

CURRICULUM VITAE

STEPHEN EKWARO-OSIRE, PHD, PE, ASME FELLOW

INTERIM DEPARTMENT CHAIR
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ACADEMIC LEADERSHIP APPOINTMENTS

Interim Department Chair, TTU, Department of Mechanical Engineering (7/18–present)
Associate Dean of Research and Graduate Programs, TTU, Whitacre College of Engineering (1/13–6/16)
Acting Department Chair, TTU, Department of Mechanical Engineering (6/15–8/15)
Interim Department Chair, TTU, Department of Industrial Engineering (1/13–5/13)
Director of Undergraduate Program, TTU, Department of Mechanical Engineering (4/09–11/12)
Director of Graduate Studies and Graduate Advisor, TTU, Department of Mechanical Engineering (1/07–5/09)
Director of Product Design & Development Lab, TTU, Department of Mechanical Engineering (1/01–present)

ACADEMIC APPOINTMENTS

Professor of Mechanical Engineering, TTU (9/10–present)
Affiliate Faculty, TTU, National Wind Institute (6/07–present)
Faculty Associate, TTU, International Center for Arid and Semiarid Land Studies (8/06–1/13)
Associate Professor of Mechanical Engineering, TTU (9/04–8/10)
Assistant Professor of Mechanical Engineering, TTU (1/98–8/04)
Graduate Teaching Assistant, TTU, Department of Mechanical Engineering (9/92–8/93, 7/90–5/91, 9/87–5/90)
Graduate Research Assistant, TTU, Department of Mechanical Engineering (6/91–8/91, 6/90–6/90, 6/87–8/87)

VISITING ACADEMIC APPOINTMENTS

Honorary Full Professor of Mechanical Engineering, Jimma University, Ethiopia (9/17–present)
Guest Full Professor of Production Engineering, University of Bremen, Germany (6/17–9/17)
Adjunct Associate Professor of Systems Design & Management, Air Force Institute of Technology (6/06–8/10)
Air Force Summer Faculty Fellow, AFRL, Structural Materials Life Prediction Division (5/08–7/08)
Fulbright Scholar (8/07–1/08)
Visiting Associate Professor of Mechanical Engineering, Bogazici University, Turkey (8/07–1/08)
NASA Faculty Fellow, NASA Glenn Research Center, Life Prediction Branch (6/03–8/03, 6/02–8/02)
Visiting Lecturer, TTU, Department of Mechanical Engineering (1/94–5/94)

INDUSTRY APPOINTMENTS

Lead Engineer and Design Engineer, Weber Aircraft, Inc., Texas (2/96–1/98, 2/95–2/96)
Design Engineer, Eagle-Picher Industries, Inc., Texas (6/94–11/94)

EDITORIAL LEADERSHIP APPOINTMENTS

Honorary Editor, Journal of Integrated Design and Process Science, 2017–present

Senior Advisory Board, Journal of Integrated Design and Process Science, 2014–2017

Managing Editor, Journal of Integrated Design and Process Science, 2009–2014

Director, Editorial Board, Journal of Integrated Design and Process Science, 2003–2006

EDUCATION

PhD Mechanical Engineering, TTU, 1993

Dissertation Title: “Nonlinear Beam-Mass Structures under Combined Deterministic and Random Excitation,” published in the *Journal of Vibration and Control*, Vol. 1, No. 2, pp. 225–247, May 1995. (Dissertation Advisor: Professor A. Ertas)

MS Mechanical Engineering, TTU, 1989

Thesis Title: “Investigation of Internal Resonance of a Three-Degree-of-Freedom System under Random Excitation.” (Thesis Advisor: Professor A. Ertas)

Dipl-Ing Mechanical Engineering, Osnabrück University of Applied Sciences (Germany), 1985

Thesis Title: “Design and Construction of a Reference Gage for Gas Meter” (in German). (Thesis Advisors: Professor Dipl.-Ing. O. Burke, Professor Dr.-Ing. H. Meyer)

FELLOWSHIPS

- [1] Elected a Fellow of the American Society of Mechanical Engineers (ASME) 2018

PRACTICE OF ENGINEERING LICENSURE

- [1] Professional Engineer, State of Texas, License No. 93063

UNIVERSITY PROGRAM ACCREDITATION CERTIFICATION

- [1] Program Evaluator (PEV) for the Engineering Accreditation Commission of ABET (8/13–present)

LEADERSHIP RESPONSIBILITIES

Interim Department Chair (TTU, Department of Mechanical Engineering) (8/18–present)

- [8] Providing academic leadership and vision for the department in order to enhance its quality and reputation
- [7] Overseeing the departmental promotion and tenure process
- [6] Serving as an advocate to the dean for departmental needs and priorities
- [5] Responsible for administration of all programs and budgets of the department
- [4] Working with students and faculty to deliver outstanding undergraduate and graduate programs
- [3] Fostering research efforts of the highest quality
- [2] Mentoring or providing mentors to assist new as well as continuing faculty
- [1] Developing and maintaining productive relationships with alumni

Associate Dean of Research and Graduate Programs (TTU, Whitacre College of Engineering) (1/13–6/16)

- [8] Have oversight of the 20 graduate programs in the WCOE
- [7] Academic head of MS Bioengineering program and Master of Engineering program
- [6] Establish International research collaborations including dual degrees and joint research programs
- [5] Work with the Vice President for Research Office personnel to enhance research in the WCOE

- [4] Academic head of WCOE Distance Learning Program
- [3] Address issues of Centers and Institutes that report to WCOE
- [2] Develop plans to increase the visibility of WCOE research efforts
- [1] Work with the dean to establish a culture of safety in the WCOE

Acting Department Chair (TTU, Department of Mechanical Engineering) (6/15–8/15)

- [5] Responsible for administration of all programs and budgets of the department
- [4] Working with students and faculty to deliver outstanding undergraduate and graduate programs
- [3] Fostering research efforts of the highest quality
- [2] Mentoring faculty
- [1] Developing and maintaining productive relationships with alumni

Honorary Editor (Journal of Integrated Design and Process Science, Society for Design and Process Science) (9/17–present)

- [4] Provide advice on measures of success for the journal
- [3] Provide advice on raising the profile of the journal
- [2] Provide advice on all matters of editorial policy, decisions, and scope
- [1] Provide advice to all editors

Senior Advisory Board (Journal of Integrated Design and Process Science, Society for Design and Process Science) (12/14–9/17)

- [4] Provide advice to the journal editors-in-chief
- [3] Provide advice to the journal publication developer
- [2] Provide advice to the journal outreach committee
- [1] Provide advice on the implementation of the journal strategic vision

Interim Department Chair (TTU, Department of Industrial Engineering) (1/13–5/13)

- [6] Responsible for administration of all programs and budgets of the Department
- [5] Working with students and faculty to deliver outstanding undergraduate and graduate programs
- [4] Working with faculty to grow, in size and quality, the distance learning PhD program
- [3] Fostering research efforts of the highest quality
- [2] Mentoring and recruiting faculty
- [1] Developing and maintaining productive relationships with alumni

Managing Editor (Journal of Integrated Design and Process Science, Society for Design and Process Science) (1/09–12/14)

- [6] Lead the journal management team
- [5] Appoint and supervise two journal proof editors
- [4] Conduct the final quality check of the proofed papers and contact publisher for the online posting
- [3] Design journal templates and journal cover
- [2] Maintain the journal protocols and guidelines
- [1] Handle copyright forms and copyright requests

Director of Undergraduate Program (TTU, Department of Mechanical Engineering) (4/09–11/12)

- [13] Serve as acting chair (*when chair was on travel*)
- [12] Led a study abroad student group to Jade University of Applied Sciences in Germany, 2011, 2012
- [11] Co-author of accreditation report of Mechanical Engineering Program (*received accreditation*), 2011
- [10] US Delegation to Germany, sponsored by German Academic Exchange Service (*DAAD*), 2009
- [9] Direct the Advising Office (*approx. 1224 students, largest in the College of Engineering*)
- [8] Developed a new electronic process for managing student flow charts

- [7] Advise exchange students and study abroad students
- [6] Mentor junior faculty and instructors on teaching matters
- [5] Manage the undergraduate scholarship budget (*approx. \$60,000*)
- [4] Manage the curriculum (*e.g., new courses, transfer credits, course assessment*)
- [3] Manage teaching matters (*e.g., class assignment, schedule classes, class size*)
- [2] Increase the retention of women and minorities
- [1] Manage the webpage content as regards to undergraduate program

Director, Editorial Board (Journal of Integrated Design and Process Science, Society for Design and Process Science) (1/03–12/06)

- [6] Contact publisher for the online posting
- [5] Prepare the final camera-ready version of the accepted papers
- [4] Check the grammar and vocabulary of English writing of accepted papers
- [3] Manage the proofreading process and formatting of accepted papers
- [2] Handle copyright forms and copyright requests
- [1] Recruit paper reviewers

Director of Graduate Studies and Graduate Advisor (TTU, Department of Mechanical Engineering) (1/07–5/09)

- [9] Serve as acting chair (*when the chair was on travel*)
- [8] Co-author of review report of Mechanical Engineering's Graduate Program (*reviewed by TTU*), 2008
- [7] Designed a recruitment brochure and recruited students (*e.g., seminars at four Turkish universities*)
- [6] Increased the female grad student enrollment by 40%
- [5] Increased the number of funded on-campus visits of prospective graduate students
- [4] Introduced a grad student orientation seminar and admission process for PhD students
- [3] Introduced exit interview questionnaire, four-year course schedule, and electronic degree plans
- [2] Managed the graduate scholarship budget
- [1] Streamlined the department's Mechanical Engineering Seminar series

HONORS AND AWARDS

Research

- Elected a Fellow of the American Society of Mechanical Engineers (ASME) 2018
- Certificate of Completion of Fulbright Scholarship Program, US Department of State, 2009
- Air Force Summer Faculty Fellow, Air Force Research Laboratory, 2008
- Fulbright Scholar, US Department of State, 2007
- NASA Faculty Fellow, NASA Glenn Research Center, 2003, 2002
- Certificate of Recognition for Contributions to Research at NASA Glenn Research Center, 2003
- Recognition for participation in Faculty Academic Contributions Exhibit, TTU, 2012, 2011, 2010, 2008, 2007
- New Faculty Award, Texas Tech Ex-Students Association, 2000

Teaching

- Most Influential Professor, College of Engineering, 2013
- Best Professor Award, Pi Tau Sigma, 2010, 2003, 1999
- George T. and Gladys Abell-Hanger Faculty Award, 2009
- Dr. Charles L. Burford Faculty Teaching Award, College of Engineering, 2006
- Recognition of Meritorious Achievements in Teaching, TTU Teaching Academy, 2001

Professional

Global Vision Award, Study Abroad, 2012, 2011

Texas Tech Academy of Mechanical Engineers, Department of Mechanical Engineering, inducted Apr 2006

TTU Teaching Academy, inducted Oct 2005

Professing Excellence Award, University Student Housing, 2009

Professional Service

Service Award, Mechanical Engineering Department, 2011

Recognized Faculty Member, The Honors Convocation, College of Engineering, 2010, 2006, 2005

Excellence in Leadership Award, Society for Design and Process Science, 2009

Recognition for Enthusiastic Participation in Design Competition, Raytheon, 2007

Most Supportive Faculty/Staff Member, ASME Student Chapter, 2005–2006

Service Award, Society for Design and Process Science, 2003

Outstanding Faculty Advisor Award, Society for Design and Process Science, 2000

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Society for Engineering Education, 2001–present

American Society of Biomechanics, 2012–present

American Society of Mechanical Engineers, 1990–present

Society for Design and Process Science (*Founding Member*), 1995–present

Society for Experimental Mechanics, 2001–present

RESEARCH INTERESTS

Vibrations, Engineering Design, Engineering Education, Orthopedic Biomechanics

PROVISIONAL PATENT APPLICATION

- [1] An Ocean Wave Energy Conversion System Optimized for Energy Capture and Delivery of Utility Standard Power, Docket No. 1000-3469, 2015

PUBLICATIONS

Books

- [2] S. Ekwaro-Osire, A.C. Gonçalves, and F.M. Alemayehu, editors, *Probabilistic Prognostics and Health Management of Energy Systems*, Springer, New York, Apr 2017. (ISBN: 978-3-319-55851-6)
- [1] A. Ertas, S. Ekwaro-Osire, P. Ding, K.H. Kim, B. Hua, and P. Sheu, editors, *Proceedings of The Eighth World Conference on Integrated Design and Process Technology*, IDPT-Vol. 1, Published by Society for Design and Process Science, Jun 2005.

