

Patrick C. Suermann, Ph.D., PE, LEED AP, F. ASCE, F. SAME

Professor, Interim Dean
College of Architecture
Texas A&M University
Lieutenant Colonel, U.S. Air Force, retired
(M): 719-339-9611
E-mail: suermann@tamu.edu

EDUCATION

Ph.D., 1st ever “Rinker Scholar,” University of Florida, 2009 (College of DCP: Design, Construction, & Planning)

M.S., Texas A&M University, 2003 (Department of Construction Science: Construction Management)

B.S., U.S. Air Force Academy, 1997 (Civil Engineering) #1 graduate to commission as an Air Force Civil Engineer

PROFESSIONAL LICENSURE

2004 – present: Professional Engineer

CONTINUING EDUCATION FOR INDUSTRY

Speaker: “Balancing Risk and Reward in Pacific Deterrence Initiative (PDI) MILCON,” Society of American Military Engineers (SAME) Joint Engineer Training Conference (JETC)

Executive Facilitator: “Geo-materials science methodology for lunar ISRU construction” University of Central Florida’s Center for Lunar and Asteroid Surface Science (CLASS)

Seminar Series for Speakers: Nicole Shumaker, Sarah Deitrick, NASA-ARES, Dr. Jeff Bullard, TAMU <<https://sciences.ucf.edu/class/seminar-series-nicole-shumaker/>>

Executive Facilitator, H-E-B Executive Education for capital improvements, \$40K for COSC Department

PROFESSIONAL MILITARY EDUCATION AND SHORT COURSES

1998 Airfield Pavement Construction Inspection, Air Force Institute of Technology, Wright Patterson AFB, Ohio

2001 Intro to the Base Civil Engineer Organization, Air Force Institute of Technology Civil Engineer School, Wright-Patterson AFB, Ohio

2002 Squadron Officers School (residence), Maxwell AFB, Alabama

- 2008 US Air Force Contingency Engineer Command Course, Wright-Patterson AFB, Ohio
- 2010 US Air Force Incident Management Course, Wright-Patterson AFB, Ohio
- 2011 US Air Force Civil Engineer Commander/Deputy Course, Wright-Patterson AFB, Ohio
- 2011 Air War College (correspondence)
- 2016 US Air Force Fire Marshal Course, Goodfellow AFB, Texas

PROFESSIONAL BACKGROUND

- Oct. 2024 – Aug. 2027 Appointed Temporary Graduate Faculty, The University of Texas at El Paso, Department of Earth, Environmental and Resource Sciences
- Sept. 2023 – Present Professor, Texas A&M University
- Jan. 2022 – Present Appointed Interim Dean, College of Architecture
- Sept. 2017 – Dec. 2021 Head, Texas A&M University Department of Construction Science, McMullan Chair, Tenured Associate Professor of Construction Science
- Oct. 2015 – Aug. 2017 Chief, Emergency Services & Engineering, Lackland Air Force Base, Air Force Installation and Mission Support Center, Texas
- Jan. 2014 – Oct. 2015 Associate Professor of Civil and Environmental Engineering, USAF Academy, Colorado
- July 2012 – Dec. 2013 Assistant Professor of Civil and Environmental Engineering, USAF Academy, Colorado
- June 2011 – June 2012 Commander, 821st Support Squadron, Thule Air Base, Greenland
- Jan. 2011 – June 2011 Executive Officer – Air Force Center for Engineering and the Environment (AFCEE), Lackland AFB, Texas
- May 2009 – Dec 2010 MILCON Project Manager – AFCEE, Lackland AFB, TX and Camp Bastion, Leatherneck, Tombstone Afghanistan
- July 2006 – May 2009 Doctoral Student/Candidate, Guest Lecturer, University of Florida
- July 2005 – July 2006 Assistant Professor of Civil and Environmental Engineering – USAF Academy, Colorado
- July 2003 – July 2006 Instructor of Civil and Environmental Engineering – USAF Academy, Colorado
- July 2002 – July 2003 Master's Student, Guest Lecturer, Texas A&M, College Station, Texas
- April 2000 – July 2002 Chief, Base Development and GeoIntegration, Andersen AFB, Guam

Aug. 1997 – Apr 2000 Environmental Engineer and SABER Chief – Charleston
AFB, South Carolina

PROFESSIONAL SOCIETIES

- American Society of Civil Engineers (ASCE) and ASCE Geo-Institute
- American Society for Engineering Education (ASEE)
- Associated Schools of Construction (ASC)
- Society of American Military Engineers (SAME)
- American Council of Construction Education (ACCE)
- American Institute of Aeronautics and Astronautics (AIAA)
- Tau Beta Pi Engineering Honor Society
- Chi Epsilon Engineering Honor Society
- National Society of Professional Engineers (NSPE)

SELECTED AWARDS

- 2023 Fellow, Society of American Military Engineers, 2023
- 2022 Society of American Military Engineers National Bliss Medal (awarded to a SAME member in recognition of superior efforts in mentoring students in engineering and related disciplines), 2022
- 2021 Associated Schools of Construction, Outstanding Educator of the Year, Region 5
- 2021 Fellow, American Society of Civil Engineers
- 2017 Six Meritorious Service Medals, final Meritorious Service Medal
- 2016 Air Force Science, Technology, Engineering, and Math Outreach Award, HQ Air Force Installation & Mission Support Center (AFIMSC), 2016
- 2016 Associated Schools of Construction, Outstanding Teaching Award, Region 6
- 2015 U.S. Air Force Academy's Associated General Contractors of America Outstanding Educator nominee
- 2014 2015 U.S. Air Force Academy's Associated General Contractors of America Outstanding Educator nominee
- 2013 Field Grade Officer of the Quarter, 2nd Quarter, Department of Civil and Environmental Engineering, USAF Academy, CO
- 2010 Toulmin Medal Winner for Excellence from "The Military Engineer," #1 Article of 2010
- 2009 National Society of Professional Engineers, Air Force Federal Engineer of the Year
- 2006 Outstanding Academy Educator, (#1 educator in the department) 2006 Department of Civil and Environmental Engineering, USAF Academy, CO
- 2004 Company Grade Officer of the Year

