

CURRICULUM VITAE

Name: Jeremy S. Daily
Rank: Assistant Professor
Full Time: Yes

Last Updated: 30 August 2009
Department: Mechanical Engineering
Date of Original Appointment: 14 July 2006

Degrees Earned

B.S. in Mechanical Engineering – Wright State University (*Magna Cum Laude*), 2001

M.S. in Mechanical Engineering – Wright State University, 2003

Ph.D. in Engineering – Wright State University, 2006

Areas Of Specialization

Traffic Crash Reconstruction, Solid Mechanics, Fatigue Crack Growth, Fracture Mechanics, Finite Element Analysis

Professional Experience

2006-Present Assistant Professor of Mechanical Engineering, The University of Tulsa, OK.
Tenure-Track faculty responsible for teaching, research, and service.

2005-2006 Aerospace Engineer for Universal Technology Corporation, Beavercreek, OH. Working as an on-site contractor for the U.S. Air Force Research Laboratory's Propulsion Directorate under the Structures and Controls Branch of the Turbine Engine Division.

2003-Present Adjunct faculty for the Institute of Police Technology and Management.

Fall 2005 Adjunct Faculty at Wright State University - 1 quarter, during Ph.D. studies.

2001-Present Vice President of Research of Jackson Hole Scientific Investigations, Inc., Jackson, WY.

1995-2002 Active Duty Air Force doing maintenance of ground based meteorological and navigation electronic systems.

Professional Membership

Registered Professional Engineer (PE)

1. Ohio #71425
2. Oklahoma #22993
3. Wyoming #11490

4. NCEES National Record Book holder

Professional Societies

1. Society of Automotive Engineers (SAE), member 1997- Present
2. American Society of Mechanical Engineers (ASME), member 2001-Present

Honors And Awards

- Outstanding Ph.D. Student in Engineering, WSU, 2006
- Fellowship, Dayton Area Graduate Studies Institute (DAGSI), 2003-2005
- Outstanding Master's Student in Mechanical Engineering, WSU, 2003
- Ohio Space Grant Consortium (OSGC) Masters Fellowship, 2002-2003
- U.S. Air Force Commendation Medal, 2002
- NCO of the Quarter, 88th Communications Squadron, 2001
- Graduated with honors Magna Cum Laude, 2001
- Phi Kappa Phi Honor Society, 2000
- Who's Who Among American Colleges and Universities, 1998
- Tau Beta Pi Engineering Honor Society, 1997
- Jackson Hole High School Valedictorian, 1995

1 Publications

1.1 Books

1. Daily, J.G., Shigemura, N., and Daily, J.S., Fundamentals of Traffic Crash Reconstruction, Institute of Police Technology and Management, University of North Florida, Jacksonville, FL, 2006. ISBN 1-884566-63-4.

1.2 Refereed Journal Papers – Published

1. Daily, J.G., Daily J.S., and Rich, A.S. "A Method for Vehicle-Wooden Utility Pole Impact Speed Reconstruction," submitted to the Accident Reconstruction Journal. (In Press 2009).
2. Caruso J.F., Daily J.S., McLagan J.R., Shepherd C.M., Olson N.M., Marshall M.R. and Taylor S.T., "Data reliability from an instrumented vertical jump platform," Journal of Strength and Conditioning Research. (In Press 2009).
3. Daily, J.S. and Daily J.G., "Snow Plane Sound Level Measurements," Society of Automotive Engineers (SAE) paper number 2008-01-2746.

4. Klingbeil, N.W., Daily J.S., Baudendistel, C.B., "A Dissipated Energy Approach to Fatigue Crack Growth in Ductile Solids and Layered Materials," *Key Engineering Materials*, vol. 378-379, pp. 385-404, 2008.
5. Daily, J.S. and Klingbeil, N.W., "Plastic Dissipation in Mixed-Mode Fatigue Crack Growth Along Plastically Mismatched Interfaces," *International Journal of Fatigue*, vol. 28. pp. 1725-1738, 2006.
6. Daily, J.S. and Klingbeil, N.W., "Plastic Dissipation in Fatigue Crack Growth Under Mixed-Mode Loading," *International Journal of Fatigue*, vol. 26, pp. 727-728, 2004.

