CURRICULUM VITAE
for
MATTHEW R. HALLOWELL

President's Teaching Scholar
K. Stanton Lewis Professor
Dept. of Civil, Environmental, and Architectural Engineering
University of Colorado at Boulder
UCB 428
1111 Engineering Drive
Boulder, CO 80309-0428
(303) 704-8523
matthew.hallowell@colorado.edu

EDUCATION

Ph.D. (2008)	School of Civil and Construction Engineering, Oregon State University Construction Engineering and Management Program Minor: Occupational Safety and Health Dissertation: *A Formal Model of Construction Safety Risk Management* Advisor: Dr. John Gambatese, PE
M.S. (2005)	Department of Civil Engineering, Bucknell University Thesis: *Building Performance Engineering during Construction* Advisor: Dr. T. Michael Toole, PE
B.S. (2004)	Department of Civil Engineering, Bucknell University

ACADEMIC EXPERIENCE

Presidential Teaching Scholar (lifetime appointment)

2017-present	University of Colorado System

K. Stanton Lewis Professor

2021-present	Dept. of Civil, Environmental, and Architectural Engineering University of Colorado at Boulder

Professor	(Courtesy Appointment)
2014 – present	Dept. of Environmental and Occupational Health University of Colorado at Denver

Beavers Endowed Professor of Construction Engineering

2020-2021	Dept. of Civil, Environmental, and Architectural Engineering University of Colorado at Boulder

Beavers Endowed Associate Professor of Construction Engineering (tenured 2014)

2014-2020	Dept. of Civil, Environmental, and Architectural Engineering University of Colorado at Boulder

Associate Chair for Administration
2018-2020 Dept. of Civil, Environmental, and Architectural Engineering
University of Colorado at Boulder

Faculty Director for Civil Engineering
2016-2018 Dept. of Civil, Environmental, and Architectural Engineering
University of Colorado at Boulder

Director, President's Teaching and Learning Collaborative
2016-2020 University of Colorado at Boulder

Visiting Associate Professor (Honorary)
2016 School of Property and Construction, Property, and Project Management
Royal Melbourne Institute of Technology (RMIT)

Associate Chair for Graduate Education
2014-2015 Dept. of Civil, Environmental, and Architectural Engineering
University of Colorado at Boulder

Assistant Professor Dept. of Civil, Environmental, and Architectural Engineering
2008–2014 University of Colorado at Boulder

Teaching Assistant School of Civil and Construction Engineering
2007 – 2008 Oregon State University
Courses: Building Construction Management, Construction Contracts, Temporary Structural Analysis, Safety and Health Standards and Laws

Research Assistant School of Civil and Construction Engineering
2005 – 2008 Oregon State University
Topics: Construction Innovation, Alternatives to Liquidated Damages, Outsourcing Project Delivery, and Quality Assurance

Teaching Assistant Department of Civil Engineering
2004 – 2005 Bucknell University, Lewisburg, PA
Courses: Engineering project management and timber engineering

PROFESSIONAL EXPERIENCE

Executive Director Safety Function
2010 – present Louisville, CO
Founder and director of all services

President Modular Design Solutions
2005 – 2008 Corvallis, OR
President and Lead Engineer, Structural Engineering

Project Engineer Penn Lyon Homes
2004 – 2005 Selinsgrove, PA
Structural Engineer

Consultant 2004	Small Business Development Center Bucknell University, Lewisburg, PA Project: Experimental testing of a structural frame under dynamic loading
Project Engineer 2003	Pine Tree Engineering Bath, ME Role: Surveyor, draftsman, and highway designer
Laborer 2002	Fenderson-Howe Master Builders Falmouth, ME, 2002 Role: Carpenter and demolition laborer

PROFESSIONAL REGISTRATIONS
Eligible for Professional Engineering license (cir 2011)
Fundamentals of Engineering Certificate, Pennsylvania, May, 2004

MERIT-BASED AWARDS AND HONORS

Professional Achievement Awards
- Engineering News Record (ENR), "2021 Top News Maker" for work with the CSRA
- Edison Electric Institute Thomas F. Farrell Safety Leadership and Innovation Award (2021)
- K. Stanton Lewis Professorship (2021 to present)
- Beavers Endowed Professorship of Construction Engineering (2014-2021)
- National Science Foundation CAREER Award (2013)
- Engineering News Record (ENR) Mountain States Top 20 Under 40 (2013)
- Dean's Performance Award, College of Engineering and Applied Science (2011)

Research Awards
- Research Development Award, Dept of Civil, Environmental, and Architectural Engineering (2022)
- Journal Paper of the Year Award, *Journal of Construction Innovation* (2017)
- Best Paper Award, ARCOM Annual Conference (2017)
- Outstanding Researcher Award, Construction Industry Institute (2015)
- Best Paper Award, Construction Research Congress Annual Conference (2015)
- Best Paper Award, Construction Research Congress Annual Conference (2014)
- Young Researcher Award, Dept of Civil, Environmental, and Architectural Engineering (2013)
- Best Paper Award, *Journal of Safety, Health, and Environmental Research* (2012)
- Best Paper Award, International Council for Research and Innovation and Building Construction W099 Conference (2012)
- ASSE Academic Practice Specialty's top article of the year and featured in the ASSE *Best of the Best* publication for 2011 (across multiple journals)
- Best Paper Award, Engineering Project Organizations Conference (2012)
- Best Paper Award, Construction Research Congress Annual Conference (2005)

Teaching and Advising Awards
- Presidential Teaching Scholar (lifetime appointment), University of Colorado (2017)

- Charles Hutchinson Memorial Teaching Award, College of Engineering and Applied Science (2016)
- Outstanding Advisor Award, College of Engineering and Applied Science (2013)
- John and Mercedes Peebles Innovation in Education Award, College of Engineering and Applied Science (2012)
- American Society of Civil Engineering New Faculty Excellence in Teaching Award (2011)
- Selected as an American Society of Civil Engineering ExCEEd Teaching Mentor (2011, 2012)
- Teaching Award, University of Colorado Department of Civil, Architectural, and Environmental Engineering (2010)
- ASCE ExCEEd Teaching Fellowship (2009)

Service Awards

- University of Colorado Department of Civil, Architectural, and Environmental Engineering, Service Award (2020)
- Outstanding Reviewer Award, *ASCE Journal of Construction Engineering and Management* (2012)
- Outstanding Reviewer Award, *ASCE Journal of Construction Engineering and Management* (2011)
- Outstanding Reviewer Award, *ASCE Journal of Construction Engineering and Management* (2010)

PUBLICATIONS

Highlights:

- Peer-reviewed journal articles: >100
- h-factor: >50
- Citations: >10,000
- 8 best paper awards
- Summary statistics: (https://scholar.google.com/citations?user=qKn2a9EAAAAJ&hl=en)

PEER-REVIEWED JOURNAL ARTICLES PUBLISHED

* Current or Former Student Advisee

1. Sherratt, F., Szabo, E.*, **Hallowell, M.R.** (2024). "Seeking a scientific and pragmatic approach to safety culture in the North American construction industry." Safety Science, 181(1): 106658.
2. Bayona, A.*, **Hallowell, M.R.,** Bhandari, S. (2024). "The things that hurt people are not the same as the things that kill people: Key differences in the proximal causes of low- and high-severity construction injuries. *Journal of Construction Engineering and Management*, 150(8): 04024089.
3. **Hallowell, M.R.** and Erkal, E.D.O.* (2024). "Severity-based lagging indicator.: An alternative measure of safety performance." *Professional Safety Journal,* 69(4): 20-27.
4. **Hallowell, M.R.** and Spencer, C. (2024). "Safety Classification & Learning Model: Defining & Classifying Potential Serious Injuries & Fatalities." *Professional Safety Journal*, 69(2): 18-26.
5. Erkal, E.D.O.*, **Hallowell, M.R.,** Ghriss, A., Bhandari, S. (2024). "Predicting Serious Injury and Fatality Exposure Using Machine Learning in Construction Projects." *Journal of Construction Engineering and Management*, 150(3): 04023169.
6. Bayona, A.*, Bhandari, S., **Hallowell, M.R.,** Sherratt, F., Bailey, J. M., Upton, J. (2023). "What Is a Serious Injury? A Model for Defining Serious Injuries & Fatalities." *Professional Safety*, 68(09).
7. Thallapureddy, S*, Sherratt, F., **Hallowell, M.R.,** Bhandari, S. (2024). "Effective information collection in incident investigations: A systematic review and narrative synthesis." *Safety*

Science, 171: 106404.

