# Curriculum Vitae
## Dr. Jeffrey S. Vipperman

Vice Chair, Department of Mechanical Engineering and Materials Science
Professor of Mechanical Engineering
Professor of BioEngineering
Professor of Communication Science and Disorders
Director and founder of the *Sound, Systems, and Structures Laboratory*
University of Pittsburgh
Department of Mechanical Engineering & Materials Science
636 Benedum Hall
Pittsburgh, PA 15261
jsv@pitt.edu
Last Revised May 25, 2021

**Education:**

| | | |
|---|---|---|
| 04/1997 | Ph.D., Mechanical Engineering | Duke University |
| 06/1992 | M.S., Mechanical Engineering | Virginia Tech |
| 08/1990 | B.S., Mechanical Engineering | Virginia Tech |

**Professional Experience:**

| | |
|---|---|
| 2021-present | Professor of Communication Sciences and Disorders, University of Pittsburgh, Pittsburgh, PA |
| 2021-present | President of Atlas Medtech, LLC |
| 2018-present | Vice President of Atlas Medtech, LLC |
| 2017-present | Sole proprietor, Blue Ridge Consulting, LLC |
| 1/16-present | Vice Chair of Mechanical Engineering and Materials Science, University of Pittsburgh, Pittsburgh, PA |
| 6/14-present | Professor of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA |
| 6/14-Present | Professor of BioEngineering, University of Pittsburgh, Pittsburgh, PA |
| 1/08-8/11 | Graduate Director (Mechanical Engineering), University of Pittsburgh, Pittsburgh, PA |
| 4/05-6/14 | Associate Professor of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA |
| 4/05-6/14 | 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 |

*Amazon v. Jawbone*
U.S. Patent 8,503,691
**Amazon Ex. 1004**

| | |
|---|---|
| 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 |

**Leadership Highlights, Present and Past:**

- Vice Chair of Mechanical Engineering and Materials Science Department (current). *Advise Chair on issues regarding Mechanical Engineering curriculum, research, and hiring; oversee purchase and installation of major instrumentation and infrastructure for research and teaching; oversee departmental safety and academic integrity. Attend meetings with University leadership on behalf of the Chair when absent.*
- President of Atlas Medtech LLC (current). *Atlas Medtech is a University of Pittsburgh startup company commercializing a rapidly deployable surgical retractor developed in Dr. Vipperman's lab.*
- Founding Chair of the University of Pittsburgh Swanson School of Engineering Academic Integrity Committee (current). *Developed school-wide academic integrity policy in accordance with university guidelines. Chair bimonthly meetings of the Academic Integrity Committee, which has representation from every Swanson School of Engineering department and student leaders. Developed outreach materials and give presentations to large groups of faculty, graduate, and undergraduate students. Oversee the development of educational and outreach materials related to academic integrity intended to build and enhance a culture of integrity within the school.*
- Inaugural (faculty) Cochair of Department of Mechanical Engineering and Materials Science Students Advisory Board. *Oversaw the establishment of the Student Advisory Board in response to intense national political and social unrest in order to best support our student population (the committee of faculty, undergraduate and graduate students represents a broad cross section of background, race, gender identities, sexual orientations); In addition to chairing monthly meetings, oversaw the development of a mission statement, student climate survey, outreach materials and activities, and development of diversity, equity, and inclusion modules for courses.*
- Graduate Director, Department of Mechanical Engineering and Materials Science. *Responsible for 120 MS and 45 PhD students; Oversaw 45% growth in PhD students and 40% growth in part-time MS program, including offering courses at a satellite campus; Oversaw the evaluation and selection of new graduate students, including departmental offers for aid; Evaluated the curriculum developed for the new MS in Nuclear Engineering program; Certified graduations and approved new courses; Oversaw the external 10-year review of the graduate program.*
- Chair of the Noise Control and Acoustics Division for the American Society of Mechanical Engineers. *Conducted the business of the Division and chaired the annual technical planning and executive committee meetings; Interfaced the division with the national office of ASME; Sought nominations for the prestigious Rayleigh Lecturer for next year's conference; attended ASME Leadership Development Training.*
- Technical Program Chair, American Society of Mechanical Engineers International Mechanical Engineering Conference and Exposition (ASME IMECE). *Oversaw the review and publication of all (several dozen) acoustics and vibration related conference papers that were submitted through the Noise Control and Acoustics Division of ASME.*
- Associate Editor for ASME Journal of Vibration and Acoustics.
- Chair of the Active Noise Control Technical Committee for the American Society of Mechanical Engineers. *Oversaw the planning for multiple (3-5/yr) sessions in active noise control for the next year's annual conference.*

- Chair, Per Bruel Gold Medal in Acoustics award committee for American Society of Mechanical Engineers. *Oversaw the nomination and selection process for ASME's most prestigious annual award in acoustics while conducting the meetings of the committee.*
- Chair, ANSI S1.1 Acoustical Terminology standard working group for the Acoustical Society of America. *Conducted several in-person meetings of the working group; collected input from the working group and Society members at large that was discussed at length and used to edit and revise the content of the S1.1 standard.*
- Chair of the Pittsburgh Section of American Society of Mechanical Engineers (1,500 members). *Chaired the monthly Executive Committee meetings; interfaced with the ASME national office; the business of the Section, including a monthly newsletter and technical and outreach programming; routinely connected with members about items of potential interest; attended ASME Leadership Development Training.*
- Program and Education Chairs for Pittsburgh Section of American Society of Mechanical Engineers. D*eveloped monthly programs on a variety of topics for our members, which included at least one course for continuing education credits per year, and an annual student/professional mixer.*

**Consulting:**

| | |
|---|---|
| 2020-21 | Expert Witness for Google: Google v. Sonos, Finnegan Law Firm (IPR Proceedings) |
| 2020-21 | Expert Witness for Shure: Shure v. ClearOne, Finnegan Law Firm (PGR Proceedings) |
| 2019-2020 | Expert Witness for Shure: Shure v. ClearOne, Finnegan Law Firm (IPR Proceeding) |
| 2018 | Expert Witness for Covidien: Ethicon Endo-Surgery v. Covidien, DLA Piper Global Law Firm |
| 2016 | Expert Witness for Samsung: Suntegra v. Samsung, Convington and Burlington |
| 2016 | Mine Safety and Appliance |
| 2014-15 | Expert Witness for Invensys / DLA Piper Global Law Firm (Invensys v Emerson) (seven different IPR proceedings) |
| 2013-15 | Expert Witness for Apple Computer / Wilmer Cutler Pickering Hale and Dorr (WilmerHale) (THX v. Apple) (Two separate IPR proceedings) |
| 2013-14 | Expert Witness for Covidien / DLA Piper, Global Law Firm (Ethicon v. Covidien) |
| 2011-2012 | Technical Analysis and Services, International |
| 2011-2012 | Mosebach Manufacturing, Inc. |
| 2011-2012 | MIRATECH Corporation |
| 2008 | Siemens Government Services |
| 2007-2008 | Expert Witness: Thompson, Coburn and FagelHaber LLC |
| 2007-2008,11,12 | 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:**

| | |
|---|---|
| 2018 | Pitt Innovator Award |
| 2018 | Chancellors Innovation Commercialization Award |
| 2016, 2017 | Chancellor's Early Stage Commercialization Fund award |
| 2014 | Association for Iron and Steel Rolls Technology Best Paper Award |
| 2014 | University of Pittsburgh Innovator Award |
| 2011 | Visiting Committee Educator Award, MEMS Department |
| 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 |

