

CURRICULUM VITAE

NAME: Douglas E. Adams, Ph.D.

TITLES: Daniel F. Flowers Professor of Engineering
Distinguished Professor and Chair, Department of Civil and Environmental Engineering
Professor of Mechanical Engineering

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<http://engineering.vanderbilt.edu/cee/faculty-staff/doug-adams/>

PROFESSIONAL SUMMARY

Dr. Adams is the Daniel F. Flowers Professor of Engineering, Distinguished Professor and Chair of Civil and Environmental Engineering and Professor of Mechanical Engineering at Vanderbilt University. His research has developed new structural health monitoring methodologies that incorporate novel sensing and system identification techniques. This work is enabling intelligent infrastructure systems of the future that are self-aware in energy, security, and manufacturing applications. For instance, he serves as the Nondestructive Evaluation Technical Fellow for the \$259M US Department of Energy Composites Institute focused on next-generation materials in partnership with 150 industry members. He has written 91 refereed journal articles and 176 conference papers, and authored a textbook on structural health monitoring as well as 5 book chapters on topics ranging from health monitoring of wind turbines to damage prognosis of aircraft materials. He has been recognized with 25 awards including the Presidential Early Career Award, the Society for Experimental Mechanics DeMichele and Lazan Awards, and he was elected Fellow of the American Society of Mechanical Engineers. He has supervised 56 graduate student researchers, advised 57 undergraduate researchers, and currently advises 2 Ph.D. students. He teaches courses in mechanics and dynamic systems, has won awards for classroom and online teaching along with being elected to the Purdue Book of Great Teachers, and has disseminated his research worldwide in more than 100 seminars and 30 short courses. Dr. Adams has secured 9 patents and over 130 contracts and grants for ~\$35M in funding.

As department chair in civil and environmental engineering, Dr. Adams works to expand opportunities and address challenges in discovery and learning for the community of students, staff, and faculty. At the undergraduate level, he collaborated with the faculty to implement major improvements in the curriculum emphasizing 21st century challenges in areas like sustainable infrastructure and data science while growing the number of undergraduate researchers by a factor of 5. At the graduate level, he partnered with the development office to endow a department research seminar series and establish new awards for graduate student research excellence through the generous support of donors. He has led in the recruitment of a diverse group of faculty, staff, and external advisory committee members who all add immeasurably to the department's mission. For example, the department has grown its research expenditures by 50% over the last 5 years and the number of awards received by graduate students, staff, and faculty has surged. All of the university's most prestigious recognitions for teaching/research/service were awarded to department colleagues over the past few years – including two graduate student Founder's medalists at commencement, five top research and teaching awards for university faculty including the Sutherland and Sarratt Prizes, and the highest honor for staff excellence – the Commodore Award. Dr. Adams has served on a number of university and school-level committees as well and has provided visible leadership on these committees in recommending bold investments in research, teaching, and an ever more inclusive university community.

EDUCATION

B.S.	Mechanical Engineering	1994	University of Cincinnati
M.S.	Mechanical Engineering	1997	Massachusetts Institute of Technology
Ph.D.	Mechanical Engineering	2000	University of Cincinnati

PROFESSIONAL APPOINTMENTS

July 2014 – Present	DANIEL F. FLOWERS PROFESSOR OF ENGINEERING Vanderbilt University
July 2013 – Present	DISTINGUISHED PROFESSOR AND CHAIR Dept. of Civil and Environmental Engineering, Vanderbilt University FOUNDER AND CO-DIRECTOR OF LABORATORY FOR SYSTEMS INTEGRITY AND RELIABILITY Vanderbilt University
July 2013 – Present	PROFESSOR Dept. of Mechanical Engineering, Vanderbilt University
July 2013 – Present	ADJUNCT PROFESSOR Dept. of Mechanical Engineering, Purdue University
April 2010 – July 2013	KENNINGER PROFESSOR OF RENEWABLE ENERGY AND POWER Purdue University
July 2009 – July 2013	PROFESSOR Dept. of Mechanical Engineering, Purdue University
January 2009 – July 2013	DIRECTOR Center for Purdue Center for Systems Integrity
July 2005 – July 2009	ASSOCIATE PROFESSOR Dept. of Mechanical Engineering, Purdue University
July 2000 – July 2005	ASSISTANT PROFESSOR Dept. of Mechanical Engineering, Purdue University
March 2000 – June 2000	ADJUNCT ASSISTANT PROFESSOR Dept. of Mechanical Engineering, University of Cincinnati
Sept. 1997 – March 2000	UNIVERSITY DISTINGUISHED GRADUATE FELLOW University of Cincinnati
May 1995 – May 1997	RESEARCH ASSISTANT MIT, Prof. Kamal Youcef-Toumi, Dept. of Mechanical Engineering

November 2018

Jan. 1995 – May 1995 TEACHING ASSISTANT
MIT, 2.151 Advanced System Dynamics and Control

Sept. 1990 – Sept. 1993 CONSULTANT ENGINEER
Roush-Anatrol, University of Cincinnati (Cooperative Education program)

AWARDS

External

Lazan Award, Society for Experimental Mechanics, 2016.
Commander's Award, U.S. Navy Air Warfare Center, 2010.
ASME Dynamic Systems and Control Division Outstanding Young Investigator Award, 2009.
Best Paper from American Helicopter Society, HUMS Category, 2009.
DeMichele Award, Society for Experimental Mechanics, 2009.
Second Best Paper, Society for Advancement of Materials and Process Engineering, 2008.
SAE Excellence in Oral Presentation Award, Society of Automotive Engineering, 2008.
Technical Medal of Achievement, U.S. Army Stryker Combat Brigade, 2006.
Named One of Most Cited Authors, Journal of Sound and Vibration, Elsevier, 2006.
Structural Health Monitoring Person of the Year Award, Sage Publications, 2003.
Presidential Early Career Award for Scientists and Engineering (PECASE), 2002.
Army Young Investigator Award, 2001.

Internal

Inducted into Book of Great Teachers, Purdue University, 2013.
Distance Faculty Award for Excellence in Teaching in Engineering Professional Education, 2011.
Shaeffer Fellow of Mechanical Engineering, Purdue University, 2009.
University Faculty Scholar, Purdue University, 2009.
Solberg Award for Best Teacher in Mechanical Engineering, Purdue University, 2008.
Joel Spira Award for Excellence in Teaching and Commercialization of Research, Purdue Univ., 2006.
Named Fellow of the Teaching Academy, Purdue University, 2005.
Murphy Award for Excellence in Teaching, Purdue University, 2004.
Purdue School of Engineering Inaugural Young Faculty Researcher Excellence Award, 2003.
Solberg Award for Best Teacher in Mechanical Engineering, 2003.
Purdue University Mechanical Engineering Inaugural Research Discovery Award, 2002.
University Distinguished Graduate Fellowship, University of Cincinnati, 1997.
Recognized for "exemplary teaching" by Engineering Tribunal, University of Cincinnati, 1999.

HONORS

Elected to American Academy of Environmental Engineers and Scientists, 2016.
Keynote Address, It's the End of the Line for NDE in Composites, QNDE, 2016.
Keynote Address, The Beginning and the End of SHM, European Workshop on SHM, 2016.
Invited Participants, National Academies Workshop, Structural Health Monitoring, Irvine, CA, 2016.
Invited Speaker, National Academies Workshop, 21st Century CPS Education, Washington DC, 2014.

Plenary Address, Seeing the Unseen in Lightweight Rotor Blades, Dresden Airport Seminar, 2013.
Keynote Address, How do we see the unseen?, Purdue Calumet Student Research Day, 2013.
Elected Fellow of American Society of Mechanical Engineers, 2011.
Keynote Address, Inverse Problems in Renewable Energy, Inverse Problems Symposium, MSU, 2010.
Invited presentation on Structural Health Monitoring for Wind Turbines, AWEA, Windpower 2010.
Master Series on Identification and Prognosis in Structural Systems, Marie Curie SICON, 2009.
Invited to serve as Visiting Lecturer by SPIE, Society of Photographic Instrum. Engineers, 2009.
Keynote Address, Use of Dynamics in Health Monitoring, Miami University, 2008.
Invited Speaker, National Academy of Engineering, NMAB Workshop, Woods Hole, MA, 2007.
Keynote Address, Prognosis of Ground Transportation Systems, University of Braunschweig, 2006.
Keynote Address, Prognosis of Ground Vehicle Systems, SAE Congress, 2006.
Keynote Address, Prognosis of Defense Materials and Systems, Advanced Matls. Conf., 2006.
Invited Summer Faculty Scholar, Los Alamos National Laboratory / ESA, 2002-2009.
Invited Summer Faculty Scholar, Air Force Research Laboratory / ML, 2004.
Keynote Address, Diagnostics and Prognostics of Defense Systems, European Manuf. Summit, 2003.

RESEARCH GRANTS AND CONTRACTS

Federal Sponsors

Nuclear Power Plant Structural Health Monitoring and Damage Mapping in Water Cooling Circuits, **US Department of Energy**, Idaho National Laboratory, PI, 2017-2020, \$1,000,000.

Institute for Advanced Composites Manufacturing Innovation, **US Department of Energy**, PI at Vanderbilt, 2017-2018, \$900,000.

Institute for Advanced Composites Manufacturing Innovation, **US Department of Energy**, PI at Vanderbilt, 2016-2017, \$1,200,000.

Institute for Advanced Composites Manufacturing Innovation, **US Department of Energy**, PI at Vanderbilt, 2015-2016, \$1,300,000.

SEMIWAVE on Explosives Detection using Acoustic Signatures, Multi University Research Initiative, **Office of Naval Research**, PI at Vanderbilt, 2013-2015, \$320,000.

SEMIWAVE on Explosives Detection using Acoustic Signatures, Multi University Research Initiative, **Office of Naval Research**, PI at Purdue, 2010-2013, \$2,000,000.

CPS: Medium: Robust Distributed Wind Power Engineering, National Science Foundation, co-PI, 2011-2014, \$1,600,000.

Dynamic Data Driven Early Warning System for Operator Error, **Air Force Office of Scientific Research**, co-PI, 2011-2013, \$320,000.

Structural Health Monitoring of Wind Turbines, **Sandia National Laboratory**, PI, 2013-2014, \$70,000.

Structural Health Monitoring of Wind Turbines, **Sandia National Laboratory**, PI, 2012-2013, \$70,000.

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Fueling the Winds of Change: Wind Energy Research and Training Grant, **US Department of Education** GAANN Fellowships, PI, 2011-2014, \$400,500.

Development of Sensing and Control Technologies for Wind Turbines, **US Department of Energy**, PI, 2009-2012, \$500,000.

Development of Wind Turbine Educational Testbed, **US Department of Energy**, PI, 2011-2012, \$59,000.

Development of Inspection and Repair Tools for Composite Helicopter, **US Marine Corps PMA-261**, PI, 2011-2012, \$2,300,000.

Temperature Telemetry for Hanger Bearing on CH-53E Aircraft, **Office of Naval Research**, co-PI, 2009-2011, \$1,200,000.

Development of Inspection and Repair Tools for Composite Helicopter, **US Marine Corps PMA-261**, PI, 2010-2011, \$2,600,000.

Demonstration of Missile Health Monitoring System, **US Army Aviation Missile Research Development Engineering Center**, PI, 2012-2013, \$75,000.

Demonstration of Missile Health Monitoring System, **US Army Aviation Missile Research Development Engineering Center**, PI, 2011-2012, \$180,000.

Integrated Health Management for Automated Guidance & Control Requirements Definition, **Air Force Research Laboratory**, PI, 2009-2012, \$337,745.

Development of Inspection and Repair Tools for Composite Helicopter, **US Marine Corps PMA-261**, PI, 2009-2010, \$2,301,658.

Development of Inspection and Repair Tools for Composite Helicopter, **US Marine Corps PMA-261**, PI, 2008-2009, \$2,800,000.

Integrated Vehicle Health Management System of Systems Approach, **Air Force Research Laboratory**, PI, 2008-2009, \$115,000.

Integrated Vehicle Health Management System of Systems Approach, **Air Force Research Laboratory**, PI, 2007-2008, \$63,300.

Smartgrid Workforce Development, **US Department of Energy**, PI, 2009-2010, \$37,000.

Dynamic Characterization of Helmet-Head System and Damage Evaluation, **Army Research Office**, PI, 2007-2009, \$240,000.

Extension of Crack Detection Methodology to New Spindle Design, **US Army Tank Automotive Command**, PI, 2007-2008, \$929,700.

Crack Detection in a Wheel Spindle using Wave Propagation, **US Army Tank Automotive Command**, PI, 2006-2007, \$1,370,000.

Center of Gravity Estimation in Rotary Wing Aircraft, **NAVAIR SBIR**, PI, 2007-2008, \$20,000.

Damage Identification in Filament Wound Motor Casings, Army Research Office, PI, 2007-2008, \$225,000.

Standoff Detection of Vehicle Borne Improvised Explosive Devices, **US Department of Homeland Security**, PI at Purdue, 2006-2007, \$180,000.

