Douglas E. Adams, Ph.D.

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PROFESSIONAL SUMMARY

Dr. Adams is the Kenninger Professor of Mechanical Engineering and Director of the Purdue Center for Systems Integrity, which develops dynamic sensing and nonlinear identification techniques for automated diagnostics/prognostics of materials and machines in aerospace and automotive systems. His group has pioneered the development of technologies to sense, predict, and control the dynamic behavior of ground and air vehicles, energy generation and storage equipment and other platforms. These technologies have been implemented to maximize the performance and cost-effectiveness of a wide range of materials and machines in the energy and defense sectors to positively impact society and our national security. In the area of scholarship, Dr. Adams has written 71 peer-reviewed journal papers and 150 conference proceedings papers, and authored a textbook on structural health monitoring as well as several book chapters, including recent chapters on damage prognosis of metallic and composite aerospace structures and health monitoring of smart wind turbines. He has received over a dozen research awards including the Presidential Early Career Award for Scientists and Engineers, Army Young Investigator Award, and the Society of Experimental Mechanics DeMichele Award and was elected a Fellow of ASME in 2011. In education, he has supervised 24 undergraduate special research projects, has graduated 42 M.S. and Ph.D. students, and now advises 11 graduate students. He has recruited 9 women, 3 African-American, and 1 Hispanic graduate students. He teaches courses in analytical and experimental dynamics and system measurement and controls. He is listed in the Purdue Book of Great Teachers having won several departmental and university-wide teaching awards. He has disseminated his findings worldwide in over 100 seminars and three-dozen short courses. In technology development, Dr. Adams has secured 80 federal and industrial contracts/grants for nearly $30M in funding, been awarded two U.S. patents, has 17 patent disclosures in process, and has licensed several of these technologies to industry. In service, Dr. Adams serves as Managing Editor of Structural Health Monitoring: An International Journal and has also served ASME and SEM in many other capacities on technical committees.

EDUCATION

SCHOOLS AND DATES OF ATTENDANCE	DEGREES AND ADVISORS	THESIS TITLES
University of Cincinnati 1997-2000	Doctor of Philosophy Professor Randall J. Allemang	*"A Spatial Approach to Nonlinear Vibration Analysis"*
Massachusetts Institute of Technology 1994-1997	Master of Science in Mechanical Engineering Professor Kumal Youcef-Toumi	*"A High Resolution Capacitance-Based Lateral Position Micro-Sensor"*
University of Cincinnati 1989-1994	Bachelor of Science in Mechanical Engineering (Summa cum Laude)	---

PROFESSIONAL APPOINTMENTS

DATES	TITLE
04/2010-present	*Kenninger Professor* of Mechanical Engineering, Purdue University
07/2009-present	*Professor* of Mechanical Engineering, Purdue University
01/2008-present	*Director*, Center for Systems Integrity, Purdue University
07/2005-07/2009	*Associate Professor* of Mechanical Engineering, Purdue University
07/2000-07/2005	*Assistant Professor* of Mechanical Engineering, Purdue University
03/2000-06/2000	*Adjunct Assistant Professor* of Mechanical Engineering, University of Cincinnati
09/1997-03/2000	*University Distinguished Graduate Fellow*, University of Cincinnati

05/1995-05/1997	*Research Assistant*, Massachusetts Institute of Technology, Prof. Kamal Youcef-Toumi, Department of Mechanical Engineering
01/1995-05/1995	*Teaching Assistant*, Massachusetts Institute of Technology, 2.151 Advanced System Dynamics and Control
09/1990-09/1993	*Consultant Engineer*, University of Cincinnati (Co-op), Noise and Vibration Control, Roush-Anatrol

HONORS AND AWARDS

TYPE OF HONOR/AWARD	NAME	DATE CONFERRED
Professional Research Honor	Elected Fellow of American Society of Mechanical Engineers	April 2011
Presidential Research Award	Presidential Early Career Award for Scientists and Engineers (PECASE)	July 2002
Young Investigator Research Award	Army Young Investigator Award	September 2001
Special Recognition	Received Commander's Award from U.S. Navy Air Warfare Center	December 2010
Special Recognition	Awarded Technical Medal of Achievement by U.S. Army Stryker Combat Brigade	May 2006
Professional Research Award	DeMichele Award Society for Experimental Mechanics	February 2009
Professional Research Award	ASME Dynamic Systems and Control Division Outstanding Young Investigator Award	October 2009
Professional Research Award	Structural Health Monitoring Person of the Year Award (Sage Publications)	September 2003
Special Recognition	Named one of the most cited authors in Journal of Sound and Vibration, Elsevier	December 2006
University Research Award	University Faculty Scholar Purdue University	January 2007
School Research Award	Shaeffer Fellow of Mechanical Engineering Purdue University	June 2009
College Research Award	Purdue Schools of Engineering Inaugural Young Faculty Researcher Excellence Award	March 2003
School Research Award	Joel Spira Award for excellence in teaching and commercialization of research	December 2006
School Research Award	Purdue University Mechanical Engineering Inaugural Research Discovery Award	September 2002
College Teaching Award	Distance Faculty Award for Excellence in Teaching in Engineering Professional Education	August 2011
University Teaching Award	Murphy Award for Excellence in Teaching at Purdue University	April 2004
Recognition for Teaching Excellence	Listed in Book of Great Teachers at Purdue and named Fellow of Teaching Academy	January 2005
School Teaching Award	Solberg Award for Best Teacher in Mechanical Engineering	January 2007
School Teaching Award	Solberg Award for Best Teacher in Mechanical Engineering	January 2003
Professional Research Award	Best Paper from American Helicopter Society HUMS Category	June 2009
Professional Research	Invited to serve as Visiting Lecturer by SPIE	January 2009

Honor	Society of Photographic Instrum. Engineers	
Professional Research Award	SAE Excellence in Oral Presentation Award Society of Automotive Engineering	September 2008
Professional Research Award	2nd Best Paper from Society for Advancement of Materials and Process Engineering	May 2008
Invited Faculty Scholar	Los Alamos National Laboratory / ESA	Summer 2002-2009
	Air Force Research Laboratory / ML	Summer 2004
Graduate Fellow	University of Cincinnati University Distinguished Graduate Fellowship	September 1997
Nominated Professor of the Quarter	University of Cincinnati (recognized for "exemplary teaching" by Engineering Tribunal)	Summer 1999

INVITED SEMINARS

SEMINAR	DATES
Professional Organizations	
2010 Engineers for a Sustainable World Invited seminar on Wind Energy	October 2010
Windiana 2010 Invited seminar on Condition Monitoring for Wind Turbines	July 2010
2010 Inverse Problems Symposium, Michigan State University **Key-Note Address** on Inverse Problems in Alternative Energy	June 2010
IEEE Society of Maintenance and Repair Professionals, IN Chapter Invited seminar on Condition Monitoring for Wind Turbines	June 2010
Exchange Club of Lafayette, IN Invited seminar on Condition Monitoring for Wind Turbines	June 2010
American Wind Energy Association, Windpower 2010 Invited paper on Structural Health Monitoring for Wind Turbines	May 2010
Marie Curie Action on SICON (Stability, Identification, and Control in Structural Dynamics) University of Liege, Belgium Master Series on Identification and Prognosis in Structural Systems	July 2009
Society for Machinery Prevention Failure Technology 62nd Meeting, Tutorial on Health Monitoring of Structural Systems	May 2008
Workshop of National Center for Monitoring of Structures University of Braunschweig, Germany **Key-Note Address** on Prognosis of Ground Transportation Systems	June 2006
SAE Congress, Reliability Applications Committee **Key-Note Address** on Prognosis of Ground Vehicle Systems	April 2006
Society of Experimental Mechanics IMAC XXIII, NL Dynamics: The Fundamentals	February 2012
Society of Experimental Mechanics IMAC XXIV, Nonlinearity in Biomechanics	February 2006
Society of Experimental Mechanics IMAC XXIII, Basics of Structural Health Monitoring lecture on Feature Extraction	February 2005
Society of Experimental Mechanics IMAC XXIII, Modal Topics lecture on Nonlinear Systems and Methods	February 2005
European Defense Manufacturing Summit, Montreux, Switzerland **Key-Note Address** on Diagnostics and Prognostics of Defense	December 2003

Systems	
Universities	
University of Michigan, School of Aerospace Engineering Graduate Students Seminar on Wind Energy	April 2012
Purdue University, School of Civil and Environmental Engineering Seminar on Wind Energy as part of Lovell Lecture	November 2011
North Carolina State University, School of Electrical Engineering Nonlinear Elastic Signatures for Material Anomaly Detection	October 2010
Indiana University Bloomington, Geosciences Colloquium	April 2010
Michigan State University, Graduate Seminar Series	November 2009
Western Michigan University	May 2008
System Dynamics Conference at University of Miami **Key-Note Address** on Use of Dynamics in Health Monitoring	March 2008
Harvey Mudd College, Claremont	October 2007
University of California San Diego	February 2005
Vanderbilt University	September 2004
Purdue University, Aeronautics and Astronautics, Nondestructive Evaluation (Professor A. Grandt)	March 2004 April 2007
Ohio State University	September 2003 February 2008
University of Sheffield	December 2001
Duke University	December 2000
University of Cincinnati Mechanical, Industrial and Nuclear Engineering	November 1999 May 2005 February 2006 December 2009
University of Cincinnati Public Speaking Seminar (English Department)	November 1999
Government	
Sandia National Laboratory	July 2011
Institute for Defense and Government Advancement Speaker in Vehicle Maintenance Summit	December 2008
Institute for Defense and Government Advancement Master Series Lecture on Health Management of Defense Systems	October 2007
Lightweight and Advanced Materials for Defense Conference **Key-Note Address** on Prognosis of Defense Materials and Systems	June 2006
Institute for Defense and Government Advancement Master Series Lecture on Prognosis in Defense Systems	February 2006
Institute for Defense and Government Advancement Master Series Lecture on Diagnosis & Prognosis in Defense Systems	February 2005
Tank and Automotive Command	January 2005
Naval Research Laboratory at Carderock	October 2003
Institute for Defense Analysis	July 2002
Army Materials Research Laboratory (Aberdeen Proving Ground)	February 2001 February 2005
Los Alamos National Laboratory	December 1999
Air Force Research Laboratory Vehicles Directorate	February 1999
Industry	
General Motors, On-Star Division	March 2008
Silicon Valley Palo Alto Symposium	April 2005
Engineering Research Council	December 2002

