Curriculum Vitae
Dr. Jeffrey S. Vipperman

Associate Professor of Mechanical Engineering
Associate Professor of BioEngineering
Director of Mechanical Engineering Graduate Studies
Director and founder of the *Sound, Systems, and Structures Laboratory*
University of Pittsburgh
Department of Mechanical Engineering & Materials Science
323 Benedum Hall
Pittsburgh, PA 15261
jsv@pitt.edu
http://www.pitt.edu/~jsv (Personal web page)
http://lagrange.me.pitt.edu (Laboratory web page)
October 25, 2011

Education:

1997	Ph.D., Mechanical Engineering	Duke University
1992	M.S., Mechanical Engineering	Virginia Tech
1990	B.S., Mechanical Engineering	Virginia Tech

Professional Experience:

1/08-8/11	Graduate Director (Mechanical Engineering), University of Pittsburgh, Pittsburgh, PA
4/05-Present	Associate Professor of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA
4/05-Present	Associate Professor of BioEngineering, University of Pittsburgh, Pittsburgh, PA
1/99-4/05	Assistant Professor of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA
6/00-6/02	Mechanical Engineer, NIOSH, Pittsburgh Research Laboratory
9/97-12/98	Assistant Professor, University of Maine, Orono, ME
2/97-8/97	Assistant Research Professor, Duke University, Durham, NC
8/93-2/97	Research Assistant, Duke University, Durham, NC
8/93-2/97	Systems Administrator, Duke University, Durham, NC
1993-1997	Vice President and Senior Research Scientist, Adaptive Technologies, Inc. Blacksburg, VA
7/92-7/93	Research Associate, Virginia Polytechnic Institute and State University, Blacksburg, VA
8/90-6/92	Graduate Project Assistant, Virginia Polytechnic Institute and State University, Blacksburg, VA
1/90-8/90	Undergraduate Researcher, Virginia Polytechnic Institute and State University and Bristol Compressors, Blacksburg, VA
5/89-8/90	Development Engineering Assistant, Ingersoll-Rand Corporation, Roanoke, VA

Consulting:

2011	MIRATECH Corporation
2008	Siemens Government Services
2007-2008	Thompson, Coburn and FagelHaber LLC
2007-2008,2011	Westinghouse Electric Company
2004	National Institute of Occupational Safety and Health
2003-2008	BrashearLP
2001-2005	H. H. Reich Engineers
2000	SigmaTech
2000, 2001	Psychology Software Tools
1999	NASA Langley Research Center
1998	Nikola Engineering
1998	Duke University
1997	Sandia National Laboratory
1995	BSG Laboratories
1994	Centrair Corporation

Honors and Awards:

2011	University of Pittsburgh Innovator Award
2007	Elected Fellow of ASME
2006	School of Engineering Beitle-Veltri Memorial Teaching Award
2005	Engineering Faculty Honor Roll
2003	Letter of commendation from the Chancellor of the University, for chairing ASME-Pittsburgh
2001	Who's Who in Engineering, Pittsburgh Business Times
2000	Letter of commendation from the Vice Chancellor of Student Affairs for Positively Impacting Student
1999-2001	Leighton E. and Mary N. Orr Faculty Fellowship, Univ. of Pittsburgh,
1992	Paul Torgersen Research Excellence Award, Virginia Tech: Voted best Master of Science project for the year.
1991	Student Paper Award, Acoustical Society of America: Voted second best student paper in structural acoustics for the conference.
1989	Frank O'Bell Academic Scholarship
1989	Lucille Seay Academic Scholarship

Submitted Journal Articles:

1. Bucci, B., Cole, D., Ludwick, S., Vipperman, J.S., "A Nonlinear Control Algorithm for Reducing Settling Time in High-Precision Point to Point Motion," IEEE Transactions on Control System Technology.
2. B. Bucci, J.S. Vipperman, D. Cole, S. Ludwick, "Evaluating a servo settling algorithm," Precision Engineering.

Published Journal Articles:

1. Zink, Florian, J.S. Vipperman, and LA Schaefer, "CFD Simulation of Thermoacoustic Cooling," International Journal of Heat and Mass Transfer, 53(19-20), pp. 3940-6, Sep 2010.
2. Zink, Florian, J.S. Vipperman, and LA Schaefer, "CFD Simulation of Thermoacoustic Engine With Coiled Resonator," International Communications in Heat and Mass Transfer, 37(3), pp. 226-9, Mar 2010.
3. Zink, Florian, J.S. Vipperman, and LA Schaefer, "Environmental Motivation to Switch to Thermoacoustic Refrigeration," Applied Thermal Engineering, 30(2-3), pp. 119-26, Feb 2010.
4. Kuxhaus L, Schimoler PJ, Vipperman JS, Miller MC. "Validation of a Feedback-Controlled Elbow Simulator Design: Elbow Muscle Moment Arm Measurement". ASME Journal of Medical Devices, 3(3), 7pp., Sep. 2009.
5. Rizzo, P., G. Bordoni, A. Marzani, J. S. Vipperman, "Localization of sound sources by means of unidirectional microphones," *Measurement Science & Technology*, 20(5), May 2009.
6. El-Kurdi, Mohammed. S., Jeffrey S. Vipperman, and David A. Vorp, "Design and Subspace System Identification of an *Ex vivo* Vascular Perfusion System," IEEE Transactions on Biomedical Engineering, **131**, 8pp., April 2009.
7. Kuxhaus L, Schimoler PJ, Vipperman JS, Baratz ME, Miller MC. "Effects of Camera Switching on Fine Accuracy in a Motion Capture System." ASME Journal of Biomechanical Engineering, 131(1), 014502:1-6, Jan. 2009.
8. El-Kurdi, Mohammed, J.S. Vipperman, D.A. Vorp, "Control of Circumferential Wall Stress and Luminal Shear Stress Within Intact Vascular Segments Perfused Ex Vivo," J. of Biomech. Engr., 130(5), 7pp., Oct. 2008.
9. Li, D., L. Cheng, G. H. Yu , and J.S. Vipperman, "Noise control in enclosures: Modeling and experiments with T-shaped acoustic resonators," *JASA*, **122**(5), Nov. 2007.

