

Jennifer A. (Farris) Cross, Ph.D.

Associate Professor
Industrial, Manufacturing and Systems Engineering
Texas Tech University, Lubbock, TX 79409-3061
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EDUCATION

Virginia Polytechnic Institute & State University, Blacksburg, VA, 2001–2006

Ph.D. in Industrial and Systems Engineering, 2006

Dissertation Title: “An Empirical Investigation of Kaizen Event Effectiveness: Outcomes and Critical Success Factors”
(Advisor: Dr. Eileen M. Van Aken).

M.S. in Industrial and Systems Engineering, 2005

University of Arkansas, Fayetteville, AR, 1997– 2001

B.S. in Industrial Engineering, *Summa cum laude, First Rank Senior Scholar*

PROFESSIONAL CERTIFICATIONS

Engineer- in-Training: State of Arkansas

APPOINTMENTS

Associate Professor (with Tenure): Department of Industrial Engineering, Texas Tech University, Lubbock, TX, September 2013 - Ongoing

Assistant Professor: Department of Industrial Engineering, Texas Tech University, Lubbock, TX, August 2007 – August 2013

Postdoctoral Researcher: Grado Department of Industrial and Systems Engineering, Virginia Tech, 2007

- Funded as part of three-year National Science Foundation (NSF) project conducted jointly by Virginia Tech (VT) and Oregon State University (OSU) on Kaizen events (DMI 0451512).

RESEARCH INTERESTS

- Performance measurement and organizational assessment
- Process improvement tools and methodologies
- Engineering design team performance
- Healthcare operations

REFEREED JOURNAL PUBLICATIONS (** = student)

Liu, W.** and Cross, J. (2016). A Comprehensive Model of Project Team Technical Performance, *International Journal of Project Management*, 34(7), 1150–1166.

Liu, W.**, Asio, S.**, Cross, J., Glover, W.**, and Van Aken, E.M. (2015). Understanding Team Mental Models Affecting Kaizen Event Success, *Team Performance Management*, 21(7/8), 361 – 385.

Matis, T., Farris, J., McAlister, M., Dunavan, C., and Snider, A. (2015). Target Times for Inpatient Discharge Scheduling, *IIE Transactions on Healthcare Systems Engineering*, 5(1), 33-41.

Glover, W.**, Farris, J., and Van Aken, E.M. (2015). The Relationship between Continuous Improvement and Rapid Improvement Sustainability, *International Journal of Production Research*, 53(13), 4068-4086.

Glover, W.**, Farris, J., and Van Aken, E.M. (2014). Kaizen Events: Assessing the Maturity of the Existing Literature and Convergence of Practices, *Engineering Management Journal*, 26(10), 39-61.

