for Lean Construction (IGLC-22)*, 23-27 June, Oslo, Norway, 1169-1180. (Work completed with industry practitioners in Phoenix; 100%)

[C22] Maestas, A., and *Parrish, K.*~ (2014). "Exploring the Roots of Lean Culture at DPR Construction: A Case Study in Lean Culture." In B. T. Kalsaas (Ed.) *Proc. 22nd Annual Conference of the International Group for Lean Construction (IGLC-22)*, 23-27 June, Oslo, Norway, 1413-1422. (I advised the student author; 70%, 30%)

[C21] **Collins, W.**, and *Parrish, K.*~ (2014). "The Need for Integrated Project Delivery in the Public Sector." In D. Castro-Lacouture (Ed.) *Proc. Construction Research Congress 2014 (CRC 2014)*, 19-21 May, Atlanta, GA., 10 pp. (75%, 25%)

[C20] *Parrish, K.*~, and Whelton, M. (2013). "Lean Operations: An Energy Management Perspective." In P. Tzortzopoulos and C. Formoso (Eds.) *Proc. 21st Annual Conference of the International Group for Lean Construction (IGLC-21)* Fortaleza, Brazil, 865-874. (Work completed with a former colleague; 70%, 30%)

[C19] Holloway, S. (#)~, and *Parrish, K.** (2013). "The Contractor's Self-Perceived Role in Sustainable Construction: Results of a Survey." In P. Tzortzopoulos and C. Formoso (Eds.) *Proc. 21st Annual Conference of the International Group for Lean Construction (IGLC-21)* Fortaleza, Brazil, 905-914. (I advised the student author; 70%, 30%)

[C18] Ladhad, A., and *Parrish, K.*~ (2013). "The Role of Lean Practices for Zero Net Energy Retrofits." In P. Tzortzopoulos and C. Formoso (Eds.) *Proc. 21st Annual Conference of the International Group for Lean Construction (IGLC-21)* Fortaleza, Brazil, 895-904. (I advised the student author; 70%, 30%)

[C17] ***Ghosh, A.***~, *Parrish, K.*, and Chasey, A. (2013). "From BIM to Collaboration: A Proposed Integrated Construction Curriculum." In J. Hildreth (Ed.) *Proc. 120th ASEE Annual Conference & Exposition*, 23-26 June, Atlanta, GA, 8 pp. (I mentor the student author; 70%, 25%, 5%)

[C16] ***Dancz, C. L. A.***~, *Parrish, K.*, Adams, E. A., and Landis, A. E. (2013). "Experiential Learning in the Civil Engineering Curriculum: Collaborations between Community Colleges, Research I Universities and National Laboratories." *Proc. 120th ASEE Annual Conference & Exposition*, 23-26 June, Atlanta, GA, 12 pp. (I serve on the PhD committee of the student author; 60%, 20%, 15%, 5%)

[C15] *Parrish, K.*~ (2013). "The Role of Building Information Models in Efficient Delivery of Sustainable Healthcare Buildings." In M. Bilec (Ed.) *Proc. International Symposium on Sustainable Systems & Technologies (ISSST2013)*, 15-17 May, Cincinnati, OH, 5 pp. (Work I completed with the Alliance for Construction Excellence; 100%)

[C14] *Parrish, K.*~, and Ladhad, A. (2013). "The Contractor's Role in Achieving Deep Building Energy Savings." In G. M. Kovalcik (Ed.) *Proc. Engineering Sustainability 2013* Pittsburgh, PA. (I advised the student author and was still developing his writing; 70%, 30%)

[C13] *Parrish, K.*~, and Singh, R. (2012). "The Role of International Partnerships in Delivering Low-Energy Building Design: A Case Study." *Proc. International Conference on Sustainable Design, Engineering, and Construction*, Fort Worth, TX, 72-80. (Work completed with former colleagues; 90%, 10%)

[C12] *Parrish, K.*~ (2012). "Lean and Green Construction: Lessons Learned from Design and Construction of a Prefabricated LEED Gold Building." In K. Walsh and I.D. Tommelein (Eds.), *Proc. 20th Annual Conference of the International Group for Lean Construction (IGLC 20)*, 18-20 July 2012, San Diego, CA, 10 pp. (Work completed at the Berkeley Lab; 100%)

[C11] *Parrish, K.*~, Ledewitz, J., and Leonard, E. (2012). "Building an Energy Management System for MIT: Lessons Learned from Implementing ISO 50001." In T. Hong and J. Loper (Eds.) *Proc. ACEEE Summer Study on Energy Efficiency in Buildings* Asilomar, CA., 12 pp. (Work completed with former colleagues; 80%, 10%, 10%)

[C10] Sanders, M. D., S. Earni, *K. Parrish*~ (2011). "Savings to Sustainability: A Proposed Project Finance Method to Deliver Sustainable Federal Buildings." *Proc. ASCE International Conference on Sustainable Design & Construction*, Kansas City, MO, 23-25 March, 7 pp. (Work completed with former colleagues and lead author misunderstood author order; 50%, 10%, 40%)

[C9] Yin, R., Kiliccote, S.~, Piette, M. A., *Parrish, K.** (2010). "Scenario Analysis of Peak Demand Savings for Commercial Buildings with Thermal Mass in California" *Proc. 2010 ACEEE Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA, 15-20 Aug, 2010. LBNL-3636E, 12 pp. (Work completed with former colleagues; 60%, 15%, 10%, 15%)

[C8] Kiliccote, S.~, Piette, M. A., Mathieu, J., *Parrish, K.** (2010). "Findings from Seven Years of Field Performance Data for Automated Demand Response in Commercial Buildings" *Proc. 2010 ACEEE Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA, 15-20 Aug, 2010. LBNL-3643E, 12 pp. (Work completed with former colleagues; 60%, 10%, 15%, 15%)

[C7] *Parrish, K.** and Tommelein, I.D.~ (2009). "Making Design Decisions using Choosing By Advantages." *Proc. 17th Annual Conference of the International Group for Lean Construction (IGLC 17)*, 15-17 July 2009, Taipei, Taiwan, 10 pp. (Work completed in graduate school at UC Berkeley; 85%, 15%)

[C6] Wong, J.-M., *Parrish, K.**, Tommelein, I.D.~, Stojadinovic, B. (2009). "SetPlan: A Computer Tool to Aid in Set-Based Design." *Proc. 17th Annual Conference of the International Group for Lean Construction (IGLC)*, 15-17 July 2009, Taipei, Taiwan, 10 pp. (Work completed in graduate school at UC Berkeley; 60%, 30%, 5%, 5%)

[C5] *Parrish, K.**, Tommelein, I.D.~, Ballard, G. (2009). "Use of A3 Reports to Focus Design and Construction Conversations*." Proc. Construction Research Congress*, 5-7 April, Seattle, WA, 10 pp. (Work completed in graduate school at UC Berkeley; 85%, 10%, 5%)

[C4] *Parrish, K.*~*, Wong, J.-M., Tommelein, I. D., Stojadinovic, B. (2008). "Set-Based Design: A Case Study on Innovative Hospital Design." In P. Tzortzopoulos and M. Kagioglou (Eds.) *Proc. 16th Annual Conference of the International Group for Lean Construction (IGLC 16)*, 16-18 July, Manchester, UK, 413-423. (Work completed in graduate school at UC Berkeley; 60%, 30%, 5%, 5%)