1999 Junior Company Grade Officer of the Year, #1 Lieutenant at Charleston Air Force Base, SC, 437 Airlift Wing, 1999

MILITARY AWARDS AND DECORATIONS

- Defense Meritorious Service Medal
- Meritorious Service Medal with three oak leaf clusters
- Air Force Commendation Medal with oak leaf cluster
- Air Force Achievement Medal with oak leaf cluster
- Armed Forces Expeditionary Medal
- Global War on Terror (GWOT) Expeditionary Medal
- Global War on Terror (GWOT) Service Medal
- Korea Defense Service Medal
- NATO Medal

SYNERGISTIC ACTIVITIES

Invited Member (3 total nationally), National Science Foundation “Red Team” for evaluating the Antarctic Infrastructure Modernization for Science (AIMS) Project Execution Plan, USAP Support Contract #NSFDACS1219442

FEDERAL GRANTS

2018 – 2021 National Institute of Standards and Technology, (NIST) Cognition-Driven Display for Navigation Activities (Cog-DNA): Personalized Spatial Information System Based on Information Personality of Firefighters, Co-Investigator, \$465K

2021 – 2023 National Aeronautics and Space Administration, Game Changing Development (GCD) Grant, In-Situ Lunar Landing Pads, Co-Investigator, \$7M, \$900K for TAMU

PEER-REVIEWED SCHOLARLY PUBLICATIONS

Books or Book Chapters

Suermann, P. & Maddox, L. “MILCON in the Department of Defense: Estimating, Building Information Modeling (BIM) Based Design, and Impact on United States Army and Air Force Construction,” *ASCE BIM Monograph*, Chapter 15, University of Florida, 2015

Suermann, P. and Issa, R. “The National Building Information Modeling Standard: 2009 and Beyond,” *Handbook of Research on Building Information Modeling and Construction Informatics: Concepts and Technologies*, Chapter 6, 2010.

- Suermann, P.**, et al. "National Building Information Modeling Standard Version 1.0 – Part 1: Overview, Principles, and Methodologies," *National Institute of Building Sciences, Facility Information, Council*, Chapter 5.2, 2007
- Suermann, P.**, et al. "National Building Information Modeling Standard Version 2.0 – Part 1: Overview, Principles, and Methodologies," *National Institute of Building Sciences, Facility Information, Council*, Chapter 5.2, 2012
- Suermann, P.**, et al. "National Building Information Modeling Standard Version 3.0 – Part 1: Overview, Principles, and Methodologies," *National Institute of Building Sciences, Facility Information, Council*, Chapter 5.2, 2015

Journal Articles

- Ye, X., Jamonnak, S., Van Zandt, S., Newman, G., **Suermann, P.** "Developing Campus Digital Twin Using Interactive Visual Analytics Approach," *Frontiers of Urban and Rural Planning* 2 (1), 9, 2024
- Senseney, C. and **Suermann, P.C.** "Design, Construction, and Monitoring of Concrete Roadway Pavement at Extremely Steep Longitudinal Slopes," *International Journal of Pavement Engineering*, 2021
<http://dx.doi.org/10.1080/10298436.2021.2011277>
- Suermann, P.C.**, Patel, H., Sauter, L.D. "Simulating and Evaluating Regolith Propagation Effects During Drilling in Low Gravity Environments," *Advances in Engineering Software*, 2019
<http://dx.doi.org/10.12989/acd.2019.4.2.141>
- Christ, J. Heiderscheidt, J; Pickenpaugh, M., Phelan, T., Pocock, J., Stanford, M., Seely, G., **Suermann, P.**; Twesme, T. "Incorporating Sustainability and Green Engineering into a Constrained Civil Engineering Curriculum" *Journal of Professional Issues in Engineering and Educational Practice* 10.1061/(ASCE)EI.1943-5541.0000226 , C4014004, 2014
- McCuen, T., **Suermann, P.**, and Krogulecki, M. "Evaluating Award-Winning BIM Projects Using the National Building Information Model Standard Capability Maturity Model." *ASCE Journal Manage. Eng.*, 28(2), 224–230, 2012
- Suermann, P.** and McCuen, T. "AIA-TAP BIM Repeat Award Winners: Strengths And Opportunities," *Journal of Building Information Modeling*, pp 21-25. Fall 2009
- Suermann P.**, Issa R. Evaluating Industry Perceptions of Building Information Modeling (BIM) Impact on Construction, *Journal of Information Technology in Construction (ITcon)*, Vol. 14, pg. 574-594, <http://www.itcon.org/2009/37> 2009
- Suermann, P.** and Issa, R. "BIM Effects on Construction Key Performance Indicators (KPI) Survey," *Journal of Building Information Modeling*, Vol 1, Issue 1, Fall 2007

Dissertation for PhD

Suermann, P. "Evaluating the Impact of Building Information Modeling on Construction"
Dissertation, University of Florida, 2009

Administrator Conferences

- July 2020 American Council of Construction Education (ACCE) Annual Conference
- February 2020 Associated Schools of Construction, Region VI, VII, and Open Competition/Educator Conference and Competition Team Executive Coach
- August 2018 "Legal Issues for Academic Leaders" Online Course and 2-day in-resident workshop, online and New Orleans, LA
- February 2018 Associated Schools of Construction Region VI, VII, and Open Competition/Educator Conference
- January 2018 ACE Leadership Class for Department Chairs, San Diego, CA
- February 2015 Associated Schools of Construction Region VI, VII, and Open Competition/Educator Conference and competition team coach
- February 2014 Associated Schools of Construction Region VI, VII, and Open Competition/Educator Conference and competition team coach
- February 2013 Associated Schools of Construction Region VI, VII, and Open Competition/Educator Conference and competition team coach

Accreditation Team Member Visits

2020 Auburn University, February 29-March 3, 2020, Member In Training

Industry Conferences

- 2023 Leader/Organizer, Air Force Civil Engineer Center (AFCEC) Senior Leader meeting, TAMU, August 14, 2023
- 2023 American Institute of Architects Annual Convention, Training, and meetings, San