10. Brian A. Bucci, Jeffrey S. Vipperman, "Performance of Artificial Neural Network-Based Classifiers to Identify Military Impulse Noise," *J of Acoust. Soc. of Am.*, **122**(3), pp. 1602-10, Sep. 2007.
11. Vipperman, J.S., E.R. Bauer, D. R. Babich "Survey of Noise in Coal Preparation Plants," *Journal of the Acoustical Society of America*, **121**(1), pp. 206-12, Jan. 2007.
12. J. Peter Hensel, Randall S. Gemmen, Brian J. Hetzer, Jimmy D. Thornton, Jeffrey S. Vipperman, William W. Clark, Brian A. Bucci, "Effects of Cell-to-Cell Fuel Mal-Distribution on Fuel Cell Performance," *Journal of Power Sources*, **164**(1), pp. 115-25, Jan. 10 2007.
13. Li, Deyu and J. S. Vipperman, "Noise Control of Mock-Scale ChamberCore Payload Fairing Using Integrated Acoustic Resonators," *AIAA Journal of Spacecraft and Rockets*, **43**(4), July-Aug, 2006
14. Bisnette, Jesse, Adam K. Smith, J. S. Vipperman, and D. B. Budny, "Active Noise Control Using Phase-Compensated, Damped Resonant Filters," ASME *Journal of Vibration and Acoustics* 128(2), pp. 148-55, April, 2006.
15. Li, Deyu and J. S. Vipperman, "On The Noise Transmission and Control For a Cylindrical ChamberCore Composite Structure," *Journal of Sound and Vibration*. **288**(1-2), pp. 235-54, Nov. 2005.
16. Haljasmaa, Igor V., J. S. Vipperman, Ronald J. Lynn, Robert P. Warzinski, "Control of a Fluid Particle Under Simulated Deep-Ocean Conditions in a High-Pressure Water Tunnel," *AIP Review of Scientific Instruments*, **76**(2), Feb. 2005, pp. 1-11.
17. Li, Deyu and J. S. Vipperman, "Mathematical model for characterizing noise transmission into finite cylindrical structures," *Journal of the Acoustical Society of America*, **117**(2), Feb. 2005, pp. 679-89.
18. Li, Deyu and J. S. Vipperman, "On the design of long T-shaped acoustic resonators," *Journal of the Acoustical Society of America*, **116**(5), Nov. 2004, pp. 2785-92.
19. Vipperman, Jeffrey S., Deyu Li, Ilya Avdeev, and Steven Lane, "Investigation of the sound transmission into an advanced grid-stiffened structure," ASME *Journal of Vibration and Acoustics*, **125(**3), July 2003, pp. 257-66.
20. Vipperman, Jeffrey S., "Simultaneous Qualitative Health Monitoring and Sensoriactuation," *AIAA Journal*, **39**(9), September, 2001, pp. 1822-1825.
21. Cabell, R. H., D. L. Palumbo, and J. S. Vipperman, "A Principal Component Feedforward Algorithm for Active Noise Control: Flight Test Results," *IEEE Transactions on Control Systems Technology*, **9**(1), January, 2001, pp. 76-83.
22. Gibbs, G. P., R. L. Clark, D. E. Cox, J. S. Vipperman, "Radiation modal expansion: Application to active structural acoustic control," *Journal of the Acoustical Society of America*, **107**(1), Jan. 2000. pp. 332-339.
23. Cox, D. E., G. P. Gibbs, R. L. Clark, and J. S. Vipperman, " Experimental Robust Control of Structural Acoustic Radiation," *ASME Journal of Vibration and Acoustics*, **121**(4), Oct. 1999, pp. 433-440.
24. Vipperman, J. S., R. L. Clark, "Implications of Using Colocated Strain-Based Transducers for Active Structural Acoustic Control," *Journal of the Acoustical Society of America*, **106**(3), Sep. 1999, pp. 1392-1400.
25. Vipperman, J. S., J. M. Barker, R. L. Clark, G. J. Balas, "Comparison of μ- and H_2-Synthesized Controllers on a Experimental Typical Section.," *Journal of Guidance, Control and Dynamics*, **22**(2), Mar-Apr 1999, pp.278-285.
26. Vipperman, J. S., R. L. Clark, "Multivariable Feedback Active Structural Acoustic Control Using Adaptive Piezoelectric Sensoriactuators," *Journal of the Acoustical Society of America*, **105**(1), Jan. 1999, pp. 219-225.
27. Vipperman, J. S., R. L. Clark, Mark D. Conner, Earl H. Dowell, "Investigation of the Experimental Active Control of a Typical Section Airfoil Using a Trailing Edge Flap," *Journal of Aircraft*, **35**(2), Mar-Apr 1998, pp. 224-229.

28. Vipperman, J. S., and R. L. Clark, "Hybrid Model-Insensitive Control Using a Piezoelectric Sensoriactuator," J*ournal of Intelligent Material Systems and Structures*, **7**(6), November 1996, pp. 689-695.
29. Vipperman, J. S. and R. L. Clark, "Implementation of an Adaptive Piezoelectric Sensoriactuator," *AIAA Journal*, **34**(10), October 1996, pp. 2102-2109.
30. Vipperman, J. S., and R. A. Burdisso, "Adaptive Feedforward Control of Nonminimum-Phase Structural Systems," *Journal of Sound and Vibration*, **183**(3), June 1995, pp. 369-382.
31. Burdisso, R. A., J. S. Vipperman, and C. R. Fuller, "Causality Analysis of Feedforward Controlled Systems," *Journal of Acoustical Society of America*. **94**(1), July 1993, pp. 234-242.
32. Vipperman, J. S., R. A. Burdisso, and C. R. Fuller, 1993, "Active Control of Broadband Structural Vibration Using the LMS Adaptive Algorithm," *Journal of Sound and Vibration*. **166**(2)**,** Sep. 1993, pp. 283-299.

Books:

1. Raja Ramini, *et al.*, "Review of the NIOSH Mining Safety and Health Research Program,"The National Academies Press, 2007.
2. Bauer, ER, DR Babich and JS Vipperman [2006]. Equipment Noise and Worker Exposure in the Coal Mining Industry. DHHS (NIOSH) Publication No. 2007-105, IC 9492, December, 2006 77 pp.

Patents:

1. Hensel, J.P., N. Black, J.D. Thornton, J.S. Vipperman, D.N. Lambeth, W.W. Clark, "Active Combustion Flow Modulation Valve," Filed Oct. 2010.
2. Gemmen, Randall, Jimmy Thornton, Jeffrey S. Vipperman, William W. Clark, "Piezoelectric Axial Flow Microvalve," United States Patent Number 7,159,841, Jan. 9, 2007.
3. Clark, R. L., J. S. Vipperman, and Daniel G. Cole, "Adaptive Piezoelectric Sensoriactuator," United States Patent Number 5578761, Nov. 26, 1996.

Shortcourses:

1. Vipperman, J.S. "Acoustical Theory and Measurement," Westinghouse Inc, 2008.
2. Vipperman, J.S. "Noise and Vibration Measurements," Brashear LP, 2006.
3. Bernstein, Dennis, Robert Clark, Jeffrey Vipperman, and Ravinder Venugopal "Active Control of Vibration, Noise, and Structural-Acoustic Interaction", Short Course presented at the American Controls Conference, Philadelphia, PA, June 22-23, 1998.

Refereed Conference Proceedings:

1. Wang, Chenzhi, Jae Bum Pahk, C. D. Balaban, J.S. Vipperman, "Computational Study on the Bridging Vein Rupture, of Blast-Induced Traumatic Brain Injury Using a Numerical Human Head Model" IMECE2011-65733, Proceedings of IMECE-11, Denver, CO.
2. Nick Kirsch, Daniel Cole, Jeffrey S. Vipperman, Stephen J. Ludwick, "Characterization Of Periodic disturbances In Rolling Element Bearings Using An Optical Sensor," IMECE2011-66015, Proceedings of ASME IMECE-11, Denver, CO.
3. Nick Kirsch, Daniel G. Cole, Jeffrey S. Vipperman, Stephen J. Ludwick. "Characterization of Periodic Disturbances in Rolling Element Bearings Using and Optical Sensor," Proceedings of ASPE, November 13–November 18, 2011.
4. Ryan, T. S., L.A. Schaefer, and J.S. Vipperman, "Control of a Standing Wave Thermoacoustic Refrigerator," IMECE2010-38966, Proceedings of ASME IMECE-10, November 12-18, 2010, Vancouver, BC, Canada.
5. Brian A. Bucci, Daniel G. Cole, Jeffrey S. Vipperman, Stephen J. Ludwick. "Practical friction compensation for ultra-precision point-to-point motion." Proceedings of ASPE, October 31-November 5, 2010 Atlanta, Georgia.

