TIMOTHY K. STANTON

Physicist
Senior Scientist
Woods Hole Oceanographic Institution
98 Water Street, MS# 11
Woods Hole, Massachusetts 02543-1053
Tel: (508) 289-2757

B.S. Physics, Oakland University, 1974
M.S. Physics, Brown University, 1976
Ph.D. Physics, Brown University, 1978

OVERALL EXPERIENCE Underwater acoustics, theory and experiment,
Wave scattering from volume inhomogeneities and rough interfaces (marine biota, microstructure, seafloor, sea surface, sea ice),
Echo statistics

POSITIONS HELD

Senior Scientist, 1994-present; Associate Scientist with Tenure, 1988-1993, Woods Hole Oceanographic Institution
J. Seward Johnson Chair and Education Coordinator, 2005 to Feb. 2012; Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
Department Chair, 1997-2001; Interim Department Chair June/July 1992, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
Laboratory Head, Ocean Acoustics Lab, Woods Hole Oceanographic Institution, 1989-1996
Associate Scientist, 1986-1988; Assistant Scientist (and Project Associate), 1980-1985; University of Wisconsin-Madison
Lecturer, University of Wisconsin-Madison, 1984
Senior Engineer, Submarine Signal Division, Raytheon Co., 1978-1980
Research Assistant, Brown University, 1975-1978

EDITORSHIPS

Guest Co-Associate Editor for *Deep Sea Research*. Special Topics Issue on Bioacoustical Oceanography, 1998.

Associate Editor (Underwater Acoustics section) *Journal of the Acoustical Society of America*, 1989-1992 (159 papers).

Guest Associate Editor for *IEEE J. Ocean. Eng.* Special Issue on "Sound Reverberation and Electromagnetic Clutter," 1989.

AWARDS

A.B. Wood Medal for Distinguished Contributions to Underwater Acoustics. Awarded by the Institute of Acoustics, U.K., 1985
Adams Chair. Awarded by WHOI, 2011.

PROFESSIONAL SOCIETIES

Acoustical Society of America (Fellow since 1996)
The Oceanography Society

Author or co-author of more than 80 refereed scientific publications.

SONAR R&D AND TESTING (Raytheon Co.)

Field team manager and data analyst for flow noise and transceiver testing of Advanced Lightweight Torpedo (MK50) prototype sonar at various Naval facilities (mostly NUWES/Dabob Bay Range) (9 months). 1-6 months each of other work: sonar array design in MK48/ADCAP Torpedo proposal and MK50 contract. Acoustic compatibility design in Mobile Tracking Range (MTR) proposal for Naval fleet maneuvers. Acoustic test design of array AN-WQS2. Technology projection concept formulation concerning Maritime Patrol Aircraft (MPA) sonobuoy signal processing. Fiber optic hydrophone research was concurrent with the engineering.

NAVY/ARMY FACILITIES AND SEA EXPERIENCE

NUSC/Newport, NUSC/Seneca Lake, NUWES/Keyport, NUWES/Dabob Bay, NUWES/Nanoose Bay, B.C., CRREL (Hanover, NH), Lake Michigan (southern basin), Atlantic Ocean (Continental Shelf near Cape Hatteras, Gulf of Maine, Georges Bank), Bay of Fundy, Nova Scotia, Gulf of Mexico (more than 1 year).

OTHER PROFESSIONAL ACTIVITIES

Co-Rapporteur of working group entitled, "*In Situ* Exploitable Properties of Aggregates: Other Properties," in ONR workshop on Aggregate Dynamics in the Sea, Asilomar Conference Center, Monterey, California, Sept 1986.

Chair of session entitled, "Underwater Acoustics X: Scattering from the Seafloor and Ice Canopy," *J. Acoust. Soc. Am.*, **80,** (Suppl. 1), (Fall) 1986.

Moderator of panel entitled, "Bioacoustical Measurement of Water Mass Boundaries," *J. Acoust. Soc. Am.*, **87,** (Suppl. 1), S77 (Spring) 1990.

Co-host of workshop and chair of working group entitled, "Macrozooplankton/ Micronekton," Section of GLOBEC Workshop on Acoustic Technology, April 1991.

Chair of working group on "Experimental Issues in Sediment Classification," in NRL workshop on Sediment Classification, Feb 1992.

Member of Technical Committee on Underwater Acoustics, Acoustical Society of America, 1991-1994.

Alternate Chair of Technical Committee on Acoustical Oceanography, Acoustical Society of America, 1991-1994.

Chair of "Ad Hoc Committee on PACS Numbers for Ocean Acoustics Sciences," Acoustical Society of America, 1992-1993.

Member (ex officio) of Underwater Acoustics Awards Committee, Acoustical Society of America, 1992.

Member (ex officio) of Acoustical Oceanography Awards Committee, Acoustical Society of America, 1992.

Member of committee to nominate officers of Acoustical Society of America, 1992-1993.

Chair of working group entitled, "Acoustics: System Design and Deployment Considerations," at International GLOBEC Workshop, Paris, April 1993.

Chair of Session entitled, "Fish Target Strength Models and Methods" at ICES International Symposium on Fisheries and Plankton Acoustics, Aberdeen, 1995.

Co-Chair of Sessions entitled, “Acoustical Oceanography: Acoustic Inversions of Fish and Plankton Ensembles (I & II),” Acoustical Society of America, St. Louis, Fall, 1995.

Member of Technical Advisory Committee for joint ASA/ICA 1998 meeting, 1996 to 1998.

Chair of Plenary Session for 1999 2nd EAA International Symposium on Hydroacoustics in Gdansk, Poland.

Chair of Technology Working Group, Census for Marine Life Workshop, 2000.

Member of Steering Committee for Census for Marine Life, Gulf of Maine; 2000-2002.

Organizer of Special Sessions (3) in Bioacoustics for Acoustical Society of America meeting in Newport Beach, 2000.

Chair and organizer of The Oceanography Society Conference for 2001.

Member of Scientific Steering Committee for 2001 3rd EAA International Symposium on Hydroacoustics in Gdansk, Poland.

Co-chair and co-organizer of The Oceanography Society – Oceanology International Americas Ocean Conference for 2003.

Member of IEEE OES Technology Committee on Underwater Acoustics; 2007-present

Chair and organizer of the Fish Acoustics Science Review (ONR), Nov. 2007.

Co-chair of session entitled “Fisheries/Geo/Bio/Seismo Acoustics-2”, Oceans ’08 MTS/IEEE Conference in Kobe, Japan, April 2008.

Co-chair of session entitled “Physics-based undersea clutter model verification and validation I & II,” Acoustical Society of America, Portland, Spring, 2009.

Member of Technical Committee on Acoustical Oceanography, Acoustical Society of America, 2009-present.

Co-Chair and co-organizer of session entitled, “Physical acoustics and engineering acoustics: A man for all seasons: Tribute to Robert T. Beyer,” Acoustical Society of America, San Antonio, Fall, 2009.

Member of Ad Hoc Committee on PACS numbers, Acoustical Society of America, 2010-2012

Member of PMW 120 Working Group on “Assessment and Exploitation of Marine Biological Effects on Reveberation and Sonar Performance” (AEMBERS). 2010

Co-chair and co-organizer of two sessions entitled, “Physics-based signal characterization, classification, and processing,” Acoustical Society of America, Cancun, Fall 2010.

Co-chair and co-organizer of two sessions entitled, “Van Holiday Memorial Session,” Acoustical Society of America, San Diego, Fall 2011.

Co-chair and co-organizer of two sessions entitled, “Memorial session in honor of Clarence S. Clay,” Acoustical Society of America, Kansas City, Fall 2012.

Member of Membership Committee, Acoustical Society of America, 2013-present.

EDUCATIONAL ACTIVITIES

Subjects Taught

Physics Laboratory (Brown University, Fall 1975)
Linear Circuit Theory (University of Wisconsin, Spring 1984)
Acoustic Scattering Theory (MIT/WHOI, co-taught course, Spring 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007; 2009)
Bioacoustics (Friday Harbor Laboratory, University of Washington, 6 hours of lecture, 1993; 15 hours of lecture, 2007; 16 hours of lecture, 2009; 14 hours of lecture, 2011; 15 hours lecture in 2013; UCSC, 3 hours of lecture, 1995; 10 hours of lecture, 1997)

Students Supervised

Dezhang Chu (Univ. of Wisc., Ph.D., 1989 (co-supervised with Clay))
Doron Weisbarth (WHOI Summer Student Fellow, 1989)
J. Van Gurley (MIT/WHOI, M.S., 1992)
Dan DiPerna (MIT/WHOI, Ph.D., 1993)
Matt Johnson (MIT/WHOI, M.S., 1993)
Linda Martin (MIT/WHOI, Ph.D., 1998, co-advisor with Wiebe)
Joe Warren (MIT/WHOI, Ph.D., 2000, co-advisor with Wiebe)
Ben Reeder (MIT/WHOI, Ph.D., 2002)
Jeremy Marzuola (WHOI Summer Student Fellow, 2002)
Gareth Lawson (MIT/WHOI, Ph.D., 2006, co-advisor with Wiebe)
Ben Jones (MIT/WHOI, M.S., 2006, co-advisor with Lavery; NPS, Ph.D., 2012, co-advisor with Colosi)
Greg Dietzen (MIT/WHOI, M.S., 2008, co-advisor with Lavery)
Saurav Bhatia (MIT/WHOI, M.S., 2012)
Wu-Jung Lee (MIT/WHOI, Ph.D., 2013, co-advisor with Lavery and Tyack)

Postdoctoral Fellows Supervised

Dezhang Chu, '89/'90
Duncan McGehee, '94-′96
Andone Lavery, ′99-′01
Kyungmin Baik, ′10-′12

Committees (MIT/WHOI Joint Program)

Admissions (1990, 1991, 2013)
Doctoral Oral Exam (1990, 1991, 1998)
Doctoral Written Exam Review (1989, 1990, 1991)
Thesis Committees/Defense Chair (seven students in addition to above)
JCAOSE Council (1996)
2005-Feb. 2012 Chair/member of multiple activities as Education Coordinator

OTHER WHOI COMMITTEES

Ad Hoc Committees (10) for promotion from Assistant Scientist to Associate Scientist; Chair of Tyack's and Samelson's, member of 8 others
Journal Club Committee, 1989-1990
Ad Hoc Committee for Independent Study Award, 1990
Committee on Work and Life, 1992-1993
Ad Hoc Search Committee for Henry Stommel Award, 1993
Ad Hoc Search Committee for New Director of WHOI, 1993
Senior Scientist Executive Committee, 1995-1996
Strategic Planning Committee for Education, 1996
Director's Advisory Council, 1998-2000
Chair, AOPE Space Committee, 2001-2004
Search Committee for the Chief Scientist for Deep Submergence, 2003

Advisory Committee for the Ocean Life Institute, 2003-present
Ad Hoc Committee for Independent Study Award, 2005
Ad Hoc Committee for promotion of Tom Austin to Principal Engineer, 2008
Chair, Search Committee for new Chair of AOPE Department, 2008
Ad Hoc Committee for promotion of John Collins to Senior Research Specialist, 2011
Chair, Recruitment Committee for AOPE Department, 2012

REFEREED PUBLICATIONS

1978 Stanton, T.K. and R.T. Beyer, "The interaction of sound with noise in water," *J. Acoust. Soc. Am.*, **64**, 1667-1670.

