

ERIC M. WETZEL, Ph.D.
BOB ADEHOLDT ENDOWED ASSOCIATE PROFESSOR
DIRECTOR OF THE CARV LAB
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EDUCATION

Ph.D., Environmental Design and Planning, Virginia Tech

Cunningham Doctoral Scholar

Advisor and Dissertation Committee Chair: Dr. Walid Y. Thabet

Dissertation: The Use of a BIM-Based Framework to Support Safe Facility Management Processes

M.B.C., Masters of Building Construction, Auburn University

Atlanta Building Science Alumni Committee Graduate Scholarship

Advisor: Dr. C. Ben Farrow

B.S., Construction Management, Western Kentucky University

RESEARCH INTERESTS

Autonomous Robotics in Construction

Automation in Construction

AI in Construction

SELECTED HONORS AND AWARDS

2025 Darby Faculty Fund for Excellence in Teaching Award

McWhorter School of Building Science at Auburn University

2024 Bob Aderholdt Endowed Professorship

McWhorter School of Building Science at Auburn University

2024 Michael K. Runyan Faculty Fund for Excellence Research Award

McWhorter School of Building Science at Auburn University

2023 AGC Alabama Associate of the Year

AGC Alabama / BUILDSouth

2022 Atlanta Alumni Building Science Fund for Excellence

McWhorter School of Building Science at Auburn University

2021 Atlanta Alumni Building Science Excellence in Service Award

McWhorter School of Building Science at Auburn University

- 2020 Top 40-Under-40 in Construction
AGC Alabama / Business Alabama
- 2019 Alumni Undergraduate Teaching Excellence Award
Auburn University
- 2019 The Benning Fund for Excellence in Teaching
McWhorter School of Building Science at Auburn University
- 2018 Outstanding Faculty Award (selected by Student Government Association)
College of Architecture, Design, and Construction at Auburn University
- 2016 Outstanding Teaching Award
McWhorter School of Building Science at Auburn University
- 2016 Outstanding Doctoral Student Award
College of Architecture and Urban Studies at Virginia Tech
- 2014 Global Perspectives Program Scholarship Award
The Graduate School at Virginia Tech
- 2013-2016 Cunningham Doctoral Scholar Award
The Graduate School at Virginia Tech & Department of Building Construction
- 2012 Innovations in Water and Wastewater: First place
Bentley Be Inspired Awards, Amsterdam, Netherlands

ACCREDITATION AND CERTIFICATIONS

- Institutional Review Board (IRB) & CITI Training in Human Subjects Protection
- Virginia Tech Future Professoriate Graduate Certificate

RELEVANT TEACHING EXPERIENCE

Auburn University – Auburn, AL

Bob Aderholdt Endowed Associate Professor **August 2022 - Present**
Tenured Associated Professor in the McWhorter School of Building Science at Auburn University. Responsible for the education of students and the betterment of the AEC industry through teaching, research, and service. Teaching responsibilities include scheduling and field operations, construction IT, construction documents, estimating, and graduate-level courses.

Assistant Professor of Building Science **January 2016 – August 2022**

Virginia Tech – Blacksburg, VA

Graduate Teaching Assistant**August 2013 – December 2015**

Provided support to Dr. Walid Thabet for BC 4434 – Construction Practice I and Professor Thomas Mills for BC 1100 – Introduction to Building Construction.

Western Kentucky University – Bowling Green, KY**Adjunct Instructor – Instructor of Record****January 2013 – May 2013**

Online Adjunct Instructor for CM 400 - Construction Administration to seniors of the Western Kentucky University Construction Management Program. Responsible for all aspects of instructing at the university level including, developing, and delivering lectures, assignments, and examinations.

RELEVANT RESEARCH EXPERIENCE

Auburn University – Auburn, AL**CARV Lab Director****December 2023 – Present**

The director of the Construction Automation, Robotics, and Visualization Lab is responsible for spearheading research in specific subsets of artificial intelligence and visualization. The director guides multidisciplinary teams, fostering innovation and collaboration to develop cutting-edge solutions for the construction industry. Responsibilities include securing funding through grants, managing projects, executing outreach, and mentoring students. Additionally, the lab maintains industry partnerships, ensuring the research aligns with industry needs and contributes to the academic excellence of Auburn University's McWhorter School of Building Science program.