6. Rhudy, M., B. Bucci, J.S. Vipperman, J. Allanach, B. Abraham, "Microphone Array Analysis Methods Using Cross-Correlations," IMECE2009-10798, Proceedings of ASME IMECE-09, November 13-19, 2009, Lake Buena Vista, FL.
7. Zink, Florian, "Influence of the Thermal Properties of the Driving Components on the Performance of a Thermoacoustic Engine," IMECE2009-11325, Proceedings of ASME IMECE-09, November 13-19, 2009, Lake Buena Vista, FL.
8. Brian A. Bucci, Daniel G. Cole, Jeffrey S. Vipperman, Stephen J. Ludwick. "Friction modeling of linear rolling element bearings in high precision linear stages." Proceedings of ASPE, October 5-9, 2009 Monterey, California.
9. Zink, Florian, J.S. Vipperman, and L.A. Schaefer, "Heat Transfer Analysis in Thermoacoustic Regenerators Using CFD Simulation," ASME 2009 Heat Transfer Summer Conference, San Francisco, CA, July 19–23, 2009.
10. Zink, Florian, J.S. Vipperman, and L.A. Schaefer, "Advancing Thermoacoustics Through CFD Simulation Using Fluent," ASME IMECE 2008 Conference, IMECE2008-66510 pp. 101-110, Boston, MA, October 31–November 6, 2008.
11. Bucci, Brian A. and J.S. Vipperman, "An Investigation of the Characteristics of a Bayesian Military Impulse Noise Classifier," Proceedings of NCAD2008, Paper NCAD2008-73046, Dearborn Michigan, July 28-30, 2008.
12. Li, Deyu, J.S. Vipperman, Li Cheng, "Noise Control in a Small Enclosure Using T-Shaped Acoustic Resonators," Proceedings of NCAD2008, Paper NCAD2008-73034, Dearborn Michigan, July 28-30, 2008.
13. DeJohn, David and J.S. Vipperman, "Development and Control of "Stiff Drivers" for Thermoacoustic Refrigeration," IMECE2007-41586, ASME IMECE-07 Conference, Nov 11-15, 2007, Seattle, Washington.
14. Bucci, Brian, and J. S. Vipperman, "Bayesian Military Impulse Noise Classifier," IMECE2007-41700, ASME IMECE-07 Conference, Nov 11-15, 2007, Seattle, Washington.
15. Schimoler, Patrick, J.S. Vipperman, Laurel Kuxhaus, Angela M. Flamm, Daniel D. Budny, Mark E. Baratz, Mark C. Miller, "Control System for an Elbow Joint Motion Simulator," IMECE2007-42806, ASME IMECE-07 Conference, Nov 11-15, 2007, Seattle, Washington.
16. Bucci, Brian, and J. S. Vipperman, "Artificial Neural Network Military Impulse Noise Classifier," ASME IMECE-06, Nov 5-10, Chicago, IL.
17. Brian Bucci, Jeffrey S. Vipperman, William W. Clark, Mark Kim, Jimmy D. Thornton, Peter Hensel, "Piezoelectric Microvalve," ASME IMECE-06, Nov 5-10, Chicago, IL.
18. Smith, Adam K. and J. S. Vipperman, "Adaptive Resonant Mode Acoustic Controller," IMECE2005-89279, ASME IMECE 2005, Nov. 5-11, Orlando, FL.
19. Rodgers, Jesse C., William W. Clark, and Jeffrey S. Vipperman, "Analysis and Testing of a Thunder(TM) Piezoelectric Actuator as an Actuator in an Air Flow Control Valve," Proceedings of SPIE Smart Structures and Materials, March 6-10, 2005, San Diego, CA.
20. El-Kurdi, Mohammed S., J. Scott Van Epps, Robert J. Toth, Douglas W. Hamilton, Chuanyue Wu, Jeffrey S. Vipperman, David A. Vorp, "Regulation of Cell Adhesion and De-Adhesion Proteins in Veins Perfused Under Arterial Conditions Ex-Vivo," paper number IMECE2004-61531, ASME IMECE 2004, Nov. 13-19, Anaheim, CA.
21. Hensel, J. Peter, Randall S. Gemmen, Brian Hetzer, Jimmy Thornton, Jeffrey S. Vipperman, William Clark, Fatih Ayhan, "Fuel Cell Performance Improvements Using Cell-to-Cell Flow Distribution Control," Second International Conference on Fuel Cell Science, Engineering and Technology, Rochester, NY, June 14-16, 2004.
22. Vipperman, J.S., A.F. Ayhan, W.W. Clark, J. Thornton, R. Gemmen, Tom Johnson, "Fabrication and Preliminary Testing of a Novel Piezoelectric Microvalve," Paper No. IMECE2003-41482, ASME IMECE 2003, Washington, DC, November 15-21, 2003.
23. Li, Deyu and J. S. Vipperman,"Noise Control of a Chamber Core Cylinder Using Cylindrical Helmholtz Resonators," Paper No IMECE03-41978, ASME IMECE 2003, Washington, DC, November 15-21, 2003.

24. Bisnette, Jesse, J. S. Vipperman, and D. B. Budny, "Active Noise Control Using Phase-Compensated, Damped Resonant Filters," Paper No IMECE03-41831, ASME IMECE 2003, Washington, DC, November 15-21, 2003.
25. Vipperman, J.S., A.F. Ayhan, W.W. Clark, J. Thornton, R. Gemmen, "A Novel Piezoelectrically Actuated Microvalve For Flow Control in Fuel Cells," Paper No. IMECE2002-34320, pp. 1-9, ASME IMECE 2002, New Orleans, LA, November 17-22, 2002.
26. Li, Deyu and J. S. Vipperman," Noise Transmission Control Studies for a Chamber Core Composite Cylinder," Paper No IMECE02-33069, pp. 1-8, ASME IMECE 2002, New Orleans, LA, November 17-22, 2002.
27. Budny, Dan, Laura Lund, Jeff Vipperman, John L. Patzer, III "Four Steps to Teaching C Programming," Paper Number 1024, pp. 1-5, FIE Conference, Boston, MA, November 7-9, 2002.
28. Vipperman, J.S., A.F. Ayhan, W.W. Clark, J. Thornton, R. Gemmen, "A Novel Piezoelectrically Actuated Microvalve For Flow Control in Fuel Cells," (accepted) ASME IMECE 2002, New Orleans, LA, November 17-22, 2002.
29. Deyu Li and J. S. Vipperman," Noise Transmission Control Studies for a Chamber Core Composite Cylinder," ASME IMECE 2002, New Orleans, LA, November 17-22, 2002.
30. J. S. Vipperman, D. Li, I. V. Avdeev, "Investigation of the Transmission Loss Behavior of an Advanced Grid-Stiffened Structure," Paper NCA-23539, ASME IMECE 2001, New York, Nov 11-16, 2001
31. Vipperman, Jeffrey S., Deyu Li "Dielectric Response of Adaptive Piezoelectric Sensoriactuators," ASME IMECE 2000, Orlando, FL Nov. 5-10, 2000.
32. Clark, W.W., and J.S. Vipperman, "Semi-active vibration suppression of an impulsively excited machine on a flexible foundation," Proceedings of SPIE, Vol 3989, Newport Beach, CA, March 5-9, 2000.
33. Vipperman, Jeffrey S., "Structural Health Monitoring Applications Using the Piezodielectric Effect," ASME IMECE 1999, AD-Vol. 59/MD-Vol 87, Nashville, TN, Nov. 14-19, 1999, pp. 397-401.
34. Vipperman, Jeffrey S., "Improved Output Active Vibration Control Using Large Aperture Strain Transducers," ASME IMECE 1999, AD-Vol. 59/MD-Vol 87, Nashville, TN, Nov. 14-19, 1999, pp. 347-351.
35. Vipperman, Jeffrey S., "Novel Autonomous Structural Health Monitoring Using Piezoelectrics," AIAA Paper #99-1507, 40th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, St. Louis, MO, April 12-15, 1999, pp. 3107-3114.
36. Vipperman, Jeffrey S., Robert L. Clark, and David E. Cox "Robust Multivariable Active Control with Sensoriactuator Feedthrough," AIAA Paper #99-1531, 40th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, St. Louis, MO, April 12-15, 1999, pp. 3115-3122.
37. Cox, David, Gary Gibbs, Robert Clark, and Jeff Vipperman, " Experimental Robust Control of Structural Acoustic Radiation," Paper #98-2089, AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Long Beach, CA, April 20-24, 1998
38. Vipperman, J. S., R. L. Clark, M. D. Conner, and E. H. Dowell, "Investigation of the Experimental Active Control of a Typical Section Airfoil With a Trailing Edge Flap," Paper AIAA-97-1078. AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference. Kissimmee, FL, April 7-10, 1997.
39. Vipperman, J. S. and R. L. Clark, "Complex Adaptive Compensation of Nonlinear Piezoelectric Sensoriactuators," Paper AIAA-96-1266. Presented at AIAA/ASME Adaptive Structures Forum. Salt Lake City, Utah, April 18-19, 1996, pp. 1-11.
40. Vipperman, J. S. and R. L. Clark, "Hybrid Analog and Digital Adaptive Compensation of Piezoelectric Sensoriactuators," Paper AIAA-95-1098-CP. Presented at AIAA/ASME Adaptive Structures Forum. New Orleans, LA, April 13-14, 1995.