8. Erkal, E.D.O.*, **Hallowell, M. R.,** and Bhandari, S. (2023). Formal evaluation of construction safety performance metrics and a case for a balanced approach. *Journal of Safety Research*. 86: 336–345.
9. Thallapureddy, S.*, Sherratt, F., Bhandari, S., **Hallowell, M.,** & Hansen, H. (2023). Exploring bias in incident investigations: An empirical examination using construction case studies. Journal of safety research, 86, 336-345.
10. Sherratt, F., Thallapureddy, S.*, Bhandari, S., Hansen, H.*, Harch, D.* and **Hallowell, M.R.** (2023). "The unintended consequences of no blame ideology for incident investigation in the US construction industry.", *Safety Science*, https://doi.org/10.1016/j.ssci.2023.106247
11. Erkal, E. D. O.*, and **Hallowell, M.** (2023). Moving Beyond TRIR: Measuring & Monitoring Safety Performance with High-Energy Control Assessments. *Professional Safety*, 68(05), 26-35.
12. Patil, K. R., Bhandari, S., Agrawal, A., Ayer, S. K., Perry, L. A., and **Hallowell, M. R.** (2023). Analysis of YouTube Comments to Inform the Design of Virtual Reality Training Simulations to Target Emotional Arousal. *Journal of Construction Engineering and Management*, 149(9), 04023077.
13. Hardison, D.*, **Hallowell, M.,** Littlejohn, R., Goodrum, P., & Bhandari, S. (2022). The influence of spatial cognition and variability of mental workload among construction hazard prevention through design tasks. *Safety Science*, 152, 105770.
14. Bhandari, S. and **Hallowell, M.R.** (2022). "Influence of safety climate on risk tolerance and risk-taking behavior: a cross-cultural examination." *Safety Science*, 146(1): 105559.
15. Bhandari, S., **Hallowell, M.R.,** Scheve, C., Upton, J., and Quashne, M. (2022). "Assessing the quality of safety-focused leadership engagements." *Professional Safety: Journal of the American Society of Safety Professionals*, 67(1): 22-28.
16. **Hallowell, M.R.** (2021). "Energy wheel: Art and science of energy-based hazard recognition." *Professional Safety: Journal of the American Society of Safety Professionals,* 66(12): 27-33.
17. Erkal, E.*, **Hallowell, M.R.,** Bhandari, S.* (2021). "Practical assessment of potential predictors of serious injuries and fatalities in construction." *Journal of Construction Engineering and Management*, 147(10): 04021129.
18. Bhandari, S.* and **Hallowell, M.R.** (2021). "Identifying and controlling bias in expert opinion research: Guidelines for variations of Delphi, Nominal Group Technique, and Focus Groups." *Journal of Management in Engineering,* 37(3): 04021015.
19. **Hallowell, M.R.,** Salas, R.*, Quashne, M., Jones, M., MacLean, B., Quinn, E. (2021). "The Statistical invalidity of TRIR as a measure of safety performance." *Professional Safety: Journal of the American Society of Safety Professionals*, 66(4): 28-34.
20. Welfare, K.*, **Hallowell, M.R.,** Sherratt, F. (2021). "Perceptions of construction work: Views to consider to improve employee recruitment and retention." *Journal of Construction Engineering and Management*, 147(7): 04021053.
21. Bhandari, S*, **Hallowell, M.R.,** Alruqi. W.*, Salas, R. (2021). "Modeling the relationship between personal risk tolerance, work-related risk tolerance, and risk-taking behavior of construction workers." *Journal of Construction Engineering and Management*, 147(4): 04021016.
22. Baker, H.*, **Hallowell, M.R.**, and Tixier, A.J.P.* (2020). "AI-based predictions of independent safety outcomes from universal attributes." *Automation in Construction,* 118:103146.
23. Bhandari, S.*, **Hallowell, M.R.**, Van Boven. L., Golparvar-Fard, M., Welker, K., and Gruber, J. (2020). "Using augmented virutality to examine how emotions influence hazard identification performance, risk assessment, and safety decisions." *Journal of Construction Engineering and Management*, 146(2): 04019102.
24. Baker, H.*, **Hallowell, M.R.**, and Tixier, A.J.P.* (2020). "Automatically learning construction injury precursors from text." *Automation in Construction,* 118:103145.

25. Tymvios, N., Hardison, D.*, Behm, M., **Hallowell, M.R.,** Gambatese, J. (2020). "Revisiting Lorent and Szymberski: Evaluating how research in Prevention through Design is interpreted and cited." *Safety Science*, 131:104927.
26. Salas, R.*, **Hallowell, M.R.**, Rajagopalan, B., and Bhandari, S.* (2020). "Safety risk tolerance in the construction industry: Cross cultural analysis." *Journal of Construction engineering and Management*, 164(4): 04020022.
27. Arneson, E.*, Javernick-Will, A., **Hallowell, M.R.**, Corotis, R. (2020). "Predicting post-disaster residential housing reconstruction based on market resources." *Natural Hazards Review*, 21(1): 04019010.
28. Hardison, D.* and **Hallowell, M.R.** (2020). "Does the format of design information affect hazard recognition performance in construction hazard prevention through design reviews? *Safety Science*, 121: 191-200.
29. **Hallowell, M.R.**, Bhandari, S.*, and Alruqi, W.* (2020). "Predictive safety: Analysis and integration of risk assessment, leading indicators, precursor analysis, and safety climate." *Construction Management and Economics*, 38(4): 308-321.
30. Hardison, D.*, **Hallowell, M.R.** (2019). "Construction hazard prevention through design: Review of theory and empirical research agenda." *Safety Science*, 120: 517-526.
31. Bhandari, S.*, **Hallowell, M.R.**, Joshua Correll (2019). "Making construction safety training interesting: Field-based quasi-experiment to test the relationship between emotional arousal and situational interest among adult learners." *Safety Science*, 117: 58-70.
32. Techera, U.*, **Hallowell, M.R.,** Littlejohn, R. (2019). "Worker fatigue in electrical-transmission and distribution-line construction." *Journal of Construction Engineering and Management*, 145(1): 04018119-1 to 04018119-9.
33. Alruqi, W.*, **Hallowell, M.R.** (2019). "Critical success factors for construction safety: Review and meta-analysis of leading indicators." *Journal of Construction Engineering and Management* 145(3): 04019005-1 to 04019005-11.
34. Alruqi, W.*, **Hallowell, M.R.,** Techera, U.* (2018). "Safety climate dimensions and their relationships to safety performance: A meta-analysis." *Safety Science*, 109, 165-173.
35. Oechler, E.*, Molenaar, K., R., **Hallowell, M.R.**, Scott, S. (2018). "State-of-practice for risk-based quality assurance in state departments of transportation." *Engineering, Construction, and Architectural Management,* 25(7): 958-970.
36. Sherratt, F., Oswald, D., Smith, S., **Hallowell, M.R.** (2018). "Explaining safety challenges for multi-national construction workforces: A UK case study." *Construction Management and Economics*, 36(5): 291-301.
37. Sherratt, F, **Hallowell, M.R**., Tania, M. (2018). "Marijuana use within the construction workforce: Theoretical considerations." *Journal of Construction Project Management and Innovation*, 7(2): 2007-2017.
38. Techera, U.*, **Hallowell, M.R**., Littlejohn, R., and Rajendran, S. (2018). "Measuring and predicting fatigue in construction: An empirical field study." *Journal of Construction Engineering and Management*, 144(8): 04018062-1 to 04018062-10.
39. Sherratt, F., Welfare, K.*, **Hallowell, M.R.**, Tania, M. (2018). "Legalized Recreational Marijuana: Safety, ethical, and legal perceptions of the workforce." *Journal of Construction Engineering and Management*, 04018048-1 to 04018048-10.
40. Marks, E., Alwolusi, I., and **Hallowell, M.R.** (2018). "Wearable technology for personalized construction safety monitoring and trending: Review of available devices." *Automation in Construction*, 85, 96-106.
41. **Hallowell, M.R.,** Veltri, A., Harper, C.*, Wanberg, J.*, and Rajendran, S., (2017). "Impact of design completeness, clarity, and stability on construction safety performance." *Journal of Safety Health and Environmental Research*, 13(2):370-377.
42. Tixier, A.*, Albert, A.*, and **Hallowell, M.R.** (2017). "Proposing and validating a new way of construction hazard recognition training in academia: a mixed-methods approach." Practice

Periodical on Structural Design and Construction, 23(1): 04017027-1 to 04017027-10.