1979 Stanton, T.K. and R.T. Beyer, "Complex wattmeter measurements in a reactive acoustic field," *J. Acoust. Soc. Am.* **65**, 249-252.

1979 Stanton, T.K., R.G. Pridham, W.V. McCollough, and M.P. Sanguinetti, "On fiber-optic hydrophone noise-equivalent pressure," *J. Acoust. Soc. Am.* **66**, 1893-1894 (L).

1981 Stanton, T.K. and R.T. Beyer, "The interaction of sound with noise in water II," *J. Acoust. Soc. Am.* **69**, 989-992.

1981 Stanton, T.K. "Noise-equivalent pressure of a single-fiber interferometric acoustic sensor," *J. Acoust. Soc. Am.* **69**, 311-312 (L).

1982 Stanton, T.K. "Effects of transducer motion on echo-integration techniques," *J. Acoust. Soc. Am.* **72**, 947-949.

1983 Stanton, T.K. "Multiple scattering with applications to fish-echo processing," *J. Acoust. Soc. Am.* **73**, 1164-1169.

1983 Powell, L.A. and T.K. Stanton, "A programmable microcomputer-based sonar-echo processor for real-time processing," *IEEE: J. Oceanic Eng.* **OE-8 (4)**, 280-287.

1984 Stanton, T.K. "Sonar estimates of sea floor microroughness," *J. Acoust. Soc. Am.* **75**, 809-818.

1984 Stanton, T.K. "Effects of second-order scattering on high resolution sonars" *J. Acoust. Soc. Am.* **76**, 861-866.

1985 Stanton, T.K. "Volume scattering: Echo peak PDF," *J. Acoust. Soc. Am.* **77**, 1358-1366.

1985 Stanton, T.K. "Sea surface scattering: Echo peak PDF," *J. Acoust. Soc. Am.* **77**, 1367-1369.

1985 Stanton, T.K. "Echo fluctuations from the rough seafloor: Predictions based on acoustically measured microrelief properties," *J. Acoust. Soc. Am.* **78**, 715-721.

1985 Stanton, T.K. "Density estimates of biological sound scatterers using sonar echo peak PDFs," *J. Acoust. Soc. Am.* **78**, 1868-1873.

1986 Stanton, T.K. and C.S. Clay, "Sonar echo statistics as a remote sensing tool: Volume and Sea Floor," *IEEE J. Oceanic Eng.* **OE-11**, 79-96.

1986 Stanton, T.K., K.C. Jezek, and A.J. Gow, "Acoustical reflection and scattering from the underside of laboratory grown sea ice: measurements and predictions," *J. Acoust. Soc. Am.* **80**, 1486-1494.

1987 Stanton, T.K., R.D.M. Nash, R.L. Eastwood, and R.W. Nero, "A field examination of acoustical scattering from marine organisms at 70 kHz," *IEEE J. Oceanic Eng.* **OE-12**, 339-348.

1987 Nash, R.D.M., J.J. Magnuson, C.S. Clay, and T.K. Stanton, "A synoptic view of the Gulf Stream front with 70 kHz sonar: Taking advantage of a closer look," *Can. J. Fish. Aquat. Sci.* **44**, 2022-2024.

1988 Stanton, T.K. "Sound scattering by cylinders of finite length I: Fluid cylinders," *J. Acoust. Soc. Am.* **83**, 55-63.

1988 Stanton, T.K. "Sound scattering by cylinders of finite length II: Elastic cylinders," *J. Acoust. Soc. Am.* **83**, 64-67.

1989 Stanton, T.K. "Sound scattering by cylinders of finite length III: Deformed cylinders", *J. Acoust. Soc. Am.* **86**, 691-705.

1989 Stanton, T.K. "Simple approximate formulas for backscattering of sound by spherical and elongated objects", *J. Acoust. Soc. Am.* **86**, 1499-1510.

1989 Nash, R.D.M., J.J. Magnuson, T.K. Stanton, and C.S. Clay, "Depth and temperature distribution of peaks of 70 kHz acoustic scattering during day and night at the edge of the Gulf Stream-Echo Front 83," *Deep Sea Res.* **36 (4)**, 587-596.

1990 Chu, D. and T.K. Stanton, "Application of Twersky's boss scattering theory to laboratory measurements of sound scattered by a rough surface," *J. Acoust. Soc. Am.* **87**, 1557-1568.

1990 Nero, R.W., J.J. Magnuson, S.B. Brandt, T.K. Stanton, and J.M. Jech, "Finescale biological patchiness of 70 kHz acoustic scattering at the edge of the Gulf Stream - EchoFront 85," *Deep Sea Res.* **37 (6)**, 999-1016.

1990 Stanton, T.K. "Sound scattering by spherical and elongated shelled bodies," *J. Acoust. Soc. Am.* **88**, 1619-1633.

1990 Stanton, T.K. "Sound scattering by zooplankton," *Rapp. P.-v. Reun. Cons. int. Explor. Mer. (Journal for the International Council for the Exploration of the Sea)* **189**, 353-362.

1990 Jezek, K.C., T.K. Stanton, A.J. Gow, and M.A. Lange, "Influence of environmental conditions on acoustical properties of sea ice," *J. Acoust. Soc. Am.* **88**, 1903-1912.

1990 Wiebe, P.H., C.H. Greene, T.K. Stanton, and J. Burczynski, "Sound scattering by live zooplankton and micronekton: Empirical studies with a dual beam acoustical system," *J. Acoust. Soc. Am.* **88**, 2346-2360.

1991 Greene, C.H., T.K. Stanton, P.H. Wiebe, and S. McClatchie, "Acoustic estimates of antarctic krill," *Nature* **349**, 110 (L).

1991 Diperna, D., and T.K. Stanton, "Fresnel zone effects in the scattering of sound by cylinders of various lengths," *J. Acoust. Soc. Am.* **90**, 3348-3355.

1992 Chu, D., T.K. Stanton, and P.H. Wiebe, "Frequency dependence of sound backscattering from live individual zooplankton," *ICES J. Mar. Sci.* **49**, 97-106.

1992 Stanton, T.K., "Sound scattering by rough elongated elastic objects: I. means of scattered field," *J. Acoust. Soc. Am.* **92**, 1641-1664.

1992 Stanton, T.K., and D. Chu, "Sound scattering by rough elongated elastic objects: II. fluctuations of scattered field," *J. Acoust. Soc. Am.* **92**, 1665-1678.

1993 Chu, D., K.G. Foote, and T.K. Stanton, "Further analysis of target strength measurements of antarctic krill at 38 kHz and 120 kHz: Comparison with deformed cylinder model and inference of orientation distribution," *J. Acoust. Soc. Am.* **93**, 2985-2988 (L).

1993 Gurley, J.V., and T.K. Stanton, "Sound scattering by rough elongated elastic objects. III. experiment," *J. Acoust. Soc. Am.* **94**, 2746-2755.

1993 Stanton, T.K., C.S. Clay, and D. Chu, "Ray representation of sound scattering by weakly scattering deformed fluid cylinders: Simple physics and application to zooplankton," *J. Acoust. Soc. Am.* **94**, 3454-3462.

1993 Stanton, T.K., D. Chu, P.H. Wiebe, and C.S. Clay, "Average echoes from randomly-oriented random-length finite cylinders: Zooplankton models," *J. Acoust. Soc. Am.* **94**, 3463-3472.

1994 DiPerna, D., and T.K. Stanton, "Sound scattering by cylinders of noncircular cross section: A conformal mapping approach," *J. Acoust. Soc. Am.* **96**, 3064-3079.

1994 Stanton, T.K., P.H. Wiebe, D. Chu, and L. Goodman, "Acoustic characterization and discrimination of marine zooplankton and turbulence," *ICES J. Mar. Sci.* **51**, 469-479.

1994 Stanton, T.K., P.H. Wiebe, D. Chu, M. Benfield, L. Scanlon, L. Martin, and R.L. Eastwood, "On acoustic estimates of zooplankton biomass," *ICES J. Mar. Sci.* **51**, 505-512.

1995 Stanton, T.K. and K.G. Foote, "Comments on `A generalized target strength model for euphausiids, with applications to other zooplankton,' *J. Acoust. Soc. Am.* **95**, 2452-2466 (1994)," *J. Acoust. Soc. Am.* **98**, 1807-1809.

1996 Stanton, T.K., D. Chu and P.H. Wiebe, "Acoustic scattering characteristics of several zooplankton groups," *ICES J. Mar. Sci.* **53**, 289-295.

1996 Martin, L.V., T.K. Stanton, J.F. Lynch and P.H. Wiebe, "Acoustic classification of zooplankton," *ICES J. Mar. Sci.* **53**, 217-224.

1996 Wiebe, P.H., D.G. Mountain, T.K. Stanton, C.H. Greene, G. Lough, S. Kaartvedt, J. Dawson, and N. Copley, "Acoustical study of the spatial distribution of plankton on Georges Bank and the relationship between volume backscattering strength and the taxonomic composition of the plankton," *Deep-Sea Res. II* **43**, 1971-2001.

1997 Wiebe, P.H., T.K. Stanton, M. Benfield, D. Mountain, and C. Greene, "High frequency acoustic volume backscattering in the Georges Bank coastal region and its interpretation using scattering models," *IEEE J. Ocean. Eng.* **22**, 445-464.

1998 Stanton, T.K., D. Chu, P.H. Wiebe, L. Martin and R.L. Eastwood, "Sound scattering by several zooplankton groups I: Experimental determination of dominant scattering mechanisms," *J. Acoust. Soc. Am.* **103**, 225-235.

1998 Stanton, T.K., D. Chu, and P.H. Wiebe, "Sound scattering by several zooplankton groups II: scattering models," *J. Acoust. Soc. Am.* **103**, 236-253.

1998 Stanton, T.K., P.H. Wiebe, and D. Chu, "Differences between sound scattering by weakly scattering spheres and finite length cylinders with applications to sound scattering by zooplankton," *J. Acoust. Soc. Am.* **103**, 254-264.