- Martinez Leon, H.C.**, Farris, J., Hernandez, A., and Letens, G. (2013). A Framework for Improved Management of New Product Development Projects Featuring Uncertain Iterations, *Journal of Engineering and Technology Management*, 30(1), 45-71.
- Di Schiena, R., Letens, G., Van Aken, E., and Farris, J. (2013). Relationship between Leadership and Characteristics of Learning Organizations in Deployed Military Units: An Exploratory Study, *Administrative Sciences*, 3(3), 143-165.
- Glover, W.**, Farris, J., Van Aken, E.M. and Doolen, T.L. (2013). Kaizen Event Result Sustainability for Lean Enterprise Transformation, *Journal of Enterprise Transformation*, 3(3), 136-160.
- Martinez Leon, H.C.**, Farris, J., and Letens, G. (2013). Improving Product Development Performance through Iteration Front-Loading, *IEEE Transactions on Engineering Management*, 60(3), 552-565.
- Glover, W.**, Liu, W.**, Farris, J., and Van Aken, E.M. (2013). Characteristics of Established Kaizen Event Programs: An Empirical Study, *International Journal of Operations and Production Management*, 33(9), 1166 - 1201.
- Martinez Leon, H.C.**, Temblador, C., Farris, J., and Beruvides, M.G. (2012). Integrating Six Sigma Tools using Team Learning Processes, *International Journal of Lean Six Sigma*, 3(2), 133-156.
- Glover, W.**, Farris, J., Van Aken, E.M., and Doolen, T.L. (2011). Critical Success Factors for the Sustainability of Kaizen Event Human Resource Outcomes: An Empirical Study, *International Journal of Production Economics*, 132(2), 197-213.
- Martinez Leon, H.C.** and Farris, J. (2011). Lean Product Development Research: Current State and Future Directions, *Engineering Management Journal*, 23(1), 29-51.
- Farris, J., Van Aken, E.M., Letens G., Chearskul, P.** and Coleman, G.D. (2011). Improving the Performance Review Process: A Structured Approach and Case Application, *International Journal of Operations and Production Management*, 31(4), 376-404.
- Letens G., Farris, J. and Van Aken, E.M. (2011). A Multilevel Framework for Lean Product Development System Design, *Engineering Management Journal*, 23(1), 69-85.
- Farris, J., Matis, T., McAllister, M., Snider, A. (2010). Applying Healthcare Systems Engineering Methods to the Patient Discharge Process, *International Journal of Collaborative Enterprise, Special Issue on: "Healthcare Systems Engineering,"* 1(3/4), 293-315.
- Van Aken, E.M., Farris, J., Letens G., and Glover, W.**, (2010). A Framework for Designing, Managing and Improving Kaizen Event Programs, *International Journal of Productivity & Performance Management*, 59(7), 641-667.
- Farris, J., Van Aken, E.M., Doolen, T.L., and Worley, J. (2009). Critical Success Factors for Human Resource Outcomes in Kaizen Events: An Empirical Study, *International Journal of Production Economics*, 117(1), 42-65.
- Doolen, T.L., Van Aken, E.M., Farris, J., Worley, J., and Huwe, J. (2008). Kaizen Events and Organizational Performance: A Field Study, *International Journal of Productivity & Performance Management*, 57(8), 637-658.
- Farris, J., Van Aken, E.M., Doolen, T. L., and Worley, J. (2008). Learning from Less Successful Kaizen Events: A Case Study, *Engineering Management Journal*, 20(3), 10-20.
- Farris, J., Letens, G., Van Aken, E.M., Ellis, K., and Boyland, J. (2007). A Structured Approach for Assessing the Effectiveness of Engineering Design Tools in New Product Development, *Engineering Management Journal*, 19(2), 31-39.
- Farris, J., Groesbeck, R.L., Van Aken, E.M., and Letens, G. (2006). Evaluating the Relative Performance of Engineering Design Projects: A Case Study Using Data Envelopment Analysis, *IEEE Transactions on Engineering Management*, 53(3), 471-482.
- Van Aken, E.M., Letens, G., Coleman, G.D., Farris, J., and Van Goubergen, D. (2005). Assessing Maturity and Effectiveness of Enterprise Performance Measurement Systems, *International Journal of Productivity and Performance Management*, 54(5/6), 400-418.

Mason, S.J., Ribera, P.M., Farris, J., and Kirk, R.G. (2003). Integrating the Warehouse and Transportation Functions of the Supply Chain, *Transportation Research Part E*, 39(2), 141-159.

BOOK CHAPTERS

Farris, J., Van Aken, E.M., and Letens, G, (2013). Organizational Performance Measurement, *Engineering Measurements Encyclopedia*, M. Kutz, Ed., John Wiley & Sons, Inc., Hoboken, NJ.