**Students Honors and Awards:**

| | |
|---|---|
| 2017 | Chris Dumm, 1st place PDMA Competition |
| 2017 | Chris Dumm, 2nd Place in Wells Competition |

| | |
|---|---|
| 2016 | Tim Ryan, Carl Zeiss Student Scholarship, American Society of Precision Engineering |
| 2016 | Sr. Design team took 2nd Place in the SSOE Design Expo |
| 2014 | Konstantin Redkin, Association for Iron and Steel Rolls Technology Best Paper Award |
| 2009 | Brian Bucci, Best Research Assistant, MEMS Department |
| 2007 | Mentored the first team from Pitt to be selected for the NASA micro-gravity experiment (it flew on the "vomit comet" with our students). |

**Published Journal Articles:**

1. Li, Qi, and J.S. Vipperman, "Three-Dimensional Pentamode Acoustic Metamaterials with Hexagonal Unit Cells," J. Acoust. Soc. of Am. **145**, 1372 (2019); https://doi.org/10.1121/1.5093622
2. Li, Qi, and J.S. Vipperman, "Two-dimensional arbitrarily shaped acoustic cloaks with triangular patterns of homogeneous properties ASME. J. Vib. Acoust. 141(2):021014-021014-7. doi:10.1115/1.4041897, 2018.
3. Li, Qi, and J.S. Vipperman, "Non-singular three-dimensional arbitrarily shaped acoustic cloaks composed of homogeneous parts," *AIP J. of Applied Physics*, 124, 035103 (2018); https://doi.org/10.1063/1.5028136 , June 26, 2018
4. Schimoler, P.J., J.S. Vipperman, M.C. Miller, "Pole/Zero Design of Agonist/Antagonist Actuation," *IEEE Transactions on Control Systems Technology*, **26**(6), pp. 2141-8, DOI: 10.1109/TCST.2017.2740852, Nov. 2018.
5. Li, Qi, and J.S. Vipperman, "Two-dimensional arbitrary shape acoustic cloaks composed of homogeneous parts," *AIP J. of Applied Physics*, 122, 144902 (2017); https://doi.org/10.1063/1.4990758, Oct. 2017.
6. M. Hua, Q. Wang, C. Li, JS Vipperman, AJ DeArdo, "Plastic Deformation Behavior of Weld Lines in ERW Steel Pipe," *Iron and Steel Technology*, 13(10), pp. 144-151, 10/2016.
7. Wang, Chenzhi, Jae Bum Pahk, Carey D. Balaban, Mark C. Miller, Adam R. Wood, Jeffrey S. Vipperman, "Computational Study of Human Head Response to Primary Blast Waves of Five Levels from Three Directions," *PLOS One*, 10.1371/journal.pone.0113264, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113264, 2014.
8. Li, Qi, and J.S. Vipperman, "Two-dimensional acoustic cloaks of arbitrary shape with layered structure based on transformation acoustics," *AIP Applied Physics Letters*, 105, 101906; doi: 10.1063/1.4895765, 2014.
9. K.V. Redkin, J.S.Vipperman, C.Hrizo (WHEMCO), R.Schleiden (United Rolls), C.I.Garcia, "Multi-scale Finite-Element Modeling and Microstructural Evaluation of Centrifugally Cast High-Speed Steel Finishing Rolls" (FEATURE article), *Iron and Steel Technology* (AISTech) Journal, Vol.10, No.10, pp.69-84, 2013
10. Ryan, Timothy S. and Jeffrey S. Vipperman, "Incorporation of Scheduling and Adaptive Historical Data in the Sensor Utility Network Method for Occupancy Estimation," *Energy and Buildings*, http://dx.doi.org/10.1016/j.enbuild.2013.01.037, Volume 61, June 2013, Pages 88–92.
11. B. Bucci, J.S. Vipperman, D. Cole, S. Ludwick, "Evaluating a servo settling algorithm," *Precision Engineering*, DOI: 10.1016/j.precisioneng.2012.04.006, 37(1), pp. 10-22, Jan 2013.
12. 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*, Issue 99, 10.1109/TCST.2012.2206812, Sep. 11, 2012.
13. Cvengros, B., D. Valente, E. Nykaza, J. Vipperman, "Blast Noise Classification With Common Sound Level Meter Metrics," *Journal of the Acoustical Society of America*, **132**(2), pp. 822-31, Aug 2012.

14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. El-Kurdi, Mohammed. S., Jeffrey S. Vipperman, and David A. Vorp, "Design and Subspace System Identification of an *Ex vivo* Vascular Perfusion System," Journal of Biomedical Engineering, **131**, 8pp., April 2009.
20. 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.
21. 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), 7 pp., Oct. 2008.
22. Li, D., L. Cheng, G. H. Yu, and J.S. Vipperman, "Noise control in enclosures: Modeling and experiments with T-shaped acoustic resonators," *Journal of the Acoustical Society of America*, **122**(5), Nov. 2007.
23. Brian A. Bucci, Jeffrey S. Vipperman, "Performance of Artificial Neural Network-Based Classifiers to Identify Military Impulse Noise," *Journal of the Acoustical Society of America.*, **122**(3), pp. 1602-10, Sep. 2007.
24. 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.
25. 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.
26. 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
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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.

33. Vipperman, Jeffrey S., "Simultaneous Qualitative Health Monitoring and Sensoriactuation," *AIAA Journal*, **39**(9), September, 2001, pp. 1822-1825.
34. 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.
35. 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.
36. 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.
37. 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.
38. Vipperman, J. S., J. M. Barker, R. L. Clark, G. J. Balas, "Comparison of $\mu$- and $\mathcal{H}_2$-Synthesized Controllers on a Experimental Typical Section.," *Journal of Guidance, Control and Dynamics*, **22**(2), Mar-Apr 1999, pp.278-285.
39. 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.
40. 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.
41. 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.
42. Vipperman, J. S. and R. L. Clark, "Implementation of an Adaptive Piezoelectric Sensoriactuator," *AIAA Journal,* **34**(10), October 1996, pp. 2102-2109.
43. 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.
44. 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.
45. 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, Book Chapters:**

1. Flat Products Volume of the 11th Edition of *Making, Shaping, and Treating of Steel*, by Vladimir fea
2. Finite-Element Modeling and Microstructural Evaluation of Centrifugally Cast High-Speed Steel Finishing Rolls (K.V. Redkin, J.S.Vipperman, C.Hrizo, R.Schleiden, C.I.Garcia), Dec. 2013, AIST.
3. Raja Ramini, *et al.*, "Review of the NIOSH Mining Safety and Health Research Program,"The National Academies Press, 2007.
4. 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.