1998 Chu, D., and T.K. Stanton, "Application of pulse compression techniques to broadband acoustic scattering by live individual zooplankton," *J. Acoust. Soc. Am*. **104**, 39-55.

1998 Benfield, M.C., P.H. Wiebe, T.K. Stanton, C.S. Davis, S.M. Gallager, and C.H. Greene, "Estimating the spatial distribution of zooplankton biomass by combining video plankton recorder and single-frequency acoustic data," *Deep Sea Res.* **45**, 1175-1199.

1998 Martin Traykovski, L.V., T.K. Stanton, P.H. Wiebe, and J.F. Lynch, "Model based covariance mean variance classification techniques: Algorithm development and applications to the acoustic classification of zooplankton," *IEEE J. Ocean. Eng*. **23**, 344-364.

2000 Stanton, T.K., D. Chu, P.H. Wiebe, R.L. Eastwood, and J.D. Warren, "Acoustic scattering by benthic and planktonic shelled animals," *J. Acoust. Soc. Am*. **108**, 535-550.

2000 Stanton, T.K., "On acoustic scattering by a shell-covered seafloor," *J. Acoust. Soc. Am*. **108**, 551-555.

2000 Stanton, T.K. and D. Chu, "Review and recommendations for modeling of acoustic scattering by fluid-like elongated zooplankton: Euphausiids and copepods," *ICES J. Mar. Sci*. **57**(4), 793-807.

2001 Warren, J.D., T.K. Stanton, M.C. Benfield, P.H. Wiebe, D. Chu, and M. Sutor, "*In situ* measurements of acoustic target strengths of siphonophores, a gas-bearing zooplankter," *ICES J. Mar. Sci*. **58**, 740-749.

2002 Warren, J.D., T.K. Stanton, D.E. McGehee, and D. Chu, "Influence of animal behavior on acoustic estimates of zooplankton properties," *IEEE J. Ocean Eng*. **27**, 130-138.

2002 Lavery, A.C., T.K. Stanton, D.E. McGehee, and D. Chu, "Three-dimensional modeling of acoustic backscattering from fluid-like zooplankton," *J. Acoust. Soc. Am.* **111**, 1197-1210.

2002 Wiebe, P.H., T.K. Stanton, C.H. Greene, M.C. Benfield, H.M. Sosik, T. Austin, J.D. Warren, and T. Hammar, "Biomapper-II: An integrated instrument platform for coupled biological and physical measurements in coastal and oceanic regimes," *IEEE J. Ocean. Eng*. **27**, 700-716.

2003 Benfield, M.C., A. Lavery, P.H. Wiebe, C.H. Greene, T.K. Stanton, and N. Copley, "Distributions of physonect siphonulae in the Gulf of Maine and their potential as important sources of acoustic scattering," *Can. J. Fish. Aquat. Sci.* **60**, 759-772.

2003 Stanton, T.K., D.B. Reeder, and J.M. Jech, "Inferring fish orientation from broadband-acoustic echoes," *ICES J. Mar. Sci.* **60**, 524-531.

2003 Warren, J.D., T.K. Stanton, P.H. Wiebe, and H.E. Seim, "Inference of biological and physical parameters in an internal wave using multiple-frequency acoustic-scattering data," *ICES J. Mar. Sci.* **60**, 1033-1046.

2003 Lavery, A.C., R.W. Schmitt, and T.K. Stanton, "High-frequency acoustic scattering from turbulent oceanic microstructure: the importance of density fluctuations," *J. Acoust. Soc. Am.* **114**, 2685-2697.

2004 Stanton, T.K., D. Chu, and D.B. Reeder, "Non-Rayleigh acoustic scattering characteristics of individual fish and zooplankton," *IEEE J. Ocean. Eng*. **29**, 260-268.

2004 Stanton, T.K. and D. Chu, "On the acoustic diffraction by the edges of benthic shells," *J. Acoust. Soc. Am*. **116**, 239-244.

2004 Reeder, D.B. and T.K. Stanton, "Acoustic scattering by axisymmetric finite-length bodies: An extension of a 2-dimensional conformal mapping method," *J. Acoust. Soc. Am.* **116**, 729-746.

2004 Reeder, D.B., J.M. Jech, and T.K. Stanton, "Broadband acoustic backscatter and high-resolution morphology of fish: Measurement and modeling," *J. Acoust. Soc. Am.* **116**, 747-761.

2006 Lawson, G.L., P.H. Wiebe, C.J. Ashjian, D. Chu, and T.K. Stanton, "Improved parameterization of Antarctic krill target strength models," *J. Acoust. Soc. Am.* **119**, 232-242.

2007 Stanton, T.K., D. Chu, and G.V. Norton, "Acoustic diffraction by deformed edges of finite length: Theory and experiment," *J. Acoust. Soc. Am*. **122**, 3167-3176.

2007 Chu, D., T.K. Stanton, and A.D. Pierce, "Higher-order acoustic diffraction by edges of finite thickness," *J. Acoust. Soc. Am*. **122**, 3177-3194.

2007 Lavery, A.C., P.H. Wiebe, T.K. Stanton, G.L. Lawson, M.C. Benfield, and N. Copley, "Determining dominant scatterers of sound in mixed zooplankton populations," *J. Acoust. Soc. Am.* **122**, 3304-3326.

2008 Lawson, G.L., P.H. Wiebe, T.K. Stanton, and C.J. Ashjian, "Euphausiid distribution along the Western Antarctic Peninsula – (A) Development of robust multi-frequency acoustic techniques to identify euphausiid aggregations and quantify euphausiid size, abundance, and biomass," *Deep-Sea Research II*, **55**, 412-431.

2008 Lawson, G.L., P.H. Wiebe, C.J. Ashjian, and T.K. Stanton, "Euphausiid distribution along the Western Antarctic Peninsula – (B) Distribution of euphausiid aggregations and biomass and associations with environmental features," *Deep-Sea Research II*, **55**, 432-454.

2008 Jones, B.A., T.K. Stanton, A.C. Lavery, M.P. Johnson, P.T. Madsen, and P.L. Tyack, "Classification of broadband echoes from prey of a foraging Blainville's beaked whale," *J. Acoust. Soc. Am.*, **123**, 1753-1762.

2008 Stanton, T.K. and D. Chu, "Calibration of broadband active systems using a single standard spherical target," *J. Acoust. Soc. Am.*, **124**, 128-136.

2009 Jones, B.A., A.C. Lavery, and T.K. Stanton, "Use of the distorted wave Born approximation to predict scattering by inhomogeneous objects: Application to squid," *J. Acoust. Soc. Am.*, **125**, 73-88.

2010 Stanton, T.K., D. Chu, J.M. Jech, and J.D. Irish, "New broadband methods for resonance classification and high-resolution imagery of fish with swimbladders using a modified commercial broadband echosounder," *ICES J. Mar. Sci.*, **67**: 365-378.

2010 Stanton, T.K. and D. Chu, "Non-Rayleigh echoes from resolved individuals and patches of resonant fish at 2-4 kHz," *IEEE J. Ocean. Eng.*, **35**: 152-163.

2010 Chu, D. and T.K. Stanton, "Statistics of echoes from a directional sonar beam insonifying finite numbers of single scatterers and patches of scatterers," *IEEE J. Ocean. Eng.*, **35**: 267-277.

2012 Stanton, T.K., C. Sellers, and J.M. Jech, "Resonance classification of mixed assemblages of fish with swimbladders using a broadband echosounder at 1-6 kHz. *Can. J. Fish. Aq. Sci.*, **69**: 854-868.

2012 Lee, W.-J., A.C. Lavery, and T.K. Stanton, "Orientation dependence of broadband backscattering from live squid," *J. Acoust. Soc. Am.* **131**: 4461-4475.

Bhatia, S., T.K. Stanton, and K. Baik, "Non-Rayleigh scattering by a randomly oriented elongated scatterer randomly located in a beam," accepted to *IEEE J. Ocean. Eng.*

Lee, W.-J. and T.K. Stanton, "Statistics of echoes from mixed assemblages of scatterers with different scattering amplitudes and numerical densities," accepted to *IEEE J. Ocean. Eng.*

SUBMITTED

Stanton, T.K., D. Chu, J.M. Gelb, and G.L. Tipple, "Physics-based interpretation of echo statistics of three distinct clutter classes measured with a midfrequency active sonar," submitted to *IEEE J. Ocean. Eng.*

Bhatia, S., T.K. Stanton, J. Paramo, and F. Gerlotto, "Modeling statistics of fish school dimensions using 3-D data from a multibeam sonar," submitted to *J. Theor. Bio.*

Jones, B.A., J.A. Colosi, and T.K. Stanton, "Echo statistics of individual and aggregations of scatterers in the water column of a random, oceanic waveguide," submitted to *J. Acoust. Soc. Am.*

BOOK CHAPTERS

1997 Stanton, T.K., D. Chu, and P.H. Wiebe, "Ray solutions to sound scattering by complex bodies: application to zooplankton," in Überall Festschrift book, "New perspectives on problems in classical and quantum physics" Part II, eds. P.P. Delsanto and A.W. Sáenz (Gordon and Breach Science Publishers, Amsterdam). Chapter 12.

2000 Foote, K.G. and T.K. Stanton, "Acoustical methods," ICES Zooplankton Methodology Manual. Chapter 6, 223-258.

2005 Holliday, D.V. and T.K. Stanton, "Active acoustical assessment of plankton and micronekton," in Sounds in the Sea: From Ocean Acoustics to Acoustical Oceanography (Cambridge University Press) by H. Medwin. Chapter 12, 355-373.

OTHER PUBLICATIONS

1989 Stanton, T.K., Guest Editorial and Overview in Special Issue on Sound Reverberation and Electromagnetic Clutter, *IEEE J. Ocean. Eng.* **OE-14**, 1-3.

1991 Stanton, T.K., and D.V. Holliday, "Using sonar to examine the oceanic food chain," "Acoustics 1990" section of *J. Acoust. Soc. Am.* **89**, 465-466, and in *Physics News in 1990, American Institute of Physics*, 1-2.

1993 Stanton, T.K., "Using acoustics to study the oceanic food chain," 1993 McGraw-Hill Yearbook of Science and Technology.

1994 Stanton, T.K., "Sound scattering by marine objects," *J. Mar. Acoust. Soc. of Japan* **21**, 14-23.

1995 Wiebe, P.H., J. Dawson, K. Prada, T. Austin and T.K. Stanton, "New tool for bioacoustical oceanography: Free-drifting/moored autonomous acoustic platform for long-term measurement of biomass," *Sea Tech.* **36**(2), 10-14.