Non-refereed Proceedings:

1. Vipperman, J.S., "What's in a name? Putting standard terminology to use for you," Acoustics Today, July 2007.
2. Vipperman, J.S., M.M Prince, A.M. Flamm, "Analysis of Impact Noise in a manufacturing setting in the evaluation of noise-induced hearing loss: Issues of Sampling and Instrumentation," (Invited Talk) NIOSH/NHCA Impulsive Noise: A NORA Hearing Loss Team Best Practice Workshop, Cincinnati, OH, May 8-9, 2003.
3. Vipperman, J.S., D. Li, I. V. Avdeev, S. A. Lane, "Characterization and Control of Sound Radiation in a Complex Fairing Structure," InterNoise-01 Conference, (Invited Paper), The Hague, Netherlands, August 27-31, 2001, pp. 2429-2435.
4. Bauer, E.R., D.J. Podobinski, E.R. Reeves, J.S. Vipperman, "Noise Exposure in Longwall Mining and Engineering Controls Research," Longwall USA Conference, June 13-15, 2001, Pittsburgh, PA, pp. 51-69.
5. Vipperman, J.S., Eric R. Bauer, Ellsworth R. Spencer, "Noise Survey and Control in a Coal Preparation Plant," ASME IMECE 2000, (unpublished proceedings), Orlando, FL Nov. 5-10, 2000.
6. Vipperman, Jeffrey S., "Micro-acoustic source arrays," INCE Active '99, Ft. Lauderdale, FL, Dec. 2-4, 1999, pp. 1215-1224.
7. Vipperman, J. S. and R. L. Clark, "Applications of the Adaptive Piezoelectric Sensoriactuator," NOISE-CON 97, State College, PA, June 15-17, 1997.
8. Vipperman, J. S., R. L. Clark, M. D. Conner, and E. H. Dowell, "Active Control of a Typical Section Using an Articulated Flap," Eleventh VPI&SU Symposium on Structural Dynamics and Control, Blacksburg, VA, May 12-14, 1997.
9. Vipperman, J. S. and R. L. Clark, Article on Duke University Adaptive Sensoriactuator work, *Active Sound & Vibration Control News*, **3**(4), April, 1996.
10. Vipperman, J. S., and R. A. Burdisso, "Adaptive Control of Nonminimum-Phase Structural Systems," Proceedings of the *Second International Conference on Intelligent Materials*, Williamsburg, VA, 1994.
11. Hamdi, M. A., S. Dedieu, P. R. Wagstaff, C. Chassaignon, G. Leyrat, and J. S. Vipperman, "Optimization of Control Force Input Positions to Reduce Radiated Noise of Vibrating Structures," Proceedings of the Second Conference on *Recent Advances in Active Control of Sound and Vibration*, Blacksburg, VA. , 1993.
12. Sumali, Hartono, H. H. Cudney, and J. S. Vipperman, "Vibration Control of Cylinders Using Piezoelectric Sensors and Actuators," Proceedings of ADPA/AIAA/ASME/SPIE *An International Symposium & Exhibition on Active Materials & Adaptive Structures.*, 1991.

Presentations Without Proceedings:

1. Vipperman, J.S., "Military Noise Classifier," (Invited Presentation), Automated Aircraft Noise Detection and Analysis Workshop, Feb 2-3, 2011, Boston, MA.
2. Vipperman, J.S., "Active Combustion Throttle," Science2010 showcase, Pittsburgh, PA, 10/6/11.
3. Allanach, Jeffrey, Justin Borodinsky, Jeffrey Vipperman M. Rhudy, "Improved System for Detection, Localization, and Classification of Military Impulse Noise," 159th Meeting of Acoust. Soc. of Am., 19-23 April, 2010, Baltimore, Md.
4. Vipperman, J.S., M. Rhudy, B. Bucci, J. Allanach, B. Abraham, J. Brodinsky, "An Integrated Military Impulse Noise Classifier," Partners in Environmental Technology Technical Symposium and Workshop, Washington DC, Dec 1-3, 2009.
5. Rhudy, Mathew A, B. Bucci, and J.S. Vipperman "Microphone Array Techniques Using Cross-Correlations," 158th Meeting of the Acoustical Society of America, 26-30 October 2009, San Antonio, TX.
6. Vipperman, J.S., "Control of Advanced Energy Systems," (Invited Talk) Science 2009 Conference, Pittsburgh, PA, 10/15/09.
7. Schimoler, P., L. Kuxhaus, J.S. Vipperman, M.C. Miller, "Robotic Controller Design for an Elbow Simulator," BMES 2009, Oct 7-10, 2009.

8. Vipperman, J.S., B.A. Bucci, M. Rhudy, "Characterization of a Bayesian Classifier to Identify Military Impulse Noise, Partners in Environmental Technology Technical Symposium and Workshop, Washington DC, Dec 2-4, 2008.
9. Vipperman, J.S. and B. A. Bucci, "An image processing based neural network method of waveform classification," 156th Meeting of the Acoustical Society of America, Miami, FL, Nov 10-14, 2008 (abstract published in JASA, **124**, p. 2597, 2008).
10. Zink, Florian, J.S. Vipperman, and L.A. Schaefer, "Potential Impact and Uses of Thermoacoustic Refrigeration," AASHE 2008 Conference, Raleigh, NC, Nov. 9-11, 2008.
11. Kuxhaus L, Thomines F, Flamm A.M., Schimoler PJ, Brogdon ML, Vipperman JS, DeMeo PJ, Miller MC. "Measurement of elbow medial ulnar collateral ligament strain: choice of reference length reduces interspecimen variability." ASB Conference, Ann Arbor, MI; August 2008.
12. Brogdon ML, Kuxhaus L, DeMeo PJ, Schimoler PJ, Flamm A.M., Vipperman JS, Miller MC. "Physiologic length of the UCL: at what flexion angle do the bands of the anterior bundle have zero strain?" ICMMB Conference, Pittsburgh, PA; July 2008.
13. Schimoler PJ, Vipperman JS, Kuxhaus L, Budny DD, Flamm AM, Miller MC. "Accuracy and precision of a control system for an elbow joint simulator." Accepted to the 2008 ASME Summer Bioengineering Conference, Marco Island, FL June 25-29, 2008.
14. Miller MC, Thomines F, Kuxhaus L, Flamm AM, Schimoler PJ, Vipperman JS, DeMeo PJ. "Tensile strain measurement of the bands of the medial ulnar collateral ligament." 2008 ORS annual meeting, San Francisco, CA, March 2-5, 2008.
15. Bucci, B. A., J.S. Vipperman, "Bayesian Classifiers to Identify Military Impulse Noise," Partners in Environmental Technology Technical Symposium and Workshop, Washington DC, Dec 4-6, 2007.
16. Bucci, B. A., J.S. Vipperman, "Artificial Neural Network Classifiers to Identify Military Impulse Noise," Partners in Environmental Technology Technical Symposium and Workshop, Washington DC, Dec 4-6, 2007.
17. Kuxhaus L, Schimoler P, Flamm AM, Vipperman JS, Baratz ME, Miller MC. "Moment arm measurement to validate a closed-loop feedback-controlled elbow joint simulator." ASB 2007 Conference, Stanford, CA, Aug 22-26, 2007.
18. Schimoler P, Vipperman JS, Kuxhaus L, Budny DD, Flamm AM, Baratz ME, Miller MC. "Switching control to actuate elbow motion." ASB 2007 Conference, Stanford, CA, Aug 22-26, 2007.
19. Kuxhaus, L., PJ. Schimoler, JS Vipperman, AM Flamm, D Budny, ME. Baratz , P J. DeMeo, MC Miller , "Measuring Moment Arms Using Closed-loop Force Control With an Elbow Simulator," Paper SBC2007-176513, Proceedings of the ASME 2007 Summer Bioengineering Conference (SBC2007), June 20-24, 2007, Keystone Resort & Conference Center, Keystone, Colorado, USA.
20. Kuxhaus L, Schimoler PJ, Vipperman JS, Baratz ME, Miller MC. "Changes in camera visibility affect measured marker motion." ASME Summer Bioengineering Conference, Keystone, CO; , June 20-24, 2007, Keystone Resort & Conference Center, Keystone, Colorado, USA.
21. Bucci, B. A. and J. S. Vipperman, "Comparison Artificial Neural Network Structures to Identify Military Impulse Noise," 153rd meeting of the Acoust. Soc. of Am., Salt Lake City, UT, June 4-8, 2007
22. Kuxhaus, L., PJ Schimoler, JS Vipperman, MC Miller, "Closed-loop Control Measurement of Moment Arms During Pronation-Supination in an Elbow Simulator," Northeast American Society of Biomechanics Conference, College Park, Md., March 30-31, 2007.
23. Vipperman, J.S. and W. J. Murphy, "Design of linear time-domain filters for hearing protector modeling," 152nd meeting of the Acoust. Soc. of Am., Nov 27-Dec 1, 2006, Honolulu, HI.
24. Jeffrey S. Vipperman, "Tutorial on Adaptive Filtering with Applications to Active Control," (invited lecture) ASME IMECE-06, Nov 5-10, Chicago, IL.
25. El-Kurdi MS, Vipperman JS, Vorp DA, 2006, "Subspace System Identification of an Ex Vivo Vascular Perfusion System" BMES: Biomedical Engineering Society Annual Conference, Chicago, IL, October 2006.
26. El-Kurdi MS, Vipperman JS, Vorp DA, 2006, "PID control of an Ex Vivo Vascular Perfusion System" BMES: Biomedical Engineering Society Annual Conference, Chicago, IL, October 2006.