**Patent Applications:**

1. JS Vipperman, CP Palmer, E. Rauterkus, JO Sharp, CM Dumm, "Hearing Screening and Amplification Device" Provisional Application No. 63/162,932, Filed 3/18/2021.

2. Allen, Peter, G. Elias, M. Scaife, J. Vipperman, C Dumm, T. Ferris, "Adjustable Retaining Arm System for Surgery," Application No. US2018/016594 / WO 2018/144820 Al, filed February 2, 2018
3. Surgical Tool Monitoring System and Methods of Use," (Divisional Patent) Application No. 10,772,643, 9/15/2020.

**Patents:**

1. Vipperman, J.S., C.H. Snyderman, T.S. Ryan, P.R. Johnson, "Surgical Tool Monitoring System and Methods of Use," 9,980,738, 5/29/2018.
2. Hensel, J.P., N. Black, J.D. Thornton, J.S. Vipperman, D.N. Lambeth, W.W. Clark, "Active Combustion Flow Modulation Valve," United States Patent Number 8,540,209, Sep. 24, 2013.
3. Gemmen, Randall, Jimmy Thornton, Jeffrey S. Vipperman, William W. Clark, "Piezoelectric Axial Flow Microvalve," United States Patent Number 7,159,841, Jan. 9, 2007.
4. Clark, R. L., J. S. Vipperman, and Daniel G. Cole, "Adaptive Piezoelectric Sensoriactuator," United States Patent Number 5,578,761, Nov. 26, 1996.

**Copyrights:**

1. "I Will," Original song and guitar accompaniment by Jeffrey Vipperman, 2020.
2. Military Impulse Noise Classifier Software. Jeffrey S. Vipperman, Brian A Bucci, Mathew Rhudy, 2009

**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. Dumm, Christopher, Anna Hiers, G. Klinzing, C.D. Balaban, J.S. Vipperman "Vibroacoustic Ultrasonic Resonant Behavior in Skull and Cranial Contents," IMECE2021-70038, ASME-IMECE2021 Virtual Conference, USA.
2. Whitefoot, John, JS Vipperman, "Designing At-home Laboratory Experiments Using Smart Phones and Basic Test Equipment for Senior Mechanical Engineering Students," 2021 ASEE Annual Conference, July 26-29, Virtual.
3. Dumm, Christopher, Anna Hiers, J.S. Vipperman, G. Klinzing, C.D. Balaban, "Ultrasonic Acoustic Heterodyne Transmission into the Human Auditory and Vestibular Systems," IMECE2020-24213, ASME-IMECE2020 Conference, November 16-19, 2020, Portland, OR, USA.
4. Saltsman, Brandon, C.A. Balaban, J.S. Vipperman, "Computational Modeling of Coagulopathy for Decision Support," ASME IMECE Conference, Nov 9-15, 2018, Pittsburgh, PA.
5. Saltsman, Brandon, C.A. Balaban, J.S. Vipperman, "Simulating Coagulopathy for Decision Support," Computational and Mathematical Biomedical Engineering, April 10-12, 2017, Pittsburgh, PA.
6. Ryan, TS and JS Vipperman, "Toward a Modeling Framework for Linear Stages," (extended abstract) American Society of Precision Engineering 31st Annual Meeting, Portland, OR, Oct. 23-28, 2016.
7. C.M. Dumm, J.S. Vipperman, J.V. Carvajal, M.M. Walter, L. Czerniak, A.S. Ruane, P. Ferroni, M.D. Heibel, "Predictive Modeling of Acoustic Signals from thermoacoustic Power Sensors (TAPS)," Proceedings of the 2016 24th International Conference on Nuclear Engineering, ICONE24, June 26-30, 2016, Charlotte, North Carolina.
8. Li, Qi, "Two-dimensional arbitrary shape acoustic cloaks composed of homogeneous parts realized by layered structures," ASME NCAD Paper NCAD20155924, NCAD/Internoise 2015 Conference, San Francisco, CA, August 9-12, 2015.

9. K.V. Redkin, B. Balakin, C. Hrizo, Vipperman, J.S., C.I. Garcia, "3D CFD Simulation of Horizontal Spin Casting of High Speed Steel Roll," BAPS.2013.DFD.1B.85, 66th Annual Meeting of the APS Division of Fluid Dynamics, Pittsburgh, PA, Nov 24-26, 2013, abstract published in *Bulletin of the American Physical Society*, **58**(18).
10. Mang, Scott and J.S. Vipperman, "Comparison of Muffler Performance Criteria Using Finite Element Analysis and Field Measurement," IMECE-2013-64690, Proceedings of ASME IMECE 2012, San Diego, CA Nov. 13-21, 2013.
11. K.V. Redkin, J.S.Vipperman, C.Hrizo (WHEMCO), R.Schleiden (United Rolls), C.I.Garcia, "Multi-scale Finite Element Modeling and Microstructural Optimization of Cast High Speed Steel Finishing Rolls", 50th Rolling Seminar - Processes, Rolled and Coated Products, Brazilian Metallurgist, Materials and Mining Association (ABM), November 2013, Ouro Preto, Brazil
12. K.V. Redkin, J.S.Vipperman, C.Hrizo (WHEMCO), R.Schleiden (United Rolls), C.I.Garcia, "Microstructural Optimization and Enhanced Performance of HSS Work Rolls by Non-Conventional Heat Treatment", Materials Science and Technology 2013 Conference and Exhibition, October 2013, Montreal, Quebec, Canada.
13. K.V. Redkin, Vipperman, J.S., C. Hrizo, R. Schleiden, C.I. Garcia, "Multi-Scale Finite Element Modeling and Microstructural Optimization of Cast High Speed Steel Finishing Rolls," PR-364-194, 2013 AISTech Conference Proceedings, Pittsburgh, PA, May 6-9, 2013.
14. Wang, Chenzhi, Jae Bum Pahk, C. D. Balaban, J. Muthu, D. Vorp, J.S. Vipperman, "Biomechanical Assessment of the Bridging Vein Rupture of Blast Induced Traumatic Brain Injury Using the Finite Element Human Head Model," IMECE2012-88739, Proceedings of IMECE-12, Houston, TX, Nov 9-15, 2012.
15. Shelton, Christopher, and J.S. Vipperman, Ed Nykaza, Dan Valente, "Six Noise Type Artificial Neural Network Military Noise Classifier," ASME NCAD/Internoise Conference, Aug. 19-22, 2012.
16. 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, Nov 11-17, 2011.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.