[C3] *Parrish, K.*~*, Wong, J.-M., Tommelein, I. D., Stojadinovic, B. (2008). "Value Propositions for Set-Based Design of Reinforced Concrete Structures." In P. Tzortzopoulos and M. Kagioglou (editors). *Proc. 16th Conference of the International Group for Lean Construction (IGLC 16)*, 16-18 July, Manchester, UK, 495-506. (Work completed in graduate school at UC Berkeley; 70%, 20%, 5%, 5%)

[C2] Wong, J.-M*~., *Parrish, K.*, Tommelein, I. D., Stojadinovic, B. (2007). "Communication and Process Simulation of Set-Based Design for Concrete Reinforcement." in Henderson, S.G., Biller, B., Hsieh, M.-H., Shortle, J., Tew, J.D., and Barton, R.R. (eds.) *Proceedings of the 2007 Winter Simulation Conference*, 9-12 December 2007, Washington, D.C. (Work completed in graduate school at UC Berkeley; 60%, 30%, 5%, 5%)

[C1] *Parrish, K.*~*, Wong, J.-M., Tommelein, I. D., Stojadinovic, B. (2007). "Proof-of-Concept of Set-Based Design for Reinforced Concrete Structures." in Pasquire, C.L. and Tzortzopoulos, P. (editors). *Proc. 15th Annual Conference of the International Group for Lean Construction (IGLC 15)*, 18-20 July 2007, East Lansing, MI, 213-222. (Work completed in graduate school at UC Berkeley; 60%, 30%, 5%, 5%)

REFEREED REPORTS AND TECHNICAL MANUALS

[RR7] Esmailzadeh, P., *Parrish, K.*, Gibson Jr, G. E. (2022). "Development of the Project Definition Rating Assessment (PDRA) for Small Building Projects." Arizona State University, 250 pp. DOI: 10.13140/RG.2.2.16497.35687

[RR6] **El Zomor, M.**, **Burke, R.**, *Parrish, K.**, and Gibson Jr, G. E. (2017). "Development of the Project Definition Rating Index (PDRI) for Small Infrastructure Projects." *RR 314-12*, Construction Industry Institute, Austin, TX., 214 pp.

[RR5] **Collins, W.**, *Parrish, K.**, and Gibson Jr, G. E. (2015). "Development of the Project Definition Rating Index (PDRI) for Small Industrial Projects." *RR 314-11*, Construction Industry Institute, Austin, TX., 263 pp.

[RR4] O'Donnell, J.*, Maile, T., Rose, C., Mrazović, N., Morrissey, E., Regnier, C., *Parrish, K.*, and Bazjanac, V. (2013). "Transforming BIM to BEM: Generation of Building Geometry for the NASA Ames Sustainability Base BIM." *LBNL Report 6033E*, Lawrence Berkeley National Laboratory, Berkeley, CA Available at http://eetd.lbl.gov/sites/all/files/publications/lbnl-6033e.pdf., 27 pp. (Report published with former colleagues; 15%, 15%, 15%, 15%, 10%, 10%, 10%, 10%)

[RR3] *Parrish, K.**, Granderson, J., Mercado, A., and Mathew, P. A. (2012). "Improving Energy Efficiency through Commissioning: Getting Started with Commissioning, Monitoring, and Maintaining Performance." *LBNL Report 6495E*, Lawrence Berkeley National Laboratory, Berkeley, CA, 41 pp. (Report published with former colleagues; 50%, 20%, 20%, 10%)

[RR2] *Parrish, K.** (2012). "A Path to Successful Energy Retrofits: Early Collaboration through Integrated Project Delivery Teams." *LBNL Report 6130E*, Lawrence Berkeley National Laboratory, Berkeley, CA Available at http://eetd.lbl.gov/sites/all/files/lbnl-6130e.pdf. 10 pp. (Report completed at the Berkeley Lab; 100%)

[RR1] Sanders, M., *Parrish, K.**, and Mathew, P. A. (2012). "Ready to Retrofit: The Process of Project Team Selection, Building Benchmarking, and Financing Energy Retrofit Projects." *LBNL Report 5893E*, Lawrence Berkeley National Laboratory, Berkeley, CA, 34 pp. (Report published with former colleagues; 50%, 25%, 25%)

PRESENTATIONS

Summary of Presentations

Invited Presentations – External :	**28**
Invited Presentations – Internal:	**6**
Invited Conference Presentations, Including Students:	**22**
Peer-Reviewed Conference Presentations, including Students:	**6**
Non-Refereed Conference Presentations (see Refereed Conference papers for titles, authors, and presenters):	**61**

INVITED PRESENTATIONS – EXTERNAL (LOCAL, NATIONAL, OR INTERNATIONAL MEETINGS)

[IP28] Inaugural Forum for the Advancement of Women in Construction
Tempe, AZ
"*Women in Construction: Opportunities and Challenges"*
February 29, 2024

[IP27] National Renewable Energy Laboratory Buildings Seminar
Golden, CO
"*Building the Construction Workforce to Deliver Decarbonization*"
January 31, 2024

[IP26] Willmeng Construction, Inc. Leadership Roundtable
Phoenix, AZ
"*Environmental Social Governance in Construction*"
July 12, 2023

[IP25] Roofing Alliance Faculty Retreat on Roofing
Tempe, AZ
"*Active Learning Strategies for Construction Management Faculty*"
March 9, 2022

[IP24] Construction Industry Institute Board of Advisers Meeting
Cape Coral, FL
"*Safely Reoccupying Commercial Buildings in the Age of COVID-19*"
November 11, 2021

[IP23] Georgia Institute for Technology School of Building Construction Seminar
Virtual Campus Visit
"*One (Possible) Future for the School of Building Construction*"
March 4, 2021

[IP22] KQED News
Recorded Interview
"*Energy Implications of COVID-19 Vaccine Storage*"
December 25, 2020

[IP21] CNN Newsroom with Alex Marques
Live interview
"*COVID-19 Vaccine: Cold Storage Implications*"
December 13, 2020

[IP20] Fox News Arizona (Phoenix, AZ)
Recorded interview
"*COVID-19 Vaccine Storage*"
December 5, 2020

[IP19] Washington State University's Distance Learning Workshop
Virtual Presentation
"*Best Practices for Distance Learning in Graduate Courses*"
July 10, 2020

[IP18] Construction Industry Institute Front End Planning Community of Practice
Virtual Meeting
"*PDRI – Small Industrial and Small Infrastructure Projects: Results from RT 314(A)*"
March 16, 2017

[IP17] Clemson University Sustainability Seminar
Clemson, SC
"*We Can Do It, So Why Don't We?*"
February 11, 2016

[IP16] University of Pittsburgh Graduate Seminar
Pittsburgh, PA
"*We Can Do It, So Why Don't We?*"
October 27, 2015

[IP15] U.S. Department of Commerce's U.S. – Palestine Green Building Cultural Exchange
Nablus, Palestine
"*Green Buildings in the U.S. – A Construction Perspective*"
August 26, 2015

[IP14] Department of Energy's Federal Energy Management Program's Energy Efficiency Exchange
Phoenix, AZ
"*Judging a Book by the Cover*" (co-presented with John Riley)
August 13, 2015

[IP13] Department of Energy's Federal Energy Management Program's Energy Efficiency Exchange
Phoenix, AZ
"*Educating the Next Generation of Sustainability Professionals*"
August 12, 2015

[IP12] Engineering Sustainability 2015
Pittsburgh, PA
"*Small Buildings, Big Impacts: Promoting Energy Efficiency in Small Commercial Buildings through 2030 Districts*"
April 20, 2015