Book Chapters (corresponding author denoted by *, student and post-doc denoted by *italics*)

- [14] *O. Gecgel*, S. Ekwaro-Osire*, *J.P. Dias*, A. Nispel, F.M. Alemayehu, and A. Serwadda, “Machine Learning in Crack Size Estimation of a Spur Gear Pair Using Simulated Vibration Data,” in *Proceedings of the 10th International Conference on Rotor Dynamics – IFToMM. IFToMM 2018. Mechanisms and Machine Science, Volume 61*, (Editors: K.L. Cavalca, H.I. Weber), Springer, Cham, Switzerland, pp. 175-190, 2018. (ISBN: 978-3-319-99267-9)
- [13] *H.B. Endeshaw*, S. Ekwaro-Osire*, F.M. Alemayehu, and *J.P. Dias*, “The Remaining Useful Life of Gears with Inherent Uncertainties,” in *VDI-Berichte 2294, Volume 2*, (Editor: VDI Wissensforum GmbH), VDI Verlag GmbH, Düsseldorf, Germany, Chapter 96, pp. 1063–1072, 2017. (ISBN: 978-3-18-092294-2)
- [12] S. Ekwaro-Osire*, *H.B. Endeshaw*, F.M. Alemayehu, and *O. Gecgel*, “Probabilistic Model-Based Prognostics Using Meshfree Modeling,” in *Probabilistic Prognostics and Health Management of Energy*

Systems, (Editors: S. Ekwaro-Osire, A.C. Gonçalves, F.M. Alemayehu), Springer, New York, Chapter 5, Apr 2017. (ISBN: 978-3-319-55851-6)

- [11] F.M. Alemayehu* and S. Ekwaro-Osire, “Probabilistic Prognostics and Health Management: A Brief Summary,” in *Probabilistic Prognostics and Health Management of Energy Systems*, (Editors: S. Ekwaro-Osire, A.C. Gonçalves, F.M. Alemayehu), Springer, New York, Chapter 1, Apr 2017. (ISBN: 978-3-319-55851-6)
- [10] J.J. González, R. Cruz, and S. Ekwaro-Osire*, “Design Process Improvement and Implementation as a Design Teaching Tool,” in *NWRC Summer Research Institute Proceedings in the Renewable Energy, Turbulence and Medicine*, (Editors: L. Castillo, S. Pol, B. Aksak, A. Ruiz-Columbié), National Wind Resource Center, Lubbock, Texas, Chapter 7, pp. 29–32, 2014. (ISBN: 978-0-9903627-1-5)
- [9] F.M. Alemayehu, S. Ekwaro-Osire*, and F. Karpat, “Uncertainty Consideration in Multibody Dynamic Analysis of Helical-Gear-Pairs,” in *VDI-Berichte 2199, Volume 1*, (Editor: VDI Wissensforum GmbH), VDI Verlag GmbH, Düsseldorf, Germany, Chapter 36, pp. 427–438, 2013. (ISBN: 978-3-18-092199-0)
- [8] J.N. Carbone* and S. Ekwaro-Osire, “A Knowledge Component Framework for Enhancing Transdisciplinary Knowledge Assimilation,” in *Transdisciplinarity: Bridging Natural Science, Social Science, Humanities, and Engineering*, (Editor: A. Ertas), TheATLAS Publishing, Lubbock, USA, Chapter 6, pp. 102–126, 2011. (ISBN: 0-9778129-3-6)
- [7] F. Karpat*, S. Ekwaro-Osire, and E. Karpat, “A Virtual Tool for Computer Aided Analysis of Spur Gears with Asymmetric Teeth,” in *Applications of MATLAB in Science and Engineering*, (Editor: T. Michałowski), InTech, Rijeka, Croatia, Chapter 18, pp. 371–386, 2011. (ISBN: 978-953-307-708-6)
- [6] S. Ekwaro-Osire* and T.H. Jang, “Probabilistic Techniques in Bioengineering,” in *Biomedical Engineering: Health Care Systems, Technology and Techniques*, (Editors: S.C. Suh, V.P. Gurupur, M.M. Tanik), Springer-Verlag, Berlin, Chapter 15, pp. 203–210, 2011. (ISBN: 978-1-4614-0115-5)
- [5] S.M. Hsiang, T. Karakostas, C.-C. Chang, and S. Ekwaro-Osire*, “Coherence of Gait and Mental Workload,” in *Biomedical Engineering: Health Care Systems, Technology and Techniques*, (Editors: S.C. Suh, V.P. Gurupur, M.M. Tanik), Springer-Verlag, Berlin, Chapter 17, pp. 229–234, 2011. (ISBN: 978-1-4614-0115-5)
- [4] S. Ekwaro-Osire*, F.M. Alemayehu, I. Durukan, and J.F. Cárdenas-García, “Energy Dissipation in Impact Absorber,” in *Optical Measurements, Modeling, and Metrology, Volume 5* (Editor: T. Proulx), Springer-Verlag, New York, Chapter 40, pp. 331–335, 2011. (ISBN: 978-1-4614-0227-5)
- [3] S. Ekwaro-Osire*, T.-H. Jang, A. Stroud, I. Durukan, F.M. Alemayehu, A. Swift, and J. Chapman, “Gear with Asymmetric Teeth for use in Wind Turbines,” in *Experimental Mechanics on Emerging Energy Systems and Materials, Volume 5* (Editor: T. Proulx), Springer-Verlag, New York, Chapter 9, pp. 65–71, 2011. (ISBN: 978-1-4419-9493-6)
- [2] S. Ekwaro-Osire*, I. Durukan, and F.M. Alemayehu, “Experimental and Probabilistic Analysis of Asymmetric Gear Tooth,” in *Experimental Mechanics on Emerging Energy Systems and Materials, Volume 5* (Editor: T. Proulx), Springer-Verlag, New York, Chapter 25, pp. 207–212, 2011. (ISBN: 978-1-4419-9493-6)
- [1] S. Ekwaro-Osire*, E. Nieto, F. Gungor, E. Gumus, and A. Ertas, “Performance of a Bi-Unit Impact Damper Using Digital Image Processing,” in *Vibro-Impact Dynamics of Ocean Systems and Related Problems* (Editors: R.A. Ibrahim, V.I. Babitsky, and M. Okuma), Springer-Verlag, Berlin, Chapter 8, pp. 79–90, 2009. (ISBN: 978-3-642-00628-9)

Peer-Reviewed Journal Publications (corresponding author denoted by *, student and post-doc denoted by *italics*)

- [54] S. Ekwaro-Osire* and J.P. Dias, “Function and Aesthetics of a Product in Segmentation of the Sketch” *Journal of Integrated Design & Process Science* (Accepted, Sep 16, 2018)
- [53] S.M. Asio, J.A. Cross*, and S. Ekwaro-Osire, “Factors Affecting Innovation in Engineering Design Teams: An Empirical Investigation of Student Team Perceptions,” *International Journal of Engineering Education*, Vol. 34, No. 4, pp. 1159–1173, Aug 2018.
- [52] S. Ekwaro-Osire*, “Importance of Ethics in International Research Programs” *Journal of the Texas Tech University Ethics Center*, Vol. 2, No. 1, pp. 11-13, Mar 2018.

- [51] A. Bhuiyan, S. Ekwaro-Osire, S.M. Musa*, and M.R. Hossan, "Joint Conformity Resulting from Quadriceps Muscle and Ground Reaction Forces Influence Anterior Cruciate Ligament Response" *Elixir Mechanical Engineering*, Vol. 115, pp. 49679-49685, Feb 2018.
- [50] R. Cruz-Lozano, F.M. Alemayehu, S. Ekwaro-Osire*, and H.B. Endeshaw, "Determining Probability of Importance of Features in a Sketch" *Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*, Vol. 3, No. 4, pp. 041003-1-041003-13, Dec 2017.
- [49] H.B. Endeshaw, S. Ekwaro-Osire*, F.M. Alemayehu, and J.P. Dias, "Evaluation of Fatigue Crack Propagation of Gears considering Uncertainties in Loading and Material Properties" *Sustainability*, Vol. 9, No. 12, 2200, Nov 2017
- [48] S. Ekwaro-Osire*, G. Wanki, and J.P. Dias, "Healthcare - Probabilistic Techniques for Bone as a Natural Composite" *Journal of Integrated Design & Process Science*, Vol. 21, No. 3, pp. 7-22, Sep 2017.
- [47] F. Karpat*, O. Dogan, C. Yuce, and S. Ekwaro-Osire, "An Improved Numerical Method for the Mesh Stiffness Calculation of Spur Gears with Asymmetric Teeth on Dynamic Load Analysis," *Advances in Mechanical Engineering*, Vol. 9, No. 8, pp. 1-12, Aug 2017
- [46] S. Ekwaro-Osire, R. Cruz-Lozano*, H.B. Endeshaw, and J.P. Dias, "Uncertainty in the Communication with a Sketch" *Journal of Integrated Design & Process Science*, Vol. 20, No. 4, pp. 43-60, Dec 2016.
- [45] F.M. Alemayehu and S. Ekwaro-Osire*, "Probabilistic Performance of Helical Compound Planetary System in Wind Turbine," *Journal of Computational and Nonlinear Dynamics*, Vol. 10, No. 4, pp. 041003-1-041003-12, Jul 2015.
- [44] F.M. Alemayehu and S. Ekwaro-Osire*, "Loading and Design Parameter Uncertainty in the Dynamics and Performance of High-Speed-Parallel-Helical Stage of a Wind Turbine Gearbox," *Journal of Mechanical Design*, Vol. 136, No. 9, pp. 091002-1-091002-13, Sep 2014.
- [43] S. Ekwaro-Osire*, "Design Science for Business Management," *Journal of Integrated Design and Process Science*, Vol. 17, No. 2, pp. 1-3, Jun 2013.
- [42] M. Khandaker* and S. Ekwaro-Osire, "Weibull Analysis of Fracture Test Data on Bovine Cortical Bone: Influence of Orientation," *International Journal of Biomaterials*, Vol. 2013, Article ID 639841, 6 pages, DOI:10.1155/2013/639841, Dec 2013.
- [41] F.M. Alemayehu and S. Ekwaro-Osire*, "Uncertainty Considerations in the Dynamic Loading and Failure of Spur Gear Pairs," *Journal of Mechanical Design*, Vol. 135, No. 8, pp. 084501-1-084501-7, Aug 2013.
- [40] S. Ekwaro-Osire*, "User Preferences and Creativity in Design," *Journal of Integrated Design and Process Science*, Vol. 16, No. 4, pp. 1-2, Dec 2012.
- [39] M.A. Romero, A.E. Thal*, and S. Ekwaro-Osire, "Understanding Barriers to Technology Transfer in a Federal Laboratory," *European Journal of Business and Research*, Vol. 12, No. 4, pp. 127-132, Nov 2012.
- [38] F. Karpat*, S. Ekwaro-Osire, and E. Karpat, "A Computer Program for Dynamic Load Simulation of Spur Gears with Asymmetric and Symmetric Teeth," *World Journal of Mechanics*, Vol. 2, No. 5, pp. 239-245, Oct 2012.
- [37] M.A. Solano*, S. Ekwaro-Osire, and M.M. Tanik, "High-Level Fusion for Intelligence Applications using Recombinant Cognition Synthesis," *Information Fusion*, Vol. 13, No. 1, pp. 79-98, Jan 2012.
- [36] N.W. Smith, S. Ekwaro-Osire*, M. Khandaker, and J. Hashemi, "Influence of Storage Duration on Retention of Original Fracture Toughness," *Experimental Mechanics*, Vol. 51, No. 5, pp. 697-705, Jun 2011.
- [35] S. Datta, B. Dikici, M.L. Pantoya*, and S. Ekwaro-Osire, "Reaction Dynamics of Aluminum-Viton®-Acetone Droplets," *Journal of Propulsion and Power*, Vol. 27, No. 2, pp. 396-401, Mar-Apr 2011.
- [34] J.N. Carbone* and S. Ekwaro-Osire, "A Knowledge Component Framework for Enhancing Transdisciplinary Knowledge Assimilation," *Transdisciplinary Journal of Engineering & Science*, Vol. 1, No. 1, pp. 74-92, Dec 2010.
- [33] J. Zanoff and S. Ekwaro-Osire*, "An Approach that can Quickly Assess Product Reliability," *Quality and Reliability Engineering International*, Vol. 26, No. 6, pp. 571-578, Oct 2010.
- [32] S.T. Imam*, S. Ekwaro-Osire, and M.-C. Chyu, "Application of Probability Theory to Analyze Impact of Disease on Human Life Expectancy," *Journal of Integrated Design and Process Science*, Vol. 14, No. 3, pp. 25-35, Sep 2010.

- [31] F. Karpát and S. Ekwaro-Osire*, “Influence of Tip Relief Modification on the Wear of Spur Gears with Asymmetric Teeth,” *Tribology & Lubrication Technology*, Vol. 66, No. 6, pp. 50–60, Jun 2010.
- [30] J. Hashemi*, R. Breighner, T.-H. Jang, N. Chandrashekar, S. Ekwaro-Osire, and J.R. Slauterbeck, “RE: Oh and Ashton-Miller: Comments on Hashemi et al. ‘Increasing Pre-Activation of the Quadriceps Muscle Protects the Anterior Cruciate Ligament During the Landing Phase of a Jump: An in Vitro Simulation’,” *The Knee*, Vol. 17, No. 4, pp. 261–263, Aug 2010.
- [29] J. Hashemi*, R. Breighner, T.-H. Jang, N. Chandrashekar, S. Ekwaro-Osire, and J.R. Slauterbeck, “Increasing Pre-Activation of the Quadriceps Muscle Protects the Anterior Cruciate Ligament during the Landing Phase of a Jump: An in Vitro Simulation,” *The Knee*, Vol. 17, No. 3, pp. 181–260, Jun 2010.
- [28] J.N. Carbone*, S. Ekwaro-Osire, and M.M. Tanik, “A Recombinant Knowledge Assimilation Common Process for Recursive Transdiscipline Synthesis,” *Journal of Integrated Design and Process Science*, Vol. 14, No. 1, pp. 33–50, Mar 2010.
- [27] L.D. Welch* and S. Ekwaro-Osire, “Fairness in Agent Based Simulation Frameworks,” *Journal of Computing and Information Science in Engineering*, Vol. 10, No. 1, pp. 011002–011007, Mar 2010.
- [26] F. Karpát, S. Ekwaro-Osire*, K. Cavdar, and F.C. Babalik, “Dynamic Analysis of Involute Spur Gears with Asymmetric Teeth,” *International Journal of Mechanical Sciences*, Vol. 50, No. 12, pp. 1598–1610, Dec 2008.
- [25] F. Karpát and S. Ekwaro-Osire*, “Influence of Tip Relief Modification on the Wear of Spur Gears with Asymmetric Teeth,” *Tribology Transactions*, Vol. 51, No. 5, pp. 581–588, Sep 2008.
- [24] M.P.H. Khandaker, S. Ekwaro-Osire*, and K. Gautam, “Applying Modified Weibull Failure Theory to Bimaterial Specimen under Thermal Loading,” *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 31, pp. 281–294, Jun 2008.
- [23] F. Karpát, S. Ekwaro-Osire*, and M.P.H. Khandaker, “Probabilistic Analysis of MEMS Asymmetric Gear Tooth,” *Journal of Mechanical Design*, Vol. 130, No. 4, pp. 042306-1–042306-6, Apr 2008.
- [22] S. Ekwaro-Osire* and F. Karpát, “Experimental Studies on Galling Onset in OCTG Connections – A Review,” *Journal of Energy Resources Technology*, Vol. 130, No. 1, pp. 014502-1–014502-4, Mar 2008.
- [21] S. Ekwaro-Osire*, M.P.H. Khandaker, and K. Gautam, “Accounting for High Stress Gradient by a Modified Weibull Failure Theory,” *Journal of Engineering Materials and Technology*, Vol. 130, No. 1, pp. 011004-1–011004-8, Jan 2008.
- [20] J. Sun* and S. Ekwaro-Osire, “Optimization of Load Uniformity for Triangular Tube Using Non-linear Programming,” *Multidiscipline Modeling in Materials and Structures*, Vol. 3, No. 1, pp. 121–140, 2007.
- [19] S.M. Hsiang, S. Ekwaro-Osire*, and T.H. Jang, “Designing Against Head Injury while Considering Neck Injury,” *Journal of Integrated Design and Process Science*, Vol. 11, No. 1, pp. 41–59, Mar 2007.
- [18] J. Hashemi*, N. Chandrashekar, T. Jang, F. Karpát, M. Oseto, and S. Ekwaro-Osire, “An Alternative Mechanism of Non-contact Anterior Cruciate Ligament Injury During Jump-landing: In-vitro Simulation,” *Experimental Mechanics*, Vol. 47, No. 3, pp. 347–354, Jun 2007.
- [17] S. Ekwaro-Osire*, C. Ozerdim, and M.P.H. Khandaker, “Effect of Attachment Configuration on Impact Vibration Absorbers,” *Experimental Mechanics*, Vol. 46, No. 6, pp. 669–681, Dec 2006.
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- [38] P. Orono and S. Ekwaro-Osire*, "Impact of Selection of Projects on Pan-Mentoring in Creative Engineering Design," *Proceedings of the 2006 Frontiers in Education Conference*, San Diego, California, Oct 28–31, 2006.
- [37] J.F. Cárdenas-García*, G.G. Weber, and S. Ekwaro-Osire, "An Inverse Problem Methodology Appraisal of the Elastic Properties of Bimaterials," *Ninth International Conference on Integrated Design and Process Technology*, San Diego, California, Jun 25–30, 2006.
- [36] *M.P.H. Khandaker*, S. Ekwaro-Osire*, and *M. Dhorje*, "Failure Prediction of a Bimaterial Body under Tensile Loads," *Ninth International Conference on Integrated Design and Process Technology*, San Diego, California, Jun 25–30, 2006.