25. 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.
26. 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.
27. 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.
28. 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.
29. Bucci, Brian, and J. S. Vipperman, "Bayesian Military Impulse Noise Classifier," IMECE2007-41700, ASME IMECE-07 Conference, Nov 11-15, 2007, Seattle, Washington.
30. 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.
31. Bucci, Brian, and J. S. Vipperman, "Artificial Neural Network Military Impulse Noise Classifier," ASME IMECE-06, Nov 5-10, Chicago, IL.
32. 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.
33. Smith, Adam K. and J. S. Vipperman, "Adaptive Resonant Mode Acoustic Controller," IMECE2005-89279, ASME IMECE 2005, Nov. 5-11, Orlando, FL.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.

43. 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.
44. 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.
45. 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
46. Vipperman, Jeffrey S., Deyu Li "Dielectric Response of Adaptive Piezoelectric Sensoriactuators," ASME IMECE 2000, Orlando, FL Nov. 5-10, 2000.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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
53. 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.
54. 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.
55. 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. Shan, D, C. Wang, AR Wood, JS Vipperman, "The Biomechanical Prediction of Blast-Induced Traumatic Brain Injury Using the Finite Element Method," The 17th National Congress on Theoretical and Applied Mechanics, June 15-20, 2014, Michigan State University, East Lansing, MI.
2. Xie, X., S. Li, C. Wang, JS Vipperman, "Replicating the Friedlander Wave from a One-Dimensional Gas-Driven Shock Tube for the Study of Blast-Induced Traumatic Brain Injury," The 17th National Congress on Theoretical and Applied Mechanics, June 15-20, 2014, Michigan State University, East Lansing, MI.
3. Vipperman, J.S., "What's in a name? Putting standard terminology to use for you," Acoustics Today, July 2007.
4. 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.

5. 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.
6. 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.
7. 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.
8. Vipperman, Jeffrey S., "Micro-acoustic source arrays," INCE Active '99, Ft. Lauderdale, FL, Dec. 2-4, 1999, pp. 1215-1224.
9. Vipperman, J. S. and R. L. Clark, "Applications of the Adaptive Piezoelectric Sensoriactuator," NOISE-CON 97, State College, PA, June 15-17, 1997.
10. 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.
11. Vipperman, J. S. and R. L. Clark, Article on Duke University Adaptive Sensoriactuator work, *Active Sound & Vibration Control News,* **3**(4), April, 1996.
12. 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.
13. 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.
14. 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. C.M. Dumm, A.C. Hiers, D.B. Maupin, J.S. Vipperman, G.E. Klinzing, C.D. Balaban , "Damped ultrasonic vibro-acoustic behavior of temporal bone structures," Abstract accepted, 179th (virtual) meeting of the Acoustical Society of America, 7-11 December, 2020.
2. Anna Hiers, Christopher Dumm, Brandon Saltsman, Scott Mang, Jeffrey Vipperman, George Klinzing, Carey Balaban, "Ultrasonic Acoustic Waveguide Behavior of the Auditory and Vestibular Systems," Second Carnegie Mellon Forum on Biomedical Engineering, September 19-20, 2019.
3. Jeffrey S. Vipperman, "Design of Broadband Cloaks of Homogeneous Materials using Multi-Transform Methods," Invited Talk to the Penn State Center for Acoustics and Vibrations, 3/20/2018, https://meeting.psu.edu/p9kwf6ttlr9/.
4. Christopher M. Dumm and Jeffrey S. Vipperman Jorge V. Carvajal, Melissa M. Walter, Luke Czerniak, Amy S. Ruane, Paolo Ferroni, Michael Heibel, "Thermoacoustic power sensors: Principles and prediction," Presented at 5th Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan, Honolulu, HI, 11/28/16-12/2/16. Abstract published in JASA 140(4), DOI: http://dx.doi.org/10.1121/1.4969305.
5. Vipperman, JS (invited), "Interdisciplinary Cooperation," Communication Science and Disorders Dept., University of Pittsburgh.
6. Vipperman, JS (invited), "Interdisciplinary Cooperation," Communication Science and Disorders Dept., University of Pittsburgh. 10/26/2016.
7. Qi Li, and J.S. Vipperman, "2D acoustic cloaks of arbitrary shape with layered structure based on transformation acoustics," ASME IMECE Conference, Nov 14-20, Montreal, Canada, 2014.
8. J.S. Vipperman, Snyderman, CA, Ryan, TS, (invited) "SoundSentinnel," Product pitch to Pitt/CMU KIN Lifesciences Advisory Panel, March 31, 2014, CMU Pittsburgh, PA.
9. J. S. Vipperman, "Acoustic Metamaterials and Advanced Manufacturing," National Energy Technology Laboratory (Invited Presentation) Feb 25, 2014

10. J.S. Vipperman, WW Clark, D Lambeth, MA Clark, PJ Schimoler, "Active Combustion Throttle Valve and Actuator," (invited) Pitt/CMU Energy Materials Technology Expert Committee Technology Review, Oct. 25, 2013, University of Pittsburgh, Pittsburgh, PA.
11. K.V. Redkin, S. Rekhi (PANalytical), J.S. Vipperman, C.I. Garcia, "In-situ High Temperature XRD Studies of Carbides-Matrix Dissolution-Decomposition Behavior of As-Cast HSS Work Roll Material During Annealing", DUPAN, X-Ray Powder Diffraction Symposium and Workshop, Duquesne University, May 22-24, 2013
12. K.V. Redkin, B.V.Balakin (University of Bergen, Norway), C.Hrizo (WHEMCO), J.S.Vipperman, C.I.Garcia, 3D CFD Simulation of Horizontal Spin Casting of High Speed Steel Roll, 66th Annual Meeting of the APS Division of Fluid Dynamics (DFD13), Vol.58, No.18, David L. Lawrence Convention Center , November 2013, Pittsburgh, USA
13. Patrick J. Schimoler, Jeffrey S. Vipperman, and Mark Carl Miller, "An Itereative Learning Controller for an Elbow Simulator to Maintain Flexion Angle During Supination," American Society of Biomechanics 36th Conference, Aug. 15-18, 2012, Gainesville, FL.
14. Vipperman, J.S., "Active Control and Adaptive Filtering With Applications to Active Structural Acoustic Control," (Invited Presentation), Xi'An Jiaotong University, May 15, 2012. Xi'An, China.
15. Vipperman, J.S., "Thermoacoustic Refrigeration," (Invited Presentation), South China University of Technology, May 9, 2012. Guangzhou, China.
16. Vipperman, J.S., "Structural Acoustics and Active Structural Acoustic Control (ASAC)," (Invited Presentation), South China University of Technology, May 8, 2012. Guangzhou, China.
17. Vipperman, J.S., "Military Noise Classifier," (Invited Presentation), Automated Aircraft Noise Detection and Analysis Workshop, Feb 2-3, 2011, Boston, MA.
18. Nykaza, Ed, J.A. Allanach, J.S. Vipperman, "Improved Military Noise Monitoring System," ESTCP IPR Meeting, Feb 23, 2012.
19. Vipperman, J.S., "Active Combustion Throttle," Science2010 showcase, Pittsburgh, PA, 10/6/10.
20. 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.
21. 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.
22. 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.
23. Vipperman, J.S., "Control of Advanced Energy Systems," (Invited Talk) Science 2009 Conference, Pittsburgh, PA, 10/15/09.
24. Schimoler, P., L. Kuxhaus, J.S. Vipperman, M.C. Miller, "Robotic Controller Design for an Elbow Simulator," BMES 2009, Oct 7-10, 2009.
25. 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.
26. 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).
27. 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.
28. 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.
29. 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.

