

ANDREW T. JESSUP

Curriculum Vitæ

Air-Sea Interaction and Remote Sensing Department
Applied Physics Laboratory
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EDUCATIONAL HISTORY

Massachusetts Institute of Technology
Woods Hole Oceanographic Institution Joint Program, Woods Hole, MA
PhD, Oceanography and Ocean Engineering
1990

Massachusetts Institute of Technology, Cambridge, MA
MSE, Civil Engineering
1988

University of Michigan, Ann Arbor, MI
BSE, Engineering Science
1980

EMPLOYMENT HISTORY

University of Washington
Civil and Environmental Engineering
Seattle, Washington, USA
Professor, 2012-present

University of Washington
Applied Physics Laboratory
Seattle, Washington, USA
Chair, Air-Sea Interaction and Remote Sensing Department, 2006-present
Principal Oceanographer, 2000-present
Senior Oceanographer, 1995-2000
Oceanographer, 1990-1995

MIT
Parsons Laboratory for Water Resources and Hydrodynamics
Cambridge, Massachusetts, USA
Research Assistant, 1986-1990

University of Washington
Applied Physics Laboratory
Seattle, Washington, USA
Engineer, 1982-1985

NOAA Great Lakes Environmental Research Laboratory
Ann Arbor, Michigan, USA
Computer Programmer, 1980-1981

University of Michigan
Atmospheric and Oceanic Science Department
Research Assistant, 1979-1980

AWARDS AND HONORS

Distinguished Research Award, College of Ocean and Fishery Sciences, University of Washington, 1997
Research Faculty Fellowship, College of Ocean and Fishery Sciences, University of Washington, 1995-1996
Graduate Student Researchers Program Fellowship, NASA, 1988-1990
Training Fellowship, Von Karman Institute for Fluid Dynamics, Brussels, Belgium, 1983
Ocean Physics Summer Fellowship, Oregon State University, Corvallis, Oregon, 1980
Summer Student Fellowship, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, 1979

AFFILIATIONS AND OTHER APPOINTMENTS

Affiliate Associate Professor, Department of Mechanical Engineering, University of Washington, Seattle, Washington, USA, 2002-present
Affiliate Associate Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington, USA, 2000-present
Affiliate Assistant Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington, USA, 1992-2000

PUBLICATIONS

Articles in Peer Reviewed Journals

- Chickadel, C. C., S. A. Talke, A. R. Horner-Devine, A. T. Jessup, IR based measurements of velocity, turbulent kinetic energy, and dissipation at the water surface of a tidal river, *IEEE Geosci. Rem. Sens. Let.*, 8(5), 849-853, doi: 10.1109/LGRS.2011.2125942, 2011.
- Chickadel, C.C., S. A. Talke, A. R. Horner-Devine, and A. T. Jessup, Infrared-based measurements of velocity, turbulent kinetic energy, and dissipation at the water surface in a tidal river, *Geosci. Remote Sens. Let.*, to appear, 2010.
- Castro, S. L., G. A. Wick, P. J. Minnett, A. T. Jessup, W. J. Emery, The impact of measurement uncertainty and spatial variability on the accuracy of skin and subsurface regression-based sea surface temperature algorithms, *Remote Sens. Env.*, 114, 2666-2678, 2010.
- Jessup, A. T., K. Phadnis, M. Atmane, C. J. Zappa, M. R. Loewen, W. A. Asher, Evidence for complete and partial surface renewal at an air-water interface, *Geophys. Res. Let.*, 36, L16601, doi:10.1029/2009GL038986, 2009.
- Chickadel, C. C., A. R. Horner-Devine, and A. T. Jessup, Vertical boil propagation from a submerged estuarine sill, *Geophys. Res. Let.*, 36, L10601, doi:10.1029/2009GL037278, 2009.