[IP11] North America-East Asia Workshop on Big Data Analytics for Infrastructure and Building Sustainability and Resilience (ISBR) Research
Beijing, China
"*Energy Policy Assessment and the Need for Big Data*"
September 20, 2014

[IP10] VerdeXchange Arizona 2014
Phoenix, AZ
"*Let's Build Sustainable for People*"
May 1, 2014

[IP9] Arizona Section of the American Society of Highway Engineers Monthly Meeting
Phoenix, Arizona
"Roadway Sustainability: Is It Just Good Engineering?"
March 11, 2014

[IP8] American Concrete Institute (ACI) Fall 2013 Convention, Lean Construction Panel
Phoenix, AZ
"*Lean Rebar Design and Delivery: Successes and Challenges*"
October 22, 2013

[IP7] Sustainability Data Community Workshop
Chicago, IL
"*The Need for Energy Data to Promote Savings in Commercial Buildings*"
July 19, 2013

[IP6] Clemson University Civil and Environmental Engineering Seminar
Clemson, SC
"*Energy Efficiency in Commercial Buildings*"
July 8, 2013

[IP5] Arizona Association of Environmental Professionals Monthly Meeting
Scottsdale, Arizona
"Energy Efficiency as an Environmental Resource"
April 23, 2013

[IP4] Arizona Section of the American Society of Civil Engineers Annual Meeting
Phoenix, AZ
"Sustainability: Is It Really Just Good Engineering Design?"
September 13, 2013

[IP3] Engineering Project Management Seminar; University of California, Berkeley
Berkeley, CA
"Commercial Buildings Partnership Program – Lean and Green Project Delivery"
November 30, 2010

[IP2] Structural Engineers Association of Northern California Younger Members Forum
San Francisco, CA
"Set-Based Design of Reinforced Concrete Structures"
May 19, 2008

[IP1] Structural Engineers Association of Northern California
Leadership Public Schools, Hayward, CA.
High School Outreach Program: "What do Structural Engineers Actually Do?"
February 28, 2008

INVITED PRESENTATIONS – INTERNAL TO ASU

[IT6] RISE Core Faculty Meeting
"*Inclusive Teaching Practices: Matrix and Request to Collaborate*"
February 15, 2023

[IT5] Welcome to Engineering Event
"Welcome to IAFSE!"
March 30, 2021

[IT4] FSE 150 (Grand Challenges in Engineering) Guest Lecture
"Towards a more Sustainable Built Environment"
October 14, 2021

[IT3] FSE 150 (Grand Challenges in Engineering) Guest Lecture
"Creating a more Sustainable Built Environment"
July 25, 2017

[IT2] Women in Engineering
"How Did I Get Here? One Female Faculty Perspective"
April 4, 2017

[IT1] ASU International Women's Day Panelist
ASU Celebration of Women's Day
March 20, 2017

INVITED CONFERENCE PRESENTATIONS, INCLUDING STUDENTS

[IC22] Building Transformations Conference
Tempe, AZ
"*Attracting the Next Generation of Talent to the AEC Industry"*
May 30, 2024

[IC21] 2023 ASCE INSPIRE Conference
Washington, DC.
"Advancing Sustainability through the AEI Build Communities"
November 16, 2023

[IC20] 2023 Construction In Indian Country (CIIC) Conference
Chandler, AZ
"*Federal Funding Opportunities: Best Practices and ASU Partnership Opportunities*"
November 9, 2023

[IC19] 2023 ASCE Architectural Engineering Institute Conference
Denver, CO
"Towards a Biomimetic Investigation of the Innovation Systems in the Cement and Concrete Industry"
April 13, 2023

[IC18] 2023 CIRTL Conference
Denver, CO
"The Role of Learning Communities in Advancing Inclusive Teaching"
April 12, 2023

[IC17] 2022 CoNECD Conference
New Orleans, LA
"*Creating and Sustaining Inclusive Classroom Environments in Engineering*"
February 20-23, 2022

[IC16] 2021 CURT/CII Conference
Orlando, FL
"Safely Re-occupying buildings during the COVID pandemic"
August 2-4, 2021

[IC15] 2021 ASHRAE Summer Meeting
Virtual Conference
"A Novel Approach for Selecting a PCM for a Building Energy Retrofit"
June 26-30, 2021

[IC14] 2020 ASHRAE Summer Meeting
Virtual Conference
"Using Bio PCM as Sensible Heat Storage in a Hot Arid Climate: A Case Study"
July 18, 2020

[IC13] 2019 Engineering Education & Centers (EEC) Grantees Conference
Crystal City, VA
"Native American Attainment in Engineering Education: The Role of Universities"
October 21-23, 2019

[IC12] 2017 Joint Conference of the ISIE and ISSST Poster Session
Chicago, IL
"Small Commercial's Big Problem: Disaggregating Whole Building Energy Bills"
June 26-28, 2017

[IC11] Construction Industry Institute Annual Conference
National Harbor, MD
"Research Team 314a – Developing a PDRI for Small Infrastructure Projects"
August 1-3, 2016

[IC10] 12th Annual Construction in Indian Country (CIIC) Conference
Chandler, AZ
"A Survey to Better Understand the Status of Tribal Housing"
April 26, 2016

[IC9] Construction Industry Institute Annual Conference
Boston, MA
"Research Team 314 – Developing a PDRI for Small Industrial Projects"
August 3, 2015

[IC8] 11th Annual Construction in Indian Country (CIIC) Conference
Scottsdale, AZ
"Efficiency Opportunities in Tribal Housing"
April 22, 2015

[IC7] International Group for Lean Construction Annual Conference
Oslo, Norway
"Planning for Small Construction Projects in the Industrial Sector"
(Presented by Wes Collins; PhD Student)
June 26, 2014

[IC6] Institute of Industrial Engineers Annual Conference & Expo 2014
Montreal, Canada
"Assessing the Relationship between Human Comfort and Student Engagement"
(Presented by Kathleen Duggan; student researcher)
June 1, 2014

[IC5] 10th Annual Construction in Indian Country (CIIC) Conference
Chandler, AZ
"CATCH: Comprehensive Assessment of Tribal and Community Housing"
April 30, 2014

[IC4] 63rd Arizona Conference on Roads and Streets
Tucson, AZ
"Achieving Sustainability through Good Design Practice"
April 17, 2014

[IC3] Construction Engineering Conference
Seattle, WA
"Life-Cycle Assessment for Construction of Sustainable Infrastructure"
March 27, 2014

[IC2] 9th Annual Construction in Indian Country (CIIC) Conference
Chandler, AZ
"Leveraging ASU's Resources to Promote Service Learning"
April 30, 2013

[IC1] Association of Public and Land-grant Universities Annual Conference
"*Deep Energy Retrofits on College Campuses*"
San Francisco, CA, APLU Energy Forum
November 14, 2011

PEER-REVIEWED CONFERENCE PRESENTATIONS, INCLUDING STUDENTS

[PR6] 2024 CoNECD Conference
Washington, D.C.
"*Establishing and Sustaining Inclusive Learning Communities for Supporting Faculty Creating More Inclusive Engineering Classrooms*"
February 25-27, 2024

[PR5] 2022 CoNECD Conference
New Orleans, LA
"*Creating and Sustaining Inclusive Classroom Environments in Engineering*"
February 20-23, 2022

[PR4] 2021 CURT/CII Conference
Orlando, FL
"Safely Re-occupying buildings during the COVID pandemic"
August 2-4, 2021

