

Preston Scot Wilson

Aug 2010

THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Resume

FULL NAME: Preston Scot Wilson

TITLE: Associate Professor

ENDOWED POSITION:

DEPARTMENT: Mechanical Engineering

SPOUSE'S NAME: Lila R. Wilson

CITIZENSHIP: United States of America

EDUCATION:

B.S., Mechanical Eng., Univ. Texas at Austin, Austin, TX, 1990

M. S., Mechanical Eng., Univ. Texas at Austin, Austin, TX, 1994

Ph.D., Mechanical Eng., Boston Univ., Boston, MA, 2002

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

2009 - present, Associate Research Professor, The University of Texas at Austin Applied Research Labs.

2003 - 2009, Assistant Professor, The University of Texas at Austin Mechanical Engineering Department

2003 - 2009, Assistant Research Professor, The University of Texas at Austin Applied Research Labs.

2002 - 2003, Post-Doctoral Research Fellow, Boston University

OTHER PROFESSIONAL EXPERIENCE:

1994 - 1997, Research Scientist Associate, The University of Texas at Austin Applied Research Labs.

CONSULTING:

Ultrasonic Power Corporation; Freeport, IL (December 20-21, 2003)

Fail Safe Products, LLC; Ormond Beach, FL (2004-2005, 2008)

SONE Technologies; Houston, TX (July 17, 2004)

Austin Robot Technology (2005-2006)

Astrowatt, Inc., Austin, TX (Summer 2009)

HONORS AND AWARDS:

Physical Acoustics Summer School Fellowship, Acoustical Society of America (2000)

John H. and Helen C. Fitzgerald Award, Boston University College of Engineering (2001)

The Future of Acoustics Celebration Day Speaker, The Acoustical Society of America (2004)

Ocean Acoustics Entry-Level Faculty Award, Office of Naval Research (2005)

Outstanding Thesis/Report Award won by co-supervised student, H. John Camin III, Office of Graduate Studies, The University of Texas at Austin (2005)

A B Wood Medal, Institute of Acoustics of the UK (2007)

Best Student Presentation Award won by co-supervised student, Christopher Wilson, Marine Science Institute Texas Bays and Estuaries Meeting (2009)

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

Acoustical Society of America

American Society for Engineering Education

Audio Engineering Society

American Society of Mechanical Engineers

Austin Regional Chapter of the Acoustical Society of America

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

Acoustical Society of America, Gallery of Acoustics, (1997-2003)
Acoustical Society of America, Technical Committee on Signal Processing in Acoustics, (2002-2009)
Acoustical Society of America, Technical Committee on Physical Acoustics, (2003-2009)
Acoustical Society of America, Vision 2010 Committee, (Fall 2004)
Acoustical Society of America, Technical Committee on Biomedical Ultrasound/Bioresponse to Vibration, (2007-2009)
Acoustical Society of America, Regional Chapters Committee, (November 2007-2009)
Acoustical Society of America, Internal Affairs Council, (2009)
Acoustical Society of America, Ad-Hoc Committee on an Acoustics Website for Kids, (February 2009-September 2009)
Acoustical Society of America, Committee on Education in Acoustics, (February 2009-September 2009)

CONFERENCES ORGANIZED/CHAired:

A. Symposia and Conference Organizer

1. Co-organizer, 158th Meeting of the Acoustical Society of America, San Antonio, TX (February 2009-September 2009)
2. Organizing Committee, 146th Meeting of the Acoustical Society of America, Austin, TX (November 10-14, 2003)

B. Session Chairman

1. Session Chair, Acoustical Society of America, Acoustic Applications for Storm and Hurricane Preparedness, New Orleans, LA (November 27, 2007)
2. Session Chair, Acoustical Society of America, Acoustic Landmine Detection, Austin, TX (November 10-14, 2003)
3. Session Co-Chair, Acoustical Society of America, Ultrasound Contrast Agents, Austin, TX (November 10-14, 2003)
4. Session Chair, Acoustical Society of America, Physical Acoustics, General Linear Acoustics (December 2002)
5. Session Chair, Acoustical Society of America, Underwater Acoustics, Object Scattering & Imaging (December 2001)

UNIVERSITY COMMITTEES:

The University of Texas at Austin, Graduate School's Outstanding Thesis/Report Award Committee, (Spring 2006)

DEPARTMENT COMMITTEES:

Mechanical Engineering Department, Acoustics Qualifying Exam Committee, (Fall 2003-2009)
Mechanical Engineering Department, Graduate Recruitment Committee for Acoustics, (Fall 2003-2009)
Mechanical Engineering Department, MS&D Ph.D. Qualifying Exam Committee, (Fall 2003-2009)
Mechanical Engineering Department, Safety Committee, (Spring 2005-2009)
Mechanical Engineering Department, Graduate Recruitment Committee for DS&C, (Fall 2005-2009)
Mechanical Engineering Department, ME Web Design Committee, (Fall 2006-2007)

PUBLICATIONS:

A. Refereed Archival Journals

1. Warren T. Wood and Preston S. Wilson, "Broadband sound propagation in gas-bearing sediments," *The Journal Of The Acoustical Society Of America*, 2009, (in preparation)
2. David P. Knobles, John A. Goff, Robert A. Koch, Sumedh M. Joshi, Preston S. Wilson,