FUNDED RESEARCH PROJECTS

Start Term	Title of Research Grant or Contract	Granting Agency	Total Amount (\$) and Status	Principle Investigator and Co-Principle Investigator in order	Percent Contribution
Spring 2017	Lean Implementation in Higher Education	Oregon State University	\$ 8,746, Completed	<u>Jennifer A. Cross</u>	100%
Summer 2016	Development and Implementation of Project Selection Methodology using Analytic Hierarchy Process	CNS/DOE	\$103,279, Completed	<u>Jennifer A. Cross</u>	100%
Fall 2014	Risk and Financial Models for Population Health.	Covenant Health	\$105,000, Completed	<u>Ravi Vadapalli</u> , Jennifer A. Farris, Alex Trindade	33%
Fall 2013	A Systems Response to Safety	Anonymous Industry Sponsor	\$48,858, Completed	<u>Jennifer A. Farris</u> , Patrick E. Patterson	50%
Summer 2013	Assessment of ED Lab Workflow	Medical Center Hospital (Ector County Hospital District)	\$9,947, Completed	<u>Jennifer A. Farris</u> , Timothy I. Matis	50%
Summer 2011 (08/11 – 10/12)	B&W Pantex Site-Wide Safety Culture Survey	B&W Pantex, LLC (DOE Contractor for Pantex Plant)	\$192,013, Completed	<u>Jennifer A. Farris</u> , Timothy I. Matis, Patrick E. Patterson	40%
Summer 2011 (06/11 – 08/12)	Impact of Computerized Physician Order Entry on Workflow and Employee Roles in Inpatient Units	Medical Center Hospital (Ector County Hospital District)	\$48,746, Completed	<u>Jennifer A. Farris</u> , Timothy I. Matis	50%
Spring 2011 (02/10 – 08/11)	0-6661 Strategic Research Program Development	Texas Department of Transportation	\$150,000, Completed	<u>Theodore G. Cleaveland</u> , Phillip T. Nash, Moon-Cheol Won (Jennifer A. Farris funded as senior personnel, one month summer salary in 2011)	Senior personnel, 50% contribution to one of two final project deliverables
Fall 2010 (10/10 – 09/11)	Center for Engineering Logistics and Distribution: Human Interactions in Logistics System	National Science Foundation	\$50,000, Completed	<u>Timothy I. Matis</u> , Jennifer A. Farris,	50%
Fall 2010 (09/10-06/11)	Patient Discharge Process Improvement Project Phase 3: Pathways to Target Discharge Times	Medical Center Hospital (Ector County Hospital District)	\$37,558, Completed	<u>Jennifer A. Farris</u> , Timothy I. Matis	50%

Spring 2010 (01/10 – 08/10)	CELDi: Assessing and Improving the Safety Culture at the Pantex Plant	B&W Pantex, LLC (DOE Contractor for Pantex Plant)	\$102,764, Completed	Jennifer A. Farris, Timothy I. Matis, Patrick E. Patterson	34%
Spring 2010 (01/10 – 05/10)	CELDi: Patient Discharge Process Improvement Project: Phase 2 (January 1, 2010 – May 31, 2010)	Medical Center Hospital (Ector County Hospital District)	\$19,203, Completed	Jennifer A. Farris, Timothy I. Matis, Iris V. Rivero	34%
Spring 2009 (03/09-06/09)	Patient Discharge Process Improvement Project: Phase One (March 2009 – June 2009)	Medical Center Hospital (Ector County Hospital District)	\$16,139, Completed	Jennifer A. Farris, Iris V. Rivero, Timothy I. Matis, Ismael R. de Farias	25%
Fall 2008 (10/08 – 08/09)	Development of a Project Management Option for the M.S. in Systems and Engineering Management	TTU Distance Education Enrollment Enhancement Fund	\$18,000, Completed	Milton Smith, Jennifer A. Farris, James Simonton	33% (internal competition, no ORS routing)
Fall 2008 (08/08-12/08)	Investigating the Effectiveness of Lean Manufacturing Techniques in a Healthcare Organization	Simple Health Systems	\$11,952, Completed	Jennifer A. Farris	100%
Summer 2008 (05/08-08/08)	Implementation of Lean in Cotton Processing	TTU College of Engineering Summer RA Award Competition (for Naveen Rathi and Nikhil Inanjai)	\$6,000, Completed	Jennifer A. Farris	100% (internal competition, no ORS routing)

AWARDS AND HONORS

Member, Texas Tech Teaching Academy, May 2013-Present

Best Paper Award: Engineering Management (SEMS), IISE Annual Conference, 2017

- For the paper “Determinants of Goal Achievement for Continuous Improvement Projects in Hospitals,” *Proceedings of the 2017 IISE Annual Conference*, Pittsburgh, PA, May 20 – 23, 2017 (F. Gonzalez Aleu, E. Van Aken, J. Cross, and W. Glover).

Best Paper Award: Engineering Management, Industrial Engineering Research Conference, 2011

- For the paper “Improving Product Development Through Front-Loading and Enhanced Iteration Management,” *Proceedings of the 2011 Industrial Engineering Research Conference*, Reno, NV, May 21 – 25, 2011 (H.C. Martinez Leon**, J. Farris, and G. Letens, ** = student).