Monitoring of Composite Wind Turbine Rotor Blade, **Sandia National Laboratory**, PI, 2006-2007, \$55,000.

Development of Center of Gravity Determination Methods, **US Marine Corps PMA-261**, PI, 2006-2007, \$499,770.

Integrated Vehicle Health Management System of Systems Approach, **Air Force Research Laboratory**, PI, 2006-2007, \$40,500.

Design for Health Monitoring of Missiles Subject to Impact Damage, **Army Research Office**, PI, 2005-2006, \$75,000.

Nonlinear Experimental Identification of Morphing Aircraft, **NASA**, PI, 2005-2006, \$78,000.

Real-Time Load and Damage Identification in Missiles Casings, **Army Research Office**, PI, 2004-2005, \$29,000.

Navy Smartships that Anticipate-and-Manage, **Crane Naval Surface Warfare Center**, PI, 2004-2005, \$800,000.

Experimental Instrumentation for Prognosis in Heterogeneous Structures, **Army Research Office**, PI, 2004-2005, \$150,000.

Development of Vehicle Health Monitoring Technologies, **Air Force Research Laboratory**, PI, 2003-2004, \$135,350.

Structural Diagnostics, Reliability Forecasting and Prognostics, **Army Research Office (PECASE)**, PI, 2001-2006, \$500,000.

Design of Experiments for Material Health Monitoring, **Air Force Research Laboratory**, PI, 2003-2004, \$46,700.

Prognosis of Electro-Mechanical Machines, **Air Force Research Laboratory**, co-PI, 2003-2004, \$100,000.

Modeling and Simulation of Navy Ship System of Systems, **Crane Naval Surface Warfare Center**, PI, 2003-2004, \$21,000.

Preliminary Modeling of TPS in Combined Thermo-Acoustic Environment, **Air Force Research Laboratory**, PI, 2003-2004, \$45,000.

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Development of On-Site Collaboration with AFRL/MLLP, **Air Force Research Laboratory**, PI, 2004, \$29,700.

Sensing Damage Mechanisms in Gamma Titanium Aluminide, **Air Force Research Laboratory**, PI, 2003-2004, \$45,000.

Fracture Mode Detection in Al-Li Alloy, **Air Force Research Laboratory**, PI, 2002-2003, \$14,000.

Fusion of NDE/SHM for inspection of Thermal Protection Systems, **Air Force Research Laboratory**, PI, 2001-2003, \$80,000.

An Inquiry-Based Experimental Dynamics Roving Laboratory, **National Science Foundation**, PI, 2001-2002, \$67,955.

Vibration-Based NDE of Spherical Shell, **Los Alamos National Laboratory**, PI, 2000-2001, \$26,000.

Industry Sponsors

Composite Missile Casing Impact Identification, **Material Science Corporation**, PI, 2017-2018, \$49,991.

Structural Health Monitoring of Rotary Wing Aircraft: Phase III, **Sikorsky Aircraft Corporation**, PI, 2016-2017, \$227,000.

Structural Health Monitoring of Rotary Wing Aircraft: Phase II, **Sikorsky Aircraft Corporation**, PI, 2015-2016, \$25,000.

Computation Based NDE of Short Fiber Composite Materials, **The Boeing Company**, PI, 2013-2014, \$250,000.

Driveline Gearbox Fault Detection Using Torsional Sensing, **Rolls-Royce Corporation**, PI, 2012-2013, \$58,000.

Structural Health Monitoring of Rotary Wing Aircraft: Phase I, **Sikorsky Aircraft Corporation**, PI, 2014-2015, \$65,000.

Multifunctional cellular materials for lightweight NVH performance, **General Motors Corporation**, PI, 2012-2014, \$211,000.

Structural Feel Characterization for Ride and Handling, **General Motors Corporation**, PI, 2011-2013, \$633,000.

Elastomeric suspension link bushing characterization, **General Motors Corporation**, PI, 2010-2011, \$183,000.

Computation Based NDE of Short Fiber Composite Materials, **The Boeing Company**, PI, 2011-2013, \$240,000.

Driveline Gearbox Fault Detection Using Torsional Sensing, **Rolls-Royce Corporation**, PI, 2011-2012, \$85,000.

Diagnostics of Large Engine Faults, **Caterpillar**, PI, 2010-2011, \$108,000.

Structural Health Monitoring of Rotor Blades, **Sikorsky Aircraft Corporation**, PI, 2008-2011, \$790,000.

Nondestructive Inspection of Composite Rotor Blades, **Sikorsky Aircraft Corporation**, PI, 2009-2010, \$80,000.

Structural Health Monitoring of Weapon Stores, **RNET Technologies/SBIR**, PI, 2008-2009, \$25,000.

Structural Health Monitoring of Suspension Bridges, **Luna Innovations/SBIR**, PI, 2007-2008, \$15,000.

Driveline Gearbox Fault Detection Using Torsional Sensing, **Rolls-Royce Corporation**, PI, 2010-2011, \$90,000.

Driveline Gearbox Fault Detection Using Torsional Sensing, **Rolls-Royce Corporation**, PI, 2009-2010, \$110,000.

Quality Assurance of Fibrous Composite Materials, Proprietary, PI, 2008-2009, \$180,000.

MEMS-Based Lube Lab on a Chip, **Charles Day & Associates**, co-PI, 2007-2010, \$600,000.

Hand-Held Laser Vibrometry Inspection of Composite Materials, **Metrolaser/SBIR**, PI, 2008-2009, \$115,000.

Driveline Gearbox Fault Detection Using Torsional Sensing, **Rolls-Royce Corporation**, PI, 2008-2009, \$90,000.

Semi-Active Control for Health Monitoring of Vehicle Suspensions, **AM General**, PI, 2007-2009, \$350,000.

Structural Diagnostics/Prognostics, **Lord Corporation**, PI, 2006-2007, \$20,000.

Health Monitoring of Ground Vehicles, **Honeywell**, PI, 2005-2007, \$218,128.

Scanning Laser Vibrometry using Nonlinear Spectroscopy, **Sheet Dynamics Ltd./SBIR**, PI, 2005-2006, \$25,000.

Leakage Path Localization in Engine Blocks, **Cummins**, PI, 2005-2007, PI, \$258,415.

X-ray Refraction for Inspection of Composite Missile Canisters, **Nesch LLC/SBIR**, 2005-2006, \$5000.

Modeling and Simulation of Ship Damage Control Scenarios, **Simulex**, PI, 2004-2005, \$294,000.

Structural Diagnostics/Prognostics, **Lord Corporation**, PI, 2004-2005, \$20,000.

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Modeling and Simulation of Ship Damage Control Scenarios, **Simulex**, PI, 2003-2004, \$392,000.

Diagnostics and Prognostics for Rolling Tires, **Goodyear Tire & Rubber**, PI, 2003-2004, \$55,000.

Modeling and Simulation of a Cold Engine Test Driveline, **Cummins**, PI, 2003-2004, \$132,315.

Health Monitoring of Complex Components using Sensor Arrays, **Honeywell**, PI, 2003-2004, \$20,000.

Head Rest Rattle Modeling, Simulation, and Validation, **General Motors Corporation**, PI, 2002-2003, \$48,000.

Diagnostics in Mechanically Attached Structural Components, **Honeywell**, PI, 2002-2003, \$20,000.

Functional Degradation of Integrated Suspension System, **ArvinMeritor**, PI, 2002-2003, \$80,000.

Diagnostics of Gas Turbine Engine Wire Harnesses and Connectors, **PLM Center of Excellence**, PI, 2002-2003, \$30,000.

Functional Degradation of Integrated Suspension System, **PLM Center of Excellence**, PI, 2002-2003, \$30,000.

Diagnostics and Prognostics for Rolling Tires, **Goodyear Tire & Rubber**, PI, 2001-2003, \$45,000.

Damage Detection in Wire Harnesses and Connectors, **Rolls-Royce Corporation**, PI, 2002-2003, \$20,000.

Prognostics Laboratory at Herrick Laboratory, **IBM Equipment Grant**, co-PI, 2001-2002, \$80,000.

Experimental noise and vibration diagnostics using pattern recognition, **ArvinMeritor**, PI, 2001-2002, \$72,346.

Structural Diagnostics/Prognostics, **Lord Corporation**, PI, 2002-2004, \$10,000.

Modeling and Simulation of Multi-Cylinder Auto Compressor Noise, **Sanden Corporation**, PI, 2000-2002, \$230,000.

System-level Modeling and Design of Vehicle Power-train Mounts, **General Motors Corporation**, PI, 2000-2001, \$164,000.

Structural Diagnostics/Prognostics, **Lord Corporation**, PI, 2000-2002, \$22,500.

Diagnostics and Prognostics for Rolling Tires, **Goodyear Tire & Rubber**, PI, 2000-2001, \$16,000.

Diagnostics and Prognostics for Rolling Tires, **Goodyear Tire & Rubber**, PI, 2000-2002, \$68,000.

Smart Diagnostic Transducer, **The Modal Shop/SBIR**, PI, 2000-2001, \$20,000.

Micro-Acoustic Transducer, **Purdue Research Foundation**, PI, 2000-2001, \$6,000.

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Vibration-Testing of an Air Shutoff Valve, **Caterpillar**, PI, 2000-2001, \$4,000.

Vibration Related Failure due to Impacts for Condition Based Maintenance, **Caterpillar**, PI, 2000-2001, \$15,000.

Transportation Load Analysis, **Procter & Gamble**, Research Fellow, 1999-2000, \$40,000.

Corrugate Compression Testing, **Procter & Gamble**, Research Fellow, 1998-1999, \$12,000.

Testing of Exhaust System, **Arvin Industries**, Research Fellow, 1998-1999, \$15,000.

EDUCATIONAL ACTIVITIES

Courses Taught and Evaluations

Semester	COURSE TITLE	COURSE NUMBER	# OF RESPONSES/ # IN COURSE	PROF EVAL SCORE	COURSE EVAL SCORE
SM99	Mechanical Vibrations I	UC	35/35	-	4.6/5.0
S00	Nonlinear Vibrations	UC	10/10	4.8/5.0	-
F00	System Modeling and Analysis	ME 375	35/58	4.7/5.0	4.2/5.0
S01	System Modeling and Analysis	ME 375	43/52	4.8	4.0
F01	Mechanical Vibrations	ME 563	22/24	4.8	4.6
S02	Experimental Structural Dynamics	ME 597A	10/14	4.6	4.5
F02	System Modeling and Analysis	ME 375	56/60	4.9	4.0
S03	Practical Experiences in Vibration	ME 497A	13/13	4.6	4.5
F03	Mechanical Vibrations	ME 563	13/17	4.7	4.9
S04	Practical Experiences in Vibration	ME 597A	14/14	4.9	4.7
F04	System Modeling and Analysis	ME 375	60/75	4.7	4.0
S05	Practical Experiences in Vibration	ME 597A	16/16	4.9	4.8
F05	Mechanical Vibrations	ME 563	18/18	4.6	4.2
S06	System Modeling and Analysis	ME 375	54/73	4.5	3.9
F06	System Modeling and Analysis	ME 375	58/68	4.9	4.1
S07	Practical Experiences in Vibration	ME 597A	15/18	4.8	4.4
F07	Mechanical Vibrations	ME 563	24/26	4.7	4.4

S08	Practical Experiences in Vibration	ME 597A	18/18	4.4	4.6
F08	Mechanical Vibrations (Distance Program)	ME 563	19/25 on campus 14/14 off campus	4.8	4.2
S09	System Modeling and Analysis	ME 375	77/99	4.8	4.4
F09	Mechanical Vibrations	ME 563	44/52	4.6	4.5
S10	Experimental Structural Mechanics	ME 597A	22/29	4.3	4.1
F10	Mechanical Vibrations	ME 563	36/44 on/off campus	4.8	4.6
S11	Dynamics	ME 274	102/114	4.3	4.2
F11	Dynamics	ME 274	115/127	4.5	4.3
S12	System Modeling and Analysis	ME 375	34/60	4.4	4.0
F12	Mechanical Vibrations	ME 563	27/47 25/43 campus	4.9	4.9
S13	Dynamics	ME 274	54/119	4.9	4.4
F14	Mechanics of Materials	CE 182	23/40	4.8	4.1
F14	Intro to Engineering	ES 140	23/27, 23/27, 19/28	4.7, 4.6, 4.5	4.3, 4.1, 4.0
S15	Commons Seminar	ES 101	10/18	4.7	4.3
F15	Intro to Engineering	ES 1401	16/16, 30/30, 29/29	5.0, 4.9, 4.5	4.6, 4.8, 4.1
S16	Commons Seminar	ES 101	2/9	4.5	4.0
F16	Intro to Engineering	ES 1401	15/15, 24/24, 26/29	4.9, 4.8, 4.7	4.7, 4.4, 4.4
F17	Intro to Engineering	ES 1401	13/25, 10/30, 19/30	4.9, 4.4, 4.7	4.8, 4.2, 4.6

New Courses Developed

ES-1401: Introduction to Engineering, Smart and Sustainable Cities
ME 597A-Experimental Structural Dynamics

Undergraduate Research Supervised

1. Brian Utley, Nonlinear Vibration of Engine Nacelle, Fall 1999-Summer 2000.
2. Jesse Buehler, Micro-Acoustic Transducers, Summer 2001.
3. Rebecca Brown, Damage Detection in Helicopter Fuselage, Summer 2001.
4. Timothy Fahler, Nonlinear System Identification, Fall 2001.
5. Laura Shaw, Automated Hand Wash System for Space Environments, Fall 2001.
6. Timothy Freeman, Survey of Nonlinear Automotive Mounts, Fall 2002.
7. Harold Kess, Nondestructive Evaluation using Repeated Roots, Fall 2002-Spring 2003.