27. Bucci, Brian A. and J.S. Vipperman, "Development of Artificial Neural Network Classifier to Identify Military Impulse Noise," 151st meeting of Acoustical Soc. of Am., Providence, RI, June 5-9, 2006.
28. Vipperman, J.S., (invited) "Trends in Controls Research Relevant To Modern Power Plant Systems," Plant Process Control Workshop, National Energy Technology Laboratory, Pittsburgh, PA, 03/22/06.
29. Vipperman, J.S. and Brian Bucci, "Development of a Real-Time Military Noise Monitor," SERDP/ESTCP Partners in Environmental Technology Symposium and Workshop, Washington, DC, November 28-30, 2005.
30. Kuxhaus, Laurel, J. S. Vipperman, Mark E. Barratz, Joshua P. Magnussen, and M.C. Miller, "Reproducing Physiologic Moment Arms With an Elbow Simulator," 20th meeting of the American Society of Biomechanics, Cleveland, OH, July 31-August 5, 2005.
31. Smith, Adam K and J. S. Vipperman, "Adaptive Multi-modal Active Noise Control," 149th Meeting of the Acoustical Soc. of Am., Vancouver, BC Canada, May 16-20, 2005.
32. Vipperman, J. S., "Development of Metrics to Identify Military Impulse Noise," 149th Meeting of the Acoustical Soc. of Am., Vancouver, BC Canada, May 16-20, 2005, also *JASA* **117**, p. 2448.
33. Vipperman, J. S. (Invited Panelist) on the "Open Forum on Acoustics," IMECE2003-55666, ASME IMECE 2004, IMECE2003-55666, Anaheim, CA, November 13-19, 2004.
34. Vipperman, J.S. "Noise Sampling and Analysis Issues for Impact/Impulse Noise for Predicting Noise Induced Hearing Loss," (Invited) lecture given to the Communication Sciences and Disorders Department, School of Health and Rehabilitation Sciences, University of Pittsburgh, Pittsburgh, PA, October 13, 2004.
35. Vipperman, J. S., "Active Noise Control Using Phase-Compensated, Damped Resonant Filters: Toward an Active Helmholtz Resonator," and "Additional Vibro-acoustics Research Projects in the Sound, Systems, and Structures Laboratory," NASA-Langley Research Center, August 20, 2004.
36. Li, Deyu, and J. S. Vipperman, "Theoretical Investigation of Noise Transmission Into a Finite Cylinder," 147th Meeting of ASA, New York, NY, May 27, 2004.
37. Vipperman, J. S. (Invited Panelist) on the "Future of Active Noise Control," IMECE2003-55666, ASME IMECE 2003, Washington, DC, November 15-21, 2003.
38. Vipperman, J.S., "Active Noise Control Technology," (Invited Talk) State of the Art Concepts in Noise and Hearing Loss Conference, Pacific-Northwest Section of the American Industrial Hygiene Association, Seattle, Washington, October 15, 2003.
39. Li, Deyu, and J. S. Vipperman, "Design and Resonant Frequency Calculation for Long T-Shaped Acoustic Resonators" 146th Meeting of ASA, Austin, TX, November 10-14, 2003.
40. Li, Deyu and J. S. Vipperman, "Noise Control for a ChamberCore Composite Structure Using T-Shaped Acoustic Resonators" 146th Meeting of ASA, Austin, TX, November 10-14, 2003.
41. Vipperman, J. S. M.M. Prince, A.M. Flamm, "Analysis of Impact/Impulse Noise for Predicting NIHL," *JASA* 115, pp. 2196, (Abstract only), 145th Meeting of ASA, Nashville, TN, April 28-May 2, 2003.
42. M.M. Prince, J. S. Vipperman, "Noise Sampling Issues for Impact/Impulse Noise Surveys," 145th Meeting of ASA, Nashville, TN, April 28-May 2, 2003.
43. J. B. Bisnette, J. S. Vipperman, D. B. Budny, "Active Noise Control Using Damped Resonant Filters," 145th Meeting of ASA, Nashville, TN, April 28-May 2, 2003.
44. Vipperman, J. S., "Microvalve Design for the Control of Polymer Electrolyte Fuel Cell Systems,"Given to the Swanson Center for Micro- and Nano- Systems, Pittsburgh, PA, January 30, 2003.
45. Vipperman, J. S., "Microvalve Design for the Control of Polymer Electrolyte Fuel Cell Systems," Invited presentation to the *Instrumentation, Systems, and Automation Society*, Pittsburgh, PA, January 13, 2003.
46. Li, Deyu, and J. S. Vipperman, "Helmholtz Design for Noise Transmission Attenuation on a Chamber Core Composite Cylinder," Presented at the First Pan-American/Iberian Meeting on Acoustics (144th meeting of ASA), Cancun, MX, Dec 2-6, 2002.
47. Vipperman, J.S., "Active Noise Control," Invited Panelist in the Open Forum on Issues in Noise Control and Acoustics, ASME IMECE 2002, New Orleans, LA, November 17-22, 2002.