Francisco, CA, June 6-10, 2023

- 2023 Joint Engineer Education and Training Conference (JETC), annual meeting of the Society of American Military Engineers, May 1-5, 2023
- 2023 Readiness Challenge II, Tyndall Air Force Base, FL, Invited DV panel, April 25-28, 2023
- 2023 Special Operations Command (SOCOM) Engineers meeting, MacDill AFB, FL, February 28 – March 1, 2023
- 2023 National Science Foundation (NSF) Virtual Expert Meeting: future ready extraterrestrial construction workforce development, LSU, February 20-21, 2023
- 2023 National Association of Homebuilders (NAHB) International Builders Show (IBS), January 29 – February 2, 2023
- 2023 Invited Keynote Speaker, MCAA, NECA, SMACNA MEP Innovation Conference, January 11-12, 2023
- 2022 American Society of Civil Engineers Annual Convention, October 23-25, 2022
- 2022 Autodesk University digital experience, September 27-29, 2022
- 2022 Engineering and Construction Contracting (ECC) Association conference, for oil/gas, engineering, procurement, and construction (EPC) September 7-10, 2022
- 2022 Invited Keynote Speaker, “Keep Brazos Beautiful,” August 11, 2022
- 2020 TEXO (Texas and Oklahoma AGC/ABC) Educators Conference, 1 of 6 Invited Leaders for “Technology in the Construction Classroom,” July 30, 2020
- 2020 Society of American Military Engineers (SAME) Virtual Student Chapter meeting, 1 of 3 Invited Keynote Presenters, “Higher Education amidst COVID-19 Preparations,” July 28, 2020
- 2020 National Association of Homebuilders, International Builders Show, Texas Delegation Leader’s meeting, Las Vegas, NV

- 2019 Engineering and Construction Conference (ECC), a subcomponent of the Construction Industry Institute (CII) for energy, engineering, procurement, and construction, Colorado Springs, CO, Invited Panelist: "Filling our Industry's Talent Pipeline: A Holistic Approach," August 28-30, 2019
- 2019 American Institute of Aeronautics and Astronautics SciTech Conference, San Diego, CA, January 7-11, 2019
- 2018 Engineering and Construction Conference (ECC), a subcomponent of the Construction Industry Institute (CII) for energy, engineering, procurement, and construction, San Antonio Hill Country, August 26-29, 2018
- 2018 Present, National Association of Homebuilders, International Builders Show, Competition Team Mentor, Multiple

Academic Conference Presentations and Proceedings

- Foley, K., and **Suermann, P.** (2024) "Applications of Fundamental Construction Planning for Lunar Bases" 2024 ASCE Earth and Space Conference, FIU, Miami, FL, April 15-18, 2024
- Borland, J. and **Suermann, P.** (2024) "Bare Basing on the Moon and Mars: How to Utilize Emerging Artificial Intelligence (AI) and Building Information Modeling (BIM) to Optimize Construction Planning for Future Lunar Habitats" 2024 ASCE Earth and Space Conference, FIU, Miami, FL, April 15-18, 2024
- Stanford, M.S., Dicks, E., and **Suermann, P.C.** (2022) "Evaluating Management Risks in Megaprojects: Case of International Defense Construction" 2022 Construction Institute and Construction Research Congress Joint Conference, Arlington, VA, March 9-12, 2022
- Lee, J., Ham, Y., **Suermann, P.C.** (2020) "Investigating the Effect of Reflecting Human Activity Information in Physiological Sensing-Driven Occupant Thermal Comfort Modeling" Construction Research Congress, November 2020, Arizona State Univ. <http://dx.doi.org/10.1061/9780784482858.016>
- Pocock, J. **Suermann, P.** 2020, "Architectural Design as a way for Civil Engineers to Learn Building Systems and BIM" 2020 ASEE Annual Conference & Exposition, Montreal, Quebec, Canada, June 20-24, 2020.
- Deitrick, S., Bullard, J., Shumaker, N., **Suermann, P.C.** "Granular Morphology and Mineralogical Composition for Modeling Lunar Dust Behavior" 17th Biennial International Conference on Engineering, Science, Construction, and Operations in Challenging Environments, April 2021. <http://dx.doi.org/10.1061/9780784483374.005>
- Patel, H., **Suermann, P.**, Deitrick, S., Bullard, J., Shumaker, N., Ewing, R.C.,

“Applying Terrestrial Geo-material Science Methodology to Lunar ISRU Construction,” Seattle, American Society of Civil Engineers Earth and Space Conference, Seattle, Washington April 19-23, 2021.
<http://dx.doi.org/10.1061/9780784483374.017>

- Lee J., Ham Y., **Suermann, P.** “Investigating the effect of reflecting human activity information in physiological sensing-driven occupant thermal comfort modeling” American Society of Civil Engineers Construction Research Congress March 8-10, 2020, Phoenix, AZ.
- Ryoo, B., **Suermann, P.**, Kang, J. 2019. “Integrated 3D Point Cloud for Emergency First Responders” The International Council for Research and Innovation in Building and Construction (CIB) World Building Congress 2019 – Constructing Smart Cities, June 17-21, 2019, Hong Kong.
- **Suermann, P.** 2019. “Supplementing Project-Based Capstones: Capstone Case Studies to Zero Gravity and Beyond” 2019 Hawaii University International Conferences, Science, Technology, Engineering, Art, Math, & Education, June 5-8, 2019.
- **Suermann, P.** 2019. “ZERO-G: Coupling “vomit comet” field testing with undergraduate research and multi-year capstones with Air Force Academy Astronautical Engineering cadets” 2019 Transformational Teaching and Learning Conference, May 1, 2019, Texas A&M University.
- Crowell, J., **Suermann, P.**, Patel, H, & Kaczmarek, J. 2019. “Evaluating Regolith’s Propagation Effects During Drilling in Low-Gravity Environments” 2019 Society for Mining, Metal & Exploration Conference, Mining & Exploration: Innovations & Technologies: Advances in Space Mining: Maturing Markets and Technology Readiness Levels, February 27, 2019.
- **Suermann, P.** &Worton, J. 2019. “When Robots Come to Assess Your Facilities (and Infrastructure)” 2019 Society of American Military Engineers (SAME) and International Facility Management Association (IFMA) Facilities Workshop, February 6-8, 2019.
- **Suermann, P.** 2018. “Establishing a Leadership Minor: Soft Skills for Tomorrow’s STEAM Leaders” 2018 Hawaii University International Conferences, Science, Technology, Engineering, Art, Math, & Education, June 6-9, 2018.
- **Suermann, P.** 2017. “3-D Printing for Explosive Ordnance Disposal in the US Air Force” 2017 Hawaii University International Conferences, Science, Technology, Engineering, Art, Math, & Education, June 7-9, 2017.
- **Suermann, P.** 2016. “Reality Capture of Iconic and Historic Facilities – The Story of the US Air Force Academy Chapel” 2016 Hawaii University International Conferences, Science Technology, Engineering, Art, Math, & Education, June 10-