ArvinMeritor	November 2003
Honeywell Aircraft Landing Systems	March 2002
Lord Corporation	November 2000 June 2002 June 2005 October 2010
Goodyear Tire & Rubber Company	January 2000 April 2002
Caterpillar (Peoria, Lafayette)	May 2001 May 2002
ArvinMeritor (Columbus)	April 2001
MTS Systems Corporation	June 2001
4th Annual EDB4 Colloquium at BOSCH	April 2000
The Boeing Company	November 1999

INVITED WORKSHOPS

EVENT	DATES
Air Force Research Laboratory Workshop on ISHM Speaker, Boston, MA	July 2011
Improved Precision for Space Systems Invited speaker (presented in absentia), Kirtland Air Force Base, NM	May 2010
Wind Energy Operations & Maintenance Summit Invited speaker, Wind Energy Update, Dallas, TX	April 2010
Research Workshop on Wind Energy Systems, Indiana University Bloomington, Co-Organizer	April 2010
Indiana Wind Working Group Indianapolis, IN, Invited Speaker	April 2010 December 2010
Workshop on Condition Monitoring of Wind Turbines, National Renewable Energy Laboratory, Invited Speaker	October 2009
Tri-Services Workshop on Structural Health Monitoring, Austin, TX Invited Speaker, Implementation Issues and Solutions in Structural Health Monitoring	November 2008
Technological Barriers and Solutions in Structural Health Monitoring Invited Speaker, Penn State, PA	November 2008
Air Force Research Laboratory Workshop on ISHM Speaker, Cincinnati, Ohio	August 2008
Wind Turbine Blade Workshop, Sandia National Laboratory Albuquerque, NM	May 2008
U.S. Navy, Workshop on Maintenance and Repair, California, MD	January 2008
U.S. Army TARDEC, Workshop on Condition-Based Maintenance Invited Speaker, Warren, MI	November 2007
National Materials Advisory Board, Workshop on Materials State Awareness, **National Academy of Engineering** Invited Speaker, Woods Hole, MA	September 2007
Service & Support, Indiana Defense Study Team Invited Speaker, Indianapolis, IN	June 2007
Pi Tau Sigma National Convention, Purdue University (panelist)	February 2007
Defense Related Research & Development Workshop Purdue University, Invited Speaker	December 2006
Los Alamos Nonlinear Data Interrogation Workshop Los Alamos National Laboratory (participant)	July 2006

Air Force Research Laboratory Workshop on ISHM Speaker, Dayton, Ohio	August 2005
Air Force Research Laboratory Workshop on ISHM Speaker, Dayton, Ohio	August 2004
Air Force Research Laboratory Workshop on IVHM/ISHM for Thermal Protection Systems, Speaker, Seattle, Washington	June 2004
Ohio Aerospace Institute Diagnostics and Prognostics Workshop Speaker, Cleveland, Ohio	December 2003
Pan American Advanced Studies Institute on Damage Prognosis National Science Foundation Invited Speaker and Group Mentor, Florianopolis, Brazil	October 2003
International Workshop on Structural Health Monitoring, Aerospace Panel Discussion, Stanford, California (panelist)	September 2003
Product Recall Effectiveness Workshop, U. S. Consumer Products Safety Commission, Washington, DC (panelist)	September 2003
Health Management Review, Air Force Research Laboratory Speaker, Dayton, Ohio	June 2003
Air Force Office of Scientific Research Multifunctional Materials Workshop, West Lafayette, Indiana (participant)	October 2002
India-USA Joint Workshop on Emerging Trends in Noise and Vibration Engineering, The Ohio State University Speaker, Columbus, Ohio	December 2001
Experimental Nonlinear System Identification Workshop National Aeronautics and Space Administration Invited Speaker, Langley, Virginia	May 2001
Los Alamos Damage Prognosis Workshop, Los Alamos National Laboratory, Phoenix, AZ (participant)	March 2001

SHORT COURSES AND SEMINAR SERIES TAUGHT

COURSE NAME	LOCATION	DATE	ENROLLMENT	NATURE OF PARTICIPATION
Composite Material Inspection	Society of Automotive Engineers	October 2012	-	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	Purdue Continuing Engineering	October 2007	12	Co-developed 350 pages of notes, and co-taught with Professor Charles Krousgrill

System Ident.	Education			
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 Air Force Research Laboratory	May 2004 August 2004	12 40	Developed 550 pages of notes, organized and taught Developed 600 pages of notes, organized and taught
Nonlinear Vibration and Time-Freq. Analysis	General Motors Proving Ground	January 2002 February 2003	22 13	Co-developed 400 pages of notes, co-organized and co-taught with Professor Charles Krousgrill
Los Alamos Dynamics Summer School	Los Alamos National Laboratory	Summer 2001 Summer 2002 Summer 2003 Summer 2005 Summer 2006 Summer 2007 Summer 2008 Summer 2009 Summer 2010	15 15 15 18 21 15 18 18 18	Developed 100 pages of notes, delivered lecture series, and works with students lab experiments

Random Data Analysis	Purdue University	September 2002	20	Organized course and hosted Dr. Julius S. Bendat
Modal Measurements	University of Cincinnati	June 1998 June 1999	15 15	Developed 100 pages of notes, gave lecture series and lab demonstrations

UNDERGRADUATE AND GRADUATE COURSES TAUGHT

SEM	COURSE TITLE	COURSE NUMBER	# OF RESPONSES/ # IN COURSE	PROF EVAL SCORE	COURSE EVAL SCORE
SM99	Mechanical Vibrations I	UC	35/35	-	4.6
S00	Nonlinear Vibrations	UC	10/10	4.8	-
F00	System Modeling and Analysis	ME 375	35/58	4.7	4.2
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

MEMBERSHIPS IN SOCIETIES

TYPE OF MEMBERSHIP	NAME OF ORGANIZATIONS
Honorary memberships	Sigma Xi, Tau Beta Pi, Pi Tau Sigma, Alpha Lambda Delta Honors Society, Golden Key National Honors Society
Professional memberships	American Society of Mechanical Engineers Society of Experimental Mechanics

UNDEGRADUATE RESEARCH PROJECTS ADVISED

TITLE	DESCRIPTION OF WORK AND RESULTS
1. Nonlinear Vibration of Engine Nacelle F99-S00, Brian Utley	Developed a model of an aircraft nacelle to study the effects of nonlinearity due to engine oscillations. The student reported and presented results at a meeting of the Ohio Aerospace Institute Undergraduate Scholar program.
2. Micro-Acoustic Transducers S01, Jesse Buehler	Conducted a survey of micro-sensors and sensor arrays utilized in underwater and other applications for sensing acoustic signatures. Developed a design concept for this sensor for Naval propulsion systems.
3. Damage Detection in a Helicopter Fuselage S01, Rebecca Brown	Developed a vibration-based method for local damage identification in mechanical systems and applied it to a helicopter fuselage to detect and location damage due to loosened bolt. E.1:41, E.5:58, E.6:8,10,11
4. Nonlinear System Identification F01, Timothy Fahler	Developed a graphical user interface in MATLAB to support the deployment of math-based modeling and parameter estimation software for the Goodyear Tire & Rubber Company.
5. Automated Hand Wash System F01, Laura Shaw	Developed a design for a hand washing device and its associated control system for use by astronauts in zero gravity environments. The student was employed at Johnson Space Center to pursue the design.
6. Survey of Nonlinear Automotive Mounts F02, Timothy Freeman	Conducted a survey of automotive mounts that are passive, semi-active, active or employ nonlinear elements to achieve desired characteristics. The survey was included in the student's master's thesis in spring 2004.
7. Nondestructive Evaluation Using Repeated Roots F02-S03, Harold Kess	Developed a method for vibration-base damage identification in symmetric mechanical systems using the separation between pseudo-repeated modal frequencies as an indication of perturbation. E.1:34,37
8. Damage Accumulation Modeling in Composites F02-S03, Jonathan Wenk	Developed a finite element model of a laminated polymer matrix composite material subject to impact delamination damage to identify effects of damage on strength. A report was submitted to the Army Research Office based on this work.
9. Rivet Process Monitoring F03-S04, Raymond Manning	Developed a data interrogation technique to distinguish good quality manual aircraft rivet processes from poor quality processes. The approach was verified with Aviation Technology on rivet data and was published as an industry feature in the AIAA Journal of Aircraft. E.1:24
10. Loudspeaker Vibration Analysis F03-S04, Tom Zarembka	Developed a modal model of a loudspeaker cabinet and characterized the degree to which the speaker armature exhibits nonlinear characteristics (student from Mechanical Engineering Technology). The student presented his results at the American Society of Engineering Education meeting.
11. Loads Identification in Body Armor S05, Adam Cardi	Developed an inverse frequency response method for detecting, locating, and quantifying ballistic impact loads in body armor. E.1:23, E.5:27