- Thomson, J, and A. T. Jessup, A Fourier-based Method for the Distribution of Breaking Crests from Video Observations, *J. Atmos. Ocean. Tech.*, 26, doi:10.1175/2009JTECHO622.1, 2009.
- Thomson, J., J. R. Gemmrich, and A. T. Jessup (2009), Energy dissipation and the spectral distribution of whitecaps, *Geophys. Res. Lett.*, 36, L11601 doi:10.1029/2009GL038201.
- Jessup, A. T., and R. Branch, Integrated Ocean Skin and Bulk Temperature Measurements Using the Calibrated Infrared In Situ Measurement System (CIRIMS) and Through-Hull Ports, *J. Atmos. Ocean. Tech.*, 25(4), 579-597, doi: 10.1175/2007JTECHO479.1, 2008.
- Branch, R., A. T. Jessup, P. J. Minnett, and E. L. Key, Comparisons of Shipboard Infrared Sea Surface Skin Temperature Measurements from the CIRIMS and the M-AERI, *J. Atmos. Ocean. Tech.*, 25(4), 598-606, doi: 10.1175/2007JTECHO480.1, 2008.
- Branch, R., W. J. Plant, M. Gade, and A. T. Jessup, Relating Microwave Modulation to Microbreaking Observed in Infrared Imagery, *Geosci. Rem. Sens. Let.*, 5(3), 364-367, 2008.
- Branch, R. and A. T. Jessup, Infrared Signatures of Microbreaking Wave Modulation, *Geosci. Rem. Sens. Let.*, 4(3), 372-376, 2007.
- Farrar, JT, CJ Zappa, RA Weller, AT Jessup, Sea surface temperature signatures of oceanic internal waves in low winds, *J. Geophys. Res.*, 112(C06014), doi:10.1029/2006JC003947, 2007.
- Nalli NR, Clemente-Colon P, Minnett PJ, Szczodrak M, Morris V, Joseph E, Goldberg MD, Barnet CD, Wolf WW, Jessup A, Branch R, Knuteson RO, Feltz WF, Ship-based measurements for infrared sensor validation during Aerosol and Ocean Science Expedition 2004, *J. Geophys. Res.*, 111(D9), D09S04, 2006.
- Jessup, A. T., and K. R. Phadnis, Measurement of the geometric and kinematic properties of microscale breaking waves from infrared imagery using a PIV algorithm, *Meas. Sci. Tech.*, 16, 1961-1969, 2005.
- Wick, G. A. , J. C. Ohlmann, C. W. Fairall, and A. T. Jessup, Improved Oceanic Cool Skin Corrections Using a Refined Solar Penetration Model, *J. Phys. Ocean.*, 35(11), 1986-1996, doi: 10.1175/JPO2803.1, 2005.
- Zappa, C. J. and A. T. Jessup, High Resolution Airborne Infrared Measurements of Ocean Skin Temperature, *Geosci. Remote Sens. Letters*, 2(2), 146-150, 2005
- Asher, W. E., A. T. Jessup, M. A. Atmane, *In situ* measurements the air-sea transfer velocity of heat and gas using the active controlled flux technique, *J. Geophys. Res.*, 109, doi:10.1029/2003JC001862, 2004.
- Atmane, M. A., W. E. Asher, and A. T. Jessup, On the use of the active infrared technique to infer heat and gas transfer velocities at the air-water interface, *J. Geophys. Res.*, 109, doi:10.1029/2003JC001805, 2004.
- Barton, I. J., P. J. Minnett, K. A. Maillet, C. J. Donlon, S. J. Hook, A. T. Jessup, and T. J. Nightingale, The Miami2001 Infrared Radiometer Calibration and Intercomparison. Part II: Shipboard Results, *J. Atmos. Ocean. Tech.*, 21(2), 268-283, 2004.
- Siddiqui, M. H. K., M. R. Loewen, W. E. Asher, and A. T. Jessup, Coherent structures beneath wind waves and their influence on air-water gas transfer, *J. Geophys. Res.*, 109, C03024, doi:10.1029/2002JC001559, 2004.
- Ward, B., R. Wanninkhof, W. McGillis, A. T. Jessup, M. D. Degrandpre, and J. E. Hare, Biases in air-sea flux of CO₂ resulting from ocean surface temperature gradients, *J. Geophys. Res.*, 109, C08S08, doi:10.1029/2003JC001800, 2004.
- Zappa, C. J., W. A. Asher, A. T. Jessup, Microbreaking enhancement of air-water gas transfer, *J. Geophys. Res.*, 109, doi:10.1029/2003JC001897, 2004.
- Siddiqui, M. H. K., M. R. Loewen, C. Richardson, W. E. Asher, A. T. Jessup, Simultaneous particle image velocimetry and infrared imagery of microscale breaking waves, *Physics of Fluids*, 13(7) 1891-1903, 2001.