- [35] T.-H. Jang and S. Ekwaro-Osire*, “Multivariate Analysis of Variance for Significance of Material Property in Cervical Spine Response,” *Ninth International Conference on Integrated Design and Process Technology*, San Diego, California, Jun 25–30, 2006.
- [34] S. Ekwaro-Osire* and P. Orono, “Developing an Assessment Regime for Pan-Mentoring in Creative Engineering Design,” *Proceedings of the 2006 ASEE Annual Conference & Exposition*, Chicago, Illinois, Jun 18–21, 2006.
- [33] S. Ekwaro-Osire, J.F. Cárdenas-García*, and G. G. Weber “Determining Material Properties of Orthotropic Bimaterials,” *SEM Annual Conference & Exposition*, St Louis, Missouri, Jun 4–7, 2006.
- [32] S. Ekwaro-Osire* and J.F. Cárdenas-García, “Notched Bimaterials: An Inverse Problem Methodology Appraisal,” *IMAC-XXIV A Conference & Exposition on Structural Dynamics*, St Louis, Missouri, Jan 30–Feb 2, 2006.
- [31] S. Ekwaro-Osire* and P. Orono, “Pan-mentoring in creative engineering design – the coordination of individual and team creativity,” *Proceedings of the 2005 Frontiers in Education Conference*, Indianapolis, Indiana, Oct 19–22, 2005.
- [30] S. Ekwaro-Osire*, M.P.H. Khandaker, and K. Gautam, “Probabilistic analysis of notched micro specimen under three-point loading,” *Proceedings of the ASME International Design Engineering Technical Conferences*, Long Beach, California, Sep 24–28, 2005.
- [29] T.-H. Jang* and S. Ekwaro-Osire, “Probabilistic Analysis of Lower Cervical Spine for Whiplash Injury,” *Proceedings of the 2005 Summer Bioengineering Conference*, Vail Cascade Resort and Spa, Vail, Colorado, Jun 22–26, 2005.
- [28] T.-H. Jang* and S. Ekwaro-Osire, “Age-Related Spine Injury Based on the Investigation of the Disc Degeneration, and Osteoporosis,” *Proceedings of the 2005 Summer Bioengineering Conference*, Vail Cascade Resort and Spa, Vail, Colorado, Jun 22–26, 2005.
- [27] P. Orono and S. Ekwaro-Osire*, “Evolutionary Design Paradigm as a Retention Tool,” *Proceedings of the 2005 ASEE Annual Conference & Exposition*, Portland, Oregon, Jun 12–15, 2005.
- [26] J. Sun and S. Ekwaro-Osire*, “Expression of Single Crack Propagation towards Fatigue Probability Analysis,” *ASME 2005 GSTC*, Lubbock, Texas, Apr 1–2, 2005.
- [25] M. Khandaker, S. Ekwaro-Osire*, and K. Gautam, “Probabilistic Analysis of the Singular Stress Field in a Bimaterial fracture specimen,” *ASME 2005 GSTC*, Lubbock, Texas, Apr 1–2, 2005.
- [24] K. Gautam, S. Ekwaro-Osire*, and M. Khandaker, “Probabilistic Analysis of Electrostatically Actuated U-Shape Micro Fracture Specimen,” *ASME 2005 GSTC*, Lubbock, Texas, Apr 1–2, 2005.
- [23] S. Ekwaro-Osire*, C. Ozerdim, and M.P.H. Khandaker, “Effect of Attachment Configuration on Impact Vibration Absorbers,” *IMAC-XXIII: A Conference & Exposition on Structural Dynamics*, Orlando, Florida, Jan 31–Feb 3, 2005.
- [22] S. Ekwaro-Osire*, A. Ertas, and O. Cuvalci, “Galling Onset in OCTG Connections,” *2005 STLE Annual Conference*, Las Vegas, Nevada, May 15–19, 2005. (Presentation Only)
- [21] T.-H. Jang and S. Ekwaro-Osire*, “Random Field Analysis Applied to Cervical Spine Column,” *10th Multidisciplinary Analysis and Optimization Conference*, Albany, NY, Paper No. AIAA-2004, Aug 30–Sep 1, 2004.
- [20] J. Sun, S. Ekwaro-Osire*, and S.M. Hsiang, “Comparison and Optimization of Impact Behavior of Triangular Tubes,” *10th Multidisciplinary Analysis and Optimization Conference*, Albany, NY, Paper No. AIAA-2004, Aug 30–Sep 1, 2004.
- [19] M.P.H. Khandaker and S. Ekwaro-Osire*, “Sensitivity Based Optimum Design Process for MEMS Devices,” *10th Multidisciplinary Analysis and Optimization Conference*, Albany, NY, Paper No. AIAA-2004, Aug 30–Sep 1, 2004.
- [18] H. Jin, J.F. Cárdenas-García*, H.A. Bruck, and S. Ekwaro-Osire, “Design and Construction of a Novel Microtensile Tester for Thin Films,” *2004 SEM X International Congress and Exposition on Experimental and Applied Mechanics*, Costa Mesa, California, Jun 7-10, 2004.
- [17] S. Ekwaro-Osire*, M.P.H. Khandaker, T.-H. Jang, J. Sun, and V. Chakkarapani, “Stochasticity in Design and Fabrication Process of MEMS,” *The Seventh International Conference on Integrated Design and Process Technology*, Austin, Texas, 2003.

- [16] J. Sun, B. Han, S. Ekwaro-Osire*, and H.-C. Zhang, "Design-for-Environment: Methodologies, Tools, and Implementation," *The Seventh International Conference on Integrated Design and Process Technology*, Austin, Texas, 2003.
- [15] S. Ekwaro-Osire*, M.P.H. Khandaker, and T.-H. Jang, "Probabilistic Modeling of Micro-Electro-Mechanical Systems (MEMS)," *The Sixth International Conference on Integrated Design and Process Technology*, Pasadena, California, 2002.
- [14] J.F. Cárdenas-García*, S. Ekwaro-Osire, and J.M. Berg, "Nonlinear Least-squares Solution to the Moiré Hole-drilling Problem in Orthotropic Materials," *SEM International Congress and Exposition on Experimental and Applied Mechanics*, Milwaukee, Wisconsin, Jun 10–12, 2002.
- [13] J. Sun and S. Ekwaro-Osire*, "Prediction of Energy Absorption of Thin Tubes," *ASME 2002 GSTC*, Kingsville, Texas, Mar 21–24, 2002. (Second Place Presentation Award to J. Sun)
- [12] J.F. Cárdenas-García*, S. Ekwaro-Osire, and J.M. Berg, "Nonlinear Least Squares Applied to the Moiré Hole Drilling Problem," *SEM International Congress and Exposition on Experimental and Applied Mechanics*, Portland, Oregon, Jun 4–6, 2001.
- [11] Y. Yu, H.C. Zhang, A. Ertas, W. Wanyama, and S. Ekwaro-Osire*, "Manufacturability in the Engineering Design Process: a Review," *The Fifth World Conference on Integrated Design & Process Technology*, Dallas, Texas, Jun 4–8, 2000.
- [10] S. Ekwaro-Osire* and I.C. Desen, "Characteristics of an Impact Vibration Absorber," *ASME 2000 GSTC*, Lafayette, Louisiana, Mar 23–26, 2000. (First Place Presentation Award to I.C. Desen)
- [9] B. Obert, K. Ngo, J. Hashemi*, S. Ekwaro-Osire, and T.P. Sivam, "Quantification of Corrosion in 7075-T6 Aluminum Alloy," *ASME Pressure Vessels and Piping Division*, PVP 398, pp. 119–133, Nov 14–19, 1999.
- [8] A. Ertas*, O. Cuvalci, and S. Ekwaro-Osire, "Dynamics of a Flexible Structure with Pendulum Studied at Various Angles between Vertical and the Horizontal Positions," *Proceedings of the Seventh Conference on Nonlinear Vibrations, Stability, and Dynamics of Structures*, Blacksburg, Virginia, Jul 26–30, 1998. (Extended Abstract)
- [7] S. Ekwaro-Osire*, "Integration of Solid Modeling in Concurrent Engineering Design," *The Third Biennial World Conference on Integrated Design & Process Technology*, IDPT-Vol. 5, pp. 147–152, Jul 5–9, 1998.
- [6] B.H. Ertas, O. Cuvalci, S. Ekwaro-Osire*, M. Harrington, D. Small, and G. Qi, "Design and Stress Analysis of a Center Spreader of an Aircraft Seat," *The Third Biennial World Conference on Integrated Design & Process Technology*, IDPT-Vol. 5, pp. 325–331, Jul 5–9, 1998.
- [5] O. Cuvalci, A. Ertas*, I. Cicek, and S. Ekwaro-Osire, "Vibration Absorber for Flexible Structures: Experimental Study under Random and Sinusoidal Excitations," *International Mechanical Engineering Congress and Exposition, Active/Passive Vibration Control and Nonlinear Dynamics of Structures*, DE-Vol. 95, pp. 143–149, 1997.
- [4] S. Ekwaro-Osire and A. Ertas*, "Response Statistics of a Beam-Mass Oscillator under Combined Harmonic and Random Excitation," *ASME International Mechanical Engineering Congress and Exposition*, AMD-Vol. 192, pp. 179–189, Nov 1994.
- [3] A. Ertas*, J.T. Krafcik, and S. Ekwaro-Osire, "Explicit Formulation of an Anisotropic Allman/DKT 3-node Thin Triangular Flat Shell Elements," *ASME ETCE Composite Material Technology Proceedings*, PD Vol. 37, pp. 249–255, Jan 20–23 1991.
- [2] A. Ertas* and S. Ekwaro-Osire, "A Linearization Technique for Stochastic Response of Tension Leg Platform," *Proceedings of the Third Conference on Nonlinear Vibrations, Stability, and Dynamics of Structures and Mechanisms*, Blacksburg, Virginia, Jun 25–27, 1990. (Extended Abstract)
- [1] A. Ertas*, H.J. Carper, O. Cuvalci, S. Ekwaro-Osire, and W.R. Blackstone, "Experimental Investigation of Galling Resistance in OCTG Connections," *ASME ETCE Offshore and Arctic Operations Symposium Proceedings*, PD-Vol. 29, pp. 15–20, Jan 14–18 1990.

Peer-Reviewed Abstracts (corresponding author denoted by *, student and post-doc denoted by italics)

- [3] J. Hashemi*, R. Breighner, T.H. Jang, S. Ekwaro-Osire, N. Chandrashekar, J. Slauterbeck, "The role of unopposed quadriceps force in loading the anterior cruciate ligament during jump landing," *Proceedings of the 14th Annual Meeting of the Gait and Clinical Movement Analysis Society (GCMAS)*, Denver, Colorado, Mar 10–13, 2009.

- [2] J. Hashemi*, *R. Breighner, T. Jang, N. Chandrashekar, S. Ekwaro-Osire, J. Slauterbeck*, “The role of unopposed quadriceps force in loading the anterior cruciate ligament during jump landing: In-vitro simulation,” *Transactions of the 55th Annual Meeting of the Orthopaedic Research Society*, Las Vegas, Nevada, Feb 22–25, 2009.
- [1] J. Hashemi*, N. Chandrashekar, *T. Jang, F. Karpat, M. Osetto, S. Ekwaro-Osire*, “Favorable conditions for non-contact ACL injury during jump-landing an *In-vitro* simulation,” *Transactions of the 53rd Annual Meeting of the Orthopaedic Research Society*, San Diego, California, Feb 11–14, 2007.

None Peer-Reviewed Magazines (corresponding author denoted by *, student and post-doc denoted by *italics*)

- [2] S. Ekwaro-Osire* and J.P. Dias, “Safety, Risk and Reliability Engineering: Graduate Programs in the USA,” *Safety Engineering and Risk/Reliability Analysis Division Newsletter, ASME*, Vol. 1, June 2018.
- [1] S. Ekwaro-Osire* and F. Karpat, “Examining Gear Design for Increased Reliability,” *North American Windpower*, Vol. 7, No. 4, pp. 94&96, May 2010.

Invited Talks (including keynote, plenary presentation, and presentations)

Plenary Presentation

- [2] Uncertainty, Transdisciplinarity, Energy, and International Collaboration Themes, *Probabilistic Prognostics and Health Management of Energy Systems Workshop*, Ilha Solteira, Brazil, Dec 14–15, 2015.
- [1] Research Endeavor and Transdisciplinarity, *International Conference of Society for Design and Process Science*, Fort Worth, Texas, Nov 1–5, 2015.