1.3 Refereed Conference Papers – Published

1. McLagan J.R., Daily J.S., Shepherd C.M., Olson N.M., Marshall M.R., and Caruso J.F. (2009). Assessment of the reliability of vertical jump performance from an instrumented platform. 55th International Instrumentation Symposium (Published Conference Proceedings-Expanded Short Communication). Volume 472: ISBN/ID: 978193439-4991.
2. Daily, J.S., Klingbeil, N.W., "Determining The Scatter In Fatigue Crack Growth Rate Based On Variations In Bulk Property Data," *Proceedings of ASME Turbo Expo 2009: Power for Land, Sea and Air*, Orlando, Florida, USA, June 8-12, 2009.
3. Daily J.S., "Monte Carlo Techniques For Correlated Variables in Crash Reconstruction," paper number 2009-01-0104, Society of Automotive Engineers (SAE) World Congress, Detroit, Michigan, April 20-23, 2009.
4. Daily, J.S., Singleton, N., and Manes, G.W., "Automobile Event Data Recorder Forensics," Fourth Annual International Federation for Information Processing (IFIP) WG 11.9 International Conference on Digital Forensics, Kyoto University, Kyoto, Japan, January 27 - 30, 2008.
5. Daily, J.S., Singleton, N., and Manes, G.W., "Light Vehicle Event Data Recorder Forensics," Third Annual International Joint Conference on Computer, Information, and Systems Science and Engineering (CISSE), On-line, December 3-12 2007.
6. Jones, Z.A., Daily, J.S., "A Concept For A Portable Mass Moment Of Inertia Measurement Device," XVII Canadian Multidisciplinary Road Safety Conference, Montreal, Canada, June 3-6, 2007.
7. Simionescu, P.A., Daily, J.S., and Shadley, J.R., "Data Acquisition and Computer Simulation Integrated Experiment for an Undergraduate Machine Dynamics Laboratory," 114th Annual American Society for Engineering Education Conference & Exposition, Honolulu, Hawaii, 24-27 June 2007.
8. Daily, J.S., Cook, G., Daily, J.G., "A Controller Design for a Dynamic Roadway Marking System," 53rd International Instrumentation Symposium (IIS), Tulsa, OK, 30 April - 3 May 2007.

1.4 Refereed Papers – Submitted

1. Daily, J.S., Klingbeil, N.W., "Plastic Dissipation Energy at a Bimaterial Crack Tip Under Cyclic Loading," Submitted to the *International Journal of Fatigue*.

1.5 Book Chapters

1. Daily, J.S., Singleton, N., and Manes, G.W., "Automobile Event Data Recorder Forensics," appearing in *Advances in Digital Forensics IV* by Indrajit Ray, Sujeet Sheno, SpringerLink (Online service) Published by International Federation for Information Processing, 2008 ISBN 0387849270, 9780387849270.

1.6 Dissertation and Thesis

1. Daily, J.S., "Dissipated Energy at a Bimaterial Crack Tip Under Cyclic Loading," Ph.D. Dissertation, Wright State University, Dayton, OH, electronic copies are available on-line.
2. Daily, J.S., "Plastic Dissipation Energy in Mixed-Mode Fatigue Crack Growth on Ductile Bimaterial Interfaces," Master's Thesis, Wright State University, Dayton, OH, electronic copies are available on-line.