48. Li, Deyu and J Vipperman, "Investigation of The Sound Transmission Behavior of a Chamber Core Cylinder," Presented at 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
49. Homer, J.P. and J. S. Vipperman, "Identification and Classification of Noise Sources in a Chain Conveyor," Presented at 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
50. Vipperman, J.S. and E.R. Bauer, "Dragline Noise Survey," Presented at 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
51. Bauer, E.R. and J. S. Vipperman, "Problems Associated With Noise Measurements in the Mining Industry," Presented at 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
52. Vipperman, J.S., Deyu Li, and Ilya Avdeev, "Transmission Loss of a Ribbed Composite Vessel," (abs.) *JASA* **110**(5), part 2, p. 2772, Presented at 142nd Meeting of ASA, Ft Lauderdale, FL, December 3-7, 2001.
53. Vipperman, J.S., E. R. Bauer, E. R. Spencer, and D. R. Babich, "Survey and Assessment of Noise in Coal Preparation Facilities," (abs.) *JASA* **110**(5), part 2, p. 2757, Presented at the 142nd Meeting of the ASA, Ft Lauderdale, FL, December 3-7, 2001.
54. Vipperman, J.S., "Smart Structures and Systems Research and Capabilities," Presented to Morgantown NETL group, Morgantown, WV, April 19, 2000.
55. Vipperman, J. S. "Considerations and Applications for Active Noise Control," Invited presentation at the National Institute of Occupational Safety and Health, South Park, PA, February, 2000.
56. Vipperman, J.S., W. W. Clark, W. S. Slaughter, "Embedded Sensors in .50 Caliber M2 Composite Machine Gun Barrel," DARPA Review: *Smart Structures - Advanced Development Demonstration for Army Weapon Systems*, University of Pittsburgh, Pittsburgh PA, November 4, 1999.
57. Vipperman, J. S., and R. L. Clark, "Improved Performance of Output Active Structural Acoustic Control Using Collocated Strain-Based Transducers," Presented at the 136th Meeting of the Acoustical Society of America, Norfolk, VA, October 1998.
58. Vipperman, J. S. "Adaptive Piezoelectric Sensoriactuators for Active Structural Acoustic Control," Invited Colloquium, Dept. of Physics, University of Maine, Feb 27, 1998.
59. Vipperman, J. S. and R. L. Clark, "Multivariable Active Structural Acoustic Feedback Control Using Adaptive Piezoelectric Sensoriactuators," Third joint meeting of the Acoustical Society of America and Acoustical Society of Japan, Honolulu, HI, December 2-6, 1996.
60. Clark, R. L., and J. S. Vipperman, "Experimental Results From Hybrid Control With a Sensoriactuator," Presented at the 128th Meeting of the Acoustical Society of America, Austin, TX, Nov. 1994.
61. Vipperman, J. S., and R. L. Clark, "Linear Time-invariant Approaches to Feedforward Multi-frequency Control," Presented at the 127th Meeting of the Acoustical Society of America, Cambridge, MA, June 1994.
62. Vipperman, J. S., R. A. Burdisso, and C. R. Fuller, 1993, "Active Control of Broadband Structural Vibration Using the LMS Adaptive Algorithm," Presented at the 122nd meeting of the Acoustical Society of America, Nov. 1991.
63. Vipperman, J. S., "Practical Applications of Broadband Active Control," Invited Talk to the Bradley Department of Electrical Engineering, VPI&SU, 1993.
64. Burdisso, R. A., J. S. Vipperman, "Applications of Feedforward Control," Invited Talk to the Bradley Department of Electrical Engineering, 1992.

Technical Reports:

1. E.R. Bauer, D. R. Babich, J. S. Vipperman, "Worker Exposure and Equipment Noise in the Coal Mining Industry," NIOSH Information Circular, Jan 2004.
2. E.R. Bauer, M.D.DiMartino, P.J.Hintz, E.R. Spencer, J. S. Vipperman, "INVESTIGATION OF NOISE SOURCES AT AN UNDERGROUND SILVER/LEAD/ZINC MINE," NIOSH, March 1, 2001.

3. E. R. Bauer, D. R. Babich, M. D. DiMartino, D. J. Podobinski, E.R. Reeves, E.R. Spencer, J.S. Vipperman, "INVESTIGATION OF NOISE SOURCES AT A COAL PREPARATION PLANT," NIOSH, May 22, 2001.
4. 3. E. R. Bauer, D. R. Babich, T.J. Ozanich, J.S. Vipperman, "INVESTIGATION OF NOISE SOURCES AT A COAL PREPARATION PLANT," NIOSH, July 20, 2001
5. E. R. Bauer, M. D. DiMartino, P. J. Hintz, E. R. Spencer, and J. S. Vipperman "Investigation of Noise Sources at an Underground Silver Mine," NIOSH, 3/2/01.
6. E. R. Bauer, D. R. Babich, and J. S. Vipperman "Investigation of Noise Sources at an Underground Coal Mine – Longwall and Continuous Miner Sections," NIOSH, 12/1/00.
7. E. R. Bauer, D. R. Babich, M. D. DiMartino, A. E. Prokop, J. P. Rider, E. R. Spencer, and J. S. Vipperman "Investigation of Noise Sources at an Underground Coal Mine – Longwall and Continuous Miner Sections," NIOSH, 11/20/00.
8. E. R. Bauer, D. R. Babich, M. D. DiMartino, A. E. Prokop, J. P. Rider, E. R. Spencer, and J. S. Vipperman "Investigation of Noise Sources at a Surface Coal Mine – Dragline and Air-Arcing," NIOSH, 9/13/00.

Past Graduate Students:

1. Bucci, Brian A., PhD, "A Practical Method for Friction Compensation in Rapid Point-to-Point Motion," PhD Dissertation, University of Pittsburgh, January 2011.
2. Matt Rhudy, MS, "Real Time Implementation of a Military Impulse Noise Classifier," MS Thesis, University of Pittsburgh, November 2009.
3. Nathan Black, MS, "Active Combustion Throttle," MS Thesis, University of Pittsburgh, April, 2008.
4. Schimoler, Patrick, "Design of a Control System for an Elbow Joint Motion Simulator," MS Thesis, University of Pittsburgh, March, 2008.
5. David DeJohn, MS, 2008 (Converted to Prof. MS Student)
6. Laurel Kuxhaus, PhD, "Development of a Feedback-Controlled Elbow Simulator: Design Validation and Clinical Application," PhD Dissertation, University of Pittsburgh, January 2008 (faculty member at Clarkson University).
7. Bucci, Brian A., MS, "Development of Artificial Neural Network-Based Classifiers to Identify Military Impulse Noise," MS Thesis, University of Pittsburgh, December 2007.
8. Greg Badders, MS (left for industry)
9. Adam K. Smith, MS, "Adaptive Resonant Mode Active Noise Control," October, 2005.
10. Josh Magnusen, MS, "Design and Fabrication of an Elbow Motion Simulator," August 2004.
11. Angela Flamm, MS, "Preliminary Feasibility Study of Silicon on Insulator (SOI) microphones," July, 2004.
12. Adam Hahn, M.S., "Modeling and Control of Solid Oxide Fuel Cell – Gas Turbine Power Plant Systems," April, 2004, Employed by McKesson Automation, Pittsburgh.
13. Jesse Bisnette, M.S., "Active Noise Control Using Modally Tuned Phase-Compensated Filters," November 2003, Employed by U.S. Army
14. Deyu Li, Ph.D., "Vibroacoustic Behavior and Noise Control Studies of Advanced Composite Structures," July, 2003, Research Fellow at Hong Kong Polytechnic University
15. John P. Homer, M.S., "Advanced Signal Processing Techniques for Noise Source Identification in Mining Equipment," April 2003, Employed by Mine Safety and Health Administration
16. A. Fatih Ahyan, M.S., "Design of a Piezoelectrically actuated Mircovalve for Flow Control in Fuel Cells," April 2002.

Visiting Scholars:

Jeng-Lian Yang, from Tiawan, Fall 2000,

Current Graduate Research Students:

1. Christopher Shelton, MS/PhD Student
2. Chenzhi Wang, PhD Student
3. Patrick Schimoler, Ph.D. student

4. Brian Bucci, Ph.D. student
5. Tim Ryan, Ph.D. student

Grants and Funding:

1. J.S. Vipperman, "Industrial Muffler Modeling and Testing," MIRATECH Corp, $167,700, 10/2011-9/2013.
2. J.S. Vipperman, M.C. Miller, C.A. Balaban, "Finite Element Modeling of Blast-Induced Traumatic Brain Injury," National Science Foundation, $360,000, 8/2011-7/2014.
3. J.S. Vipperman, "Noise Classifier Support for Improved Military Noise Monitoring System," US Army CERL, $228,391, 3/1/11-2/28/13, (1.5 months effort/year).
4. L.A. Schaefer, et al., "Greater Philadelphia Innovation Cluster for Energy Efficient Buildings," DOE: Energy Regional Innovation Cluster, $2,000,000, 2011-2016.
5. J.S. Vipperman, "Control of a Standing Wave Thermoacoustic Resonator," Hewlett International Grant Program, International conference travel, $1,000, Nov 12-18, 2010.
6. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) NETL/RDS-University Consortium, $50,000, 11/15/09-11/15/10.
7. D.G. Cole (PI) and J.S. Vipperman (Co-PI), "GOALI: Nanoscale Hysteresis Modeling and Control in Precision Equipment," National Science Foundation, $300,000, 9/1/09-8/31/11.
8. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) NETL/RDS-University Consortium, $132,000, 11/1/08-11/15/09.
9. J.S. Vipperman (PI) and D.G. Cole (Co-PI), "Nanoscale Hysteresis Modeling and Control in Precision Equipment," Aerotech, Inc., $124,938.00, 10/1/08-3/31/11.
10. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) NETL/RDS-University Consortium, $118,500, 7/1/07-10/31/08.
11. Laura Schaefer (PI) and J.S. Vipperman (Co-PI), "Environmentally Sound: High Performance, Compact Thermoacoustic Refrigeration," National Science Foundation, $300,000.00, 9/01/07-8/31/10.
12. J.S. Vipperman (PI) and Amro El-Jaroudi (Co-PI), "Development and Implementation of Metrics for Identifying Military Impulse Noise," Strategic Environmental Research and Development Program, $566,335.00, 1/1/07-5/31/09.
13. J. S. Vipperman (PI), M.A. Clarke, and W. W. Clark, "ACT Active Combustion Throttling," NETL/RDS-University Consortium, $186,381.00, 7/15/06-6/30/07.
14. J. S. Vipperman, "Microfabricated Thermoacoustic Refrigerators for Electronics Cooling Applications," NSF REU Supplement, $5,000, 02/27/07.
15. J.S. Vipperman (PI), and Laura Schaefer (Co-PI), "Microfabricated Thermoacoustic Refrigerators for Electronics Cooling Applications," National Science Foundation, $90,000.00, 9/1/05-02/28/07.
16. J.S. Vipperman (PI), "Evaluation and Characterization of Exposure to Impact Noise for Development of Acoustical Risk-Damage Parameters," NIOSH Alice Hamilton Labs, $25,000.00, 2/28/05-12/31/05.
17. J.S. Vipperman (PI), "Adaptive Multi-Modal Active Noise Control," $900.00, Hewlett International Grant Program, International conference travel, May 16-20, 2005.
18. J.S. Vipperman (PI), "Development of Metrics for Identifying Military Impulse Noise Sources," Strategic Environmental Research and Development Program (SERDP – a DoD/DOE/EPA consortium), $92,430.00, January 1, 2005, December 31, 2005.
19. J.S. Vipperman (PI) and William W. Clark (Co-PI), "Variable Orifice Area Technique (VOAT) Design: Revision," U.S. Department of Energy, $50,000, 08/1/04-10/31/04.
20. J. S. Vipperman (PI), "Development of Advanced Acoustic Sensors," John A. Swanson Center for Micro and Nano Systems, University of Pittsburgh, $8,800, 07/01/04-2/28/05.
21. J. S. Vipperman (PI), W. W. Clark (Co-PI), Qing-Ming Wang (Co-PI) "MEMS Microvalve Technology: Phase II-revision," Parsons/NETL (U.S. Dept. of Energy), $36,600, 04/01/04-8/31/05.
22. J. S. Vipperman (PI), W. W. Clark (Co-PI), Qing-Ming Wang (Co-PI) "MEMS Microvalve Technology: Phase II-revision," Parsons/NETL (U.S. Dept. of Energy), $5,670, 11/01/03-3/31/04.

23. J. S. Vipperman (PI), "Engineering Student support for Evaluation of Impact Noise and Acoustical Signal Processing," NIOSH-DSHEFS, Cincinnati, OH, $11,466.00, July 31, 2003-December 31, 2003.
24. J. S. Vipperman (PI), "Helmholtz Design for Noise Transmission Attenuation on a Chamber Core Composite Cylinder," Hewlett International Grant Program, International conference travel, $1,020.00, December, 2002.
25. J.S. Vipperman (PI) and William W. Clark (Co-PI), "Variable Orifice Area Technique (VOAT) Design," U.S. Department of Energy, $150,134.00, 11/1/02-11/30/03.
26. J.S. Vipperman (PI), "Vibro-Acoustic Studies on a Chamber Core Cylinder," Air Force Research Lab and CSA Engineering, $52,929.00, 9/1/02-8/31/03.
27. Tom Cain, *et al*., "John A. Swanson Center for Micro and Nano Systems," $1,395,000.00 8/19/02.
28. J.S. Vipperman (PI), "University of Pittsburgh Support for Worker Dose and Equipment Noise Identification," NIOSH-Pittsburgh Research Lab, $12,000, 9/1/02-8/31/03.
29. J.S. Vipperman (PI), "Enhanced Time Domain Signal Processing for the Study of Noise Generation Mechanisms," NIOSH-Pittsburgh Research Lab, $10,000, 8/15/02-9/30/03.
30. J. S. Vipperman (PI), W. W. Clark (Co-PI), Qing-Ming Wang (Co-PI) "MEMS Microvalve Technology: Phase II," Parsons/NETL (U.S. Dept. of Energy), $139,615, 5/15/02-3/31/03.
31. J.S. Vipperman (PI), "Evaluation and Signal Processing of Noise Impact Data," NIOSH-DSHEFS, Cincinnati, OH $20,293, 5/6/02-10/31/02.
32. J. S. Vipperman (PI), "Characterization and Control of Sound Radiation in a Complex Structure," Hewlett International Grant Program, International conference travel, $500.00, October 30, 2001.
33. J. S. Vipperman (PI), "University of Pittsburgh Support for Noise Source/Path Identification for the Assessment of Engineering Controls," NIOSH-Pittsburgh Research Lab, $24,500.00, 9/1/01-8/31/02.
34. J. S. Vipperman (PI), "University of Pittsburgh Support for Data Analysis in the Cross-Sectional Mining Survey," NIOSH-Pittsburgh Research Lab, $8,278.00, 6/1/01-12/31/01.
35. J. S. Vipperman (PI), "Vibro-Acoustic Studies on an Advanced Composite Chamber," CSA Engineering (Air Force Research Lab), $49,980.00, 6/1/01-5/31/02.
36. J. S. Vipperman (PI), W. W. Clark (Co-PI), "Microelectromechanical Valve Design and Control for Fuel Cell Systems," Parsons/NETL (U.S. Dept. of Energy), $98,513, 5/14/01-4/30/02.
37. Jeffrey S. Vipperman (PI), "Education Partnership Agreement Between Air Force Research Laboratory/Space Vehicles Directorate and the University of Pittsburgh," $35,000.00 (in-kind), 6/1/00-5/31/04.
38. W. W. Clark (PI), J. S. Vipperman (Co-PI), "Smart Structures -- Advanced Development Demonstration for Army Weapon Systems," Defense Advanced Research Projects Agency, $196,397.00. 5/1/99-7/30/00.
39. J. S. Vipperman (PI), "Anti-symmetric Composite Design for Enhanced ASAC," University of Pittsburgh CRDF, Small Grants Program, $15,999.60, 7/99-6/01.
40. J. S. Vipperman (PI), "Autonomous Structural Damage Detection Using Adaptive Piezoelectric Sensoriactuators," Summer Faculty Research Fund Competition, University of Maine, $5000.00, 12/17/97.
41. J. S. Vipperman (PI), "Digital Signal Processing System for the Smart Systems And Structures Laboratory," Scientific Equipment and Book Fund Competition, University of Maine, $4,497.00, 1997.
42. J. S. Vipperman (PI), "Experimental Verification of Very Large-Aperture Strain-Based Piezoelectric Sensoriactuators," Regular Faculty Research Fund Competition, University of Maine, $4,975.00, 1997.