43. Bhandari, S.* and **Hallowell, M.R.** (2017). "Emotional engagement in safety training: Impact of naturalistic injury simulations on the emotional state of construction workers." *Journal of Construction Engineering and Management,* ASCE, 143(12): 04017090-1 to 04017090-10.
44. Tixier, A.J.P.*, **Hallowell, M.R.**, Rajagopalan, B. (2017). "Safety risk analysis and simulation." *Risk* Analysis, 37(10): 1917-1935.
45. Albert, A.* and **Hallowell, M.R.** (2017). "Modelling the role of social networks on hazard recognition and communication." *Practice Periodical on Structural Design and Construction*, ASCE, 22(4): 04017016-1 to 10.
46. Alexander, D.*, **Hallowell, M.R.**, and Gambatese, J.A. (2017). "Precursors of construction fatalities I: Iterative experiment to test the predictive validity of human judgment." *Journal of Construction Engineering and Management*, ASCE, 04017023-1 to 04017023-12.
47. Alexander, D.*, **Hallowell, M.R.**, and Gambatese, J.A. (2017). "Precursors of construction fatalities II: Predictive modeling and empirical validation." *Journal of Construction Engineering and Management*, ASCE, 04017024-1 to 04017024-12.
48. **Hallowell, M.R.**, Alexander, D.*, Gambatese, J.A. (2017). "Energy-based safety risk assessment: Does magnitude and intensity of energy predict injury severity?" *Construction Management and Economics,* 2017, 1-14.
49. Tixier, A.J.P.*, **Hallowell, M.R.**, Rajagopalan, B., and Bowman, D. (2017). "Safety clash detection: Identifying safety incompatibilities among fundamental attributes using data mining" *Automation in Construction*, 74, 39-54.
50. **Hallowell, M.R.,** Albert, A.*, Skaggs, M.*, and Kleiner, B. (2017). "Empirical measurement and improvement of hazard recognition skill" *Safety Science*, 93, 1-8.
51. Lingard, H., **Hallowell, M.R.**, Salas, R.*, Prizadeh, P.* (2017). "Leading or lagging? Temporal analysis of safety indicators on a large infrastructure construction project. *Safety Science*, 91, 206-220.
52. Techera, U. *, **Hallowell, M.R.**, Stambaugh, N.*, and Littlejohn, R. (2017). "Causes and consequences of fatigue: Systems model and meta-analysis." *Journal of Occupational and Environmental Medicine*, Elsevier, 58 (10): 961-973.
53. Tixier, A.J.P.*, **Hallowell, M.R.**, Rajagopalan, B., and Bowman, D. (2016). "Application of machine learning to construction injury prediction." *Automation in Construction*, Elsevier, (69) 102-114.
54. **Hallowell, M.R.**, Hardison, D.*, and Desvignes, M.* (2016). "Information technology and safety: Integrating empirical safety risk data with building information modeling (BIM), sensing, and visualization technologies." *Construction Innovation* (16)3, 323-347.
55. Arroyo, P., Fuenzalida, C., Albert, A.*, and **Hallowell, M.R.** (2016). "Collaborating in decision making: An experimental study comparing CBA and WRC methods." *Journal of Energy and Buildings*, 128, 132-142.
56. Salas, R.* and **Hallowell, M.R.** (2016). "Predictive validity of safety leading indicators: An empirical assessment in the oil and gas industry." *Journal of Construction Engineering and Management*, ASCE, 04016052-1 to 04016052-11.
57. Tixier, A.*, **Hallowell, M.R.,** Rajagopalan, B., and Bowman, D. (2016). "Automated content analysis for safety: Natural language processing system to extract precursors and outcomes from unstructured injury reports." *Automation in Construction*, 62, 45-56.
58. **Hallowell, M.R.** and Hansen, D.* (2016). "Measuring and improving designer hazard recognition skill: Critical competency to enable prevention through design." *Safety Science*, 82, 254-263.
59. **Hallowell, M.R.** and Yugar-Arias, I.* (2016). "Exploring fundamental causes of safety challenges faced by Hispanic construction workers in the US using Photovoice." *Safety Science*, Elsevier, 82, 199-211.
60. Esmaeili, B.*, **Hallowell, M.R.,** and Rajagopalan, B. (2015). "Attribute-based safety risk assessment I: Analysis at the fundamental level." *Journal of Construction Engineering and*

Management, ASCE, 04015021-1 to 04015021-15.

61. Esmaeili, B.*, **Hallowell, M.R.,** and Rajagopalan, B. (2015). "Attribute-based safety risk assessment II: Predicting safety outcomes using generalized linear models." *Journal of Construction Engineering and Management*, ASCE, 04015022-1 to 04015022-11.
62. Albert, A.*, **Hallowell, M.R.,** Lingard, H., and Kleiner, B. (2015). "Multiple baseline testing: An experimental method for drawing causal inferences in construction engineering and management research." *Journal of Construction Engineering and Management*, ASCE, 04015012-1 to 04015012-13.
63. Albert, A.*, **Hallowell, M.R.,** and Kleiner, B. (2014). "Experimental field testing of a real-time construction hazard identification and transmission technique." *Construction Management and Economics,* Taylor and Francis, 32(10): 1000-1016.
64. Tixier, A.*, **Hallowell, M.R.,** Albert, A.*, van Boven, L., and Kleiner, B. (2014). "Psychological antecedents of risk-taking behavior in construction." *Journal of Construction Engineering and Management*, ASCE, 140(11): 04014052-1 to 04014052-10.
65. Tran, D.*, **Hallowell, M.R.,** and Molenaar, K.R. (2014). "Construction management challenges and best practices for rural transit projects." *Journal of Management in Engineering*, ASCE, 04014072-1 to 04014072-10.
66. Albert, A.*, **Hallowell, M.R.,** Kleiner, B., Golparvar-Fard, M., and Chen, A. (2014). "Enhancing construction hazard recognition with high fidelity augmented virtuality." *Journal of Construction Engineering and Management*, ASCE, 04014024-1 to 04014024-11.
67. Hardison, D.*, Behm, M., **Hallowell, M.R.**, and Fonooni, H. (2014). "Identifying construction supervisor competencies for effective site safety." *Safety Science*, Elsevier, 65(1): 45-53.
68. Albert, A.*, **Hallowell, M.R.**, and Kleiner, B. (2014). "Emerging strategies for construction safety and health hazard recognition." *Journal of Safety, Health, and Environmental Research*, ASSE, 10(2): 152-161.
69. **Hallowell, M.R.,** Tatum, C., and Rowings, J. (2014) "Findings and path forward: Leveraging project and career success." *Practice Periodical on Structural Design and Construction*, ASCE, 19(1): 142-147.
70. Albert, A.* and **Hallowell, M.R.** (2013). "Revamping occupational safety and health training: Integrating andragogical principles for the adult learner." *Australasian Journal of Construction Economics and Building*, UTS Publishing, 13(3): 128-140.
71. Albert, A.*, **Hallowell, M.R.**, and Kleiner, B.M. (2013). "Enhancing construction hazard recognition and communication with energy-based cognitive mnemonics and a safety meeting maturity model: A multiple baseline study." *Journal of Construction Engineering and Management*, ASCE, 04013042-1 to 04013042-12.
72. **Hallowell, M.R.**, Hinze, J., Baud, K.*, Wehle, A.* (2013). "Pro-active construction safety control: Measuring, monitoring, and responding to safety leading indicators." *Journal of Construction Engineering and Management,* ASCE, 139(10): 04013010-1 to 04013010-8.
73. Hinze, J., **Hallowell, M.R.**, and Baud, K.* (2013). "Construction safety best practices and relationships to safety performance." *Journal of Construction Engineering and Management,* ASCE, 139(10): 04013006-1 to 04013006-8
74. Wanberg, J.*, Harper, C.*, **Hallowell, M.R.,** and Rajendran, S. (2013). "Relationship between construction safety and quality performance." *Journal of Construction Engineering and Management,* ASCE, 139(10): 04013003-1 to 04013003-10.
75. Alsamadani, R.*, **Hallowell, M.R.,** and Javernick-Will, A. (2013). "Measuring and modeling safety communication in small work crews in the US using social network analysis." *Construction Management and Economics,* Taylor and Francis, 31(6): 568-579.
76. Esmaeili, B.* and **Hallowell, M.R.** (2013). "Integration of safety risk data with highway construction schedules." *Construction Management and Economics,* Taylor and Francis, 31(6): 528-541.
77. Alsamadani, R.*, **Hallowell, M.R.**, Javernick-Will, A., and Cabello, J.* (2013). "Relationships

among language proficiency, communication patterns, and safety performance in small work crews in the US." *Journal of Construction Engineering and Management,* ASCE, 139(9): 1125-1134.

78. Albattah, M.*, Roucheray, M.* and **Hallowell, M.R.** (2013). "Sustainable buildings: Applying prevention through design." *Journal of the American Society of Safety Engineers*, ASSE, 58(6):76-80.
79. Albert, A.* and **Hallowell, M.R.** (2013). "Safety risk assessment for transmission and distribution line work." *Safety Science*, Elsevier, 51, 118-126.
80. **Hallowell, M.R.,** Molenaar, K.R., and Fortunato III, B.R.* (2013). "Enterprise risk management strategies for state departments of transportation." *Journal of Management in Engineering,* ASCE, 29(2): 114-121.
81. Toole, T.M., Heckel, P., and **Hallowell, M.R.** (2013). "Public and organizational policy: A key factor for enabling prevention through design. *Journal of the American Society of Safety Engineers*, ASSE, 58(1): 41-47.
82. Gambatese, J.A., **Hallowell, M.R**., Renshaw, F., Quinn, M., Heckel, P. (2013). "Prevention through design research: Understanding and enabling PtD in practice." *Journal of the American Society of Safety Engineers*, ASSE, 58(1): 48-54.
83. Toole, T.M., **Hallowell, M.R.**, and Chinowsky, P.S. (2013). "A tool for enhancing innovation in construction organizations." *Engineering Project Organization Journal*, Taylor and Francis, 3(1): 32-50.
84. Curtis, J.A., D'Angelo, D., **Hallowell, M.R.,** Henkel, T.A., and Molenaar, K.R. (2012). "Transportation agency enterprise risk management." *Transportation Research Record*, (Journal of the Transportation Research Board), National Academies, 2271: 57-65.
85. Dewlaney, K.S.*, **Hallowell, M.R.,** and Fortunato III, B.R.* (2012). "Safety risk quantification for high performance sustainable building construction." *Journal of Construction Engineering and Management*, ASCE, 138(8): 964-971.
86. Esmaeili, B.* and **Hallowell, M.R.** (2012). "Diffusion of safety innovations in the construction industry." *Journal of Construction Engineering and Management*, ASCE, 138(8): 955-963.
87. **Hallowell, M.R.** (2012). "Safety knowledge management in American construction organizations." *Journal of Management in Engineering*, ASCE, 28(2): 203-211.
88. Fortunato III, B.R.*, **Hallowell, M.R.**, Behm, M., and Dewlaney, K.S.* (2012). "Identification of safety risks for high performance sustainable construction projects." *Journal of Construction Engineering and Management*, ASCE, 138(4): 499-508.
89. Dewlaney, K.S.* and **Hallowell, M.R.** (2012). "Prevention through design and construction safety management strategies for high performance sustainable building construction." *Construction Management and Economics,* Taylor and Francis, 30(2):165-177.
90. **Hallowell, M.R.** and Calhoun, M.E.* (2011). "Interrelationships among highly effective construction injury prevention strategies." *Journal of Construction Engineering and Management*, ASCE, 137(11): 985-993.
91. **Hallowell, M.R**., Esmaeili, B.*, and Chinowsky, P. (2011). "Safety risk interactions among highway construction work tasks." *Construction Management and Economics,* Taylor and Francis, 29(4): 417-429.
92. **Hallowell, M.R.** (2011). "Risk-based economic model for safety investment in construction." *Journal of Construction Engineering and Management*, ASCE, 592-599.
93. **Hallowell, M.R.** (2011). "Understanding the link between construction safety and productivity: An active learning simulation exercise." *Journal of Safety, Health, and Environmental Research*, ASSE, 7(1): 1-9. ***Best Paper Award***
94. Gambatese, J.A. and **Hallowell, M.R.** (2011). "Enabling and measuring innovation in the construction industry" *Construction Management and Economics,* Taylor and Francis, 29(6): 553-567.
95. Gambatese, J.A. and **Hallowell, M.R.** (2011). "Factors that influence the development and

diffusion of technical innovations in the construction industry." *Construction Management and Economics,* Taylor and Francis, 29(5): 507-517.