8. Jonathan Wenk, Damage Accumulation Modeling in Composites, Fall 2002-Spring 2003.
9. Raymond Manning, Rivet Process Monitoring, Fall 2003-Spring 2004.
10. Tom Zarembka, Loudspeaker Vibration Analysis, Fall 2003-Spring 2004.
11. Adam Cardi, Loads Identification in Body Armor. Summer 2005.
12. Chintan Shah, Damage Detection in Body Armor and Missile Casing, Summer 2005-Fall 2005.
13. Jacon Blair, Vibration Analysis of Isogrid Structure, Fall 2005.
14. Leah Hormann, Real-Time Loads and Damage Identification Demo in Missile Casing, Summer 2006.
15. Carlos Escobar, Impact Load Estimation in Canister, Summer 2006-Spring 2007.
16. Joe Aldrin, Health Monitoring of Gearbox, Spring 2008-Summer 2008.
17. Matthew Plumley, Damage Detection in Sandwich Materials, Fall 2008.
18. Elain Tan, Fault Detection in Gearbox using Torsional Sensing, Summer 2009.
19. Ray Bond, Anomaly Detection in Ground Vehicles using Dynamic Data, Summer 2009-Fall 2009.
20. Raymond Sujtino, Anomaly Detection in Body Panels using Surface Velocity Data, Summer 2009-Fall 2009.
21. Fred Landavazo, Force Identification in Aircraft Structures, Fall 2009.
22. John Calache, Damage Identification in Composite Missile Case, Summer 2010-Fall 2010.
23. Andrew Crandall, Impact Identification in Aircraft Fuselage, Fall 2010.
24. Dana Halline, Siting of VAWT for Performance Evaluation, Spring 2011-Fall 2011.
25. Michael Quann, Impact Detection of Rotor Blade, Summer 2012.
26. Jessica Buckley, Impact Detection on Rotor Blade, Summer 2012.
27. Matt Pukoszek, Test Stand for Impact Detection in Rotor Blade, Summer 2012.
28. Jessica Traver, Measuring Performance of Helmet, Summer 2012.
29. David Arseneau, Detecting Cracks in Wheel Spindle, Summer 2012-Fall 2012.
30. Andrew Voss, Strain Energy Accumulator, Summer 2014.
31. Daniel Awogbemila, Digital Image Correlation, Summer 2014.
32. Chris Maurice, Self-Sensing of Reinforced Rubber, Summer 2014.
33. Mahlia Hyde, Environmental Impacts of Wind Power, Summer 2014.
34. Ruisa Hinds, Impacts of Wind Power on Bats, Summer 2014.
35. Jacqueline Machesky, Force Identification in Aircraft, Summer 2015.
36. Christine Smudde, Cure Monitoring in Composite Materials, Summer 2015.
37. Ryan Hurt, Precursor Diagnostics for Quality Control, Summer 2015.
38. David Hirsch, Aircraft Structural Monitoring under Variability, Summer 2015.
39. Dylan Shane, In-Situ Integrating Light Sphere, Summer 2015-Fall 2015.
40. Forest Tinnin, Wind Turbine Yaw Control, Summer 2015-Fall 2015.
41. Xavier Guitart, Quantum Dots for Material Monitoring, Spring 2015.
42. Andrew Miller, Wind Turbine Inertial Monitoring, Summer 2015.
43. Taylor Parra, 3D Printing with Quantum Dots, Summer 2016.
44. Christine Smudde, Oxidation Sensing of Carbon Fiber, Summer 2016.
45. Catherine Cunningham, Environmental Effects on Quantum Dots, Summer 2016.
46. Andrew Haymaker, Degree of Cure using Damping Measurements, Summer 2016.
47. Brayden Aller*, Sensing Density of Fiber, Summer 2016.
48. Jericho Locke, Infrared Imaging of 3D Printing, Fall 2016.
49. Kendall Coffman, Infrared Imaging of Blade Mold, Fall 2016.
50. Brayden Aller*, Sensing Tack of Prepreg Material, Summer 2017.
51. Michael Davies, 3D Printing of Nanocomposite Smart Materials, Summer 2017.
52. Miranda Mangahas, Digital Image Analysis of Flow Field, Summer 2017.
53. Jared Adkins, Force Estimation under Model Error, Summer 2017.
54. Thomas Stilson, Fluid Flow Analysis in NPP Testbed, Fall 2017.
55. Joshua Darville, Energy Modeling of Quadrotor UAV, Summer 2018.

56. Kailey Newcome*, Electroluminescent Device with 3D Nanomaterials, Summer 2018.
57. James Daffron*, Inducing Flaws in Composites during Manufacturing, Summer 2018.

* Denote Oak Ridge Affiliated University student scholars

Graduate Research Theses/Dissertations Supervised (21 PhD, 34 MS degrees completed)

1. Charles Gavin McGee, MS, Characterization of Nonlinearity in a Tire-Vehicle Suspension System, 2002.
2. Timothy Johnson, MS, Analysis of Dynamic Transmissibility as a Feature for Damage Detection, 2002.
3. Madhura Nataraju, MS, A Nonlinear Dynamics Approach Simulating Damage Evolution, 2003.
4. Shankar Sundaraman, MS, Structural Diagnostics through Beamforming of Phased Arrays, 2003.
5. Muhammad Haroon, MS, Nonlinear System Identification of a Tire-Vehicle Suspension, 2003.
6. Roy Jason Hundhausen, MS, Mechanical Loads Identification and Diagnostics for a Metallic Panel, 2004.
7. Timothy Freeman, MS, Reduction of Chassis Vibrations using Powertrain as Dynamic Absorber, 2004.
8. Chulho Yang, PhD, Embedded Sensitivity Functions for use in Mechanical System Identification, 2004.
9. Jeong-Il Park, PhD, Modeling and Simulation of a Multi-Cylinder Automotive Compressor, 2004.
10. Harold Kess, MS, Identification of Variability Sources in Damage Detection, 2005.
11. Jonathan White, MS, Damage Identification of Metallic Sandwich Panel using Virtual Forces, 2006.
12. Janette Jaques, MS, Analytical and Experimental Model Identification of a Rattling Head Rest, 2006.
13. Timothy Johnson, PhD, Diagnostics and Prognostics for Durability Assessment in Rolling Tires, 2006.
14. Muhammad Haroon, PhD, Identification of Loads and Functional Degradation in Suspension Systems, 2007.
15. Nick Sties, MS, Impact Identification and Semi-Active Damage Detection, 2007.
16. Spencer Ackers, MS, Crack Detection in a Wheel End using Modal Impact Testing, 2007.
17. Shankar Sundaraman, PhD, Numerical and Experimental Investigations of Practical Issues in Wave Propagation for Damage Identification, 2007.
18. Hao Jiang, PhD, Passive Acoustic Modeling and Damage Identification in Aero Thermal Protection Panels, 2008.
19. Ethan Brush, MS, Modeling Damage in Composite Structural Components, 2009.
20. Robin Kusmato, MS, Model Identification for Wireless Network with Application to Naval Ships, 2009.
21. Kamran Gul, PhD, Optimization of Driveline Design for Torsional Fault Detection in Cold-Engine Test, 2009.
22. Shawn McKay, PhD, Model Identification for Anticipation of Blue and Red Actions, 2009.
23. Brandon Zwink, MS, Detecting Damage in Composite Structural Components using Reciprocity, 2010.
24. Jonathan White, PhD, Load Monitoring of Wind Turbine Composite Rotor, 2010.
25. Joshua Cummins, MS, Estimation of Center of Gravity using Static and Dynamic Measurements, 2010.
26. Nathanael Yoder, PhD, Damage Detection in a Wing Fitting using Nonlinear Spectroscopy, 2010.
27. Carson Budde, MS, Impact Load Identification in a Helicopter Rotor, 2010.
28. Vishal Mahulkar, PhD, Modeling and Simulation of Aircraft for Systems Health Management, 2010.

29. Matthew Houtteman, MS, Damage Detection using Coupled Wave Propagation, 2010.
30. Nasir Balil, PhD, Sensitivity Analysis of Pneumatic Circuit for Leak Detection, 2011.
31. Janette Jaques, PhD, Analytical and Experimental Model Identification of a Rattling Head Rest, 2011.
32. Tiffany DiPetta, MS, Health Monitoring of a HMMWV using an Instrumented Cleat, 2011.
33. Alan Meyer, MS, Life-Extension of Wheeled Ground Vehicle using Semi-Active Struts, 2011.
34. Charles Butner, MS, Characterization of Nonlinear Interactions across Interfaces, 2011.
35. Joe Yutzy, MS, Open-Loop Control of Wind Turbines using Load Estimation, 2011.
36. Scott Dana, MS, Integrated Wind Turbine Blade Sensing or Structural Health Monitoring, 2011.
37. Hasaan McGinnis, MS, Modeling and Prognosis-Based Control of Hydraulic Actuator for Wind Turbine Application, 2012.
38. Chris Bruns, MS, Gearbox Damage Identification using Torsional Dynamic Sensor, 2011.
39. Raymond Bond, MS, Impact Damage Estimation in Composite Aircraft Structures, 2011.
40. Nathan Sharp, MS, Pulse Thermography for Li-Ion Battery Electrode Quality Control, 2012.
41. Josh Kusnik, MS, Operational Dynamic Response of VAWT in Urban Wind Environment, 2012.
42. Sara Underwood, PhD, 3D Laser Vibrometry Based Damage Inspection of Composite Materials, 2012.
43. Andrew Crandall, MS, Health Monitoring of Helicopter Rotor Blades, 2012.
44. Brett Anderson, MS, Testing of Torsional Sensor for Gearbox Diagnostics, 2013.
45. Janene Silvers, PhD, Quantifying Damage in Structural Components using Sensitivity Method, 2013.
46. Huan Pham, MS, Acoustic Monitoring of Li-Ion Battery Health, 2013.
47. Kevin Buechle, MS, Experimental Structural Dynamics of Thruster, 2013.
48. Noah Myrent, MS, Trailing Edge Disbond Detection in Wind Turbine Blade, 2013.
49. Brandon Ennis, PhD, Counter-Rotating Wind Turbine Design and Studies, 2013.
50. Eric Dittman, PhD, Nondestructive Inspection of Composite Blade Structures, 2013.
51. Aditi Joshi, MS, Programmable Materials for Increased Specific Damping, 2014.
52. Blake Hylton, PhD, Impact Identification of Helicopter Rotor Blades, 2014.
53. Nathan Sharp, PhD, Weak Bond Origins in Laminate Composite Joints, 2015.
54. Joshua Cummins, PhD, Strain Energy Accumulator for Hydraulic Hybrid Vehicles, 2016.
55. Cole Brubaker, PhD, Self-Sending Material Systems using Embedded Nanoparticles, 2018.
56. Christopher Nash, PhD, In-Line Diagnostics and State Estimation of Wind Turbine Blade Composite Manufacturing Process, Anticipated 2020.
57. Thomas Stilson, MS, Sensor Networks for Health Monitoring of Nuclear Power Plant, 2019.
58. Kailey Newcome, MS, Detection of Flaws in 3D Printing using Thermal Signatures, 2021.

Visiting International Scholars

1. Visiting research scientist, Young-Sun Hong, South Korea, 2009.
2. Visiting project student, Joseph Aldrin, Australia, 2008.
3. Visiting researcher, Jose Machorro Lopez, Mexico, 2006-2008.
4. GEARE advisor to Claudia Ellmer, 2006.
5. Visiting researcher, Professor Y. Georgio, 2006.
6. Visiting researcher, D. Hickey, United Kingdom, 2005.