Presentations

- [29] Using the Aesthetics and Functionality Dimensions in Segmentation of a Product Sketch, *University of Bremen*, Bremen, Germany, Jun 05, 2018.
- [28] Machine Learning in Crack Size Estimation of a Spur Gear Pair Using Simulated Vibration Data, *Ethiopian Institute of Technology - Mekelle*, Mekelle, Ethiopia, Mar 13, 2018.
- [27] Convergence Research with Attention to Wind Engineering and Science, *WiSE Wednesday Lecture Series*, Lubbock, TX, Dec 6, 2017.
- [26] Future of Convergence: A National Perspective, *International Conference of Society for Design and Process Science*, Birmingham, Alabama, Nov 8, 2017.
- [25] Importance of Ethics in International Research Programs, *The Fourth Annual Global Ethics Day “Public/Private: Ethics and Governance”*, Lubbock, TX, Oct 18, 2017.
- [24] Probabilistic Prognostics and Health Management of Energy Systems, *TTU/FAPESP – SPRINT “STEM Across Continents” Workshop and Conference*, Lubbock, TX, Sep 21-22, 2017.
- [23] Quantification of Uncertainty in the Communication with Engineering Design Sketches, *Cataratas Dynamic University (UDC)*, Foz do Iguaçu, PR, Brazil, May 31, 2017.
- [22] Role of Uncertainty in Engineering and Bio Systems, *The Federal University of Santa Catarina (UFSC)*, Florianópolis, SC, Brazil, May 29, 2017.
- [21] New Trends in Probabilistic Prognostics and Health Management, *São Paulo State University (UNESP)*, Ilha Solteira, SP, Brazil, May 25, 2017.
- [20] Applications of Prognostics and Health Management of Systems, *Military Institute of Engineering (IME)*, Rio de Janeiro, RJ, Brazil, May 23, 2017.
- [19] Probabilistic Model-Based Prognostics Using Mesh-Free Modeling, *Rio de Janeiro State University (UERJ)*, Rio de Janeiro, RJ, Brazil, May 22, 2017.
- [18] Improving Communication in Design through Uncertainty Quantification of Sketches, *University of Bremen*, Bremen, Germany, Jan 25, 2017.
- [17] Improving Communication in Design through Uncertainty Quantification of Sketches, *Brunel University*, London, United Kingdom, Jan 23, 2017.
- [16] Opportunities for Transdisciplinary Research, *São Paulo State University (UNESP)*, Ilha Solteira, SP, Brazil, Dec 15, 2015.
- [15] Perspectives on Bioengineering, *São Paulo State University (UNESP)*, Tupã, SP, Brazil, Dec 11, 2015.
- [14] On Spur Gears with Asymmetric Teeth, *National Wind Technology Center*, Boulder, CO, Mar 11, 2011.

- [13] A Comprehensive Approach for Accounting for Uncertainty in Gearbox Failure of Wind Turbines, *Wind Science & Engineering Wednesday Seminar Series*, Lubbock, TX, Feb 9, 2011.
- [12] A Comprehensive Approach for Mitigation and Prediction of Gearbox Failure of Wind Turbines, *FM Global*, Norwood, MA, Jan 28, 2011.
- [11] Weakest-Link Approach for Fatigue Limit of Metals, *Air Force Research Laboratory*, Wright-Patterson AFB, Jul 10, 2008.
- [10] Statistical Fracture Theory for Mechanical and Biological Structures, *Karadeniz Technical University*, Trabzon, Turkey, Dec 3, 2007.
- [9] Grad Study and Post-doctoral Research in the USA, *Karadeniz Technical University*, Trabzon, Turkey, Dec 3, 2007.
- [8] Grad Study and Post-doctoral Research in the USA, *Bogazici University*, Istanbul, Turkey, Nov 28, 2007.
- [7] Statistical Fracture Theory for Mechanical and Biological Structures, *Bogazici University*, Istanbul, Turkey, Nov 26, 2007.
- [6] A Modified Weibull Failure Theory for Engineering and Biological Structures, *Middle East Technical University*, Ankara (Turkey), Nov 5, 2007.
- [5] ‘Hi y’all?’ or Graduate Study in Lubbock, USA, *Middle East Technical University*, Ankara (Turkey), Nov 5, 2007.
- [4] A Modified Weibull Failure Theory for Engineering and Biological Structures, *TOBB University of Economics and Technology*, Ankara (Turkey), Nov 6, 2007.
- [3] ‘Hi y’all?’ or Graduate Study in Lubbock, USA, *TOBB University of Economics and Technology*, Ankara (Turkey), Nov 6, 2007.
- [2] Probabilistic Approaches in Cervical Spine Research, *Brunel University*, West London (United Kingdom), Aug 2006.
- [1] Accounting for High-Stress Gradient by a Modified Weibull Failure Theory, *Air Force Institute of Technology*, Wright-Patterson AFB, Apr 2006.

WORKSHOP AND SYMPOSIA

- [21] The Fourth Annual Global Ethics Day “Public/Private: Ethics and Governance”, Lubbock, TX, Oct 18, 2017.
- [20] TTU/FAPESP – SPRINT “STEM Across Continents” Workshop and Conference, Lubbock, TX, Sep 21–22, 2017.
- [19] Minisymposium on Probabilistic Prognostics and Health Management of Energy Systems, Ilha Solteira, Brazil, May 25, 2017.
- [18] 2nd Probabilistic Prognostics and Health Management of Energy Systems Workshop (PPHMES 2017), Lubbock, Texas, May 15–16, 2017.
- [17] International Workshop on Transportation, Sustainable Water Resources, and Construction, Jimma, Ethiopia, Apr 24–25, 2017.
- [16] TTU/FAPESP – SPRINT “STEM Across Continents” Workshop and Conference, Lubbock, TX, Aug 31–Sep 1, 2016.
- [15] University Engineering Alliance Engineering Summit: Pursuing Innovation, Preparing Students, Manhattan, KS, Apr 11–12, 2016.
- [14] 1st Probabilistic Prognostics and Health Management of Energy Systems Workshop (PPHMES 2015), Ilha Solteira, Brazil, Dec 14–15, 2015.
- [13] Global Education Dialogue: East Africa (Building Nations through Innovation: the Role of Universities), Addis Ababa, Ethiopia, Nov 27, 2015.
- [12] Army Research Lab Open Campus Open House, Aberdeen Proving Ground, MD, Nov 3–4, 2015.
- [11] Mid-America Engineering Education Leadership Workshop, Chicago, IL, Oct 12, 2015.
- [10] GEM 39th Annual Board Meeting and Conference, Boston, MA, Aug 5–7, 2015.
- [9] Engineering Research Council Annual Conference, Silver Spring, MD, Mar 9–11, 2015.

- [8] Naval Future Force Science and Technology Expo, Washington, DC, Feb 4–5, 2015.
- [7] Army Research Lab Open Campus Open House, Silver Spring, MD, Dec 9–10, 2014.
- [6] Reforming Electric Energy Systems Curriculum, University of Minnesota, Minneapolis, MN, Oct 4–5, 2014.
- [5] The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Annual Meeting, Atlanta, GA, Dec 7–10, 2013.
- [4] National Engineering Forum, Houston, TX, Nov 12, 2013.
- [3] ABET Program Evaluator Training, Baltimore (Linthicum), MD, Aug 3–4, 2013.
- [2] Teaching Safety in University Settings: Why it is critical, and How to Implement an Effective Program, The American Institute of Chemical Engineers, San Antonio, TX, Apr 27, 2013.
- [1] Engineering Research Council Annual Conference, Washington, DC, Mar 3–5, 2013.

TEACHING EFFECTIVENESS

Post-Doctoral Education

Post-Doctoral Research Associate Mentored or Currently Mentoring

- [8] T.P. Pereira, Ph.D., “Wind Resource Modeling,” Jan 2018–July.
- [7] J.P. Dias, Ph.D., “Probabilistic Prognostics and Health Management,” Mar 2016–present.
- [6] L.J. Mayer, Ph.D., “Interdisciplinary Experimental Frameworks,” Jan 2018–July 2018.
- [5] D. Pham, Ph.D., “Uncertainty in Remaining Useful Life Prediction,” Jan 2015–Sep 2015.
- [4] F.M. Alemayehu, Ph.D., “Novel Theories in Reliability of Wind Turbine Gear Systems,” Aug 2013–Aug 2014.
- [3] T.-H. Jang, Ph.D., “Development of Probabilistic Techniques for Assessing Wind Turbine Failures,” Jan 2006–May 2011.
- [2] F. Karpat, Ph.D., “Gear Design for Increased Reliability of Wind Turbine,” Jun–Sep 2010.
- [1] F. Karpat, Ph.D., “Innovative Gear Mechanics,” Feb–Dec 2006.

Graduate Education

Graduate Faculty Membership

- [3] Texas Tech University, 1998–present.
- [2] Air Force Institute of Technology, 2006–2010.
- [1] Bogazici University, Turkey, 2007–2008.

Graduate Students’ Honors (Students mentored by Dr. Ekwaro-Osire)

- [11] R. Cruz-Lozano
Doctoral Student Fellowship, CONACYT, Mexico, 2013–2017
- [10] S. Dabetwar
Runner-Up New & Improved II, Research Poster Competition, TTU, 2016
- [9] O. Gecgel
Runner-Up New & Improved II, Research Poster Competition, TTU, 2016
- [8] S.M. Asio
Winner of 2015 IIE SEMS Student Paper Competition, 2015
Finalist Award for SWE Collegiate Poster Competition, 2013
- [7] H.B. Endeshaw
Doctoral Dissertation Completion Fellowship, TTU, 2016–2017
Second Place Award, Research Poster Competition, TTU, 2015
New Doctoral Student Fellowship, TTU, 2011
Master’s Fellowship (Graduate School and VP for Research), TTU, 2010
- [6] F.M. Alemayehu
Summer Dissertation/Thesis Research Award, TTU, 2012
Helen DeVitt Jones Excellence in Graduate Teaching Award, TTU, 2011
AARA Texas Workforce Scholarship, TWEI, 2011

Recognition for Scholarship of Teaching and Learning, TLTC, 2011
TEACH (Teaching Effectiveness and Career Enhancement) Fellowship, TTU, 2010–2011
AT&T Chancellor's Endowed Fellowship, TTU, 2009–2011
Harrington Grad Engineering School Fellowship, TTU, 2008–2009

- [5] A.I. Bhuiyan
Summer Dissertation/Thesis Research Award, TTU, 2012
Helen DeVitt Jones Excellence in Graduate Teaching Award, TTU, 2012
TEACH (Teaching Effectiveness and Career Enhancement) Fellowship, TTU, 2011–2012
Raymond Green FA Scholarship, TTU, 2011–2012
Match T Fuller Scholarship, TTU, 2011–2012
First Place Award, Research Poster Competition, 2011
- [4] I. Durukan
Third Place Award, Research Poster Competition, 2011
Second Place Award, Research Poster Competition, 2010
AT&T Chancellor's Endowed Fellowship, TTU, 2009–2011
Harrington Grad Engineering School Fellowship, TTU, 2008–2009
- [3] M.P.H. Khandaker
Summer Dissertation/Thesis Research Award, 2007
TEACH (Teaching Effectiveness and Career Enhancement) Fellowship, 2006–2007
First Prize, SANDIA MEMS Design Competition, 2006
First Prize, SANDIA MEMS Design Competition, 2005
Oral presentation Award, ASME GSTC, 2005
- [2] J. Sun
Second Place Conference Presentation Award, ASME GSTC, 2002
- [1] I.C. Desen
First Place Conference Presentation Award, ASME GSTC, 2000

*PhD Students Graduated (current faculty member at USA university denoted by *)*

- [11] H.B. Endeshaw*, Ph.D., “Probabilistic Prognostics of Gears under Variable Loading,” Aug 2017. (Department of Mechanical Engineering)
- [10] R. Cruz-Lozano*, Ph.D., “Quantification of Uncertainty in the Communication with Engineering Design Sketches,” May 2017. (Department of Mechanical Engineering)
- [9] S.M. Asio, Ph.D., “An Empirical Investigation of Predictors of Perceived Innovation within Engineering Student Design Teams,” May 2015. (Department of Industrial Engineering) (co-Chair)
- [8] F.M. Alemayehu*, Ph.D., “Probabilistic Multibody Dynamic Analysis of Gear Systems for Wind Turbines,” Aug 2013. (Department of Mechanical Engineering)
- [7] A.I. Bhuiyan*, Ph.D., “Anterior Cruciate Ligament Response Due to Forces Resulting from Quadriceps Muscle and Ground Reaction,” May 2013. (Department of Mechanical Engineering) (co-Chair)
- [6] J.N. Carbone, Ph.D., “A Framework for Enhancing Transdisciplinary Research Knowledge,” May 2010. (Department of Mechanical Engineering)
- [5] M.A. Solano, Ph.D., “High-Level Fusion for Intelligence Applications using Recombinant Cognition Synthesis,” May 2010. (Department of Mechanical Engineering)
- [4] L.D. Welch, Ph.D., “Seeking Shelter: An Analysis of Patterns and Dynamics in School Lockdown Scenarios,” Aug 2009. (Department of Mechanical Engineering)
- [3] M.P.H. Khandaker*, Ph.D., “Accounting for Fracture Toughening Mechanism in the Prediction of Cortical Bone Failure,” Aug 2007. (Department of Mechanical Engineering)
- [2] T.-H. Jang, Ph.D., “Random Field Analysis for Cervical Spine Injury,” Dec 2005. (Department of Mechanical Engineering)
- [1] J. Sun, Ph.D., “Optimization Using Sequential Approach for Triangular Tube Structure in Crashworthiness,” May 2005. (Department of Mechanical Engineering)