1998 Greene, C.H., K.M. Fistrup, T.K. Stanton, R. Gisiner, and R.C. Tipper, Guest Editorial and Overview in Special Issue on Bioacoustical Oceanography, *Deep Sea Res*. **45**.

1999 Stanton, T.K., Book review of Fundamentals of Acoustical Oceanography by H. Medwin and C. Clay, *J. Acoust. Soc. Am*. **105**, 2065-2066.

2000 Stanton, T.K., "Acoustic remote sensing of marine organisms," Physics Bimonthly and Proceedings of the National Science Council; Part A. Physical Science and Engineering (Taiwan).

2009 Stanton, T.K., "Broadband acoustic sensing of the ocean," *J. Marine Acoust. Soc. Jpn*. **36**, 95-107.

2012 Stanton, T.K., "30 years of advances in active bioacoustics: *A personal perspective*," Methods in Oceanography, doi:10.1016/j.mio.2012.07.002, 49-77.

TECHNICAL REPORTS/CONFERENCE PROCEEDINGS

1980 Stanton, T.K., "Flash test reports" Nos. 1-25. Advanced Lightweight Torpedo Advanced Development Program, Raytheon Co. Report BL-RF. 4-6 pages each. (Classified)

1980 Stanton, T.K., and M.A. Sherry, "Final report on ESR-22 transceiver tests" Advanced Lightweight Torpedo Advanced Development Program, Raytheon Co. Report BL-RB-0131, 68 pages. (Classified)

1982 Stanton, T.K., and L.A. Powell, "Forth/Apple II-Plus user manual with applications to data sampling and processing," Wisconsin Report No. 82-1, 71 pages.

1985 Jezek, K.C., F.D. Hayes, T.K. Stanton, "Acoustic scattering from the underside of floating ice," CRREL Technical Note 1985, 5 pages.

1985 Jezek, K.C., T.K. Stanton, and A.J. Gow, "Laboratory studies of acoustic scattering from the underside of sea ice," Proceedings of symposium (IGARSS '85) MP-2, part 2.

1988 Jezek, K.C., T.K. Stanton, and A.J. Gow, "Acoustic properties of laboratory-grown saline ice," Proceedings of the Third International Symposium on Sea Ice and the Sea of Okhotsk, February 14-16, Mombetsu, Japan.

1989 Eastwood, R.L., J.M. Jech, R.W. Nero, and T.K. Stanton, "Echo Front 85: An acoustic view of the Gulf Stream Front," Wisconsin Report 1989, 50 pages.

1989 Jezek, K.C., T.K. Stanton, A.J. Gow, and M.A. Lange, "Acoustical and morphological properties of the undeformed sea ice: Laboratory and field results," Proceedings of the W.F. Weeks Symposium, S.F. Ackley and W.F. Weeks (eds.), CRREL Monograph 90-1, 24 pages.

1989 Jezek, K.C., T.K. Stanton, and A.J. Gow, "High frequency acoustical properties of saline ice," in J. Richter-Menge W.B. Tucker III and M.M. Kleinerman (Eds.), Proceedings of "Arctic Technology Workshop," Hanover, NH, June 20-23rd, CRREL Report 89-39, pages 9-23.

1989 Stanton, T.K., "Sound scattering by spherical and elongated objects," Proceedings of "13th International Congress on Acoustics," *Yugoslavia* **5**, 181-184.

1991 Holliday, D.V., C. Greene, C. Greenlaw, P. Ortner, R. Pieper, T. Stanton, and J. Traynor, eds., GLOBEC Workshop on Acoustical Technology and the Integration of Acoustical and Optical Sampling Methods, Global Ocean Ecosystems Dynamics Rep. 4, Joint Oceanographic Institutions Inc., Washington, DC, 58 pp.

1992 Stanton, T.K., D. Chu, and K.G. Foote, “Status of acoustic scattering models of zooplankton,” Proceedings of Oceans '92, Newport, Rhode Island, Oct 26-29.

1993 Foote, K.G., D. Chu, and T.K. Stanton, “Status of krill target strength,” Scientific Committee for the Conservation of Antarctic Marine Living Resources, 1992, Selected Scientific Papers V (SC-CAMLR-SSP/9), 101-126.

1993 Dickey, T., J. Aiken, I. Aoki, D. Cushing, C. Davis, A. Gargett, T. Granata, U. Kils, A. Robinson, B. Rothchild, T. Stanton, R. Strickler, and I. Taupier-Letage, eds., “Report of the International GLOBEC Sampling and Observational Systems Working Group (SOS-WG),” Paris, April 1993, GLOBEC Rept. No. 3, Chesapeake Biological Laboratory.

1994 Stanton, T.K., D. Chu, and P. Wiebe, “Boundary conditions and sound scattering models for various zooplankton,” Third International Congress on Air- and Structure-Borne Sound and Vibration, Montreal, Canada (June 1994), 1559-1562.

1997 Wiebe, P.H. and T.K. Stanton, “High frequency acoustic surveys of a shallow water region and associated scattering models from naturally occurring complex bodies,’’ Proceedings of the 1997 International Conference on Shallow Water Acoustics, Beijing, China. 233-239.

1997 Wiebe, P.H., T.K. Stanton, M. Benfield, C.H. Greene, and E. Mutlu, “Broad-scale patterns of high frequency volume backscattering on Georges Bank during late spring/summer of 1994, 1995, 1996, and 1997,” Proceedings of the Baltimore ICES Meeting, Baltimore, MD (Sept/Oct), 1997 ICES ASC Handbook (ICES CM 1997/T:30), 159-171.

1998 Martin Traykovski, L.V., T.K. Stanton, P.H. Wiebe, and J.F. Lynch, “Covariance Mean Variance Classification (CMVC) techniques: Application to the acoustic classification of zooplankton,” Proceedings of the 16th International Congress on Acoustics and 135th Meeting of the Acoustical Society of America, The Sound of the Future: A Global View of Acoustics in the 21st Century, Seattle, Washington (June 1998), Volume III, 1813-1814.

1998 Stanton, T.K. D. Chu, and P.H. Wiebe, “Acoustic scattering models of zooplankton from several major anatomical groups: Theory and experiment,” Proceedings of the 16th International Congress on Acoustics and 135th Meeting of the Acoustical Society of America, The Sound of the Future: A Global View of Acoustics in the 21st Century, Seattle, Washington (June 1998), Volume III, 1811-1812.

1998 Warren, J.D. T.K. Stanton, D. Chu, D.E. McGehee, and R.L. Eastwood, “Pulse compression processing of zooplankton echoes,” Proceedings of the 16th International Congress on Acoustics and 135th Meeting of the Acoustical Society of America, The Sound of the Future: A Global View of Acoustics in the 21st Century, Seattle, Washington (June 1998), Volume IV, 2787-2788.

1998 Stanton, T.K., “From acoustic scattering models of zooplankton to acoustic surveys of large regions,” Proceedings of IEE Colloquium on Recent Advances in Sonar Applied to Biological Oceanography, London (June) 2/1 - 2/10.

1998 Austin, T.C., R.I. Arthur, T.C. Torkelson, P.H. Wiebe and T.K. Stanton, “BIOMAPER II: A towed bio-acoustic survey system for zooplankton and fish assessment,” Proceedings of the Ocean Community Conference ’98, MTS, Baltimore (November), 933-938.

1999 Stanton, T.K., J.D. Warren, P.H. Wiebe, M.C. Benfield, and C.H. Greene, “Contributions of the turbulence field and zooplankton to acoustic backscattering by an internal wave,” Proceedings to the 1998 WHOI/IOS/ONR Internal Solitary Wave Workshop (Sydney, B.C.) WHOI Technical Report #99-07.

1999 Warren, J.D., T.K. Stanton, M.C. Benfield, P.H. Wiebe, and D. Chu, "In situ measurements of acoustic target strengths of siphonophores," Proceedings of the 2nd EAA International Symposium on Hydroacoustics, Gdansk-Jurata (May), 11-13.

1999 Wiebe, P.H., T.K. Stanton, C.H. Greene, M. Benfield, T. Austin, and J. Warren, "BIOMAPER-II: An integrated instrument platform for coupled biological and physical measurements in coastal and oceanic regimes," Proceedings of ICES Annual Meeting, Stockholm (Sept).

1999 Benfield, M.C., C.S. Davis, P.H. Wiebe, S.M. Gallager, C.H. Greene, F. Werner, and T.K. Stanton, "Real-time image analysis; Instrument to model," Proceedings of ICES Annual Meeting, Stockholm (Sept).

2000 Lavery, A.C., D. Chu, T.K. Stanton, and D.E. McGehee, "Three dimensional acoustic scattering models for elongated fluid-like zooplankton," Proceedings of International Conference on Acoustics, Noise, and Vibration, Montreal (Aug).

2000 Chu, D., P.H. Wiebe, T.K. Stanton, T.R. Hammar, K.W. Doherty, N.J. Copley, J. Zhang, D.B. Reeder, and M.C. Benfield, "Measurements of the material properties of live marine organisms and their influences on the signatures of the acoustic scattering," Proceedings of IEEE Oceans 2000 Symposium, Providence (Sept).

2000 Stanton, T.K., S. Walsh, T. Azarovitz, C. Glass, G. Rose, M. Lamplugh, G. Melvin, W. Michaels, and D. Stein, Working group report on "Technology for pilot program of Census of Marine Life," based on May 2000 meeting at Woods Hole, MA.

2001 Stanton, T.K., D. Chu, L.V. Martin Traykovski, D.B. Reeder, J.D. Warren, and P.H. Wiebe, "Broadband acoustic classification of individual zooplankton and fish: A review of recent work," in Proceedings of the Institute of Acoustics Conference on Acoustical Oceanography (April), 181-188.

2001 Lavery, A.C. and T.K. Stanton, "Acoustic scattering models of zooplankton," Proceedings to Fish Bioacoustics Conference, Chicago (June).

2002 Reeder, D.B., J.M. Jech, and T.K. Stanton, "Broadband acoustic backscatter and high resolution morphology of fish: Measurements and scattering models," Proceedings of the 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Stanton, T.K., D.B. Reeder, and J.M. Jech, "Inference of fish orientation from broadband acoustic echoes," Proceedings of the 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Lavery, A.C., T.K. Stanton, and P.H. Wiebe, "Variability in high frequency acoustic backscattering in the water column," in Proceedings of Conference on Impact of Littoral Environmental Variability on Acoustic Predictions and Sonar Performance (Ed. N.G. Pace and F.B. Jensen, Kluwer Academic Publishers) 63-70.

2003 Contribution section to the report: Rudnick, D.L. and M.J. Perry, eds., ALPS: Autonomous and Lagrangian Platforms and Sensors Workshop Report, 64 pp., www.geo-prose.com/ALPS.