96. **Hallowell, M.R.** (2010). "Managing construction worker fatigue on rapid renewal highway projects." *Journal of the American Society of Safety Engineers*, ASSE, 55(12):18-26.
97. **Hallowell, M.R.**, Protzman, J.B., and Molenaar, K.M. (2010). "Mobile barrier trailer: A critical analysis of an emerging workzone protection system." *Journal of the American Society of Safety Engineers*, ASSE, 55(10): 31-38.
98. **Hallowell, M. R.** (2010). "Safety risk perception in construction companies in the Pacific Northwest of the USA." *Construction Management and Economics,* Taylor and Francis, 28(4): 403-413.
99. **Hallowell, M.R.** (2010). "Cost-effectiveness of construction safety programme elements." *Construction Management and Economics,* Taylor and Francis, 28(1): 25-34.
100. **Hallowell, M.R.** and Gambatese, J.A. (2010). "Population and initial validation of a formal model for construction safety risk management." *Journal of Construction Engineering and Management*, ASCE, 136(9): 981-990.
101. **Hallowell, M.R.** and Gambatese J.A. (2010). "Qualitative research: application of the Delphi method to CEM research." *Journal of Construction Engineering and Management*, ASCE, 136(1): 99-107.
102. **Hallowell, M. R.,** Veltri, A., and Johnson, S. (2009). "Safety and lean: One manufacturer's lessons learned and best practices." *Journal of the American Society of Safety Engineers*, ASSE, 54(11): 22-27.
103. **Hallowell, M.R.** and Gambatese J.A. (2009). "Construction safety risk mitigation." *Journal of Construction Engineering and Management*, ASCE, 135(12): 1316-1323.
104. **Hallowell, M.R.** and Gambatese, J.A. (2009). "Activity-based safety and health risk quantification for formwork construction." *Journal of Construction Engineering and Management*, ASCE, 135(10): 990-998.
105. **Hallowell, M.R.** and Toole, T.M. (2009). "Contemporary design-bid-build model." *Journal of Construction Engineering and Management*, ASCE, 135(6): 540-549.

BOOK CHAPTERS

1. Toole, T.M., Chinowsky, P., and **Hallowell, M.R.** (2011). "Strategic innovation in EPC" In: Organizational Management in Construction, Chinowsky, P. and Songer, T. Eds. Taylor and Francis, pp. 60-75.
2. **Hallowell, M.R.** and Hinze, J.W. (2011). "Strategic safety management." In: Organizational Management in Construction, Chinowsky, P. and Songer, T. Eds. Taylor and Francis, 154-173.

PEER-REVIEWED CONFERENCE PROCEEDINGS PUBLISHED

1. Lee. W.H., Gambatese, J., **Hallowell, M.R**..,Nnaji, C., Technology adoption protocol: A process to adopt a new technology to mitigate safety impacts of last-minute changes. CIB W099, Porto, Portugal, June 21-22, 2023.
2. Lopez, J.,* Bhandari, S., and **Hallowell, M.R.** "Virtual reality and construction industry: Review of current state-of-practice and future applications." ASCE Construction Research Congress, Arlington, VA., March 9-11, 2022.
3. Dsouza, A., Patil, K., Ayer, S., Bhandari, S., Lopez, J.*, **Hallowell, M.R.** "Industry interviews for feedback to guide human-centered development of construction specific VR environment." ASCE Construction Research Congress, Arlington, VA., March 9-11, 2022.
4. Thallapureddy, S.*, Bhandari, S., **Hallowell, M.R.** "Incident Investigations and Learning:

Methods, Barriers and Opportunities." ASCE Construction Research Congress, Arlington, VA., March 9-11, 2022.

5. Bayona, A.*, Bhandari, S., **Hallowell, M.R.** "Defining Serious Injuries on Construction Jobsites: Lessons from the Literature." ASCE Construction Research Congress, Arlington, VA., March 9-11, 2022.
6. Azeez, M., Gambatese, J., **Hallowell, M.R.** "Impact of Work Variance on Safety Outcomes: A Resilience Approach." CIB W099 Conference, Glasgow Caledonian University, Scotland. Sept 8-10, 2021.
7. Baker, H., Smith, S., and **Hallowell M.R.** "Exploring the association among dimensions of safety climate and learning climate." ASCE Construction Research Congress, Tempe, AZ, March 8-10, 2020.
8. Welfare, K.* and **Hallowell, M.R.** "Relationships among dimensions of human factors climate in construction." ASCE Construction Research Congress, Tempe, AZ, March 8-10, 2020.
9. Techera, U.*, **Hallowell, M.R.**, and Bhandari, S.* "Impact of worker fatigue on hazard recognition skills." ASCE Construction Research Congress, Tempe, AZ, March 8-10, 2020.
10. Welfare, K.* **Hallowell, M.R.**, Riek, L., Shah, J. (2019) "Consider the Human Work Experience when Integrating Robotics in the Workplace." IEEE International Conference on Human-Robot Interaction, Chicago, IL, March 5-8, 2019.
11. Welfare, K.*, **Hallowell, M.** and Sherratt, F. (2019). "What Do People Like and Dislike About Construction Work? Views to Consider When Designing and Implementing Technology." 7th International Construction Conference, CSCE, Montreal, QC, June 12-15, 2019.
12. Hardison, D.*, **Hallowell, M.R.**, Henry, N. (2019). "The relationship between spatial cognition and hazard anticipation in prevention through design tasks." CSCE, Montreal, QC, June 12-15, 2019.
13. Awolusi, I., Marks, E., **Hallowell, M.R.** (2019). "Wearable Devices for Construction Safety Monitoring: Scientific Review of Potential Applications." International Conference on Computing in Civil Engineering, Georgia Tech, June 17-19, 2019.
14. Bhandari, S.*, Salas, R.*, and **Hallowell, M.R.** (2019). "Does personal risk tolerance predict work-related risk tolerance? A multinational perspective." 7th International Construction Conference, CSCE, Montreal, QC, June 12-15, 2019.
15. Patil, K., Bhandari, S.*, Ayer, S., and **Hallowell, M.R.** (2018). "Immersive VR and haptic technologies to support learning: Meta-analysis." CONVR2018, Auckland, New Zealand, November 21-23, 2018.
16. Shealey, T., **Hallowell, M.R.,** Hardison, D.* (2018). "Advancing Hazard Recognition through Neuroscience: Measuring Cognitive Response to Hazards Using Functional Near Infrared Spectroscopy." Proceedings of the 2018 Construction Research Congress, New Orleans, LA., April 2-5, 2018.
17. Bhandari, S.*, **Hallowell, M.R.,** Van Boven, L. (2018). "What is situational awareness? Empirical relationships among hazard recognition skill, risk perception, and risk tolerance." Proceedings of the 2018 Construction Research Congress, Baton Rouge, LA, April 2-5, 2018
18. Sherratt, F., Welfare, K., **Hallowell, M**., and Tania, M. H. (2017). "Getting High on the Scaffolding? Construction Safety, Legalised Marijuana and Worker Impairment." 33rd Association of Researchers in Construction Management (ARCOM).
19. Arneson, E.*, Javernick-Will, A., **Hallowell, M.R.** (2017). "Construction capacity: How construction resource availability affects post-tornado rebuilding of residential housing." Proceedings of the Engineering Project Organizations Conference, Lake Tahoe, CA, June 5-7, 2017.
20. Sherratt, F., **Hallowell, M.R.**, and Hoque, M. (2017). "Marijuana use within the construction workforce: Theoretical considerations and a research proposal." Proceedings of the Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Cape Town,

South Africa, June 11-13, 2017.

