

## **Dr. Elizabeth K. Ervin**

Objective: Obtain remote position with up to 50% travel in engineering management (19 yrs exp)

### Professional Preparation

Tennessee Technological University	Civil and Environmental Engineering	B.S. 1999
Vanderbilt University	Civil Engineering	M.S. 2001
Carnegie Mellon University	Mechanical Engineering	Ph.D. 2006

### Appointments

Associate Professor, Department of Civil Engineering, University of Mississippi, 2006-2020.  
Assistant Professor, August 2006 to 2012, tenured. U of M Medical Center, Adjunct Professor, Biomedical Materials Science as of 2008.

Bechtel Bettis, Inc., a Department of Energy/U.S. Navy Contractor, Bettis Atomic Power Laboratory, a national laboratory. September 2001 to March 2006; Level L Clearance (expired)

Senior Engineer	Jan. 2005 – Feb. 2006	Reactor Technology Activity, Reactor Engineering Division, Structural Methods Analysis and Design, Shock and Vibration
Engineer	Sept. 2001 – Dec. 2004	Reactor Technology Activity, Acoustic Design & Development, Noise, Vibration, & Shock

- Designed and performed numerous shock and vibration experiments in Fundamental Shock and Vibration Test Laboratory. Technical Skills: Software and Hardware.
- Facilitator of communications between Naval Reactors and contractor organizations
- Naval Reactors Cognizant Engineer of shock and vibration design manual

Summer Research Program, Air Force Research Laboratories May to July 2000  
Air Vehicles Directorate Structures Division, Structural Design & Development Branch (ARFL/VASD), Multidisciplinary Center of Excellence, Wright-Patterson AFB.

Tennessee Department of Transportation, 1996-1999 Summer Intern. Regions IV and II.

### Highlights

Extensive professional reviewing and editing in machine dynamics, experimental methods, field testing, and structural health monitoring

Invited lecturer mechanics, forensic engineering, and nuclear energy  
3D printing, high speed photography, shock and blast, ballistic testing

Lab and computer technician; maintain own web pages and media

High programming skill: know 9 languages, but only one spoken; numerous software packages

Competitive research grants totaling \$ 1,559,579 (Grant list by request)