30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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
39. 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.
40. 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.
41. Jeffrey S. Vipperman, "Tutorial on Adaptive Filtering with Applications to Active Control," (invited lecture) ASME IMECE-06, Nov 5-10, Chicago, IL.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.

49. 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.
50. Vipperman, J. S. (Invited Panelist) on the "Open Forum on Acoustics," IMECE2003-55666, ASME IMECE 2004, IMECE2003-55666, Anaheim, CA, November 13-19, 2004.
51. 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.
52. 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.
53. 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.
54. Vipperman, J. S. (Invited Panelist) on the "Future of Active Noise Control," IMECE2003-55666, ASME IMECE 2003, Washington, DC, November 15-21, 2003.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. 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.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.
66. 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.
67. Vipperman, J.S. and E.R. Bauer, "Dragline Noise Survey," Presented at 143rd Meeting of ASA, Pittsburgh, PA, June 3-7, 2002.
68. 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.
69. 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.

70. 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.
71. Vipperman, J.S., "Smart Structures and Systems Research and Capabilities," Presented to Morgantown NETL group, Morgantown, WV, April 19, 2000.
72. 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.
73. 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.
74. 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.
75. Vipperman, J. S. "Adaptive Piezoelectric Sensoriactuators for Active Structural Acoustic Control," Invited Colloquium, Dept. of Physics, University of Maine, Feb 27, 1998.
76. 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.
77. 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.
78. 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.
79. 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.
80. Vipperman, J. S., "Practical Applications of Broadband Active Control," Invited Talk to the Bradley Department of Electrical Engineering, VPI&SU, 1993.
81. 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. Sharp, Jacalynn, "Development of a Hearing Loss Screener and Personal Sound Amplification Device," MS Thesis, University of Pittsburgh January, 2020.
2. Qi Li, "Design of Arbitrarily Shaped Inertial and Three Dimensional Pentamode Acoustic Cloaks," PhD Thesis, University of Pittsburgh, August, 2018.
3. Andrew Neil, "Design of a Rapidly Deployable Surgical Retractor,", MS Thesis, University of Pittsburgh, November, 2017.
4. Yanbo He, "Band Gap Structure of Two-Dimensional Acoustic Metamaterials With Coated Double Hybrid Lattice," MS Thesis, University of Pittsburgh, December, 2015.
5. Chenzhi Wang, "Finite Element Modeling of Blast-Induced Traumatic Brain Injury," PhD Dissertation, University of Pittsburgh, September 2013.
6. Konstantin Redkin, "Development and Microstructural Refinement of Composite Spin Cast High-Speed Steel Finishing Rolls," PhD Dissertation, University of Pittsburgh, September 2013.
7. Scott Mang, "Investigation of Performance Evaluation and Design Techniques for Large Industrial Mufflers," MS Thesis, University of Pittsburgh, July, 2013.
8. Christopher Shelton, "Six Noise Type Military Noise Classifier," MS Thesis, University of Pittsburgh, July, 2013.
9. Bucci, Brian A., PhD, "A Practical Method for Friction Compensation in Rapid Point-to-Point Motion," PhD Dissertation, University of Pittsburgh, January 2011.
10. Matt Rhudy, MS, "Real Time Implementation of a Military Impulse Noise Classifier," MS Thesis, University of Pittsburgh, November 2009.
11. Nathan Black, MS, "Active Combustion Throttle," MS Thesis, University of Pittsburgh, April, 2008.
12. Schimoler, Patrick, "Design of a Control System for an Elbow Joint Motion Simulator," MS Thesis, University of Pittsburgh, March, 2008.
13. David DeJohn, MS, 2008 (Converted to Prof. MS Student)
14. 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).
15. Bucci, Brian A., MS, "Development of Artificial Neural Network-Based Classifiers to Identify Military Impulse Noise," MS Thesis, University of Pittsburgh, December 2007.
16. Greg Badders, MS (left for industry)
17. Adam K. Smith, MS, "Adaptive Resonant Mode Active Noise Control," October, 2005.
18. Josh Magnusen, MS, "Design and Fabrication of an Elbow Motion Simulator," August 2004.
19. Angela Flamm, MS, "Preliminary Feasibility Study of Silicon on Insulator (SOI) microphones," July, 2004.
20. Adam Hahn, M.S., "Modeling and Control of Solid Oxide Fuel Cell – Gas Turbine Power Plant Systems," April, 2004, Employed by McKesson Automation, Pittsburgh.
21. Jesse Bisnette, M.S., "Active Noise Control Using Modally Tuned Phase-Compensated Filters," November 2003, Employed by U.S. Army
22. Deyu Li, Ph.D., "Vibroacoustic Behavior and Noise Control Studies of Advanced Composite Structures," July, 2003, Research Fellow at Hong Kong Polytechnic University
23. 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
24. A. Fatih Ahyan, M.S., "Design of a Piezoelectrically actuated Mircovalve for Flow Control in Fuel Cells," April 2002.

**Current Graduate Research Students:**

1. Jacalynn Sharp (PhD)
2. Vaideeshwar Goduguchinta MS/PhD

3. Jacob Hoffman (MS)
4. Anna Hiers (PhD)
5. Christopher Dumm, MS/PhD student
6. Brandon Saltsman (PhD)
7. Ethan Linderman (MS)
8. Marianne Cites (PhD)
9. Zach Egolf (PhD)
10. David Maupin, co-advised (PhD)

**Postdoc:**
Jae Bum Pahk, 2009-2012 (co-advised).

**Undergraduate:**
Mentored the first team (Adam Wick, Jose Bernardo, John William, and Mike Chrin) from Pitt that entered and won the NASA reduced gravity experiment, 2008.