2004 Lavery, A.C., M.C. Benfield, P.H. Wiebe, and T.K. Stanton, "High-frequency volume backscatter in the upper water column: Imaging zooplankton and oceanic microstructure," Proceedings of the Seventh European Conference on Underwater Acoustics, EUCA 2004, Delft, The Netherlands.

2005 Sarangapani S., J.H. Miller, G.R. Potty, D.B. Reeder, T.K. Stanton, and D. Chu. "Measurements and Modeling of Target Strength of Divers," Proceedings of the IEEE Oceans '05 EUROPE Conference & Exhibition 2005, Brest, France.

2006 Stanton, T.K., D. Chu, J.M. Jech, and J. D. Irish. "Statistical behavior of echoes from swimbladder-bearing fish at 2-4 kHz," Proceedings of the MTS/IEEE Oceans '06 Conference, Boston.

2007 Chu, D. and T.K. Stanton, "Non-Rayleigh echo PDF's for broadband acoustic scattering by patches of discrete targets with applications to fish," Proceedings of the IEEE Oceans 07 Conference (Aberdeen).

2007 Stanton, T.K., D. Chu, J.M. Jech, and J.D. Irish, "A broadband echosounder for resonance classification of swimbladder-bearing fish," Proceedings of the IEEE Oceans 07 Conference (Aberdeen).

2008 Chu, D. and T.K. Stanton, "Classification of non-Rayleigh echoes from patches of fish," Proceedings of the MTS/IEEE Oceans 08 Conference (Kobe).

2008 Stanton, T.K. and D. Chu, "Calibration of broadband active acoustic systems using a single standard spherical target," Proceedings of the MTS/IEEE Oceans 08 Conference (Kobe).

2009 Gauss, R.C., J.M. Fialkowski, E.L. Kunz, R. Menis, T.K. Stanton, C.J. Sellers, and J.M. Jech, "Clutter variability due to fish aggregations: Mid-frequency measurements in the Gulf of Maine," in *Proceedings of The 3rd International Conference & Exhibition on "Underwater Acoustic Measurements: Technologies and Results*," ed. J.S. Papadakis and L. Bjørnø, 21-26 June 2009, Nafplion, Peloponnese, Greece (F.O.R.T.H., Hellas, Greece), pp. 459-466.

2011 Baik, K. and T.K. Stanton, "Estimation of the numerical densities of swimbladder bearing fish through the measurements in shallow water," Proceedings of the Pacific Rim Underwater Acoustics Conference, October 5-7, pp. 29-32.

MEDIA COVERAGE

1993 Stanton, T.K., "Underwater Census," Earthwatch Radio interview regarding zooplankton scattering methods (Sea Grant Program, Inst. for Env. Studies, Univ. of Wisconsin).

1994 Stanton, T.K., "Blue Peter", BBC television interview regarding zooplankton scattering methods (U.K.).

1995 Stanton, T.K., National Public Radio interview regarding zooplankton scattering methods (U.S.).

1996 Stanton, T.K., Interview regarding fisheries acoustics and technology, published in Pacific Fishing Magazine, "Electronic Ears and Eyes," November Issue.

1998 Benfield, M.C. (Scientist - correspondent), Coverage of July 1998 cruise off Cape Cod, eight article-series in ABCNEWS.com science website.

2006 WHOI Oceanus article: "Listening for telltale echoes from fish: Sound waves resonating off swimbladders offer a new way to count fish." Coverage of data that led to 2010 ICES paper.

2010 WHOI Press release: "Now in broadband, acoustic imaging of the ocean." Coverage of the 2010 ICES paper (and Andone Lavery's paper in same issue). Press release picked up by more than one dozen media including Science News, Life Science World, Environment 360, and USA Today.

INVITED PRESENTATIONS

1985 Stanton, T.K., A.B. Wood Memorial Lecture: "Seafloor classification using sonar echo statistics," April 1985, in "International Conference on Scattering Phenomena in Underwater Acoustics," *Proc. Inst. Acoust.* **7 (3)**.

1987 Stanton T.K., "Scattering of sound from the rough seafloor," *J. Acoust. Soc. Am.* (Fall).

1989 Stanton T.K., "Sonar classification of zooplankton," Narragansett Bay Chapter of the Acoustical Society of America, April.

1989 Stanton T.K., "Sound scattering by spherical and elongated objects," Physics Colloquium Dept. of Physics and Astronomy Hunter College, May.

1990 Stanton T.K., "Sound scattering by randomly rough elongated objects and related echo statistics," International Congress on Recent Developments in Air- and Structure-Borne Sound and Vibration, Auburn University, March 6-8th.

1990 Stanton T.K., "A field study of acoustic scattering by marine organisms at the Gulf Stream boundary and the need for better scattering models," *J. Acoust. Soc. Am.* **87**, (Suppl. 1) S76 (Spring).

1991 Stanton T.K., D. Chu, L. Mayer, and R. Courtney, "Estimating unresolved roughness from echo amplitude fluctuations," *J. Acoust. Soc. Am.* **90**, 2231 (Fall).

1991 Stanton T.K., D. Chu, and K.G. Foote, "Acoustic scattering models of zooplankton," *J. Acoust. Soc. Am.* **90**, 2240 (Fall).

1991 Jech, J.M, C.S. Clay, and T.K. Stanton, "On the linear dependence of temperature structure and acoustic backscatter at the western edge of the Gulf Stream using optimal least squares filtering," *J. Acoust. Soc. Am.* **90**, 2241 (Fall).

1991 Stanton T.K., "Remote classification of zooplankton using sonar," Department of Ocean Engineering, University of Rhode Island (Oct).

1992 Stanton T.K., "Estimates of unresolved seafloor roughness using sonar echo statistics," Department of Survey Engineering, University of New Brunswick (Jan).

1993 Stanton T.K., "Acoustics: System design and deployment considerations," International GLOBEC Workshop, Paris (April).

1993 Stanton, T.K. "Acoustic imaging of marine organisms," Bioacoustics course at Friday Harbor Laboratories, University of Washington, Friday Harbor, WA.

1994 Stanton, T.K. "Sound scattering by marine objects," Marine Acoustics Society of Japan, Tokyo, Japan (Jan).

1994 Stanton, T.K. "Sound scattering by marine objects," NEC Corp., Tokyo, Japan (Jan).

1994 Stanton, T.K. "Review on the truncated cylinder scattering models of marine organisms," National Research Institute of Fisheries Engineering, Hasaki, Japan (Jan).

1995 Wiebe, P.H., T.K. Stanton, and C.H. Greene, "Acoustic backscattering by complex zooplankton assemblages on Georges Bank," *J. Acoust. Soc. Am*. **98**, 2880 (Fall).

1995 Stanton, T.K., D. Chu, and P.H. Wiebe, "Dominant scattering mechanisms and associated scattering models for several zooplankton types," *J. Acoust. Soc. Am*. **98**, 2881 (Fall).

1996 Stanton, T.K., "Sonar mapping of zooplankton: Tools and interpretation techniques," Department of Ocean Engineering, University of Rhode Island (April).

1998 Stanton, T.K., "Acoustic scattering models of several zooplankton groups and application to acoustic surveys of zooplankton," Institute of Marine Research, Bergen, Norway.

1998 Stanton, T.K., "Difficult problems and important problems in acoustic scattering by zooplankton," Institute of Marine Research, Bergen, Norway.

1998 Stanton, T.K., "Development of approximate scattering models of complex bodies for use in zooplankton acoustics," Department of Physics, University of Bergen, Bergen, Norway.

1998 Stanton, T.K., "From acoustic scattering models of zooplankton to acoustic surveys of large regions," IEE Colloquium on Recent Advances in Sonar Applied to Biological Oceanography, London (June).

1998 Stanton, T.K., D. Chu and P.H. Wiebe, "Acoustic scattering models of zooplankton from several major anatomical groups: Theory and experiment," *J. Acoust Soc. Am*. **103**, 2957 (Spring).

1999 Stanton, T.K., "Tethered sensor systems," The Oceanography Society, Reno (April).

1999 Warren, J.D., T.K. Stanton, M.C. Benfield, P.H. Wiebe, and D. Chu, "In situ measurements of acoustic target strengths of siphonophores," 2nd EAA International Symposium on Hydroacousics, Gdansk-Jurata (May).

2001 Lavery, A.C. and T.K. Stanton, "Acoustic scattering models of zooplankton," Fish Bioacoustics Conference, Chicago (June).

2002 Stanton, T.K., "Broadband acoustic classification of individual zooplankton and fish," School for Marine Science and Technology, UMASS – Dartmouth (May).

2002 Stanton, T.K., "Acoustic classification of zooplankton: laboratory methods, scattering models, and survey technology," The 3rd International Workshop on Acoustical Engineering and Technology, Harbin, China (Aug).

2002 Stanton, T.K., "Acoustic classification of zooplankton: laboratory methods, scattering models, and survey technology," Harbin Engineering University, Harbin, China (Aug).

2002 Stanton, T.K., "Science and Technology at WHOI," Harbin Engineering University, Harbin, China (Aug).

2002 Stanton, T.K., "Acoustic scattering by a shell-covered seafloor," Lamont-Doherty Earth Observatory – Columbia University (Sept).

2002 Stanton, T.K., "Acoustic reverberation by marine life," Naval War College at WHOI (Oct).

2002 Chu, D., T.K. Stanton, and P.H. Wiebe, "Model-based acoustic characterization and classification of irregular-shaped targets: Application to fisheries and zooplankton acoustics," J. Acoust. Soc. Am. **112**, 2307 (Dec).

2003 Stanton, T.K., "Acoustic classification of zooplankton: Laboratory methods, scattering models, and survey technology," Department of Acoustics, Boston University (March).

2004 Lavery, A.C., R.W. Schmitt, T.K. Stanton, and P.H. Wiebe, "High-frequency acoustic volume scattering from microstructure and zooplankton," AGU Ocean Sciences Meeting, Portland, OR (Jan).

2004 Lavery, A.C., M.C. Benfield, P.H. Wiebe, and T.K. Stanton, "Multi-frequency acoustic volume backscatter in the upper water column: Imaging mixed zooplankton populations and oceanic microstructure in the Gulf of Maine," 7th European Conference on Underwater Acoustics, Delft, The Netherlands (July).

2005 Lavery, A.C., G.L. Lawson, P.H. Wiebe, and T.K. Stanton, "Lessons learned from multi-frequency acoustic studies of zooplankton and micronekton in the Western Antarctic Peninsula and the Gulf of Maine," *J. Acoust. Soc. Am*. **118**, 1908 (Fall).

2006 Korman, M.S. and T.K. Stanton, "Nonlinear interactions in the 1970s: Tribute to the work of Robert T. Beyer," *J. Acoust. Soc. Am*. **119**, 3232 (Spring).