Short Courses and Tutorials

COURSE NAME	LOCATION	DATE	ENROLLED	CONTRIBUTIONS
Damage Prognosis	Minneapolis, MN, QNDE	July 2015	18	Invited to teach 90 minute tutorial on NDE/SHM for World Federation of NDE Centers
Composite Material Inspection	Society of Automotive Engineers	October 2012 Nov 2013 Nov 2014	18	Developed 150 pages of notes and co-taught course with Prof. Byron Pipes and others
Integrated Health Management Tutorial	Air Force Research Laboratory	August 2009	60	Co-developed 200 pages of notes with Dr. Mike Roemer and Dr. Martin Desimio; course taught by graduate students
Integrated Health Management Tutorial	Air Force Research Laboratory	August 2008	60	Developed 200 pages of notes and co-taught short course with Dr. Mike Roemer and Dr. Martin Desimio
Compressor Gas Pulsation Noise and Vibration	Purdue Compressor Conference	July 2008 July 2010	28	Co-developed 150 pages of notes and co-taught with Mr. Nasir Bilal
Applications of Dynamic Sensing	Kennedy Space Center	December 2007	10	Developed 400 pages of notes and taught short course
Nonlinear Vibration Analysis and System Ident.	Purdue Continuing Engineering Education	October 2007	12	Co-developed 350 pages of notes and co-taught with Professor Charles Krousgrill
Structural Health Monitoring Using Pattern Recognition	International Workshop on Structural Health Monitoring	September 2007	18	Delivered invited lecture on applications to aero and ground vehicle systems
Nonlinear Vibration Theory and Practice	International Modal Analysis Conference	February 2007	10	Co-developed 350 pages of notes, co-organized and co-taught with Professor Charles Krousgrill
Health Monitoring of Structural Materials and Components	Aeroinstitute Palmdale, CA	October 2006	17	Developed 600 pages of notes and taught course
Diagnosis and Prognosis in Mechanical Systems	Purdue University Continuing Engineering Education	June 2005	Internet Broadcast	Developed 600 pages of notes and taught lecture series

Diagnosis and Prognosis in Mechanical Systems	Purdue University	July 2005	25	Developed 600 pages of notes and taught lecture series
Diagnosis and Prognosis in Mechanical Systems	Center for Monitoring of Structures (Germany)	May 2005	28	Developed 550 pages of notes and taught lecture series
Diagnosis and Prognosis in Lightweight Structural Systems	Arlington VA	February 2005	25	Developed 160 pages of notes and taught lecture series
Diagnosis and Prognosis in Structural Systems	Glenn Research Center	May 2004	12	Developed 550 pages of notes, organized and taught
	Air Force Research Laboratory	August 2004	40	Developed 600 pages of notes, organized and taught
Nonlinear Vibration and Time-Freq. Analysis	General Motors Proving Ground	January 2002	22	Co-developed 400 pages of notes, co-organized and co-taught with Professor Charles Krousgrill
		February 2003	13	
Los Alamos Dynamics Summer School	Los Alamos National Laboratory	Summer 2001	15	Developed 100 pages of notes, delivered lecture series, and works with student lab experiments
		Summer 2002	15	
		Summer 2003	15	
		Summer 2005	18	
		Summer 2006	21	
		Summer 2007	15	
		Summer 2008	18	
		Summer 2009	18	
Summer 2010	18			
Random Data Analysis	Purdue University	September 2002	20	Organized course and hosted Dr. Julius S. Bendat
Modal Measurements	University of Cincinnati	June 1998	15	Developed 100 pages of notes, gave lecture series and lab demonstrations
		June 1999	15	

MEMBERSHIPS IN SOCIETIES

Society of Experimental Mechanics

American Society of Mechanical Engineers

American Society of Civil Engineers

American Society of Engineering Education

Honorary membership: Sigma Xi, Tau Beta Pi, Pi Tau Sigma, Alpha Lambda Delta Honors Society, Golden Key National Honors Society

CONSULTING

N.E.W., Consultant in engineering analysis in health and usage monitoring systems, May 2016-Present
Technical Assistance Program, Consultant on resonance in reciprocating conveyer, 2013.
Technical Assistance Program, Consultant on modal dynamic testing of vehicle battery, 2012.
Baker Botts, Consultant on analysis of dynamic system design and operation, 2011.
Technical Assistance Program, Consultant on modal dynamic testing of mechanical systems, 2009.
The Modal Shop, Inc., Consultant on modal dynamic testing of water jet machine, 2011.
Battelle, Consultant on prognostics of ground vehicles, 2006-2011.
Defense Advanced Research Projects Agency, Consultant on dynamic testing of aero system, 2005.
Mechanical Simulation International, Inc., Consultant in NDE of military ground vehicles, 2005.
The Cook Law Firm, Consultant in engineering mechanism analysis, 2004.
LORD Corporation, Consultant in structural health monitoring technology, 2001-2015.
Goodyear Tire & Rubber Company, Consultant in vehicle dynamics and tire-suspension, 2000.

PATENTS

1. Adams, D. E., Ichikawa, Y., Park, J. I., and Soedel, W., "Multi-Cylinder Reciprocating Compressors and Methods for Designing Such Compressors," February 2007, US 7,172,393 B2.
2. Ichikawa, Y., Park, J. I., and Adams, D. E., "Multi-Cylinder Reciprocating Compressor," October 2009, US 7,607,900 B2.
3. Peroulis, D., Kovacs, A., Koester, D., Sadeghi, F., Scott, S., and Adams, D. E., "Highly-Reliable Micro Electromechanical System Temperature Sensor," May 2015, US 9,030,280.
4. Adams, D. E., Underwood, S., and Koester, D., "Damage Detection Using Laser Vibrometry," February 2014, US 8,656,779.
5. Bond, R. and Adams, D. E., "Entropy-Based Impact Load Identification," January 2017, US 9,534,993.
6. Adams, D. E., Caruthers, J. M., Sadeghi, F., Suchomel, M. D., "Battery and Battery-Sensing Apparatuses and Methods," March 2017, US 9,608,299
7. Caruthers, J., Adams, D., E., David, A., O'Regan, P., Sadeghi, F., Sharp, N., and Suchomel, "Thermography for Battery Component Quality Assurance," June 2017, US 9,689,820.
8. White, J., Paquette, J., and Adams, D. E., "Monitoring of Wind Turbines," July 2017, US 9,714,085.
9. Pipes, R. B., Coker, I., Adams, D. E., Sterkenburg, R., and Youngblood, J., "Method and system of vacuum assisted resin transfer molding for repair of composite materials and structure," May 2018, US 9,944,026.

November 2018

Patents In-Process

Brubaker, C., Jennings, G. K., and Adams, D., E., “System and Method for Detecting Defects in Three-Dimensional Printed Parts,” disclosure submitted.

Adams, D., E., Meyer, J., Bond, R., Koester, D., and Thorne, G. “Estimation of tow width, tow thickness, and tow fuzz using laser profilometry on moving fiber tows,” disclosure submitted.

Adams, D., E., Meyer, J., Bond, R., Koester, D., and Thorne, G. “Non-contact, in-line approach to determining the linear density of carbon fiber,” disclosure submitted.

Aller, B., Bond, R., Thorne, G., Koester, and D. Adams, “Adhesive tack sensing using pull away force,” disclosure submitted.

PROFESSIONAL SERVICE

Journal Editing

Managing Editor, Structural Health Monitoring Newsletter, 2006-2009.

Associate Editor, Structural Health Monitoring: An International Journal, 2006-2010.

Associate Editor, ASME Journal of Dynamic Systems Measurement and Control, 2009-2013.

Managing Editor, Structural Health Monitoring Journal, 2010-2015.

Full Book Reviews

Author confidentiality preserved, 2001, Institute of Physics.

Author confidentiality preserved, 2003, Cambridge University Press.

Author confidentiality preserved, 2013, John Wiley & Sons.

Conference Symposia

Co-Chair, Nondestructive Evaluation sessions, American Society of Composites Conference, 2002.

Chair, General Applications sessions, European Workshop on Structural Health Monitoring, 2004.

Chair, Hot Structures/Vehicle Components sessions, International Workshop on Structural Health Monitoring, 2005.

Vice-Chair, Technical Panel on Modeling and Identification, American Society of Mechanical Engineers Division of Dynamic Systems and Control, 2003-2005.

November 2018

Chair, Identification of Mechanical Systems sessions, ASME IMECE, 2001-2006.

Chair, Nonlinear Systems and Methods sessions, International Modal Analysis Conference, 2001-2010.

Vice Chair, Technical Committee on Modeling and Intelligent Systems, American Society of Mechanical Engineers Division of Dynamic Systems and Control, 2008-2010.

Co-Chair, Technical Division on Nonlinear Systems and Methods, Society of Experimental Mechanics, International Modal Analysis Conference, 2004-2010.

Conferences Organizing

Co-Chair, International Refrigeration and Compressor Conference, 2008.

Organizing Committee, IEEE International Conference on Prognostics and Health Management, 2008.

Organizing Committee, 2nd Asia Pacific Workshop on Structural Health Monitoring, 2008.

Conference Chair, International Compressor Conference, 2008.

Organizing Committee, SPIE Conference on Health Monitoring of Structural and Biological Systems, 2007-2012.

Program Committee, US National Congress of Theoretical and Applied Mechanics, 2010.

Scientific Committee, International Conference on Advances in Experimental Mechanics, Scotland, 2011.

Short Course Liaison, International Compressor Conference, 2010.

Organizing Committee, International Workshop on Structural Health Monitoring, 2007, 2009, 2011, 2013.

Organizing Committee, 6th Asia Pacific Conference on Structural Health Monitoring, Australia, 2016.

Scientific Committee, International Conference on Vibration Engineering and Technology of Machinery, Portugal, 2018.

Scientific Committee, 7th Asia Pacific Conference on Structural Health Monitoring, China, 2018.

ASME NDPD Executive Committee, 2013-Present

Technical Committees

Member, Technical Committee on Vibration and Sound, American Society of Mechanical Engineers Design Engineering Division, 2006-2009.

November 2018

Secretary, Technical Committee on Modeling and Intelligent Systems, American Society of Mechanical Engineers Division of Dynamic Systems and Control, 2006-2008.

Executive Board, Member at Large, Society of Experimental Mechanics, 2010-2012.

Awards Committees

Chair, Department of Civil and Environmental Engineering Awards Committee, 2017-Present.

Chair, Structural Health Monitoring Lifetime Achievement Award Selection Committee, 2002-2004.

Chair, Student Best Paper Award Committee, International Workshop on Structural Health Monitoring, 2007.

Chair, Structural Health Monitoring Person of the Year Award Committee, 2007-2011.

Peer Review

Solid Mechanics and Dynamics, proposal review, Army Research Office, 2002.

National Research Council, proposal review, Air Force Office of Scientific Research, 2002.

National Science Foundation, panel review, Division of Undergraduate Education, Course, Curriculum and Laboratory Improvement Program, 2002-2003.

National Science Foundation, panel review, Civil and Mechanical Systems, Dynamic Systems and Control Program, 2002.

The U. S. Department of Energy, proposal review, International Science and Technology Center Projects, 2003.

Naval Research Laboratory American Society of Engineering Education Postdoctoral Fellowship Program, proposal review, 2005.

Swedish Knowledge Foundation, proposal review, 2006-2007.

University of Wisconsin Madison Catalyst Program, proposal review, 2007.

NSERC (Canada), Sherbrooke, proposal review and site visit, 2008.

Department of Energy, Early Career Research Program, proposal review, 2009.

Georgia National Science Foundation, proposal review, 2009.

National Science Foundation, CAREER Program, proposal review; 2011, 2016, 2017.

November 2018

U.S. Department of Justice, Body Armor Program, proposal review, 2013.

NASA Langley Nondestructive Evaluation Sciences Branch Peer Review, 2014.

NSERC (Canada), proposal review, 2016.

Reviewer for conference proceedings including: Design Engineering Technical Conference, International Mechanical Engineering Congress and Exposition, International Compressor Conference, and others; 2000-Present.

Reviewer for principal journals in the field including: International Journal of Control, Journal of Vibration and Control, Automatica, Journal of Computational and Nonlinear Dynamics, Smart Materials and Structures, International Journal of Vehicle Systems Modeling and Testing, Journal of Intelligent Material Systems and Structures, Experimental Mechanics, International Journal of System Science, Journal of Structural Engineering, International Journal of Solids and Structures, Journal of Dynamic Systems, Measurements and Control, Journal of Applied Mechanics, Noise Control Engineering Journal, Journal of Smart Materials and Systems, Nonlinear Dynamics, Journal of Shock and Vibration, International Journal of Vibration and Sound, Journal of Sound and Vibration, Journal of Vibration and Acoustics, Mechanical Systems and Signal Processing, Experimental Techniques, and others; 2000-Present.

University

Mechanics Area Committee, School of Mechanical Engineering, Purdue University, 2000-2013.

Ray W. Herrick Laboratories Safety Committee, School of Mechanical Engineering, Purdue University, 2002-2005.

Intelligent Structural Systems Faculty Search Committee, School of Mechanical Engineering, College of Engineering, Purdue University, 2003-2004.

Junior Faculty Advisory Council, School of Mechanical Engineering, College of Engineering, Purdue University, 2002-2005.

College Research Committee, School of Mechanical Engineering, College of Engineering, Purdue University, 2005-2007.

Intelligent Buildings Faculty Search Committee, School of Mechanical Engineering, Purdue University, 2005-2007.

Information, Perception, and Communication Technology Faculty Search Committee, School of Mechanical Engineering, College of Engineering, Purdue University, 2006-2007.