[PR3] Construction Industry Institute Annual Conference
National Harbor, MD
"Research Team 314a – Developing a PDRI for Small Infrastructure Projects"
August 1-3, 2016

[PR2] Construction Industry Institute Annual Conference
Boston, MA
"Research Team 314 – Developing a PDRI for Small Industrial Projects"
August 3, 2015

[PR1] Association of Public and Land-grant Universities Annual Conference
"*Deep Energy Retrofits on College Campuses*"
San Francisco, CA, APLU Energy Forum
November 14, 2011

PROFESSIONAL ACTIVITIES AND SERVICE

Summary of Professional Activities and Service

Associate Editor for Peer-Reviewed Journals:	**1**
International/National Conferences Chaired:	**2**
International/National Conference Committees:	**6**
International/National Conference Sessions Organized:	**3**
International/National Conference Sessions Chaired:	**16**
Member of Editorial Board:	**1**
Peer Reviewer for Journals:	**13**
Proposal Review Service for Funding Agencies:	**4**
ASU-level Committees:	**2**
Ira A. Fulton Schools of Engineering-level Committees:	**4**
Unit-level Committees:	**7**
Chair of Faculty Search Committee:	**1**

EDITORIAL BOARD POSITIONS

1. Associate Editor, ASCE Journal of Architectural Engineering 2019-present

2. Guest Editor, Sustainable Cities and Society 2016

INTERNATIONAL CONFERENCE CHAIRPERSONSHIPS

1. Technical Co-Chair, ASCE Architectural Engineering Institute AEI Conference 2023
2. Chair, International Conf. on Sustainable Design, Engineering, and Construction 2016

INTERNATIONAL CONFERENCE COMMITTEES

1. Technical Committee, Int'l. Group for Lean Constr. Annual Conf. 2023-present
2. Organizing Committee, ASCE Architectural Engineering Inst. Conference 2021-2023
3. Organizing Committee, Construction Research Congress 2020 2019-2020
4. Organizing Committee, Engineering Sustainability Conference 2017-2019
5. Social Organizer, Int'l Symposium on Sustainable Systems and Technology 2013
6. Referee, Annual Conf. of the International Group for Lean Construction 2009-2022

INTERNATIONAL CONFERENCE SESSIONS ORGANIZED

1. Panel Leader, Workforce Development, ACEEE 2024 2024
2. Chair, Applications to Interviews Workshop, CRC 2020 2020
3. Co-Chair, Int'l Group for Lean Construction PhD School 2014

INTERNATIONAL CONFERENCE SESSIONS CHAIRED

1. Track Chair, 32nd Annual Conf. of the International Group for Lean Construction 2024
2. Chair, Construction Workforce & Education Track, CRC 2024
3. Track Chair, 31st Annual Conf. of the International Group for Lean Construction 2023
4. Chair, CII Track at CRC and CSCE Conferences 2016-2018
5. Panel Leader, ACEEE Summer Study on Buildings bi-annually 2014-2024
6. Michael Horman Symposium Co-Chair, Engineering Sustainability Conference 2015,'17

7. Session Moderator, Construction Education Track, CRC 2014

8. Session Chair, 20th Annual Conf. of the International Group for Lean Construction 2012

JOURNAL PEER REVIEWER

1. *Buildings* (3 Reviews) 2023-present
2. *Journal of Educational Psychology* (1 Review) 2023-present
3. *Energies* (5 Reviews) 2021-present
4. *Journal of Cleaner Production* (2 Reviews) 2019-present
5. *Applied Energy* (2 Reviews) 2020-present
6. *Journal of Management in Engineering* (7 Reviews) 2016-present
7. *Energy Efficiency* (6 Reviews) 2015-present
8. *Building and Environment* (2 Reviews) 2015-present
9. *Energy and Buildings* (4 Reviews) 2014-present
10. *Journal of Architectural Engineering* (6 Reviews) 2014-present
11. *Built Environment Project and Asset Management Information* (2 Reviews) 2014-present
12. *Journal of Construction Engineering and Management* (9 Reviews) 2013-present
13. *Journal of Civil Engineering Education* (8 Reviews) 2013-present

PROPOSAL REVIEW SERVICES

1. University of Pittsburgh Mascaro Center for Sustainability 2023, 2024
2. Department of Energy Reviewer (2 FOAs) 2023, 2024
3. USAID Reviewer (1 panel) 2020
4. National Science Foundation Reviewer (5 panels) 2013, 2018, 2023

COMMITTEE MEMBERSHIPS

ASU-LEVEL COMMITTEES

1. SEA Change, Engineering Liaison 2023-present
2. General Studies Council, Arizona State University 2016-2021

IRA A. FULTON SCHOOLS OF ENGINEERING COMMITTEES

1. SRP Research Liaison, Non-Electrical Engineering Research 2021-present
2. FSE IFAC, **Chair** 2022-2024
3. FSE Diversity, Inclusion, Equity, and Belonging Advisory Council (IFAC) 2021-present
4. Diversity & Inclusion Initiative @FSE 2018-2020

UNIT LEVEL COMMITTEES

1. DEWSC Faculty Search Committee **Chair** (position 135708) 2024
2. SSEBE Advisory Council 2019-2021
3. DEWSC Scholarship Committee 2018-2022
4. SSEBE Search Committee (3 positions) 2015, 2017, 2022
5. Quality Assessment Committee, Del E. Webb School of Construction 2015-present
6. DEWSC Academic Affairs Committee 2012-3, 2023
7. DEWSC Faculty Search Committee (6 positions) 2012, 2013, 2019, 2020, 2021, 2024

PROFESSIONAL COMMITTEES

1. Parks & Recreation Commission Chair, City of Scottsdale 2023-present
2. Architectural Engineering Institute, ASCE 2020-present
3. Academic Advisor, Facilities and Healthcare Comm., Constr. Ind. Inst. 2019-2023
4. NSF National Visiting Committee Chairperson, Laney BEST Center 2013- present

STUDENT ORGANIZATION ADVISING

1. Faculty Advisor, Advancing Women in Construction — 2018-present
2. Mentor, Fulton Undergraduate Research Initiative — 2013 - present
3. Faculty Advisor, ASUNM Solar Decathlon Team — 2012-3
4. Faculty Co-Advisor, Engineers Without Borders — 2013-2015
5. E2 Camp Volunteer — 2012-5; 2022-present

PROFESSIONAL MEMBERSHIPS

1. Advancing Women in Construction — 2012 - present
2. American Society of Engineering Education — 2012 - present
3. Society of Women Engineers — 2010 - present
4. American Society of Civil Engineers — 2003 - present
5. Structural Engineers Association of Northern California — 2005 - 2010

PERSONNEL: STUDENT SUPERVISION/MENTORING, DISSERTATION COMMITTEES, RESEARCHERS, AND OUTREACH

Summary of Mentoring

Mentored Personnel in US Academia (Tenure-Track Positions):	**7**
Postdoctoral Researchers:	**4**
PhD Students Graduated:	**7**
PhD Students Current:	**4**
MS Thesis Students Graduated:	**3**
Undergraduate Students (Research) – includes primary & committee advising:	**15**
High School Students (Research):	**2**
Student Fellowships and Awards:	**4**

MENTORED PERSONNEL IN US ACADEMIA

1. Andrew Kline, Ph.D., Construction Management
   Arizona State University
   Thesis: *Augmented and Virtual Reality to Support Construction Education*
   May 2025
   Current Position: Assistant Professor, California Polytechnic State University