1.7 Non-refereed Conference Publications in Proceedings

1. McLagan J.R., Daily J.S., Tipton S.M., Shepherd C.M., Olson N.M., Marshall M.R., and Caruso J.F., "Assessment of the reliability of vertical jump performance from an instrumented platform." The University of Tulsa's 12th Annual Student Research Colloquium Proceedings. 84: 71, April 2009.
2. Daily, J.S., "Correlated Variables in Reconstruction," Motor Vehicle Accident Reconstruction: Theory and Practice, Vancouver BC, 5-13 July 2008.
3. Daily, J.S., "Determine A Range Using Statistics in Reconstruction," Motor Vehicle Accident Reconstruction: Theory and Practice, Vancouver BC, 5-13 July 2008.
4. Daily, J.G. and Daily, J.S., "Accounting for Impulse and Rotation: An application to left-turn, failure to yield collisions," Special Problems in Traffic Crash Reconstruction Proceedings, Institute of Police Technology and Management, Jacksonville, FL, 21-25 April 2008.
5. Daily, J.S., Strickland, R., and Daily, J.G. "Crush Analysis with Under-rides and the Coefficient of Restitution," Special Problems in Traffic Crash Reconstruction Proceedings, Institute of Police Technology and Management, Jacksonville, FL, 24-28 April 2006.
6. Daily, J.S. and Strickland, R., "Analysis of Four Staged Crashes of Passenger Vehicles into a Semi-trailer," Special Problems in Traffic Crash Reconstruction Proceedings, Institute of Police Technology and Management, Jacksonville, FL, 25-29 April 2005.
7. Daily, J.S. and Daily, J.G., "Multiple Vehicle Collisions: An Application of the Monte Carlo Method," Special Problems in Traffic Crash Reconstruction Proceedings, Institute of Police Technology and Management, 24-30 April 2004.
8. Daily, J.S., "Using Total Plastic Dissipation Energy to Predict Fatigue Crack Growth Rates in Ductile Materials Under Mixed Mode," Ohio Space Grant Consortium Symposium Proceedings, 2003.
9. Daily, J.S., "Using Total Plastic Dissipation Energy to Predict Fatigue Crack Growth Rates in Ductile Materials Under Mixed Mode," Ohio Space Grant Consortium Symposium Proceedings, 2002.

1.8 Professional Conference Presentations

1. "Accelerometers: One Size Does Not Fit All," 20th Annual Illinois Association of Traffic Accident Investigators (IATAI) Conference, Bloomington, IL, 7 September 2006.
2. "Plastic Dissipation Energy From Cyclic Loading of Bimaterial Interface Cracks," Propulsion-Safety and Affordable Readiness Program Review, Jacksonville, FL, 28-30 March 2006.
3. "Determination of the Mode Mix using an Energy Criteria for Bimaterial Interface Cracks," 31st Annual Dayton-Cincinnati Aerospace Science Symposium, Dayton, OH, 7 March 2006.
4. "Plastic Dissipation in Mixed-Mode Fatigue Delamination of Ductile Bimaterial Interfaces," 1st annual Dayton Engineering Science Symposium, Wright State University, Dayton, OH, 31 October 2005.
5. "Finding a Range Using Statistics in Traffic Crash Reconstruction," 19th Annual Illinois Association of Traffic Accident Investigators (IATAI) Conference, Springfield, IL, 20 September 2005.
6. "Analysis of Four Staged Crashes of Passenger Vehicles into a Semi-trailer," Crash Investigation and Reconstruction Update for National Association of Professional Accident Reconstruction Specialists (NAPARS). Columbus, OH, 28 June 2005.
7. Multiple Topics (including lateral vehicle motion, staged crash analysis, and rotational mechanics), Midwest Association of Technical Accident Investigators (MATAI) Conference, Rapid City, SD, 8-10 June 2005.
8. "Correcting and Adjusting Drag Factors," Ohio State Patrol In-Service Traffic Crash Reconstruction. Columbus OH, 10 January 2005.
9. "Multiple Vehicle Collisions: An Application of the Monte Carlo Method," Pennsylvania State Police Traffic Crash Reconstruction Seminar, State College, PA, 28 September 2004.
10. "Plastic Dissipation in Fatigue Crack Growth on Ductile Interfaces," 29th Annual Dayton-Cincinnati Aerospace Science Symposium, 9 March 2004.
11. "Plastic Dissipation Energy in Fatigue Crack Growth Under Mixed Mode Loading," 2003 International Air and Space Symposium and Exposition, Dayton, OH, 14-17 July 2003.
12. "Statistical Methods in Traffic Crash Reconstruction," Seminar for the West Chester Police Department, June 2003.
13. "Plastic Dissipation Energy in Fatigue Crack Growth Under Mixed Mode Loading," 28th Annual Dayton-Cincinnati Aerospace Science Symposium, 4 March 2003.