15 journal papers, 81 conference participations, 23 other publications

## Journal Articles

1. Zeng, C. and Ervin, E.K., Index Combination for Structural Damage Localization Using Genetic Algorithm, *Engineering Structures* (submitted).
2. Daves, M. Ervin, E.K., and Zeng, C. Experimental Data Interpretation using Genetic Algorithm for Global Health Assessment of Reinforced Concrete Slabs Subjected to Cracking, *Advances in Structural Engineering*, online first, 2020, pp. 1-11.
3. Ai D. Nguyen and Elizabeth K. Ervin, "Use of Flexibility Absolute Difference Index to Detect Bracing Effects in a Steel Frame Model," *American Journal of Engineering Research*, Volume 8, Number 03, 2019, pp.107-114.
4. Ethan R. B. Baker and Elizabeth K. Ervin, Identification of Global Shoring Effects on a Laboratory Steel Frame, *Sustainable and Resilient Infrastructure*, Volume 2, Issue 2, 2017, pp. 86-96.
5. Steven B. Worley and Elizabeth K. Ervin, Health Study of a Reinforced Concrete Test Bridge with Pier Damage, *ACI Structural Journal*, Volume 114, Issue 04, July-August 2017, pp. 959-967.
6. Amir M. Rahmani and Elizabeth K. Ervin, Parameter Studies on Impact in a Lap Joint, *Frontiers of Mechanical Engineering*, Volume 10, Issue 1, March 2015, pp. 64-77.
7. Amir M. Rahmani and Elizabeth K. Ervin, Frequency Response of an Impacting Lap Joint, *Journal of Nonlinear Dynamics*, Volume 2014, pp. 1-10.
8. Samantha Sabatino and Elizabeth K. Ervin, Comparison of Damage Diagnosis Algorithms on a Spatial Frame using Vibration Data, *Advances in Structural Engineering*, Volume 18, Number 5, 2015, pp. 739-757.
9. W. Xu, E. K. Ervin, Parameters Affecting the Transient Response of an Impacting Beam, *Shock and Vibration* Volume 20, 2013, pp. 907-919.
10. Xu, W. and E. K. Ervin, Analysis of Transient Beam Behavior with Impact, *ASCE Journal of Engineering Mechanics* *Journal of Engineering Mechanics*, Volume 137, Number 11, 2011, pp. 779-784.
11. Xu, W. and E. K. Ervin, First Principles Estimation of Shock Tube Tests on Nanoreinforced Composite Materials, *ASME Journal of Applied Mechanics*, Volume 78, Number 6, 2011.
12. Elizabeth K. Ervin, A Pragmatic Course in Nuclear Engineering, *International Journal of Energy, Environment and Economics*, Volume 17, Issue 1, 2009, pp. 1-11.
13. E. K. Ervin, Vibro-Repetitive Behavior of Two Orthogonal Beams, *ASCE Journal of Engineering Mechanics*, Volume 135, Number 6, June 2009, pp. 529-537.
14. E. K. Ervin, J. Wickert, Repetitive Impact Response of a Beam Structure Subjected to Harmonic Base Excitation, *Journal of Sound and Vibration*, Vol. 307, Number 1-2, 23 October 2007, pp. 2-19.
15. E. K. Ervin, J. Wickert, Experiments on a Beam-Rigid Body Structure Repetitively Impacting a Rod, *Nonlinear Dynamics, Special Issue, Discontinuous Dynamical Systems: Modeling, Analysis, and Control*, Volume 50, Issue 3, November 2007.

## Books

Elizabeth K. Ervin, [Engineering Statics Workbook: A Companion to Any Text](#), Kendall-Hunt Publishers, 2012, ISBN 978-1-4652-0046-4. 2nd Ed., Kendall-Hunt Publishers, 2016, ISBN 978-1-4652-9699-3.

E. K. Ervin, Chapter 13: A Pragmatic Course in Nuclear Engineering, Nuclear Reactors, Nuclear Fusion, and Fusion Engineering, Nova Publishers, 2009. Chapter only.

### Laboratory Development

Undergraduate structures lab, including statics, mechanics, and structural analysis

Redesigned and rebuilt UG lab sequence as per ABET request.

Multi Function Dynamics Lab, a fully functional small to mid-scale MIL-spec test facility

3-D Printing Lab, including building, debugging, and documenting

### Significant Field Tests

Water towers, Oxford, MS, Summer 2019

Highway 7 Bridge, 3 spans, steel super, 2/6/15

University Avenue Bridge, Oxford, MS, Campus, 5/20/13

Railroad construction and testing, Fall 2012 – Spring 2013

### Awards

The Excellence in Advising award from UM Chi Epsilon, 05/03/2019

Inducted into the Natl. Soc. of Collegiate Scholars as a Distinguished Honorary Member, 10/4/17

Honoree for UM Athletics Faculty Appreciation Day, 9/7/2017

The Excellence in Advising award from UM American Society of Civil Engineers, 05/04/2017

MS Student: 2014 Outstanding Civil Engineering Graduate Student

School of Engineering, 2012 Junior Faculty Research Award

2012 and 2013 School of Engineering Teacher of the Year nominee

Nomination to Excellence in Advising Award 2011, Ole Miss Academic Advising Network

School of Engineering, Outstanding Engineering Teacher Award 2011

PhD Student: Outstanding Graduate Achievement Award for Civil Engineering 2010

School of Engineering, 2009 Faculty Service Award

Distinguished Alumni Seminar, "Innovative Mechanics at the University of Mississippi,"

Tennessee Technological University, October 30, 2008.