21. Alruqi, W.* and **Hallowell, M.R.** "Dimensions of safety climate." (2017). Proceedings of the 2017 Construction Research Congress, Vancouver, Canada, May 31-June 3, 2017.
22. Arneson, E.* and **Hallowell, M.R.**, Javernick-Will, A. (2017). "Hurricane Sandy: How pre-disaster construction capacity affects post-disaster rebuilding of residential housing." Proceedings of the Construction Research Congress, Vancouver, Canada, May 31-June 3, 2017.
23. Techera, U.,* **Hallowell, M.R.**, Littlejohn, R. (2017). "Objectively assessing and predicting fatigue levels among construction workers." Proceedings of the Construction Research Congress, Vancouver, Canada, May 31-June 3, 2017.
24. Hardison, D.*, Sears, M.*, **Hallowell, M.R.,** Goodrum, P.M. (2017). "Safety hazard identification and eye scan patterns: An investigation into the relationships between hazard identification performance and eye scan patterns." Proceedings of the Construction Research Congress, Vancouver, Canada, May 31-June 3, 2017.
25. Shealy, T., Hu, M., **Hallowell, M.R.**, Bhandari, S.* (2017). "Near Infrared Spectroscopy (fNIRS) to Measure Engineering Cognition during Project Delivery." Proceedings of the Engineering Project Organization Society Annual Conference, South Lake Tahoe, CA. June 5-7, 2017.
26. Techara, U.*, **Hallowell, M.R.**, Marks, E. (2016). "Measuring occupational fatigue: A comprehensive review and comparison of subjective and objective methods." Proceedings of the 2016 Construction Research Congress, San Juan, Puerto Rico, May 31 to June 2, 2016.
27. Alwolusi, I.*, Marks, E., **Hallowell, M.R.** (2016). "Biometric data collection and monitoring of construction equipment operators." Proceedings of the 2016 Construction Research Congress, San Juan, Puerto Rico, May 31 to June 2, 2016.
28. Bhandari, S.*, **Hallowell, M.R.,** VanBoven, L., Gruber, J., Welker, K. (2016). "Exploring the relationship between emotion and situational awareness: an experimental approach using a naturalistic augmented virtual environment." Proceedings of the 2016 Construction Research Congress, San Juan, Puerto Rico, May 31 to June 2, 2016.
29. Arneson, E.*, Javernick-Will, A., **Hallowell, M.R.,** Whitney, T. (2016). "Construction capacity: Role of regional construction supply chain resources in post-disaster rebuilding. Engineering Project Organizations Conference, Seattle, WA. June 28-30, 2016.
30. Oechler, E.*, Molenaar, K.R., **Hallowell, M.R.,** Scott, S., Konrath, L. (2016). "State-of-practice for risk-based quality assurance in state departments of transportation." The Transportation Research Board (TRB) 95th Annual Conference, Washington, D.C., January 10-14, 2016.
31. Veltri, A. and **Hallowell, M.R.** (2015) "Construction safety maturity model: Measuring safety potential using a meta-analysis of construction safety best practice." Proceedings of the Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Belfast, Ireland September 10-11, 2015.
32. Bhandari, S.* and **Hallowell, M.R.** (2015) "Live safety demos: New methods to enhance situational awareness and situational interest through emotional engagement." ISCS15 International Construction Specialty Conference, CSCE, Vancouver, Canada, June 8-10, 2015. *****Best Paper Award*****
33. Alexander, D.*, **Hallowell, M.R.,** Gambatese, J.A. (2015) "Energy-based safety risk management." ISCS15 International Construction Specialty Conference, CSCE, Vancouver, Canada, June 8-10, 2015.
34. McGuire. T.*, Javernick-Will, A., **Hallowell, M.R.,** Molenaar, K.R. (2015). "Identification and control of strategic risks in highway agencies." The Transportation Research Board (TRB) 94th Annual Conference, Washington, D.C., January 11-15, 2015.
35. Albert, A.*, **Hallowell, M.R.,** and Kleiner, B. (2014). "Energy-based retrieval mnemonics: A new concept for recognizing and categorizing hazards." 2014 Working Commission on Safety and Health on Construction Sites Annual Conference, Lund, Sweden, June 2-3, 2014.
36. Albert, A*, **Hallowell, M.R.,** and Alsamadani, R.* (2014). "Modeling the role of social networks

in situational awareness and hazard communication." *Proceedings of the 2014 Construction Research Congress*, Atlanta, GA, May 19-21, 2014. ***Best Paper Award***

37. Tixier, A.*, Albert, A. *, and **Hallowell, M.R.** (2013). "Teaching construction hazard recognition through high fidelity augmented reality and industry-student teams." *Proceedings of the 2013 American Society of Engineering Education Annual Conference – Construction Engineering and Management Track*, Atlanta, GA, June 23-26, 2013. ***Best Paper Award***
38. Albert, A.* and **Hallowell, M.R.** (2013). "Measuring the effectiveness of pedagogical innovations using multiple baseline testing." *Proceedings of the 2013 American Society of Engineering Education Annual Conference – Educational Research Methods Track*, Atlanta, GA, June 23-26, 2013.
39. Esmaeili, B.*, **Hallowell, M. R.** (2013). "Safety predictive models as a preconstruction safety management technique." The 2013 Architectural Engineering Institute (AEI) Conference, the Pennsylvania State University, April 3-5, 2013.
40. Esmaeili, B.*, **Hallowell, M.R.,** and Roucheray, M.* (2012) "Developing a framework for measuring the effectiveness of common fall prevention/protection practices." 2nd International Conference on Sustainable Design, Engineering, and Construction, Ft. Worth, TX, November 7-9, 2012.
41. Esmaeili, B.* and **Hallowell, M.R.** (2013). "Multivariate data analysis on struck-by risk attributes." Proceedings of the 2012 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Singapore, September 11-13, 2012.
42. Albert, A.* and **Hallowell, M.R.** (2012). "Integrating andragogical learning theory into occupational safety and health training." Proceedings of the 2012 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Singapore, September 11-13, 2012. ***Best Paper Award***
43. Alsamadani, R.*, **Hallowell, M.R.**, Javernick-Will, A., and Cabello, J.* (2012) "Relationships among language proficiency, communication patterns, and safety performance in small work crews in the US." *Proceedings of the Engineering Projects Organizations Conference*, EPOS, Rheden, Netherlands, July 9-12, 2012. ***Best Paper Award***
44. Albert, A.* and **Hallowell, M.R.** (2012). "Benchmark of hazard recognition methods in the construction industry." *Proceedings of the 2012 Construction Research Congress*, ASCE, West Lafayette, IN, May 21-23, 2012.
45. Esmaeili, B.* and **Hallowell, M.R.** (2012). "Attribute safety risk model for measuring safety risk of struck-by accidents." Proceedings of the 2012 Construction Research Congress, ASCE, West Lafayette, IN, May 21-23, 2012.
46. Curtis, J.A., D'Angelo, D., **Hallowell, M.R..,** Henkel, T.A., and Molenaar, K.R. (2012). "Transportation agency enterprise risk management." The Transportation Research Board (TRB) 91st Annual Conference, Washington, D.C., January 22-26, 2012.
47. Alsamadani, R.* and **Hallowell, M.R.** (2011). "A method for measuring safety communication in project networks." Proceedings of the 2011 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Washington, D.C. August 24-26, 2011.
48. Esmaeili, B.* and **Hallowell, M.R.** (2011). "Using network analyses to model fall hazards on construction projects." Proceedings of the 2011 Working Commission on Safety and Health on Construction Sites Annual Conference, Int'l Council for Research and Innovation in Building and Construction, Washington, D.C. August 24-26, 2011.
49. Esmaeili, B.* and **Hallowell, M.R.** (2011). "A decision support tool for integrating safety with project schedules." Proceedings of the 2011 Working Commission on Safety and Health on Construction Sites Annual Conference, International Council for Research and Innovation in Building and Construction, Washington, D.C. August 24-26, 2011.

50. **Hallowell, M.R.** (2011). "Prevention through design tool for high performance, sustainable projects." Proceedings of the 2011 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Washington, D.C. August 24-26, 2011.
51. Antillon, E.I.*, Alarcon, L.F., **Hallowell, M.R**., and Molenaar, K.R. (2011). "A research synthesis on the interface between lean construction and safety management." Proceedings of the 19th Annual Conference of the International Group for Lean Construction, Lima, Peru, July 13-15, 2011.
52. Esmaeili, B.* and **Hallowell, M.R.** (2011). "Comparative safety risk analysis of highway construction work tasks." *Proceedings of the 2011 Canadian Society of Civil Engineers' Annual Conference*, CSCE, Ottawa, OT, Canada, June 14-17, 2011.
53. Albert, A.* and **Hallowell, M.R.** (2011). "Factors influencing the decision to de-energize transmission and distribution lines for electrical contractor safety." *Proceedings of the 2011 Canadian Society of Civil Engineers' Annual Conference*, CSCE, Ottawa, OT, Canada, June 14-17, 2011.
54. **Hallowell, M.R.**, Teizer, J. and Blaney, W.* (2010). "Framework for integrating sensing technology into traditional safety programs." *Proceedings of the 2010 Construction Research Congress*, ASCE, Banff, AB, Canada, May 8-11, 2010.
55. Calhoun, M.E.* and **Hallowell, M.R.** (2010). "Interrelationships among construction safety program elements: A cross-impact analysis." *Proceedings of the 2010 Construction Research Congress*, ASCE, Banff, AB, Canada, May 8-11, 2010.
56. Toole, T.M., Chinowsky, P.C., and **Hallowell, M.R.** (2010). "A tool for improving construction organizations' innovation capabilities." *Proceedings of the 2010 Construction Research Congress*, ASCE, Banff, AB, Canada, May 8-11, 2010.
57. **Hallowell, M.R.** and Tabata, J.* (2009). "The role of state DOTs in highway construction safety management." Proceedings of the 2009 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Melbourne, Australia, October 21-23, 2009.
58. **Hallowell, M.R.** (2009). "A safety and productivity simulation game." Proceedings of the 2009 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction, Melbourne, Australia, October 21-23, 2009.
59. **Hallowell, M.R.** (2009). "Application of the Delphi method to construction safety and health research." *Proceedings of the 2009 Construction Research Congress*, ASCE, Seattle, WA., April 5-7, 2009.
60. Sillars, D.N. and **Hallowell, M.R.** (2009). "Opinion-based research: lessons learned from four approaches." *Proceedings of the 2009 Construction Research Congress*, ASCE, Seattle, WA., April 5-7, 2009.
61. **Hallowell, M.R.**, Gambatese, J.A., and Toole, T.M. (2008). "A systems model of construction innovation." *Proceedings of the 2008 Conference for Leadership and Management in Engineering,* Lake Tahoe, CA., October 16-19, 2008.
62. **Hallowell, M.R.** and Gambatese, J.A. (2008). "Quantification and communication of construction safety risk." 2008 Working Commission on Safety and Health on Construction Sites Annual Conference, International Council for Research and Innovation in Building and Construction, Gainesville, FL, March 9-11, 2008.
63. **Hallowell, M. R.** and Gambatese, J.A. (2007). "A formal model of construction safety risk management." *2007 Construction and Building Research Conference (COBRA)*, sponsored by the Royal Institution of Chartered Surveyors and Georgia Tech University, Atlanta, GA, Sept. 6-7, 2007.
64. **Hallowell, M.R.** and Rogge, D.F. (2007). "Evaluation of outsourcing in the Oregon Department of Transportation" *Proceedings of the 2007 Construction Research Congress*, ASCE, Grand