12, 2016. <www.huichawaii.org/assets/suermann%2C-patrick2016-steam-huic.pdf>

- Edenfield, B., & **Suermann, P.** 2015. "Establishing a Replicable process for Collecting Architectural Point Clouds and Processing Data into 3D Prints," *Associated Schools of Construction International Conference* poster session, 23 Apr 2015, College Station, TX
- Bechen, D., & **Suermann, P.** 2015 "Establishing Informed Design Procedures for 'Living Small,'" *Associated Schools of Construction International Conference* poster session, 23 Apr 2015, College Station, TX
- **Suermann, P.** 2015. "Capture to BIM: Historic Preservation for the USAFA Chapel" *REAL2015*. San Francisco, CA
- Engelhardt, A. & **Suermann, P.** 2014. "Evaluating Computer Technology in Construction Education: Hardware & Software," *Associated Schools of Construction International Conference* proceedings and presentation, 27 Mar 2014, Washington, D.C. Also presented.
- **Suermann, P.**, Pocock, J., Senseney, C. 2013. "Evaluating Afghan Construction in the U.S. Air Force: Austere Construction Initiatives and Analysis," *Construction in the Twenty First Century Conference (CITC) VII Proceedings*, Bangkok, Thailand, December 19-21.
- **Suermann, P.** and Issa, R. 2010. "United States Air Force MILCON Transformation: Building Information Modeling Case Studies." *Proceedings of the 2010 CIB-W78 27th International Conference – Cairo, Egypt*, 16-18 November. Also presented
- **Suermann, P.** and Issa, R. "Dynamic Prototyping: Building Information Modeling in the United States Air Force." *Proceedings of the ASCE International Conference on Computing in Civil Engineering*, 2009. June, 2009, Austin, TX. Also presented.
- Issa, R., **Suermann, P.**, Olbina, S. *Proceedings of the 2009 Winter Simulation Conference*, "Use of Building Information Models in Simulations" M. D. Rossetti, R. R. Hill, B. Johansson, A. Dunkin and R. G. Ingalls, eds.
- **Suermann, P.** "Dynamic Prototyping: Building Information Modeling in the United States Air Force." *Proceedings of the American Society of Civil Engineers (ASCE) International Conference on Computing in Civil Engineering*, 2009. June, 2009, Austin, TX. Also presented.
- Zuppa, D., **Suermann, P.** and Issa, R. "BIM's Impact on the Success Measures of Construction Projects." *Proceedings of the American Society of Civil Engineers (ASCE) International Conference on Computing in Civil Engineering*, 2009. June, 2009, Austin, TX.
- **Suermann, P.**, Issa, R., and McCuen, T. "Validation of the National BIM Standard Capability Maturity Model." *Proceedings of the 12th International Conference on Computing In Civil and Building Engineering*. October 16-18, 2008, Beijing, China. Also presented.

- **Suermann P.** and Issa, R. "Case Studies: Evaluating BIM Impact on U.S. Army Corps of Engineers Construction" *Proceedings of 25th International Conference on Information Technology in Construction (CIB-W78)*. July 15-17, 2008, Santiago, Chile. Also presented
- **Suermann, P.** and Issa, R. "Evaluating the Impact of BIM on Construction" *Proceedings of the 7th International Conference on Construction Applications of Virtual Reality*, October 22-23, 2007, State College, Pennsylvania. Also presented.
- Mattila, K., Pocock, J. and **Suermann, P.**, "Methods to Assist in Teaching Planning and Scheduling" by Associated Schools of Construction National Conference, 2006.

Industry Publication Articles

- **Suermann, P.**, Loomis, P. Obermeier, D. Sims, J. 2023. "A New Horizon for Scientific Research" *The Military Engineer*, pp44-49. Vol 115 (747), Sep-Oct 2023.
- **Suermann, P.**, Baird, J. 2021. "Applying the Expeditionary Mindset to the Water Industry" *The Military Engineer*, pp59-61. Vol 113 (734), Jul-Aug 2021.
- **Suermann, P.**, Wilt, D., & Kelsey, P. 2019. "Aging Infrastructure, Aging Workflows, and the M3 Solution" USGIF's 2019 State & Future of GEOINT Report, Trajectory Magazine, January 25, 2019.
- **Suermann, P.**, Schiffel, L., Abernethy, R. "Prioritizing Infrastructure Criticality for Rehabilitation or Replacement" *The Military Engineer*, pp53-55. Vol 111 (723) Sep-Oct 2019.
- **Suermann, P.** 2019, "Mitigating Munitions and Explosives of Concern in Guam", *The Military Engineer*, p58-59. Vol 111 (719).
- **Suermann, P.** & Clarke, R. 2016. "Capturing Reality", *The Military Engineer*, p67. (Vol 108, 704).
- Hutchison, M. & **Suermann, P.** 2010. "Air Force BIM for MILCON Transformation", *The Military Engineer*, pp71-72. Vol 102 (668). Nov-Dec 2010. (**#1 Article of the Year for 2010**)
- **Suermann, P.** and Issa, R., "Joint-Service Design & Construction" *The Military Engineer*. pp56-57. Vol 101 (662). Nov-Dec 2009.
- **Suermann, P.** and Issa, R. "BIM in the U.S. Air Force" *Air Force Civil Engineer*. Vol 16 (2)2008. (Note: Runner-up, MG Augustus M. Minton Award, Best Air Force Civil Engineering (AFCE) Magazine Article of 2008)
- **Suermann, P.**, "Army BIM Pioneers" *The Military Engineer*. Vol 100 (652) Mar- Apr 2008. McCuen, T. and **Suermann, P.**, "The Interactive Capability
- Maturity Model and 2007 AIA TAP BIM Award Winners" *AECbytes*, Viewpoint 33. (2007).