6 Graduate School Dissertation Fellowship Awards, totaling \$28,100

Derryberry Award, W.A. Howard Award, and Outstanding Engineer Award, 1999-2000

### Collaborators

Agencies: NSF, DOD, NRC, FHWA, USDOT, MDOT, AFRL, USACE ERDC, DHS, ONR, DOE, ORNL

Businesses: Advanced Systems & Technologies, Inc.; Combustion Research & Flow

Technology, Inc.; General Atomics; Five Star; Tommy Ellis; Caterpillar; L&A Contracting;

Ducommun Miltec, Entergy Nuclear, Southern Nuclear Operating Company

Universities: UAB, LSU, UArk, Utah State University Clemson

### Anecdote as Project Manager

Project Title: Three Integrated Projects to Enhance Non-Contact Rail Inspection Technology for Application to Substructure Health Evaluation on Both Rail and Road Bridges

Project Total: \$404,384

Period: March 2012 - December 2013

Grant Amount: \$202,096 (\$202,288 1:1 in-kind matching)

Award granted by the National Center for Intermodal Transportation and Economic Competitiveness, a five-university consortium including University of Mississippi, created through a U.S. Department of Transportation University Transportation Center program.

Description: Dr. Ervin managed three branches of researchers totaling 21 people. The groups were computational, experimental, and soft-funded. Timelines, budgeting, and reporting were monitoring by Dr. Ervin. A railroad experiencing tie settlement and a reinforced concrete bridge were built and tested. The project was successful, and two follow-up awards were made of \$60,000 and \$57,700.

Final Report: Elizabeth K. Ervin, PI, Final Grant Report, Rapid Non-contact Measurement using Multiple Point Laser Doppler Vibrometry for Health Evaluation of Rail and Road Bridges, NCITEC 2013\_27, USDOT RITA.

### Anecdote as Team Member

Project Title: Sensing and Monitoring: State of the Practice

Period: August 2010 - December 2011

Subcontact Amount: \$34,000

One of the current gaps in knowledge regarding Sensing and Monitoring with respect to First Responders and Building Stabilization is an overview “state of the practice” statement outlining the different sensor technologies that are in existence, the different sensors and monitoring devices that are in use by First Responders in the United States, and the different standards and criteria which devices used by First Responders must follow. The three participants in this effort are drawn from the private sector, academia and public service: Hollice Stone of Stone Security Engineering (StS), Dr. Elizabeth Ervin of University of Mississippi and Captain Jon Rigolo of Virginia Beach Fire Department.

Final Report: “State of the Practice: Sensing and Monitoring For First Responders,” Final Technical Report, Department of Homeland Security, PI: Stone Security Engineering (Sensing and Monitoring: State of the Practice, Grant Completion Approved 7/31/2011).

### Example White Papers *after MDOT meetings*

“Support Bearing Use in Prestressed Concrete Bridges to Save Initial Cost”

Bridge bearing review and innovations; result is a white paper to MDOT January 2020

“Health Assessment of Piers and Piles from Deck Inspections: A Focus on Timber Structures”

Response to timber bridge closures and State Aid work, 2018, 2019.

## Professional Development

### Technical:

Pre-workshop course for IWSHM 2015 and 2017. Dr. Ervin and her PhD student. 3-day short course was "Structural Health Monitoring using Statistical Pattern Recognition" at Stanford University hosting Los Alamos Dynamics, Structural Dynamics and Mechanical Vibration consultants. Instructors: Charles R. Farrar, Michael Todd, Eric B. Flynn.  
Soil liquefaction testing: Liquefaction Susceptibility of Soils in Desoto, Tate, and Tunica County, Mississippi, Nathan Mikell, MS Committee 5/2014  
Workshop on Dam Stability, Safety and Failure, 2011  
Water contaminant removal testing: Shannon White, 2009