1.9 Technical Reports

1. Cook, G.P., Daily, J.S., "Predicting the Fatigue Crack Propagation of a Cracked Panel Using Dissipated Energy," Final Report for DOD contract F33615-02-D-2299, Delivery Order 0022, 26 December 2008.
2. Daily, J.S., "Modeling and Simulation of Simultaneous Drilling and Underreaming," TUDRP Advisory Board Meeting, Tulsa, Oklahoma, 10-11 November, 2008.
3. Daily, J.S., "Traffic Crash Reconstruction Report" submitted to Margaret O'Malley of the Santa Barbara County District Attorney's Office, 22 February 2008.

4. Daily, J.S., Daily, J.G., "Crash Reconstruction Report" submitted to Eugene Harlow of Laurel, MS 39440, 30 December, 2007.
5. Daily, J.S., "Traffic Crash Reconstruction Report" submitted to Elizabeth O'Brien of the Santa Barbara County District Attorney's Office, 10 October 2007.
6. Daily, J.S., "Initial report concerning the Event Data Recorder information in the matter of State of New Jersey v. Robert Higbee" submitted to J. David Meyer, Office of the Prosecutor Cape May New Jersey, 1 October 2007.
7. Daily, J.S., Daily, J.G., "Low Speed Performance and Stability Testing of a Motorcycle on a Rough Road," submitted to James Nelson of Rapid City, South Dakota, 10 January 2007.
8. Daily, J.S., "Reconstruction of a Collision Between a Skier and Snowboarder" submitted to Steve Weichman, Teton County District Attorney, 31 March 2005.
9. Daily, J.S., "Natural Frequency and Damping Ratio Determination Using Orthogonal Rational Fractions," submitted to the Structures and Controls Branch of AFRL/PRTS, 22 March 2005.

1.10 Other Publications / Presentations:

1. "Overview of Modern Finite Element Analysis," Mechanical Engineering Industrial Advisory Board Professional Development at the University of Tulsa, October 14, 2009.
2. "Expert Testimony in Traffic Crash Reconstruction," Guest Lecture in the Scientific Evidence Class at The University of Tulsa, 11 March 2009.
3. "Accounting for Impulse and Rotation: An Application to Left-turn, Failure to Yield Collisions" ASME Dinner Meeting, Allan Chapman Activities Center, The University of Tulsa, 24 April 2008.
4. "Traffic Crash Reconstruction in Education," Luncheon Speaker, Bartlesville Section of Oklahoma Society of Professional Engineers, 13 July 2007.

2 Research Proposals

2.1 Technical Proposals - Awarded

1. "Shape Engineering for Advanced Manufacturing" PI: Jeremy Daily, Co-PI: Steve Tipton, Funding Agency: Oklahoma EDGE subcontract with Oklahoma University, Dates: 1 Jan 2009-31 Dec 2011, Amount \$98,000.
2. "Forensic Verification of Automobile Data" Funding Agency: Oklahoma Center for the Advancement of Science and Technology (OCAST), Internship Program AP-0901-i05, partner company: Avansic, Sole PI: Jeremy Daily Dates: 1 February 2009-31 January 2011, Amount \$108,392 (including 50% company match).
3. "Probabilistic Assessment of Fatigue Properties of Ti-6Al-4V" PI: Jeremy Daily, Funding Agency: U.S. Air Force Research Laboratory/Universal Technology Corporation, Contract Numbers: FA8650-08-D-2806 TO 0009 (Prime)/09-S590-0009-17-C4 (Subcontract), Dates: November 2008-May 2010, Amount: \$70,727.