2. Joseph Cleary, Ph.D., Construction Management
   Arizona State University
   Thesis: *Data Driven Insights into Building Project Performance and Outcomes Through Advanced Data Analytics*
   August 2024
   Current Position: Assistant Professor, California Polytechnic State University

3. Vartenie Aramali, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Improving the Maturity and Environment of Earned Value Management Systems (EVMS) Leading to Enhanced Project and Program Management Integration and Performance*
   August 2022
   Current Position: Assistant Professor, California State University Northridge

4. Fernanda Cruz Rios Ford, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Beyond Recycling: Design for Disassembly, Reuse, and Circular Economy in the Built Environment*
   May 2018
   Current position: Assistant Professor, Drexel University

5. Hariharan Naganathan, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Energy Analytics for Infrastructure: An Application to Institutional Buildings*
   August 2017
   Current position: Assistant Professor, Wentworth Institute of Technology

6. Mohamed El Zomor, Ph.D., Construction Management
   Arizona State University
   Thesis: *Development and Deployment of the PDRI Tool for Small Infrastructure Projects*
   August 2017
   Current position: Associate Professor, Florida International University

7. Wesley Collins, Ph.D., Construction Management
   Arizona State University

Thesis: *PDRI Tool for Small Industrial Projects*
August 2015
Current Position: Associate Professor, Auburn University

POSTDOCTORAL RESEARCHERS

1. Fernanda Cruz Rios Ford — August 2018 – December 2019
2. Linda Tello — May 2017 – July 2018
3. Hariharan Naganathan — August 2017 – December 2017
4. Reza Arababadi — July 2016 - December 2016

PHD STUDENT ADVISING

CURRENT – PRIMARY ADVISOR

1. Benjamin Anton, Ph.D., Construction Management
   Arizona State University
   Thesis: *Promoting Outdoor Worker Safety in Extreme Heat*
   May 2027

2. Nathan LaMora, Ph.D., Construction Management
   Arizona State University
   Thesis: *TBD*
   December 2025

3. Sulaiman Alsultan, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Developing the Next Generation Frontline Supervisors*
   December 2025

4. Abdul Shaibh, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Exploring the Energy Impacts of Reduced Occupancy in Commercial Office Buildings Following the COVID-19 Pandemic*
   May 2025

CURRENT – COMMITTEE MEMBER

1. Brieanne Davis, Ph.D., Sustainability
   Arizona State University
   Thesis (working title): *Addressing the Air Conditioning Energy Burden in Low-Income Households in Maricopa County*
   May 2027

2. Eric Evans, Ph.D., Construction Management
   Arizona State University
   Thesis: TBD
   May 2027

3. Nicholas Heier, Ph.D., Built Environment
   Griffith University, Brisbane, Australia
   Thesis: *TBD*
   May 2027

4. Josiane Isingizwe, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *TBD*
   May 2026

5. Muhammad Baig, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *TBD*
   May 2026

6. Aipeng Shi, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *TBD*
   May 2026

7. Cody Jenkins, Ph.D., Chemical Engineering
   Arizona State University
   Thesis: *TBD*
   May 2026

8. Behshad Mohajer Iravanloo, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: TBD
   May 2025

9. Katrina Hinsberg, Ph.D., Construction Management
   Arizona State University
   Thesis: *TBD*
   December 2024

10. Andrew Kline, Ph.D., Construction Management
    Arizona State University
    Thesis: *TBD*

December 2024

11. Joseph Cleary, Ph.D., Construction Management
    Arizona State University
    Thesis: *Data Driven Insights into Building Project Performance and Outcomes Through Advanced Data Analytics*
    August 2024

12. Jessica Vaden, Ph.D., Civil and Environmental Engineering
    University of Pittsburg
    Thesis: *TBD*
    August 2024

GRADUATED – PRIMARY ADVISOR

1. Brianne Arviso, Ph.D. Construction Management & Technology
   Arizona State University
   Thesis: *Developing a Project Definition Rating Index (PDRI) for Tribal Building Projects*
   May 2022
   Current position: Project Manager, Arviso Construction, and Lecturer, University of New Mexico

2. Rachael Sherman, Ph.D. Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Assessing the Impact of Regulation on the Performance of Power and Pipeline Projects*
   August 2020
   Current position: Project Manager, OPower

3. Neda Askari, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Application of Phase Change Materials for Building Energy Retrofits in a Hot Arid Climate*
   May 2020
   Current position: Business Development Associate, Climatec

4. Rebekah Burke, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Early Design Decisions in Building Materials for Higher Performing Building*
   May 2018
   Current position: Sustainability Director, Clark Construction

5. Mohamed ElZomor, Ph.D., Construction Management
   Arizona State University

Thesis: *Development of the Project Definition Rating Index for Small Infrastructure Projects and its Application in the Classroom*
August 2017
Current position: Associate Professor, Florida International University

6. Reza Arababadi, Ph.D., Civil, Environmental, & Sustainable Engineering
Arizona State University
Thesis: *Operational and Technological Peak Load Shifting Strategies for Residential Buildings*
May 2016
Current position: Assistant Professor, Kerman Graduate University of Advanced Technology, Iran

7. Wesley Collins, Ph.D., Construction Management
Arizona State University
Thesis: *PDRI Tool for Small Industrial Projects*
August 2015
Current Position: Associate Professor, Auburn University

GRADUATED – COMMITTEE MEMBER

1. Rita El Kassis, Ph.D., Construction Management
Arizona State University
Thesis: *Virtual Reality for Highway Construction Applications in a State Department of Transportation*
December 2023

2. Yanan Zhang, Ph.D., Mechanical Engineering
Arizona State University
Thesis: *Liquid-Phase Thermochemical Reactions For Thermal Energy Transport and Storage*
December 2022

3. Vartenie Aramali, Ph.D. Civil, Environmental, & Sustainable Engineering
Arizona State University
Thesis: *Improving the Maturity and Environment of Earned Value Management Systems (EVMS) Leading to Enhanced Project and Program Management Integration and Performance*
August 2022

4. Alireza Samieadel, Ph.D., Civil, Environmental, and Sustainable Engineering
Arizona State University
Thesis: *Multi-scale Characterization of Bitumen Doped with Sustainable Modifiers*
May 2020

5. Salim Moslehi, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Sustainability Assessment of Community Scale Integrated Energy Systems: Conceptual Framework and Applications*
   August 2018

6. Fernanda Cruz Rios, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Beyond Recycling: Design for Disassembly, Reuse, and Circular Economy in the Built Environment*
   May 2018

7. Virginia Counts, Ph.D., Civil, Environmental, & Sustainable Engineering
   Co-advised with Dr. Brad Allenby
   Arizona State University
   Thesis: *Electronic Communication for Professionals – Challenges and Opportunities*
   May 2018

8. Kevin Ketchman, PhD in Civil Engineering
   University of Pittsburgh
   Thesis: *Utilizing the Interconnectivity of Multi-Sector Communities for Innovative Building Energy Efficiency Methods*
   December 2017

9. Hariharan Naganathan, Ph.D., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Energy Analytics for Infrastructure: An Application to Institutional Buildings*
   August 2017

10. Claire Antaya-Dancz, PhD in Civil, Environmental, and Sustainable Engineering
    Arizona State University
    Thesis: *Integrating Sustainability Grand Challenges and Active, Experiential Learning into Undergraduate Engineering Education*
    August 2016

11. Roberta Bosfield, PhD in Construction Management
    Arizona State University
    Thesis: *Feasibility of an Open Source Repository for Increasing the Usage of Best Practices in the Architecture-Engineering-Construction Industry*
    December 2014