Honors Student Committee, School of Mechanical Engineering, College of Engineering, Purdue University, 2007-2013.

Computational Mechanics Faculty Search Committee, School of Civil and Environmental Engineering, Purdue University, 2009.

November 2018

College of Engineering Strategic Planning Committee Research Enterprise, Purdue University, 2009.

Hybrid Ground Vehicle Faculty Search Committee School of Mechanical Engineering Technology, Purdue University, 2009-2010.

Served on Ray W. Herrick Professorship Search Committee School of Mechanical Engineering, Purdue University, 2010.

Served on School of Mechanical Engineering Awards Committee, Purdue University, 2010-2013.

Chair, Energy Cluster Hire Search Committee, College of Engineering, Purdue University, 2010-2011.

Served on System of Systems Institute College of Engineering Thrust Committee, Purdue University, 2010-2011.

Served as Chair, Ecological and Environmental Engineering Hire Search Committee, College of Engineering, Purdue University, 2012-2013.

Serve on Dean's Administrative Committee, School of Engineering, Vanderbilt University, 2013-Present (including presenting on many occasions on behalf of school for annual Board of Visitors meetings and at external venues).

Serve on Committee of Full Professors, Department of Civil and Environmental Engineering, Vanderbilt University, 2013-Present.

Chaired Cyber-physical Systems working group during strategic planning, Vanderbilt University School of Engineering, 2013.

Serve on committee of endowed professors for School of Engineering Dean, 2015-Present.

Served on search committee for Dean of College of Arts and Science, Vanderbilt University, 2014-2015.

Served as co-chair of Community working group for Design, Build, and Test Maker Space workshop organization, Vanderbilt University, 2015.

Supported Federal Relations team regional outreach including participation in Washington D.C. Congressional gathering at U.S. Capitol, Vanderbilt University, 2015.

Participated in fund raising video centered on student experiences (<https://www.youtube.com/watch?t=11&v=BMkYpJlVulg>), Vanderbilt University, 2015.

Participated in video on Student Immersion produced by Provost office, Vanderbilt University, 2015.

Present for Vanderbilt Research Administration on PI's perspective at Growing in Integrity Together workshop (organized between VU and VUMC) and workshop on Team Science; 2015, 2016.

Present a dozen times for Vanderbilt Post-Award Research Administration on PI's perspective, 2013-2017.

November 2018

Served on Trans-Institutional Programs (TIPS) Council, a Vanderbilt University \$50M investment initiative (includes participation as reviewer of TIPS proposals, Chancellor Faculty Fellowships and as a participant in workshops to discuss TIPS program), 2014-2018.

Delivered Faculty Commencement Lecture, Vanderbilt University, 2016.

Served on Vanderbilt University Research Council, Vanderbilt University, 2016-2018.

Served as chair on recruitment committee for chair of biomedical engineering department, Vanderbilt University, 2016.

Served on search committee for Vice-Provost for Equity, Diversity and Inclusion, Vanderbilt University, 2016-2017.

Served as judge in Vanderbilt University 3 Minute Thesis competition, 2017.

Presented on behalf of School of Engineering for Vanderbilt University Board of Trust, 2017.

Served on committee for Vanderbilt University School of Engineering Cyber-physical systems Intellectual Neighborhood, 2017.

Participated in planning meeting at Chancellor's residence to discuss potential initiatives in citizenship at Vanderbilt with the community, 2017.

As Department chair, provide support for student recruiting events, nomination of colleagues and advocacy of research and education programs, interacting with school development office, and outreach to the community, 2013-Present.

PUBLICATIONS

Textbooks

1. Adams, D. E., "Health Monitoring of Structural Materials and Components," 2007, John Wiley & Sons, Chichester, U.K, ISBN: 978-0-470-03313-5.

Book Chapters

2. Meyer, J., Bond, R., and Adams, D. E., "Nonlinear System Analysis Methods," *Handbook of Experimental Mechanics*, Springer (Editors: P. Avitabile, R. Allemang), in review.
3. Meyer, J., Adams, D. E., Bond, R., Buechele, K., and Anderson, W. E., "From Assembly to Orbit: Opportunities for Structural Health Monitoring of Satellite System," *Advances in Structural Health Monitoring of Space Systems*, July 2018, John Wiley & Sons, ISBN-13: 978-1118729649.
4. Yoder, N., and Adams, D. E., "Commonly Used Sensors and their Associated Algorithms," *Sensor Technologies for Civil Infrastructures*, 2014, Woodhead Publishing, ISBN-13: 978-1782422426 (Eds. Wang, Lynch, and Sohn).

5. Adams, D. E., Kusnick, J., Dana, S., and Yutzy, J., “Dynamics-Based Health Monitoring and Control of Wind Turbine Rotors,” *Emerging Topics of Aerodynamics in Wind Energy*, 2014, WIT Press, ISBN-13: 978-1784660048, in press (Eds. Amano and Sunden).
6. Adams, D. E., and Jata, K., “Part 17: Damage Prognosis in Metallic and Composite Structures,” *Encyclopedia of Aerospace Engineering*, 2010, John Wiley & Sons, ISBN-13: 978-0470754405 (Eds. Blockley and Shyy).
7. Adams, D. E., (Section Editor), “Section 2: Physical Monitoring Principles,” *Encyclopedia of Structural Health Monitoring*, 2008, John Wiley & Sons, ISBN-13: 978-0470058220 (Eds. Boller, Chang and Fujino).
8. Adams, D. E., “Chapter 18: Prognosis Applications and Examples,” *Damage Prognosis: For Aerospace, Civil and Mechanical Systems*, 2005, John Wiley & Sons, ISBN-13: 978-0470869079 (Eds. Inman, Farrar, Lopes and Steffan).

Articles in Peer-reviewed Journals

1. Brubaker, C., Frecker, T., McBride, J., Reid, K., Jennings, K. G., Rosenthal, and Adams, D., “Incorporation of Fluorescent Quantum Dots for 3D Printing and Additive Manufacturing Applications,” 2018, *Journal of Materials Chemistry C*, DOI: 10.1039/C8TC02024H.
2. Meyer, J. and Adams, D., “Using impact modulation to quantify nonlinearities associated with bolt loosening with applications to satellite structures,” 2019, *Mechanical Systems and Signal Processing*, 116, pgs. 787-795.
3. Meyer, J. and Adams, D., “Detecting changes in fiber orientation in a simulated chopped fiber plate using curvature mode shapes,” 2018, *Journal of Applied Mechanics* 85(5), doi:10.1115/1.4039479.
4. Brubaker, C., Davies, M., McBride, J., Rosenthal, S., Jennings, G. and Adams, D., “Nondestructive Evaluation and Detection of Defects in 3D-Printed Materials Using the Optical Properties of Gold Nanoparticles,” 2018, *ASC Applied Nano Materials*, 1, 3, 1377-1384, DOI: 10.1021/acsnm.8b00142.
5. Sharp, N., Li, C., Strachan, A., Adams, D. and Pipes, R. B., “Effects of water on epoxy cure kinetics and glass transition temperature utilizing molecular dynamics simulations,” 2017, *J. Polym. Sci. Part B: Polym. Phys.*, 55: 1150–1159. doi:10.1002/polb.24357.
6. Cummins, J., Thomas, S., Nash, C., Mahadevan, S., Adams, D., and Barth, E., “Experimental evaluation of the efficiency of a pneumatic strain energy accumulation,” 2017, *Intl. J. of Fluid Power*, 18(3): 167-180. doi.org/10.1080/14399776.2017.1335141.
7. Hylton, J. B., Crandall, A., Koester, D., Bouquillon, B., Meckl, P., and Adams, D. E., “A Structural Dynamic Model Inversion-Based Technique to Identify Impacts to a Full-Scale and Operational Helicopter Rotor Blade,” 2016, *American Society of Mechanical Engineers Journal of Applied Mechanics*, 83(12):121007-121007-10.doi:10.1115/1.4034704.
8. Cummiskey, B., Schiffmiller, D., Talavage, T., Leverenz, L. Meyer, J., Nauman, E., and Adams, D., “Reliability and Accuracy of Helmet-Mounted and Head-Mounted Devices Used to Measure Head Accelerations,” *Journal of Sports Engineering and Technology*, 2016, DOI: 10.1177/1754337116658395.
9. Meyer, Janette J., Silvers, J., and Adams, D. E., “Data Acquisition Protocol for Determining Embedded Sensitivity Functions,” *Journal of Visualized Experiments*, 2016, article 53690.
10. Zhou, N., Chen, J., Fleeter, S., and Adams, D. E., “Influence Of Inflow Conditions On Turbine Loading And Wake Structures Predicted By Direct Large Eddy Simulations”, *Wind Energy*, 2015 Jun 1. doi: 10.1002/we.1866.
11. Dittman, E., and Adams, D. E., “Identification of Cubic Nonlinearity in Disbonded Aluminum Honeycomb Panels using Single Degree-of-Freedom Models”, *Nonlinear Dynamics*, 2015: vol 81, issue 1, pp. 1-11.

12. Meyer, Janette J. and Adams, D. E., "Theoretical and Experimental Evidence for Using Impact Modulation to Assess Bolted Joints," *Nonlinear Dynamics*, 2015: vol 81, issue 1, pp. 103-117.
13. Myrent, N., Adams, D. E., and Griffith, T., "Wind Turbine Blade Shear Web Disbond Detection Using Rotor Blade Operational Sensing and Data Analysis," *New Perspectives in Offshore Wind Energy*, Philos Trans A Math Phys Eng Sci. 2015: 373(2035). doi: 10.1098/rsta.2014.0345.
14. Underwood, S., Meyer, J. M., Adams, D. E., "Damage Localization in Composite Structures Using Nonlinear Vibration Response Properties", June 2015, *ASME Journal of Vibration and Acoustics*, 137(3), 031015.
15. Bilal, N., and Adams, D. E., "Using Pulsation Energy in the Suction Manifold of a Reciprocating Compressor as a Measure for Parameter Sensitivity", *ASME Journal of Vibration and Acoustics*, doi:10.1115/1.4028830.
16. Bond, R., Underwood, S., Cummins, J., and Adams, D. E., "Structural Health Monitoring-Based Methodologies for Managing Uncertainty in Aircraft Structural Life Assessment," *Structural Health Monitoring*, October 9, 2014, doi: 10.1177/1475921714553733.
17. Kim, S., Adams, D. E., Sohn, H., Rodriguez Rivera, G., Vitek, J., Carr, S., and Grama, A., "Crack Detection Technique for Operating Wind Turbine Blades using Vibro-Acoustic Modulation," *Structural Health Monitoring*, November 2014, vol. 13, no. 6, 660-670, doi: 10.1177/1475921714553732.
18. Greeney, N., Strovink, K., Scales, J., Jessop, A., Bolton, S., Watson, C., and Adams, D. E., "Non-Contacting Transfer of Elastic Energy into Explosive Simulants for Dynamic Property Estimation," *Appl. Phys.* 115, 193514 (2014); <http://dx.doi.org/10.1063/1.4876739>.
19. Sharp, N., P. O'Regan, Adams, D. E., Caruthers, J., David, A., and Suchomel, M., "Lithium-Ion Battery Electrode Inspection using Pulse Thermography," 2014, *NDT&E International*, Vol. 64, pp. 41-51.
20. Kusnick, J., Adams, D. E. and Griffith, D. T., "Wind Turbine Rotor Imbalance Detection using Nacelle and Blade Measurements," 2014, *Wind Energy*, doi: 10.1002/we.1696
21. Mares, J., Miller, J., Rhoads, J., Son, S., Groven, L., Sharp, N., and Adams, D., "Thermal and Mechanical Response of PBX 9501, PBS 9501, and 900-21 under High-Frequency Mechanical Excitation," 2013, *Journal of Applied Physics*, 113, 084904.
22. Yang, C., and Adams, D. E., "A Damage Identification Technique based on Embedded Sensitivity Analysis and Optimization Processes," 2013, *Journal of Sound and Vibration*, Vol. 333 (14), pp. 3109–3119.
23. Meyer, A., and Adams, D. E., "Damage Identification of Ground Vehicle through Passive Probing of Suspension Damping", 2013, *Experimental Mechanics*, Vol. 53(4), p. 557.
24. DiPetta, T., Koester, D., Doherty, P., Fisher, K., and Adams, D. E., "Study of an Instrumented Diagnostic Cleat for Diagnosing Vehicle Mechanical Faults using Off-Board Dynamic Response Measurements", 2013, *International Journal of Condition Monitoring and Diagnostic Engineering Management*, Vol. 16(3), pp. 25-34.
25. Butner, C., Adams, D., and Foley, J., "Investigation of the Effects of Bolt Preload on the Dynamic Response of a Bolted Interface," 2012, *ASME Journal of Applied Mechanics* 80(1), 011016.
26. Gupta, L., Brouwer, M., Sadeghi, F., Peroulis, D., and Adams, D., "High Temperature Dynamic Viscosity Sensor for Engine Oil Applications," 2012, *Sensors & Actuators: A. Physical*, Vol. 173(1), pp. 102-107.
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128. Adams, D. E. and Allemang, R. J., "Survey of Nonlinear Detection and Identification Techniques for Experimental Vibrations", 1998, *Proceedings of the International Seminar on Modal Analysis*, Vol. 1, pp. 269-281.
129. Adams, D. E. and Brown, D. L., "Estimation of Rigid Body Frequency Response Function Matrices via Redundant Perimeter Reference Measurements", 1995, *Proceedings of the International Modal Analysis Conference on Structural Dynamics*, Vol. 2, pp. 1231-1241.