4. "A National Model for Engineering Mathematics Education: Increasing Student Retention, Motivation and Success in Engineering," PI: Nathan Klingbeil (WSU), Senior Person: Jeremy Daily, Funding Agency: National Science Foundation subcontract with Wright State University, Award Number DUE-0817332 (CCLI phase III), August 2008-July 2011, Amount: \$100,000.
5. "Drill-string Vibrations: Interaction of Bit and Reamer" Funding Agency: Tulsa University Drilling Research Projects, PI: Stefan Miska, July 2008. Amount: 1 summer month salary.
6. "Probabilistic Assessment of Fatigue Properties of Ti-6Al-4V" Funding Agency: U.S. Air Force Research Laboratory/Universal Technology Corporation, Sole PI: Jeremy S. Daily, Dates: July 2007-November 2008, Amount: \$81,533.
7. "Predicting the Fatigue Crack Propagation of a Cracked Panel Using Dissipated Energy," Funding Agency: U.S. Air Force Research Laboratory/Universal Technology Corporation, Contract Number: F33615-02-D-2299 TO 0022 (Prime)/06-S530-0022-15-C1 (Subcontract), Sole PI: Jeremy S. Daily, Dates: July 2006-June 2007, Amount: \$40,490.
8. "Predicting Wooden Pole Fracture Energy in Traffic Crash Reconstruction" Funding Agency: University of Tulsa Summer Faculty Fellowship, PI: Jeremy S. Daily, Summer 2007, Amount: 1 summer month salary + \$500.

Total Amount Externally Awarded: \$499,142

2.2 Technical Proposals - Pending

1. "CAREER: Multidisciplinary Vehicle Crash Forensics Research and Outreach," PI: Jeremy Daily, Funding Agency: National Science Foundation. Submitted 22 July 2009, Amount: \$400,000.
2. "Contextual Research - Pathways - Enhancing Adult Learning by Developing STEM Advocates," PI: Jeremy Daily, Co-PI: Bradley Brummel, Funding Agency: National Science Foundation (NSF), Submitted 12 November 2009, Amount: \$250,000.
3. "Controller Modernization for Experimental Analysis of Advanced Material and Multiaxial Fatigue Properties," PI: Jeremy Daily, Co-PI, Steven Tipton, Co-PI, Michael Keller, Co-PI: John Henshaw, Funding Agency: Department of Defense: Defense University Research Instrumentation Program (DURIP), Submitted 15 September 2009, Amount: \$107,132.

Total Amount Pending: \$1,660,439

2.3 Technical Proposals – Not Funded

1. "Preservation and Validation of Digital Forensic Evidence in Commercial Vehicles," PI: Jeremy Daily, Co-PI: John Hale, Funding Agency: Department of Justice. Submitted 22 June 2009, Amount \$702,080.
2. "Analytical and Experimental Analysis of Bimaterial Interface Fatigue Properties," PI: Jeremy Daily, Co-PI: Steve Tipton, Funding Agency: NASA EPSCoR, Submitted 7 May 2009, Amount: \$558,359.
3. "Developing STEM Advocates Using Traffic Crash Reconstruction," PI: Jeremy Daily, Co-PI: Bradley Brummel. Funding Agency: National Institute for Health (ARRA), Submitted 27 April 2009, Amount \$822,555.

4. “Analytical and Experimental Analysis of Bimaterial Interface Fatigue Properties,” PI: Jeremy Daily, Co-PI: Steve Tipton, Funding Agency: NASA EPSCoR, Submitted 30 January 2009, Amount: \$492,340.
5. “Analytical and Experimental Analysis of Bimaterial Interface Fatigue Properties,” PI: Jeremy Daily, Co-PI: Steve Tipton, Funding Agency: DOD EPSCoR, Submitted 30 September 2008, Amount: \$534,938
6. OCAST-OARS (FY09-1), “Digital Forensic Techniques for Automobile Crashes,” PI: Jeremy Daily, Co-PI: Gavin Manes, Submitted September 2008, Amount \$287,557.
7. “Development and assessment of a device to measure vertical jump explosiveness and muscle control for improved joint stability” PI: Jeremy Daily, Co-PI: John Caruso and Steve Tipton, Funding Agency: NFL Charities, Submitted 6 May 2008, Amount: \$124,994.
8. Titanium Engineers/StatoilHYDRO, “Fatigue Assessment of Light Metals for Drilling Applications,” PI: Jeremy Daily, Co-PI: Stefan Miska, Amount \$120,000 (unofficial), 2008.
9. “Incorporating Vehicle Crash Data into Emergency Response Networks,” PI: Jeremy Daily, Co-PI: John Hale, Funding Source: Honda Research Initiation Grant, Amount: \$50,000.
10. OCAST-OARS (FY08-2), “Digital Forensic Techniques for Automobile Crashes,” PI: Jeremy Daily, Co-PI: Gavin Manes, Submitted April 2007, Amount \$287,557.
11. “Axial Torsional Testing Machine for Mixed Mode Fatigue Crack Growth,” PI: Jeremy S. Daily, Fundng Agency: Department of Defense: Defense University Research Instrumentation Program (DURIP), Submitted August 2007, Amount \$373,110.
12. OCAST-OARS (FY08-1), “Digital Forensic Techniques for Automobile Crashes,” PI: Jeremy Daily, Co-PI: Gavin Manes, Submitted September 2007, Amount \$287,557.
13. Internal: The repeatability of Measuring Human Performance with a Vertical Jump Test” Co-PIs: Jeremy Daily, John Caruso, and Steve Tipton, Submitted May 2006, Amount: \$25,000.
14. National Science Foundation, Major Research Instrumentation (NSF-MRI) “X-Ray Diffraction,” PI: Jagan Mahadevan, Co-PIs: Jeremy Daily, Dennis Kerr, Ram Mohan, James Tapp, Submitted January 2006, Amount \$622,400.