MASTERS STUDENT ADVISING

GRADUATED – PRIMARY ADVISOR

1. Nicholas Heier, M.S., Construction Management & Technology
   Arizona State University
   Thesis: *Towards a biomimetic investigation of the innovation systems in the cement industry*
   December 2022

2. Mohamed Sabek, M.S., Construction Management & Technology
   Arizona State University
   Thesis: *A Performance Study of Different Deep Learning Architectures for Detecting Construction Equipment in Sites*
   May 2022

3. Menna Hammam, M.S., Construction Management
   Arizona State University
   Thesis: *A New Look at Designing Electrical Construction Processes: A Case Study of Cable Pulling and Termination Processes on Data Center Construction Sites*
   May 2020

GRADUATED – COMMITTEE MEMBER

1. Sara ElGamal, MS in Construction Management
   Thesis: *Benefits of Virtual Reality Environments for Construction Education*
   Arizona State University
   August 2023

2. Meghana Singaraju
   Arizona State University
   Thesis: *Energy Efficient Buildings in Hot Arid climates: Micro Campus Design for San Carlos Community College*
   December 2022

3. Rita El Kassis, MS in Construction Management
   Thesis: *Augmented Reality Communication in Construction Factors Present in Uncontrolled Environment*
   Arizona State University
   May 2021

4. Spencer Hawkins, MS in Construction Management
   Arizona State University

Thesis: *A Qualitative Study of EMaaS Performance in California Schools*
May 2020

5. Aparna Perikamana, MS in Construction Management
   Arizona State University
   Thesis: *Assessing the Impact of BIM Process Mapping Activities In Construction Education*
   May 2017

UNDERGRADUATE STUDENT RESEARCH ADVISING

GRADUATED – PRIMARY ADVISOR

1. Gary Taylor B.S., Construction Engineering
   Arizona State University
   Thesis: *Imagineering and Construction*
   December 2020

2. Juliana Vasquez B.S., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *The Plastic Problem*
   May 2018

3. Natasha Hebel B.S., Construction Management
   Arizona State University
   Thesis: *BIM Applications for Facilities Management*
   May 2017

4. Hannah Hansen B.S., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Integration Case Studies for Improved Hospital Construction Projects*
   May 2017

5. Kelsey Maris, B.S., Construction Management
   Arizona State University
   Thesis: *The Confluence of Lean and Green Construction*
   May 2015

6. James R Nelson, B.S., Mechanical Engineering
   Arizona State University
   Project: *Effects of Energy Storage on an Arizona Residential Solar Energy System's ROI*
   May 2015

7. Kathleen Duggan, B.S., Industrial Engineering
   Arizona State University
   Thesis: *Building Better Engagement – An Approach To Improving Student Engagement in Higher Education Environments*
   May 2014

8. Jason Babbel, B.S., Mechanical Engineering
   Arizona State University
   Project: *The Pulse of Buildings: Weather-Independent Energy Efficiency Analysis*
   May 2014

9. Skyler Holloway, B.S., Construction Management
   Arizona State University
   Thesis: *The Contractor's Self-Perceived Role in Sustainable Construction*
   May 2013

GRADUATED – COMMITTEE MEMBER

1. Peyton Filler, B.S., Mechanical Engineering
   Arizona State University
   Thesis: *Economically Conscious Energy Efficiency Methods*
   May 2022

2. Mecah Levy, B.S., Construction Management
   Arizona State University
   Thesis: *Exploring Different Aspects of Construction of Phoenix Sky Harbor Sky Train Expansion*
   May 2020

3. Brooke Ridley, B.S., Civil, Environmental, & Sustainable Engineering
   Arizona State University
   Thesis: *Engineering The Environment: Comparison Of The Aral Sea And Florida Everglades To Determine Effective Sustainable Engineering Approaches And Earth Systems Engineering And Management*
   May 2016

4. Kaleigh Campbell
   Arizona State University
   Thesis: *The LEED Rating System and the International Green Construction Code: A Comparative Analysis of Green Building Design Approaches*
   May 2016

5. Pimwadee Limsirichai, B.S. in Materials Science and Engineering
   Arizona State University
   Thesis: *Under the Camper Shell*
   December 2014

6. Hayley Magerman, B.A. in Business Administration
   Arizona State University
   Thesis: *Marketing Strategy Analyses for Residential Photovoltaic Module Providers*
   May 2013

HIGH SCHOOL STUDENT RESEARCH ADVISING

Name	School	Semester
1. Nivid Singhania	Hamilton High School	Spring 2024
2. Aku Baral	Xavier High School	Spring 2024

STUDENT FELLOWSHIPS AND AWARDS

1. Benjamin Anton, Ph.D., Construction Management, May 2027, **Salt River Pima Maricopa Indian Community Scholarship**

2. Nicholas Heier, M.S., Construction Management and Technology, *Dec 2022,* **American Australian Association Veteran's Fellowship**

3. Rebekah Burke, Ph.D. Civil, Environmental, & Sustainable Engineering, *May 2018*, **National Science Foundation Graduate Research Fellowship Program Award**

4. Wes Collins, Ph.D. Construction Management, *August 2015*, **Arizona State University Dean's Fellowship**

TEACHING

Summary of Teaching

Undergraduate Courses Taught:	**20**
Graduate Courses Taught, including New Course Development:	**28**
Average Teaching Evaluation Score for Undergraduate Courses at ASU:	**4.77**
Average Teaching Evaluation Score for Graduate Courses at ASU:	**4.65**

UNDERGRADUATE COURSES TAUGHT

Semester	Course	Student Credit Hours	Course Title	No. of Students	Average Score* (Instructor)	Average Score* (Course)
Fall 2023	CON 101	3	Construction & Culture: A Built Environment	195	4.87	4.73
Fall 2022	CON 101	3	Construction & Culture: A Built Environment	118	4.81	4.66
Fall 2021	CON 101	3	Construction & Culture: A Built Environment	434	4.84	4.63
Fall 2020	CON 101	3	Construction & Culture: A Built Environment	212	4.84	4.76
Spring 2020	CON 252	3	Construction Materials, Methods, and Equipment	37	4.74	4.72
Fall 2019	CON 101	3	Construction & Culture: A Built Environment	187	4.79	4.52
Spring 2019	CON 252	3	Construction Materials, Methods, and Equipment	38	4.84	4.73
Fall 2018	CON 100	3	Introduction to Construction	40	4.65	4.64
Spring 2018	CON 252	3	Construction Materials, Methods, and Equipment	40	4.92	4.67
Spring 2017	CON 252	3	Construction Materials, Methods, and Equipment	40	4.78	4.46
Fall 2016	CON 101	3	Construction & Culture: A Built Environment	70	4.87	4.64
Spring 2016	CON 252	3	Construction Materials, Methods, and Equipment	23	4.64	4.46
Fall 2015	CON 101	3	Construction & Culture: A Built Environment	64	4.82	4.59

Semester	Course	Student Credit Hours	Course Title	No. of Students	Average Score* (Instructor)	Average Score* (Course)
Spring 2015	CON 252	3	Construction Materials, Methods, and Equipment	74	4.78	4.47
Fall 2014	CON 101	3	Construction & Culture: A Built Environment	82	4.85	4.63
Spring 2014	CON 252	3	Construction Materials, Methods, and Equipment	42	4.76	4.53
Fall 2013	CON 252	3	Construction Materials, Methods, and Equipment	56	4.33	4.41
Spring 2013	CON 252	3	Construction Materials, Methods, and Equipment	38	4.66	4.3
Fall 2012	CON 252	3	Construction Materials, Methods, and Equipment	37	4.77	4.47
Spring 2010	CE 167	4	Engineering Project Management	71	6.2** (SD: .9)	5.9** (SD: 1.2)

*Scale out of 5; 5 being the most effective; **Scale out of 7; 7 being the most effective

Construction 100 (CON 100), Introduction to Construction Fall 2018
Arizona State University

Lower division undergraduate course covering the fundamentals of construction project management; developed one midterm exam and one midterm project; developed a final report and presentation assignment; graded and reviewed all assignments; maintained course website.