### Administration:

6 proposal workshops attended, including 2 NSF-sponsored and 1 online  
2010 CITI Course in the Responsible Conduct of Research (RCR)  
6 Research Administration and Management (RAMP) Program, Office of Research and Sponsored Programs, Spring 2008

### Other:

Readings, seminars, and webinars on the following topics: Stress Management, Productivity, Communication (spoken and otherwise), Leadership, Conflict Resolution, Teamwork (in technical professions), Resiliency, Emotional Intelligence, Listening, Initiative, Drive, Motivation, Anger Management, Supervising, Managing Cultural Diversity, Obtaining Quality Feedback, Workplace Civility, Safety, Health, Fair Treatment, Policies, and Ethics

## Media

Ervin, E.K, Interview on Nuclear Energy and Economics, Smith Weekly Research, May 27 2019. [www.smithweeklyinternational.com/discussions2/5](http://www.smithweeklyinternational.com/discussions2/5)  
Kacey Redmond, Application Spotlight: University of Mississippi Uses Modal Shop Shaker and Dynamic Sensors in Bridge Testing Experiments, Emailed article to all customers nationwide via distribution list, The Modal Shop, 1/30/14.  
Ole Miss homepage, [www.olemiss.edu](http://www.olemiss.edu), photograph on 10/16/2013. Undergrads Undertake Unique Research, Ole Miss Engineer 2013-14, Ervin Sending Out Good Vibrations, Profile, School of Engineering Newsletter, Nov. 2013; Ole Miss News, 11/1/13.  
Kacey Redmond, Application Spotlight: University of Mississippi Uses Modal Shop Shaker, PCB Hammer and Sensors in Bridge Testing, Internal company national newsletter, PCB Piezotronics and the Modal Shop, 12/10/13.  
Civil Engineering Bridge Testing, <http://youtu.be/SzHHCrNb5m0>  
E.K. Ervin, "Infrastructure Health Evaluation via Experimental Techniques," Research.gov Technical Brief, 9/21/10.

## Service

Society of Women Engineers (Faculty Advisor)  
American Society of Civil Engineers (Engineering Mechanics Institute, Dynamics Committee)  
Campus Representative for the University of Mississippi for the American Society for  
Engineering Education; ASEE Nuclear Div. and Energy Conversion and Conservation  
Div. Member. One term as ASEE-SE Division chair, 19 papers reviewed.  
Mississippi Energy Policy Institute, Ole Miss Representative, Nuclear Committee.  
Order of the Engineer  
Tau Beta Pi Advisor  
Chi Epsilon member  
Phi Kappa Phi member  
American Society of Mechanical Engineering (lapsed)  
Qualifying exams and comprehensive exams writer  
Introduce a Gal to Engineering Day, 2017, 2012, 2010  
UM STEM Summer Camp, 7/15/2019: SWE outreach activity; Marine Engineers (Machinery) &  
Naval Architects (Hull Design); Medieval China STEM Challenge  
Judge elementary, secondary, undergraduate, and graduate school competitions  
World Science Fair Task Force, 2/3-3/31/10  
U.S. First robotics  
Member, National Center for Faculty Development & Diversity  
Women in Technology 2016 Conference  
UM Women in STEM member  
Girl Scout activities. Featured in Girl Scout publication, That Could Be Me! by Elizabeth Dia,  
Troop 10843, Dogwood Service Unit. Focus on Memphis/Mid-South area successful  
women in order to motivate high school students. Interviewed 6/13, published 8/13.  
Ole Miss Climate Change Study Group (chaired by Wei-Yin Chen) and the Energy Special  
Interest Group (ORSP).  
External reviewer for tenure, twice  
Summer Orientation activities as advisor  
American Association of University Women 2006 grant to establish the UM Women's Closet, so  
graduate women are to borrow donated professional clothing.  
More written recommendations than are countable.  
Many departmental and school committees, especially 4 ABET committees; Buildings, Grounds,  
and Renovations university committee; 2 terms faculty senate; Highlights: Mechanical  
Engineering Chair Search Committee. Chair of Chemical Engineering Assistant Professor  
committee. Curricular and Outreach Information – Web committee. Education  
Continuous Improvement Committee.  
Modeling, Sensing, and Modeling Committee, Department of Homeland Security  
Session moderator/chair: ASCE EMI, SEI 2013 CHAIR Structural Engineering Institute  
Congress; 2013 Mid-South Annual Engineering and Sciences Conference.  
Editor for books, book chapters, textbooks, journal articles, and proposals for colleagues  
Reviewed hundreds of proposals for NSF (BRIGE, CAREER, CMMI NHERI, GRF), NRC  
(Curricula Development, Minority Serving), Louisiana Sea Grant, etc.