Professional Memberships:

- Acoustical Society of America (ASA)
- Sr. Member, American Institute of Aeronautics and Astronautics (AIAA)
- Fellow, American Society of Mechanical Engineers (ASME)
- Full Member, Institute for Noise Control Engineering (INCE)

Professional Service:

National Science Foundation
- Proposal Reviewer

National Academy of Sciences
- Served on the National Research Council (NRC) Committee to Review the NIOSH Mining Safety and Health Research Program (12/05-4/07)
- Proposal Reviewer

Journal Editorships:
- Associate Editor of ASME Journal of Vibration and Acoustics, (5/06-present)

National/International Technical Committees:
- Chair, Working Group 27 to revise ANSI S1.1: American National Standard Acoustical Terminology, Acoustical Society of America, 5/03-current
- Vice Chair, ASME Noise Control and Acoustics Division, 2011-2012
- Chair, ASME Noise Control and Acoustics Division, 2010-2011
- Secretary/Treasurer, ASME Noise Control and Acoustics Division, 2009-2010
- Executive Committee Member, ASME Noise Control and Acoustics Division, 2007-present
- Chair, Active Noise Control Technical Committee, American Society of Mechanical Engineers, Noise Control and Acoustics Division, 2002-2008.
- Vice Chair, Active Noise Control Technical Committee, American Society of Mechanical Engineers, Noise Control and Acoustics Division, 2001-2002
- Member, Working group to establish ANSI S3.42: Estimation of the hazards posed by exposure to impulse noise
- "Friend," of Technical Committee on Sound and Vibration, American Society of Mechanical Engineers, 2002-present
- Member, Structural Acoustics Technical Committee, Acoustical Society of America, 1999-current
- Member, Scientific Advisory Committee, Active '99 Conference, Ft. Lauderdale, FL 1999

ASME-Pittsburgh Section:
- Section Chair, 2003-2004
- Vice Chair 2002-2003
- Secretary 2001-2002
- College Relations Chair, (2001-present)
- Board of Directors (2001-2006)
- Executive Committee (2000-2006)
- Produced/Co-produced Professional Development Seminars on CAE/FEA for ASME-Pittsburgh, March 2001 and March 2004.

Conference Division Technical Chair:
1. ASME NCAD 2009, Technical Program Chair for Noise Control and Acoustics Division of ASME.

Conference Topical Organizer:
2. ASME NCAD 2008/NoiseCon 2008, jointly organized five conference sessions.
3. ASME IMECE '07, Track Chair
4. ASME IMECE '06, Chicago, IL sessions on *Advances in Noise Control.*
5. ASME IMECE '05, Anaheim, CA, sessions on *Active Noise Control with Distributed and Hierarchical Systems* and *Recent Advances in Active Noise Control*, Nov 2005.

6. ASME IMECE ’04, Anaheim, CA, sessions on *Active Control of Combustion* and *Recent Advances in Active Noise Control*, Nov 2004.
7. ASME IMECE ’03, Washington DC, session on *Analyzing and Quieting Composite Structures*, Nov 2003.
8. ASME IMECE ’02, New Orleans, LA, Symposiums on *Recent Active Noise Control in Transportation Systems* and *Recent Advances in Active Noise Control*, Nov 2002.

Conference Sessions Organized or co-organized:

1. ASME IMECE ’07, Seattle Washington, session on *Active and Passive Noise Control*
2. ASME IMECE ’03, Washington DC, session on *Recent Advances in Active Noise Control: Transducer Development*, Nov 2003.
3. ASME IMECE ’03, Washington DC, session on *Analyzing and Quieting Composite Structures*, Nov 2003.
4. 145th meeting of ASA, Nashville, TN, session on the *Structural Acoustics of Musical Instruments*, April/May, 2003.
5. ASME IMECE ’02, New Orleans, LA, session on *Recent Active Noise Control in Transportation Systems*, Nov 2002.
6. Local Planning Committee (technical tours), 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
7. ASME IMECE ‘01, New York, NY, session on *Active/Passive Noise Control*, Nov 2001.
8. ASME IMECE ’00, Orlando, FL, session on *Transportation Noise Control for NCAD*, Nov. 2000.
9. Active ’99 Conference, Ft. Lauderdale, FL, session on *Transducers*, Dec. 1999.

Conference Sessions Chaired or co-chaired:

1. ASME IMECE 2007, Seattle WA, Nov 5-11.
2. 147th ASA, New York, NY, May 24-28, 2004.
3. Session NCA-3, ASME IMECE ’03, Washington DC, November 16-21, 2003.
4. Session NCA-4, ASME IMECE ’03, Washington DC, November 16-21, 2003.
5. 146th ASA, Austin, TX, October 10-16, 2003.
6. 145th ASA, Nashville, TN April 28-May 2, 2003.
7. 144th ASA, Cancun, MX, December 2-6, 2002.
8. ASME IMECE ’02, New Orleans, LA, November 17-22, 2002.
9. 142nd ASA, Ft. Lauderdale, FL, Dec 3-7, 2001.
10. ASME IMECE ’01, New York, NY, Nov 11-16, 2001
11. ASME IMECE ’00 (2 sessions), Orlando, FL, Nov. 5-10, 2000.
12. Active ’99 Conference, Ft. Lauderdale, FL, Dec. 2-4, 1999
13. 39th AIAA/ASME/ASC/AHS/ASC SDM Conference and AIAA/ASME/AHS Adaptive Structures Forum/Long Beach, CA April 20-24
14. *Noise-Con 97, State College, PA*, June 15-17, 1997.

Reviewer for

- *Shock and Vibration*
- *Journal of the Acoustical Society of America*
- ASA *Acoustics Research Letters On-line (ARLO)*
- *Journal of Fluids and Structures,*
- AIAA *Journal of Guidance, Control, and Dynamics*
- AIAA *Journal of Spacecraft and Rockets*
- *Journal of Intelligent Materials Systems and Structures*
- ASME *Journal of Vibration and Acoustics*
- *Journal of Sound and Vibration*
- *Noise Control Engineering Journal*

- *IEEE Transactions on Automatic Control*
- *ASCE Journal of Engineering Mechanics*
- *ASME IMECE Conference*
- *ASME IDECT Conference*
- *ASME Gas Turbine Institute*
- *Tenure and promotion cases*

University of Pittsburgh

- NETL-RUA Education Committee Member (2010-present)
- University Academic Calendar Committee (2/2008-present)
- University Research Council (9/2007-2010)
- Conflict of Interest Committee (9/2006-2009)
- Entrepreneurial Oversight Committee (9/2006-2009)

School of Engineering

- Distance Education Committee (ad-hoc, 2011)
- Dean's marketing task force (2003-3005)
- Web editors Group (2001-2004)
- Participated in Minority Engineering Mentorship Program (MEMP), 2001
- Participated in Mentoring Program for Excellence in Engineering (MPE^2), 2006-2007
- Participated in Pitt Excel Summer Research Internship, 2009, 2010

Mechanical Engineering Dept.

- Faculty Search Committee (spring 2011)
- Director of Graduate Studies (1/08-8/08 (interim), and 8/08-present)
- Space Committee (2006-2008)
- Inter-program Graduate Committee (2007-2008)
- Strategy and Planning Committee (2004-2006)
- Graduate Curriculum Committee for ME, UPitt (2001-2004, 2006-current)
- Undergraduate Program Committee for ME, UPitt (1999-2001, 2005-2006)
- Graduate Seminar Coordinator, Spring 2002
- Chairman for Dynamics and Vibrations Area Committee for Ph.D. Preliminary Examinations (2000-2001)

References:

Dr. Robert L. Clark (Ph.D. Advisor),
Dean and Professor
School of Engineering & Applied Science
University of Rochester
PO BOX 270076
Lattimore Hall 309
Rochester, NY 14627
585-275-4151
rclark@rochester.edu

Dr. Chris R. Fuller (M.S. Advisor),
Roanoke Electric Steel Professor and Director of the Vibration and Acoustics Laboratories
Virginia Polytechnic Institute and State University
Department of Mechanical Engineering
Blacksburg, VA 24061-0238
(540) 231-7273 (Phone at VPI&SU)

(757) 864-3589 (Phone at NASA Langley Research Center)
c.r.fuller@larc.nasa.gov

Dr. Richard J. Silcox (Ph.D. Committee Member)
Assistant Branch Chief
Structural Acoustics Branch, Mail Stop 463
NASA Langley Research Center
Hampton, VA 23681-0001
(757) 864-3590
r.j.silcox@larc.nasa.gov

Dr. William R. Saunders
President
Adaptive Technologies, Inc.
2020 Kraft Drive Suite 3040
Blacksburg, VA 24060
540-951-1284
will@adaptivetechinc.com