12. Damage Detection in Body Armor and Missile Casing S05-F05, Chintan Shah	Analyzed response signals from composite missile casing and ceramic body armor specimen to identify mechanical damage. E.1:15, E.5:18
13. Vibration Analysis of Isogrid Structure F05, Jacob Blair	Performed experimental modal vibration analysis of isogrid tank wall structure for use in damage detection studies.
14. Real-Time Loads and Damage Identification Demo in Missile Casing Su06, Leah Hormann	Develop and implement graphical user interface for applying impact load and damage identification algorithms in real time within a portable dynamic measurement system.
15. Impact Load Estimation in Canister Su06-Sp07, Carlos Escobar	Develop and apply an iterative data-driven algorithm for estimating the location and magnitude of impacts on filament wound rocket motor casings. E.4:4, E.5:14
16. Health Monitoring of Gear Box Sp08-Su08, Joe Aldrin	Develop and apply experimental modal analysis to wind turbine gear box and rotor to identify loading and damage.
17. Damage Detection in Sandwich Materials Fa08, Matthew Plumley	Perform experiments to analyze the nature of laser vibrometer data from a sandwich panel relative to acceleration data collected on this panel.
18. Fault Detection in Gearbox Using Torsional Sensing Su09, Elaine Tan	Developed lumped parameter models of gearbox for use in fault detection in gears and driveline based on torsional sensor measurements.
19. Anomaly Detection in Ground Vehicles using Dynamic Data Su09-Fa09, Ray Bond	Developed half-car model of vehicle and populated model with parameters and uncertainties to ascertain ability to detect anomalies for use in vehicle borne IED identification.
20. Anomaly Detection in Body Panels using Surface Velocity Data Su09-Fa09, Raymond Sujtino	Developed panel vibration models and studied variations in the natural vibration characteristics as a function of attached masses and modified elastic boundary conditions for use in vehicle borne IED identification.
21. Force Identification in Aircraft Structures Fa09, Fred Landavazo	Evaluated force identification sensing and data analysis system for heavy-lift aircraft fuselage to enable condition-based maintenance of composite materials.
22. Damage Identification in Composite Missile Case Fa-Sum10, John Calache	Evaluated damage identification system for composite pressure vessel using dynamic testing coupled with real-time monitoring of vessel response.
23. Impact Identification in Aircraft Fuselage Fa10, Andrew Crandall	Developed modal impact model for estimating impact loads in full-scale aircraft fuselage for guiding inspections and reducing maintenance burden.
24. Siting of VAWT for Performance Evaluation Fa 10, Dana Halline	Developing Vertical Axis Wind Turbine testbed by analyzing wind resources on building rooftop using Fluent modeling, and testing of VAWT to evaluate performance.
To be completed for 2011 and 2012	…

GRADUATE RESEARCH THESES ADVISED

NAME	DEGREE	GRADUATION DATE	NAME OF CO-CHAIR	TITLE
Jason Glassbrook	PhD	8/15	none	Uncertainty Quantification in Aircraft Adaptive Guidance & Control
Christopher Watson	PhD	8/15	none	Acoustic Detection of Explosive Devices
Nathan Sharp	MS	5/15	none	Weak Bond Detection in Aerospace Composite Bonded Joints
Natalie Barrett	PhD	12/14	none	Biometric Feedback for Reducing Error Rate in Human Operators
Eric Dittman	PhD	8/14	none	Nondestructive Inspection of Composite Blade Structures
Raymond Bond	PhD	8/14	none	Impact Damage Prognosis in Composite Aircraft Structures
Blake Hylton	PhD	5/14	none	Impact Identification of Helicopter Rotor Blades
Aditi Joshi	MS	8/13	none	Programmable Materials for Increased Specific Damping
Huan Pham	MS	8/13	none	Acoustic Monitoring of Li-ion Battery Health
Janene Christensen	PhD	5/13	none	Quantifying Damage in Structural Components using Sensitivity Method
Brett Anderson	MS	12/12	none	Testing of Torsional Sensor for Gearbox Diagnostics
Andrew Crandall	MS	8/12	none	Health Monitoring of Helicopter Rotor Blades
Sara Underwood	PhD	8/12	none	3-D Laser Vibrometry Based

				Damage Inspection of Composite Materials
Josh Kusnik	MS	8/12	none	Operational Dynamic Response of VAWT in Urban Wind Environment
Nathan Sharp	MS	5/12	none	Pulse Thermograpy for Li-ion Battery Electrode Quality Control
Raymond Bond	MS	8/11	none	Impact Damage Estimation in Composite Aircraft Structures
Chris Bruns	MS	5/11	none	Gearbox Damage Identification using Torsional Dynamic Sensor
Hasaan McGinnis	MS	8/12	none	Modeling and Prognosis-Based Control of Hydraulic Actuator for Wind Turbine Applications
Scott Dana	MS	12/11	none	Integrated Wind Turbine Blade Sensing or Structural Health Monitoring
Joe Yutzy	MS	8/11	none	Open-Loop Control of Wind Turbines Using Load Estimation
Charles Butner	MS	5/11	none	Characterization of Nonlinear Interactions Across Interfaces
Alan Meyer	MS	5/11	none	Life-Extension of Wheeled Ground Vehicle Using Semi-Active Struts
Tiffany DiPetta	MS	5/11	none	Health Monitoring of a HMMWV Using An Instrumented Cleat
Janette Jaques	PhD	12/11	none	Analytical and Experimental Model Identification of A Rattling Head Rest
Nasir Bilal	PhD	8/11	none	Sensitivity Analysis of Pneumatic Circuit for Leak Detection
Matt	MS	12/10	none	Damage Detection

Houtteman				Using Coupled Wave Propagation
Vishal Mahulkar	PhD	8/10	none	Modeling and Simulation of Aircraft for Systems Health Management
Carson Budde	MS	8/10	none	Impact Load Identification in a Helicopter Rotor
Nathaniel Yoder	PhD	8/10	none	Damage Detection in a Wing Fitting Using Nonlinear Spectroscopy
Josh Cummins	MS	5/10	none	Estimation of Center of Gravity Using Static and Dynamic Measurements
Jonathan White	PhD	5/10	none	Load Monitoring of Wind Turbine Composite Rotor
Brandon Zwink	MS	5/10	none	Detecting Damage in Composite Structural Components Using Reciprocity
Shawn McKay	PhD	12/09	none	Model Identification for Anticipation of Blue and Red Actions
Kamran Gul	PhD	8/09	none	Optimization of Driveline Design for Torsional Fault Detection in Cold-Engine Test
Robin Kusmanto	MS	8/09	none	Model Identification for Wireless Network with Application to Naval Ships
Ethan Brush	MS	8/09	none	Modeling Damage in Composite Structural Components
Hao Jiang	PhD	8/08	none	Passive Acoustic Modeling and Damage Identification in Aero Thermal Protection Panels
Shankar Sundararaman	PhD	8/07	none	Numerical and Experimental Investigations of Practical Issues in Wave Propagation for Damage ID

Spencer Ackers	MS	5/07	none	Crack Detection in a Wheel End Using Modal Impact Testing
Nick Stites	MS	5/07	none	Impact Identification and Semi-Active Damage Detection
Muhammad Haroon	PhD	5/07	none	Identification of Loads and Functional Degradation in Suspension Systems
Timothy Johnson	PhD	12/06	none	Diagnostics and Prognostics for Durability Assessment in Rolling Tires
Janette Jacques	MS	8/06	none	Analytical and Experimental Model Identification of A Rattling Head Rest
Jonathan White	MS	5/06	none	Damage Identification of Metallic Sandwich Panel Using Virtual Forces
Harold Kess	MS	12/05	none	Identification of Variability Sources in Damage Detection
Jeong-Il Park	PhD	8/04	none	Modeling and Simulation of a Multi-Cylinder Automotive Compressor
Chulho Yang	PhD	8/04	none	Embedded Sensitivity Functions for Use in Mechanical System Identification
Timothy Freeman	MS	5/04	none	Reduction of Chassis Vibrations Using Powertrain as Dynamic Absorber
Roy Jason Hundhausen	MS	5/04	none	Mechanical Loads Identification and Diagnostics for a Metallic Panel
Muhammad Haroon	MS	12/03	none	Nonlinear System Identification of a Tire-Vehicle Suspension
Shankar	MS	8/03	none	Structural

Sundararaman				Diagnostics through Beamforming of Phased Arrays
Madhura Nataraju	MS	8/03	none	A Nonlinear Dynamics Approach Simulating Damage Evolution
Timothy Johnson	MS	8/02	none	Analysis of Dynamic Transmissibility as a Feature for Damage Detection
Charles Gavin McGee	MS	8/02	none	Characterization of Nonlinearity in a Tire-Vehicle Suspension System