Faculty Research Appointment**January 2016 – Present**

Conducting research and publishing commensurate with the requirements of a tenure-track faculty member at a Carnegie R1 Doctoral University. Areas of research include construction robotics, BIM, active learning, and educational technologies.

Virginia Tech – Blacksburg, VA**Ph.D. Dissertation****August 2013 – October 2016**

Maintenance personnel in the field of facility management (FM) are at constant risk of electrical shock, falls, crushing, cuts and bruises, and as a result, have a much higher rate of injury and illness than the national average. Case study analysis confirms that many recorded accidents could have been avoided had the victim followed appropriate hazard mitigation steps to safely execute an FM task. Currently, safety information is conveyed through training seminars, documents, and meetings. This information, although comprehensive, often remains fragmented among multiple resources. Research has shown that the more time and effort an individual must spend obtaining information, the less likely they are to retrieve the information and obey the stated warnings, directly relating to injuries and fatalities. The research attempts to mitigate these issues by developing a BIM-based framework to support safe maintenance and repair practices during the facility management phase, through safety attribute identification/classification, a data retrieval and processing decision engine, and a graphical user interface.

BOOK, REFEREED JOURNALS, AND CONFERENCE PROCEEDINGS

Book

Farrow, C.B., Wetzel, E.M., Leathem, T.M. (2022) "Teaching in the Built Environment: Creating Transformational Active Learning Experiences" *Routledge*, New York, NY.

Refereed Journals

Umer, M., Wetzel, E.M. and Powell, C., (2026). "Advancing toward Automated Material Counting and Localization Using RFID, a Boston Dynamics Spot Robot, and a Bayesian Filter Algorithm." *Journal of Construction Engineering and Management*, 152(1), <https://doi.org/10.1061/JCEMD4.COENG-17199>

Farrow, C.B, Wetzel, E.M., Leathem, T., McGoey, K. (2026) "A Study on the Participation and Impact of Study Abroad for Undergraduate Students in a College of Architecture, Design, and Construction." *New Directions for Teaching and Learning* <https://doi.org/10.1002/tl.70028>

Toyin, J., Sattineni, A., Wetzel, E.M., Fasoyinu, A.A., Kim, J. (2025) "Augmented reality in U.S. Construction: Trends and future directions." *Automation in Construction*, DOL: <https://doi.org/10.1016/j.autcon.2024.105895>

McGoey, K, Farrow, C.B., Boyd, K., Leathem, T., Wetzel, E.M. (2025) "Peak Learning Moments: A Thematic Analysis of Student Experiences in Higher Education." *Research & Practice in Assessment*

Leathem, T, Wetzel, E.M., Farrow, C.B., (2025) "Reflections of Transformative Active Learning Experiences (TALEs) in Higher Education" from Early Career Construction Management Professionals. *International Journal of Construction Management*

Wetzel, E.M. and Farrow, C.B. (2023) "Active Learning in Construction Management Education: Faculty Perceptions of Engagement and Learning." *International Journal of Construction Management*, DOI: 10.1080/15623599.2021.1974684

Farrow, C.B. and Wetzel, E.M. (2022) "Faculty Perceptions of Interactive Learning Spaces within Construction Programs." *Journal of Civil Engineering Education*, DOI: 10.1061/ (ASCE) EI.2643-9115.0000058

Farrow, C.B. and Wetzel, E.M. (2020) "An Active Learning Classroom in Construction Management Education: Student Perceptions of Engagement and Learning." *International Journal of Construction Education and Research*, DOI: 10.1080/15578771.2020.1757536.

Wetzel, E.M., and Thabet, W.Y. (2018). "A Case Study Towards Transferring Relevant Safety Information for Facilities Maintenance Using BIM." *Journal of Information Technology in Construction (ITCON)*, 23, 53-74, <https://www.itcon.org/2018/3>.

Wetzel, E.M., and Thabet, W.Y. (2016). "Utilizing Six Sigma to Develop Standard Attributes for a Safety for Facilities Management (SFFM) Framework." *Safety Science*,

89, 355-368.

Wetzel, E.M., and Thabet, W.Y. (2015). "The Use of a BIM-Based Framework to Support Safe Facility Management Processes." *Automation in Construction*, 60, 12-24.