- and Jack A. Shooter, "Modeling broadband acoustic propagation in an uncertain inhomogeneous shallow water ocean waveguide," *IEEE Journal Of Oceanic Engineering*, 2009, (in review)
3. Preston S. Wilson and Ruey-Bin Yang, "The effect of bubble size distribution on low frequency dispersion in bubbly liquids," *The Journal Of The Acoustical Society Of America*, 2009, (in review)
 4. Theodore F. Argo IV and Preston S. Wilson, "Experimental investigation of linear bubble resonance between parallel plates," *The Journal Of The Acoustical Society Of America*, 2009, (in final stages)
 5. Theodore F. Argo IV, Matthew D. Guild, Preston S. Wilson, Matthias Schroter, Charles Radin, Harry L. Swinney, "Sound speed and attenuation in water-saturated glass beads as a function of frequency and porosity," *The Journal Of The Acoustical Society Of America Express Letters*, 2009, (in review)
 6. Ximena E. Bernal, Rachel A. Page, Michael J. Ryan, Theodore F. Argo IV and Preston S. Wilson, "Acoustic radiation patterns of mating calls of the Túngara frog (*Physalaemus pustulosus*): Implications for multiple receivers," *The Journal Of The Acoustical Society Of America*, Vol. 126, 2009, No. 5, (to appear)
 7. Preston S. Wilson, Allen H. Reed, Warren T. Wood and Ronald A. Roy, "The low frequency sound speed of fluid-like gas-bearing sediments," *The Journal Of The Acoustical Society Of America Express Letters*, Vol. 123, 2008, No. 4, pp. EL99-EL104
 8. Theodore F. Argo IV, Preston S. Wilson and Vikrant Palan, "Measurement of the resonance frequency of single bubbles using a laser Doppler vibrometer," *The Journal Of The Acoustical Society Of America Express Letters*, Vol. 123, 2008, No. 6, pp. EL121-EL125
 9. Preston S. Wilson, Kenneth H. Dunton, "An investigation of seagrass as an effective acoustic medium," *The Journal Of The Acoustical Society Of America*, Vol. 125, 2008, No. 4, pp. 1951-1959
 10. Yuri A. Ilinskii, Preston S. Wilson, and Mark F. Hamilton, "Bubble growth by rectified diffusion at high gas supersaturation levels," *The Journal Of The Acoustical Society Of America*, Vol. 124, 2008, No. 4, pp. 1950-1955
 11. David P. Knobles, Preston S. Wilson, Steve Cho and John A. Goff, "Seabed acoustics of a sand ridge on the New Jersey continental shelf," *The Journal Of The Acoustical Society Of America Express Letters*, Vol. 124, 2008, No. 3, pp. EL151-EL15
 12. Gopu R. Potty, James H. Miller, Preston S. Wilson, James F. Lynch and Arthur Newhall, "Geoacoustic inversion using combustive sound source signals," *The Journal Of The Acoustical Society Of America Express Letters*, Vol. 124, 2008, No. 3, pp. EL146-EL150
 13. Preston S. Wilson and Ronald A. Roy, "An audible demonstration of the sound speed in bubbly liquids," *American Journal Of Physics*, Vol. 76, 2008, No. 10, pp. 975-981
 14. Preston S. Wilson, Allen H. Reed, Jed C. Wilbur, Ronald A. Roy, "Evidence of dispersion in an artificial water-saturated sand sediment," *The Journal Of The Acoustical Society Of America*, Vol. 121, 2007, No. 2, pp. 824-832
 15. Jianying Cui, Mark F. Hamilton, Preston S. Wilson and Evgenia A. Zabolotskaya, "Bubble pulsations between parallel plates," *The Journal Of The Acoustical Society Of America*, Vol. 119, 2006, No. 4, pp. 2067-2072
 16. Preston S. Wilson, "Low-frequency dispersion in bubbly liquids," *Acoustics Research Letters Online*, Vol. 6, 2005, No. 3, pp. 188-194
 17. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Phase speed and attenuation inferred from impedance measurements near the individual bubble resonance frequency," *The Journal Of The Acoustical Society Of America*, Vol. 117, 2005, No. 4, pp. 1895-1910
 18. Preston S. Wilson, Ronald A. Roy and William M. Carey, "An improved water-filled impedance tube," *The Journal Of The Acoustical Society Of America*, Vol. 113, 2003, No. 6, pp. 3245-3252
 19. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Acoustics scattering from a bubbly-liquid-filled compliant cylinder," *Acoustics Research Letters Online*, Vol. 2, 2001, No. 4, pp. 103-108
 20. Smith, E., Wilson, P., Bacon, F., Manning, J., Behrens, J., Muir, T., "Measurement and

localization of interface wave reflections from a buried target," *The Journal Of The Acoustical Society Of America*, Vol. 103, 1998, No. 5, pp. 2333-2343

21. Preston S. Wilson, Janet L. Ellzey and Thomas G. Muir, "Experimental investigation of the combustive sound source," *IEEE Journal Of Oceanic Engineering*, Vol. 20, 1995, No. 4, pp. 311-320