2006 Stanton, T.K., D. Chu, J.M. Jech, and J.D. Irish, "A broadband acoustic system for resonance classification of swimbladder-bearing fish," *J. Acoust. Soc. Am*. **120**, 3000 (Fall).

2008 Stanton, T.K., "Acoustic scattering models of marine organisms: Zooplankton, fish, and squid," National Research Institute of Fisheries Engineering, Hasaki, Kamisu, Ibaraki, Japan (April).

2008 Stanton, T.K., "Broadband acoustic studies of various marine organisms," National Research Institute of Fisheries Engineering, Hasaki, Kamisu, Ibaraki, Japan (April).

2008 Stanton, T.K., "Broadband acoustic sensing of the ocean," Marine Acoustics Society of Japan, Tokyo, Japan (April).

2008 Lavery, A.C., P. Wiebe, T.K. Stanton, G. Lawson, M. Benfield, and N. Copley, "Using multifrequency acoustic scattering techniques to study mixed zooplankton population," *J. Acoust. Soc. Am.*, **123**, 2294 (Spring).

2008 Stanton, T.K., and D. Chu, "Use of broadband active acoustics to study marine organisms," *J. Acoust. Soc. Am*., **123**, 3105 (Spring).

2008 Stanton, T.K., D. Chu, and G. Norton, "Acoustic scattering by deformed elongated objects: bent or rough finite cylinders, bent edges, and other stuff," *J. Acoust. Soc. Am*., **123**, 3896 (Spring).

2009 Stanton, T.K., "Sonar remote sensing of marine organisms," in Mini-symposium on marine biologics in active sonar, ARL/UT, Austin, Texas (Jan).

2009 Gauss, R.C., J.M. Fialkowski, R. Menis, E.L. Kunz, T.K. Stanton, C.J. Sellers, and J.M. Jech, "Measurements and modeling of midfrequency clutter from fish aggregations over Georges Bank in the Gulf of Maine," J. Acoust. Soc. Am., **125**, 2642 (Spring).

2010 Stanton, T.K. and D. Chu, "Formulation for statistics of echoes due to a finite number of scatterers and patches of scatterers in a directional sonar beam," J. Acoust. Soc. Am., **127**, 2042 (Spring).

2010 Stanton, T.K., "Sonar remote sensing of marine organisms," Physics Department, Hunter College, New York City, New York (May).

WORKSHOP INVITED PARTICIPANT/PRESENTATION

1983 Clay, C.S., T.K. Stanton, and K.C. Jezek, “Acoustic observations from the underside of sea ice,” ONR Arctic Acoustic Workshop at ASA Conference (Fall).

1984 Clay, C.S., T.K. Stanton, R. Nash, and Y. Sun, “Inverse problems for a biological sonar,” ONR Bioacoustics Workshop AGU Conference (Jan).

1984 Stanton, T.K., “Sonar estimates of seafloor microroughness,” Acoustic-Geotechnical Correlation Workshop in Calgary, Ontario (April).

1985 Stanton, T.K., K.C. Jezek, and A.J. Gow, “Laboratory studies of acoustic scattering from the underside of sea ice,” Arctic Oceanography and Acoustic Workshop, NORDA (June).

1986 Stanton, T.K., “Acoustical techniques for remotely detecting and classifying particles in the ocean,” in ONR Workshop on Aggregate Dynamics in the Sea Asilomar Conference Center, Monterey, California (Sept).

1988 Stanton, T.K., “Sonar estimates of seafloor microroughness,” in ONR Workshop on Terrains, MIT (April).

1988 Acoustic Reverberation – Sea Surface Component ONR Workshop, NORDA (Dec). Participant.

1989 Jezek, K.C., T.K. Stanton, and A.J. Gow, “Acoustic properties of laboratory grown saline ice,” ONR Arctic Program Workshop, MIT (Feb).

1989 Stanton, T.K., K.C. Jezek, A.J. Gow, “Effects of environment and ice morphology on acoustic properties of sea ice,” ONR Arctic Data Analysis Workshop, WHOI (June).

1989 Stanton, T.K., “Sonar classification of zooplankton,” ONR Biophysical Coupling Workshop, Monterey, California (Aug).

1990-1992 Acoustic Reverberation – Seafloor Component, ONR Workshop various locations.

1992 Stanton, T.K., “Estimates of unresolved seafloor roughness using sonar echo statistics,” NRL Workshop on Sediment Classification, Austin, Texas (Feb).

1992 Advanced Standoff Sensors, NUWC workshop at Newport, Rhode Island (March).

1994 Stanton, T.K., “Acoustic classification of irregular bodies,” in ONR Workshop on Physics of Moderate to High Frequency Acoustics, Washington, D.C. (March).

1994 Stanton, T.K., “Acoustical scattering characterization of several zooplankton groups,” in ONR Workshop on Marine mammals and acoustic remote sensing, Cornell University, Ithaca, NY (Aug).

1995 Stanton, T.K., “Broadband characterization of objects” in WHOI workshop on Biosonars, WHOI (Jan).

1996 Stanton, T.K. and P.H. Wiebe, “High frequency acoustic surveys of a shallow water region and associated scattering models from naturally occurring complex bodies,” In ONR Workshop on High Frequency Acoustics, Golden, CO (April).

1996 Stanton, T.K. and P.H. Wiebe, “High frequency acoustic mapping of internal wave fields,” Shelfbreak PRIMER Workshop, WHOI (May).

1998 Stanton, T.K., "High frequency acoustic scattering surveys of zooplankton, internal waves, and suspended sediment and associated acoustic scattering model interpretations," in ONR Workshop on Sino-US Marine Science and Technology, Qingdao, China (Aug).

1998 Stanton, T.K., J.D. Warren, P.H. Wiebe, M.C. Benfield, and C.H. Greene, "Contributions of the turbulence field and zooplankton to acoustic backscattering by an internal wave," ONR Workshop on Internal Waves, Sydney, B.C. (Oct).

1998 Advanced Sampling Technology Workshop, NMFS/OAR, Miami (Dec).

2000 SAX '99 Data Analysis Workshop, ONR Workshop on 1999 experiment involving high frequency acoustic scattering by seafloor, Bangor (April).

2000 Workshop on Pilot Program for Census of Marine Life, Woods Hole (May).

2000 Workshop on Pilot Program for Census of Marine Life, Woods Hole (May).

2001 Stanton, T.K., "Acoustic classification of fish and squids," Workshop on Pilot Program for Census of Marine Life, New England Aquarium (Oct).

2002 Stanton, T.K., "Acoustic scattering by benthic shells," ONR Workshop on SAX04, Cancun (Dec).

2003 Stanton, T.K., "Acoustics in the ocean," NSF/ONR Workshop on Autonomous and Lagrangian Platforms and Sensors (ALPS), San Diego (April).

2007 Stanton, T.K., ONR Workshop on Technology Readiness of ASW Active Sonar Simulation Components, Washington, DC (June).

2007 Stanton, T.K., "A broadband echosounder for resonance classification of swimbladder-bearing fish," in Fish Acoustics Science Review (ONR), Plymouth, MA (Nov).

2007 Chu, D. and T.K. Stanton, "Modeling of the backscattering by swimbladder-bearing fish," in Fish Acoustics Science Review (ONR), Plymouth, MA (Nov).

2008 Stanton, T.K., "University of Wisconsin—Woods Hole Oceanographic Institution: Scattering models of three anatomical groups of zooplankton, 1985 to present," NMFS/NOPP Workshop on Acoustic Backscattering Modeling, Friday Harbor (Jan).

2008 Chu, D. and T.K. Stanton, "Modeling of the backscattering by marine organisms," NMFS/NOPP Workshop on Acoustic Backscattering Modeling, Friday Harbor (Jan).

2008 Chu, D., T.K. Stanton and J.M. Jech, "A broadband acoustic system for fish spectral characterization and stock assessment," in the 10th National Stock Assessment Workshop, Port Townsend, WA (May).

2009 Stanton, T.K., "Biological sources of clutter: Measurements and modeling," ONR High Fidelity Active Sonar Training Workshop, ARL/UT, Austin, Texas (Aug).

2010 Stanton, T.K., "Sonar remote sensing of marine organisms: 2030," NRC Ocean Infrastructure Strategy Workshop, The National Academics, Washington, DC (Feb).

2010 Stanton, T.K., "Scattering, statistics, and signal processing associated with the presence of fish," AEMBERS advisory panel, Navy Research Laboratory, Washington, DC (May).

2010 Stanton, T.K., "Biophysics-based classification of echoes," AEMBERS advisory panel, Applied Research Laboratories, University of Texas, Austin, Texas (Aug).

2010 Stanton, T.K., "A sub-bottom profiler that has been adapted for midfrequency measurements of volume backscattering," AEMBERS advisory panel, MANDEX, Washington, DC (Nov).

2010 Stanton, T.K. and M. Wagstaff, "Adaptation of Kongsberg/NAVOCEANO sub-bottom profiler for midfrequency measurements of volume backscattering," AEMBERS advisory panel, MANDEX, Washington, DC (Nov).

2011 Stanton, T.K., D. Grunbaum, and T.C. Weber, "Modeling statistics of fish patchiness and predicting associated influence on statistics of acoustic echoes," ONR workshop on fish acoustics BRC, Portland, Oregon (Jan).

2011 Stanton, T.K. and B.A. Jones, "Measurements and modeling of mid-frequency scattering/reverb by fish," ONR workshop on reverberation. MANDEX, Washington, DC (June).

2011 Stanton, T.K., B. LaCour, and B.A. Jones, "High fidelity biologic clutter models for mid-frequency active sonar," ONR workshop on HiFAST program, ONR, Washington, DC (Aug).

2011 LaCour, B., T.K. Stanton, B.A. Jones, "High fidelity biologic clutter models for CASE simulation of ALFS and MAC systems," CASE IWG meeting, Jacksonville, Florida (Dec).

2012 LaCour, B., T.K. Stanton, and B.A. Jones, "High fidelity biologic clutter models for air-deployed and surface ship systems," ONR workshop on HIFAST program, Hauppauge, NY (March).

2013 Stanton, T.K., ONR workshop on echo statistics, Arlington, VA (Aug.).

OTHER PRESENTATIONS

1977 Stanton, T.K., and R.T. Beyer, "The absorption of sound by noise," *9 Int. Con. Acoust.* **N42**, (A).

1977 Stanton, T.K., and R.T. Beyer "Interaction of sound with noise," *J. Acoust. Soc. Am.* **61**, (Suppl. 1), (Spring) S14 (A).