Industry related Conference Presentations

- **Suermann, P.** The 56th Engineering and Construction Conference (Energy, Oil, and Gas's premiere annual construction conference, ECC) Panelist member for "2024 Sponsors Only Session – Panel 1 Digital and Generative AI in E&C", The Broadmoor, Colorado Springs, CO, August 26-28, 2024.
- **Suermann, P.** The 51st Engineering and Construction Conference (Energy, Oil, and Gas's premiere annual construction conference, ECC) Panelist member for "Filling our Industry's Pipeline: A Holistic Approach", The Broadmoor, Colorado Springs, CO, August 28-30, 2019.
- **Suermann, P.**, Kelsey, P., and Vorwerk, A. "Capturing a Masterpiece: The US Air Force Academy Cadet Chapel" Shaping the Future of Infrastructure with Autodesk Technology international webinar, June 27, 2018.
- **Suermann, P.** "More BANG for the Buck: ReCap and Fusion 360 for Air Force EOD and NASA (RC20537)" Autodesk University, Las Vegas, NV, November 15-17, 2016.
- Vorwerk, A. & **Suermann, P.** "Lasers, Analysis, and Chapels: Modeling and Collaboration" Autodesk University, Las Vegas, NV, November, 2015.
- **Suermann, P.** "BIM for Government and Owners" Presenting Panel Member. Autodesk University, Las Vegas, NV, Dec 2, 2010.
- **Suermann, P.** and Sullivan, J. "BIM in the Federal Government '09-'10: Evolving Roles and Responsibilities" Autodesk University, Las Vegas, NV, Dec 2, 2009.
- **Suermann, P.** and Cline, S. "Flagship BIM: Designing and Building the New U.S. CENTCOM HQ." Autodesk University, Las Vegas, NV, Dec 2, 2009.
- **Suermann, P.** "Building Information Modeling" San Antonio SAME Chapter Luncheon, 11 AUG 09.
- **Suermann, P.** "BIM in the USAF: From Zero to Hero in 6 Months!" *Proceedings of Autodesk University 2008*, December 4 2008, Las Vegas Nevada.
- **Suermann, P.** and Sullivan J. "BIM in the Federal Government II: What's New in 2008- 2009?" *Proceedings of Autodesk University 2008*, December 4, 2008, Las Vegas, Nevada.
- **Suermann, P.** and Issa, R. "BIM Benchmarking and Productivity Improvement." *Virtual Design and Construction Workshop*, Gainesville, FL, November 24, 2008.
- **Suermann, P.** "Scheduling and Coordination: BIM Impact on Construction" BIM4Builders Industry Workshop, Conference Organizer and Speaker, May 11-13, 2008, Gainesville, Florida.
- **Suermann, P.** "The National BIM Standard" TRANE Strategic Partners Event. Invited Speaker. April, 2008. Naples, Florida.
- **Suermann, P.** "Selected BIM Case Studies" by AEC-ST National BIM Conference – Fall. December 2007, Washington, DC.
- **Suermann, P.** and Sullivan, J. "A Survey of BIM Programs at U.S. Federal

Government Agencies" *Proceedings of Autodesk University, 2007*, November 26-30, 2007, Las Vegas, Nevada.

- **Suermann, P.** GV200-1_Suermann.doc "Marketing your BIM Approach More Successfully to the Federal Government" *Proceedings of Autodesk University, 2007*, November 26-30, 2007, Las Vegas, Nevada. Also presented.
- **Suermann, P.** (2006). "The National BIM Standard Overview." AEC-ST National BIM Conference – Fall. December 2006, Washington, DC.
- **Suermann, P.** (2006). "The DFCE Apprentice: Better Preparing the Air Force's Leaders for Construction Excellence." Associated Schools of Construction Region VI and VII Faculty Conference. 2006. Presented at the Associated Schools of Construction Region VI and VII Annual Meeting February, 2006, Reno, Nevada.

Other Publications

- Ferguson, M. and **Suermann, P.** "From Sketching to Scanning: The US Air Force and Aircraft Accident Investigation" Redshift by Autodesk, Nov 15, 2016.
<<https://www.autodesk.com/redshift/aircraft-accident-investigation/>>
- Theony, C., **Suermann, P.** and Diaz, D. "Contingency Construction Orchestrates \$1B Program to develop Strategic Hub in Afghanistan" by *Centerviews*, 2010, Vol 16, No 1.
- **Suermann, P.** "Strategic Airlift Capability Expanded at Camp Bastion." *The Military Engineer*. pp26,28. Vol 102 (667). Sep-Oct, 2010.
<<http://www.stallionpublishers.com/publication.aspx?pid=628&pkey=mbabfdxkl>>
- **Suermann, P.** and Sinkfield, R. "AFCEE Using Building Information Modeling in Construction." *Centerviews*, 2009, Vol 15, No.3
<<http://www.afcee.af.mil/publications>>
- **Suermann, P.** and Sinkfield, R. "Dynamic Prototyping promises more rapid dorm designs." *Centerviews*, 2009, Vol 15, No.3 <<http://www.afcee.af.mil/publications>>
- Sinkfield, R. and **Suermann, P.** "Building Information Modeling (BIM) is Taking Off for the US Air Force" AIA Practicing Architecture Knowledge Group online newsletter published 23 NOV 09.
- **Suermann, P.** WPL Publishing BIM expert 2009 Series: Establishing BIM Scope. 12 AUG 09.

Requested Critic/Author for:

WPL Publishing's 2009 BIM Roadmap Series:

http://www.projectcontrols.com/articles/20090401_2

Requested Guest Lectures

- Lead Planner, 3-D Innovation Day, U.S. Air Force Academy, CO, 30 OCT 2014
- USAF BIM Training, for Air Force A7/CRT, Nellis Air Force Base, NV, 7-9 DEC 2010
- University of Texas, Graduate Building Information Modeling Class, Dr. Leite, 11 NOV 2010
- USAF BIM training, for Air Force A7/CRT, Lackland Air Force Base, TX, 2-4 NOV 2010
- **Suermann, P.** "BIM Champions in the Federal Government." *KEYNOTE SPEAKER- BLAST OFF WITH BIM*, Autodesk/DLT Solutions Government Event, Cocoa Beach, FL, November 12, 2008.