Conference Presentations with Abstracts

1. Brubaker, C., Frecker, T., Njoroge, I., Jennings, K., and Adams, D. E., "In Situ Material State Monitoring Using Embedded Cadmium Selenide Quantum Dots," May 2016, *American Society of Civil Engineers Engineering Mechanics Institute Conference and Probabilistic Mechanics Conference*, Nashville, TN.
2. Cummiskey, B., Nauman, E., Meyer, J., Adams, D., Talavage, T., and Leverenz, L. "Direct Assessment of Impact Mitigation by Football Helmets," *Biomedical Engineering Society Annual Meeting*, 2015, Tampa, Florida.
3. Griffith, D. T., Adams, D. E., Myrent, N., Barrett, N., and Kusnick, J., "Prognostic Operation and Maintenance Strategies for Offshore Wind Turbines," October 2012, *AWEA Offshore WINDPOWER Conference & Exhibition*, Virginia Beach, VA.
4. DiPetta, T., Koester, D., Adams, D. E., Gotham, J., Decker, P., Lamb, D., and Gorsich, D., "Proof of Concept Analysis of an Instrumented Diagnostic Cleat for Condition-Based Maintenance of a HMMWV," 2008, *Modeling & Simulation, Testing & Validation Conference*, Sterling Heights, MI.
5. Ackers, S., Evans, R., and Adams, D. E., "Crack Detection in a Wheel End Spindle Using Wave Propagation Via Modal Impacts," 2007, *Proceedings of the 17th U.S. Army Symposium on Solid Mechanics*, Baltimore, MD.
6. Sundararaman, S., and Adams, D. E., "Wave Propagation Modeling and Damage Localization in Heterogeneous Plates and Cylinders," 2007, *Proceedings of the 17th U.S. Army Symposium on Solid Mechanics*, Baltimore, MD.
7. Stites, S., Escobar, C., White, J., Adams, D. E., and Triplett, M., "Quasi-Active Algorithm with Passive Sensing Techniques for Load and Damage Identification and Quantification in Filament-Wound Rocket Motor Casings using a Single Triaxial Accelerometer," 2007, *Proceedings of the 17th U.S. Army Symposium on Solid Mechanics*, Baltimore, MD.
8. Sundararaman, S., Adams, D. E., and Rigas, E., "Complementary Methods for Characterizing Damage in Heterogeneous Structures", 2003, *Proceedings of the 16th U.S. Army Symposium on Solid Mechanics*, pp. 125-126.
9. Nataraju, M., Adams, D. E., and Rigas, E., "Some Effects of Damage Accumulation in Structural Reliability Forecasting", 2003, *Proceedings of the 16th U.S. Army Symposium on Solid Mechanics*, pp. 129-130.
10. Nataraju, M., and Adams, D. E., "A Nonlinear Dynamical Systems Approach to Damage Prognosis", 2002, *Proceedings of the Conference for Society of Engineering Science*, Symposium on Dynamical Systems Methods in Diagnosis and Prognosis, pp. 6-5.
11. Adams, D. E., "Similarity Models and Their Application in Health Monitoring of Hybrid Structures", 2002 (invited presentation), *81st Transportation Research Board Annual Meeting*, special session on Smart Structures, Washington, DC.

12. Yang, C., Adams, D. E., Yoo, S., and Kim, H.-J., “Embedded Sensitivity Functions for Structural Dynamic Systems”, 2002, *Proceedings of the Conference for Society of Engineering Science*, Symposium on Dynamical Systems Methods in Diagnosis and Prognosis, pp. 28-3.
13. Adams, D. E. and Allemang, R. J., “Subtleties in Nonlinear Structural Dynamic System Identification”, 2000, *Proceedings of the Conference on Non-Linear Vibrations, Stability, and Dynamics of Structures*, session 7 (no pagination).

Sample of Major Technical Reports

1. Mahadevan, S., et al, “A Simple Demonstration of Concrete Structural Health Monitoring,” Idaho National Laboratory, U.S. Department of Energy, Office of Nuclear Energy, March 2015, EXT-15-34729.
2. Myrent, J., Kusnick, J., Barrett, N., Adams, D., and Griffith, D., “Structural Health And Prognostics Management For Offshore Wind Turbines: Case Studies Of Rotor Fault And Blade Damage With Initial O&M Cost Modeling,” April 2013, Sandia Report SAND2013-2735, unlimited release.
3. C. R. Farrar, K. Worden, M. D. Todd, G. Park, J. Nichols, D. E. Adams, M. T. Bement, and K. Farinholt, “Nonlinear System Identification for Damage Detection,” November 2007, LA-14353.
4. Sundararaman, S., Nataraju, M., and Adams, D. E., “Integrated Diagnostics and Reliability Forecasting for Hybrid Structures through Similarity Modeling of Nonlinearity, Time-Variance, and Uncertainty,” 2007, ARO 50897-EG.
5. Adams, D., E., “Structural Diagnostics Using Nonlinear Analysis and Distributed Sensor Arrays,” 2001, NASA Dryden Research Center, SBIR 00-0105 5519.

Invited Papers

1. White, J., and Adams, D. E., “Vibration-Based Structural Damage Identification using Active Sensing to Measure Internal Forces that Represent Damage in a Honeycomb Panel”, 2009, *Journal of Condition Monitoring and Diagnostic Engineering Management*.
2. Yoder, N. Muhammad, H. Adams, D. E., and Triplett, M., “Multi-Dimensional Sensing for Impact Load and Damage Evaluation in a Carbon Filament Wound Canister,” 2008 (invited paper), *Materials Evaluation* .
3. Stites, S. and Adams, D. E., “Semi-active damage identification for a composite structural missile component using minimal passive sensing with data-driven models,” 2008 (invited paper), *Smart Structures and Materials*.
4. Haroon, M., and Adams, D. E., “Time and Frequency Domain Nonlinear System Characterization for Mechanical Fault Identification”, 2007 (invited paper), *Nonlinear Dynamics*, Vol. 50(3), pp.387-408 .
5. Johnson, T., and Adams, D. E., “Rolling Tire Diagnostic Experiments for Identifying Incipient Bead Damage Using Time, Frequency, and Phase-Plane Analysis,” 2006 (invited paper), *Proceedings of the Society of Automotive Engineering World Congress*, SAE Paper #2006-01-1621, ISBN #0-7680-1768-8.
6. Yang, C., Adams, D. E. and Ciray, S., “Embedded Sensitivity Functions for Experimentally Diagnosing Vibration Problems and Identifying Nonlinear Models of Automotive Components”, 2005 (invited paper), 2005-01-1502, *SAE Transactions: Journal of Passenger Cars – Mechanical Systems*, Vol. 114-6, pp. 1853-1863 .
7. Adams, D., Smith, M., Chaturvedi, A., Rotea, M., Hoffmann, C., Craig, B., Venkatasubramanian, V., Mahmassani, H., Pines, D., Meliopoulos, S., Busemeyer, J., “Integrated Prognostic System of Systems

- Health Management” 2005 (invited paper), *Proceedings of TMS (The Minerals, Metals & Materials Society)*, Symposium on Materials Damage Prognosis, New Orleans, LA, pg. 11-21.
8. Johnson, T., Yang, C., Adams, D. E., and Ciray, S., “Embedded Sensitivity Functions for Identifying Damage in Structural Systems”, 2004 (invited paper), *Journal of Smart Materials and Structures*, Vol. 14. pp. 155-169 .
 9. Brown, R. L., and Adams, D. E., “Equilibrium Point Damage Prognosis Models for Structural Dynamic Systems”, 2003 (invited paper), *Journal of Sound and Vibration*, special issue for India-USA Conference on Emerging Trends in Noise and Vibration Engineering, Vol. 262, No. 3, pp. 591-611.
 10. Adams, D. E., “Similarity Models and Their Application in Health Monitoring of Hybrid Structures”, 2002 (invited presentation), *81st Transportation Research Board Annual Meeting*, special session on Smart Structures, Washington, DC.
 11. Brown, R. L., Adams, D. E., and Schiefer, M., “Smart Transducers for Structural Health Monitoring”, 2001 (invited paper), *International Conference on Smart Technology Demonstrators and Devices*, session 5, Edinburgh, Scotland, proceedings not printed.
 12. Brown, R. L. and Adams, D. E., “From Low-Order to High-Order Experimental Structural Dynamics”, 2001 (invited presentation), *India-USA Conference on Emerging Trends in Noise and Vibration Engineering*, The Ohio State University, Experimental Dynamics Workshop I.

Authored Articles in Society Publications

1. Yoder, N., and Adams, D., “The Identification of Test-to-Test Variability Using a Coherence based Indicator,” May 2008, *Experimental Techniques*.
2. Adams, D., Jacques, J., Strus, M., and Vyas, A., “Practical Experiences and Lessons Learned by Structural Dynamics Students in the Lab: Part III, Tire Modal Impact Testing and Forced Response Analysis,” February 2006, *Experimental Techniques*, Vol. 30, No. 1, pp. 61-69.
3. Adams, D., Janas, J., Goyal, S., Braun, C., and Seeniraj, G., “Practical Experiences and Lessons Learned by Structural Dynamics Students in the Lab: Part II, Road Quality Determination Using a Vehicle Suspension,” January 2006, *Experimental Techniques*, Vol. 30, No. 1, pp. 61-66.
4. Adams, D., Ackers, S., Hanson, K., Daley, J., and Zwink, B., “Practical Experiences and Lessons Learned by Structural Dynamics Students in the Lab: Part I, Structural Testing of An Aircraft Fuselage,” November/December 2005, *Experimental Techniques*, Vol. 29, No. 6, pp. 28-32.
5. Yang, C., Adams, D. E., Yoo, S., and Kim, H.-J., “Embedded Sensitivities for Diagnosing Vibration Problems”, April 2003, *Sound and Vibration Magazine*, Vol. 37, No. 4, pp. 12-17.
6. Brown, D. L., Dumbacher, S., and Adams, D. E., “Impact of the Consumer Marketplace on Engineering Technology”, July 2001, *Sound and Vibration Magazine*, Vol. 35, No. 6, pp. 16-19.

Press Releases on Research (sampling from hundreds of articles)

1. Walter, K., “New Resin Leads to More Sustainable Wind Turbine Blades,” February 2018, <https://www.rdmag.com/article/2018/02/new-resin-leads-more-sustainable-wind-turbine-blades>.
2. Jackson, B., “Vanderbilt University Strikes Gold on 3D Printed Defects,” July 2018, <https://3dprintingindustry.com/news/vanderbilt-university-strikes-gold-on-3d-printed-defects-136096/>.
3. Cramer, B., “The shine in gold particles has a new use – finding defects,” July 2018, <https://news.vanderbilt.edu/2018/07/10/shine-gold-particles-defects/>.