Best Paper Award: Engineering Management, Industrial Engineering Research Conference, 2010

- For the paper “Sustaining Human Resource Outcomes from Kaizen Events,” *Proceedings of the 2010 Industrial Engineering Research Conference*, Cancun, Mexico, June 5 – 9, 2010 (W. Glover**, J. Farris, E.M. Van Aken, T.L. Doolen, and J. Worley, ** = student).

Ted Eschenbach Best EMJ Paper Award, Engineering Management Journal (EMJ), 2009

- Awarded for papers published in 2008. For the paper “Learning from Less Successful Kaizen Events: A Case Study,” *Engineering Management Journal*, 20(3), pp. 10-20, 2008 (J. Farris, E.M. Van Aken, T.L. Doolen, and J. Worley).

Best Paper Award: Engineering Management, Industrial Engineering Research Conference, 2008

- For the paper “The Sustainability of Kaizen Event Outcomes: Preliminary Results,” *Proceedings of the 2008 Industrial Engineering Research Conference*, Vancouver, Canada, May 17-21, 2008 (W. Glover*, E.M. Van Aken, J. Farris, T.L. Doolen, and J. Worley, * = student).

2007 Engineering Management Dissertation Award, American Society for Engineering Management, 2007

Epsilon Mu Eta, Engineering Management Honor Society, 2007

2006 Highly Commended Award, Emerald LiteratiNetwork, 2006

- Awarded for papers published in 2005. For the paper “Assessing Maturity and Effectiveness of Enterprise Performance Measurement Systems,” *International Journal of Productivity and Performance Management*. 54(5/6), pp. 400-418, 2005 (E.M. Van Aken, G. Letens, G.D. Coleman, J. Farris, and D. Van Goubergen).

Merrit Williamson Best Conference Paper Award, American Society for Engineering Management Conference, 2005

- For the paper “An Approach for Measuring the Effectiveness of Design Tools in the New Product Development Process,” *Proceedings of the 2005 American Society for Engineering Management Conference*, Virginia Beach, VA, October 26-29, 2005 (J. Farris, E.M. Van Aken, G. Letens, and K. Ellis).

Best Paper Award: Engineering Management, Industrial Engineering Research Conference, 2004

- For the paper “Longitudinal Analysis of Kaizen Event Effectiveness,” *Proceedings of the 2004 Industrial Engineering Research Conference*, Houston, TX, May 15-19, 2004 (J. Farris, E.M. Van Aken, T.L. Doolen, and J. Worley).

Alpha Pi Mu, University of Arkansas, 2000

Tau Beta Pi, University of Arkansas, 2000

Phi Kappa Phi, University of Arkansas, 2000

TEACHING EXPERIENCE

Courses at Texas Tech University and Student Evaluations (Scale: 1 = low to 5 = high):

- IE 2301, Engineering Design in Production Operations, Texas Tech University
 - Fall 2012: Instructor rating 4.49/5, Subject rating 4.47/5, 37 out of 40 students responding
 - Fall 2013: Instructor rating 4.57/5, Subject rating 4.50/5, 42 out of 49 students responding
 - Fall 2014: Instructor rating 4.60/5, Subject rating 4.51/5, 35 out of 42 students responding
 - Fall 2015: Instructor rating 4.11/5, Subject rating 4.24/5, 38 out of 50 students responding
 - Spring 2016: Instructor rating 4.29/5, Subject rating 4.29/5, 31 out of 53 students responding
 - Fall 2016: Instructor rating 4.3/5, Subject rating 4.3/5, 24 out of 49 students responding
 - IE 3301, Engineering Economic Analysis, Texas Tech University
 - Fall 2007: Instructor rating 4.15/5, Subject rating 3.86/5, 65 out of 83 students responding
 - Fall 2008: Instructor rating 4.19/5, Subject rating 4.02/5, 64 out of 85 students responding
 - Spring 2009: Instructor rating 3.74/5, Subject rating 3.22/5, 65 out of 86 students responding
 - Fall 2009 Honors Section (H01): Instructor rating 4.64/5, Subject rating 4.47/5, 15 out of 15 students responding
 - Spring 2010: Instructor rating 4.25/5, Subject rating 3.93/5, 76 out of 90 students responding
 - Fall 2010: Instructor rating 4.34/5, Subject rating 4.11/5, 79 out of 89 students responding
 - Fall 2011: Instructor rating 3.85/5, Subject rating 3.70/5, 150 out of 179 students responding
 - Spring 2012 Honors Section (H01): Instructor rating 4.42, Subject rating 4.04, 24 out of 25 students responding
 - Spring 2012 001 Video Lecture Course*, 47 students enrolled
 - Spring 2012 002 Video Lecture Course*, 47 students enrolled
 - Spring 2012 003 Video Lecture Course*, 48 students enrolled
 - Spring 2012 004 Video Lecture Course*, 48 students enrolled
 - Spring 2012 005 Video Lecture Course*, 48 students enrolled
 - Spring 2012 006 Video Lecture Course*, 46 students enrolled
- * = video lecture course, course administered by recitation TA but I was instructor of record