## Teaching

4,541 student semester contact hours as of May 2020. Taught 110 courses as of Spring 2020. Student-to-faculty ratio of all courses is 1:41.28, including undergraduate, graduate, special topics, seminar, and summer courses.

For strictly undergraduate classes, 1:75.75 faculty-to-student ratio; graduate classes are 1:10.38

For 13 years, taught sophomore sequence ENGR309 Statics (17 times, Fall) and ENGR312 Mechanics of Materials (16 times, Spring, Summer). Improved and augmented Statics course (removed dynamics, added recitations/help sessions/workbook). 1:102 max student ratio.

Active in ABET assessment activities, including co-writing 6-year report. Initiated direct assessment for department as well as individuals. Also promotes professional licensure among students, voluntarily teaching associated review courses.

Courses Taught: [Overall Performance: 5=Sup., 4=Exc., 3=Good, 2=Marginal, 1=Poor]

Statics (UG, also Honors section twice) [3.00-3.69]

Mechanics of Materials (UG) [3.12-3.75]

Intermediate Dynamics (UG, intersession twice) [4.6]

Engineering Fundamentals (UG) [4.04]

Civil Engineering Fundamentals (UG) [3.07-3.68 group taught]

Structural Analysis (UG)

Structural Analysis II (UG)

CE205/CE305/CE405 CE Lab I/II/III (redesign, ABET)

Introduction to Nuclear Engineering (UG/G, by grant, new)

Infrastructural Challenges of the World Cup (UG, by grant, new) [4.80-4.83]

Structural Health Monitoring (new)

Structural Dynamics

Applied Engineering Mathematics I (Adv. DE, redesigned) [3.5-4.75]

Numerical Methods in Engineering [3.77]

Advanced Mechanics of Materials

NI LabVIEW Programming (new)

Graduate Seminar [4.36]

Created hand drafting and 3D printing for CE207 Graphics.

“Dr. Ervin is a wonderful teacher. Since I came to this school, she has taken the time to help me more than anyone else. She always makes time to help any of her students. She can be reached all times of the day for help with her classes. She always offers a tutoring session for her classes, too. She teaches her classes in such a way that the material is so much simpler. The textbook is not even needed in her class because she covers the material so well. I have not been in another engineering class yet where the teacher has been so thorough in teaching the material. Dr. Ervin is definitely a perfect candidate for the outstanding teacher award.”

## Teaching Workshops

*Two nationally recognized teaching workshops and hosted one on campus.*

32nd National Effective Teaching Institute (NETI), 01/05/2017 - 01/12/2017, San Diego, CA

At the recommendation of Chair Najjar and Dean Cheng, Dr. Ervin was selected as one of 50 participants nationwide. The workshop focused on effective teaching of engineering subjects. This included hands-on practice and active learning techniques.

ASCE ExCEED Teaching Workshop, 07/12/2009 - 07/27/2009, Flagstaff, AZ

Dr. Ervin received a grant to attend this 6-day practicum, sponsored by the American Society of Civil Engineers.