4. Entman, L., "New recyclable resin makes wind turbines much more sustainable," February 2018, <https://news.vanderbilt.edu/2018/02/15/new-recyclable-resin-makes-wind-turbines-much-more-sustainable/>.
5. Salisbury, D., "Mood ring materials: a new way to detect damage in failing infrastructure," Vanderbilt University, <http://engineering.vanderbilt.edu/news/2016/mood-ring-materials-a-new-way-to-detect-damage-in-failing-infrastructure/>.
6. Crawford, M., "Reaching for the Sky: Engineers are working to design ever-larger wind turbines that can extract more power with greater efficiency", July 2013, p. 41, *ASME Mechanical Engineering Magazine*.
7. Ellis, B., "New faculty: Doug Adams Studies the Science of Risk," October 2013, Research News @ Vanderbilt, <http://news.vanderbilt.edu/2013/10/new-faculty-doug-adams/>.
8. Salisbury, D., "Using Sound Waves for Bomb Detection," October 2013, Research News @ Vanderbilt, <http://news.vanderbilt.edu/2013/10/sound-waves-bomb-detection/>.
9. Venere, E., "Purdue part of US effort to create new bomb-detecting technologies," September 2010, <http://www.purdue.edu/newsroom/research/2010/100914AdamsExplosives.html>.
10. Venere, E., "Smart Turbine Blades to Improve Wind Power," May 1, 2009, <http://news.uns.purdue.edu/x/2009a/090501AdamsWind.html>.
11. Bland, E., "Smart Wind Turbines to Switch Shapes," May 26, 2009, Discovery Channel News, <http://dsc.discovery.com/news/2009/05/26/wind-turbine-tech.html>.
12. Popular Science, "Speed Bump Sensors Keep Hummers Rolling," www.popsci.com.
13. Thilmany, J., "Detecting Wounds in Composites", November 2007, *ASME Mechanical Engineering Magazine*, Computing, pp. 12.
14. Terhune, L. T., "Good Vibrations," Fall 2007, *Engineering Impact Magazine*, pp. 4-7.
15. Winters, J., "Tap Tap Tap", June 2007, *ASME Mechanical Engineering Magazine*, Technology Focus, pp. 20.
16. Thilmany, J., "Stop that Squeak", May 2007, *ASME Mechanical Engineering Magazine*, Technology Focus, pp. 20.
17. Staff writer, "New system monitors structural integrity of composite missiles," *Advanced Manufacturing*, March/April 2007, Vol. 9, No. 2, pp. 14.
18. The Engineer Online, "Finding flaws in missiles," March 2007.
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24. Venere, E., "System monitors health of new composite military missiles," March 2007, *Purdue News Service*, <http://news.uns.purdue.edu/x/2007a/070321AdamsMissile.html>.
25. www.physorg.com, "Research aims to calm your car's rattling," February 2007.
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27. www.sciencedaily.com, "Research aims to calm your car's rattling," February 2007.
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29. Shaw, D., "Engineer takes aim at rattles," February 2007, *Journal & Courier*.
30. Staff writer, "Purdue researcher's device helping forces in Iraq," May 2006, *Journal and Courier*.
31. Venere, E., "Research aims to calm your car's rattling", February 2007, *Purdue News Service*, <http://news.uns.purdue.edu/x/2007a/070208.AdamsRattling.html>
32. Warner, J., Rattling research, 2007, American Association for the Advancement of Science, Science Update.

33. www.sciencedaily.com, “Purdue Joins Army to Improve Soldier Maintenance of ‘Stryker’ Vehicles in Iraq,” May 25, 2006.
34. Winters, J., “Crack Patrol”, October 2006, *ASME Mechanical Engineering Magazine*, Technology Focus.
35. Venere, E., “Purdue joins Army to improve soldier maintenance of ‘Stryker’ vehicles in Iraq,” May 23, 2006, *Purdue News Service*, <http://www.purdue.edu/UNS/html4ever/2006/060523.Adams.Stryker.html>.
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37. Venere, E., “Purdue method shows promise for improving auto suspensions”, November 2005, *Purdue News Service*, <http://news.uns.purdue.edu/UNS/html4ever/2005/051108.Adams.suspension.html>
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39. *ScienceDaily*, “Purdue method shows promise for improving auto suspensions,” November 2005, <http://www.sciencedaily.com/releases/2005/11/051109075208.htm>
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43. *ScienceDaily*, “System to Monitor Heat Panels Could Safeguard Future Spacecraft”, July 2004, <http://www.sciencedaily.com/releases/2004/07/040715075650.htm>
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47. *EurekAlert*, “System to Monitor Heat Panels Could Safeguard Future Spacecraft”, July 2004, http://www.eurekalert.org/pub_releases/2004-07/pu-stm071404.php
48. Leyda, J. (managing editor), Adams, D. E. (technical source), “Structural Health Monitoring Methods for Flight Safety”, 2004, invited article, *Journal of Failure Prevention and Analysis*.
49. Schneider, J., “Purdue Faculty In Focus”, May 2004, Office of Technology and Commercialization Newsletter, Purdue University, Vol. 11, No. 1, pp. 6-7.
50. Staff writer, “Superb undergraduate teaching earns Murphy Wards for six”, April 13, 2004, *InsidePurdue*, pp. 6-7.
51. Staff writer, “Ceramic composite armor tested by ultrasonic waves”, September 1, 2003, *Advanced Materials and Processes*, Vol. 161, No. 9, pg. 32.
52. Bennett, K., “Students use portable lab to test objects”, August 1, 2003, *The Exponent*, Vol. 117, No. 109, pp. 3.
53. Staff writer, “Preying on composite materials”, June 2003, *R&D Magazine*, Emerging Technologies, Vol. 45, No. 6, pp. 44.
54. Harvey, F., “Air industry drags its wings on fatigue”, July 15, 2003, *e4engineering*, <http://www.e4engineering.com>.
55. Staff writer, “Red tape blocks fatigue inspection system”, May 16, 2003, *The Engineer*, pg. 8.
56. Staff writer, “Purdue Advance Is Aimed at Improving Military, Other Materials”, May 12, 2003, *New Technology Week*, Vol. 17, No. 19.

57. Staff writer, "Purdue U Devises Flaws Warning for JSF, Other Platforms", May 12, 2003, *Navy News Week*, Vol. 20, No. 19.
58. Staff writer, "Complex – No way, say engineers", 2003, p. 15, *InTech Magazine*.
59. Bucher, M., "Engineers create simple method for analyzing car designs", November 2002, *Berichte Verfahrenstechnologie*, <http://www.innovations-report.com>, *Forum für Wissenschaft, Industrie und Wirtschaft*.
60. Moorehead, N., "Engineers create simple method for analyzing car designs", January 2003, *The Exponent*.
61. Staff writer, "Fast-track maths pinpoints design flaws", November 2002, *European Automotive Design*, pp. 7.
62. Venere, E., "Engineers create simple method for analyzing car designs", November 2002, *Purdue News Service*, <http://news.uns.purdue.edu/hp/Adams.analyze.html>.
63. Staff writer, "Bush Honors Winners of Early Career Awards", September 2002, Vol. 55, No. 9, p. 74, *Physics Today*.
64. Cullen, K., "Professor's Research Rewarded", July 13, 2002, *Journal and Courier*, West Lafayette, Indiana.
65. Neumer, A., "Purdue prof wins prize for young researchers", July 2002, *The Times of Northwest Indiana*, <http://www.thetimesonline.com/index.pl/article?id=23619467>.
66. Venere, E., "Purdue engineer receives presidential award for young researchers", July 2002, *Purdue News Service*.
67. Baumgartner, H., "Airplane, Heal Thyself", March 2002, *ASME Mechanical Engineering Magazine*, Vol. 124, No. 3, pp. 118.
68. Staff writer, "Detecting failure", February 2002, *MaterialsToday*, p. 14.
69. Staff writer, "Radar-Like Signals Detect Flaws in Structures and Parts", February 1, 2002, *Advanced Materials and Processes*, Vol. 160, No. 2, pp. 17.
70. Fletcher, M., "Structural Radar – Saving Lives and Money", January 2002, *Eureka*, Vol. 22, No. 1, pp. 21-23.
71. Harvey, F., "Early Warning of Material Stress: Technology Worth Watching", November 22, 2001, *London Financial Times*, Thursday London Edition 1, pp. 15.
72. Sellingo, J., "The Beauty of Future Aircraft Maintenance May Be Skin-Deep", December 6, 2001, *The New York Times*, Circuits – What's Next, Vol. CLI, No. 51,959, p. D7.
73. P. Weiss, "Technique Senses Damage before It Hurts", November 24, 2001, *Science News*, Vol. 160, No. 21, p. 326.
74. Staff writer, "NDT up-date", December 2001, industry publication.
75. Staff writer, "Finding Fractures", December 2001, *Beyond2000*, http://www.beyond2000.com/news/Nov_01/story_1301.html.
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77. VanArsdall, K., "Engineers Work to Construct Airplane Monitoring System for Pilots", December 7, 2001, *The Exponent*, Vol. 117, No. 188, p. 1.
78. Richards, F., "Distributed Smart Transducers for Structural Health Monitoring", June 2001, *Motion Systems Magazine*, Vol. 43, No. 6, pp. 38.
79. Shaw, L. and Handa, R., Autobiography of D. Adams, Assistant Professor, Purdue University, Winter 2001, *Purdue Engineering Magazine*, Vol. 96, No. 1, pp. 6-7.

Television or Radio Features on Research

1. Skovira, K., “Vanderbilt University Engineers Making Wind Turbines More Sustainable,” May 2018, News Channel 5, <https://www.newschannel5.com/news/vanderbiltuniversity-engineers-making-wind-turbines-more-sustainable>.
2. *WVXU* Radio, Thompson, A., “Brains to boost battery power,” Cincinnati, OH, taped interview on lithium ion battery electrode inspection, May 2013.
3. *Repower America*, A. Tuholski, <http://www.youtube.com/watch?v=Y5h0XEtSKnk>, internet documentary on wind energy, November 2009.
4. *WLFI TV*, Krizen, J., West Lafayette, television documentary on smart blade, May 2009.
5. Discovery Channel – Canada, “Daily Planet,” television documentary on missile health monitoring, April 25, 2007.
6. *WLFI TV*, Fuller, A., West Lafayette, television documentary on crack detection in Stryker vehicle, May 2006.
7. *WLFI TV*, Fuller, A., West Lafayette, television documentary on thermal protection system health monitoring research, July 2004.
8. *WBAA* Radio, West Lafayette, taped interview on thermal protection system health monitoring research, July 2004.
9. *WBAA* Radio, West Lafayette, taped interview on embedded sensitivity functions, November 2002.
10. *WBAA* Radio, West Lafayette, taped interview on Presidential Award, July 2002.
11. Hanson, S., “Structural Sonar”, television documentary, Discoveries & Breakthroughs, January 2002, *American Institute of Physics*.
12. Rivera, E., “Tech Sniffs Out Airplane Weakness”, television documentary, Tech Live, December 2001, *TechTV*.
13. *KCSN* Radio, Los Angeles, taped interview on structural health monitoring, December 2001.
14. *Network Indiana*, taped interview on structural health monitoring, November 2001.

INVITED SEMINARS

1. Invited talk, WLRA Load Research Conference, Nashville, Engineering a Smarter and More Efficient Wind Turbine, September 2018.
2. Invited talk, 3M, Minneapolis, November 2017.
3. Invited seminar, Is it time for smart materials and machines?, Miami University, Department of Mechanical and Manufacturing Engineering, April 2017.
4. **Keynote Address**, It’s the End-of-Line for NDE in Composites, QNDE Conference, Atlanta, July 2016.
5. **Keynote Address**, The Beginning and the End of SHM, European Workshop on SHM, Spain, July 2016.
6. Invited panelist, ASCE Engineering Mechanics Institute and Probabilistic Mechanics Conference, Nashville, TN, May 2016.
7. Invited seminar, Built to Last: Composites Engineering Innovation, Mississippi State University, Department of Civil and Environmental Engineering, April 2016.
8. Invited seminar, Built to Last: Composites Engineering Innovation, University of South Carolina, Department of Civil and Environmental Engineering, April 2016.
9. Invited seminar, Built to Last: Composites Engineering Innovation, Vanderbilt University, Owen School of Management, April 2016.
10. Invited seminar, Porcelain Enamel Institute, May 2015.

11. Invited seminar, Big Barriers in NDE, Iowa State University, School of Aerospace Engineering, April 2015.
12. Invited seminar, Cyber-Physical Systems in Wind Power, Rice University, School of Mechanical Engineering, December 2014.
13. Invited seminar, Cyber-Physical Systems in Wind Power, University of Houston, School of Mechanical Engineering, December 2014.
14. Invited seminar, Dana Corporation, Roundtable, December 2014.
15. Invited seminar, Science of Signatures, Los Alamos National Laboratory, April 2014.
16. Invited seminar, Structural Health Monitoring through the Science of Signatures, Auburn University, School of Civil Engineering, March 2014.
17. **Plenary Address**, Seeing the Unseen in Lightweight Rotor Blades Using Nonlinear Dynamics, Dresden Airport Seminar, Germany, November 2013.
18. Invited seminar, Oak Ridge National Laboratory, October 2013.
19. **Keynote Address**, "How do we see the unseen?" Purdue University Calumet Student Research Day, April 2013.
20. Invited Seminar, Structural Dynamic Imaging, University of Illinois Urbana Champaign, Engineering Mechanics, January 2013.
21. Invited graduate student seminar, Wind Energy, University of Michigan, School of Aerospace Engineering, April 2012.
22. Lovell Lecture, Wind Energy, Purdue University, School of Civil and Environmental Engineering, November 2011.
23. Invited seminar, Sandia National Laboratory, July 2011.
24. Invited seminar, Wind Energy, Engineers for a Sustainable World, Purdue University, October 2010.
25. Invited seminar, Lord Corporation, November 2000, June 2002, June 2005, October 2010.
26. Invited seminar, Nonlinear Elastic Signatures for Material Anomaly Detection, North Carolina State University, School of Electrical Engineering, October 2010.
27. Invited seminar on Condition Monitoring for Wind Turbines, Windiana, July 2010.
28. Invited seminar, Smart Wind Turbines, Geosciences Colloquium, Indiana University, Bloomington, April 2010.
29. **Keynote Address**, Inverse Problems in Alternative Energy, Inverse Problems Symposium, Michigan State University, June 2010.
30. Invited seminar on Condition Monitoring for Wind Turbines, EEE Society of Maintenance and Repair Professionals, IN Chapter, June 2010.
31. Invited seminar on Condition Monitoring for Wind Turbines, Exchange Club of Lafayette, IN, June 2010.
32. Invited presentation on Structural Health Monitoring for Wind Turbines, American Wind Energy Association, Windpower, May 2010.
33. Graduate Seminar Series, Nonlinear Structural Dynamics in Wind Energy, Michigan State University, November 2009.
34. Master Series on Identification and Prognosis in Structural Systems, Marie Curie Action on SICON (Stability, Identification, and Control in Structural Dynamics) University of Liege, Belgium, July 2009.
35. Invited seminar, University of Cincinnati, November 1999, May 2005, February 2006, December 2009.
36. Invited speaker in Vehicle Maintenance Summit, Institute for Defense and Government Advancement, December 2008.
37. Tutorial on Health Monitoring of Structural Systems, 62nd Meeting Society for Machinery Prevention Failure Technology, May 2008.
38. Invited seminar, Diagnostics and Prognostics, Western Michigan University, May 2008.