RECENT RESEARCH GRANT AND CONTRACT AWARDS

Federal Grants and Contracts

PI	US Department of Education GAANN Fellowships	Fueling the winds of change: wind energy research	$400,500 (awarded)
PI	US Army Aviation Missile Research Engineering Development Center	Demonstration of missile health monitoring system	$75,000 (awarded)
PI	Air Force Research Laboratory Univ. of Dayton Research Inst.	Integrated System Health Management Uncertainty Effects	$337,745 (awarded)
PI	NAVAIR SBIR	Center of Gravity Estimation in Rotary Wing Aircraft	$20,000 (completed)
Co-PI	National Science Foundation	CPS: Medium: Robust Distributed Wind Power Engineering	$1,600,000 (awarded)
PI	Sandia National Laboratory	Structural Health Monitoring of Offshore Wind Turbines	$70,000 (awarded)
PI	US Army Aviation Missile Research Engineering Development Center	Demonstration of missile health monitoring system	$180,000 (awarded)
Co-PI	Department of Energy	Development of sensing and control technologies for wind turbines	$500,000 (completed)
PI	Department of Energy	Development of testbed for use in student courses	$59,000 (awarded)
PI	US Marines/NSWC Crane/CACI	Development of inspection and repair tools for composite helicopter	$2,300,000 (completed)
PI	Office of Naval Research Subcontract to NCSU	SEMIWAVE MURI on explosives detection using acoustic signatures	$2,000,000 (awarded)
PI	US Marines/NSWC Crane/CACI	Development of inspection and repair tools for composite helicopter	$2,600,000 (completed)
PI	Air Force Research Laboratory General Dynamic IT	Integrated Vehicle Health Management SoS Approach	$115,000 (completed)
PI	Army Research Office	Dynamic characterization of helmet-head system and damage evaluation	$240,000 (awarded)
Co-PI	U.S. Marine Corps/ONR	Temperature Telemetry for Hanger Bearing on CH-53E Aircraft	$1,200,000 (awarded)
PI	U.S. Army Tank and Automotive Command	Extension of Crack Detection Methodology to New Spindle Design	$929,700 (awarded)
PI	Army Research Office	Damage Identification in Filament Wound Motor Casings	$225,000 (awarded)
PI	Department of Homeland	Standoff Detection of Vehicle Borne	$180,000

	Security/Naval Research Laboratory	Improvised Explosive Devices	(completed)
PI	Sandia National Laboratory	Monitoring of Composite Wind Turbine Rotor Blade	$55,000 (completed)
PI	Air Force Research Laboratory General Dynamics IT	Integrated Vehicle Health Management SoS Approach	$63,300 (completed)
PI	US Marines/NSWC Crane/CACI	Development of center of gravity determination methods	$499,770 (completed)
PI	US Marines/NSWC Crane/CACI	Development of inspection and repair tools for composite helicopter	$2,301,568 (completed)
PI	US Marines/NSWC Crane/CACI	Development of inspection and repair tools for composite helicopter	$2,800,000 (completed)
PI	Air Force Research Laboratory General Dynamics IT	Integrated Vehicle Health Management SoS Approach	$40,500 (completed)
PI	Army Research Office Aviation and Missile Command	Design for Health Monitoring of Missiles Subject to Impact Damage	$75,000 (completed)
PI	U.S. Army Tank and Automotive Command	Crack Detection in a Wheel Spindle Using Wave-Propagation	$1,370,000 (completed)
PI	NASA	Nonlinear Experimental Identification of Morphing Aircraft	$78,000 (completed)
PI	Army Research Office Aviation and Missile Command	Real-Time Load and Damage Identification in Missile Casings	$29,000 (completed)
PI	Crane Naval Surface Warfare Center	Navy Smartships that Anticipate-and-Manage	$800,000 (completed)
PI	Army Research Office DURIP	Experimental Instrumentation for Prognosis in Heterog. Structures	$150,000 (completed)
PI	Air Force Research Laboratory Universal Technology Corporation	Development of VHM Technologies	$135,350 (completed)
PI	Army Research Office PECASE program	Structural Diagnostics, Reliability Forecasting, and Prognostics	$500,000 (completed)
PI	Air Force Research Laboratory Materials and Manufacturing Direc.	Design of Experiments for Material Health Monitoring	$46,700 (completed)
Co-PI	DoD Center in Security of Large-Scale Systems (AFRL)	Prognosis of Electro-mechanical Machines	$100,000 (completed)
PI	NSWC Crane SBIR	Modeling and Simulation of Navy Ship System of Systems	$21,000 (completed)
PI	Air Force Research Laboratory Anteon Corporation	Preliminary Modeling of TPS in Combined Thermo-Acoustic Envir.	$45,000 (completed)
PI	Air Force Research Laboratory Anteon Corporation	Development of On-Site Collaboration with AFRL/MLLP	$29,700 (completed)
PI	Air Force Research Laboratory UES, Inc.	Sensing Damage Mechanisms in Gamma Titanium Aluminide	$45,000 (completed)
PI	Air Force Research Laboratory UES, Inc.	Fracture Mode Detection in Al-Li Alloy	$14,000 (completed)
PI	Air Force Research Laboratory Anteon Corporation	Fusion of NDE/SHM for inspection of Thermal Protection Systems	$80,000 (completed)
PI	National Science Foundation CCLI Division of Undergrad. Education	An Inquiry-Based Experimental Dynamics Roving Laboratory	$67,955 (completed)
PI	Los Alamos National Laboratory	Vibration-based NDE	$26,000 (completed)

Industrial Grants and Contracts (PR-Principal Researcher)

PI	General Motors Corporation	Bushing characterization	$183,000 (awarded)
PI	Rolls-Royce Corporation	Driveline Gearbox Fault Detection Using Torsional Sensing	$85,000 (awarded)
PI	Sikorsky Aircraft Company	Structural Health Monitoring of Rotor Blades	$790,000 (awarded)

PI	Sikorsky Aircraft Company	Nondestructive Inspection of Composite Rotor Blades	$80,000 (completed)
PI	RNET Technologies/SBIR	Structural Health Monitoring of Weapon Stores	$25,000 (completed)
PI	Luna Innovations/SBIR	Structural Health Monitoring of Suspension Bridges	$15,000 (completed)
PI	Rolls-Royce Corporation	Driveline Gearbox Fault Detection Using Torsional Sensing	$90,000 (completed)
PI	Rolls-Royce Corporation	Driveline Gearbox Fault Detection Using Torsional Sensing	$110,000 (completed)
PI	Proprietary	Quality Assurance of Fibrous Composite Materials	$180,000 (completed)
co-PI	Charles Day & Associates	MEMS-Based Lube Lab on a Chip	$600,000 (completed)
PI	AM General	Semi-Active Control for Health Monitoring of Vehicle Suspensions	$350,000 (completed)
PI	Metrolaser/SBIR	Hand-Held Laser Vibrometry Inspection of Composite Materials	$115,000 (completed)
PI	LORD Corporation	Structural diagnostics/prognostics	$20,000 (completed)
PI	Honeywell	Health monitoring of ground vehicles	$218,128 (completed)
PI	Sheet Dynamics Ltd./SBIR	Scanning Laser Vibrometry Using Nonlinear Spectroscopy	$25,000 (completed)
PI	Rolls-Royce Corporation	Driveline Gearbox Fault Detection Using Torsional Sensing	$90,000 (completed)
PI	Cummins	Leakage Path Localization in Engine Blocks	$258,415 (completed)
PI	Nesch LLC/SBIR	X-ray Refraction for Inspection of Composite Missile Canisters	$5,000 (completed)
PI	Simulex/Crane	Modeling and simulation of ship damage control scenarios	$294,000 (completed)
PI	Simulex/Crane	Modeling and simulation of ship damage control scenarios	$392,000 (completed)
PI	Proprietary	Diagnostics and prognostics for rolling tires	$55,000 (completed)
PI	Cummins	Modeling and Simulation of a Cold Engine Test Driveline	$132,315 (completed)
PI	Honeywell	Health monitoring of complex components using sensor arrays	$20,000 (completed)
PI	General Motors Corporation	Head rest rattle modeling, simulation, and validation	$48,000 (completed)
PI	LORD Corporation	Structural diagnostics/prognostics	$20,000 (completed)
PI	Honeywell	Diagnostics in Mechanically Attached Structural Components	$20,000 (completed)
PI	ArvinMeritor	Functional degradation of integrated suspension system	$80,000 (completed)
PI	PLM Center of Excellence (Purdue University)	Diagnostics of gas turbine engine wire harnesses and connectors	$30,000 (completed)
PI	Center for Advanced Manufacturing (Purdue University)	Functional degradation of integrated suspension system	$30,000 (completed)
PI	Proprietary	Diagnostics and prognostics for rolling tires	$45,000 (completed)
PI	Rolls-Royce	Damage Detection in Wire Harnesses and Connectors	$20,000 (completed)
Co-PI	IBM SUR equipment grant for PLM COE laboratory (10 PCs, 1 WS)	Prognostics Laboratory at Herrick Laboratory	$80,000 (completed)

PI	ArvinMeritor	Experimental noise and vibration diagnostics using pattern recognition	$72,346 (completed)
PI	LORD Corporation	Structural diagnostics/prognostics	$10,000 (completed)
PI	Sanden Corporation	Modeling and simulation of multi-cylinder auto compressor noise	$230,000 (completed)
PI	General Motors Corporation	System-level modeling and design of vehicle power-train mounts	$164,000 (completed)
PI	LORD Corporation	Structural diagnostics (PECASE supporter)	$22,500 (completed)
PI	Goodyear Tire & Rubber Company	Diagnostics and prognostics for rolling tires	$16,000 (completed)
PI	Goodyear Tire & Rubber Company	Nonlinear system identification of tire-vehicle interactions	$68,000 (completed)
PI	NASA SBIR (TMS) Phase I	'Smart' diagnostic transducer	$20,000 sub-award (completed)
PI	Summer Purdue Research Foundation faculty grant	Micro-acoustic sensor	$6,000 (completed)
PI	Caterpillar – Lafayette Engine Center	Vibration testing of a Barber air-shutoff valve	$4,000 (completed)
PI		Vibration related failure due to Impacts; Condition-Based Maint.	$15,000 (completed)
PR	Procter & Gamble (at Univ. of Cin.)	Transportation load analysis	$40,000 (completed)
PR		Corrugate compression testing	$12,000 (completed)
PR	Arvin Industries (at Univ. of Cin.)	Testing of exhaust system	$15,000 (completed)