B. Refereed Conference Proceedings

1. Alejandro J. Martinez, Preston S. Wilson, Matthew J. Hall, and Ronald D. Matthews, "Improved Passage Design for a Spark Plug Mounted Pressure Transducer," Society Of Automotive Engineers World Congress & Exhibition, Detroit, MI, published by Society of Automotive Engineers, SAE Document No. 2007-01-0652, pp 1-17, 2007, (Same content as Martinez et al. above.)
2. Lia Kashdan, Carolyn Seepersad, Michael Haberman and Preston S. Wilson, "Design, Fabrication and Evaluation of Negative Stiffness Elements," Twentieth Annual International Solid Freeform Fabrication Symposium, Austin, TX, edited by D. L. Bourell, J. J. Beaman, R. H. Crawford, H. L. Marcus, and C. C. Seepersad, Vol. in press, August 4-6, 2009

C. Other Major Publications

1. Preston S. Wilson and Michael S. Howe, *Mathematical Methods For Mechanical Sciences: Model Answers*, May 2000, published by Boston University, (a solutions manual for a text book)
2. Alejandro J. Martinez, Preston S. Wilson, Matthew J. Hall and Ronald D. Matthews, "Improved Passage Design for a Spark Plug Mounted Pressure Transducer," *Combustion And Flow Diagnostics, 2007*, 2007, pp 113-129, published by SAE International, Warrendale, PA, (SAE Publication No. SP-2075)
3. Marcia J. Isakson and Preston S. Wilson, "'Review of 'High Frequency Seafloor Acoustics' by Darrell R. Jackson and Michael D. Richardson,'" *The Journal Of The Acoustical Society Of America*, Vol. 122, No. 5, 2007, pp 2497-2498

D. Non-refereed Conference Proceedings

1. Thomas G. Muir, D. Eric Smith and Preston S. Wilson, "Seismo-Acoustic Sonar for Buried Object Detection," *Proceedings Of The Technology And The Mine Problem Symposium*, Naval Postgraduate School, Monterey, California, 18-21 November 1996, Vol. 2, pp 7.99-7.104
2. Ronald A. Roy, Preston S. Wilson, and William M. Carey, "Characterization of bubbly fluids using a water-filled sound hard impedance tube and the transfer function technique," *Proceedings Of Fifth European Conference On Underwater Acoustics*, Luxembourg, edited by Manel E. Zakarij, published by European Commission, 2000, Vol. 2, 2 volumes, pp 905-910
3. Ronald A. Roy, Preston S. Wilson and William M. Carey, "Some new experimental insights into the acoustics of bubbly liquids," *Proceedings Of The 17th International Congress On Acoustics*, Rome, September 2-7, 2001, Vol. 1, 2 volumes, pp 22-23
4. Preston S. Wilson, Jed C. Wilbur, Ronald A. Roy and William M. Carey, "Evidence of dispersion in a water-saturated granular sediment," *Oceans '05 Europe IEEE Conference And Exhibition*, Brest, France, published by IEEE, 2005, pp 239-243
5. Preston S. Wilson and Ronald A. Roy, "An overview of recent laboratory measurements on dispersion and attenuation in bubbly liquids, and scattering from artificial bubble clouds," *Boundary Influences In High Frequency, Shallow Water Acoustics*, Bath, UK, edited by Pace, N. and Blondel, P., published by University of Bath, 2005, pp 441-448
6. Jianying Cui, Mark F. Hamilton, Preston S. Wilson and Evgenia A. Zabolotskaya, "Bubble dynamics in constrained media," *Innovations In Nonlinear Acoustics: 17th International Symposium On Nonlinear Acoustics*, State College, PA, edited by Anthony A. Atchley, Victor W. Sparrow, Robert M. Keolian, published by American Institute of Physics, 2006, Vol. 1, 1 volumes, pp 229-232
7. Preston S. Wilson and Kenneth H. Dunton, "Seagrass acoustics: Results of an experimental laboratory investigation," *2nd International Conference And Exhibition On Underwater Acoustics Measurements: Technologies And Results*, Heraklion, Crete, Greece, edited by J. S. Papadakis and L. Bjørnø, 2007, pp 383-390

8. Preston S. Wilson, Allen H. Reed, Warren T. Wood and Ronald A. Roy, "Low frequency sound speed measurements paired with computed x-ray tomography imaging in gas-bearing reconstituted natural sediments," *2nd International Conference And Exhibition On Underwater Acoustics Measurements: Technologies And Results*, Heraklion, Crete, Greece, edited by J. S. Papadakis and L. Bjørnø, 2007, pp 21-29
9. Theodore F. Argo IV and Preston S. Wilson, "The linear acoustic behavior of a bubble confined between parallel plates," *2nd International Conference And Exhibition On Underwater Acoustics Measurements: Technologies And Results*, Heraklion, Crete, Greece, edited by J. S. Papadakis and L. Bjørnø, 2007, pp 519-526
10. Preston S. Wilson, Allen H. Reed, Warren T. Wood and Ronald A. Roy, "From bubbles to sediments to seagrass: Wood's equation in underwater acoustics," *International Conference On Detection And Classification Of Underwater Targets*, Edinburgh, Scotland, *Proceedings Of The Institute Of Acoustics*, published by Institute of Acoustics, 2007, Vol. 29, Pt. 6, pp 138-146
11. Preston S. Wilson, Marcia J. Isakson and Abe R. Yarbrough, "Finite element modeling of long range, range-dependent acoustic propagation in shallow water," *Reverberation Modeling Workshop 2007*, Austin, TX, published by Naval Research Laboratory, in press, 2008
12. Marcia J. Isakson, Chad A. Greene, Abe R. Yarbrough and Preston S. Wilson, "Finite element modeling of range-dependent acoustic propagation in shallow water," *Reverberation Modeling Workshop 2008*, Austin, TX, published by Naval Research Laboratory, in preparation, 2008
13. Chad A. Greene, Theodore F. Argo IV and Preston S. Wilson, "A Helmholtz resonator experiment for the Listen Up project," *156th Meeting Of The Acoustical Society Of America*, Miami, FL, *Proceedings Of Meetings On Acoustics*, published by Acoustical Society of America through the American Institute of Physics, November 10-14, 2008, Vol. 5, pp 025001-025007