Masters Students Graduated

- [23] N.E. Nkama, "Probabilistic Analysis of Continuously Variable Transmission to Increase Reliability," M.S.M.E. (thesis), May 2015.
- [22] D. Juschanin, "Tool Path Computation for Model Fitness Validation," M.S.M.E. (report), May 2014.
- [21] H.B. Endeshaw, "Probabilistic Modeling of the Rupture of Algae Cells," M.S.M.E. (thesis), Aug 2011.
- [20] J. Jones, "Volume Effect of Bone Utilizing the Staircase Test Method," M.S.M.E. (thesis), Dec 2010.
- [19] H.V. Kulkarni, "Using Weakest-Link Approach on the Fatigue Limits of Steels," M.S.M.E. (thesis), Dec 2009.
- [18] N.W. Smith, "The Influence of Ethanol Conservation on the Fracture Toughness of Bovine Cortical Bone," M.S.M.E. (thesis), May 2009.
- [17] M. Dhorje, "Using a modified Weibull failure theory for contact loading," M.S.M.E. (thesis), Aug 2008.
- [16] E. Nieto, "Effectiveness of a Bi-Unit Impact Vibration Absorber Using Image Processing," M.S.M.E. (thesis), May 2008.
- [15] J.J. Mendias, "Mapping of Creativity in Capstone Design Process," M.S.M.E. (thesis), May 2008.
- [14] G.S. Lolge, "Analysis of a Notched Bimaterial Using an Inverse Problem Method and a Probabilistic Analysis," M.S.M.E. (thesis), Aug 2007.
- [13] M.A. Romero, "Identifying and Assessing Effective Mechanisms for Technology Transfer," M.S. Research and Development Management (Air Force Institute of Technology) (thesis), Mar 2007.
- [12] K. Gautam, "Modifying the Weibull Failure Theory for High Stress Gradients," M.S.M.E. (thesis), Dec 2005.
- [11] V. Chakkarapani, "Analysis of Stress Singularity of Adhered Contacts in MEMS," M.S.M.E. (thesis), Aug 2004.
- [10] G.C. Kamm, "Novel Apparatus for Evaluation of Head and Neck Injury," M.S.M.E. (thesis), May 2003.
- [9] C. Ozerdim, "Absorption Characteristics of Impact Vibration Absorbers," M.S.M.E. (thesis), Dec 2002.
- [8] M.P.H. Khandaker, "Probabilistic Modeling of Micro-Electro-Mechanical Systems (MEMS)," M.S.M.E. (thesis), Dec 2002.
- [7] S.R. Arigela, "Methodology for Analysis of Trailer Design," M.S.M.E. (report), Dec 2001.
- [6] H. Zhao, "Energy Absorption of Reinforced Thin Tubes," M.S.M.E. (report), May 2001.
- [5] S. Kamruzzaman, "Energy Absorption of Tubular Structures," M.S.M.E. (thesis), Dec 2000.
- [4] J. Sun, "Prediction of Energy Absorption of Extruded Tubes," M.S.M.E. (thesis), Dec 2000.
- [3] I.C. Desen, "Experimental Study on an Impact Vibration Absorber," M.S.M.E. (thesis), May 2000.
- [2] S. Guha, "Simulation of the '16G Test' for an Aircraft Seat Structure," M.S.M.E. (report), May 1999.
- [1] M. Zakaria, "On the Optimization of a Spreader," M.S.M.E. (report), Aug 1998.

Doctoral Committees Currently Chairing

- [4] S. Dabetwar, "Probability Distributions of Initial and Future Loads for Assessment of Component Life," 2015–present (Scheduled to graduate in Dec 2020).
- [3] A.N. Pizarro, "Uncertainty Quantification for Remaining Useful Life in Prognostics and Health Management," 2016–present (Scheduled to graduate in Dec 2020).
- [2] G. Wanki, "Probabilistic Concepts for Hierarchical Design of Bone," 2016–present (Scheduled to graduate in Dec 2019).
- [1] Ö. Geçgel, "Improved Sensors for Remaining Useful Life Estimation through Uncertainty Propagation," 2015–present (Scheduled to graduate in Dec 2019).

Master Committees Currently Chairing

None

Doctoral Committees Served or Serving On

- [47] S. Islam, "Identifying Key Parameters in the Formation of Aluminum Iodate Hexahydrate (AIH) on Alumina (Al₂O₃) and Boehmite (AlO(OH)) Nanoparticles," 2018–present. (Department of Mechanical Engineering) (Doctoral Study)
- [46] U. Gulbulak, "Computational and Experimental Study for Mimicking the Systemic Circulation in Human Body," 2017–present. (Department of Mechanical Engineering) (Doctoral Study)

- [45] E.A. Chumacero, “Nonlinear Dynamics of Human Upright Postural Stability on a Balance Board Using an Ankle-Hip Model,” 2016–present. (Department of Mechanical Engineering) (Doctoral Study)
- [44] B. Li, “In-Plane and Out-of-Plane Flexible Ring Tire Model Development and Validation,” 2016–present. (Department of Mechanical Engineering) (Doctoral Study)
- [43] M. Xu, “Simulation-Based Assessment for Biomechanical Behavior of Human Thoracolumbar Spine,” 2016–present. (Department of Mechanical Engineering) (Doctoral Study)
- [42] Q. Lu, “Robust Control of a Quadrotor Unmanned Aerial Vehicle in Uncertain Environment,” 2016–present. (Department of Mechanical Engineering) (Doctoral Study)
- [41] M.N. Bello, “Reaction Dynamics of Rocket Propellant with Magnesium Oxide Nanoparticles,” 2015–present. (Department of Mechanical Engineering) (Doctoral Study)
- [40] B.A. Howard, Ph.D., “Digital Human Posture and Motion Prediction Considering Cognitive Decision Making,” Aug 2018. (Department of Mechanical Engineering)
- [39] A. Cloutier, Ph.D., “Grasping Force Optimization Approaches for Common Anthropomorphic Grasps,” Aug 2017. (Department of Mechanical Engineering)
- [38] D. Smith, Ph.D., “Replacing the Al₂O₃ Passivation Shell with on Aluminum Nano-Particles with an Energetic Salt: Aluminum Iodate Hexahydrate (AIH),” Aug 2017. (Department of Mechanical Engineering)
- [37] R. Padhye, Ph.D., “Altering Surface Properties toward Enhanced Reactivity,” Aug 2017. (Department of Mechanical Engineering)
- [36] M. He, Ph.D., “Experimental Investigation of Thermal-mechanical Degradation of Carbon Thin Films by Surface Contact,” May 2017. (Department of Mechanical Engineering)
- [35] B.R. Clark, Ph.D., “Combustion Characterization of Nano-Particle Reactive Materials Suspended in Polymer Binders for Use in Additive Manufacturing,” May 2016. (Department of Mechanical Engineering)
- [34] I. Durukan, “Flywheel Energy Storage Systems to Ride through of Variable Speed Wind Turbine Grid Fault Condition,” 2008–2015. (Department of Mechanical Engineering)
- [33] J. McCollum, Ph.D., “Enhancing Aluminum Reactivity by Exploiting Surface Chemistry and Mechanical Properties,” Aug 2015. (Department of Mechanical Engineering)
- [32] Z. Lei, Ph.D., “Simulation-Based Assessment for N95 Filtering Facepiece Respirator,” Aug 2014. (Department of Mechanical Engineering)
- [31] K.S. Kappagantula, Ph.D., “Combustion Experiments of Aluminum-Fluoropolymer Composites: A Study of Additive Influences,” Aug 2014. (Department of Mechanical Engineering)
- [30] B. Ozsoy, Ph.D., “Three-Dimensional Sit-To-Stand Motion Prediction,” May 2014. (Department of Mechanical Engineering)
- [29] J. Gragg, Ph.D., “Investigating the Onset of Slip in Gait by Employing Probabilistic Theory and Optimization-Based Motion Prediction,” May 2014. (Department of Mechanical Engineering)
- [28] S. Lee, Ph.D., “Thermomechanical Reliability of Thin Carbon Film under High Speed Sliding Contact,” May 2014. (Department of Mechanical Engineering)
- [27] O. Mulamba, Ph.D., “Assessing Effects of Oxidizer Characteristics on Composite Reaction Kinetics,” Dec 2013. (Department of Mechanical Engineering)
- [26] E.S. Collins, Ph.D., “Ignition Sensitivity of Composite Energetic Materials to Electrostatic Discharge,” Aug 2013. (Department of Mechanical Engineering)
- [25] Q. Zou, Ph.D., “Stochastic Optimization-Based Human Posture and Motion Prediction,” Dec 2012. (Department of Mechanical Engineering)
- [24] M. Whigham, “The Use of Intelligent Tutoring Systems to Improve Student Learning,” 2009–Jan 2012. (Department of Mechanical Engineering) (Doctoral Study)
- [23] M. Azese, “Analysis of Brownian Dynamics and Unsteady Particle-Motion in Viscoelastic Fluids,” 2011–Apr 2012. (Department of Mechanical Engineering) (Doctoral Study)
- [22] R. Breighner, Ph.D., “An In-Vitro Study of Joint Geometry and Loading Effects on Anterior Cruciate Ligament Strain and Knee Kinematics,” Dec 2011. (Department of Mechanical Engineering)
- [21] A. Stroud, “Synthesis of Energetic Shear Thickening Fluids with Ballistic Initiation Mechanisms,” 2009–Mar 2011 (Department of Mechanical Engineering) (Doctoral Study)

- [20] E. Gumus, Ph.D., “Analysis of Vibration Absorbers Using Flexible Multi-Body Dynamics,” May 2010. (Department of Mechanical Engineering)
- [19] T.E. Kollman, Ph.D., “Survey and Framework for Transdisciplinary Research Activities,” May 2010. (Department of Mechanical Engineering)
- [18] R.L. Landis, Ph.D., “A Common Collection Assessment Framework for Image Screening Experiments,” Dec 2009. (Department of Mechanical Engineering)
- [17] B.G. McPeak, Ph.D., “A Transdisciplinary Systems Approach for Defining Tornado Characteristics and Debris Impact Analysis,” Dec 2009. (Department of Mechanical Engineering)
- [16] A. Yildirim, Ph.D., “Application of Perron-Frobenius Theorem in Signal Identification and Classification,” Dec 2009. (Department of Mechanical Engineering)
- [15] S. Ganguly, Ph.D., “Constraint Based Domain-Aware Information Retrieval System,” Aug 2009. (Department of Mechanical Engineering)
- [14] S.G. Gatchel, “Engineering Analysis and Design Assessment of Complex Systems,” 2007–2010. (Department of Mechanical Engineering)
- [13] J. Zanoft, “Impact of Constraints to Meeting Reliability Requirements in Product Development,” Jul 2007–Jul 2009. (Department of Mechanical Engineering)
- [12] Y. Yilmaz, Ph.D., “Dynamic Analysis of Diesel Engine Crankshaft System using Finite Elements and Multibody System Simulation Programs,” Jun 2008. (Department of Mechanical Engineering, Bogazici University, Turkey)
- [11] R. Kunnavakkamvinjamur, Ph.D., “High Strain Rate, High Heating Rate, Characterization of Material Behavior,” Dec 2007. (Department of Mechanical Engineering)
- [10] J. Kim, Ph.D., “Model Reduction in Nonlinear Structures,” May 2007. (Department of Mechanical Engineering)
- [9] B. Gumus, Ph.D., “Axiomatic Product Development Lifecycle,” Dec 2005. (Department of Mechanical Engineering)
- [8] Y. Zhang, Ph.D., “3D Simulation of Manual Material Handling Tasks Based on Nonlinear Optimization Method,” Aug 2005. (Department of Industrial Engineering)
- [7] S. Phonganant, Ph.D., “Reactive Parallel Machine Scheduling Using Hybrid-Intelligence to Minimize Weight Tardiness, Makespan, and Cost of Rescheduling,” Aug 2004. (Department of Industrial Engineering)
- [6] M. Doganli, Ph.D., “Experimental Study of a Ball-Pendulum and Beam System Under Random and Deterministic Excitation with an Application to Traffic Signal Support Structures,” May 2003. (Department of Mechanical Engineering)
- [5] X. Qian, Ph.D., “Environmental Analysis Model for Modular Design of Electromechanical Products,” May 2003. (Department of Industrial Engineering)
- [4] R.B. Fagan, Ph.D., “A Model for Time Varying Wind Loads on a Low-Rise Structure,” May 2001. (Department of Civil Engineering)
- [3] W. Rhee, Ph.D., “Linear and Nonlinear Model Reduction in Structural Dynamics with Application to Model Updating,” Aug 2000. (Department of Mechanical Engineering)
- [2] W. Wanyama, Ph.D., “Analytical Investigation of the Acoustic Radiation from Linearly-Varying Thin Circular Plates,” Aug 2000. (Department of Mechanical Engineering)
- [1] I. Cicek, Ph.D., “Vibration Absorbers for Flexible Structures under Random Excitation: Theory and Experiments,” Aug 1999. (Department of Mechanical Engineering)

Masters Committees Served or Serving On

- [47] J.-Y. Lin, “Combustion Properties of MgO for UVA Emission,” M.S.M.E., Aug 2017. (Department of Mechanical Engineering)
- [46] S.S. Ahmadisoleymani, “Studying the Performance Of American Football Helmet in Absorbing the Energy of Impact Based on Finite Element Method,” M.S.M.E., Aug 2016. (Department of Mechanical Engineering)
- [45] D. Thomas, “Microwave Synthesis of Functionally Graded Tricalcium Phosphate for Osseointegration,” M.S. Bioengineering, May 2016. (Bioengineering Program)