1982 Stanton, T.K., "Multiple scattering with applications to fish-echo processing," *J. Acoust. Soc. Am.* **72**, (Suppl. 1), (Fall) S35 (A).

1983 Stanton, T.K., "Sonar estimates of sea floor microroughness," *J. Acoust. Soc. Am.* **74**, (Suppl. 1), (Fall) S123 (A).

1984 Stanton, T.K., "Volume scattering: Echo peak PDF," *J. Acoust. Soc. Am.* **75**, (Suppl. 1), (Spring) S51 (A).

1985 Nash, R.D.M., Y. Sun, T.K. Stanton, L.G. Rudstam, C.S. Clay, and J.J. Magnuson, "Acoustic models of fish and the use of acoustics in the study of lakes," Wisconsin Chapter of the American Fisheries Society, Wausau, Wisconsin (Jan)

1985 Nash, R.D.M., T.K. Stanton, J.J. Magnuson, and C.S. Clay, "Relationship between acoustic abundance and thermal structure at the edge of the Gulf Stream," *EOS Trans. AGU* **66(51)**, (Dec).

1986 Jezek, K.C., T.K. Stanton, and A.J. Gow, "Acoustical reflection and scattering from the underside of laboratory grown sea ice: Measurements and predictions," Second Symposium on Remote Sensing in Glaciology, International Glaciological Society (Sept).

1986 Stanton, T.K., "Sound scattering by fluid cylinders of finite length," *J. Acoust. Soc. Am.* **80**, (Suppl. 1), (Fall) S127 (A).

1987 Clay, C.S., and T.K. Stanton, "Fish echo statistics as a tool: A tutorial," 1987 International Symposium on Fisheries Acoustics, June 22-26, Seattle, Washington.

1987 Stanton, T.K., "Sound scattering by zooplankton," 1987 International Symposium on Fisheries Acoustics, June 22-26, Seattle, Washington.

1987 Jezek, K.C., T.K. Stanton, and A.J. Gow, "Attenuation of sound through laboratory grown saline ice," *J. Acoust. Soc. Am.* **82**, (Suppl. 1), S30 (Fall).

1988 Chu, D., and T.K. Stanton, "Application of Twersky's boss scattering theory to laboratory measurements of sound scattered by a rough surface," *J. Acoust. Soc. Am.* **83**, (Suppl. 1), S47 (Spring).

1988 Jezek, K.C., T.K. Stanton, A.J. Gow, and M. Lange, "Laboratory and field measurements of acoustic scattering from sea ice," *J. Acoust. Soc. Am.* **84**, (Suppl. 1), S123 (Fall).

1988 Jezek, K.C., M. Lange, A.J. Gow, T.K. Stanton, "Under ice acoustic scattering in the Fram Straits," *EOS* **69(44)**, page 1284.

1988 Stanton, T.K., "Simple approximate formulas for backscattering of sound by spherical and elongated objects," *J. Acoust. Soc. Am.* **84**, (Suppl. 1), S219 (Fall).

1989 Stanton, T.K., "Sound scattering by deformed cylinders of finite length," *J. Acoust. Soc. Am.* **85,** (Suppl. 1), S42 (Spring).

1990 Stanton, T.K., "Sound scattering by randomly rough elongated objects: I. Means of scattered field," *J. Acoust. Soc. Am.* **87**, (Suppl. 1), S52 (Spring).

1990 Stanton, T.K., "Sound scattering by randomly rough elongated objects: II. Fluctuations of scattered field," *J. Acoust. Soc. Am.* **87**, (Suppl. 1), S52 (Spring).

1990 DiPerna, D.T., and T.K. Stanton, "Fresnel Zone effects in the scattering of sound by intermediate length cylinders," *J. Acoust. Soc. Am.* **88**, (Suppl. 1), S131 (Fall).

1991 Foote, K.G., D. Chu, and T.K. Stanton, "Status of krill target strength," *CCAMLR*, WG-KRILL-92/11, Soviet Union (July).

1991 Stanton, T.K., and D. Chu, "Sound scattering by randomly rough elongated objects: Means and echo fluctuations," Third IMACS Symposium on Computational Acoustics, Cambridge, MA (June).

1992 Chu, D., and T.K. Stanton, "Sound scattering by zooplankton with arbitrary shape and orientation," *J. Acoust. Soc. Am.* **92 (Pt. 2)**, 2392.

1994 Wiebe, P.H., K. Prada, T. Austin, T. Stanton, and J. Dawson, "Free drift and moored acoustic backscattering results from BIOSPAR - A dual-beam high frequency echosounding system," 1994 Ocean Sciences Meeting, ASLO (Feb).

1995 Stanton, T.K., D. Chu and P.H. Wiebe, "Acoustic scattering characteristics of several zooplankton groups," *ICES International Symposium on Fisheries and Plankton Acoustics,* Aberdeen (June).

1995 Martin, L.V., T.K. Stanton, J.F. Lynch and P.H. Wiebe, "Acoustic classification of zooplankton based on single-ping broadband insonifications," *ICES International Symposium on Fisheries and Plankton Acoustics,* Aberdeen (June).

1995 Wiebe, P.H., T.K. Stanton, C. Greene, G. Lough, S. Kaartvedt, J. Dawson, and N. Copley, "Solving the forward problem for acoustic backscattering by complex zooplankton assemblages and implications for solving the inverse problem", *ICES International Symposium on Fisheries and Plankton Acoustics,* Aberdeen (June).

1995 Martin, L.V., T.K. Stanton, P.H. Wiebe, and J.F. Lynch, "Acoustic classification of zooplankton," *J. Acoust. Soc. Am*. **98**, 2881 (Fall).

1996 Stanton, T.K., D.E. McGehee, S.M. Gallager, C.S. Davis, and P.H Wiebe, "Sound scattering by the wake of an underwater vehicle," *Am. Geophys. Un*. **76**, OS54 (Feb. Ocean Sciences Mtg.).

1996 Wiebe, P.H., M.C. Benfield, T.K. Stanton, C.S. Davis, and C.H. Greene, "Acoustical estimation of the distribution of zooplankton biomass on Georges Bank," *Am. Geophys. Un*. **76**, OS198 (Feb. Ocean Sciences Mtg.).

1996 Korman, M.S. and T.K. Stanton, "Vintage Beyer - teacher, advisor, and mentor -- an era of experimentation on the nonlinear interactions of sound with noise and with turbulence," *J. Acoust. Soc. Am.* **99**, 2514 (Spring).

1996 Wiebe, P.H. and T.K. Stanton, "High frequency acoustic surveys of a shallow water region and associated scattering models from naturally occurring complex bodies," NUWC/Newport (July).

1997 Wiebe, P.H., T.K. Stanton, M. Benfield, C.H. Greene, and E. Mutlu, "Broad-scale patterns of high frequency volume backscattering on Georges Bank during late spring/summer of 1994, 1995, 1996, and 1997," 1997 ICES Annual Science Conference, Baltimore, MD (Sept/Oct).

1997 Benfield, M.C., P.H. Wiebe, T.K. Stanton, C.S. Davis, S.M. Gallager, and C.H. Greene, "3-D Mapping of zooplankton distributions in a stratified region of Georges Bank: Results from optical and acoustic sensing," 1997 ICES Annual Science Conference, Baltimore, MD (Sept/Oct).

1998 Stanton, T.K., D. Chu, and P.H. Wiebe, "Acoustic scattering models of zooplankton: Theory and experiment," 21st Scandinavian Symposium on Physical Acoustics, Ustaoset, Norway (Feb).

1998 Martin Traykovski, L.V., T.K. Stanton, P.H. Wiebe, J.F. Lynch, R.L. O'Driscoll, D.E. McGehee, "Acoustic classification of zooplankton: Inversion of broadband echoes from individuals for scatterer type and orientation," 1998 Ocean Sciences Meeting (Feb).

1998 Stanton, T.K., P.H. Wiebe, M.C. Benfield, C.H. Greene, and J.D. Warren, "Acoustic surveys of zooplankton, internal waves, and suspended sediment over the Georges Bank region and interpretations using acoustic scattering models," Poster presentation in conference on Coastal and Marginal Seas Jointly sponsored by The Oceanography Society (TOS) and The Intergovernmental Oceanographic Commission (IOC), UNESCO Headquarters (Paris).

1999 Stanton, T.K., "Acoustic classification of a shell-covered seafloor," *J. Acoust. Soc. Am*. **105**, 1265 (Spring).

1999 Stanton, T.K. and D. Chu, "Modeling considerations for acoustic scattering by fluidlike elongated zooplankton: Model intercomparisons and recommendations for euphausiids and copepods," *J. Acoust. Soc. Am.* **105**, 1112 (Spring), (poster).

2000 Wiebe, P.H., J.D. Irish, R.C. Beardsley, and T.K. Stanton, "Observations of internal solitary waves on Georges Bank," AGU meeting (Jan).

2000 Stanton, T.K., "High frequency acoustics at WHOI," Naval Undersea Warfare Center (Feb).

2000 Stanton, T.K., "High frequency acoustics at WHOI," NAVOCEANO (March).

2000 Chu, D., P.H. Wiebe, T.K. Stanton, T.R. Hammar, K.W. Doherty, J. Zhang, D.B. Reeder, M.C Benfield, and N.J. Copley, "Influences of temperature and pressure on the material and acoustic scattering properties of zooplankton," *J. Acoust. Soc. Am*. **107**(5) (Spring).

2000 Lavery, A.C., D. Chu, T.K. Stanton, and D.E. McGehee, "Three dimensional acoustic scattering models for elongated fluid-like zooplankton," International Conference on Acoustics, Noise, and Vibration, Montreal (Aug).

2000 Chu, D., P.H. Wiebe, T.K. Stanton, T.R. Hammar, K.W. Doherty, N.J. Copley, J. Zhang, D.B. Reeder, and M.C. Benfield, "Measurements of the material properties of live marine organisms and their influences on the signatures of the acoustic scattering," IEEE Oceans 2000 Symposium, Providence (Sept).

2000 Reeder, D.B., T.K. Stanton, D. Chu J.M. Jech, "Broadband acoustic backscattering from alewife fish: Experiment and analysis," *J. Acoust. Soc. Am.* **108**(5) (Nov).

2000 Jech, J.M., D.B. Reeder, T.K. Stanton, and D. Chu, "Three-dimensional visaulization of acoustic backscattering and models by alewife," *J. Acoust. Soc. Am.* **108**(5) (Nov).

2000 Lavery A.C., D. Chu, D.E. McGehee, and T.K. Stanton, "Three-dimensional acoustic scattering models for elongated fluid-like zooplankton," *J. Acoust. Soc. Am.* **108**(5) (Nov).