Elizabeth K. Ervin, "Educational Strategic Modeling," The Dean's Seminar for Faculty, 10/21/2009.

## Advising Roles

Extensive Student academic advising: UG 278 students, 22 grad students

Sat on numerous other committees for M.S. and PhD students

Honors Thesis Committees: 6, Advised 3

1. Main advisor for Chuangshuo Zeng, PhD Candidate, May 2020.
2. UG Research: Sydney Warren, Computer Science, "RAVENS," Spring 2020, Main advisor.
3. Michael Daves, M. S. thesis, "Damage detection using destructive testing of a reinforced concrete slab," May 2019. Main advisor.
4. Ai Nguyen, M.S. thesis, "Using Finite Element Output to Detect Damage in a Steel Frame Model," August 2018. Main advisor.
5. Sean-Michael Rogers, M.S. Project, "Analysis of Vertical Soil Damping Ratios on Pile-Driving," July 2016. Main advisor.
6. Ethan R. B. Baker, Honors thesis, "An Experimental Investigation of a Reinforced Steel Frame via Structural Dynamics, May 2016. Main advisor. Also UG Researcher.
7. Steven B. Worley, M.S. thesis, "Development and Validation of the Structural Health Evaluation (SHM<sup>TM</sup>) Program, August 2014. Main advisor.
8. UG Research: Nitish Dev Bhattarai, "UG Research Assistant for NCITEC Lab Testing," Summer 2014.
9. Matt Williams, Honors thesis, "Observing Academic Performance Based on Increased Educational Spending: An Assessment of the FedEx Center at the University of Mississippi," May 2014. Advisor role.
10. C.J. Jenkins, Honors thesis, "Design Considerations for a Rotating Retractable Stadium Roof," May 2014. Main advisor.
11. Seyed Amir Mansoor Rahmani, M.S. thesis, "Impact Mechanics of a Lap Joint," July 2013. Main advisor.
12. Heather Daniell, Honor thesis, "Project Management in Civil Engineering Design," May 2011.
13. Samantha Sabatino, M.S. thesis, "Experimental Damage Diagnosis of a Model Three-story Spatial Frame," May 2011. Main advisor.
14. Weiping Xu, Ph.D. dissertation, "Modeling of Transient Response of an Elastic Beam with Flexible Supports and Variable-Location Impact," December 2010. Main advisor.



15. Ling-Yu Su, M.S. thesis. "Damage Detection Investigations in Steel Beams and Towers," July 2009, Main advisor.
16. Saritha Muguti, Electrical Engineering, Fall 2008; webpage development, Nuclear Regulatory Commission grant (PI Ervin).
17. Phillip Rogers, Undergraduate Junior, Civil Engineering, Fall 2008; Vibrations testing through the Increasing Minority Access to Graduate Education (IMAGE) Program.