CONSULTING

COMPANY	DESCRIPTION	DATES
Technical Assistance Program/Delphi	Consultant on modal dynamic testing of vehicle battery pack	Spring 2012
Baker Botts	Consultant on analysis of reciprocating compressors	December 2011
Technical Assistance Program/Flow	Consultant on modal dynamic testing of water jet machine	Fall 2011
The Modal Shop, Inc.	Consultant on modal dynamic testing of complex mechanical systems	April 2009
Batelle	Consultant on prognostics of ground vehicles	October 2006-June 2011
Defense Advanced Research Projects Agency	Consultant on dynamic testing of aero-mechanical systems	August 2005-August 2006
Mechanical Simulation International, Inc.	Consultant in nondestructive evaluation of military ground vehicles	June 2005
The Cook Law Firm	Consultant in engineering design and mechanism bio-dynamic analysis	December 2004
LORD Corporation	Consultant in the development of structural health monitoring technologies	January 2001-present
Goodyear Tire & Rubber	Consultant in vehicle dynamics and tire-suspension interaction	April 2000

INTELLECTUAL PROPERTY

TITLE	DATE DISCLOSURE SUBMITTED
Battery Electrode Inspection using Flash Thermography	December 2011
Kiss Bond Detection using Dynamic Measurements	January 2011
Load Shaping in Wind Turbines Using In-Rotor Sensors	January 2011

VARTM Field Repair of Composite Structures	December 2011
MEM Temperature Sensors for Rotating Machines	December 2010
Battery Acoustic Sensing for State of Charge	November 2010
Torsional Sensing for Gearbox Fault Diagnosis	October 2010
Impact Load Estimation in Composite Structures	March 2009
3D Laser Vibrometry Inspection of Composite Materials	March 2009
In-Blade Sensing for Load Estimation in Wind Turbines	January 2009
Instrumented Cleat for Diagnosis of Mechanical Faults	November 2008
Acoustic Leakage Localization in Engine Blocks	November 2007
Spindle Diagnostic Tool	August 2006
Tire Health Monitoring System	September 2006
Damage Localization Using Phased Arrays	July 2006
Vibration Acoustic Thermal Apparatus	August 2006
Body Armor Health Monitoring System (co-inventor with Army Research Laboratory, Dr. Shawn Walsh)	August 2005
Multi-Cylinder Compressors and Methods for Designing such Compressors – Valve Design	No. 7,172,393 (U.S.)
Multi-Cylinder Compressors and Methods for Designing such Compressors – Manifold Design	No. 7,607,900 (U.S.)

1. REFEREED JOURNAL PUBLICATIONS

1. Yang, C., and Adams, D. E., "Identification of Multiple Damages in a Structure using Embedded Sensitivity Function and Optimization Techniques," 2012, Transactions on Control and Mechanical Systems, accepted.
2. Meyer, A., and Adams, D. E., "Damage identification of ground vehicle through passive probing of suspension damping", 2012, *Experimental Mechanics*, accepted.
3. 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", 2012, *Journal of Condition Monitoring and Diagnostic Engineering Management*, in print.
4. 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*, accepted for publication.
5. Gupta, L., Brouwer, M., Sadeghi, F., Peroulis, D., and Adams, D., "High Temperature Dynamic Viscosity Sensor for Engine Oil Applications," 2011, *Sensors & Actuators: A. Physical*, accepted for publication.
6. Zwink, B., and Adams, D. E., "Nondestructive Evaluation of Composite Material Damage using Vibration Reciprocity Measurements", 2011, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, accepted for publication.
7. Mahulkar, V., and Adams, D. E., "Derivative Free Filtering in Hydraulic Systems for Fault Identification", 2011, *Control Engineering Practice*, Vol. 19, Issue 7, pp. 649-657.
8. Adams, D. E., White, J., Rumsey, M., and Farrar, C., "Structural Health Monitoring of Wind Turbines: Method and Application to a HAWT", 2011, *Wind Energy*, Vol. 14, Issue 4, pp. 603-623.
9. McKay, S., Chaturvedi, A., and Adams, D., E., "A Process for Anticipating and Shaping Adversarial Behavior," 2011, *Naval Research Logistics Journal*, Vol. 58, Issue 3, pp. 255-280.
10. Budde, C., Adams, D. E., and Meckl, P., "Impact Detection for a Fiberglass Composite Rotor Blade", 2010, *Journal of the American Helicopter Society*, accepted for publication.
11. Yang, C., and Adams, D. E., "Predicting Changes in Vibration Behavior With Respect to Multiple Variables Using Empirical Sensitivity Functions", 2010, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, Vol. 132(6).
12. Yoder, N. and Adams, D. E., "Vibro-Acoustic Modulation Utilizing a Swept Probing Signal for Robust Crack Detection," (invited paper) 2010, *Structural Health Monitoring: An International Journal*, Vol. 9, No. 3, pp. 257-267.
13. McKay, S., Mahulkar, V., and Adams, D., E., "A Process to Comprehend Critical System-of-systems Factors: Applied to Wireless Technology Design on a Navy Ship," 2009, *International Journal of System of Systems Engineering*, Vol. 2, No. 4, pp. 257-278.

14. Lopez, J., Adams, D. E., Gomez, J., and Gul, K., "Identification of Damaged Shafts Using Active Sensing – Simulation and Experimentation", 2009, *Journal of Sound and Vibration*, Vol. 327, No. 3-5, pp. 368-390.
15. 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*.
16. White, J., Adams, D. E., and Jata, K., "Structural Health Monitoring of a Metallic Sandwich Panel by the Method of Virtual Forces", 2009, *Structural Health Monitoring: An International Journal*, Vol. 8, No. 6, pp. 537-553.
17. Yang, C., and Adams, D. E., "Predicting Changes in Vibration Behavior Using First and Second-Order Iterative Embedded Sensitivity functions", 2009, *Journal of Sound and Vibration*, Vol. 323, Issues 1-2, pp. 173-193.
18. Mahulkar, V., McKay, S., Adams, D., E., and Chaturvedi, A., "System of Systems Modeling and Simulation of a Ship Environment with Wireless and Intelligent Maintenance Technologies," 2009, *IEEE Transactions on Systems Man & Cybernetics, Part A*, Vol. 39, No. 6, pp. 1255-1270.
19. Haroon, M. and Adams, D., E., "A Modified H2 Algorithm for Improved Frequency Response Function and Nonlinear Parameter Estimation," 2009, *Journal of Sound and Vibration*, Vol. 320, No. 4-5, pp. 822-837.
20. Adams, D. E., Gothamy, J., Decker, P., and Lamb, D., "Analysis of Passive Vibration Measurement and Data Interrogation Issues in Health Monitoring of a HMMWV Using a Dynamic Simulation Model," 2009, *Society for Automotive Engineers Transactions Journal of Materials & Manufacturing*, Vol. 1, No. 1, pp. 235-242.
21. Yoder, N. Haroon, M. Adams, D. E., and Triplett, M., "Multi-Dimensional Sensing for Impact Load and Damage Evaluation in a Carbon Filament Wound Canister," (invited paper) 2009, *Materials Evaluation*, Vol. 66, No. 7, pp. 756-763 .
22. Stites, S. and Adams, D. E., "Semi-Active Damage Identification for a Composite Structural Missile Component Using Minimal Passive Sensing with Data-Driven Models," (invited paper) 2009, *Intelligent Material Systems and Structures*, Vol. 20, No. 3, pp. 337-353 .
23. Stites, S. and Adams, D. E., "Minimal-Sensing, Passive Force Identification Techniques for a Composite Structural Missile Component," 2009, *Shock and Vibration*, Vol. 16, No. 2, pp. 117-142 .
24. Ackers, S. Zwink, B. Adams, D. E., and Evans, R., "Crack Detection in an Embedded Spindle Using Broadband Modal Excitation," 2008, *Experimental Mechanics*, in print, published online, DOI: 10.1007/s11340-008-9155-z .
25. Hickey, D., Haroon, M., Worden, K., and Adams, D. E., "Nonlinear System Identification of Automotive Dampers: A Time and Frequency-Domain Analysis," 2008, *Mechanical Systems and Signal Processing*, in print .
26. Sundararaman, S. and Adams, D. E., "Modeling Guided Waves for Damage Identification in Isotropic and Orthotropic Plates Using a Local Interaction Simulation Approach," 2008, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, in print, published online, DOI: 10.1115/1.2890389 .
27. Sundararaman, S. and Adams, D., E., "Accuracy and Convergence using a Local Simulation Approach in One, Two and Three Dimensions," 2008, *American Society of Mechanical Engineering Journal of Applied Mechanics*, Vol. 76, No. 3, pp. 1-10 .
28. Haroon, M. and Adams, D., E., "Component-Level Damage Evolution Laws for Mechanical Damage Prognosis," 2008, *American Society of Mechanical Engineering Journal of Applied Mechanics*, Vol. 74(2), DOI: 10.1115/1.2793137 .
29. Yang, C., Adams, D. E., Derriso, M., and Gordon, G., "Structural Damage Identification in a Mechanically Attached Metallic Panel Using Embedded Sensitivity Functions", 2008, *Journal of Intelligent Material Systems and Structures*, Vol. 19(4), pp. 475-485 .
30. Haroon, M., and Adams, D. E., "Component Restoring Force for Damage Identification in Vehicle Suspension Systems", 2008, *International Journal of Vehicle System Modeling and Testing*, Vol. 3, No. 1-2, pp. 25-46 .
31. Park, J.-I., Bilal, N., and Adams, D. E., "Numerical and Experimental Study of Gas Pulsations in the Suction Manifold of a Multi-Cylinder Automotive Compressor", 2008, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, Vol. 130(1), 011014 .
32. Yoder, N., Johnson, T., and Adams, D. E., "Near Real-Time Monitoring of Bead Area Damage in Rolling Tires Using a Rotating Wheel Model and Multi-Directional Vibration Data," 2007, *Key Engineering Materials*, Vol. 347, pp. 233-238 .