39. **Keynote Address**, Use of Dynamics in Health Monitoring, System Dynamics Conference at Miami University, March 2008.
40. Invited seminar, General Motors, On-Star Division, March 2008.
41. Invited seminars, Ohio State University, September 2003, February 2008.
42. Invited seminar, Harvey Mudd College, Claremont, October 2007.
43. Master Series Lecture on Health Management of Defense System, Institute for Defense and Government Advancement, October 2007.
44. Invited seminars, Purdue University, Aeronautics and Astronautics, Nondestructive Evaluation (Professor A. Grandt), March 2004, April 2007.
45. **Keynote Address**, Prognosis of Ground Transportation Systems, Workshop of National Center for Monitoring of Structures, University of Braunschweig, Germany, June 2006.
46. **Keynote Address**, Prognosis of Defense Materials and Systems, Lightweight and Advanced Materials for Defense Conference, June 2006.
47. **Keynote Address**, Prognosis of Ground Vehicle Systems, SAE Congress, Reliability Applications Committee, April 2006.
48. Invited Tutorial in Nonlinear Oscillations: The Fundamentals, International Modal Analysis Conference, Society for Experimental Mechanics, February 2012, 2014, 2015, 2016, 2017, and 2018.
49. Invited Tutorial in Nonlinearity in Biomechanics, International Modal Analysis Conference, February 2006.
50. Master Series Lecture on Prognosis in Defense Systems, Institute for Defense and Government Advancement, February 2006.
51. Invited seminar, Silicon Valley Palo Alto Symposium, April 2005.
52. Invited seminar, University of California San Diego, February 2005.
53. Invited seminar, Army Materials Research Laboratory (Aberdeen Proving Ground), February 2001, February 2005.
54. Master Series Lecture on Diagnosis & Prognosis in Defense Systems, Institute for Defense and Government Advancement, February 2005.
55. Invited Tutorial in Basics of Structural Health Monitoring-Feature Extraction, International Modal Analysis Conference, February 2005.
56. Invited Tutorial in Modal Topics-Nonlinear Systems and Methods, International Modal Analysis Conference, February 2005.
57. Invited seminar, Tank and Automotive Command, January 2005.
58. Invited seminar, Vanderbilt University, September 2004.
59. **Keynote Address**, Diagnostics and Prognostics of Defense Systems, European Defense Manufacturing Summit, Montreux, Switzerland, December 2003.
60. **Invited seminars**, Engineering Research Council, ArvinMeritor, December 2002, November 2003.
61. Invited seminar, Naval Research Laboratory at Carderock, October 2003.
62. Invited seminar, Institute for Defense Analysis, July 2002.
63. Invited seminar, Caterpillar (Peoria, Lafayette), May 2001, May 2002.
64. Invited seminar, Goodyear Tire & rubber company, January 2000, April 2002.
65. Invited seminar, Honeywell Aircraft Landing Systems, March 2002.
66. Invited seminar, University of Sheffield, December 2001.
67. Invited seminar, MTS Systems Corporation, June 2001.
68. Invited seminar, ArvinMeritor (Columbus), April 2001.
69. Invited seminar, Duke University, December 2000.
70. Invited seminar, 4th Annual EDB4 Colloquium at BOSCH, April 2000.
71. Invited seminar, Los Alamos National Laboratory, December 1999.
72. Invited seminar, The Boeing Company, November 1999.
73. Invited seminar, Public Speaking (English Department), November 1999.

74. Invited seminar, Air Force Research Laboratory Vehicles Directorate, February 1999.

INVITED WORKSHOPS

1. Invited Speaker, Tech Fellow in NDE, U.S. DOE Institute for Adv. Composites Manufacturing Innovation Consortium Meeting, Detroit, MI, January 2018.
2. Invited Speaker, 2nd Workshop on Prognostics and Health Management of Energy Systems, Lubbock, Texas, May 2017.
3. Invited Speaker, Tech Fellow in NDE, U.S. DOE Institute for Adv. Composites Manufacturing Innovation Consortium Meeting, Denver, CO, February 2017.
4. Invited participant, Expert Forum on Structural Health Monitoring, **National Academies Workshop**, U.S. Army Corps, May 2016.
5. Invited Speaker, Tech Fellow in NDE, U.S. DOE Institute for Adv. Composites Manufacturing Innovation Consortium Meeting, Oak Ridge, TN and Detroit, MI; March 2016 and May 2016.
6. Co-organizer, Food, Energy, Water Science Workshop, National Science Foundation, Napa, CA, November 2015.
7. Panelist for composites institute, Lightweighting, Southern Automotive Conference, Nashville, TN, October 2015.
8. Invited Speaker, Tech Fellow in NDE, U.S. DOE Institute for Adv. Composites Manufacturing Innovation Consortium Meeting, Knoxville, TN and Detroit, MI; June 2015 and January 2016.
9. Invited speaker, Cyber-Physical Systems Education: Developing Solutions, **National Academies Workshop** on 21st Century, October 2014.
10. Invited speaker, National Science Foundation Polymer Lifecycle Prediction, Arlington, VA, March 2014.
11. Invited participant, Manufacturing for the Engineering Grand Challenges, Duke University, Cary, NC (representing Vanderbilt engineering), October 2013.
12. Invited speaker and panelist, Economic Impact of Wind Generated Energy, Windpower 2013, Special Session, The Environmental, Social, and Economic Impact of Wind Generated Energy, Chicago, IL, May 2013.
13. Invited speaker, Air Force Research Laboratory Workshop on ISHM, Boston, MA, July 2011.
14. Invited speaker (presented in absentia), Improved Precision for Space Systems, Kirtland Air Force Base, NM, May 2010.
15. Invited speaker, Wind Energy Update, Wind Energy Operations & Maintenance Summit, Dallas, TX, April 2010.
16. Co-organizer, Research Workshop on Wind Energy Systems, Indiana University Bloomington, April 2010.
17. Invited speaker, Indiana Wind Working Group, Indianapolis, IN; April 2010, December, 2010.
18. Invited speaker, Workshop on Condition Monitoring of Wind Turbines, National Renewable Energy Laboratory, October 2009.
19. Invited speaker, Implementation Issues and Solutions in Structural Health Monitoring, Tri-Services Workshop on Structural Health Monitoring, Austin, TX, November 2008.
20. Invited speaker, Technological Barriers and Solutions in Structural Health Monitoring, Penn State, PA, November 2008.
21. Invited speaker, Air Force Research Laboratory Workshop on ISHM, Cincinnati, OH, August 2008.
22. Invited participant, Wind Turbine Blade Workshop, Sandia National Laboratory, Albuquerque, NM, May 2008.
23. Invited participant, U.S. Navy, Workshop on Maintenance and Repair, California, MD, January 2008.
24. Invited speaker, U.S. Army TARDEC, Workshop on Condition-Based Maintenance, November 2007.

25. Invited speaker, National Materials Advisory Board, Workshop on Materials State Awareness, **National Academy of Engineering**, Woods Hole, MA, September 2007.
26. Invited speaker, Service and Support, Indiana Defense Study Team, Indianapolis, IN, June 2007.
27. Invited panelist, Pi Tau Sigma National Convention, Purdue University, February 2007.
28. Invited speaker, Defense Related Research & Development Workshop, Purdue University, December 2006.
29. Invited participant, Los Alamos Nonlinear Data Interrogation Workshop, July 2006.
30. Invited speaker, Air Force Research Laboratory Workshop on ISHM, Dayton, OH, August 2005.
31. Invited speaker, Air Force Research Laboratory Workshop on ISHM, Dayton, OH, August 2004.
32. Invited speaker, Air Force Research Laboratory Workshop on IVHM/ISHM for Thermal Protection Systems, Seattle, WA, June 2004.
33. Invited speaker, Ohio Aerospace Institute Diagnostics and Prognostics Workshop, December 2003.
34. Invited Speaker and Group Mentor, Pan American Advanced Studies Institute on Damage Prognosis, National Science Foundation, Florianopolis, Brazil, October 2003.
35. Invited panelist, International Workshop on Structural Health Monitoring, Aerospace, Stanford University, September 2003.
36. Invited panelist, Product Recall Effectiveness Workshop, U. S. Consumer Products Safety Commission, Washington, DC, September 2003.
37. Invited speaker, Health Management Review, Air Force Research Laboratory, Dayton, OH, June 2003.
38. Invited participant, Air Force Office of Scientific Research Multifunctional Materials Workshop, West Lafayette, IN, October 2002.
39. Invited speaker, India-USA Joint Workshop on Emerging Trends in Noise and Vibration Engineering, The Ohio State University, December 2001.
40. Invited speaker, Experimental Nonlinear System Identification Workshop National Aeronautics and Space Administration, Langley, VA, May 2001.
41. Invited participant, Los Alamos Damage Prognosis Workshop, Los Alamos National, Phoenix, AZ, March 2001.

OUTREACH ACTIVITIES

1. Hosted Composites One workshop at LASIR lab for over 120 composite materials industry participants, February 2017.
2. Hosted Composites Lumber Manufacturers Association at LASIR lab for 25 attendees, December 2017.
3. Hosted booth at Nashville Mini Maker Faire held at The Wondr'y on Vanderbilt's campus, July 2016.
4. Hosted the Academies of Nashville Board at Laboratory for Systems Integrity and Reliability to discuss initiatives that support STEM outreach, July 2016.
5. Represented LASIR and Institute for Advanced Composites Manufacturing Innovation at Society of Women Engineers annual convention, Nashville, TN, Design It! Build it! Expo, October 2015.
6. Hosted multiple student groups from Glencliff and Stratford High Schools for tour at LASIR and viewing of the 'Underwater Dreams' documentary, September 2015.
7. Hosted the Music City Bridge Competition for Nashville area students at LASIR to test bridges constructed from balsa wood, October 2015.
8. Seminar, Freshmen Commons, Wind of Change: Wind Energy, Vanderbilt University, February 2014.
9. Speaker, Brentwood High School, Brentwood, TN, Engineering for Urban Environments, March 2014.

10. Judge, HG Middle School, Green Hills, TN, Bobsled design, February 2014.
11. Invited talk on wind energy for Purdue University Pugwash, August 2011.
12. Invited talk on Fueling the Winds of Change: Wind Energy Systems, Purdue University, President's Leadership Class, March 2011.
13. Invited talks for Great Issues in Science and Society, Purdue University, Physics (Professor Jane Yatecilla); 2009, 2010, 2011, 2012.
14. Delivered research seminar to Summer Undergraduate Research Fellowship (SURF) program on "Harnessing the Winds of Change," 2010 and 2011.
15. Organized seminar by women and underrepresented minority representatives from U.S. Army Tank Automotive Command with Women In Engineering and Minority Engineering Programs, Purdue University, April 2008.
16. Women in Engineering Discovery Day, faculty participant, April 2008.
17. Delivered five part seminar series on "Becoming a Faculty Member: Everything you wanted to know but were afraid to ask" at Purdue; 2007, 2011, 2012.
18. "Engineering Your Career" Panelist at Pi Tau Sigma National Convention, February 2007.
19. SURF (Summer Undergraduate Research Fellowship) Advisor to two SURF students at Purdue University, 2006-2013.
20. AGEP (Accelerate Graduate Engineers in the Professoriate) Professor to recruit minority students in Mechanical Engineering at Purdue University, 2005-2013.
21. Assisted with planning and presentation as advisor to senior students hosting Middle School MINDS program at Purdue University, September 2004.
22. Advisor to international student group at NSF Pan American Advanced Studies Institute on Damage Prognosis, Florianopolis, Brazil, October 2003.
23. Delivered seminar series on Nonlinear Vibrations to undergraduates in Los Alamos National Laboratory Dynamics Summer School program and advise students in their research projects, 2001-2010.
24. Participate in design review for EPICS (Engineering Projects in Community Service) Program at Purdue University; 2000 and 2001.
25. Participated as speaker in Career Development Seminar at the University of Cincinnati; 1998 and 1999.
26. Participated as host in Women in Engineering orientation and Minority Apprenticeship Program at University of Cincinnati; 1999 and 2000.