### Conference Publications

1. Elizabeth K. Ervin and Chuangshuo Zeng, "Application of Operational Deflection Shapes with Artificial Intelligence to Detect Structural Damage," International Operational Modal Analysis Conference (IOMAC), May 13-15, 2019, Copenhagen, Denmark.
2. Chuangshuo Zeng and Elizabeth K. Ervin, "Combining Computational Damage Detection Metrics via Genetic Algorithm," American Society of Civil Engineers, Engineering Mechanics Institute. MIT, Boston, MA, May 29 – June 1, 2019. Mini-symposium: MS91: Machine Learning and Data Analytics for Infrastructure Integrity Assessment.
3. E.K. Ervin and C. Zeng, "Structural Health Evaluation<sup>TM</sup> for Infrastructure Resilience," Poster, Infrastructure Objective Resilience, March 27-28, 2018, Oxford, MS.
4. Elizabeth K. Ervin, Ethan R.B. Baker, Resilience Quantification through Various Detection Indices of SHETM, Invited PMC-MS-17: Modeling Resilient Infrastructure, ASCE Engineering Mechanics Institute Conference 2016 / Probabilistic Mechanics & Reliability Conference 2016, May 22-25, 2016. Vanderbilt University, Nashville, TN, 5/23/2016.
5. Elizabeth K. Ervin, Comparative Damage Detection in the IASC-ASCE Benchmark Structure using SHE<sup>TM</sup>, International Workshop on Structural Health Monitoring, Stanford University, Palo Alto, CA, September 1-3, 2015. Proceedings of the 10th International Workshop on Structural Health Monitoring. Full refereed paper and presentation.
6. Christopher L. Mullen and Elizabeth K. Ervin, Bridge Damage Detection using Deck Level Vibrations - Preliminary Findings from FE Analysis and Shake Table Tests, Southeast Region Conference, UTC, March 26-27, 2015, Birmingham, AL. Abstract, Presentation.
7. Elizabeth K. Ervin, Three Experimental Applications of Health Algorithms to Improve Infrastructure Inspection, 7th European Workshop on Structural Health Monitoring, July 8-11, 2014, Nantes, France. Full refereed paper.
8. Steven B. Worley and Elizabeth Ervin, Field Testing of the Ford Center Bridge, Mid-South Annual Engineering and Sciences Conference, The University of Mississippi, Oxford, MS, Oct 28-29, 2013, Abstract, Presentation 10/29/13.
9. Amir M. Rahmani and Elizabeth K. Ervin, Parametric Study of Impact in a Lap Joint, Mid-South Annual Engineering and Sciences Conference, The University of Mississippi, Oxford, MS, Oct 28-29, 2013, Abstract, Presentation 10/29/13.
10. Elizabeth K. Ervin, University-Industry Course Partnerships: An Example, Mid-South Annual Engineering and Sciences Conference, The University of Mississippi, Oxford, MS, Oct 28-29, 2013, Abstract, Presentation 10/28/13.
11. Elizabeth K. Ervin, Algorithm Comparison for Structural Health Metrics, 2013 Structures Congress, Structural Engineering Institute, Pittsburgh, PA, May 2-4, 2013.