Bahama Island, Bahamas, May 6-8, 2007.

65. Gambatese, J.A., **Hallowell, M.R.** and Sillars, D.N. (2007). "Benchmark of innovation in the A/E/C industry" *Proceedings of the 2007 Construction Research Congress*, ASCE, Grand Bahama Island, Bahamas, May 6-8, 2007.
66. Toole, T.M. and **Hallowell, M.R.** (2005). "Building performance engineering during construction." *Proceedings of the 2005 Construction Research Congress*, ASCE, San Diego, CA, April 5-7, 2005. ***Best Paper Award***

TECHNICAL AND PROFESSIONAL REPORTS

1. Edison Electric Institute (EEI) Precursor Analysis Customization (2019) Research Summary, Implementation Guide, and Executive Summary. Author: **Hallowell, M.R.**
2. International Gas Pipeline Association (INGAA Foundation) (2018). "Technical Report on Safety Leading Indicators", Houston, TX, 2018, Authors: **Hallowell, M.R.** and MacLean, B.
3. Construction Industry Institute (CII) Research Team HFC-01 (2018). "Building Value Estimation" Research Summary, Austin, TX, 2018, Authors: **Hallowell, M.R.**, Henze, G., and Moyen, N.
4. Construction Industry Institute (CII) Research Team HFC-01 (2018). "Productivity Research Roadmap" Research Summary, Austin, TX, 2018, Authors: Goodrum, P., Caldas, C., **Hallowell, M.R.**, and Van Boven, L.
5. Construction Industry Institute (CII) Research Team 321 (2016). "Precursors of high-impact, low-frequency events, including fatalities." Research Summary 321-1, Austin, TX, 2016, Authors: **Hallowell, M.R.**, Gambatese, J., and Slintak, G.
6. Construction Industry Institute (CII) Research Team 321 (2016). "Precursors of high-impact, low-frequency events, including fatalities." Implementation Resource 321-2, Austin, TX, 2016, Authors: **Hallowell, M.R.**, Gambatese, J., and Slintak, G.
7. Construction Industry Institute (CII) Research Team 321 (2016). "Precursors of high-impact, low-frequency events, including fatalities." Research Report 321-3, Austin, TX, 2016, Authors: **Hallowell, M.R.**, Gambatese, J., and Slintak, G.
8. Construction Industry Institute (CII) Research Team 293 (2013). "Strategies for Safety and Health Hazard Recognition." Research Summary 293-1, Austin, TX, 2013, Authors: **Hallowell, M.R.**, Kleiner, B., Albert, A., Duncan, J.
9. Construction Industry Institute (CII) Research Team 293 (2013). "Strategies for Safety and Health Hazard Recognition." Implementation Resource 293-2, Austin, TX, 2013, Authors: **Hallowell, M.R.**, Kleiner, B., Albert, A., Duncan, J.
10. Construction Industry Institute (CII) Research Team 293 (2013). "Strategies for Safety and Health Hazard Recognition." Research Report 293-3, Austin, TX, 2013, Authors: **Hallowell, M.R.**, Kleiner, B., Albert, A.
11. D'Ignazio, J., **Hallowell, M.R.,** and Molenaar, K. R. (2011). Construction Management Practices for Rural Transit Projects." Research Report 20(65), National Highway Cooperative Highway Research Program (NCHRP), Transportation Research Board of the National Academies, November 2012.
12. **Hallowell, M. R.** and Alsamadani, R.* (2012) The impact of language proficiency and age on positions within small safety networks in the US. *CLR News*, 3/2012, 37 – 40.
13. Construction Industry Institute (CII) Research Team 284 (2012). "Active construction safety leading indicators." Research Summary 284-1, Austin, TX, 2012, Authors: **Hallowell, M.R.**, Hinze, J., Wulf, D. and Trickel, S.
14. Construction Industry Institute (CII) Research Team 284 (2012). "Active construction safety leading indicators." Implementation Resource 284-2, Austin, TX, 2012, Authors: Hinze, J**., Hallowell, M.R.**, Wulf, D. and Trickel, S.
15. Construction Industry Institute (CII) Research Team 284 (2012). "Active construction safety

leading indicators." Research Report 284-3, Austin, TX, 2012, Authors: Hinze, J. and **Hallowell, M.R.**

16. D'Ignazio, J., **Hallowell, M.R.,** and Molenaar, K. R. (2011). Executive strategies for risk management by state departments of transportation." Research Report 20(24)-74, National Highway Cooperative Highway Research Program (NCHRP), Transportation Research Board of the National Academies, May 2011.
17. Construction Industry Institute (CII) Research Team 243 (2010). "Enhancing innovation in the EPC industry: Industry Implementation Studies." Research Summary 243-1, Austin, TX, 2010, Authors: Chinowsky, P.C., **Hallowell, M.R.**, and Toole, T.M.
18. Sillars, D.N., Scholz, T., and **Hallowell, M.R.** (2010). "Analysis of QA procedures at the Oregon Department of Transportation." Research Report SPR 650, Oregon Department of Transportation, June 2010.
19. Chinowsky, P.C. and **Hallowell, M.R.** (2009). "Worker safety and the Colorado Department of Transportation," Report No. CDOT-2009-12, Colorado Department of Transportation, December 2009.
20. Sillars, D. N., **Hallowell, M.R.**, Armijos, J.P. (2009). "Development of a decision model for selection of appropriate timely delivery techniques for highway projects." Research Report SPR 646, Colorado Department of Transportation, April 2009.
21. **Hallowell, M.R.** (2008). "A formal model of construction safety and health risk management." Ph.D. Dissertation, Oregon State University, Corvallis, OR.
22. Gambatese, J.A. and **Hallowell, M.R.** (2007). "Energizing Innovation in Integrated Project Delivery – Final Report" Charles Pankow Foundation and the Foundation for Integrated Services, August 2007.
23. Rogge, D.F. and **Hallowell, M.R.** (2007). "Evaluation of outsourcing in the Oregon Department of Transportation," Research Report SPR 617, Oregon Department of Transportation (ODOT) and U.S. Department of Transportation, Federal Highway Administration (FHWA), July 2007.
24. Toole, T.M., Hervol, N., and **Hallowell, M.R.** (2006). "Designing steel for construction worker safety." *Proceedings of the 2006 North American Steel Construction Conference*, NASC, San Antonio, TX, February 8-11, 2006.
25. Toole, T. M., Hervol, N., and **Hallowell, M.R.** (2006). "Designing for construction safety." *Modern Steel Construction*, June 2006: 55-59.
26. **Hallowell, M.R.** (2005). "Building performance engineering during construction" Bucknell University, May 2005. (Masters Thesis)

MAJOR RESEARCH PRESS

- Engineering News Record "A First Step Toward Predicting Deadly Construction Accidents." 8/10/16 by Richard Korman
- Engineering News Record "CII research shows potential for safety, productivity gains." 8/8/2013 by Judy Scott.
- Engineering News Record "New research reveals the safety hazards of green building." 2/27/2012 (reposted in *Architectural Record* and *GreenSource*) by Katie Frasier
- Building Design and Construction "A closer look at increased construction injury risk in LEED projects." 2/12/2012 by Lynn Simnick
- Engineering News Record "Study: Green construction projects have higher injury rates." 12/20/2011 by Katie Frasier