33. Kess, H., Sundararaman, S., Shah, C., Adams, D. E., Triplett, M., Walsh, S., and Pergantis, C., "Damage Identification in An S-2 Glass Composite Cylinder Using Vibration and Wave Propagation Methods," 2007, *Journal of Experimental Mechanics*, Vol. 47(4), pp. 497-509 .
34. Johnson, T., and Adams, D. E., "Rolling Tire Diagnostic Experiments for Identifying Incipient Bead Damage Using Time, Frequency, and Phase-Plane Analysis," (invited paper), 2006, *Society of Automotive Engineers Transactions Journal of Materials & Manufacturing*, #2006-01-1621, pp. 984-990 .
35. Kess, H. R., and Adams, D. E., "Investigation of Operational and Environmental Variability Effects on Damage Detection Algorithms in a Woven Composite Plate," 2007, *Mechanical Systems and Signal Processing*, Vol. 21, No. 6, pp. 2394-2405 .
36. Johnson, T. J., and Adams, D. E., "Composite Indices Applied to Vibration Data in Rolling Tires to Detect Bead Area Damage," 2007, *Mechanical Systems and Signal Processing*, Vol. 21(5), pp. 2161-2184 .
37. 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 .
38. Park, J.-I., Bilal, N., Adams, D. E., Bayyouk, J., and Ichikawa, Y., "Gas Pulsation Reductions in A Multi-Cylinder Compressor Suction Manifold Using Valve-to-Valve Mass Flow Rate Phase Shifts", 2007, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, Vol. 129(4), pp. 406-416 .
39. Hickey, D., Haroon, M., Adams, D. E., and Worden, K., "Investigating Non-Linear Behaviour within a Vehicle Suspension System Using Time and Frequency Domain Techniques," 2006, *Applied Mechanics and Materials*, Vols. 5-6, pp. 285-294 .
40. Jiang, H., Adams, D. E., and Jata, K., "Material Damage Modeling and Detection in Homogeneous Sheet and Sandwich Panel Using Passive Acoustic Transmission", 2006, *Structural Health Monitoring, An International Journal*, v. 5, pp. 373-387 .
41. Cardi, A., Adams, D. E., and Walsh, S., "Ceramic Body Armor High-Velocity Impact Load Identification Acceleration Response Mapping", 2006, *Structural Health Monitoring, An International Journal,* v. 5, pp. 355-372 .
42. Johnson, T. J., Manning, R., Adams, D. E., Sterkenburg, R., and Jata, K., "Vibration-Based Diagnostics of Tool-Part Interactions during Riveting on an Aluminum Aircraft Fuselage", 2006, *Journal of Aircraft*, v. 43, n. 3, pp. 779-786 .
43. Hundhausen, R. J., Adams, and D. E., Derriso, "Impact Loads Identification in Standoff Thermal Protection System Panels", 2007, *Journal of Intelligent Material Systems & Structures*, Vol. 18, No. 6, pp. 531-541 .
44. Yang, C., Adams, D. E. and Ciray, S., "Embedded Sensitivity Functions for Experimentally Diagnosing Vibration Problems and Identifying Nonlinear Models of Automotive Components", (invited), 2005-01-1502, *Society of Automotive Engineers 2005 Transactions: Journal of Passenger Cars – Mechanical Systems*, Vol. 114-6, pp. 1853-1863 .
45. Yang, C., Adams, D. E., and Ciray, S., "Identification of Nonlinear Systems Using Embedded Sensitivity Functions", 2005, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, Vol. 127(6), pp. 530-541 .
46. Yang, C. and Adams, D. E., "Structural Damage Detection for Metal Panel Using Embedded Sensitivity Functions," June 2005, *Journal of Korean Society of Noise and Vibration Engineering*, Vol. 15-6, pp. 697-705.
47. Sundararaman, S., Adams, D. E., and Rigas, E., "Biologically Inspired Structural Diagnostics through Beamforming with Phased Transducer Arrays", 2005, *International Journal of Engineering Science*, vol. 43, pp. 756-778 .
48. Sundararaman, S., Adams, D. E., and Rigas, E., "Structural Damage Identification in Homogeneous and Heterogeneous Structures Using Beamforming", 2005, *Structural Health Monitoring, An International Journal*, Vol. 4, No. 2, pp. 171-190 .
49. Nataraju, M., Adams, D. E. and Rigas, E., "Nonlinear Dynamics Simulation and Observations of Damage Evolution in a Cantilevered Beam", 2005, *Structural Health Monitoring, An International Journal*, Vol. 4, pp. 259-282 .
50. Haroon, M., Adams, D. E., Luk, Y.-W., and Ferri, A., "A Time and Frequency Domain Approach for Identifying Nonlinear Mechanical System Models in the Absence of an Input Measurement", 2005, *Journal of Sound and Vibration*, Vol. 283, pp. 1137-1155 .

51. Johnson, T. J., 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 .
52. Kess, H., Bilal, N. and Adams, D. E., "Reversing the Roles of Theory and Experiment in a Roving Laboratory for Undergraduate Students in Mechanical Vibrations", 2004, *International Journal of Engineering Education*, Vol. 21, No. 1 .
53. Haroon, M., Adams, D. E., and Luk, Y.-W., "A Technique for Estimating Linear Parameters Using Nonlinear Restoring Force Extraction in the Absence of an Input Measurement", 2005, *American Society of Mechanical Engineering Journal of Vibration and Acoustics*, vol. 127, pp. 483-492 .
54. McGee, C. G., Haroon, M., Adams, D. E., Luk, Y.-W., "A Frequency Domain Technique for Characterizing Nonlinearities in a Tire-Vehicle Suspension System", 2004, *American Society of Mechanical Engineering Journal of Vibration and Acoustics* .
55. Jellison, B. J., Kess, H., and Adams, D. E., and Nelson, D., "Nondestructive Evaluation of Parts with Degenerate Modes using Pseudorepeated Roots", 2004, *American Society of Mechanical Engineering Journal of Dynamic Systems, Measurement and Control*, Vol. 126, pp. 498-508 .
56. Park, J.-I., Adams, D. E., Bayyouk, J., and Ichikawa, Y., "Frequency Response of Pressure Pulsations and Source Identification in a Suction Manifold", 2004, *Journal of Sound and Vibration*, vol. 277, pp. 669-690 .
57. Purekar, A. S., Pines, D. J., Sundararaman, S., and Adams, D. E., "Directional Piezoelectric Phased Array Filters for Detecting Damage in Isotropic Plates," 2004, *Journal of Smart Materials and Structures*, Vol. 13, pp. 838-850 .
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60. Nataraju, M., and Adams, D. E., "A Nonlinear Dynamical Systems Framework for Structural Diagnosis and Prognosis", 2002, *International Journal of Engineering Science*, Vol. 40, pp. 1919-1941 .
61. Adams, D. E. and C. R. Farrar, "Identifying Linear and Nonlinear Damage Using Frequency Domain ARX Models", 2002, *Structural Health Monitoring, An International Journal*, Vol. 1, No. 2, pp. 185-201 .
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63. McGee, C. G. and Adams, D. E., "Multiple Equilibria and their Effects on Impact Damage in an Air-Handling Assembly", January 2002, *Nonlinear Dynamics*, Vol. 27, 1, pp. 55-68 .
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67. Adams, D. E. and Allemang, R. J., "A Frequency Domain Method for Estimating the Parameters of a Nonlinear Structural Dynamic Model through Feedback", 2000, *Mechanical Systems and Signal Processing*, Vol. 14, No. 4, pp. 637-656 .
68. Adams, D. E. and Allemang, R. J., "Residual Frequency Autocorrelation as an Indicator of Nonlinearity", 2000, *International Journal of Non-Linear Mechanics*, Vol. 36, pp. 1197-1211 .
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2. REFEREED CONFERENCE PROCEEDINGS

1. Dana, S., and Adams, D. E., "Dynamics-Based Health Monitoring of Wind Turbine Rotor Blades using Integrated Inertial Sensors," Proceedings of the International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, IDETC/CIE 2012, August 12-15, Chicago, IL.
2. A. Crandall, B. Hylton, and D. Adams "Compensation For Boundary Condition Effects of a Helicopter Blade Droop Stop Using Frequency Domain Impedance Modeling." *Proceedings of the 2012 Vibration Institute Training Conference, Williamsburg, VA, 2012*.
3. Yang, C., and Adams, D. E., "Identification of Multiple Damages in a Structure Using Embedded Sensitivity Functions and Optimization Techniques", 2011, *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Denver, Colorado.
4. Yang, C., and Adams, D. E., "Prediction of Changes in System Vibration Response Using Empirical Sensitivity Functions", 2010, *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Vancouver, British Columbia, Canada.
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68. Venere, E., "Engineers Create Structural Radar to Monitor Aircraft, Vehicles", November 2001, *Purdue News Service*, Press Release, http://news.uns.purdue.edu/UNS/html4ever/ 011115.Adams.diagnostic.html.
69. VanArsdall, K., "Engineers Work to Construct Airplane Monitoring System for Pilots", December 7, 2001, *The Exponent*, Vol. 117, No. 188, p. 1.
70. Richards, F., "Distributed Smart Transducers for Structural Health Monitoring", June 2001, *Motion Systems Magazine*, Vol. 43, No. 6, pp. 38.
71. 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.