- Zappa, C. J., W. E. Asher, A. T. Jessup, Microscale wave breaking and air-water gas transfer, *J. Geophys. Res.*, 106(C5) 9385-9391, 2001.
- Zappa, C. J., A. T. Jessup, and H. H. Yeh, Skin-layer recovery of free-surface wakes: Relationship to surface renewal and dependence on heat flux and background turbulence, *J. Geophys. Res.*, 103(C10), 21711-22, 1998.
- Westwater, E. R., Y. Han, V. G. Irisov, V. Y. Leuskiy, Y. G. Trokhimovski, C. W. Fairall, A. T. Jessup, Sea-air and boundary layer temperatures measured by a scanning 5-mm-wavelength radiometer: Recent results, *Radio Sci.*, 33(2), 291-302, 1998.
- Wick, G. A., and A. T. Jessup, Simulation of ocean skin temperature modulation by swell waves, *J. Geophys. Res.*, 103(2), 3149-61, 1998.
- Jessup, A. T., C. J. Zappa, M. R. Loewen, and V. Hesany, Infrared remote sensing of breaking waves, *Nature*, 385, 52-55, 1997a.
- Jessup, A. T., C. J. Zappa, and H. H. Yeh, Defining and quantifying microscale wave breaking with infrared imagery, *J. Geophys. Res.*, 102(10), 23,145-153, 1997b.
- Jessup, A. T., and V. Hesany, Modulation of ocean skin temperature by swell waves, *J. Geophys. Res.*, 101(3), 6501-12, 1996.
- Dahl, P. H., and A. T. Jessup, On bubble clouds produced by breaking waves: An event analysis of ocean acoustic measurements, *J. Geophys. Res.*, 100, 5007-5020, 1995.
- Jessup, A. T., W. K. Melville, and W. C. Keller, Breaking waves affecting microwave backscatter. 1. Detection and verification, *J. Geophys. Res.*, 96, 20547-59, 1991.
- Jessup, A. T., W. K. Melville, and W. C. Keller, Breaking waves affecting microwave backscatter. 2. Dependence on wind and wave conditions, *J. Geophys. Res.*, 96, 20561-9, 1991.
- Melville, W. K., and W. C. Keller, R. H. Stewart J. A. Kong, D. V. Arnold, A. T. Jessup, M. R. Loewen, and A. M. Slinn, Measurements of electromagnetic bias in radar altimetry, *J. Geophys. Res.*, 93, 4915-4934, 1991.
- Jessup, A. T., W. K. Melville, and W. C. Keller, Measurements of sea spikes in microwave backscatter at moderate incidence, *J. Geophys. Res.*, 95, 9679-9688, 1990.
- Melville, W. K., M. R. Loewen, F. C. Felizardo, A. T. Jessup, and M. J. Buckingham, Acoustic and microwave signatures of breaking waves, *Nature*, 336, 54-56, 1988.

OTHER SCHOLARLY ACTIVITY

Guest Lecturer

1. University of Washington, CEWA 520 *Environmental Eng. and Science Seminar* (Civil Eng.), 1996
2. University of Washington, CEWA 520 *Environmental Eng. and Science Seminar* (Civil Eng.), 1994
3. University of Washington, ATMS 699 *Air-Sea Interaction Field Course* (Atmospheric Science), 1993

GRADUATE STUDENTS

PhD Students, University of Washington

Student Name	Department	Completed (Year)
Christopher J. Zappa	Civil and Environmental Engineering	1999

Masters Students, University of Washington

Student Name	Department	Completed (Year)
Kapil Phadnis	Mechanical Engineering	2004
Ruth Fogelberg	Civil and Environmental Engineering	2003
Christine Richardson	Civil and Environmental Engineering	2000
Christopher J. Zappa	Civil and Environmental Engineering	1994
Roy K. Schiff	Civil and Environmental Engineering	1996

Post-doctoral Fellows

Dr. Chris Chickadel, Oregon State University, 2006-2008

Dr. Hannah Liang, California Institute of Technology, 2005-2007

Dr. Mohamed Atmane, Institute of Fluid Mechanics, Toulouse, 2001-2003

Dr. Ellen Lettvin, University of Michigan, 1998 – 2000

Dr. Gary A. Wick, University of Colorado 1995-1996

Dr. Vahid Hesany, University of Kansas 1993-1995 (0.5 FTE)

RESEARCH ACTIVITIES

Current Support

DoD/ONR Multidisciplinary University Research Initiative (MURI)

Remote Sensing and Data-Assimilative Modeling in the Littorals

(DARLA: Data Assimilation and Remote Sensing for Littoral Applications)

\$ 7,913,069: 01 Aug 2010 to 31 Sep 2015

NSF, Physical Oceanography

Spectral Energy Dissipation in Broad-banded Wave Fields (PI: J. Thomson)

\$766,620: 01 Mar 2010 to 28 Feb 2014

NASA, Physical Oceanography

Measurement of Very Near Surface Ocean Salinity Field for Validation of Aquarius (PI: W. Asher)

\$594,654: 01 Sep 2009 to 30 Sep 2013

NSF, Physical Oceanography

A Study of the Efficacy of Conceptual Models for Air-Sea Gas Transfer (PI: W. Asher)

\$655,530: 15 Sep 2009 to 31 Aug 2012

ONR, Electromagnetic Signatures

Infrared Characterization of Sea Foam

\$499,500: 01 Oct 2009 to 31 Sep 2012

DoD/ONR Defense University Research Instrumentation Program (DURIP)