E. Books, Book Chapters Authored/Co-authored, Editor/Co-Editor of Books

i. Book Chapters

1. Jens Hovem, "Chapter 12-Nonlinear Acoustics And Parametric Sources ", *Marine Acoustics*, pp. in press, edited by Preston S. Wilson, 2009, published by Peninsula Press
2. Jens Hovem, "Chapter 13-Reflection And Scattering From Particles And Bubbles", *Marine Acoustics*, pp. in press, edited by Preston S. Wilson, 2009, published by Peninsula Press
3. Jens Hovem, "Chapter 8-Acoustic Transducers", *Marine Acoustics*, pp. in press, edited by Preston S. Wilson, 2009, published by Peninsula Press
4. Jens Hovem, "Chapter 9-Acoustic Projectors And Receivers", *Marine Acoustics*, pp. in press, edited by Preston S. Wilson, 2009, published by Peninsula Press

F. Reviews

1. 3D modeling of piezoelectric transducers in complex environments with applications to ultrasonic flow metering, Research Council of Norway
2. A suppressor to prevent direct wave-induced cavitation in shock wave therapy devices, The Journal of the Acoustical Society of America
3. Acoustic Propagation through Clustered Bubble Clouds, IEEE Journal of Oceanic Engineering
4. Acoustic response synthesis using multiple induced strain actuators, ASME Journal of Sound and Vibration
5. An experimental study of the sound field distribution and modulation in the vicinity of a bubble chain, The Journal of the Acoustical Society of America
6. Calculation of depth and yield of underwater explosions from first and second bubble-oscillation periods, IEEE Journal of Oceanic Engineering
7. Causality and the velocity of acoustic signals in bubbly liquids (major revision and new review of a similar work previously reviewed), The Journal of the Acoustical Society of America
8. Causality and the velocity of acoustic signals in bubbly liquids, The Journal of the

- Acoustical Society of America
9. Design and implementation of a phased microphone array in a closed-section wind tunnel, AIAA journal
 10. Detection of Humans and Light Vehicles Using Acoustic-to-Seismic Coupling, Army Research Office
 11. Development of methods and systems for wireless data readout using passive surface acoustic wave sensors, Civilian Research and Development Foundation
 12. Intensity effects on the generation of harmonics in dissipative liquids, Ultrasound in Medicine and Biology
 13. Laboratory study of the sound speed as a function of the concentration within clay sediments, IEEE Journal of Oceanic Engineering
 14. Marcia J. Isakson and Preston S. Wilson, "Review of 'High Frequency Seafloor Acoustics' by Darrell R. Jackson and Michael D. Richardson," Journal of the Acoustical Society Of America, Vol. 122, 2007, No. 5, pp. 2497-2498
 15. Measurement of absorption with a p-u sound intensity probe in a standing wave tube, The Journal of the Acoustical Society of America
 16. Measurement of in-duct acoustic properties using a single microphone with fixed position, The Journal of the Acoustical Society of America
 17. Measurement of pressure on a surface using bubble; acoustic resonances, Measurement Science and Technology
 18. Measurements and modeling of sound propagation through liquid filled tubes at high audible and low ultrasonic frequencies, The Journal of the Acoustical Society of America
 19. Microbubble oscillation in rigid vessels with a diameter of 12 microns, Applied Physics Letters
 20. Modeling of bubble generated noise in tip vortex cavitation inception, The Journal of the Acoustical Society of America
 21. Numerical simulations of acoustic cavitation noise with the temporal fluctuation of the number of bubbles , The Journal of the Acoustical Society of America
 22. Prediction of the acoustic form function by neural network techniques for immersed tubes, The Journal of the Acoustical Society of America
 23. SAX 04 sound speed and attenuation measurements, IEEE Journal of Oceanic Engineering
 24. Sound speed and attenuation measurements in unconsolidated glass bead sediments saturated with viscous pore fluids, The Journal of the Acoustical Society of America
 25. Sound velocity and attenuation in bubbly gels measured by transmission experiments, The Journal of the Acoustical Society of America
 26. The stability of bubbles in a linear elastic medium: Implications for bubble growth in marine sediments, Journal of Geophysical Research
 27. Torsional waves propagation along a waveguide of arbitrary cross-section immersed in a perfect fluid, The Journal of the Acoustical Society of America

G. Technical Reports

1. Preston S. Wilson, The Combustive Sound Source, Appl.Res.Labs., Univ. Tx. Austin, 1994 (Rep. No. ARL-TR-94-9)
2. Preston S. Wilson and Ronald A. Roy, Acoustic Characterization of Marine Sediments by Impedance Tube, Boston University, 2003, (Rep. No. N61331-02-1-G002)
3. Preston S. Wilson and Theodore F. Argo IV, Resonator Measurements of Sediment Sound Speeds, Appl.Res.Labs., Univ. Tx. Austin, 2006, (Rep. No. ARL-TR-07-02)