Conference Proceedings

Wetzel, E.M., Umer, M., Powell, C.M., Sands, K.S., (2026) "COTVIS: A Novel Core Temperature Visualization Device for Enhanced Peer Awareness" *Proc., 62nd Annual Associated Schools of Construction International Conference*, San Luis Obispo, CA

Powell, C.M., Wetzel, E.M., Sands, K.S., (2026) "Automated Construction Site Intrusion Deterrence Through 2D LiDAR and Passive Infrared Sensing" *Proc., 62nd Annual Associated Schools of Construction International Conference*, San Luis Obispo, CA

Anwar, R., Wetzel, E.M. (2026) "Real-Time Hyperspectral Classification of Visually Similar Materials: A Pilot Study" *Proc., 62nd Annual Associated Schools of Construction International Conference*, San Luis Obispo, CA

Sands, K., Wetzel, E.M. (2025), "Toward an Understanding of Construction Workers' Decision to Stop Work When Experiencing Symptoms of Heat Strain: A Pilot Investigation" *Proc., 61st Annual Associated Schools of Construction International Conference*, Calgary, AB.

Leathem, T., Wetzel, E.M., Farrow, C.B., Umer, M. (2025) "Exploring the Impact of Large Language Models on Building Construction Students: A Pilot Study" *Proc., 61st Annual Associated Schools of Construction International Conference*, Calgary, AB.

Umer, M. and Wetzel E.M. (2024), "Applications of Machine Learning, Computer Vision, and Robotics in the Construction Engineering and Management Domain." *Fourteenth International Conference on Construction in the 21st Century (CITC-XIV)*, Brazil, September 2-5, 2024.

Wetzel, E.M., Young, M., Umer, M. (2024) "Towards Autonomous Construction Material Inventory Management using a Boston Dynamics SPOT and Ultra-High Frequency (UHF) Passive RFID." *Proc., 60th Annual Associated Schools of Construction International Conference*, Auburn, AL.

Bona D, Wetzel, E.M., Wren J. (2023) Plenary 2 — A Long-Distance Relationship That Actually Works: Remote Sensing in Engineering Expert-Driven Litigation, *American Bar Association, Forum on Construction Law*, 2023 Midwinter Program, San Juan Puerto Rico.

Farrow, C.B., Leathem, T.M., Wetzel, E.M., (2023) "Maximizing High-impact practices in a curriculum model: A Pilot Study" *IAFOR International Conference on Education in Hawaii*, January 5-8, 2023: Honolulu, Hawaii

Farrow, C.B., Leathem, T.M., Wetzel, E.M., (2023) "Perspective Convergence of HIPs, Moments, and Active Learning in Construction Management Education: Comparing and

Combining Findings from Multiple Research Projects” *IAFOR International Conference on Education in Hawaii*, January 5-8, 2023: Honolulu, Hawaii

McGoey, K.M., Boyd, K.; Farrow, C. Ben; Leathem, T.; and Wetzel, E.M. (2022) “Peak Learning in High-Impact Practices: A Qualitative Study.” *Proceedings of the 2022 International Assessment Institute*, October 9-11, 2022: Indianapolis, Indiana.

Wetzel, E.M., Liu, J., Leathem, T. (2022), “The Use of Boston Dynamics SPOT in Support of LiDAR Scanning on Active Construction Sites.” *International Symposium on Automation and Robotics in Construction (ISARC)*, Bogota, Colombia.

Wetzel, E.M., Umer, M., Richardson, W., Patton, J. (2022), “A Step Towards Automated Tool Tracking on Construction Sites: Boston Dynamics SPOT and RFID.” *Proc., 58th Annual Associated Schools of Construction International Conference*, Atlanta, GA.

Farrow, C.B., Leathem, T.M., Wetzel, E.M., Boyd, K., and Mcgoey, K. (2022), “Do High Impact Educational Practices Translate to Peak Learning Moments? An Introductory Study of Student Experiences in the Built Environment.” *Proc., 58th Annual Associated Schools of Construction International Conference*, Atlanta, GA.

Farrow, C.B., Wetzel, E.M., Leathem, T.M. (2021), “An Initial Investigation of Student Experiences with the Elements of High Impact Educational Practices.” *Proc., 57th Annual Associated Schools of Construction International Conference*, Virtual.

Wetzel, E.M. and Leathem, T.M. (2019). “Delivering Multi-Disciplinary Experiences in Education: A Study of Construction Program Practices to Meet Accreditation Requirements.” *American Society of Engineering Education 126th Annual Conference & Exposition*, Tampa Bay, FL.