12. TELEVISION AND RADIO DOCUMENTARIES

1. *Repower America,* A. Tuholski, http://www.youtube.com/watch?v=Y5h0XEtSKnk, internet documentary on wind energy, November 2009.
2. *WLFI TV,* Krizen, J., West Lafayette, television documentary on smart blade, May 2009.
3. Discovery Channel – Canada, "Daily Planet," television documentary on missile health monitoring, April 25, 2007.
4. *WLFI TV,* Fuller, A., West Lafayette, television documentary on crack detection in Stryker vehicle, May 2006.
5. *WLFI TV,* Fuller, A., West Lafayette, television documentary on thermal protection system health monitoring research, July 2004.
6. *WBAA* Radio, West Lafayette, taped interview on thermal protection system health monitoring research, July 2004.
7. *WBAA* Radio, West Lafayette, taped interview on embedded sensitivity functions, November 2002.
8. *WBAA* Radio, West Lafayette, taped interview on Presidential Award, July 2002.

9. Hanson, S., "Structural Sonar", television documentary, Discoveries & Breakthroughs, January 2002, *American Institute of Physics*.
10. Rivera, E., "Tech Sniffs Out Airplane Weakness", television documentary, Tech Live, December 2001, *TechTV*.
11. *KCSN* Radio, Los Angeles, taped interview on structural health monitoring, December 2001.
12. *Network Indiana*, taped interview on structural health monitoring, November 2001.

SERVICE IN UNIVERSITY COMMITTEES AND CENTERS

COMMITTEE	DATE MEMBER
System of Systems Institute College of Engineering Thrust Committee	July 2010 – present
Energy Cluster Hire Search Committee College of Engineering	July 2010 – present
Ray W. Herrick Professorship Search Committee School of Mechanical Engineering	January 2010 – December 2010
Hybrid Ground Vehicle Faculty Search Committee School of Mechanical Engineering Technology	January 2009 – present
College of Engineering Strategic Planning Committee Research Enterprise	April 2009 – November 2009
Computational Mechanics Faculty Search Committee School of Civil and Environmental Engineering	January 2009 – May 2009
Honors Student Committee School of Mechanical Engineering, College of Engineering	January 2007 – present
Information, Perception, and Communication Technology Faculty Search Committee School of Mechanical Engineering, College of Engineering	January 2006 – May 2007
Intelligent Buildings Faculty Search Committee School of Mechanical Engineering	December 2005 – May 2007
College Research Committee School of Mechanical Engineering, College of Engineering	November 2005 – May 2007
Junior Faculty Advisory Council School of Mechanical Engineering, College of Engineering	November 2002 – August 2005
Intelligent Structural Systems Faculty Search Committee School of Mechanical Engineering, College of Engineering	April 2003 – present
Ray W. Herrick Laboratories Safety Committee School of Mechanical Engineering	August 2002 – August 2005
Mechanics Area Committee School of Mechanical Engineering	July 2000 – present

SERVICE IN PROFESSIONAL ORGANIZATIONS

TYPE OF SERVICE	DATES
Journals	
Managing Editor, Structural Health Monitoring Journal	Sept 2010 – present
Associate Editor, ASME Journal of Dynamic Systems Measurement and Control	January 2009 – present
Associate Editor, Structural Health Monitoring: An International Journal	January 2006 – Sept 2010
Managing Editor, Structural Health Monitoring Newsletter	January 2006 – June 2009
Organizations	
Executive Board, Society of Experimental Mechanics	January 2010 – present
Vice Chair, Technical Committee on Modeling and Intelligent Systems,	January 2006 – October 2010

American Society of Mechanical Engineers Division of Dynamic Systems and Control	
Chair, Structural Health Monitoring Person of the Year Award Committee	January 2007 – present
Member, Technical Committee on Vibration and Sound, American Society of Mechanical Engineers Design Engineering Division	April 2006 – present
Secretary, Technical Committee on Modeling and Intelligent Systems, American Society of Mechanical Engineers Division of Dynamic Systems and Control	January 2006 – present
Chair, Technical Division on Nonlinear Systems and Methods, Society of Experimental Mechanics, International Modal Analysis Conference	April 2004 – present
Vice-Chair, Technical Panel on Modeling and Identification, American Society of Mechanical Engineers Division of Dynamic Systems and Control	November 2003 – 2005
Conferences	
Short Course Liaison, International Compressor Conference, 2010, Purdue University	July 2010
Scientific Committee, International Conference on Advances in Experimental Mechanics, 2011, Edinburgh, Scotland	September 2011
Program Committee, U.S. National Congress of Theoretical and Applied Mechanics, 2010, Pennsylvania State University	June 2010
Conference Chair, International Compressor Conference, 2008, Purdue University	July 2008
Organizing Committee, 2nd Asia Pacific Workshop on Structural Health Monitoring	December 2008
Organizing Committee, IEEE International Conference on Prognostics and Health Management	October 2008
Co-organizer, Nonlinear Methods, 2008 International Modal Analysis Conference	February 2008
Chair, Student Best Paper Award Committee, 2007 International Workshop on Structural Health Monitoring	September 2007
Organizing Committee, 2007 International Workshop on Structural Health Monitoring	September 2007
Organizing Committee, 2007 SPIE Conference on Health Monitoring of Structural and Biological Systems	March 2007
Co-organizer, Nonlinear Applications and Historical Perspectives, 2007 International Modal Analysis Conference	February 2007
Chair, Identification of Mechanical Systems sessions, 2006 International Mechanical Engineering Congress and Exposition	November 2006
Co-Chair, International Refrigeration and Compressor Conference, 2006, Purdue University	July 2006
Organizing Committee, 2005 International Workshop on Structural Health Monitoring	September 2005
Chair, Hot Structures/Vehicle Components sessions, 2005 International Workshop on Structural Health Monitoring	September 2005
Chair, Identification of Mechanical Systems sessions, 2005 International Mechanical Engineering Congress and Exposition	November 2005
Chair, General Nonlinear Methods and Nonlinear Methods for Structural Health Monitoring sessions, 2005 International Modal Analysis Conference	February 2005
Chair, General Applications session, 2004 European Workshop on Structural Health Monitoring	July 2004
Chair, Identification of Mechanical Systems sessions, 2004 International	November 2004

Mechanical Engineering Congress and Exposition	
Chair, Identification of Mechanical Systems sessions, 2003 International Mechanical Engineering Congress and Exposition	November 2003
Chair, Structural Health Monitoring Lifetime Achievement Award Selection Committee	July 2002 – July 2004
Co-Chair, Nondestructive Evaluation session, 2002 American Society of Composites Conference	October 2002
Chair, Identification of Mechanical Systems sessions, 2002 International Mechanical Engineering Congress and Exposition	November 2001 – 2002
Chair, Nonlinear Systems sessions, 2002 International Modal Analysis Conference	February 2001 – 2002
Chair, Identification of Mechanical Systems sessions, 2001 International Mechanical Engineering Congress and Exposition	November 2000 – 2001
Proposal review activities	
Department of Energy, Early Career Research Program, proposal review	November 2009
Georgia National Science Foundation, proposal review	June 2009
NSERC (Canada), Sherbrooke, proposal review and site visit	January 2008
University of Wisconsin Madison Catalyst Program, proposal review	November 2007
Swedish Knowledge Foundation, proposal review	Dec 2006, Nov 2007
Naval Research Laboratory American Society of Engineering Education Postdoctoral Fellowship Program, proposal review	December 2005
The U. S. Department of Energy, proposal review, International Science and Technology Center Projects	December 2003
National Science Foundation, panel review, Civil and Mechanical Systems, Dynamic Systems and Control Program	January 2002
National Science Foundation, panel review, Division of Undergraduate Education, Course, Curriculum and Laboratory Improvement Program	July 2002 January 2003
National Research Council, proposal review, Air Force Office of Scientific Research	July 2002
Solid Mechanics and Dynamics, proposal review, Army Research Office	May 2002 – present
Publication review activities	
Reviewer for Journals 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, etc.	2000 – present
Reviewer for conference proceedings including Design Engineering Technical Conference, International Mechanical Engineering Congress and Exposition, International Compressor Conference, and others	2001 – present

INTERNATIONAL ACTIVITIES

Hosted visiting research scientist (Young-Sun Hong) from South Korea	July – September 2009
Hosted visiting project student (Joseph Aldrin) from Australia	January – May 2008