2000 Warren J.D., P.H. Wiebe, H.E. Seim, and T.K. Stanton, "Estimating the scattering contribution from microstructure and marine organisms using multiple-frequency acoustic data collected from a Gulf of Maine internal wave," *J. Acoust. Soc. Am.* **108**(5) (Nov).

2000 Chu, D., and T.K. Stanton, "Validity study of the distorted wave Born approximation (DWBA) model: Application to the acoustic scattering by marine organisms," *J. Acoust. Soc. Am.* **108**(5) (Nov).

2001 Stanton, T.K., D. Chu, L.V. Martin Traykovski, D.B. Reeder, J.D. Warren, and P.H. Wiebe, "Broadband classification of individual zooplankton and fish: A review of recent work," Institute of Acoustics Conference on Acoustical Oceanography (April).

2001 Lavery, A.C. and T.K. Stanton, "Acoustic classification of individual zooplankton using artificial neural network," *J. Acoust. Soc. Am.* **109**(5), 2286 (May).

2001 Warren, J.D., A.C. Lavery, R.W. Schmitt, and T.K. Stanton, "Laboratory measurements of acoustic scattering from a temperature and salinity gradient," *J. Acoust. Soc. Am*. **110**(5), 2241 (Dec)

2002 Reeder, D.B., J.M. Jech, and T.K. Stanton, "Broadband acoustic backscatter and high resolution morphology of fish: Part I: Measurements," 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Jech, J.M., D.B. Reeder, and T.K. Stanton," Broadband acoustic backscatter and high resolution morphology of fish: Part II: Scattering models," 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Stanton, T.K., D.B. Reeder, and J.M. Jech, "Inference of fish orientation from broadband acoustic echoes," 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Benfield, M.C., A. Lavery, P.H. Wiebe, T.K. Stanton, C.H. Greene, and N. Copley, "Multi-frequency acoustic and video observations of physonect siphonulae in the Gulf of Maine, USA," 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Warren, J.D., T.K. Stanton, and P.H. Wiebe, "Inversion of multiple frequency acoustic data for estimates of biological and physical scattering processes," Poster presentation in 6th ICES Symposium on Acoustics in Fisheries and Aquatic Ecology, Montpellier (June).

2002 Lavery, A.C., T.K. Stanton, and P.H. Wiebe, "Variability in high frequency acoustic backscattering in the water column," Conference on Impact of Littoral Environmental Variability on Acoustic Predictions and Sonar Performance, Italy (Sept).

2002 Chu, D., T.K. Stanton, and P.H. Wiebe, "Model-based acoustic characterization and classification of irregular-shaped targets: Application to fisheries and zooplankton acoustics," J*. Acoust. Soc. Am*. **112**, 2307 (Fall).

2004 Lavery, A.C., P.H. Wiebe, R.W. Schmitt, T.K. Stanton, T. Ross, G. Lawson, N. Copley, and K. Fisher, "High-frequency acoustic volume scattering from zooplankton and moving oceanic microstructure," *J. Acoust. Soc. Am*. **115**(5) (Spring).

2004 Reeder, D.B. and T.K. Stanton, "Acoustic scattering by axisymmetric finite-length bodies," *J. Acoust. Soc. Am*. **116**(4) (Fall).

2004 Reeder, D.B., J.M. Jech, and T.K. Stanton, "Broadband acoustic backscatter and high-resolution morphology of fish: Measurement and modeling," *J. Acoust. Soc. Am*. **116**(4) (Fall).

2004 Stanton, T.K. and D. Chu, "Acoustic scattering by benthic shells: Dominant scattering mechanisms and applications," *J. Acoust. Soc. Am*. **116**(4) (Fall).

2004 Stanton, T.K. and D. Chu, "Acoustic diffraction by deformed edges of finite length: Theory and experiment," *J. Acoust. Soc. Am*. **116**(4) (Fall).

2004 Chu, D. and T.K. Stanton, "Higher order acoustic diffraction by edges of finite thickness," *J. Acoust. Soc. Am*. **116**(4) (Fall).

2005 Sarangapani S., J.H. Miller, G.R. Potty, D.B. Reeder, T.K. Stanton, D. Chu, "Measurements and Modeling of Target Strength of Divers," IEEE Oceans' 05 EUROPE Conference & Exhibition 2005, Brest, France.

2005 Jones, B.A., T.K. Stanton, A.C. Lavery, M.P. Johnson, P.T. Madsen, and P.L. Tyack, "A scattering analysis of echoes due to biosonar signals emitted by foraging beaked whales," *J. Acoust. Soc. Am*. **118**, 1909 (Fall).

2006 Stanton, T.K., "Acoustic scattering by fish and zooplankton," Institute of Acoustics, Beijing, China (Jan).

2006 Stanton, T.K., D. Chu, J.M. Jech, and J.D. Irish, "Statistical behavior of echoes from swimbladder-bearing fish at 2-4 kHz," MTS/IEEE Oceans '06 Conference, Boston (Fall).

2006 Chu, D., T.K. Stanton, J.M. Jech, and D.B. Reeder, "Modeling of the backscattering by swimbladder-bearing fish," *J. Acoust. Soc. Am*. **120**(5), 3105 (Fall).

2006 Jones, B.A., A.C. Lavery, and T.K. Stanton, "An advanced 3-D scattering model for squid," *J. Acoust. Soc. Am*. **120**(5), 3106 (Fall).

2006 Lawson, G.L., P.H. Wiebe, T.K. Stanton, and C.J. Ashjian, "Development and application of multifrequency acoustic techniques to the study of Antarctic krill distribution," *J. Acoust. Soc. Am*. **120**(5), 3108 (Fall).

2007 Chu, D. and T.K. Stanton, "Non-Rayleigh echo PDF's for broadband acoustic scattering by patches of discrete targets with applications to fish," IEEE Oceans 07 Conference (Aberdeen).

2007 Stanton, T.K., D. Chu, J.M. Jech, and J.D. Irish, "A broadband echosounder for resonance classification of swimbladder-bearing fish," IEEE Oceans 07 Conference (Aberdeen).

2008 Chu, D. and T.K. Stanton, "Classification of non-Rayleigh echoes from patches of fish," MTS/IEEE Oceans 08 Conference (Kobe).

2008 Stanton, T.K. and D. Chu, "Calibration of broadband active acoustic systems using a single standard spherical target," MTS/IEEE Oceans 08 Conference (Kobe).

2008 Chu, D., T.K. Stanton, and J.M. Jech, "Modeling of broadband backscattering by swimbladder-bearing fish," ICES SEAFACTS symposium, Bergen (June).

2008 Stanton, T.K. and D. Chu, "Calibration of broadband active acoustic systems using a single standard spherical target," *J. Acoust. Soc. Am*., **123**, 3348 (Spring).

2009 Lee, W-J., T.K. Stanton, and A.C. Lavery, "Broadband acoustic backscattering from live squid: Experiment and analysis," *J. Acoust. Soc. Am*., **125**, 2550 (Spring).

2009 Chu, D. and T.K. Stanton, "Statistics of echoes from a directional sonar beam insonifying finite numbers of single scatterers and patches of scatterers," *J. Acoust. Soc. Am*., **125,** 2643 (Spring).

2009 Gauss, R.C., J.M. Fialkowski, E.L. Kunz, R. Menis, T.K. Stanton, C.J. Sellers, and J.M. Jech, "Clutter variability due to fish aggregations: Mid-frequency measurements in the Gulf of Maine," *The 3rd International Conference & Exhibition on "Underwater Acoustic Measurements: Technologies and Results*," June 2009, Nafplion, Peloponnese, Greece (F.O.R.T.H., Hellas, Greece).

2009 Stanton, T.K. and M.S. Korman, "Robert Beyer's laboratory in nonlinear acoustics: 1975-1982 and earlier perspectives," J*. Acoust. Soc. Am*., **126**, 2220 (Fall).

2009 Lee, W-J., A.C. Lavery, T.K. Stanton, and P.L. Tyack, "Broadband acoustic scattering from squid: Implications for toothed-whale foraging," *The 5th Animal Sonar Symposium*, Kyoto, Japan (Sept).

2010 Jones, B.A., T.K. Stanton, and J.A. Colosi, "Modeling of acoustic reverberation from a diurnally migrating fish aggregation with depth-dependent resonance," *J. Acoust. Soc. Am.*, **128**, 2279 (Fall).

2010 Lee, W.-J., A.C. Lavery, and T.K. Stanton, "Interpretation of the compressed pulse output for broadband acoustic scattering from inhomogeneous weakly scattering bodies," *J. Acoust. Soc. Am.*, **128**, 2460 (Fall).

2010 Bhatia, S. and T.K. Stanton, "Echo statistics due to a randomly rough, randomly oriented prolate spheroid that is randomly located in a directional active sonar beam," *J. Acoust. Soc. Am.*, **128**, 2460 (Fall).

2010 Lee, W.-J. and T.K. Stanton, “Analysis of mixed assemblages of fish using the statistics of echoes from a single beam broadband echosounder,” *J. Acoust. Soc. Am.*, **128**, 2460 (Fall).

2011 Chu, D., T.K. Stanton, J.M. Jech, and J.D. Irish, “Resonance classification of fish with swimbladders using a modified commercial broadband echosounder,” *J. Acoust. Soc. Am.*, **129**, 2698-2699 (Spring).

2011 Stanton, T.K., D. Chu, and A.C. Lavery, “Broadband active acoustic sensing of fish and zooplankton in the kilohertz to megahertz range: Pursuing Van Holliday’s vision,” *J. Acoust. Soc. Am.*, **130**, 2324 (Fall).

2011 Lee, W.-J. and T.K. Stanton, “Statistics of echoes from mixed assemblages of scatterers with different scattering strengths and numerical densities,” *J. Acoust. Soc. Am.*, **130**, 2337 (Fall).

2011 Baik, K. and T.K. Stanton, “Estimation of the numerical densities of swimbladder bearing fish through the measurements in shallow water,” Pacific Rim Underwater Acoustics Conference (Fall).

2012 Lee, W.-J., T.K. Stanton, and A.C. Lavery, “Estimating numerical density of scatterers in monotype aggregations using the statistics of broadband echoes: Applications to fish echoes,” *J. Acoust. Soc. Am.*, **132**, 1882 (Fall).

2012 Lavery, A.C., G.L. Lawson, P.H. Wiebe, T.K. Stanton, J.R. Fincke, and N.J. Copley, “Acoustic characterization of thecosome pteropods and recent field measurements in the context of ocean acidification,” *J. Acoust. Soc. Am*., **132**, 1882 (Fall).

2012 Stanton, T.K. and D. Chu, “Echo statistics: Pursuing one of Clay’s visions,” *J. Acoust. Soc. Am.*, **132**, 1882 (Fall).