ORAL PRESENTATIONS:

A. Invited or Keynote Speeches

1. Ronald A. Roy, Preston S. Wilson and William M. Carey, "An audible demonstration of low-frequency sound propagation in bubbly water," J. Acoust. Soc. Am. 104, 1792, 1998
2. Preston S. Wilson, "Acoustic scattering from bubbly fluid structures," National Center for Physical Acoustics, December 2000

3. Ronald A. Roy, Preston S. Wilson, Ryan D. McCormick, Eun-Joo Park and William M. Carey, "The acoustics of bubbles and bubbly assemblages: a suite of laboratory studies," J. Acoust. Soc. Am. 111, 2345, 2002
4. Preston S. Wilson, "The acoustics of elastic waveguides and liquid-filled impedance tubes," Xerox Mechanical Engineering Sciences Laboratory, June 2002
5. Preston S. Wilson, Eun-Joo Park, Ronald A. Roy and William M. Carey, "Propagation and scattering in bubbly liquids near resonance: A review of recent laboratory measurements," J. Acoust. Soc. Am. 114, 2371, 2003
6. Ronald A. Roy, William M. Carey and Preston S. Wilson, "The production and scattering of low-frequency sound by bubbly assemblages," 6th International Conference on Theoretical and Computational Acoustics, August 2003
7. Preston S. Wilson, "Acoustic Scattering from an Elastic Tube Filled with Bubbly Liquid," Mechanical Engineering Department at The University of Texas at Austin, September 12, 2003
8. Preston S. Wilson, "Acoustic scattering from bubble clouds: An overview of modeling and experiment with artificially generated clouds," Applied Research Laboratory at the Pennsylvania State University, April 16, 2004
9. Preston S. Wilson, "The Acoustics of Multiphase Media," The Office of Naval Research Ocean Acoustics Office, Arlington, VA, May 6, 2004
10. Preston S. Wilson, "The future of physical, engineering and ocean acoustics," Celebration Day of the 75th Anniversary meeting the Acoustical Society of America, May 26, 2004
11. Preston S. Wilson, "The Interesting Effects of Added Complexity: The Acoustics of Elastic Waveguides and Liquid-Filled Impedance Tubes," Acoustics Seminar, ME Dept., The University of Texas at Austin, September 10, 2004
12. Preston S. Wilson, Jed C. Wilbur, Ronald A. Roy and William M. Carey, "Evidence of dispersion in a water-saturated granular sediment," Oceans '05 Europe IEEE Conference, Brest, FR, June 21, 2005
13. Preston S. Wilson and Ronald A. Roy, "An overview of recent laboratory measurements on dispersion and attenuation in bubbly liquids, and scattering from artificial bubble clouds," Boundary Influences in High Frequency Shallow Water Acoustics, University of Bath, September 2005
14. Mark F. Hamilton, Yuri Ilinskii and Preston S. Wilson, "Mathematical Modeling of Sonar-Induced Bubble Growth in Humans and Marine Mammals," Hubbs-Sea World Research Institute, San Diego, CA, Dec 2005
15. Jianying Cui, Mark F. Hamilton, Todd A. Hay, Yuri A. Ilinskii, Preston S. Wilson and Evgenia A. Zabolotskaya, "Bubble and particle interactions in constrained media," J. Acoust. Soc. Am. 121, 3058, 2007
16. Preston S. Wilson, Wayne M. Wright, and Mark F. Hamilton, "Demonstration of a highly directional acoustic source," J. Acoust. Soc. Am. 121, 3114, 2007
17. Anne M. Mayoral and Preston S. Wilson, "Detection and Classification of Time Critical Targets Using Seismic Sensors," National Center for Physical Acoustics Tunnel Detection Conference, February 2007
18. Preston S. Wilson, "Sound propagation and scattering in bubbly fluids across the resonant regime," Applied Research Laboratories, The University of Texas at Austin, February 2007
19. Preston S. Wilson, Marcia J. Isakson and Abe R. Yarbrough, "Finite element modeling of long range, range-dependent acoustic propagation in shallow water," Office Of Naval Research Reverberation Modeling Workshop; Austin, TX, April 2007
20. Preston S. Wilson, "The Combustive Sound Source: A safe and effective replacement for explosives in ocean acoustics-a potential impulsive low frequency source for downhole applications," Schlumberger Sugarland Campus, May 2007
21. Preston S. Wilson and Kenneth H. Dunton, "Seagrass acoustics: Results of an experimental laboratory investigation," 2nd International Conference and Exhibition on Underwater Acoustics Measurements, Heraklion, Greece, June 2007
22. Preston S. Wilson, Allen H. Reed, Warren T. Wood and Ronald A. Roy, "Low frequency sound speed measurements paired with computed x-ray tomography imaging in