- IE 4331, Individual Studies in Industrial Engineering: Project Management, Texas Tech University
 - Spring 2008: Instructor rating 3.67/5, Subject rating 3.67/5, 3 out of 3 students responding
 - Fall 2009: Independent study course with 1 student enrolled, Instructor rating N/A, Subject rating N/A
- IE 5322, Industrial Cost Analysis, Texas Tech University
 - Fall 2010 On Campus(001): Instructor rating 3.33/5, Subject rating 3.48/5, 27 out of 37 students responding
 - Fall 2010 Off Campus(D01): Instructor rating 3.50/5, Subject rating 3.17/5, 6 out of 19 students responding
- IE 5324, Advanced Economics of Systems, Texas Tech University
 - Fall 2013 On Campus(001): Instructor rating 4.00/5, Subject rating 3.88/5, 8 out of 9 students responding
 - Fall 2013 Off Campus(D01): Instructor rating 4.00/5, Subject rating 4.00/5, 1 out of 3 students responding
 - Spring 2016 On Campus(001): Instructor rating 4.63/5, Subject rating 4.53/5, 17 out of 23 students responding
 - Spring 2016 Off Campus(D01): Instructor rating 4.63/5, Subject rating 4.75/5, 8 out of 18 students responding
- IE 5325, Productivity and Performance Improvement in Organizations, Texas Tech University
 - Spring 2015 On Campus(001): Instructor rating 4.57/5, Subject rating 4.71/5, 7 out of 12 students responding
 - Spring 2015 Off Campus(D01): Instructor rating 4.62/5, Subject rating 4.38/5, 8 out of 18 students responding
- IE 5329, Project Management, Texas Tech University
 - Spring 2008: Instructor rating 3.94/5, Subject rating 4.06/5, 16 out of 18 students responding
 - Fall 2009 On Campus(001): Instructor rating 4.32/5, Subject rating 4.17/5, 23 out of 26 students responding
 - Fall 2009 Off Campus(D01): Instructor rating 3.67/5, Subject rating 3.22/5, 9 out of 22 students responding
 - Fall 2011 On Campus(001): Instructor rating 4.17/5, Subject rating 4.17/5, 23 out of 25 students responding
 - Fall 2011 Off Campus(D01): Instructor rating 4.00/5, Subject rating 4.25/5, 4 out of 24 students responding
 - Fall 2011 Off Campus(X01): Instructor rating 4.00/5, Subject rating 4.00/5, 4 out of 6 students responding
 - Spring 2013 On Campus(001): Instructor rating 3.71/5, Subject rating 3.67/5, 21 out of 26 students responding
 - Spring 2013 Off Campus(X01 & D01): Instructor rating 4.00/5, Subject rating 4.50/5, 2 out of 8 students responding
 - Fall 2014 On Campus(001): Instructor rating 4.55/5, Subject rating 4.55/5, 12 out of 19 students responding
 - Fall 2014 Off Campus(D01): Instructor rating 4.25/5, Subject rating 4.17/5, 12 out of 22 students responding
 - Fall 2016 On Campus(001): Instructor rating 4.3/5, Subject rating 3.6/5, 16 out of 22 students responding
 - Fall 2016 Off Campus(D01): Instructor rating 4.17/5, Subject rating 3.92/5, 12 out of 23 students responding
- IE 5346, Total Quality Systems, Texas Tech University, Spring 2014
 - Spring 2014 On Campus(001): Instructor rating 4.78/5, Subject rating 5/5, 9 out of 13 students responding
 - Spring 2014 Off Campus(D01): Instructor rating 4.50/5, Subject rating 4.50/5, 4 out of 9 students responding
 - Fall 2015 On Campus(001): Instructor rating 4.38/5, Subject rating 4.44/5, 18 out of 26 students responding
 - Fall 2015 Off Campus(D01): Instructor rating 3.83/5, Subject rating 4.00/5, 6 out of 10 students responding