- [44] N.G. Vaz, "Review: Parameters and Heat Transfer Modes Affecting Self-Propagating Flames in Composite Powder Media," M.S.M.E., Dec 2015. (Department of Mechanical Engineering)
- [43] D. Smith, "Effect of Nanofiller Shape on Effective Thermal Conductivity of Fluoropolymer Composites," M.S.M.E., Dec 2015. (Department of Mechanical Engineering)
- [42] P. Maharjan, "Residual Stress Determination using Electronic Speckle-Pattern Interferometry," M.S.M.E., May 2015. (Department of Mechanical Engineering)
- [41] R. George, "Design and Analysis of a Compact Regenerative Motion Rectifying Shock Absorber," M.S.M.E., May 2015. (Department of Mechanical Engineering)
- [40] A. Schmit, "Evaluation of Through-Helmet Energy Transmission during Football Collisions with Respect to Internal Helmet Air Pressure and Proper Fit," M.S.M.E., May 2014. (Department of Mechanical Engineering)
- [39] P. Kumbhar, "Simulation-Based Virtual Driver's Fatigue Prediction and Determination of Optimal Vehicle Seat Dynamic Parameters," M.S.M.E., Aug 2013. (Department of Mechanical Engineering)
- [38] J. Long, "Simulation-Based Assessment for Construction Helmets and Clothing," M.S.M.E., Dec 2012. (Department of Mechanical Engineering)
- [37] T.J. Powelson, "A Study into the Application of Piezoelectrics to Modify Ankle Torques in Active Prosthetic Feet Using Finite Element Analysis," M.S.M.E., Dec 2012. (Department of Mechanical Engineering)
- [36] C. Weir, "Examining Correlations of Electrostatic Discharge Sensitivity and Electrical Conductivity of Composite Energetic Materials," M.S.M.E., Dec 2012. (Department of Mechanical Engineering)
- [35] J.C. Moore, "Small Fatigue Crack Detection Using Phased Array Technology," M.S.M.E., Dec 2012. (Department of Mechanical Engineering)
- [34] D.M. Onay, "Computational Analysis of Dynamic Sliding Contact for Patterned Media using Finite Element Method," M.S.M.E., Dec 2011. (Department of Mechanical Engineering)
- [33] S. Niazi, "Study of Surface Energy and Surface Forces of Heat-Assisted Magnetic Recording Media," M.S.M.E., Dec 2011. (Department of Mechanical Engineering)
- [32] E. Shimek, "Experimental and Computer-Aided Assessment of Damage to Galvanized Steel due to Hail Impact," M.S.M.E., Dec 2011. (Department of Mechanical Engineering)
- [31] A.M. Otkur, "Impact Modeling and Failure Modes of Composite Plywood," M.S.M.E., Dec 2010. (Department of Mechanical Engineering)
- [30] D. Steves, "Characterization of Residual Stresses and Mechanical Performance of Gas Tungsten Arc Welded Aluminum Alloy 6061-T6," M.S.M.E., Dec 2010. (Department of Mechanical Engineering)
- [29] A. Marathe, "Failure Analysis and performance Characterization of Synthetic Rope Fiber," M.S.M.E., Aug 2010. (Department of Mechanical Engineering)
- [28] D.A. Upshaw, "Influence of Drilling Parameters on the Accuracy of Hole-Drilling Residual Stress Measurements," M.S.M.E., May 2011. (Department of Mechanical Engineering)
- [27] C. Cumby, "Utilization of Waste Heat for Pre-Vaporization of Fuel," M.S.M.E., May 2010. (Department of Mechanical Engineering)
- [26] S. Datta, "Reaction Dynamics and Probability Study of Fluoroelastomer Coated Aluminum Particles Seeded in a Monomolecular Droplet," M.S.M.E., May 2010. (Department of Mechanical Engineering)
- [25] J. Gragg, "Toward a New Digital Human Model and Applications," M.S.M.E., May 2010. (Department of Mechanical Engineering)
- [24] K. Patil, "Simulation of a Two-Mode Hybrid Vehicle Using Powertrain System Analysis Toolkit," M.S.M.E., Dec 2009. (Department of Mechanical Engineering)
- [23] J. Jean, "Simulation of a Hydrogen Fueled Hybrid Vehicle Using Powertrain System Analysis Toolkit," M.S.M.E., Aug 2009. (Department of Mechanical Engineering)
- [22] R. Breighner, "The Influence of Quadriceps Muscle Forces and Tibial Plateau Geometry on Anterior Cruciate Ligament Strain during In-vitro Simulated Jump Landing," M.S.M.E., Aug 2009. (Department of Mechanical Engineering)
- [21] G. Fisher, "Biomechanical Properties and Gene Expression Profiles of Human Cervical Intervertebral Discs In Vitro," M.S.M.E., Aug 2009. (Department of Mechanical Engineering)

- [20] H. Kefeni, "Nikon Stepper Photomask Alignment Shutter Position Detection System," M.S.M.E., Aug 2009. (Department of Mechanical Engineering)
- [19] V.V. Palande, "Analytical and Numerical Analysis of Residual Stresses in Cold-Expansion Process," M.S.M.E., 2008–2009. (Department of Mechanical Engineering)
- [18] T. Kerr, "Three-Dimensional Modelling of the Articular Cartilage," M.S.M.E., May 2009. (Department of Mechanical Engineering)
- [17] V. Kaithi, "Design of Space Elevator," M.S.M.E., Dec 2008. (Department of Mechanical Engineering)
- [16] N. Poerner, "An Investigation of Variability among Residual Stress Measurement Techniques and Prediction of Machining Induced Distortion," M.S.M.E., Dec 2007. (Department of Mechanical Engineering)
- [15] E. Gumus, "Equation of Motion of Column-Free Pendulum System," M.S.M.E., Dec 2006. (Department of Mechanical Engineering)
- [14] F. Gungor, "Humanoid Robots," M.S.M.E., Dec 2006. (Department of Mechanical Engineering)
- [13] B. Dikici, "Free Pendulum Vibration Absorber for Flexible Structures," M.S.M.E., Dec 2006. (Department of Mechanical Engineering)
- [12] I. Cumalioglu, "Modeling and Simulation of a High Pressure Hydrogen Storage Tank with Dynamic Wall," M.S.M.E., Dec 2005. (Department of Mechanical Engineering)
- [11] Z.Y. Cehiz, "A Comparison of the $k-\epsilon$ and $k-\omega$ Turbulence Models," M.S.M.E., Dec 2004. (Department of Mechanical Engineering)
- [10] R.L. Bennett, "Wavelet Analysis to Determine Fatigue and Corrosion Damage," M.S.M.E., 2002–2003. (Department of Mechanical Engineering)
- [9] R. Kunnavakkamvinjamur, "Stress-Corrosion Fatigue Cracking of Cold Expanded Components," M.S.M.E., May 2002. (Department of Mechanical Engineering)
- [8] E. Oner, "Sound Power Radiation from Circular Plates with Circular Holes," M.S.M.E., Dec 2001. (Department of Mechanical Engineering)
- [7] M.T. Samir, "Acoustic Power Generation from Simply Supported Rectangular Plates with Rectangular Cutouts," M.S.M.E., May 2001. (Department of Mechanical Engineering)
- [6] P.V. Pothapragada, "Application of Accelerated Corrosion Tests to Predict the Service Life of 2024-T3 Aluminum Alloy," M.S.M.E., May 2001. (Department of Mechanical Engineering)
- [5] J.D. Nevill, "Renewable Energy – Biomass Gasification System," M.S.M.E., May 2001. (Department of Mechanical Engineering)
- [4] N. Aplitsiotis, "Measurement of Residual Stresses and Distortion in Rapidly Quenched Components," M.S.M.E., Aug 2000. (Department of Mechanical Engineering)
- [3] M. Doganli, "Sound Power Radiation from Clamped-Clamped Annular Plates," M.S.M.E., Aug 2000. (Department of Mechanical Engineering)
- [2] K. Ngo, "Development of Testing Systems to Analyze Strength of Hormonally Treated Ligaments and Stability of Fixation Devices," M.S.M.E., Aug 2000. (Department of Mechanical Engineering)
- [1] B.D. Obert, "Quantification of Corrosion in 7075-T6 Aluminum Alloy," M.S.M.E., May 2000. (Department of Mechanical Engineering)

Graduate Dean's Representative at Doctoral Dissertation Defenses

- [13] A. Karim, Ph.D., "A Decision Support Framework for Fit for Purpose Assessments in Brackish Groundwater Units," Aug 2018. (Department of Civil, Environmental, and Construction Engineering)
- [12] S. Babamohammadi, Ph.D., "Part I: Reconstructing Supercoiled DNA; A Motion Capture Algorithm for Supercoiled DNA. Part II: Experimental and FEA Based Assessment of Damage Mechanism in EPDM Roofing Structures Subjected to Hailstone Impact," Aug 2017. (Department of Mechanical Engineering)
- [11] F.A. Figueroa, Ph.D., "Comparative Analysis and States of Preparation for College and University Risk Management Systems," May 2017. (Department of Industrial, Manufacturing, and Systems Engineering)
- [10] F.S. Wekesa, Ph.D., "Iron Catalysts as applied in Organic Synthesis: (1) Hydrosilylation of Carbonyl Compounds (2) Aldol-Condensation and Cyclotrimerization of Aldehydes (3) Dimerization of Cycloolefins Towards Synthesis of High Energy-Density Fuels," Dec 2016. (Department of Chemistry and Biochemistry)

- [9] S.V. Vegesna, Ph.D., “Frequency Selective Components for Microwave and Terahertz Applications,” Dec 2012. (Department of Electrical and Computer Engineering)
- [8] A. Purushothaman, Ph.D., “New Understandings on Moisture Vapor Transport of Fibrous Assemblies,” Dec 2009. (Department of Environmental Toxicology)
- [7] H. Li, Ph.D., “Energy-Saving Based Innovative Product Design Method,” Aug 2009. (Department of Industrial Engineering)
- [6] T.C. Maku, Ph.D., “The Impact of Human Interaction on Supply Chain Management Practices,” Aug 2007. (Department of Industrial Engineering)
- [5] F. Wu, Ph.D., “A Cost Effective Imperfect Degradation-Based Maintenance Strategy,” Aug 2005. (Department of Industrial Engineering)
- [4] W.-H. Park, Ph.D., “Human Posture Control: Preparation Gait to Avoid Slips and Falls,” May 2004. (Department of Industrial Engineering)
- [3] J. Li, Ph.D., “A Multi-Agent Negotiation Based Decision Framework for Extensible Product Life Cycle,” Dec 2003. (Department of Industrial Engineering)
- [2] E.E. Lin, Ph.D., “Graph-Matrix-Based Automated Tolerance Analysis and Setup Planning in Computer-Aided Process Planning,” Aug 2000. (Department of Industrial Engineering)
- [1] M.M. Kose, Ph.D., “Statistical Evaluation of Transfer and Development Length of Low-Relaxation Prestressing Strands in Standard I-Shaped Pretensioned Concrete Beams,” May 1999. (Department of Civil Engineering)

Courses Taught

- [3] ME 5352 Probabilistic Design
Fall 2018, Fall 2017, Fall 2016, Fall 2015, Fall 2014, Spring 2013, Fall 2012, Spring 2011, Fall 2009, Spring 2008, Spring 2007, Fall 2005, Fall 2004
- [2] ME 58b.01 Special Topics: Probabilistic Design
Fall 2007 (Taught at Bogazici University, Turkey)
- [1] ME 5316 Advanced Vibrations
Spring 2001, Spring 2000

New Courses Developed and Introduced into Curriculum

- [2] ME 5361 Engineering Biomechanics (2015)
- [1] ME 5352 Probabilistic Design (2004)

Undergraduate Education

Undergraduate Students’ Honors (Students mentored by Dr. Ekwaro-Osire)

- [3] N.K. Attel, R.E. Buck, J.A. Casias, J.W. Dieringer, and J.Z. Howell
Recognition for Participation in Raytheon Strike Weapons University Design Competition, 2010
- [2] S.B. Chan, W.G. Crocker, J.D. Elder, K. Kepley, and E.S. VonBerg
Recognition for Participation in Raytheon Strike Weapons University Design Competition, 2007
- [1] S. Fraker and J. Jackson
SDPS Best Project Award, 2000

Design and Research Projects Supervised or Currently Supervising

- [81] C.N. Nwauche, “Python in Machine Learning for Physical Systems,” Spring 2018, Fall 2018.
- [80] O. Oduba, “Unique Applications of Sketches in Design,” Spring 2018, Fall 2017, Fall 2018.
- [79] D. Kang, “Application of Virtual Reality Simulation on Bone Fracture Analysis,” Spring 2018, Fall 2017, Spring 2017, Fall 2016.
- [78] A.H. Bukhamseen, B.D. Ellis, M.T. Khalil, J.C. Mendoza, A.M. Ward, and A.M. Williams, “Tent Carrier for Mountain Bike,” Spring 2018, Fall 2017.
- [77] J.D. Curtis, M.B. El Jeryes Favela, S. Luna, K.C. Opara, A. Perez Lazaga, and C.V. Sharrah, “Human Powered Vehicle,” Spring 2018, Fall 2017.

- [76] H.J. Cymes, M.F. Kammer, R.D. Lavery, J.R. Murray, H.G. Pritchett, and G. Singh, “Crash Cart for Impact Testing,” Spring 2018, Fall 2017.
- [75] L.C. Bush, C.A. Griffith, S.M. Juan, and M.B. Pence, “Wheelchair Hoist Device,” Spring 2018, Fall 2017.
- [74] C.L. Alleman, C.L. Cunningham, C.R. David, P.H. Lima, and S.P. Wood, “Canine Recreational Fetch Device,” Spring 2018, Fall 2017.
- [73] J.G. Dollins, S.A. Greenwell, and I.J. Zhou, “Attachable Debris Container for Drills,” Spring 2018, Fall 2017.
- [72] A. Obaya, “Prognostics Using Python and ANSYS,” Fall 2017.
- [71] T. Colville, L. Korchinsky, V. Martincevic, M. Moreno, C.A. Norris, and T. Perkins, “Ocean Wave Energy Conversion,” Spring 2017, Fall 2016.
- [70] M. Moura, “Probabilistic Prognostics Framework of Crack Propagation Using Python and FRANC 2D,” Sep 2016–Dec 2016.
- [69] R. do Lago e Silva Coelho, “Experimental Analysis of the Crack Propagation in Rectangular Plates under Fatigue Loadings,” Sep 2016–Dec 2016.
- [68] C.B.C. Felix, “Study of Image Recognition Tools Applied to Engineering Design Process,” Sep 2016–Dec 2016.
- [67] A. de Oliveira Barros, “Application of Python Language on a Crack Propagation Computational Model based on Peridynamics,” Aug 2016–Dec 2016.
- [66] H. Clanahan, H. Fowler, C. Francis, T. Mayer, and D. Phillips, “ATD Acceleration System,” Spring 2013, Fall 2012.
- [65] B. Britton, S. Gibbons, K. Kutch, P. Lewis, D. Powers, and I. Ramirez, “Medical Staple Gun,” Spring 2013, Fall 2012.
- [64] D.R. Bell, E.R. Davis, S.P. Furlong, I.T. Grothe, and A. Matthey, “Development of an adjustable and Self-Retaining Surgical Retractor for Breast Surgery,” Spring 2012, Fall 2011.
- [63] R. Keefer, O.J. Myklebust, and C. Nunez, “Medical Staple Gun for Biodegradable Staples,” Fall 2011, Spring 2011.
- [62] C. Elmore, S.M. Kelly, and S. Makuta, “Design of Flywheel Energy Storage Device for Wind Turbines,” Spring 2011, Fall 2010.
- [61] S.W. Burnett, R.J. Erger, and R. Kimberling, “Design Modifications to the ‘Kaye Posture Control Reverse Walker’,” Fall 2010, Spring 2010. (co-supervisor: Dr. M. Baker)
- [60] N.A. Benavides, A.M. Manley, and A.J. Vasquez, “Adult Assistive Rehabilitation Knee Brace,” Fall 2010, Spring 2010. (co-supervisor: Dr. M. Baker)
- [59] M.E. McKnight, A.M. Schmal, and B.D. Visser, “The Keen Knee: Developing orthotic braces for patients with Cerebral Palsy,” Fall 2010, Spring 2010. (co-supervisor: Dr. M. Baker)
- [58] J. Cannady, T. Niehues, and C. Wong, “Forward Walker,” Fall 2010, Spring 2010. (co-supervisor: Dr. M. Baker)
- [57] R.A. Herrick, N. Ogbonah, and D.K. Peck, “Medical Plastic Staple Gun,” Fall 2010, Spring 2010.
- [56] M.J. Doran, R.C. McIntyre, B.C. Shaw, and H.W. Weeks, “Self-Retaining Surgical Retractor,” Fall 2010, Spring 2010.
- [55] N.M. Flusche, J.P. Jurries, and S.D. Suffridge, “Four-Point Rotating Bending Tester,” Fall 2010, Spring 2010.
- [54] D. Bobalik, C. Gannon, and M. Turner, “Trusses for Telescoping Meteorological Tower,” Fall 2010.
- [53] T. Gonzales, T. Hannon, J.A. Harris, B. Muzny, and T.P. Reich, “Walking Simulator,” Spring 2010, Fall 2009. (co-supervisor: Dr. T.H. Jang)
- [52] C.I. Azih, J.M. Lawson, L.E. Lovette, and A.E. McGovern, “Cervical Spine Apparatus,” Spring 2010, Fall 2009. (co-supervisor: Dr. T.H. Jang)
- [51] K.G. Freidenbloom, S.E. McDonald, R.B. Patterson, and C.C. Valenzuela, “Exercise Device for Crew Exploration Vehicle,” Spring 2010, Fall 2009.
- [50] E.M. Brannigan, A.J. Clements, C.G. Lauer, and C.G. Rogers, “Evaporation Cooling Tower as Air Conditioning Heat Exchanger Using Gray Water,” Spring 2010, Fall 2009. (co-supervisor: Mr. A. Stroud)