Total Amount Not Funded: \$3,205,453

2.4 Other External Support

1. Various vehicles to use for crash testing obtained from local law enforcement agencies and tow yards – continuous
2. Obtained Handheld Accelerometer for evaluation – in kind donation, Fall 2006
3. Obtained CNC tooling from Seco Tools – in-kind donation, Spring 2007
4. Obtained optical encoders from BEI Industries – in-kind donation, Spring, 2007

3 Academic Advising Activities

3.1 Graduate Researchers

1. Sreelatha Kilambi, M.S. in Mechanical Engineering, (Committee), Nov 2009
2. Amitkumar Christian, Ph.D. in Mechanical Engineering, (Committee), Nov 2009
3. Georges Ishak, M.S. in Petroleum Engineering, (Co-Advisor), August 2009–Present
4. Sam Kucera, M.S. in Mechanical Engineering, (Advisor), August 2009–Present
5. Henry Fennell, M.S. in Mechanical Engineering, (Advisor), May 2009–Present
6. Alex Austin, M.S. in Mechanical Engineering, (Advisor), May 2009–Present
7. Jack McCready, M.S. in Mechanical Engineering, (Advisor), May 2009–Present
8. Benjamin Bohn, M.S. in Mechanical Engineering, (Committee), 2008
9. Craig Baudendistel, M.S. in Mechanical Engineering at Wright State University (Committee), August 2008
10. Garret Cook, M.S. in Electrical Engineering, (Advisor), “Predicting the Fatigue Crack Propagation of a Cracked Panel Using Dissipated Energy,” August 2006–Present
11. Zachary Jones, M.S. in Mechanical Engineering (Advisor) “Predicting Impulse for Wooden Pole Crashes in Traffic Crash Reconstruction,” June 2007–Present
12. Jesse French, M.S. in Mechanical Engineering (Committee), 2007
13. Thomas Spradlin, M.S. in Mechanical Engineering (Committee), 2007
14. Viswanath Mugapenchala, M.S., in Mechanical Engineering (Co-advisor), “Design of a Printed Circuit Board Stencil Frame,” 2007
15. Yang Feng, Ph.D. in Petroleum Engineering (Committee), 2008
16. Navid Rafatian, M.S. in Petroleum Engineering (Committee), 2008

3.2 Undergraduate Advising

1. Matt Brundage, OCAST Intern, “Digital Forensics of Vehicle Data Extraction,” Summer 2009.
2. Casey Kiister, OCAST Intern, “Digital Forensics of Vehicle Data Extraction,” Summer 2009.
3. Matt Fult, OCAST Intern, “Digital Forensics of Vehicle Data Extraction,” Summer 2009.
4. Casey Davis, TURC Student, “Implementation of Fracture Analysis Using FRANC3D-NG and Abaqus,” Spring and Summer 2009.
5. Nick Bogdanos, Independent Study, “Building a Portable Precision Vehicle Scale,” Spring 2009.
6. Eric Robison, Independent Study, “Extraction of fatigue and fracture data from the literature.”
7. Jina Kim, Summer Researcher, “Designing and building a resonant torsional fatigue machine.”