- gas-bearing reconstituted natural sediments," 2nd International Conference and Exhibition on Underwater Acoustics Measurements, Heraklion, Greece, June 2007
23. Theodore F. Argo IV and Preston S. Wilson, "The linear acoustic behavior of a bubble confined between parallel plates," 2nd International Conference and Exhibition on Underwater Acoustics Measurements, Heraklion, Greece, June 2007
 24. Preston S. Wilson, "From Bubbles to Sediments to Seagrass: Wood's Equation in Underwater Acoustics," International Conference on Detection and Classification of Underwater Targets, Heriot-Watt University, Edinburgh, Scotland, September 2007
 25. Preston S. Wilson and David P. Knobles, "The Combustive Sound Source: A Potential Replacement for SUS for Ocean Acoustic Experiments and Surveys," Office of Naval Research Shallow Water '06 Workshop, February 2008
 26. Marcia J. Isakson, Chad A. Greene, Abe R. Yarbrough and Preston S. Wilson, "Finite Element Modeling of Range-Dependent Acoustic Propagation in Shallow Water," Office Of Naval Research Reverberation Modeling Workshop II, Austin, TX, May 2008
 27. David P. Knobles, Andrew R. McNeese, Jason D. Sagers and Preston S. Wilson, "Development of the Combustive Sound Source for Ocean Acoustic Experiments and Surveys," Office of Naval Research 2009 Shallow-Water '06 Acoustics Workshop, February 2009

B. Presentation at Technical Meetings

1. Christopher J. Wilson, Preston S. Wilson and Kenneth H. Dunton, "Exploring the unique acoustic characteristics of seagrasses," Coastal and Estuarine Research Foundation 20th Biennial Conference, Portland, OR, November 2009
2. Preston S. Wilson, Thomas G. Muir and Janet L. Ellzey, "The combustive sound source: basic principles," J. Acoust. Soc. Am. 95, 2956, 1994
3. Eric Smith, Anthony Atchley, John A. Behrens, Preston S. Wilson, Benjamin T. Wolz and Thomas G. Muir, "Scattering of seismic interface waves from point like obstacles in unconsolidated sediments," J. Acoust. Soc. Am. 96, 3330, 1994
4. Janet L. Ellzey, Preston S. Wilson and Thomas G. Muir, "The combustive sound source: Combustion and bubble dynamics theory and experiment," J. Acoust. Soc. Am. 96, 3333, 1994
5. Eric Smith, Preston S. Wilson, John A. Behrens and Thomas G. Muir, "A seismic interface wave transducer," J. Acoust. Soc. Am. 98, 2954, 1995
6. Preston S. Wilson, Thomas G. Muir, John A. Behrens and Janet L. Ellzey, "Applications of the combustive sound source," J. Acoust. Soc. Am. 97, 3298, 1995
7. Eric Smith, Preston S. Wilson, Fred W. Bacon, Jason F. Manning, John A. Behrens and Thomas G. Muir, "Measurement and localization of interface wave reflections from a buried target," J. Acoust. Soc. Am. 99, 2499, 1996
8. Preston S. Wilson and Thomas G. Muir, "Development of combustive sound source for array and towed deployment," J. Acoust. Soc. Am. 100, 2585, 1996
9. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Measurement of the complex impedance of a bubbly fluid in the vicinity of the bubble resonance frequency," J. Acoust. Soc. Am. 106, 2291, 1999
10. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Acoustic Scattering from an elastic tube filled with bubbly fluid," J. Acoust. Soc. Am. 108, 2493, 2000
11. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Acoustic scattering from bubbly cylinders and spheres," J. Acoust. Soc. Am. 109, 2301, 2001
12. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Measurements of the acoustic properties of bubbly liquids and partially voided polyurethane solids in the resonance regime," J. Acoust. Soc. Am. 109, 2301, 2001
13. Preston S. Wilson, Ryan D. McCormick, Eun-Joo Park, Ronald A. Roy and William M. Carey, "Broadband acoustic scattering from a bubbly-liquid-filled compliant cylinder with known bubble population statistics," J. Acoust. Soc. Am. 110, 2778, 2001
14. Preston S. Wilson, Eun-Joo Park, Ronald A. Roy and William M. Carey, "The measurement of acoustic dispersion in loosely consolidated, saturated sediments using a water-filled impedance tube," J. Acoust. Soc. Am. 112, 2363, 2002
15. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Measurements of the