- [49] N.W. Badke, R. Diaz, J. Hernandez, and R.N. McKean, "Non-Electric Ceiling Fan or Attic Vent," Fall 2009. (co-supervisor: Mr. A. Stroud)
- [48] N.K. Attel, R.E. Buck, J.A. Casias, J.W. Dieringer, and J.Z. Howell, "Flying Blanket," Spring 2010, Fall 2009.
- [47] K.M. Beck, A.C. Blunt, N.C. Brown, S.H. Carrillo, and D.S. Johnson, "Flywheel Energy Storage," Spring 2010, Fall 2009.
- [46] R.A. Barron, R.A. Gilkey, and D.J. Gonzales, "Gear Tester Frame," Fall 2009, Summer 2009.
- [45] K.A. Carrillo, K.W. Francis, and T. Pham, "Self-Retaining Retractor for Breast Surgery," Fall 2009, Summer 2009.
- [44] K. Bahrt, S. Diaz, M. Leemann, K. Morgan, and D. Sell, "Surgical Staple Gun," Fall 2009, Spring 2009.
- [43] B. Hayes, B. Moon, and T. Raley, "Rain Harvesting System," Fall 2008, Spring 2008.
- [42] T. Coates, M. Gommel, and C. McDowell, "Design a Water Tower with Solar Powered Billboards," Spring 2008.
- [41] K. Bass, M. Kendall, M. Manera, and J. Napier, "Design of a Sports Pager," Spring 2008.
- [40] W.T. Hobdy, B.D. Miller, B.D. Schaffner, A.M. Urech, and S.B. Vaughan, "Pneumatic Brake System for Crash Tests," Fall 2007, Spring 2007.
- [39] B.W. Dickerson, O.F. Eezzuduemhoi, C.L. Francis, J.L. Peacock, M.A. Robertson, A.B. Schoenhals, and C.J. Zachry, "Mobile Gravel Conveyor System," Spring 2007.
- [38] S.B. Chan, W.G. Crocker, J.D. Elder, K. Kepley, and E.S. VonBerg, "Raytheon Missile Airframe Weight Reduction," Spring 2007, Fall 2006.
- [37] O.F. Eezzuduemhoi, J.L. Peacock, and M.A. Robertson, "Improving the Reliability of Cutlery Packaging Machine," Fall 2006.
- [36] J. Dunn, D.A. Gernand, and T.Q. Hoang, "HVAC for a Camera Obscura," Summer II 2006, Fall 2006.
- [35] L. Armstrong, J. McQuery, and A. Popejoy, "'Sip and Puff' Controlled Fishing Rod for Quadriplegics," Spring 2006, Fall 2006.
- [34] E.D. Green and Y.C. Woodard, "Design and Construction of a Camera Obscura," Fall 2006, Spring 2006.
- [33] S. Datta, "Experimentation for Head and Neck Injury," (Engineering Freshman Research Scholar) Spring 2006.
- [32] C. Bennett and J. Ikeogu, "Design and Construction of a Camera Obscura," Spring 2006.
- [31] E. Hall, R. Mata, and J. Williams, "Adjustable Brake System for Crash Testing," Spring 2006, Fall 2005.
- [30] J. Huff, M.A. Kichura, and E. Sherlock, "Tape and Microfiche Mobile Destroyer," Spring 2006, Fall 2005.
- [29] A. Girard, J. Grieco, N. Smith, and D. Sullivan, "Cart for Crash Testing Apparatus," Fall 2005, Spring 2005.
- [28] C. Bennett, J. Blanford, and K. Marek, "Reliability of Packaging Machine," Fall 2005, Spring 2005.
- [27] F. Morales, "Installation of a Proximity Switch in Packaging Machine," Summer 2005.
- [26] S. Ou, "Design and Selection of a Proximity Switch for a Packaging Machine," Spring 2005.
- [25] J.L. Blazek, D.P. Hooper, and S.M. Saffioti, "Brake System for Crash Testing Apparatus," Spring 2005, Fall 2004.
- [24] S.R. Chollar, M.A. Holmes, J.R. Ormsby, and B.M. Tomanec, "Release Mechanism for Crash Testing Apparatus," Spring 2005, Fall 2004.
- [23] H.R. McPherson, M.L. Reagan, R.K. Wernicke, and R.B. Wilson, "Microfiche/Tape Destroyer," Spring 2005, Fall 2004.
- [22] R.D. Cappelli and A.S. Ceker, "Redesigning Packaging Machine," Fall 2004.
- [21] W.K. Boyd, J.E. Dutton, and C.B. Sawyer, "Anthropomorphic Test Dummy Head/Neck Complex for Crash Testing Apparatus," Fall 2004, Spring 2004.
- [20] J.W. Araujo, M.A. Anaya, and S.S. Sultan, "Picnic Packaging System," Spring 2004, Fall 2003.
- [19] S.B. Inman, S.H. Owen, and S. Ramachandran, "Gravel Conveyor System," Spring 2004, Fall 2003.
- [18] M. Anaya, "Design of Actuator Control System," Fall 2003.

- [17] C. Forsman, K. Kopnick, R. Paulsen, and S. Wagner, "Design and Manufacture of a Dispenser Machine," Spring 2003.
- [16] M.A. Flores, "Introduction to Head and Neck Injury Research," (Engineering Freshman Research Scholar) Spring 2003.
- [15] P. Keierleber, "Finite Element Analysis of a C5 Cervical Vertebra," Fall 2002.
- [14] C. Forsman, "Cross-Sectional Geometry of Railcar Center Sill," Fall 2002.
- [13] R. Anderson, C. Forsman, R. Paulsen, and S. Wagner, "Design and Manufacture of a Dispenser Machine," Fall 2002.
- [12] M.A. Flores, "Introduction to Vibration Control Research," (Engineering Freshman Research Scholar) Fall 2002.
- [11] J.E. Axline, B.O. Egbetola, A.L. Lynes, and B.G. Ndungu, "Automated Packaging Feeder System," Fall 2001, Summer 2001.
- [10] S. Williams, "Solid Modeling Techniques for Train Cars," Spring 2001.
- [9] A. Hoflich, P. Thornberry, and J. Wharton, "Aircraft Boarding Seat," Fall 2000, Summer 2000.
- [8] J.D. Tolk, C. Eakin, and D. Turano, "Pallet Wrapping Machine," Fall 2000, Summer 2000.
- [7] S. Fraker and J. Jackson, "Soccer Ball Shooter," Spring 2000. (SDPS Best Project Award)
- [6] E. Lopez, J. Torres, and W. Speck, "Development of a Tensile Testing Device," Spring 2000.
- [5] D. Webb and M.A. Romero, "Static Test Jig for Aircraft Seats," Fall 1999.
- [4] D. Kelly, C. Perkins, J. Markhay, and G.C. Kamm, "Head Impact Component Test Jig," Fall 1999, Summer 1999.
- [3] C. McLean, D. Webb, C. McLain, and D. King, "Spreader Test Jig," Fall 1999, Summer 1999.
- [2] D. King, "Design Enhancements of the Spreader Test Jig," Fall 1998.
- [1] J. Snelson, "Stress Analysis of a Center Spreader," Summer 1998.

Courses Taught

- [8] ME 4345 Probabilistic Mechanical Design
Spring 2017, Fall 2013, Spring 2012, Fall 2010, Fall 2008, Fall 2005, Spring 2002
- [7] ME 3302 Dynamics
Summer II 2012, Fall 2011, Summer II 2011, Spring 2010, Spring 2009, Fall 2008, Summer I 2005, Fall 2003, Fall 2002, Fall 2001
- [6] ME 4370 Engineering Design I
Spring 2018, Fall 2017, Spring 2017, Spring 2010, Fall 2009, Summer II 2009, Spring 2008, Spring 2007, Fall 2006, Spring 2006, Fall 2004, Spring 2004, Summer II 2001, Summer II 2000, Fall 1999
- [5] ME 3365 Introduction to Design.
Summer I 2007, Summer I 2006, Spring 2005, Summer I 2004, Spring 2004
- [4] ME 4371 Engineering Design II
Spring 2018, Spring 2007
- [3] ME 3465 Introduction to Design
Spring 2002, Fall 2000
- [2] ME 3365 Mechanical Component Design
Spring 1999, Spring 1998
- [1] ME 3364 Intro to Mechanical Design
Fall 1999, Fall 1998

New Courses Developed and Introduced into Curriculum

- [1] ME 4345 Probabilistic Mechanical Design (2002)

SABBATICAL LEAVE

Bogazici University, Turkey (8/07–1/08)

Dr. Stephen Ekwaro-Osire was a TTU's recipient of 2007–2008 Fulbright Fellowship. He was chosen with approximately 800 other US Faculty and Professionals to lecture and conduct research in 140 countries around the world. During his sabbatical leave, Dr. Ekwaro-Osire was a Fulbright Scholar and held the position of Visiting Associate Professor of Mechanical Engineering at Bogazici University in Istanbul, Turkey. Bogazici University was founded in 1860 as the first American college outside of the USA. Currently, it is Turkey's most prestigious university. While at Bogazici University, he taught a new graduate-level course (Probabilistic Design), served as a member of dissertation committee, and participated in the dissertation final examination. He presented three papers at the International Global Colloquium on Engineering Education Conference, which was hosted by Bogazici University. He also collaborated with professors at several Turkish universities. Additionally, he presented eight invited seminars at four different universities, namely, Bogazici University, Karadeniz Technical University, Middle East Technical University, and TOBB University of Economics and Technology.

PROFESSIONAL SERVICE ACTIVITIES

Service to Department of Mechanical Engineering

Program Accreditation & Program Review

- [9] ABET Committee, 2017–2018.
- [8] Co-author of Self-Study Report for the Mechanical Engineering BS (accreditation by ABET), 2017.
- [7] Co-author of Self-Study Report for the Mechanical Engineering BS (accreditation by ABET), 2011.
- [6] Co-author of review report of Mechanical Engineering's Graduate Program (review by TTU), 2008.
- [5] Co-author of Self-Study Report for the Mechanical Engineering BS (accreditation by ABET), 2005.
- [4] Chair, ABET Committee, 2009–2012.
- [3] Represented the department on ABET Preparation Team (College of Engineering), 2010–2011.
- [2] Outcomes and Assessment Oversight Committee, 2004–2006.
- [1] ABET Committee, 2004–2006.

Committees

- [19] Chair, New Faculty Search Committee, 2017–2018.
- [18] Chair, Promotion and Tenure Committee, 2017–2018.
- [17] Member, Promotion and Tenure Committee, 2016–2017.
- [16] Chair, Scholarship Committee, 2009–2012.
- [15] Chair, Undergraduate Laboratory Committee, 2009–2012.
- [14] Software License committee, 2010–2012.
- [13] Departmental Web Page Committee, 2010–2012.
- [12] Strategic Planning Committee, 2009–2011, 2007–2009.
- [11] Chair, Open Faculty Search Committee, 2009–2010.
- [10] Faculty Workload Committee, 2008.
- [9] Curriculum Committee, 2007–2009.
- [8] Control Faculty Search Committee, 2007–2008.
- [7] Chair, Graduate Affairs Committee, 2007–2009.
- [6] Design Faculty Search Committee, 2005–2006.
- [5] Faculty undergraduate academic advisor, 2005–2006.
- [4] Chairperson Search Committee, 2004.
- [3] Lab and Space Committee, 2002–2004.
- [2] Undergraduate Affairs Committee, 1999–2002.
- [1] Laboratory, Equipment, and Facilities Committee, 1998–2002.

Comprehensive Examination for Masters Students in Course-Only Option

- [3] M. Hussain, Oct 2016.
- [2] D. Krefter, Mar 2015.
- [1] K. Kutch, Mar 2015.

Sponsored Adjunct Faculty

- [3] Adjunct Associate Professor O. Cuvalci, Applied Materials, Jun 2009.
- [2] Adjunct Professor J. Chapman, Wind Science and Engineering Research Center, TTU, Sep 2009.
- [1] Adjunct Associate Professor M. Wachtel, Department of Pathology, TTU Health Science Center, 2008.

Fundamentals of Engineering Exam Review

- [2] FE Exam Review Instructor, Dynamics (2/12, 9/11, 9/10, 9/09)
- [1] FE Exam Review Instructor, Mechanical Design (9/09, 3/07, 4/06, 10/05)

Service to Texas Tech University

Councils

- [3] eLearning Council (TTU), 2015–2016.
- [2] Research Advisory Council (TTU), 2013–2016.
- [1] Graduate Council (TTU), 2004–2007.