Requested Editor for:

March 15, 2009 Wiley and Sons Publishing, Inc. Building Information Model: Fundamental Concepts and Strategies for Successful Implementation by Guillermo F. Salazar, Worcester Polytechnic Institute

Previous works

- **Suermann, P.** (2005). "Leveraging GIS in Defense and Response at the U.S. Air Force Academy" American Society of Civil Engineers International Conference on Computing in Civil Engineering, Cancun, Mexico 2005. Also presented.
- Ohlemacher, D., **Suermann, P.**, and Pocock, J. "Building a Project Manager" *Air Force Civil Engineer*. Vol 13 (3) 2005. (Note: Article won Augustus M. Minton Award for Outstanding AFCE Article of 2005)
- **Suermann, P.** "The United States Air Force Academy: Building Our Air Force's Strong GeoBase Foundation" *GIS in the Defense and Intelligence Communities*. Vol 2.2005. Also presented at USAF GeoBase conference, Denver, June 2006.

Official Graduate Committee work since 2017:

Previously Approved Degree Plans

DEGREE PLAN	REVIEW DATE	APPROVAL TYPE
Hriday, Patel - MS in COMG	April 16, 2019	Committee
Shatha M. AbdulMajeed - PHD in ARCH	April 17, 2019	Committee
Matthew . Hueben - MS in COMG	October 8, 2019	Committee
Hriday Patel - LongForm	February 20, 2020	Committee
Mehdi Farah Bakhsh - LongForm	April 13, 2020	Committee
Justin . Baird - MS in COMG	April 21, 2020	Committee
Sven . Ellefson - MS in COMG	May 7, 2020	Committee
Michael I. Pawlus - MS in COMG	June 17, 2020	Committee

Jarrell . Patton - MS in COMG	January 21, 2021	Committee
Erin . Brayley - MS in COMG	April 6, 2021	Committee
Hardik . Kasar - MS in COMG	April 22, 2021	Committee
Erin Brayley - LongForm	August 28, 2021	Committee
Jonathan H. Ungar - MLP in LPDV	September 11, 2021	Committee
Shatha Abdulmajeed - LongForm	September 13, 2021	Committee
Neda . Sadeghi - PHD in COSC	November 5, 2021	Committee
Erin Brayley - LongForm	November 5, 2021	Committee
Michael Pawlus - LongForm	January 7, 2022	Committee
Hardik Kasar - LongForm	January 14, 2022	Committee
John C. McDavid V - MLP in LPDV	January 31, 2022	Committee
Matthew J. Buxkemper - MS in CVEN	February 11, 2022	Committee
Boll, Dakota - MS in COMG	April 10, 2022	Committee
An, Mi Sun – PhD in COMG	January 8, 2024	Committee
Sadeghi, Neda – PhD in Architecture	June 14, 2024	Committee
Abdelgelil, Mohammed H. – PhD in COMG	In Progress	Committee
Borland, John – PhD in MTDE	In Progress	Committee
Foley, Kyle – MS in COMG	In Progress	Committee

UNIVERSITY-LEVEL TEACHING EXPERIENCE

Instruction at Texas A&M University

- **COSC 175/AREN 175** Construction Graphics Communication, Credits 3. 3 Lecture Hours. Visualization, interpretation and communication of graphical geometry in construction design and engineering; graphical analysis of problems; sketching applications, computer aided design and fundamentals of information modeling software; introduction to common quantitative tools in construction. Prerequisite: AREN and COSL majors only. Cross Listing: AREN 175/COSC 175.
- **COSC 222** Social Issues in the History of the Construction Environment. Credit 3. Introduction to cultural and social issues in the built environment; exploration of how individual and collective ideas, values and beliefs are expressed in the construction environment; how the field of construction internalizes and thinks about these values across cultures and how authority, majorities and privilege affect the creativity of the built environment; emphasizes civil discourse to help recognize positionality and work collaboratively in a multicultural society.
- **COSC 310** Design and Construction Leadership Education I. Credit 1.1 Lecture

Hour. Promotion of personal leadership skills utilized within the design and construction professions; primary understanding and developing management skills with specific attention to developing personal attributes and skills necessary for achieving organizational goals. Prerequisites: CARC majors only pursuing the Minor in leadership in the design & construction professions; junior or senior classification or approval of instructor.

- **COSC 322** Construction Discourse Leadership. Credit 3. Practicum on leadership skills; leading and managing difficult discussions in a professional setting; mentorship of new students; presentation of difficult discussion topics, demonstration of constructive critique methods.
- **COSC 410** Design and Construction Leadership Education II. Credit 1. 1 Lecture Hour. Development of competencies in various leadership and management practices that are useful in an array of situations; emphasis on organizational leadership and management development with specific attention to intragroup relationships and techniques for achieving group goals. Prerequisites: [COSC 310](#), CARC majors only pursuing the minor in leadership in the design and construction professions; junior or senior classification or approval of instructor.
- **COSC 411** Seminar in Design and Construction Executive Leadership. Credit 1. 1 Lecture Hour. Promotes an understanding of leadership and builds the capacity to understand and meet the challenges involved in developing and leading ethical and sustainable organizations in today's economy; examination of theory, conceptualizing, reflection and application; share experiences in everyday life and learn to predict outcomes based on theoretical models. Prerequisite: [COSC 410](#); CARC majors only pursuing the minor in leadership in the design and construction; junior or senior classification or approval of instructor.
- **COSC 381** Prof. Ethics in the Const. Industry Credit 1. 1 Lecture Hour. Principles of ethical behavior in preparation for a professional internship with a construction or construction-related company; various construction company case studies emphasizing personal accountability, integrity, moral courage, individual, association and company codes of conduct; accepted business practices, decision making, company cultures, peer pressure, public opinion.
- **COSC 485/685** Directed Studies/Extraterrestrial Architecture, Engineering, and Construction
- **COSC 689** Special Topics: Arch. and Const. Robotics
- **COSC 691** Research

Instruction at the U.S. Air Force Academy:

- **Engr 101.** Introduction to Air Force Engineering. 3(1). Introduces the USAFA engineering disciplines in the context of the engineering design process. Cadets will work in teams, guided by the engineering method (an integrated decision-making

process) and the system-design approach, to create solutions to real Air Force problems. They will employ modern computational tools to explore design alternatives and communicate their design solutions. Final project. Sem hrs: 3 fall or spring. In addition, this course/program is a primary contributor to the development and assessment of the following USAFA outcomes:

- Skills: Oral Communication, Decision Making, Teamwork
 - Knowledge: Principles of Engineering & the Application of Technology
 - Heritage and Application of Air, Space, and Cyberspace Power
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- **Civ Engr 210.** Air Base Design Performance. 3(1). Broad principles of engineering design (including technical, ethical, economic and socio-political consideration) applied to the environment, infrastructure and combat support requirements for air bases during peacetime, humanitarian relief, small scale contingency, and combat operations. Guided by an integrated decision-making and system-design approach, cadets solve projects based on real AF problems to integrate the course material and their personal experience. Topics covered were validated based on survey of engineers, educators and operational AF officers. The topics include: environmental impact analysis (land use planning, environmental quality and airspace issues), infrastructure (airfields, utilities and facilities) and combat support with emphasis on beddown, force protection planning and host nation support consideration. Two projects required. No final exam. Prereq: Engr 100 and at least C3C standing. Sem hrs: 3 fall or spring.
 - **Civ Engr 215.** Computer Applications for Civil Engineers. 3(1). Application of commercially available computer-based tools for solving common types of Civil Engineering problems. Use of spreadsheet and relational database software with an emphasis on information input, data handling, and professional output. Introduction to geospatial mapping capabilities and using GIS technologies. Component, architectural, and engineering modeling using state-of-the-art computer-aided design (CAD) software, including presentation and working drawings. Final project. Prereq: Cadets who are not Civil or Environmental Engineering majors must receive approval from DFCE AIC before enrolling. Sem hrs: 3 fall or spring.
 - **Civ Engr 351.** Civil Engineering Practices - Field Engineering and Readiness. 3(0). This two-phase course includes Operation Civil Engineering Air Force (OpsCEAF) and a three-week field experience at the USAFA Field Engineering and Readiness Laboratory (FERL). Second-class cadets spend first period at a government facility working on a project in the civil engineering field. Participants will be scheduled for a second or third summer period leadership program. The three-week field experience introduces surveying, construction materials, design of concrete mixes, and hands-

on construction using metal, timber, asphalt and concrete, and working knowledge of environmental systems. Cadets will construct various projects that they will design in later civil and environmental engineering courses. OpsCEAF is in lieu of Operation Air Force (Mil Tng 301). OpsCEAF credit is Pass/fail. Civ Engr 351 is graded. Prereq: Engr Mech 220; department approval required for non-Civ Engr majors. Sem hrs: 3 summer (5 week course beginning after final exams).

- **Civ Engr 390** Civil Engineering Practices - Field Engineering. 3(0). Introduction to Soil Mechanics w/ Lab
- **Engr 402.** Professional Engineering Development. 0.5(1). Review of mathematics, chemistry, properties and strengths of materials, statics, dynamics, computers, electricity and magnetism, thermodynamics, fluid mechanics, engineering economics, ethics, and business practices in preparation for the national Fundamentals of Engineering exam administered at the end of the course by the National Council of Examiners for Engineering and Surveying. Prereq: C1C standing; accredited engineering major. Pass/fail. Sem hrs: 0.5 spring
- **Civ Engr 405.** Civil Engineering Seminar. 0(1). A course designed to give Civil Engineering majors the opportunity to synthesize and apply the concepts they have learned throughout their undergraduate education. Topics discussed include engineering ethics and those that cadets may encounter in the Air Force after graduation. The course meets once per week. Open only to Civil Engineering majors. Sem hrs: 0 spring. Pass/fail, no final.
- **Civ Engr 480.** Project Management and Contract Administration. 3(1). This is the final course in the civil engineering capstone sequence. First-class students integrate discipline-specific design work from previous courses through a semester project. Cadets take an owner's project requirements through stages of scope definition, budgeting and planning, conceptual design, scheduling, and construction contract administration. Cadets apply engineering standards and consider realistic issues including engineering economics, constructability, environmental requirements, sustainability, and safety. The course addresses and applies management topics and concepts of planning, organizing, leading, and controlling in the context of a capstone.
- **Civ Engr 485.** Construction Project Management. 3(1). This course emphasizes the methods and materials of construction as well as the management practices required to run a successful construction project. Topics include construction materials, project planning, scheduling, cost estimating, and field engineering. A semester

project, in the form of a detailed study of a major construction project, complements the classroom experience. Final project. Prereq: Department approval. Sem hrs: 3 fall.

- **Civ Engr 486X.** Applied Construction Practices. 1.5(1). Students in this course will learn about construction processes and project delivery methods. Their work will be in preparation to form one or more teams to compete in the annual Associated Schools of Construction regional student competition each February. The cadet teams will play the role of construction or design-build firms competing to win a project award. Student products will include a qualifications package, site plans, conceptual architectural and/or engineering designs, cost estimates, project schedules and construction plans. The students will also present their plans to a panel of industry representatives. They will compete against other teams from universities across the western U.S. The deliverables include the final versions of all cadet work and their lessons learned for next year's teams. The course is offered in the last 20 lessons (21-40) of the fall semester. Final project and presentation. Coreq: Civ Engr 464, 485, 491, or 482/495. Sem hrs: 1.5 fall.
- **Civ Engr 499.** Independent Study. 3(0). Individual study and research in an advanced civil engineering topic approved by the department head. Final report. Sem hrs: 3 fall or spring.
- **Civ Engr 499A.** Independent Study. 2(0). Sem hrs: 2 fall or spring.