McCall, C, Wetzel, E.M., Leathem, T.M., Collins, W. (2019). “Pedagogy for 21st Century Construction Education: Active and Collaborative Learning in Correlation with ACCE Student Learning Outcomes.” *Proc., 55th Annual Associated Schools of Construction International Conference*, Denver, CO.

Wetzel, E. M. (2018). "A Market Survey of BIMFM Readiness Among Designers and Builders in the Southeast United States." *Proc., 54th Annual Associated Schools of Construction International Conference*, Minneapolis, MN.

Leathem, T.M., Wetzel, E. M., Good, M., Boyd, K., and Burt, R. (2018). "Analysis of the AIC Associate Constructor Practice Exam for Cognitive Domain and ACCE Student Learning Outcomes (SLO) Inclusion" *Proc., 54th Annual Associated Schools of Construction International Conference*, Minneapolis, MN.

Wetzel, E.M., Lucas, J., Thabet, W.Y. (2017). “The Utilization of an Asset Safety Identification Tool (ASIT) to Support Safety During Facilities Management.” *International Workshop on Computing for Civil Engineering*, Seattle, WA.

Wetzel, E.M. and Holley, P. (2017). “Evaluation of Self-Modifications to Hand Tools in the Construction Industry.” *53rd International Associated Schools of Construction Conference*, Seattle, WA.

Wetzel, E.M, Thabet, W.Y., Cleveland, B. (2014). "Information Handover Using BIM to Support Safe Facility Management Processes: Current Challenges." *Proceedings of the 2nd BIM International Conference*, Lisbon, Portugal, 109-111.

Wetzel, E. M., and Luna, J. (2014). "Utilizing 4D Visualization for Complex Schedule Analysis." *Associated Schools of Construction Conference*, Washington, D.C.

SELECTED KEYNOTES, PANELS, PROFESSIONAL PRESENTATIONS, AND POSTER SESSIONS

Keynotes/Panels

Keynote: 10th Annual Construction Symposium (2025). "AI on the Jobsite: Today's Tools and Tomorrow's Tech." Greenville, SC

Panel: Winchester Institute (2025). "Constructing the Future: How Technology is Reshaping the Way We Build." Auburn, AL

Keynote: National Insulation Contractors Exchange (2025). "AI in Construction." Minneapolis, MN

Keynote: ECC Future Leaders (2023). "Ready, Set, Build: Launching the Future with Construction Robotics." Marco Island, FL

Keynote: JROTC STEM Leadership Academy (2023). "STEM, Robotics, and Leadership," Mobile, AL.

Keynote: AGC Construction Leadership Council: Leadership Development Conference (2022). "Construction Robotics," Point Clear, AL.

Keynote: AGC Alabama Annual Conference (2022). "Construction Robotics", Sandestin, FL.

Keynote: ABC Alabama Tech Conference (2022). "Current Robotics Research", Birmingham, AL.

Professional Presentations

Farrow, C.B., Wetzel, E.M., Leathem, T.M., Cline, C. (2025) "Camino to Collaboration A Place Based Study Abroad Model for Construction Management" *International Perspectives on University Teaching and Learning*, Orlando, FL.

Wetzel, E.M., Farrow, C.B., Leathem, T.M. (2023). "Transformational Active Learning Experiences (TALEs) Regardless of Class Type." *International Perspectives on University Teaching and Learning*, Orlando, FL.

Farrow, C.B. and Wetzel, E.M. (2021). "International Student Competitions: A High-Impact Practice for Internationalization." *International Perspectives on University Teaching and Learning*, Orlando, FL.

Kim, J., Farrow C.B, Burt, R., Leathem T., Wetzel, E.M. (2019). "Bringing the

Construction Site to the Classroom.” *Innovations in Built Environment Education Workshop (iBEE)*, Salford, UK.

Wetzel, E.M. (2012). "South Secondary Improvements Project." *Bentley Be Inspired Awards*, Bentley Industries, Amsterdam, Netherlands. First Place – Innovation in Water and Wastewater Treatment Plants.

Wetzel, E.M. and Luna, J. (2012). "Utilizing 4D Modeling for Construction Scheduling." *2012 CMAA National Conference and Trade Show*, Construction Management Association of America, Chicago, IL.

Wetzel, E.M. and Luna, J. (2012). "The Utilization of 4D Modeling on MWRD's South Secondary Improvements Project." *RMWSA/RMWEA Joint Regional Conference 2012*, Rocky Mountain Water Environment Association, Copper Mountain, CO.