12. Steven B. Worley and Elizabeth K. Ervin, "A Comparison of Structural Health Indicators," RAM Workshop, Society of Reliability Engineers, Huntsville, AL, October 16-17, 2012. Second place student presentation.
13. S. Sabatino and E. K. Ervin, "Experimental Damage Diagnosis of a Model Three-Story Spatial Frame," Society for Experimental Mechanics's IMAC XXX, Jacksonville, FL, Feb 2, 2012. Presentation. Proc. of the Soc. for Experimental Mechanics Series, Chapter 33, 2012.
14. S. Sabatino and E. K. Ervin, "Experimental Damage Diagnosis of a Model Three-Story Spatial Frame," Mid-South Area Engineering & Sciences Conference, May 3, 2011.
15. S. Sabatino, "Experimental Damage Diagnosis of a Model Three-Story Spatial Frame," Ole Miss Graduate Student Council Poster session, April 2011. Abstract, poster. 3rd place.
16. Weiping Xu and Elizabeth K. Ervin, "Analysis of Transient Beam Behavior with Impact," Proceedings of the 16th US National Congress of Theoretical and Applied Mechanics, June 27 - July 2, 2010, State College, PA, USNCTAM2010-509.
17. Ervin, E. K. "From Sensing to Damage Identification in Unstable Buildings," Monitoring and Sensing of Near-Collapse Buildings Workshop, Infrastructure and Geophysical Division, Science and Technology, Department of Homeland Security, April 6-7, 2010, Oxford, MS. Presentation and Abstract. Workshop Proceedings, Resiliency Research, URS. Monitoring and Sensing of Near-Collapse Buildings Workshop, April 6-7, 2010, Oxford, MS.
18. Su, L.-Y., Ervin, E. K. Vibration Experiments on a Beam Structure, 2009 National Science Foundation Engineering Research and Innovation Conference, Civil, Mechanical and Manufacturing Innovation, Technical Poster for BRIGE 0824227, 7/2009.
19. Weiping Xu, "A First Principles Approximation of Composite Material Response to Shock Tube Pulse," Joint ASCE-ASME-SES Conference on Mechanics and Materials, June 25, 2009. Blacksburg, Virginia, June 24-27, 2009.
20. L. Su and E. K. Ervin, Incrementally Damaged States of a Beam Structure, Mid-South Annual Engineering Conference, Memphis, Tennessee, May 5, 2009.
21. E. K. Ervin, "Preparing Non-nuclear Engineers for the Nuclear Field," 2009 American Society of Engineering Education Southeast Section Conference, Preparing the Engineers and Technologists of Tomorrow, S. Polytechnic State U., Marietta, GA, April 5-7, 2009.
22. Elizabeth K. Ervin and Weiping Xu, "Vibration Course Enhancement through a Dynamic MATLAB® Graphic User Interface," 2009 American Society of Engineering Education Southeast Section Conference, Preparing the Engineers and Technologists of Tomorrow, Southern Polytechnic State University, Marietta, GA, April 5-7, 2009.
23. Ling-Yu Su, "Incrementally Damaged States of a Beam Structure," Mid-South Area Engineering & Sciences Conference, May 5, 2009.
24. P. C. Rogers and E. K. Ervin, "Experimental Analysis of a Crane for Seismic Vibrations," Mississippi Academy of Sciences 2009 Annual Meeting, Olive Branch, MS, February 26-27, 2009. Increasing Minority Access to Graduate Education (IMAGE) Program.
25. Tom Fink, Lichuan Gui, Elizabeth K. Ervin, and Orwa Tahaine, Details of acoustic substrate alarm communication through head-banging in the subterranean termites: *Coptotermes formosanus* Shiraki and *Reticulitermes flavipes* (Kollar), International Conference on Acoustic Communication by Animals, August 12-15, 2008, Oregon State.
26. E. K. Ervin, Simulated Repetitive Impact in Orthogonal Continuous Structures, 8th World Congress on Computational Mechanics and 5th European Congress on Computational Methods in Applied Sciences and Engineering, June 30 – July 5, 2008, Venice, Italy.

27. E. K. Ervin, "Repetitive Impact Between Two Orthogonal Beams." 18<sup>th</sup> Engineering Mechanics Division Conference of the American Society of Civil Engineers, June 3-6, 2007, Blacksburg, VA. Presentation.
28. E. K. Ervin, "Repetitive Impact in Continuous Structures." Mid-South Area Engineering & Sciences Conference, May 17-18, 2007, Oxford, MS, MAESC10050, 2007.
29. Ervin, E. K., "Analytical and Experimental Impact Response of Beam Structures." American Society of Civil Engineers Mississippi Section Fall Conference, Hattiesburg, Mississippi, November 1-3, 2006.
30. E. K. Ervin, J. Wickert, "Experiments on Complex Repetitive Impact Dynamics of a Built-Up Beam Structure," ASME International Mechanical Engineering Congress and Exposition, Chicago, Illinois, 2006. DE-18A Technical Session entitled Non-smooth Dynamics.

### International Study

Elizabeth K. Ervin, CIEE International Faculty Development Seminar, Exploring Environmental, Cultural, and Economic Sustainability in China's Rural and Urban Landscapes, Beijing, China. Presentation on November 5, 2015, as UM Faculty Development Seminar. Grant.

Elizabeth K. Ervin, CIEE International Faculty Development Seminar, Cool Japan, Tokyo, Japan. Presentation on January 30, 2008, as UM Faculty Development Seminar. Grant.

Elizabeth K. Ervin, Continuing Education Academic Traveler Program, A Culinary Adventure in Florence, 3/9-3/15/2007.