Construction 101 (CON 101), Construction and Culture:
A Built Environment Fall 2014, 2015, 2016
Arizona State University

Lower division undergraduate course covering the origins of the construction industry and the history of building construction; developed two midterm exams, a final report, and a final project; graded and reviewed final reports and papers; managed a graduate assistant who posted and graded reading quizzes and graded exams.

Construction 252 (CON 252), Construction Materials, Methods, and Equipment Fall 2012 - present
Arizona State University

Lower division undergraduate course covering elements of building construction, from foundations to roofs; developed a midterm exam and final project; arranged for field trips to local construction sites; managed two assistants who posted, graded, and returned homework assignments, exams, and reports to students within reasonable time limits.

Civil Engineering 167 (CE 167), Engineering Project Management Spring 2010
University of California Berkeley

Upper division undergraduate course covering engineering economics, construction law, and project management; developed two midterms and one final exam; arranged for field trips to local construction sites; managed two graduate assistants who posted, graded, and returned homework assignments, exams, and reports to students within reasonable time limits.

GRADUATE COURSES TAUGHT

Semester	Course	Student Credit Hours	Course Title	No. of Students	Average Score* (Instructor)	Average Score* (Course)
Spring 2024	RED 513	3	Advanced Engineering and Construction for Real Estate Development	32	6.8**	6.4**
Fall 2023	RED 508	3	Real Estate Engineering and Construction	32	6.7**	6.4**
Fall 2023	CON 534	3	Retrofit Construction	52	4.91	4.78
Summer 2023	CON 534	3	Retrofit Construction (*Online*)	27	4.26	4.4
Spring 2023	RED 513	3	Advanced Engineering and Construction for Real Estate Development	21	6.4**	6.5**
Spring 2023	CON 534	3	Retrofit Construction	56	4.78	4.71
Fall 2022	RED 508	3	Real Estate Engineering and Construction	21	6.8**	6.5**
Fall 2022	CON 534	3	Retrofit Construction	60	4.65	4.42

Semester	Course	Student Credit Hours	Course Title	No. of Students	Average Score* (Instructor)	Average Score* (Course)
Summer 2022	CON 534	3	Retrofit Construction (*Online*)	23	4.6	4.42
Fall 2021	RED 508	3	Real Estate Engineering and Construction	21	6.7**	6.5**
Fall 2021	CON 534	3	Retrofit Construction (*Online*)	7	4.44	4.32
Summer 2021	CON 598	3	Retrofit Construction (*Online*)	7	3.44	3.43
Spring 2021	RED 513	3	Advanced Engineering and Construction for Real Estate Development	26	6.9**	6.7**
Fall 2020	RED 508	3	Real Estate Engineering and Construction	26	6.6**	6.7**
Fall 2020	CON 598	3	Retrofit Construction	4	5	5
Summer 2020	CON 598	3	Retrofit Construction (*Online*)	15	4.62	4.36
Spring 2020	RED 513	3	Advanced Engineering and Construction for Real Estate Development	31	5	6.7**
Fall 2019	RED 508	3	Real Estate Engineering and Construction	31	6.9**	6.4**
Fall 2019	CON 598	3	Retrofit Construction	15	4.68	4.45
Summer 2019	CON 598	3	Retrofit Construction (*Online*)	19	4.47	4.46
Fall 2018	CON 598	3	Retrofit Construction	15	4.65	4.69
Summer 2018	CON 598	3	Retrofit Construction (*Online*)	4	4.59	4.4
Fall 2017	CON 598	3	Retrofit Construction	5	5	4.89
Fall 2016	CON 598	3	Retrofit Construction	9	4.46	4.3
Fall 2015	CON 598	3	Retrofit Construction	15	4.36	4.32
Fall 2014	CON 598	3	Retrofit Construction	9	4.43	4.33

Semester	Course	Student Credit Hours	Course Title	No. of Students	Average Score* (Instructor)	Average Score* (Course)
Spring 2014	CON 591	1	Construction Graduate Student Seminar	6	4.39	3.33
Fall 2013	CON 591	1	Construction Graduate Student Seminar	7	4.96	4.93

*Scale out of 5; 5 being the most effective

NEW COURSES DEVELOPED

Construction 534 (originally CON 598), Retrofit Construction Fall 2014-2023
Arizona State University

Graduate course focusing on retrofit projects, including structural, mechanical, and energy systems in historic and non-historic commercial buildings; developed presentation rubrics for student and instructor evaluations; developed course homeworks, reading quizzes, research paper and final project assignments.

Construction 591 (CON 591), Construction Graduate Student Seminar Fall 2013 - Spr 2014
Arizona State University

Graduate course focusing on verbal and written communication of technical topics; arranged for student and industry presentations; developed presentation rubrics for student and instructor evaluations; co-taught with colleague Dr. Mounir El Asmar.

TEACHING AWARDS

ASCE Outstanding Architectural Engineering Educator Award 2023

Fulton Schools of Engineering Top 5%Teaching Award 2015, 2016, 2017, 2021

Outstanding Graduate Student Instructor Award, UC Berkeley 2008

RESEARCH SUPPORT

Summary of Research Support

Prof. Parrish's Share (Recognition) of the Total Award Amount Received at ASU as PI or co-PI as of 5/22/2024:	**$3,011,378**
Prof. Parrish's Share (Recognition) in All Awards as PI or co-PI:	**$15,298,392**
Prof. Parrish's Share (Recognition) of Research Expenditures as of 5/22/2024:	**$1,769,768**
Total Amount of All Awards in which Prof. Parrish is the PI:	**$12,125,346**
Total Amount of all Awards in which Prof. Parrish is the PI or co-PI:	**$84,494,332**
Total Amount of all Pending Proposals in which Professor Parrish is the PI or Co-PI:	**$27,293,994**

ANNUAL RESEARCH SUMMARY BY FISCAL YEAR (PARRISH RECOGNITION ONLY)

From ASU Faculty Sponsored Activity Report (As of 5/22/2024)

Fiscal Year	Parrish Proposed	Parrish Awarded	Parrish Expenditures
2024	$8,034,011	$1,506,436	$475,430
2023	$8,518,817	$162,726	$110,295
2022	$230,062	$77,989	$89,072
2021	$707,248	$54,521	$12,116
2020	$1,304,208	$120,570	$167,253
2019	$728,512	$211,630	$122,923
2018	$661,830	$469	$176,471
2017	$825,305	$69,128	$236,353
2016	$2,852,703	$405,076	$172,431
2015	$578,065	$67,130	$148,563
2014	$1,109,986	$330,703	$58,859
2013	$671,683	$5,000	$0
2012	$9,978	$0	$0
TOTAL:	**$26,232,408**	**$3,011,378**	**$1,769,768**