Program Accreditation

- [1] ABET Preparation Team (College of Engineering), 2010–2011

Committees

- [22] President's Excellence in Commercialization Award Committee (TTU), 2015–6/16.
- [21] The Intellectual Property Review Committee (TTU), 2015–6/16.
- [20] Committee for Evaluation of an Endowed Professorship in College of Arts and Sciences (TTU), 2015.
- [19] Search Committee: Vice President for Research ETF Faculty (TTU), 2011–2014.
- [18] Office of International Affairs Scholarship Committee (TTU), 2009–2014.
- [17] WISE PhD Curriculum Committee (TTU), 2011–2013.
- [16] Assessment Committee (College of Engineering), 2011–2012.
- [15] Search Committee: Presidential Chair (TTU), 2012–2012.
- [14] Search Committee: ETF Senior Hire Position in Wind Energy (TTU), 2012–2012.
- [13] Academic Programs Committee (College of Engineering), 2009–2012, 2006–2007.
- [12] TEACH Program Mentor, Ariful Bhuiyan, (TTU), 2011–2012.
- [11] Faculty Awards Committee (College of Engineering), 2009–2012, 2004–2008, 2000–2001.
- [10] Enrollment Management Committee (College of Engineering), 2011–2012.
- [9] Search Committee: Don-Kay-Clay Cash Distinguished Engineering Chair in Wind Energy, Executive Director/President of the National Wind Resource Center (TTU), 2011–2011.
- [8] Scholarship Selection Committee (Achievement Rewards for College Scientists), 2005–2010.
- [7] PoWERS-STRIDE Committee (TTU), 2009–2010.
- [6] Travel Fund Focus Group (Graduate School), 2008.
- [5] Scholarship Selection Committee (Cross-Cultural Academic Advancement Center), 2007.
- [4] Graduate Programs Matrix (College of Engineering), 2006–2007.
- [3] Student Affairs Committee (TTU), 2004–2007.
- [2] Co-op Faculty Advisory Committee (College of Engineering), 2004–2007.
- [1] College Grade Appeals Board (College of Engineering), 2004.

Faculty Advising of University Student Organizations

- [4] Faculty advisor (inaugural), Society for Design and Process Science, TTU Student Chapter, 2010–2013.
- [3] Faculty advisor, American Society of Mechanical Engineers, TTU Student Chapter, 2005–2007.

- [2] Faculty advisor, National Society of Black Engineers, TTU Student Chapter, 2005–2007.
- [1] Faculty advisor, African Student Organization, TTU, 2002–2004.

Study Abroad

- [2] Led a study abroad 11-student group to Jade University of Applied Sciences in Germany, 2012.
- [1] Led a study abroad 13-student group to Jade University of Applied Sciences in Germany, 2011.

Conferences

- [3] Faculty Judge, 2012 Arts and Humanities Graduate Student Research Conference, Lubbock, Texas, Oct 27, 2012.
- [2] Faculty Judge, 2012 Annual Graduate Student Research Poster Competition, Lubbock, Texas, Mar 30, 2012.
- [1] Session chairperson, Annual Symposium on Interdisciplinary Senior Student Design Program of TTU, Lubbock, Texas, May 1, 2000.

Service to Profession of Engineering

Program Accreditation

- [1] Program Evaluator (PEV) for Engineering Accreditation Commission of ABET, 2013–present.
Evaluated a mechanical engineering BS program as a member of ABET Team's visit in 2018
Evaluated a mechanical engineering BS program as a member of ABET Team's visit in 2017
Evaluated a mechanical engineering BS program as a member of ABET Team's visit in 2016
Evaluated a mechanical engineering BS program as a member of ABET Team's visit in 2015
Evaluated a mechanical engineering BS program as a member of ABET Team's visit in 2014

External Scientific Reviewer for Program

- [1] Iowa NSF EPSCoR Program, 2012–2016
Subject expert final report on Jun 27, 2016
Subject expert site visit and report on Jul 27–28, 2015
Subject expert site visit and report on Sep 17–18, 2014
Subject expert site visit and report on Jul 22–23, 2013

Editorship

- [1] Co-editor, Newsletter, Safety Engineering & Risk Analysis Division, American Society of Mechanical Engineers (4/18–present)

External Evaluator for Tenure and/or Promotion of Faculty

- [5] Concordia University, Canada
- [4] New Mexico State University
- [3] Texas A&M University - Corpus Christi
- [2] University of Missouri
- [1] Wayne State University

Book Reviews

- [4] Elsevier Science Publisher (4/03)
- [3] John Wiley & Sons, Inc. (4/05, 7/03)
- [2] McGraw-Hill Companies (11/06)
- [1] Thomson Delmar Learning (2/05, 4/04)

Journal Reviews

- [31] Advances in Engineering Software (2/08)
- [30] Advances in Mechanical Engineering (10/15)
- [29] Experimental Mechanics (2/12)
- [28] IEEE Systems Journal (2/12)
- [27] IEEE Transactions on Education (3/13, 4/08)

- [26] IEEE Transactions on Engineering Management (7/10, 3/10)
- [25] Integrated Computer-Aided Engineering (12/13)
- [24] International Journal of Sports Medicine (10/14)
- [23] International Journal of Engineering Education (12/07)
- [22] International Journal of Mechanical Sciences (3/12)
- [21] International Journal of Microstructure and Materials Properties (3/09)
- [20] Journal of Applied Mechanics (1/10)
- [19] Journal of Automobile Engineering (2/11, 9/10, 4/09, 11/07)
- [18] Journal of Biomechanics (10/09)
- [17] Journal of Engineering Design (9/18, 6/18)
- [16] Journal of Engineering Manufacture (4/14, 11/12)
- [15] Journal of Engineering Tribology (10/15)
- [14] Journal of the Brazilian Society of Mechanical Sciences and Engineering (11/17)
- [13] Journal of Integrated Design and Process Science (3/18, 4/17, 8/16, 11/12, 10/12, 9/12, 8/12, 6/12, 4/12, 7/09, 5/09, 7/08, 7/07, 12/04, 12/03)
- [12] Journal of Mechanical Design (4/18)
- [11] Journal of Mechanical Engineering Science (9/15, 5/15, 1/12, 12/10, 11/10)
- [10] Journal of Pressure Vessel Technology (4/06, 10/05)
- [9] Journal of Sound and Vibration (2/11, 6/06, 10/05, 7/05, 5/05, 2/05, 5/03)
- [8] Journal of Strain Analysis for Engineering Design (7/07)
- [7] Journal of Systems Integration (6/98)
- [6] Journal of the Franklin Institute (11/11, 2/11)
- [5] Journal of Vibration and Control (7/04)
- [4] Mechanics Based Design of Structures and Machines (3/13, 4/12, 9/10)
- [3] Proceedings of the Institution of Mechanical Engineers Part C: Journal of Mechanical Engineering Science (5/18, 4/12)
- [2] Simulation Modelling Practice and Theory (6/08, 5/08)
- [1] Tribology International (4/16, 3/16)

Conference Paper Reviews

- [11] ASEE Annual Conference & Exposition (1/14, 2/08, 2/07, 2/06, 1/05)
- [10] ASME Graduate Student Technical Conference (3/07, 3/05, 3/04)
- [9] ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (6/14, 3/13, 7/10, 3/10, 2/08)
- [8] ASME International Mechanical Engineering Congress & Exposition (6/16, 6/15, 6/14, 7/10, 7/09, 6/09, 6/06, 7/05)
- [7] ASME / IEEE Joint Rail Conference (1/05)
- [6] International Conference on Rotordynamics (4/18)
- [5] International Conference on Advanced Technology in Experimental Mechanics (5/07)
- [4] International Conference of Society for Design and Process Science (9/15)
- [3] International Conference on Integrated Design and Process Technology (5/11, 5/03, 5/02, 5/00)
- [2] International Symposium on Management, Engineering, and Informatics (12/08, 4/08, 11/07)
- [1] International Symposium on Vibro-Impact Dynamics of Ocean Systems and Related Problems (10/08)

Grant Review Panels

- [13] Member, National Science Foundation Review Panel for Proposals (1/18)
- [12] Member, National Science Foundation Review Panel for Proposals (11/17)

- [11] Member, National Science Foundation Review Panel for Proposals (1/17)
- [10] Member, National Science Foundation Review Panel for Proposals (11/16)
- [9] Member, (Department of Defense) Science, Mathematics, and Research for Transformation (SMART) Scholarship Evaluation Panel (1/15)
- [8] Member, (Institute of International Education) Global Innovation Initiative - Energy, Climate Change & the Environment Panel (12/14)
- [7] External Reviewer, Petro-Canada Young Innovator Awards Program (11/06)
- [6] Member, National Science Foundation Review Panel for Proposals (2/05)
- [5] Ad Hoc Reviewer, US Department of Agriculture Review Panel for Proposals (11/04)
- [4] Ad Hoc Reviewer, National Science Foundation Review Panel for Proposals (3/04)
- [3] Ad hoc reviewer, US Department of Agriculture's Small Business Innovation Research Program (12/03)
- [2] Member, National Science Foundation Review Panel for Proposals (4/03)
- [1] Member, National Science Foundation Review Panel for Proposals (11/99)

Conferences and Workshops

- [31] Program Committee Member, Design Science Research 2018: Workshop on Data Driven Design and learning, Montreal, Canada, Aug 23–25, 2018.
- [30] Program Committee Member, 2017 International Conference of Society for Design and Process Science (SDPS 2017), Birmingham, Alabama, Nov 5–9, 2017.
- [29] Topic Co-Organizer, ASME International Mechanical Engineering Congress & Exposition, Tampa, Florida, Nov 3–9, 2017.
- [28] Program Committee Member, Minisymposium on Probabilistic Prognostics and Health Management of Energy Systems, Ilha Solteira, SP, Brazil, May 25, 2017.
- [27] Organizing Committee Chair, 2017 Probabilistic Prognostics and Health Management of Energy Systems Workshop (PPHMES 2017), Lubbock, Texas, May 15–16, 2017.
- [26] Organizing Committee Chair, International Workshop on Transportation, Sustainable Water Resources, and Construction, Jimma, Ethiopia, Apr 24–25, 2017.
- [25] Program Committee Member, 2016 International Conference of Society for Design and Process Science (SDPS 2016), Orlando, Florida, Dec 4–6, 2016.
- [24] Session Chair, STEM across Continents Program, Lubbock, Texas, Aug 31–Sep 1, 2016.
- [23] Organizing Committee Member, 2015 Probabilistic Prognostics and Health Management of Energy Systems Workshop (PPHMES 2015), Ilha Solteira, SP, Brazil, Dec 14–15, 2015.
- [22] Program Committee Member, 2015 International Conference of Society for Design and Process Science (SDPS 2015), Fort Worth, Texas, Nov 2–5, 2015.
- [21] Program Chairperson, 2014 International Conference of Society for Design and Process Science (SDPS 2014), Kuching, Sarawak, Malaysia, Jun 15–19, 2014.
- [20] Program Committee Member, 2013 International Conference of Society for Design and Process Science (SDPS 2013), Campinas, São Paulo, Brazil, Oct 27–31, 2013.
- [19] Session Chair, “On Wind Technologies, Grid Integration & Unique Facilities,” 2012 Wind Farms’ Underperformance & Partnerships: Building Partnerships to Meet the 2030 Grand Challenge, Lubbock, Texas, Mar 28–29, 2012.
- [18] Session Organizer and Chair, “Design Automation,” 2011 World Conference on Integrated Design & Process Technology, Jeju Island, South Korea, Jun 12–16, 2011.
- [17] Session Organizer and Chair, “Design Automation III,” 2010 World Conference on Integrated Design & Process Technology, Dallas, Texas, Jun 6–11, 2010.
- [16] Session Organizer and Chair, “Design Automation II,” 2010 World Conference on Integrated Design & Process Technology, Dallas, Texas, Jun 6–11, 2010.
- [15] Session Organizer and Chair, “Design Automation I,” 2010 World Conference on Integrated Design & Process Technology, Dallas, Texas, Jun 6–11, 2010.

- [14] Session Co-Chair, “Vibration and Control of Mechanical Systems - V,” 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, Nov 13–19, 2009.
- [13] Session Moderator, “Design Communications,” 2009 ASEE Annual Conference & Exposition, Austin, Texas, Jun 14–17, 2009.
- [12] Program Committee Member, 2008 Transdisciplinary Conference on Integrated Systems, Design, & Process Science, Taichung, Taiwan, Jun 1–6, 2008.
- [11] Program Committee Member, 2007 World Conference on Integrated Design & Process Technology, Antalya, Turkey, Jun 3–8, 2007.
- [10] Workshop Chair, 2006 International Conference on Water in Arid and Semiarid Lands: Innovative Approaches and Informed Decision Making, Lubbock, Texas, Nov 15–17, 2006.
- [9] Program Vice-Chairman, 2006 World Conference on Integrated Design & Process Technology, San Diego, California, Jun 25–30, 2006.
- [8] Session Co-Chair, “Inverse Problems III: Orthotropic Materials,” 2006 SEM Annual Conference & Exposition, St Louis, Missouri, Jun 4–7, 2006.
- [7] Program Chairman, 2005 World Conference on Integrated Design & Process Technology, Beijing, China, Jun 12–16, 2005.
- [6] Session Organizer and Chair, “General Design and Application - 1A,” 2003 World Conference on Integrated Design & Process Technology, Austin, Texas, Dec 3–6, 2003.
- [5] Session Organizer and Chair, “General Design and Application - 1B,” 2003 World Conference on Integrated Design & Process Technology, Austin, Texas, Dec 3–6, 2003.
- [4] Session Developer and Chairperson, “Design and Product Development,” 2002 World Conference on Integrated Design & Process Technology, Pasadena, California, Jun 23–28, 2002.
- [3] Session Developer and Chairperson, “General Design and Applications - I,” 2002 World Conference on Integrated Design & Process Technology, Pasadena, California, Jun 23–28, 2002.
- [2] Session Developer and Chairperson, “Manufacturing,” 2000 World Conference on Integrated Design & Process Technology, Dallas, Texas, Jun 4–8, 2000.
- [1] Session Developer and Chairperson, “General Design and Analysis,” 2000 World Conference on Integrated Design & Process Technology, Dallas, Texas, Jun 4–8, 2000.