8. Jessica McLagan, TURC student, “Assessing the repeatability and reliability of Jumping performance,” Spring 2008–Spring 2009.
9. Garrett Fleck, TURC Student. “Portable Crash Testing System and Assessing the Sensitivity of Uncertainty Analyses,” Spring 2008–present
10. Nathan Singleton, Research Assistant (Co-Advisor) “Digital Forensics of Automobile Crashes,” June 2007–May 2008
11. Daniel Wilson, Independent Study, Spring 2006
12. Josh Emerson, Independent Study, Spring 2006

4 Teaching Activities

4.1 Courses Taught at the University of Tulsa

1. Instrumentation and Measurements (ME 3053), Fall 2006-2008.
2. CAD / CAM (ME 4073), Spring 2007.
3. Mechanisms (ME 3212), Fall 2007-2009.
4. Machine Dynamics (ME 4024/6024), Spring 2008-2009.
5. Probabilistic Mechanics (ME 7863), Spring 2008.
6. Introduction to Finite Element Analysis (ME 4093/6093), Spring 2009.
7. Theoretical Vibrations (ME 7103), Fall 2009.

4.2 Courses Taught Elsewhere:

1. Mechanical Design I (ME 414/614), Adjunct Faculty, Wright State University, Fall 2005.
2. Faculty Advisor for Senior Design, Wright State University, Winter/Spring 2006.
3. Finite Element Lab Teaching Assistant, Wright State University, 2004-2006.

4.3 Other Teaching Activities

1. Advisor for Senior Capstone Design: “Portable Inertial Measurement System,” Spring 2007.
2. CNC Trainer and Certifier for the McElroy prototyping laboratory, ongoing.

5 Continuing Education / Short Course Activities

5.1 Courses Taught

None Yet

However, I have facilitated the creation of a Heavy Truck Event Data Recorder Course through the University of Tulsa’s Continuing Science and Engineering Education department.

5.2 Courses Taken

1. Attendee at the International Gas Turbine Expo, Orlando Florida, 8-12 June 2009.
2. Introduction to ANSYS Workbench, DRD Technologies, Tulsa, OK, December 2008, 18 Hours.
3. Nonlinear Finite Element Analysis with ANSYS Workbench, DRD Technologies, Tulsa, OK, May 2008, 18 Hours.
4. Attendee at the International Gas Turbine Expo, Montreal Canada, 14-17 May 2007.
5. Concepts and Applications of Measurement Uncertainty, 16-18 August 2006, Continuing Engineering and Science Education, The University of Tulsa. Instructor: Ron Dieck, 18 hours.
6. Commercial Vehicle Traffic Crash Reconstruction, 14-18 June 2004, Wyoming Law Enforcement Academy, Douglas, Wyoming. Course presented with materials from the Institute of Police Technology and Management. 40 hours.
7. Human Factors in Crash Reconstruction, 24-28 March 2003, Presented by West Chester Police Dept., West Chester, OH. 30 ACTAR CEUs.
8. Traffic Crash Reconstruction, 12-23 August 2002, Wisconsin State Patrol Academy, Fort McCoy, Wisconsin. Course presented by Institute of Police Technology and Management. 80 hours.
9. Crash Data Retrieval (CDR) System Operator, 7-8 June 2002, Toronto, Ontario, Canada. Course presented by Collision Safety Institute (CSI). 16 hours.
10. Airman Leadership School, Class 00-E, 3-31 August, 2000, Wright Patterson Air Force Base. Conducted by the 88th Operations Support Squadron. 160 Hours.
11. Meteorological & Navigation Systems Apprentice Course, PDS Code: 8V5, 12 May - 28 September, 1999, Keesler Air Force Base, Mississippi. Conducted by the USAF Technical Training School, 81st Training Group. 1230 hours. AETC Commanders Award Recipient.
12. Common Electronics Training Program, PDS Code: 7VL, 1 February 7 May 1999, Keesler Air Force Base, Mississippi. Conducted by the USAF Technical Training School, 81st Training Group. 464 hours. Distinguished Graduate.