Semester/ Quarter	Course Name	Credit Hours	No. of Students	Rec. Hrs./Wk.	Lecture Hrs./Wk.	Lab Hrs./Wk.	Remarks
Fall 03	Air Base Des/Perf	3.0	96		3.0		Core Course
Spr 04	Computer Applic.	3.0	12			3.0	
Spr 04	Air Base Des/Perf	3.0	48		3.0		Core Course
Spr 04	Computer Applic.	3.0	22			3.0	
Spr 04	402 - EIT prep	3.0	75		3.0		Course Dir.
Sum 04	Field Engineering	3.0	80			3.0	Wood Frame
Fall 04	Computer Applic.	3.0	16			3.0	Course Dir.
Fall 04	Air Base Des/Perf	3.0	24		3.0		Core Course
Spr 05	Computer Applic.	3.0	40			3.0	Course Dir.
Spr 05	Appl. Construction	3.0	8			3.0	Coach
Sum 05	Field Engineering	3.0	78			3.0	Wood Frame
Fall 05	Computer Applic.	3.0	9			3.0	Course Dir.
Fall 05	Air Base Des/Perf	3.0	24		3.0		Core Course
Spr 06	Air Base Des/Perf	3.0	48		3.0		Core Course
Spr 06	Computer Applic.	3.0	25			3.0	
Spr 06	Appl. Construction	3.0	8			3.0	Coach
	See continuation						

Semester/ Quarter	Course Name	Credit Hours	No. of Students	Rec. Hrs./Wk.	Lecture Hrs./Wk.	Lab Hrs./Wk.	Remarks
Fall 12	Construction Mgmt	3.0	18		3.0		some labs
Fall 12	Intro to Engr.	3.0	56		3.0		some labs
Fall 12	Appl. Construction	1.5	14			1.5	Coach
Spr 13	Contract Admin.	3.0	24		3.0		
Spr 13	Intro to Engr.	3.0	28				some labs
Spr 13	Appl. Construction	1.5	14			1.5	Coach
Sum 13	Field Engineering	3.0	72			3.0	Commander
Fall 13	Construction Mgmt	3.0	24		3.0		Course Dir.
Fall 13	Intro to Engr.	3.0	28		3.0		some labs
Fall 13	Appl. Construction	1.5	14			1.5	Coach
Spr 14	Appl. Construction	1.5	14			1.5	Coach
Spr 14	Contract Admin.	3.0	24		3.0		Course Dir.
Spr 14	Architecture	3.0				6.0	Bldg Models
Sum 14	Field Engineering	3.0	75			3.0	Concrete Mix
Fall 14	Construction Mgmt	3.0	24		3.0		Course Dir.
Fall 14	Appl. Construction	1.5	16			3.0	Coach
Fall 14	Independent Study	3.0	3			3.0	3x Cadet research

PORTFOLIO OF CREDENTIALS

TEACHING CRITIQUES AND COMMENTS

The table below summarizes my teaching effectiveness as an instructor since promotion to assistant professor. Highlights indicate performance one-half full standard deviation above the mean with respect to that particular category. Course titles and breakout are after the table.

Section	Instruction	Course	Hours	Activities	Grades	Feedback	Effort	Interest	Clarity	Role	Enthusiasm	Facilitation of Learning	Ethical
M5 B	5.5	5.05	2.1	5.11	4.75	4.8	4.7	5.2	5.05	5.65	5.55	5.25	4.35
M6 B	5.61	5	2.17	5.11	5.17	5.11	4.44	5.5	5.39	5.78	5.83	5.39	4.72
T2A	4.75	4.5	3	4.75	5	4.75	4.75	5	4.25	4.75	5	4.5	5
M1 A	4.33	3.67	3	3.67	3.67	4	5	4.67	4	5.67	5.5	4.33	5.33
M4 B	5.38	4.83	2.33	5.33	4.88	4.88	4.75	5.04	5.04	5.62	5.5	5	4.54
T2A	4.5	3.8	2.9	3.6	4.11	4	4.4	3.8	3.88	5.3	5.7	4.2	4.33

T5A	5.35	4.71	2.47	5.12	5.12	5.12	4.82	5.06	5.12	5.53	5.53	5.12	4.29
T5A	5	4.25	2.25	4.75	4.75	4.75	4.12	5	4.5	5.5	5.38	5.25	5.25
T6A	5	5	2.5	5.25	5.5	5.5	4.5	4.75	4.75	5.75	6	5.25	4
AVG	5.0	4.5	2.5	4.7	4.8	4.8	4.6	4.9	4.7	5.5	5.6	4.9	4.6

Courses:

- Engr 101: Fall 2012-Spring 2013
- CivEngr 464: Spring 2014
- CivEngr 480: Spring 2013 and 2014
- CivEngr 486: Fall 2013

As you can see from the table above, my average rating on “enthusiasm” and “role model” are the best at 5.6 and 5.5, respectively. Additionally, the cadets who rated my semester as a 464 Architecture Professor gave me a 6 of 6, perfect score for “enthusiasm.” I continuously strive to improve and update classes in line with industry state of the practice or military current events. I have always received my highest ratings in performance as a military role model and enthusiasm.

The following are a selection of quotes from course critiques available online since returning to the faculty in 2012.

- “You can tell he really loves teaching this class - There was never a day where he was dull. It made the day better even if class was the last place I wanted to be.”
- “Sharing his experiences definitely helped give me ideas on how to handle situations.”
- “All assignments were graded expeditiously.”
- “My instructor was very willing to help us when we needed it, especially during projects.”
- “I really liked how Lt Col Suermann did a recap of previous classes and preview of future classes.”
- “Keep doing what you're doing. By far one of the most interesting classes.”
- “My advice would be to continue teaching with the same style and enthusiasm.”

- “His personal experience and enthusiasm provided a motivating learning environment “
- “He always had very applicable stories to show how what we were learning applied to the real life scenarios.”
- “Shared great stories that provided insight into things the officer faces in the operational air force.”
- “Always on top of the schedule and letting us know what's happening that day and the lesson(s) after.”
- “Lt. Col. Suermann gave good feedback for essays and presentations.”
- “He did a great job. Never let hardheaded cadets stop him.”
- “Keep the enthusiasm up! It makes everyone want to learn more.”
- “Please continue with the high energy. It makes the class interesting!”
- “I loved the personal anecdotes that Col Suermann provided in congruence with the lectures, I found I retained the information better when he explained the concepts from his experiences.”
- “Lt Col Suermann is very personable and easily approachable. In most of my other classes, I find it difficult or a pain to momentarily stop the speaker for a point of clarification. LtCol Suermann frequently takes the time to clear things up, when necessary.”
- “Lt Col Suermann taught the information well, but he also kept in interesting with examples and videos.”
- “Stayed after 25% of the lessons to continue work.”
- “Col Suermann is a great role model and keeps class interesting. I thought he was an interactive teacher and was able to communicate the information to SEMs with little CE knowledge without losing the CE's in the class.”
- “Great role model with good stories.”

This CV submitted is the most current and correct as of the date of this signature.

Signature: 

Date: 14 SEP 24