Poster Sessions

Umer, Muhammad and Wetzel, Eric M. (2023), “Empirical Assessment of US Industry Productivity Data with a focus on the US Construction Industry” *Abstract and Poster Presentation at 2023 Auburn Research Student Symposium*, held on March 28, 2023, at Auburn University Melton Student Center.

Umer, Muhammad and Wetzel, Eric M. (2022), “Development of Safer Facilities Information Model (SFIM) using Virtual Reality (VR) – A Step towards Achieving Total Facilities Management (TFM).” *Abstract and Poster Presentation at 2022 Auburn Research Student Symposium*, held on March 28, 2022, at Auburn University Melton Student Center.

Chambers, B.D., Wetzel, E.M., and Pearce, A.R. (2019). “Towards a BIM Framework for Integrated Pest Control Management and Research.” *Engineering Sustainability*, Pittsburgh, PA.

Wetzel, E.M. and Burt, R. (2018). “Evaluating the Knowledge and Cognitive Domain of Individual Test Questions Against Anderson et. al Revision to Bloom’s Taxonomy.” *Conversations in Celebration of Teaching*, Auburn, AL.

Wetzel, E.M. and Burt, R. (2017). “Evaluating the Knowledge and Cognitive Domain of Individual Test Questions Against Anderson et. al Revision to Bloom’s Taxonomy.” *53rd International Associated Schools of Construction Conference*, Seattle, WA.

Manion, W.P., Munz, S., Wetzel, E.M., Shayo, A., Tyhurst, M. and Burge, P. (2016). Poster: “Communicating Science: A Qualitative Study.” *2016 Conference on Higher Education Pedagogy*, Blacksburg, VA.

Wetzel, E.M. (2013). “An Integrated Product Model and Ontology for Safety Protocol during the Facility Management Phase.” *Department of Building Construction Research Presentations*, Blacksburg, VA.

Wetzel, E. M., and Farrow, C. B. (2009). "The Study of Market Demand for a New Post Tension Cable Chair." *Associated Schools of Construction Conference – Poster Session* Gainesville, FL.

RELEVANT SERVICE EXPERIENCE

American Council for Construction Education: Standards July 2019 – July 2024

A current member of the Standards Committee for the American Council for Construction Education (ACCE). The ACCE is the accreditation entity for building science and construction management programs across the United States.

Other

January 2016 - Present

- BSCI Ph.D. Committee Member: Active
- Board Member: WKU Construction Management
- ACCE Visiting Teams
- Dozens of K-12 Outreach (STEM and Robotics)

INDUSTRY EMPLOYMENT HISTORY

Wetzel Consulting, LLC – Auburn, AL

Principal

January 2022 - Present

Provide project controls management services including:

- Forensic Scheduling
- Baseline and Progress Schedule Reviews
- Schedule Training (Fundamentals, Advanced, Software)
- Delay Claim / Schedule Fragnet Analysis
- Third Party Pay Application Review for Real Estate Development Contracts
- Expert Witness
- Training the Trainers (active learning, HIPs, TALEs, etc.)

Carollo Engineers, Inc. - Denver, CO & Auburn, AL

Consulting Employee - Construction Services Group

August 2013 - Present

Provide schedule analysis, delay claim assessment, forensic scheduling, and contract compliance reviews for clients in Arizona, California, Colorado, Florida, New Mexico, Texas, and Washington. Analyzed over \$1 billion in design and construction project schedules and claims. Create design and construction schedules for program management, business development purposes, and proposals. Specialize in cost and resource loaded schedules through all project phases including, pre-design, design, construction, startup, and close out in Oracle P6, Asta PowerProject, or MS Project.

Project Controls - Construction Services Group

October 2010 – August 2013

Owner's Representative for a \$135 million wastewater treatment plant expansion project at the Metro Wastewater Reclamation District (MWRD). Responsible for change management, schedule analysis, contract compliance, monthly financial reporting, pay application review and claims analysis. Managed a team to implement a 4D model of the plant expansion for schedule analysis and risk mitigation.

Field Engineer – Construction Services Group

August 2009 – October 2010

Owner's Representative on a \$6.6 million wastewater treatment demolition and site

preparation project at the Metro Wastewater Reclamation District. Specific responsibilities included management of daily field operations, change management, and financial reports.