- time-dependent attenuation in a nonstationary bubble distribution," *J. Acoust. Soc. Am.* 111, 2346, 2002
16. Ronald A. Roy, Preston S. Wilson, Ryan D. McCormick, Eun-Joo Park and William M. Carey, "The acoustics of bubbles and bubbly assemblages: a suite of laboratory studies," *J. Acoust. Soc. Am.* 111, 2345, 2002
 17. Preston S. Wilson, Ronald A. Roy and William M. Carey, "Development of an impedance tube technique for in-situ classification of marine sediments," *J. Acoust. Soc. Am.* 113, 2318, 2003
 18. Thomas G. Muir, Ronald W. Toland, Steven R. Baker, Diane J. Blackwood, Lew A. Thompson, and Preston S. Wilson, "High frequency components in cetacean echolocation signals," *J. Acoust. Soc. Am.* 116, 2533, 2004
 19. Jianying Cui, Mark F. Hamilton, Preston S. Wilson and Evgenia A. Zabolotskaya, "Spherical bubble pulsation between parallel plates," *J. Acoust. Soc. Am.* 117, 2530, 2005
 20. Jianying Cui, Mark F. Hamilton, Preston S. Wilson, and Evgenia A. Zabolotskaya, "Periodic nonlinear oscillations of a bubble between rigid parallel plates," *J. Acoust. Soc. Am.* 118, 1942, 2005
 21. Jianying Cui, Mark F. Hamilton, Preston S. Wilson and Evgenia A. Zabolotskaya, "Bubble Dynamics in Constrained Media," 17th International Symposium on Nonlinear Acoustics, July 18-22, 2005
 22. Preston S. Wilson and Kenneth H. Dunton, "An experimental laboratory investigation of the low-frequency acoustics of seagrasses," *J. Acoust. Soc. Am.* 119, 3448, 2006
 23. Preston S. Wilson, Allen H. Reed, Warren T. Wood, and Ronald A. Roy, "Gassy sediment acoustics: Low-frequency sound-speed measurements paired with computed x-ray tomography imaging in reconstituted natural sediments," *J. Acoust. Soc. Am.* 119, 3448, 2006
 24. Theodore F. Argo IV and Preston S. Wilson, "Experimental investigation of linear resonant bubble behavior between parallel plates," *J. Acoust. Soc. Am.* 119, 3407, 2006
 25. Yurii A. Ilinskii, Mark F. Hamilton, and Preston S. Wilson, "Modeling of acoustically enhanced bubble growth in supersaturated biological media," *J. Acoust. Soc. Am.* 119, 3436, 2006
 26. Jianying Cui and Preston S. Wilson, "Fully nonlinear model for spherical bubble oscillations between rigid parallel plates," *J. Acoust. Soc. Am.* 120, 3202, 2006
 27. Theodore F. Argo IV and Preston S. Wilson, "Low-frequency laboratory measurements of sound speed in water-saturated granular sediments," *J. Acoust. Soc. Am.* 120, 3098, 2006
 28. David P. Knobles, Preston S. Wilson, and Steve E. Cho, "Determination of frequency dependence of sediment attenuation in shallow water using the combustive sound source," *J. Acoust. Soc. Am.* 121, 3126, 2007
 29. Gopu R. Potty, James H. Miller, Colin J. Lazauski, Preston S. Wilson, James F. Lynch and Arthur Newhall, "Geoacoustic inversion using combustive sound source signals," *J. Acoust. Soc. Am.* 121, 3055, 2007
 30. Jianying Cui, Mark F. Hamilton, Preston S. Wilson, and Evgenia A. Zabolotskaya, "Weakly nonlinear bubble pulsations in rigid tubes," *J. Acoust. Soc. Am.* 121, 3058, 2007
 31. David P. Knobles, Robert A. Koch, Preston S. Wilson, Timothy F. Duda, and Arthur E. Newhall, "Analyses of broadband and narrowband propagation measurements in Shallow Water 2006 (SW06)," *J. Acoust. Soc. Am.* 122, 2951, 2007
 32. David P. Knobles, Steven A. Stotts, Marcia J. Isakson, and Preston S. Wilson, "An investigation into the validity of the Born approximation in reverberation calculations," *J. Acoust. Soc. Am.* 122, 3075, 2007
 33. Marcia J. Isakson, R. Abe Yarbrough, and Preston S. Wilson, "Finite-element modeling of long range, range-dependent acoustic propagation in shallow water," *J. Acoust. Soc. Am.* 122, 3074, 2007
 34. Ximena E. Bernal, Rachel A. Page, Michael J. Ryan, Theodore F. Argo IV and Preston S. Wilson, "Acoustic radiation patterns of mating calls of the túngara frog: Implications for multiple receivers," *J. Acoust. Soc. Am.* 122, 2981, 2007
 35. Yurii A. Ilinskii, Preston S. Wilson, and Mark F. Hamilton, "Growth of gas bubbles by rectified diffusion at high supersaturation levels," *J. Acoust. Soc. Am.* 122, 3052, 2007

36. Alejandro J. Martinez, Preston S. Wilson, Matthew J. Hall, and Ronald D. Matthews, "Improved Passage Design for a Spark Plug Mounted Pressure Transducer," SAE World Congress & Exhibition, Detroit, MI, April 2007
37. Gopu R. Potty, James H. Miller, Preston S. Wilson, James F. Lynch, and Arthur Newhall, "Geoacoustic inversion using combustive sound source signals," J. Acoust. Soc. Am. 123, 3107, 2008
38. Chad A. Greene, Theodore F. Argo IV, and Preston S. Wilson, "A Helmholtz resonator experiment for the Listen Up project," J. Acoust. Soc. Am. 124, 2568, 2008
39. Gopu R. Potty, Preston Wilson, James F. Lynch, Arthur Newhall, and James H. Miller, "Attenuation inversions using broadband acoustic sources," J. Acoust. Soc. Am. 124, 2502, 2008
40. Theodore F. Argo IV, Matthew D. Guild, Preston S. Wilson, Charles Radin, Matthias Schröter, and Harry L. Swinney, "Laboratory measurements of sound speed and attenuation in water-saturated artificial sediments as a function of porosity," J. Acoust. Soc. Am. 124, 2469, 2008
41. Ximena E. Bernal, Rachel A. Page, Michael J. Ryan, Theodore F. Argo IV and Preston S. Wilson, "Acoustic radiation patterns of mating calls of the túngara frog (*Physalaemus pustulosus*): Implications for multiple receivers in the active space," Conference on Acoustic Communication by Animals, Oregon State Univ., August 15, 2008
42. Theodore F. Argo IV and Preston S. Wilson, "Measurement of the resonance frequency of a bubble using a laser Doppler vibrometer," J. Acoust. Soc. Am. 125, 2557, 2009
43. Theodore F. Argo IV, Chad A. Greene, and Preston S. Wilson, "A simple experiment for understanding resonant air columns," J. Acoust. Soc. Am. 125, 2625, 2009
44. Christopher J. Wilson, Preston S. Wilson and Kenneth H. Dunton, "Exploring the unique acoustic characteristics of seagrasses," Benthic Ecology Meeting 2009, Corpus Christi, TX, March 2009
45. Christopher J. Wilson, Preston S. Wilson and Kenneth H. Dunton, "Exploring the unique acoustic characteristics of seagrasses," Texas Bays and Estuaries Meeting, April 2009
46. Lia Kashdan, Carolyn Conner Seepersad, Michael R. Haberman and Preston S. Wilson, "Design, Fabrication and Evaluation of Negative Stiffness Elements," Twentieth Annual International Solid Freeform Fabrication Symposium, Austin, TX, August 3-5, 2009