EXTERNALLY-FUNDED RESEARCH

Summary of Funded Projects

ID	Start Year	Project Title	Agency	Role	Total Amount	Hallowell Share
AA	--	Construction Safety Research Alliance	CSRA	PI	$2,000,000	$2,000,000
Z	2019	Improving construction work performance through human-centered augmented reality	NSF	PI	$1,137,869	$183,872
Y	2019	Immersive Virtual Reality with Haptic Feedback to Improve Safety Hazard Recognition, Assessment, and Decision-Making Among Construction Professionals	NSF	Co-PI	$750,000	$241,113
X	2017	Measuring and Optimizing the Lifecycle Business Return of Building Investments	CII	PI	$109,700	$89,700
W	2017	Pathfinder: A Research Program to Double the Downstream and Chemicals Sector Productivity	CII	Co-PI	$150,000	$50,000
V	2016	PFI:BIC: Smart Factories: An Intelligent Material Delivery System to Improve Human-Robot Workflow	NSF	PI	$1,000,000	$284,946
U	2014	Measuring, predicting, and improving construction safety by improving hazard signal detection with augmented virtuality	NSF	PI	$310,000	$209,600
T	2014	Using Precursor Analysis to Prevent Low-frequency High-impact Events, Including Fatalities	CII	PI	$230,174	$161,787
----TENURE---						
S	2014	Managing Fatigue for Transmission and Distribution Line Workers	ELECTRI	PI	$38,000	$38,000
R	2014	Safety risk analysis at the attribute level	Kiewit	PI	$32,000	$32,000
Q	2013	Successful implementation of enterprise risk management in state transportation agencies	NCHRP	Co-PI	$87,982	$9,050
P	2013	Optimizing the Risk and Cost of Materials QA Programs	NCHRP	Co-PI	$399,970	$50,000
O	2012	CAREER: Predictive Modeling of Construction Injuries in Complex Environments–Integrated Research, Teaching, and Outreach Plan	NSF	PI	$400,000	$400,000
N	2012	Automation of safety risk analysis during construction work packaging	Bentley	PI	$52,984	$52,984
M	2012	President's teaching and learning collaborative – Andragogy and pedagogy	U of CO	PI	$1,550	$1,550
L	2012	Lifecycle safety risk assessment of high performance sustainable buildings	NIOSH	PI	$15,000	$15,000
K	2012	Phase II study on safety performance at the Colorado DOT	CDOT	CO-PI	$113,697	$30,500
J	2011	A PtD Tool for High Performance Sustainable Buildings	NIOSH	PI	$10,000	$10,000
I	2011	Strategies for health, safety, and environmental hazard recognition	CII	PI	$265,000	$150,000
H	2011	Construction management practices for	NCHRP	PI	$75,000	$52,397

		rural projects				
G	2011	Designing for safety and health in green buildings	NIOSH	PI	$30,000	$30,000
F	2010	Safety Information Modeling II	Bentley	PI	$38,048	$38,048
E	2010	Driving to zero with safety leading indicators	CII	CO-PI	$197,982	$57,188
D	2010	Cost-benefit of de-energizing line work	ELECTRI	PI	$29,990	$29,990
C	2010	Executive strategies for risk management by state departments of transportation	NCHRP	PI	$50,000	$32,000
B	2009	Safety Information Modeling I	Bentley	PI	$27,000	$27,000
A	2008	Case studies of innovation	CII	CO-PI	$85,000	$28,333
				Total	**$7,636,946**	**$4,305,058**

Key:
CSRA – Construction Safety Research Alliance (csra.colorado.edu)
NSF - National Science Foundation
Bentley – Bentley Systems (Private Company)
CDOT – Colorado Department of Transportation
CPWR – Center for Construction Research and Training
CII – Construction Industry Institute
ELECTRI – Electrical Contractors Foundation (ELECTRI International)
NCHRP – National Cooperative Highway Research Program (National Academies)
NIOSH – National Institute of Occupational Safety and Health
U of CO – University of Colorado

Mentor and Proposal Advisor for Externally-Funded Students
Full PhD Funding, Saudi Arabia Ministry of Higher Education, Wael Alruqi (2016)
Full PhD Funding, Saudi Arabia Ministry of Higher Education, Mohammed AlBattah (2011)
Graduate Research Fellowship, National Science Foundation, Matthew Calhoun (2009)
Full PhD Funding, Saudi Arabia Ministry of Higher Education, Rayyan Alsamadani (2009)

TEACHING
Course Evaluations (CU only, scores are based on a 6-pt scale). Collected until course evaluations became formative instead of evaluative.

Course Title	# students	Term	Course Overall	Instructor Overall	Instructor Effectiveness	How much learned
CVEN 5226 – Construction Safety	9	F17	5.4	5.8	5.9	5.3
CVEN 3246 - Intro to Con	47	S17	5.6	5.9	5.7	5.3
CVEN 5226 – Quality and Safety	21	F16	5.1	5.7	5.6	5.1
CVEN 3256 – Con equip & meth	55	F16	5.3	5.6	5.6	5.2
CVEN 5226 - Quality and Safety	13	S15	5.8	5.9	6.0	5.6
CVEN 3246 - Intro to Con	34	S14	5.5	5.8	5.5	5.5
CVEN 5226 - Quality and Safety	15	S14	5.3	5.6	5.8	5.3
CVEN 3256 – Con equip & meth	86	F13	5.3	5.7	5.5	5.2
CVEN 5226 - Quality and Safety	14	S13	5.7	5.8	5.9	5.6
CVEN 3246 - Intro to Con	17	S13	5.9	5.8	5.9	5.6
CVEN 3256 – Con equip & meth	85	F12	5.1	5.3	5.4	5.0
CVEN 5226 - Quality and Safety	17	S12	5.5	5.9	5.8	5.6
CVEN 3246 - Intro to Con	16	S12	5.6	5.9	5.8	5.6
CVEN 3256 – Con equip. & meth.	84	F11	5.4	5.7	5.6	5.3

CVEN 3246 - Intro to Con	29	S11	5.6	5.8	5.8	5.7
CVEN 5226 - Quality and Safety	23	S11	5.5	5.6	5.6	5.3
CVEN 3246 - Intro to Con	51	F10	5.5	5.8	5.8	5.4
CVEN 3246 - Intro to Con	56	F10	5.5	5.7	5.7	5.3
CVEN 5226 - Quality and Safety	14	S10	5.4	5.8	5.9	5.3
CVEN 3246 - Intro to Con	50	F09	5.3	5.8	5.6	5.2
CVEN 3246 - Intro to Con	50	F09	5.4	5.8	5.7	5.1
CVEN 5226 - Quality and Safety	10	S09	5.9	5.9	6.0	5.9
CVEN 3246 - Intro to Con	91	F08	5.2	5.6	5.3	5.1

STUDENT ADVISING

[1]MS thesis option
[2]MS report option

Roya Raeisi	PhD	"Science of Safety Training"	Expected 2024
Arnaldo Bayona	PhD	"Unique precursors of SIF	Expected 2024
Sreeja Thallapureddy	PhD	"Incident Investigation and Learning"	Expected 2024
Jazmin Lopez	PhD	"Safety VR+Haptic"	Expected 2024
Elif Erkal	PhD	"Predictive analytics"	Graduated 2022
Katie Welfare	PhD	"Human factors climate"	Graduated 2020
Rico Salas	PhD	"Measuring safety impact"	Graduated 2020
Wael Alruqi	PhD	"Assessment of predictive safety indicators"	Graduated 2019
Siddharth Bhandari	PhD	"Emotion, simulation and signal detection"	Graduated 2019
Dylan Hardison	PhD	"Impact of design information on PtD"	Graduated 2018
Erin Arneson	PhD	"Construction capacity"	Graduated 2018
Morgan Westbrook	MS[1]	"Lifecycle value of building investments"	Graduated 2018
Jacinto Cabello	MS[2]	"Safety social networks."	Graduated 2017
Sravan Shanmugam	MS[2]	"Focus on compliance in HR tasks"	Graduated 2017
Ulises Techera	PhD	"Fatigue management in construction"	Graduated 2017
Dillon Alexander	MS[1]	"Precursors of high severity injuries"	Graduated 2016
Matthew Calhoun	PhD	"Strategies for evaluating less mature safety"	Graduated 2015
Rico Salas	MS[1]	"Predictive analytics using leading indicators"	Graduated 2015
Sofia Hafdani	MS[1]	"Emotions and situational interest"	Graduated 2015
Antoine Tixier	PhD	"Safety as a natural system"	Graduated 2015
Eric Oechler	MS[1]	"Risk-based QA for highway materials"	Graduated 2015
Ivo Yugar-Arias	MS[1]	"Hispanic worker safety challenges"	Graduated 2014
Marc Prades	MS[1]	"Predicting injuries in industrial projects"	Graduated 2014
Daniel Hansen	MS[1]	"Designer hazard recognition skill"	Graduated 2014
Matthieu Desvignes	MS[1]	"Safety risk in technology"	Graduated 2014
Tim McGuire	MS[1]	"Enterprise risk management"	Graduated 2014
Marcos Duarte	MS[1]	"Utility of safety investments"	Graduated 2014
Michael Skaggs	MS[2]	"Hazard recognition trends by energy source"	Graduated 2014
Alex Albert	PhD	"Hazard recognition"	Graduated 2013
Rayyan Alsamadani	PhD	"Safety social networks"	Graduated 2013
Antoine Tixier	MS[1]	"Emotion and risk perception"	Graduated 2013
Behzad Esmaeili	PhD	"Attributed-based safety assessment"	Graduated 2012
Kevin Baud	MS[1]	"Passive leading indicators for safety"	Graduated 2012
Marielle Roucheray	MS[2]	"PtD tool for worker safety"	Graduated 2011
Katie Dewlaney	MS[1]	"Design for safety and health for LEED"	Graduated 2011
Barney Fortunato	MS[1]	"LEED and worker safety"	Graduated 2010