SPONSORED RESEARCH AWARDS

Sponsor	Title	Role	Performance Period	Total	Recognition
DOE	Hopi Community Solar Project*	PI	7/24-6/29	$9,114,066	$6,379,846
US Dept. of Interior	Hopi Electrifying Tribal Communities*	Co-PI	7/24-6/27	$2,047,789	$307,168
SRP	SRP JRP Master	PI	7/23-6/24	$52,945	$18,001
CII	Developing the Next Generation of Frontline Supervisors	PI	9/23-8/25	$256,585	$128,293
DOE**	Electrified Processes for Industry without Carbon (EPIXC) Institute**	Co-PI	10/23 - 9/28	$69,630,000	$6,963,000
SRP	SRP JRP Master	PI	7/22-6/23	$37,428	$12,726

Sponsor	Title	Role	Performance Period	Total	Recognition
Willmeng Construction	STC EXTREME: Maintaining Construction Worker Safety in the Face of Extreme Heat: A Needs Assessment	PI	7/23 - 6/25	$80,000	$80,000
SRP	FY 21 SRP/ASU Cooperative Agreement (Project Title: Scaling up a Connected Communities Program)	PI	8/22-7/23	$70,000	$70,000
CII	COVID 19 – Facilities Design, Construction, and Operational Reopening Best Practices	PI	10/21-6/22	$14,353	$14,353

Sponsor	Title	Role	Performance Period	Total	Recognition
SRP	FY 21 SRP/ASU Cooperative Agreement (Project Title: Developing a Tool to Quickly Assess a Customer's Readiness for Participation in a Connected Communities Program)	PI	8/21-7/22	$63,636	$63,636
NSF (Innovations in Undergraduate STEM Education)	Collaborative Research: PIPE: Proven Inclusivity Practices for Engineering	PI	1/21-12/23	$54,521	$54,521
NSF (INCLUDES)	NSF INCLUDES Planning Grant: Developing a Shared Vision for Engaging Persons with Disabilities in Science and Engineering	PI	9/20-12/21	$100,000	$60,000

Sponsor	Title	Role	Performance Period	Total	Recognition
SRP	Cooperative Agreement JRP	PI	7/19-6/20	$104,215	$11,061
NSF	Workshop: Applications to Interviews: Preparing for the Faculty Job Market	PI	8/19-7/20	$47,355	$47,355
SRP	Cooperative Agreement JRP	PI	7/18-6/19	$85,846	$11,160
SRP	FY 20 SRP/ASU Cooperative Agreement (Project Title: Developing & Assessing Packages of Residential Energy Efficiency Measures for Reducing Peak Loads in SRP Territory)	PI	8/19-8/20	$66,116	$66,116

Sponsor	Title	Role	Performance Period	Total	Recognition
SRP	FY 19 SRP/ASU Cooperative Agreement (Project Title: Developing a Decision Support Tool for Retrofit of Generation Facilities within SRP's Portfolio)	PI	7/18-8/19	$61,475	$61,475
SRP	FY 19 SRP/ASU Cooperative Agreement (Project Title: Assessing the Reverse Demand Response Capabilities of Various Residential Technologies in SRP Territory)	PI	7/18-8/19	$62,179	$62,179
SRP	Cooperative Agreement JRP	PI	7/17-6/18	$3,608	$469
SRP	Cooperative Agreement JRP	PI	7/16-6/17	$82,391	$10,711

Sponsor	Title	Role	Performance Period	Total	Recognition
SRP	FY 18 SRP/ASU Cooperative Agreement (Project Title: Assessing the Effectiveness of the Viking Cold Solutions Energy Storage System for Load Shifting in SRP's Service Area)	PI	7/17-8/18	$54,765	$54,765
SRP	Cooperative Agreement JRP	PI	7/16-6/17	$68,000	$8,840
SRP	FY 17 SRP/ASU Cooperative Agreement (Project Title: Assessing the Effects of Various Precooling Strategies for Small Commercial Building Load Shifting in SRP's Service Area	PI	7/16-8/17	$53,449	$53,449

Sponsor	Title	Role	Performance Period	Total	Recognition
NSF (Broadening Participation in Engineering)	P^3: **P**roducing Native American **P**hDs and **P**rofessors in Engineering	PI	1/16-12/18	$337,651	$114,801
NSF (Dept. of Undergraduate Education)	Collaborative Research: Developing a Framework to better engage students in STEM via Game Design	PI	1/16-12/17	$176,183	$176,183
NSF (TUES)	NSF TUES 2: Integrating Sustainability Grand Challenges and Systems Thinking into Engineering Curriculum; DCL funds	PI	6/15 – 5/18	$26,222	$26,222

Sponsor	Title	Role	Performance Period	Total	Recognition
CII	Project Definition Rating Index Tool for Small Infrastructure Projects (supplemental funds to PDRI - Small Industrial Projects)	PI	9/15 – 10/16	$66,117	$36,364
City of Scottsdale	City of Scottsdale Energy Star Portfolio Manager Assessment	Co-I	8/14 - 1/15	$9,580	$3,161
SRP	FY 15 SRP/ASU Cooperative Agreement (Project Title: Project Title: Eliminating the Need for Residential Electric Storage by Coupling Precooling and Solar PVs)	PI	8/15-7/16	$415,368	$53,998

Sponsor	Title	Role	Performance Period	Total	Recognition
NSF (TUES)	NSF TUES 2: Integrating Sustainability Grand Challenges and Systems Thinking into Engineering Curriculum	Co-PI	6/13 – 5/15	$384,998	$23,100
CII	Project Definition Rating Index Tool for Small Industrial Projects	PI	10/13 – 10/15	$245,592	$135,076
SRP	FY14 SRP/ASU Cooperative Agreement (Project Title: Assessing the Effects of Various Precooling Strategies in Residential Bldg)	PI	8/13-7/14	$300,280	$57,053
DOE	Small Commercial 2030 District Program and Toolkit ($4M in total)	PI	9/13 – 8/15	$25,000	$25,000

Sponsor	Title	Role	Performance Period	Total	Recognition
NSF	TUES: Positioning Engineers for Urban Sustainability Transition Strategy Development	Co-PI	8/13-7/16	$196,619	$98,310
DOE	Solar Decathlon 2013	Co-I	1/12 - 8/13	$100,000	$10,000
TOTAL* **				**$84,494,332**	**$15,298,392**

* Indicates that award is in contracting phase; the amounts reflect the full expected award obligation
** Indicates that funds are released on an annual basis; the amounts in the table reflect the full amount to be awarded (i.e., expected award obligations)
*** Includes awards in negotiation/contracting phases and expected award obligations
NSF = National Science Foundation; DOE = Department of Energy; CII = Construction Industry Institute; SRP = Salt River Project

RESEARCH PROPOSALS CURRENTLY IN REVIEW (PENDING SUPPORT)

Sponsor	Title	Role	Performance Period	Total	Recognition
DOC: National Institute of Standards and Technology (NIST)	**ConCEIVE**: **Con**necting Manufacturing USA Institutes to **C**reate and Pilot a Replicable Framework for **E**ngaging an **I**nclusive and **V**ibrant **E**cosystem of Learners	PI	1/2024-12/2025	$1,293,994	$646,997
National Science Foundation (NSF)	Center: NSF Engineering Research Center for **S**teel and **C**ement Manufacturing **I**nnovations to **EN**able a Low **C**arbon **E**conomy (**SCIENCE**)	Co-PI	1/2025-12/2029	$26,000,000	$1,300,000
TOTAL Pending				**$27,293,994**	**$1,946,997**