CONTINUING EDUCATION:

1. *127th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Boston, MA, USA, June 6-10, 1994
2. *128th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Austin, TX, USA, December 1-2, 1994
3. *129th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Washington, DC, USA, June 1-3, 1995
4. *3rd Joint Meeting: Acoustical Society Of America-Acoustical Society Of Japan*, Acoustical Society Of America, Honolulu, HI, USA, December 1-2, 1996
5. *136th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Norfolk, VA, USA, October 12-16, 1998
6. *138th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Columbus, OH, USA, November 1-5, 1999
7. *139th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Atlanta, GA, USA, June 1-3, 2000
8. *5th European Conference On Underwater Acoustics*, European Commission, Lyon, France, July 10-13, 2000
9. *OCEANS 2000 MTS/IEEE Conference And Exhibition*, IEEE, Providence, RI, USA, September 11-14, 2000
10. *140th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Newport Beach, CA, USA, December 4-8, 2000
11. *141st Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Chicago,

- IL, USA, June 4-8, 2001
12. *17th International Congress On Acoustics*, International Commission For Acoustics, Rome, Italy, September 2-7, 2001
13. *142nd Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Ft. Lauderdale, FL, USA, December 3-7, 2001
14. *143rd Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Pittsburgh, PA, USA, June 3-7, 2002
15. *144th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Cancun, Mexico, December 2-6, 2002
16. *145th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Nashville, TN, USA, May 1-2, 2003
17. *146th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, Austin, TX, USA, November 10-14, 2003
18. *147th Meeting Of The Acoustical Society Of America*, Acoustical Society Of America, New York City, NY, May 24-28, 2004
19. *148th Meeting Of The Acoustical Society Of America*, The Acoustical Society Of America, San Diego, CA, USA, November 15-19, 2004
20. "Office of Naval Research Gassy Sediment Workshop," Office Of Naval Research, Bay St. Louis, MS, USA, April 25-27, 2005
21. *Boundary Influences In High Frequency, Shallow Water Acoustics*, Office Of Naval Research, Bath, England, United Kingdom, September 5-9, 2005
22. *150th Meeting Of The Acoustical Society Of America*, The Acoustical Society Of America, Minneapolis, MN, USA, October 17-21, 2005
23. "Kick-off meeting for the research group working on the physiological effects of sound on marine mammals," Office Of Naval Research, Marine Life Sciences Division, San Diego, CA, USA, Dec 12, 2005
24. *151st Meeting Of The Acoustical Society Of America*, The Acoustical Society Of America, Providence, RI, USA, June 5-9, 2006
25. "Office of Naval Research Reverberation Modeling Workshop," Office Of Naval Research, Austin, TX, USA, November 7-9, 2006
26. *4th Joint Meeting: Acoustical Society Of America-Acoustical Society Of Japan*, Honolulu, HI, USA, Nov 28, 2006-Dec 2, 2006
27. *153rd Meeting Of The Acoustical Society Of America*, Salt Lake City, UT, USA, June 4-8, 2007
28. *Underwater Acoustics Measurements: Technologies And Results*, ONR, Heraklion, Crete, Greece, June 25-29, 2007
29. "Noise and Vibration Summit at NI-Week," National Instruments, Austin, TX, USA, August 7, 2007
30. *NI-Week 2007*, National Instruments, Austin, TX, USA, August 7-10, 2007
31. *International Conference On Detection And Classification Of Underwater Targets*, Institute Of Acoustics, Edinburgh, Scotland, September 17-19, 2007
32. *154th Meeting Of The Acoustical Society Of America*, New Orleans, LA, USA, November 27-30, 2007
33. "Presenting Data and Information: A One-Day Course Taught by Edward Tufte", Austin, TX, USA, Dec 10, 2007
34. "Office of Naval Research Shallow Water 06 Workshop," Office Of Naval Research, Ft. Lauderdale, FL, USA, February 12-14, 2008
35. "Office of Naval Research Reverberation Modeling Workshop II," Office Of Naval Research, Austin, TX, USA, May 13-15, 2008
36. *157th Meeting Of The Acoustical Society Of America*, Portland, OR, USA, May 18-22, 2008
37. *156th Meeting Of The Acoustical Society Of America*, Miami, FL, USA, November 10-14, 2008
38. "2009 Shallow-Water '06 Acoustics Workshop," Office Of Naval Research, Austin, TX, United States, 2009
39. "National Effective Teaching Institute," American Society For Engineering Education, Austin, TX, United States, 2009