Courses not at Texas Tech University:

Instructor: Organizational Performance Measurement Systems, Virginia Tech, Spring 2007

- Cross-listed undergraduate and graduate course. The graduate section includes an additional semester-long research project. Approximately 20 graduate students and 30 undergraduate students enrolled. Full responsibility for developing homework assignments, tests and other course materials, structuring and administering course content, and supervising course management, including managing the course website. Also responsible for supervising the graduate teaching assistant assigned to the course.
- No semester teaching evaluations conducted in the Virginia Tech Industrial and Systems Engineering department due to the April 16, 2007 events.

GRADUATE STUDENTS SUPERVISED

PhD Students:

- 14 students in process; 11 completed (listed below)
- C. Kalpani Dissanayake, Systems and Engineering Management, Texas Tech University
 - “Development of a Supply Chain Performance Measurement Model Integrable to Industry,” August 2017.
- Dale Moon, Systems and Engineering Management, Texas Tech University
 - “Real Time Economic Model for Behind the Meter Wind Generation Installation in a Government Facility,” December 2016.
- David Day, Systems and Engineering Management, Texas Tech University
 - “Barriers to Continuous Process Improvement in a Military Organization,” December 2015.
- Tara Welborne, Systems and Engineering Management, Texas Tech University
 - “A Preliminary Investigation of the Impact of Geographic Dispersion and Degree of Virtuality on Engineering Student Team Processes and Performance,” August 2015.
- James Gibson, Systems and Engineering Management, Texas Tech University
 - “Operationalizing the Opportunity Cost of US Energy Policies on the Electric Utility Sector using the Mean-Variance Portfolio Theory,” August 2015.
- Sarah Asio, Industrial Engineering, Texas Tech University
 - “An Empirical Investigation of Predictors of Perceived Innovation within Engineering Student Design Teams,” May 2015.
- Robert Steele, Systems and Engineering Management, Texas Tech University
 - “Scalable Systems Engineering Ontology for Small and Medium Enterprise (SME) Research Organizations,” August 2014.
- Wen-Hsing Liu, Industrial Engineering, Texas Tech University
 - “A Comprehensive Model of Perceived Project Team Performance,” May 2012.
- Hilda Cecilia Martinez Leon, Systems and Engineering Management, Texas Tech University
 - “Integrated Analytical Methodology for Designing and Evaluating Schedules for Product Development Projects” (co-chair with Dr. Alberto Hernandez), December 2010.
- Pimsinee Chearskul, Industrial and Systems Engineering, Virginia Tech
 - “An Empirical Investigation of Performance Measurement System Use and Organizational Performance” (co-chair with Dr. Eileen M. Van Aken), December 2010.
- Wiljeana Jackson Glover, Industrial and Systems Engineering, Virginia Tech
 - “Critical Success Factors for Sustaining Kaizen Event Outcomes” (co-chair with Dr. Eileen Van Aken), May 2010.

MS Students:

- 0 in process; 2 completed (listed below)
- Nikhil Inanjai, Manufacturing and Systems Engineering, Texas Tech University
 - “A Preliminary Decision Support System for the Selection of Lean Tools,” December 2009.
- Naveen Rathi, Industrial Engineering, Texas Tech University
 - “A Framework for the Implementation of Lean Techniques in Process Industries,” December 2009.

SELECTED PROFESSIONAL SERVICE

Vice President for Student Development: Institute of Industrial & Systems Engineers (IISE), April 2014 – March 2017.

Managing Editor: Engineering Management Journal, June 2016 – present.

Associate Editor: Engineering Management Journal, June 2012 – June 2016.

Editorial Advisory Board: Journal of Manufacturing Technology Management, April 2016 – present.

Guest Editor: International Journal of Management Reviews, Special Issue “Towards a Theoretical Foundation for Performance Measurement and Management,” August 2015 – present.