**Visiting Scholars:**
Jeng-Lian Yang, from Tiawan, Fall 2000
Adebayo Abayomi-Alli, Summer 2014

**Grants and Funding:**
1. JS Vipperman (PI), CD Balaban, "Biological Effects of Acoustic Energy," $300k, USARL, (selected).
2. JS Vipperman (PI), "Machine Learning Methods to Predict Fan Performance," $43.5k, 7/25/19-7/24/22, Robinson Fans Inc.
3. Catherine Palmer, JS Vipperman, "Hearing for Health," Pitt Center for Medical Innovation, $25,000, 1/1/2018-12/31/2019.
4. CD Balaban (PI), JS Vipperman (Co-I), "Waveguide, Resonance Cavity and Acoustic Cavitation of Cranial Tissues," ONR, 3/1/2018-2/28/2022.
5. J.S. Vipperman, TR Ryan, Development of an Assistive Cranial Surgery Device, $25,000, 9/15/15-current. Center for Cranial Base Surgery Grant.
6. Chris Dumm (PhD Student), "Steeltown Retractor," Wells Competition, $10k grant for the project.
7. Chris Dumm (PhD Student), "Steeltown Retractor," Product Development and Management Association (PDMA) Pitch Competition (1st place: $1.5k + $15k in-kind design and marketing services for the project).
8. J. S. Vipperman, Peter Allen, Garth Elias, "Flexible Arm Surgical Tool Holder," Coulter Translational Partners II Program, $100k, 9/1/2017-8/31/2018.
9. J.S. Vipperman, CD Dumm, JA Marcanio, "I-Corps Teams: Surgical Retractor System," National Science Foundation I-Corps Program, $50k. 9/1/2017-3/31/2018.
10. CV Palmer, JS Vipperman, Summer 2017, University of Pittsburgh Innovation Institute Fourth Gear (participation, NSF I-Corps funding): $3k.
11. CV Palmer, JS Vipperman, Summer 2017, University of Pittsburgh Innovation Institute First Gear, Chancellor's Early Stage Commercialization Fund, 2nd prize, $5k.
12. CV Palmer, JS Vipperman, Fall, 2017, University of Pittsburgh Innovation Institute Second Gear (participation, NSF I-Corps funding): $6k.
13. J.S. Vipperman, CB Balaban, MA Neal, "Simulating Coagulopathy for Decision Support," Clinical Translational Science Institute, $25k, 8/1/2017-2/28/2018.
14. Doug Feck, JS Vipperman, CM Dumm, Joe Marcanio, A motorized flexible arm retractor for open abdominal surgery, $8k ($3k from NSF iCorps Funding (First Gear Program) and $5k from Chancellor's Early Stage Commercialization Fund Award), 1/1/207-12/31/17.
15. Pete Allen, MD; Garth Elias; MD; Jeffrey Vipperman, PhD, A motorized flexible arm retractor for open abdominal surgery, University of Pittsburgh Center for Medical Innovation, $24,970, 7/1/16-12/31/17.

16. J.S. Vipperman, "Development of Thermoacoustic Sensors for Sodium-cooled Fast Reactors," Westinghouse Electric Company and US Dept. of Energy, $242,477, 5/1/2015-2/1/2018.
17. J.S. Vipperman, "A Modeling Framework for Higher Level Predictive Models for Precision Stages," Aerotech, Inc., $164,860, 5/1/2015-4/30/2017.
18. A. Rosenbaum, P.
19. Pete Allen, Garth Elias, J.S. Vipperman, "motorized flexible arm retractor for open abdominal surgery", $19,885, 1/1/2015-06/30/2016.
20. T.S. Ryan, J.S. Vipperman, Paul Johnson, Carl Snyderman, "SafeDrill: bi-modal sensing for safe and efficient neurosurgical procedures," University of Pittsburgh Center for Medical Innovation, $25,000, 7/15/2012-7/14/2013.
21. J.S. Vipperman, "Industrial Muffler Modeling and Testing," MIRATECH Corp, $167,700, 10/2011-9/2013.
22. J.S. Vipperman, M.C. Miller, C.A. Balaban, "Finite Element Modeling of Blast-Induced Traumatic Brain Injury," National Science Foundation, $360,000 (+$13,320 REU Supplement), 8/2011-7/2014.
23. J.S. Vipperman, "Noise Classifier Support for Improved Military Noise Monitoring System," US Army CERL (through Environmental Security Technology Certification Program - ESTCP), $228,391, 3/1/11-2/28/13, (1.5 months effort/year).
24. L.A. Schaefer, et al., "Greater Philadelphia Innovation Cluster for Energy Efficient Buildings," DOE: Energy Regional Innovation Cluster, $2,000,000, 2011-2016.
25. J.S. Vipperman, "American Society of Mechanical Engineers (ASME) 2010 International Mechanical Engineering Congress & Exposition (IMECE)," Hewlett International Grant Program, International conference travel, $1,000, Nov 12-18, 2010.
26. J.S. Vipperman, "Ft Drum Noise Monitor Deployment," Applied Physical Sciences, $5,100, 8/2010-7/2011.
27. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) US Dept. of Energy, NETL/RDS-University Consortium, $50,000, 11/15/09-11/15/10.
28. 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.
29. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) US Dept. of Energy, NETL/RDS-University Consortium, $132,000, 11/1/08-11/15/09.
30. 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.
31. J. S. Vipperman "ACT Active Combustion Throttling," (continuation) US Dept. of Energy, NETL/RDS-University Consortium, $118,500, 7/1/07-10/31/08.
32. 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.
33. 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 - SERDP, $566,335.00, 1/1/07-5/31/09.
34. J. S. Vipperman (PI), M.A. Clarke, and W. W. Clark, "ACT Active Combustion Throttling," US Dept of Energy, NETL/RDS-University Consortium, $186,381.00, 7/15/06-6/30/07.
35. J. S. Vipperman, "Microfabricated Thermoacoustic Refrigerators for Electronics Cooling Applications," NSF REU Supplement, $5,000, 02/27/07.
36. 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.
37. 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.
38. J.S. Vipperman (PI), "Adaptive Multi-Modal Active Noise Control," $900.00, Hewlett International Grant Program, International conference travel, May 16-20, 2005.

39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. Tom Cain, *et al*., "John A. Swanson Center for Micro and Nano Systems," $1,395,000.00 8/19/02.
49. 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.
50. 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.
51. 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.
52. J.S. Vipperman (PI), "Evaluation and Signal Processing of Noise Impact Data," NIOSH-DSHEFS, Cincinnati, OH $20,293, 5/6/02-10/31/02.
53. 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.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. 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.
61. 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.

62. 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.
63. 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.