Hosted visiting researcher (Jose Machorro Lopez) from Mexico	January 2006 – 2008
GEARE Advisor to Claudia Ellmer Thesis student at Purdue University	June – December 2006
Hosted visiting researcher from Greece, Prof. Y. Georgio	January – December 2006
Hosted visiting researcher from United Kingdom, D. Hickey	May – December 2005
Site Visit Review Committee, National Science and Engineering Research Council, Canada	January 2008
Reviewer for Swedish Knowledge Foundation Collaborative Research Proposals	December 2006 November 2007
Short Course on Diagnosis and Prognosis in Mechanical Systems, Technical University Braunschweig. Center for Monitoring of Structures	May 2005
Reviewer for International Science and Technology Projects, U. S. Department of Energy	December 2003
Advisor to international student group at 2003 NSF Pan American Advanced Studies Institute on Damage Prognosis, Florianoplis, Brazil	October 2003
International Conference on Smart Technology Demonstrators and Devices, Edinburgh, Scotland, session 5 (speaker)	September 2001
India-USA Joint Workshop on Emerging Trends in Noise and Vibration Engineering, The Ohio State University, Columbus, OH (speaker)	December 2001

OUTREACH ACTIVITIES

ACTIVITY	DATES
Purdue University, Pugwash Wind Energy	August 2011
Purdue University, President's Leadership Class Fueling the Winds of Change: Wind Energy Systems	March 2011
Purdue University, Physics (Professor Jane Yatcilla) Great Issues in Science and Society	October 2009 September 2010 March 2011 October 2011
Delivered research seminar to Summer Undergraduate Research Fellowship (SURF) program on "Harnessing the Winds of Change"	July 2010 June 2011
Organized seminar by women and minority representatives from U.S. Army Tank Automotive Command with Women In Engineering and Minority Engineering Programs	April 2008
Women in Engineering Discovery Day, faculty participant	April 2008
Delivered five part seminar series on "Becoming a Faculty Member: Everything you wanted to know but were afraid to ask" at Purdue	March 2007 March 2011 April 2012
"Engineering Your Career" Panelist at Pi Tau Sigma National Convention	February 2007
SURF (Summer Undergraduate Research Fellowship) Advisor to two SURF students at Purdue University	January 2006 – present
AGEP (Accelerate Graduate Engineers in the Professoriate) Professor to recruit minority students in Mechanical Engineering at Purdue University	April 2005 – present
Assisted with planning and presentation as advisor to senior students hosting Middle School MINDS program at Purdue University	September 2004
Advisor to international student group at 2003 NSF Pan American Advanced Studies Institute on Damage Prognosis, Florianoplis, Brazil	October 2003

Delivered seminar series on Nonlinear Vibrations to undergraduates in Los Alamos National Laboratory Dynamics Summer School program and advise students in their research projects	July 2001 July 2002 July 2003 July 2005 July 2006 July 2007 July 2008 July 2009 July 2010
Participate in design review for EPICS (Engineering Projects in Community Service) Program at Purdue University	November 2000 November 2001
Participated as speaker in Career Development Seminar at the University of Cincinnati	June 1998 June 1999
Participated as host in Women in Engineering orientation and Minority Apprenticeship Program at University of Cincinnati	September 1999 April 2000

COLLABORATORS, GRADUATE STUDENTS OTHER AFFILIATIONS

Collaborators:
Dr. Rebecca Barthelmie, Indiana University
Dr. Gaetan Kerschen, University of Liege
Dr. Jean-Claude Golinaval
Dr. K. Worden, University of Sheffield
Prof. G. Tomlinson
Prof. P. Cornwell, Rose Hulman Institute of Technology
Prof. R. Singh, Ohio State University
Prof. D. Pines, University of Maryland
Prof. H. Mahmassani
Prof. A. Flatau
Prof. A. P. Meliopoulos, Georgia Institute of Technology
Prof. J. Ginsberg
Prof. A. Ferri
Prof. J. Rossignac
Prof. R. Baraniuk, Rice University
Prof. M. Obeng, Bethune Cookman College
Prof. J. Busemeyer, Indiana University
Prof. R. Pidiparti, IUPUI
Prof. M. Pillakal
Prof. C. T. Sun, Purdue University (Aeronautical/Astronautical Engineering)
Prof. J. Doyle
Prof. T. Farris
Prof. M. Rotea
Prof. J. Caruthers, Purdue University (Chemical Engineering)
Prof. M. Sozen, Purdue University (Civil Engineering)
Prof. J. Ramirez
Prof. J. Liu
Prof. T. Whalen
Prof. C. Hoffman, Purdue University (Computer Science)
Prof. A. Grama
Prof. A. Sameh
Prof. J. Vitek
Prof. S. Jagannathan
Prof. A. King, Purdue University (Materials Engineering)
Prof. D. Johnson

Prof. B. Pipes
Prof. J. Youngblood
Prof. B. Caldwell, Purdue University (Industrial Engineering)
Prof. C. Krousgrill, Purdue University (Mechanical Engineering)
Prof. W. Soedel
Prof. P. Meckl
Prof. R. Kramer, Purdue University Calumet
Prof. M. Franchek, University of Houston (Mechanical Engineering)
Prof. D. Brown, University of Cincinnati (Mechanical Engineering)
Prof. E. Berger, University of Cincinnati
Mr. Mark Rumsey, Sandia National Laboratories
Dr. Sandy Butterfield, National Renewable Energy Laboratory
Mr. M. Derriso, Air Force Research Laboratory, Air Vehicles Directorate
Dr. K. Jata, Air Force Research Laboratory, Materials and Manufacturing Directorate
Dr. C. Farrar, Los Alamos National Laboratory, Engineering Analysis Group
Dr. W. Silva, NASA Langley Research Center
E. Rigas, ARL-WMRD Aberdeen Proving Ground
S. Walsh, ARL-WMRD Aberdeen Proving Ground
Dr. T. Blanas, ARL, Natick MA
L. Freudinger, NASA Dryden
Dr. Grant Gordon, Honeywell Engine Systems
Mr. P. Kukuchek, Goodrich Aerostructures
Mr. R. Alloway, Goodrich Aerostructures

Graduate and Post-Graduate Advisors:
Prof. K. Youcef-Toumi, Massachusetts Institute of Technology
Prof. R. J. Allemang, University of Cincinnati

Graduate and Post-Graduate Advisees:
Primary advisor:

- Janene Christensen (PhD) – Lambert Fellow
- Nathan Sharp (PhD) – NSDEG Fellow
- Blake Hylton (MS)
- Christopher Watson (PhD)
- Raymond Bond (PhD) – Adelberg Fellow; Sandia Executive Fellow
- Eric Dittman (PhD) – Merit Scholarship
- Brett Anderson (MS)
- Jason Glassbrook (MS)
- Natalie Barrett (PhD) – Purdue Doctoral Fellowship
- Aditi Joshi (MS) – Cummins Fellow
- Kevin Buechele (MS)

Completed:

- C. Gavin McGee (MS) – Ford Motor Company
- Madhura Nataraju (MS) – Ross Fellow; Intel
- Jason Hundhaussen (MS) – Los Alamos National Laboratory
- Timothy Freeman (MS) – Graduate Engineering Minority Fellow, General Motors
- Chulho Yang (PhD) – Oklahoma State University School of Technology
- Jeong-Il Park (PhD and PostDoc) – Samsung
- Harold Kess (MS) – Chappelle Fellow; Lockheed Martin
- Janette Jacques (MS and PhD) – Arvin Graduate Student Fellowship; Post Doc Purdue University
- Jonathan White (MS and PhD) – Lozar and Adelberg Fellow; Sandia National Laboratory
- Timothy Johnson (MS and PhD) – Lozar Fellow and NSDEG Fellow; Dow Corning
- Muhammad Haroon (MS and PhD) – Research Scientist TU Braunschweig (deceased)

Spencer Ackers (MS) – The Boeing Company (Chappelle Fellow)
Nick Stites (MS) – University of Colorado - Boulder
Shankar Sundararaman (MS and PhD) – Nominated for 2003 Midwest Distinguished Thesis Award
Emily Prewitt (MS, non-thesis) – NSF Graduate Research Fellow; The Boeing Company
Hao Jiang (PhD) – Trane Company, Lacrosse; Oakridge National Laboratory
Ethan Bush (MS) – Raytheon Fellow; Bose
Robin Kusmanto (MS) – AREVA
Kamran Gul (PhD) – Exxon Mobil
Shawn McKay (PhD) – RAND Corporation
Brandon Zwink (MS) – Sandia National Laboratory
Josh Cummins (MS) – Winkelman Fellow; NAVAIR
Vishal Mahulkar (PhD) – Ross Fellow; Eaton Corporation
Carson Budde (MS) – Aerospace Corporation
Nathaniel Yoder (direct PhD) – NSF Graduate Research Fellow; ATA
Tiffany DiPetta (MS) – TBA
Matthew Houtteman (MS) – Engineering consultant
Charles Butner (MS) – Lozar Fellow; DTI, Inc.
Alan Meyer (MS) – Lawrence Livermore National Laboratory
Chris Bruns (MS) – Chappelle Fellow; Sandia National Laboratory
Joseph Yutzy (MS) – DTI, Inc.
Janette Jaques (PhD) – Purdue University (teaching position and research scientist)
Nasir Bilal (PhD) – Purdue University post doctorate researcher
Tyler Robins (MS) – TBD
Raymond Bond (MS) – Lozar Fellow; Purdue University PhD program
Scott Dana (MS) – NREL
Hasaan McGinnis (MS) – Mathworks
Bryan Wang (MS) – TBD
Nathan Sharp (MS) – Purdue (PhD program)
Josh Kusnik (MS) – Nuclear Regulatory Agency
Sara Underwood (PhD) – Winkleman Fellow; TBD
Andrew Crandall (MS) – Texas A&M (PhD program)

Advisory committee: Students from Mechanical Engineering, Civil and Environmental Engineering, Aerospace and Astronautics, Materials, and College of Nursing and Pharmacy