Dennis Riordan	MS[2]	"EM385 impacts on contractor safety"	Graduated 2010
Eric Antillòn	MS[1]	"Relationship between safety and lean"	Graduated 2010
Matthew Calhoun	MS[1]	"Synergy in safety management"	Graduated 2010
Sangeeta Pandey	MS[2]	"Highway maintenance risk"	Graduated 2009
James Tabata	MS[2]	"DOT safety management"	Graduated 2008

PhD Student Placement

Initial Appointments after Graduation

Dr. Siddharth Bhandari, Assistant Professor at Western Michigan University (tenure-track)
Dr. Erin Arneson, Assistant Professor at Colorado State University (tenure-track)
Dr. Dylan Hardison, Assistant Professor at East Carolina University (tenure-track)
Dr. Alex Albert, Assistant Professor at North Carolina State University (tenure-track)
Dr. Wael Alruqi, Assistant Professor at Al Jouf University (tenure-track)
Dr. Behzad Esameili, Assistant Professor at University of Nebraska (tenure-track)
Dr. Matthew Calhoun, Assistant Professor at University of Alaska Anchorage (tenure-track)
Dr. Ulises Techera, Instructor at University of Colorado-CMU campus
Dr. Antoine Tixier, Research Scientist, École Polytechnique
Dr. Rayyan Alsamadani, Ministry of Public Works, Saudi Arabia

Undergraduate Research Advisees

Nathan Stambaugh
Josianne Proulx
Yuri Andrade
Dillon Alexander
Zachary Noonan
Siddharth Bhadari
Spencer Lacy
Carrie Sorenson
Alexander Aguilar
Daniel Hansen
Taylor Curtis
Ryan Decker
Stephen Shattuck
Blake Royal
Taylor Curtis
Elizabeth Snatchko
Similoluwa Ogundipe
Michael Gartman
Marisa Isenhardt
Jodie Ellis
Anthony Renstrom
Benjamin Paskal
Mickey Chianese
Mark Baker
Jacinto Cabello
Stephanie Hassoldt
Alexa Schaefer
Tyler Lawson
Christopher Denhardt
Todd Leinbach
Shayne Guenther
Faisal Alshallal
Peter Berg
Tyler Bowman
Chris Bouchet
Wes Blaney

Doctoral Committee Participation (other than primary advisor)

Dr. Kellen Mrkva
Dr. Farzad Minooei
Dr. Cristina Poleacovschi
Dr. Scott Stanford
Dr. Payam Prizadeh
Dr. Omar Alruwathi
Dr. Mohammed AlBattah
Dr. Wesam Beitelmal
Dr. Dave Bonham
Dr. John Wanberg
Dr. Yongwei Shan
Dr. Dan Tran
Dr. Nathanial Sobin
Dr. Elizabeth Craft
Dr. James O'Brien
Dr. Spencer Won

PROFESSIONAL AND HONORARY SOCIETY MEMBERSHIPS

Member, The Beavers, 2014 -present

Member, American Society of Civil Engineers (ASCE), 2004 – present
Member, American Society of Safety Professionals (ASSP), 2005 – present
Member, Chi Epsilon, Oregon State University Chapter. Member, 2007 – present

SERVICE ACTIVITIES

Internal Service Roles

Campus/CU system
Director of the President's Teaching and Learning Collaborative (PTLC) (2016-2018)
Member, President's Teaching and Learning Collaborative (PTSP) (2017–present)

College of Engineering and Applied Science
Member, Future Leadership Advancement Group, (2015-2017)
Member, Committees for College Teaching Awards and Teaching Professor Selection (2017-2019)
Member, Graduate Education Council (2014-2015)

Department of Civil, Environmental, and Architectural Engineering
Associate Chair for Administration (2018 to present)
Associate Chair for Graduate Education (2014-2015)
Faculty Director for Civil Engineering (2016-2018)
Chair, Construction Engineering and Management TTT Search Committee (2012)
Chair, Construction Engineering and Management Senior Instructor Search Committee (2011)
Chair, Graduate Committee (2014-2015)
Member, Executive Committee (2015-2020)
Member, Climate and Bylaws Committee (2018-2019)
Member, Mentoring Committee (2018-2020)
Study Abroad Advisor (2012-2013)
Honors Program Advisor (2012-2013)
Member, Graduate Committee (2008-2010; 2013-2014)
Member, Curriculum Committee (2010-2011)
Member, Computing Committee (2010-2011)
Member, Building Systems TTT Search Committee (2010-2011)

External Service Roles

Journal Editorships
Associate and Section Editor, Safety Science, Elsevier (2017-present)

Journal Peer-Reviewer
Smart and Sustainable Built Environment (2012-present)
Engineering Construction and Architectural Management (2012-present)
Automation in Construction (2012-present)
Engineering Project Organizations (2012-present)
Journal of Infrastructure Systems (2010- present)
Journal of Management in Engineering (2011-present)
Journal of Safety, Health, and Environmental Research (2010-present)
Journal of Computing in Civil Engineering (2010-present)
Professional Safety, Journal of the American Society of Safety Engineers (2009-present)
Journal of Urban Planning and Development (2009-present)

Journal of Construction Engineering and Management (2008-present)
Construction Management and Economics, (2008-present)

Committee participation (National):
National Academy of Engineering, Frontiers of Engineering Education
ENR Best Project Selection Committee
Academic Leader and Administrator, Construction Industry Institute Safety Community of Practice
ASSE Construction Practice Specialty
ASCE Prevention through Design (PtD) Committee
ASCE Site Safety Committee
ASCE Construction Research Council
Scientific and Technical Committee of CIB-W99
CIB W099 Working Group on Construction Safety and Health
ASSE Technical Advisory Committee

Significant Invited Professional and Academic Talks (Last ~3 years)

Date	Topic	Organization	Location	Type	Duration	Approx. # attendees	Audience
9/13/20	Signal detection in complex environments	CIB W099 International Safety Committee	Glasgow	Keynote	60 mins	120	Academic
6/13/20	Precursor analysis	American Society of Safety Professionals	Orlando	Keynote	90 mins	350	Academic
4/29/19	Learning from serious injuries and fatalities	Edison Electric Institute	Washington DC	Keynote	60 mins	150	Academic and Professional
10/10/19	Measuring potential serious injuries	OSHA ETD Partnership	Charlotte	Keynote	60 mins	12	CEOs of major utilities
1/15/20	Building capacity for safety success	Summit Line Contractors	Salt Lake City	Workshop	180 mins	150	Professionals (Workers)
11/20/19	Predicting safety performance	Wolf Creek Safety Summit	Houston	Workshop	120 mins	25	Professionals (Senior VP)
10/2/19	Construction safety research alliance	National Construction Safety Executives	Seattle	Keynote	60 mins	25	Professionals (Senior VP)
9/27/19	Precursor analysis	Edison Electric Institute	Denver	Presentation	45 min	150	Academic and Professional
9/11/19	Energy-based hazard recognition	Quanta Services Safety Summit	Houston	Keynote	45 min	300	Professional (Senior Managers)
8/9/19	Prevention through design	Southern Company	Birmingham	Workshop	120 mins	25	Professional (Senior Managers)
6/4/19	Energy-based hazard recognition	Exelon Safety Summit	Washington DC	Keynote	60 mins	225	Professional (Senior Managers)
5/20/19	Prevention of serious injuries and fatalities	Stanford Project Leadership Institute/DOE	Boulder	Workshop	120 mins	30	Academic and Professional
2/13/19	Leading safety metrics	OSHA	Washington DC	Presentation	60 mins	25	Administration and Professionals
5/15/19	Safety prediction	Electric Power Research Institute	Denver	Presentation	60 mins	40	Academic and Professional
11/6/18	Precursor analysis	Aecon	Toronto	Workshop	120 mins	200	Professional (Senior Managers)
10/11/18	Safety leading indicators	International Gas Pipeline association	Houston	Workshop	60 mins	150	Professional (Senior Managers)

8/22/18	Energy-based hazard recognition	Edison Electric Institue	Chicago	Keynote	60 mins	100	Academic and Professional
5/8/18	Safety leading indicators	Stanford Project Leadership Institute/DOE	Boulder	Presentation	60 mins	25	Academic and Professional
2/7/18	Prevention through design	International Gas Pipeline association	Houston	Keynote	60 mins	150	Professional (Senior Managers)
11/18/17	Safety leading indicators	Wolf Creek Safety Summit	Houston	Keynote	60 mins	25	Professional (Senior Managers)
9/6/17	Human factors assessment	ARCOM	Cambridge	Presentation	40 mins	120	Academic
11/13/17	Hazard recognition and risk perception	CIB W099 International Safety Committee	Capetown	Presentation	40 mins	50	Academic
2/15/17	Hazard recognition and precursor analysis	Canadian Pipeline Association	Edmonton	Workshop	120 mins	100	Professionals (Workers)
1/24/17	Safety leading indicators	American General Contractors	Denver	Presentation	60 mins	50	Academic and Professional
9/6/16	Precursor analysis	National Academy of Construction	Napa	Keynote	60 mins	100	Academic and Professional

Note: Presentations are standard invited talks; workshops are thematic talks with many learning objectives and. Longer duration, and keynote addresses are to large audiences or the purpose of convening the group.

These talks are all based upon my published research in peer-reviewed journals. This list does not include conference presentations.