**Teaching:**

- ENGR0012 Introduction to Engineering (Freshman Level)
- ME0022 Kinematics
- ME0031 Electrical Circuits
- ME1016/MEMS1014 Dynamic Systems
- ME1017/MEMS1015 Rigid Body Dynamics
- MEMS1020/ME2020
- MEMS1041 Mechanical Measurements I
- MEMS1042 Mechanical Measurements II
- MEMS1043 Sr. Design Project
- MEMS1097 Special Projects
- ME2027 Advanced Dynamics (MS/PhD Level)
- ME2042 Measurement and Analysis of Vibroacoustic Systems (MS/PhD Level)
- ME2045 Linear Controls (MS/PhD Level)
- ME2095 Special Projects (MS Level)
- ME2440 Fundamentals of Acoustics and Vibrations (MS/PhD Level)
- ME2441 Measurement and Analysis of Random Data from Dynamical Systems (MS/PhD Level)
- ME3021 Advanced Vibrations (PhD Level)

**Professional Memberships:**

- Fellow, American Society of Mechanical Engineers (ASME)
- Full Member, Acoustical Society of America (ASA),
- Full Member, Institute for Noise Control Engineering (INCE)
- Audio Engineering Society
- Sr. Member, American Institute of Aeronautics and Astronautics (AIAA)
- Institute of Electrical and Electronics Engineers (IEEE)
- American Nuclear Society (ANS)
- Order of the Engineer

**Contributions to Diversity, Equity, and Inclusion:**

General Activities:

1. Member, Swanson School of Engineering Diversity Advisory Committee, 2016-present
2. Participated in the NSF Site Visit- or EDAC/ Internal Advisory Board meeting with NSF, 2018
3. Advocate for diversity in the MEMS Department through speaking at faculty meetings and guiding search committees
4. Member, Diversity Award Selection Committee 2017, 2018, 2019
5. Nominated for Swanson School of Engineering Diversity Award, 2020 (no selection was made due to the other increased demands of the pandemic).
6. Internal Advisory Board, AGEP PITT STRIVE Program (2016-current)

7. Internal review committee, Alliances for Graduate Education and the Professoriate (AGEP, Diversity Office) (2016-present)
8. Global Engineering Preparedness Scholarship (GEPS) Advisory Committee member

Recruiting-Related Efforts:

1) Participated in EOD Diversity Discovery (recruiting) Weekend, 2011
2) Participated in Office of Diversity's Graduate Recruiting Weekend on behalf of the MEMS Department, 2014, 2015
3) Recruited to Champion Diversity for the Culture of Excellence in Service subcommittee for SSOE Revisioning (ad hoc committee, 2016-17)
4) Investigator for the awarded AGEP Proposal: NSF-AGEP, Alliance for Graduate Education And The Professoriate- (AGEP-KAT): Transition to The Doctorate by Adaptable Engagement Program (aka: PITT STRIVE), $1.72M, 2015-2020
5) Presented a talk on "How to Apply to Graduate School" for the GEM [scholarship] Graduate Lab Event at CMU. This was a regional gathering of URMs to learn about the GEM Fellowship program. 2016, 2017
6) Chaired the Thermal Sciences faculty search for MEMS and actively recruited UR/URM applicants. The department hired a female faculty (giving us two) that was actively recruited and asked to apply.
7) Participated in the Future Faculty Discovery Development Program (lunches, department tours, organized meetings with other faculty, attended poster sessions), 2018, 2019
8) Invited and shared half the travel and lodging expenses (with the MEMS Dept.) for recruiting visits for one URM and two female (UR) graduate students, 2019. I only had one slot, but the other two additionally came to Pitt as a result of their visits.
9) Served as an "unofficial mentor" for at least six (6) additional URM students, several of which went to graduate school at Ga Tech, Rice, and Stanford.
10) Faculty Lunches with URMs (sponsored by Office of Diversity)
11) Participated in the AGEP TDAE Retreat, Oglebay, WV and mentored students whose advisors could not make it, 2017, 2018.

Mentorship:

1) Have mentored 2 URM and 5 female graduate students
2) Mentored 10 URM UG researchers
    a. Most of them were paid
    b. Some were also involved in formal SSOE programs
    c. Two (2) were special projects (MEMS1097) for credit.
    d. Three (3) were through REUs
    e. One (1) worked on the NASA Eclipse Ballooning Project
3) Have mentored 24 females UG Researchers
    a. All but six of them were paid
    b. Five (5) were for special projects course
    c. One (1) was through an REU and one (1) had a scholarship (SSOE summer fellowship, including an Ingenium publication and poster presentation)
    d. Two worked on the NASA Eclipse Ballooning Project
4) Mentored three (3) URM high school students
5) Hosted visiting PhD student from Nigeria, Adebayo ABAYOMI-ALLI, 2015

Outreach Activities:

1. Served as a judge for the National SWE Emerging Leaders Award, 2006
2. Served as a judge at the Regional NSBE Conference held in Pittsburgh, 2015
3. Helped to host the Pitt booth during the NSBE National Conference, David Lawrence Convention Center (also set up meetings with three URM Pitt graduates that are in graduate school elsewhere and who I would like to recruit back to our faculty), 2018
4. Attended the Annual Banquet of the Pittsburgh Interfaith Impact Network (PIIN) 2016, 2017, 2018, 2019.
5. Have been to see and meet legendary civil rights speakers, such as, Rev. Dr. Bernard Lafayette, and Ambassador Andrew Young, who was beside Dr. King on that fateful night.
6. Attended the AGEP TDAE Retreat, Oglebay, WV, 2017, 2018
7. Was invited and attended the 50th Gala for the Association for African American Collegians, where a prior mentee (Daniel Armanios, African American professor at CMU) was recognized, 2019.

Examples Workshops With Voluntary Participation:

1. Creating Communities of Difference – Sun Rankin diversity, 9/23/04
2. Sexual Harassment Training refresher course, Feb. 2005
3. Attended diversity workshop for Dr. Karen Yoshino A Framework for Campus Access and Equity, 10/16/06
4. Please Respect my Generation, 2012
5. Attended Diversity Seminar on Servant Leadership, 2013
6. Global Engineering Preparedness Scholarship (GEPS) Mentorship Training
7. Ebony McGee, "Creating an Inclusive Academic Culture/Climate that Support the Success of URM PhD Students," 4/26/2016.
8. Culture of Excellence, 12/12/16
9. Dr. Elayne Arrinton - First African American PhD graduate from Pitt. 2/28/17
10. Dr. Damon A. Williams: Strategic Diversity Leadership: Preparing the Centennial Generation for Leadership in Changing Times, 5/26/2017
11. Faces of Diversity - Are we there yet? Kenyon Bonner - V. Provost and Dean of Students. 9/28/2017
12. Diversity in Hiring Practices Workshop, 12/1/2017
13. Multiple programs in 2018
14. Implicit Bias in Hiring, 2019

Examples of Engagement With Students:

1. Minority Engineering Mentorship Program (MEMP) Advisor, 2001, 2002
2. $MPE^2$ Advisor, 2006, 2007
3. Investing Now (or the equivalent Precollege program) 2006, 2016, 2019, 2020
4. Summer Research Internship 2010, 2011 (Chris Shelton, who became my graduate student)
5. Many of my graduate students (whether UR or not) have also been involved as mentors or developed tutoring/educational materials for the SSOE Office of Diversity.