6 Technical Consulting

6.1 Expert Testimony

I have given expert testimony in trial or deposition in the following cases:

1. State of Ohio v Miller, hired by Miami County District Attorney of Troy, OH: trial testimony given in 2005
2. Altman-Frazier v Daleen, hired by Travis Dunn of Oklahoma City, OK: deposition given on 6 January 2007
3. Randone v Pennington County South Dakota, hired by James Nelson of Rapid City, SD: deposition given on 28 June 2007

4. People of California v Kerill, hired by Elizabeth O'Brien of the Santa Barbara County District Attorney's office: trial testimony given on 19 Dec 2007
5. People of California v Sankey, hired by Margaret O'Malley of the Santa Barbara County District Attorney's office: trial testimony given on 16-17 July 2008

6.2 Other Consulting Projects

In addition, I have consulted, but not testified, in the following cases:

1. State of Wyoming v Doda, hired by Steve Weichman of Jackson, WY, 2005
2. Katzenmier v CVA, hired by Gary Eaton of Tulsa, OK, 2007
3. Layperouse v Stewart's Testing, hired by Eugene Harlow of Laurel, MS, 2007
4. Gaillard v Hoyt, hired by John Nooney of Rapid City, SD 2007
5. State of New Jersey v Robert Higbee, hired by J. David Meyer of Cape May, NJ, 2007
6. James v Anticline, hired by Robert Schuseter of Jackson, WY, 2008
7. Hammond-Foote v Bri-Dan Services, hired by John Henley and Larry Grubbs, Casper, WY and Billings, MT, 2008
8. Sarah Burkes v Champion Technologies, hired by Sean Manning of Tulsa, OK, 2009
9. Barbara Compton v Hallaman Excavation, hired by Alex Yaffee of Oklahoma City, OK, 2009

I have consulted for the following companies or organizations:

1. Werner Trucking Enterprises, Oct. 2009
2. The Accreditation Commission for Traffic Accident Reconstruction (ACTAR)

7 Service Activities

7.1 Reviewer for Technical Papers

1. Society of Automotive Engineers (SAE)
 - a) "Reconstruction of Steer-Induced Rollover Accidents Via Computer Simulation," 2010 SAE World Congress
2. ISA Conference – February 2007 (multiple papers)
3. International Journal of Fracture
 - a) "On the Reference Length and Mode Mixity for a Bimaterial Interface," 2007
4. Journal of Shock and Vibration
 - a) "Probabilistic Rotor Life Assessment," 2007

- b) "Damage Detection in Frame Structures using Vibration Measurements," 2008
- 5. Experimental Mechanics
 - a) "A Simplified Treatise of the Scott Bond Testing Method," 2009
- 6. American Society of Mechanical Engineers (ASME) Turbo Expo 2009: Power for Land, Sea and Air
 - a) "Probabilistic Fretting Fatigue Assessment of Aircraft Engine Disks," 2009
 - b) "Study on Probabilistic Model of GH4133B for Fatigue-Creep Failure," 2009
- 7. American Institute of Aeronautics and Astronautics (AIAA) Journal
 - a) "Energy-Based Life Prediction Method for Multi-Axially Loaded Objects," 2009
- 8. Accident Reconstruction Journal
 - a) "Monte Carlo Techniques," 2008

7.2 University of Tulsa Service Activities

7.2.1 University Level

- 1. Coach and faculty advisor for TU men's rugby football club
- 2. United Way Committee Member, Fall 2009

7.2.2 College Level

- 1. Tau Beta Pi engineering honor society faculty advisor (Fall 2007 – Spring 2008)
- 2. Search Committee for Director of ENS Information Technology

7.2.3 Department Level

- 1. Advisor to the freshman class of Mechanical Engineers (Fall 2007 – Spring 2008)
- 2. Advisor to the sophomore class of Mechanical Engineers (Fall 2008 – Spring 2009)
- 3. Advisor to the junior class of Mechanical Engineers (Fall 2009 – Spring 2010)
- 4. Chair of the McElroy Prototyping Lab committee (ME Dept.)

7.3 Other Service Activities

- 1. Habitat for Humanity - March 2007
- 2. Session Chair for ASME/AIAA Oklahoma Symposium XXVII, 8 March 2008