Dr. Haile Endeshaw

Assistant Professor of Practice
Department of Mechanical Engineering,
1374 Campus Delivery
Colorado State University
Haile.Endeshaw@colostate.edu (970) 491-3894

Education

- *Ph.D. in Mechanical Engineering,* Texas Tech University, Lubbock, Texas, Aug 2017
- *M.S. in Mechanical Engineering,* Texas Tech University, Lubbock, Texas, Aug 2011
- *B.S. in Mechanical Engineering,* Mekelle University, Mekelle, Ethiopia, Jul 2005

Professional Experience

• Assistant Professor of Practice, Colorado State University	Jan 2019 – Present
• Visiting Faculty Lecturer, University of Massachusetts Lowell	Sep 2017 – Dec 2018
• Industrial Experience Coordinator and CPT Liaison, Department of Mechanical Engineering, University of Massachusetts Lowell	Jan 2018 – Dec 2018
• Research Assistant, Texas Tech University	Jan 2016 – Aug 2017
• Graduate Part-Time Instructor, Texas Tech University	Jan 2012 – Dec 2015
• Assistant Proof Editor, SDPS Journal	Mar 2012 – Dec 2012
• Teaching Assistant, Texas Tech University	Aug 2011 – Dec 2011
• Research Assistant, Texas Tech University	Jan 2010 – Aug 2011
• Assistant Lecturer, Mekelle University	Jul 2006 – Sep 2009
• Graduate Assistant, Mekelle University	Jul 2005 – Jul 2006

Classes Taught

Colorado State University
MECH 307 Mechatronics and Measurement Systems (SP20)
MECH 105 ME Problem Solving (SP20)
MECH 231 Engineering Experimentation (SP20, FA19, SP19)
MECH 103 Introduction to ME (FA19, SP19)

University of Massachusetts Lowell
Design of Machine Elements (FA18, FA17)
Wind Energy Fundamentals[1] (FA18, FA17)
Dynamic Systems Analysis (SP18)
Control of Mechanical Systems (SP18, Summer18)

Texas Tech University
Numerical Methods (FA15)
Introduction to Programming Lab (SP15, FA14, SP14)
Computer Aided Analysis (FA13, SP13, FA12, SP12)

[1] Developed this new course

Mekelle University
Mechatronics
Engineering Mechanics II
Engineering Drawing
Fluid Mechanics
Introduction to Programming in C++

Undergraduate Project Advising

- Design, Manufacturing, and Testing of Portable Wind-Hydro Turbine
- Object-Oriented Software Development for the Design of Gears using AGMA Standards

Memberships and Committees

- American Society of Mechanical Engineers (ASME)
- Member, Engineering Student Technology Committee (ESTC) and College of Engineering Technology Committee (CETC), 2019 – present
- Member, search committee for Lab Support Engineer

Honors and Awards

- Dissertation Completion Fellowship, Texas Tech University, Aug 2016 – May 2017.
- Second place in Annual Graduate Research Poster Competition, Texas Tech University, Mar 2015.
- Certified LABVIEW Associate Developer (CLAD), National Instruments, Apr 2012.
- New Doctoral Student Fellowship, Texas Tech University, Jun 2011 – Aug 2011.
- Master's Fellowship, Graduate School and VP for Research, Texas Tech University, Jan 2010 – May 2011.

Professional Development

- 2019 Summer Conference on Learning, Teaching, and Critical Thinking, *The Institute for Learning and Teaching (TILT)*, Colorado State University, May 22 – 23, 2019.
- Scientific Teaching Fellow, *Mobile Summer Institute for Scientific Teaching (MoSI)*, Colorado State University, May 28 – 31, 2019.