**Professional Service:**

National Science Foundation

- Proposal Reviewer (multiple times)

National Academy of Sciences

- Served on the National Research Council (NRC) Committee to Review the Hearing Loss prevention component of 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, (2006-2012)

National/International Technical Committees:

- Chair, Selection Committee for the American Society of Mechanical Engineers Per Bruel Gold Medal for Noise Control and Acoustics, 2013-2015
- Member, Selection Committee for the American Society of Mechanical Engineers Per Bruel Gold Medal for Noise Control and Acoustics, 2012, 2015-2018
- 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, 2007-2012
- 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, (2001-2006)
- Board of Directors (2001-2013)
- 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:

1. ASME IMECE ’12 multiple sessions on structural acoustics.
2. Internoise 2012/NCAD 2012, three conference sessions on low-frequency noise
3. ASME NCAD 2008/NoiseCon 2008, jointly organized five conference sessions.
4. ASME IMECE ’07, Track Chair
5. ASME IMECE ’06, Chicago, IL sessions on *Advances in Noise Control.*
6. ASME IMECE ’05, Anaheim, CA, sessions on *Active Noise Control with Distributed and Hierarchical Systems* and *Recent Advances in Active Noise Control*, Nov 2005.
7. ASME IMECE ’04, Anaheim, CA, sessions on *Active Control of Combustion* and *Recent Advances in Active Noise Control*, Nov 2004.
8. ASME IMECE ’03, Washington DC, session on *Analyzing and Quieting Composite Structures*, Nov 2003.
9. 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 2014 IMECE, Montreal, Canada, Nov 15-20, 2014.
2. Internoise 2012/NCAD 2012, NYC, Aug 20-22, 2012.
3. ASME IMECE 2007, Seattle WA, Nov 5-11.
4. 147th ASA, New York, NY, May 24-28, 2004.
5. Session NCA-3, ASME IMECE ’03, Washington DC, November 16-21, 2003.
6. Session NCA-4, ASME IMECE ’03, Washington DC, November 16-21, 2003.
7. 146th ASA, Austin, TX, October 10-16, 2003.
8. 145th ASA, Nashville, TN April 28-May 2, 2003.
9. 144th ASA, Cancun, MX, December 2-6, 2002.
10. ASME IMECE ’02, New Orleans, LA, November 17-22, 2002.
11. 142nd ASA, Ft. Lauderdale, FL, Dec 3-7, 2001.
12. ASME IMECE ’01, New York, NY, Nov 11-16, 2001
13. ASME IMECE ’00 (2 sessions), Orlando, FL, Nov. 5-10, 2000.
14. Active ’99 Conference, Ft. Lauderdale, FL, Dec. 2-4, 1999
15. 39th AIAA/ASME/ASC/AHS/ASC SDM Conference and AIAA/ASME/AHS Adaptive Structures Forum/Long Beach, CA April 20-24
16. *Noise-Con 97, State College, PA*, June 15-17, 1997.

Intel International Science and Engineering Fair

- Special Awards Judge for the Acoustical Society of America (2018)
- Special Awards Judge for the Acoustical Society of America (2015)

Reviewer for

- *Journal of Applied Physics*
- *Nuclear Energy University Program*
- *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*
- *Journal of Applied Physics*
- *Nuclear Energy University Program*
- *US Dept of Energy*

University of Pittsburgh

- NETL-RUA Education Committee Member (2010-2012)
- University Academic Calendar Committee (2/2008-present)
- University Research Council (9/2007-2010)
- Conflict of Interest Committee (9/2006-2009, 2012-present)
- Entrepreneurial Oversight Committee (9/2006-2009)

School of Engineering

- Chair of Academic Integrity Committee, 2018-preent
- Engineering Diversity Advisory Committee, 2016-present
- Internal Advisory Board, AGEP PITT STRIVE Program (2016-current)
- Ad hoc Promotion Appeals Committee (2016-2017)
- Culture of Excellence in Service subcommittee for SSOE Revisioning (ad hoc, 2016-17)
- Internal review committee, Alliances for Graduate Education and the Professoriate (AGEP, Diversity Office) (2016-present)
- Ad hoc Academic Policy Committee (2016-2017)
- Safety Committee (4/2015-present)
- Innovation/Entrepreneurship Curriculum Reform (ad hoc, 2013)
- Graduate Admissions Committee (4/2012-12/2019)
- Technology Governance Committee (2012-2013)
- Distance Education Committee (ad-hoc, 2011)
- Dean's marketing task force (2003-3005)
- Web editors Group (2001-2004)

- Served as a Mentor for the Minority Engineering Mentorship Program (MEMP), 2001 (she became my graduate student)
- Served as a Mentor in the Pitt REU in Physics - Focus on Minorities and Women
- Participated in Mentoring Program for Excellence in Engineering ($MPE^2$), 2006-2007
- Participated as a Mentor for the Pitt Excel Summer Research Internship, 2009, 2010 (he became my graduate student)

Mechanical Engineering and Materials Science Dept.

1. Vice Chair (1/2016-present)
2. Co-Chair Students Advisory Board (2019-2021)
3. Chair of faculty search committee (2016-2017, 2020)
4. Departmental Safety Officer (2016-present)
5. Nuclear Engineering Curriculum Committee (2016-present)
6. Chair, Committee to assess mechanical testing needs (ad hoc, 2015)
7. Member of multiple ad hoc Faculty Search Committees
8. Director of Graduate Studies (1/08-8/08 (supplemental/interim), and 8/08-8/11)
9. Space Committee (2006-2008)
10. Inter-program Graduate Committee (2007-2008)
11. Strategy and Planning Committee (2004-2006)
12. Graduate Curriculum Committee for ME, UPitt (2001-2004, 2006-current)
13. Undergraduate Program Committee for ME, UPitt (1999-2001, 2005-2006)
14. Graduate Seminar Coordinator, Spring 2002
15. Chairman for Dynamics and Vibrations Area Committee for Ph.D. Preliminary Examinations (2000-2001)

Professional Development

- Academic Misconduct, PaperClip Communications
- National Effective Teaching Institutes workshop I, Montreal, July 2015
- Numerous University workshops and seminars on teaching, research, and proposal writing
- ASME professional leadership development courses

**References:**

Dr. Robert L. Clark (Ph.D. Advisor),
Provost, Sr. Vice President for Research, and Distinguished 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),
Samuel Langley Distinguished 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. Randolph Cabell
Branch Head
Structural Acoustics Branch, Mail Stop 463
NASA Langley Research Center
Hampton, VA 23681-0001
757.864.5266
randolph.h.cabell@nasa.gov

Dr. William W. Clark
Professor
University of Pittsburgh
Department of Mechanical Engineering and Materials Science
Pittsburgh, PA 15261
412-624-9794
wclark@pitt.edu