Peer-Reviewed Publications

[15] J.P. Dias, S. Ekwaro-Osire, A. Cunha Jr., S. Dabetwar, A. Nispel, F.M. Alemayehu, H.B. Endeshaw, Parametric Probabilistic Approach for Cumulative Fatigue Damage Using Double Linear Damage Rule Considering Limited Data, *International Journal of Fatigue*, DOI:10.1016/j.ijfatigue.2019.06.011, Jun 2019.

[14] 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. Goncalves, F. M. Alemayehu), Springer, New York, Chapter 5, 2017. (ISBN: 978-3-319-55851-6)

[13] H. B. Endeshaw, S. Ekwaro-Osire, F. M. Alemayehu, and D. P. Dias, "*Evaluation of Fatigue Crack Propagation of Gears Considering Uncertainties in Loading and Material Properties"*, Journal of Sustainability, DOI: 10.3390/su9122200, Nov. 2017.

[12] 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*, DOI: 10.3233/jid-2016-0022, Jan. 2017.

[11] 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*, DOI: 10.1115/1.4035867, Jan. 2017.

[10] H.B. Endeshaw, F.M. Alemayehu, and S. Ekwaro-Osire, and J.P. Dias "A Probabilistic Model-Based Prognostics Using Meshfree Modeling: A Case Study on Fatigue Life of a Cantilever Beam," *Proceedings of the 2016 ASME International Mechanical Engineering Congress & Exposition*, Phoenix, Arizona, Nov 11–17, 2016.

[9] R. Cruz-Lozano, S. Ekwaro-Osire, J.P. Dias, F.M. Alemayehu, and H.B. Endeshaw, "Probability of Importance of Features in Engineering Sketches," *Proceedings of the 2016 ASME International Mechanical Engineering Congress & Exposition*, Phoenix, Arizona, Nov 11–17, 2016.

[8] Ekwaro-Osire, F.M. Alemayehu, J. Chapman, O. Gecgel, S. Dabetwar, J.P. Dias, and H.B. Endeshaw, "Probabilistic Approach to Determine the Efficiency of Wave Energy Conversion System," *Proceedings of the 2016 ASME International Mechanical Engineering Congress & Exposition*, Phoenix, Arizona, Nov 11–17, 2016.

[7] S. Ekwaro-Osire, H.B. Endeshaw, D. Pham, and F.M. Alemayehu, "Uncertainty in Remaining Useful Life Prediction" *Proceedings of the 2015 ABCM International Congress of Mechanical Engineering – COBEM2015*, Rio de Janeiro, Brazil, Dec 6–11, 2015.

[6] H.B. Endeshaw, F.M. Alemayehu, and S. Ekwaro-Osire, "Reduction of Chatter Using a Probabilistic Approach," *Proceedings of the 2015 ASME International Mechanical Engineering Congress & Exposition*, Houston, Texas, Nov 13–19, 2015.

[5] N. Nkama, F.M. Alemayehu, H.B. Endeshaw, S. Ekwaro-Osire, and D. Pham, "Probabilistic Analysis of Continuously Variable Transmission to Increase Reliability," *Proceedings of the 2015 ASME International Mechanical Engineering Congress & Exposition*, Houston, Texas, Nov 13–19, 2015.

[4] R. Cruz-Lozano, F.M. Alemayehu, S. Ekwaro-Osire, and H.B. Endeshaw, "Determining Probability of Importance of Features in a Sketch" *Proceedings of the 2015 ASME International Mechanical Engineering Congress & Exposition*, Houston, Texas, Nov 13–19, 2015.

[3] D. Pham, F. Alemayehu, S. Ekwaro-Osire, and H.B. Endeshaw, "Probabilistic Approach to Improve the Prediction Accuracy of Remaining Useful Life" *Proceedings of the 2015 ASME International Mechanical Engineering Congress & Exposition*, Houston, Texas, Nov 13–19, 2015. (Presentation Only)

[2] S.Ekwaro-Osire, R. Cruz-Lozano, and H.B. Endeshaw, "Uncertainty in the Communication with a Sketch" *Proceedings of the 2015 International Conference of Society of Design and Process Science*, Fort Worth, Texas, Nov 1–5, 2015.

[1] H.B. Endeshaw, and F.M. Alemayehu, and S. Ekwaro-Osire, "Modeling of a Piezoelectric Energy Harvester Mounted on a Quick-Return Mechanism," *Proceedings of the 2014 ASME International Mechanical Engineering Congress & Exposition*, Montreal, Canada, Nov 14 – 20, 2014.

Conference Presentations

[4] J.P. Dias, S. Ekwaro-Osire, A. Cunha Jr., S. Dabetwar, A. Nispel, F.M. Alemayehu, and H.B. Endeshaw, "Parametric Probabilistic Approach for Limited Data in Non-Linear Cumulative, Fatigue Damage", *International Conference of Fatigue Damage of Structural Materials*, Hyannis, MA, Sep 16 – 21, 2018.

[3] H.B. Endeshaw, F.M. Alemayehu, and S. Ekwaro-Osire, and J.P. Dias "A Probabilistic Model-Based Prognostics Using Meshfree Modeling: A Case Study on Fatigue Life of a Cantilever Beam," *Proceedings of the 2016 ASME International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, Nov 11–17, 2016.

[2] H.B. Endeshaw, F.M. Alemayehu, and S. Ekwaro-Osire, "Reduction of Chatter Using a Probabilistic Approach," *Proceedings of the 2015 ASME International Mechanical Engineering Congress & Exposition*, Houston, TX, Nov 13–19, 2015.

[1] H.B. Endeshaw, and F.M. Alemayehu, and S. Ekwaro-Osire, "Modeling of a Piezoelectric Energy Harvester Mounted on a Quick-Return Mechanism," *Proceedings of the 2014 ASME International Mechanical Engineering Congress & Exposition*, Montreal, QC, Canada, Nov 14 – 20, 2014.

Posters

[6] H.B. Endeshaw, F.M. Alemayehu, S. Ekwaro-Osire, and J.P. Dias, "Cumulative Fatigue Damage Considerations in Fatigue Life Estimation", 2nd *Workshop on Probabilistic Prognostics and Health Management of Energy Systems*, Lubbock, Texas, May 2017.

[5] S. Ekwaro-Osire, F.M. Alemayehu, J. Chapman, O. Gecgel, S. Dabetwar, J.P. Dias, H.B. Endeshaw, "Design of Reliable High-Performance Ocean Wave Energy Conversion System under Uncertainty," *2nd Workshop on Probabilistic Prognostics and Health Management of Energy Systems*, Lubbock, Texas, May 2017.

[4] H.B. Endeshaw, F. Alemayehu, and S. Ekwaro-Osire, "Modeling of a Piezoelectric Energy Harvester Mounted on a Quick-Return Mechanism," *Annual Graduate Poster Competition*, Texas Tech University, Lubbock, Texas, 2015. (2nd place)

[3] N. Nkama, F. Alemayehu, H.B. Endeshaw, S. Ekwaro-Osire, and D. Pham, "Enhancing the Reliability of Wind Turbines by Using a Continuously Variable Transmission," *Global Laboratory for Energy Asset, Management and Manufacturing (GLEAMM) Poster Competition*, Lubbock, Texas, 2015.

[2] N. Nkama, F. Alemayehu, H.B. Endeshaw, S. Ekwaro-Osire, and D. Pham, "Probabilistic Analysis of Continuously Variable Transmissions to Improve Reliability of Wind Turbines," *Annual Graduate Poster Competition, Texas Tech University*, Lubbock, Texas, 2016.

[1] S. Ekwaro-Osire, F.M. Alemayehu, I. Durukan, and H.B. Endeshaw, "Performance Assessment of Asymmetric Tooth for Wind Turbine Gearbox," *Annual Graduate Poster Competition, Texas Tech University*, Lubbock, Texas, 2013.