High-Speed Infrared Spectrometer-based Measurement System for Characterizing Wave Breaking and Sea Foam

\$275,622: 15 Jun 2010 to 14 Jun 2011

Previous Support

DoD/ONR Multidisciplinary University Research Initiative (MURI)
Remote Sensing & Modeling of Coherent Structures in River and Estuarine Flows
(COHSTREX – Coherent Structures in Rivers and Estuaries Experiment)
\$5,045,000: 01 Mar 2005 to 31 Dec 2010

ONR, Physical Oceanography
COHSTREX Follow-On Support
\$153,000: 01 Oct 2009 to 31 Dec 2010

NSF, Physical Oceanography
Wave Energy Dissipation and the Distribution of Breaking Crests
\$501,544: 01 Apr 2006 to 31 Mar 2009

ONR, Physical Oceanography
Wave Energy Dissipation and the Distribution of Breaking Crests
\$200,000: 1 Oct 2006 to 31 Sep 2009

NSF, Physical Oceanography
Laboratory Investigations of Heat and Gas Transfer at an Air-Water Interface (with W. Asher, APL-UW)
\$676,824: 1 Oct 2004 to 30 Sep 2008

DoD/ONR Defense University Research Instrumentation Program (DURIP)
Lighter-than-Air Imaging System using Multiple, Uncooled Infrared Cameras
\$299,744: 15 Jun 2007 – 31 Dec 2008

NOPP (National Ocean Partnership Program)
A Prototype System for Improving Satellite-Derived SST through Enhanced In-Situ Validation
\$375,034: 15 Jan 2003 – 14 Apr 2006

ONR, Electromagnetic Signatures
The Infrared Signature of Microscale Breaking Waves
\$295,120: 1 Mar 2004 to 28 Feb 2006

ONR, Remote Sensing
Analysis of Infrared Measurements of Microbreaking and Whitecaps
\$505,000: 4 Apr 2002 to 30 Sep 2004

ONR, CBLAST DRI (Coupled Boundary Layer Air-Sea Transfer Dept. Research Initiative)
Airborne Infrared Measurements for CBLAST-LOW
\$357,058: 1 Jan 2001 to 31 Dec 2004

NSF, Physical Oceanography
The Influence of Microscale Breaking on Gas Transfer Using Infrared Techniques
\$780,000: 1 Apr 2000 - 30 Sep 2004 (with W. Asher, APL-UW)

University of Washington, Applied Physics Laboratory
NOPP Matching Funds
\$24,000: 1 Oct 2003 – 30 Sep 2004

University of Washington, Applied Physics Laboratory
Installation of Through-the-Hull Temperature Sensors on R/V *Thomas G. Thompson*
\$36,000: 1 Dec 2004 – 30 Sep 2004

ONR, Electromagnetic Signatures
Analysis of Infrared Measurements of Microbreaking and Whitecaps
\$505,000: 04/04/02 – 09/30/04

ONR Defense University Research Instrumentation Program (DURIP)
Longwave Infrared Imaging System
\$199,905: 1 Apr 2001 – 31 Mar 2002

ONR, Space and Remote Sensing
FAIRS Experiment: Fluxes, Air-sea Interaction, and Remote Sensing
\$415,435: 1 Oct 1999- 30 Sep 2001

University of Washington, Applied Physics Laboratory
Engineering, Post-Doctoral Fellow, and Graduate Student Support
\$127,000: 1 Oct 1999 – 30 Sep 2002

NASA, Physical Oceanography Program
Evaluation of Oceanic Skin Temperature Models using Long-Term Measurements
\$435,349: 1 Jun 1998 - 30 Dec 2001

NASA, EOS Program
Broadband Infrared Thermometer Measurements for MODIS Validation
\$761,287: 1 Oct 1997 - 30 Sep 2001

ONR, Augmentation Award for Sci. and Eng. Research Training (AASERT)
Research Training (AASERT): Ocean Surface Roughness Modulation
\$182,729: 1 Apr 1998 - 31 Mar 2001

University of Washington, Applied Physics Laboratory
Post-Doctoral Support
\$63,000: 1 Sep 1998 – 31 Aug 1999

ONR, Space and Remote Sensing
Infrared Characterization of Surface Roughness Modulation by Microscale Wave Breaking
\$300,000: 1 Oct 1997- 30 Sep 1999

ONR, Defense University Research Instrumentation Program (DURIP)
Infrared System for Airborne Measurements of Littoral Zone Features
\$157,096: 1 Mar 1997 – 28 Feb 1998

University of Washington, Applied Physics Laboratory
Matching Grant for ONR DURIP
\$19,525: 1 Mar 1997 – 28 Feb 1998

NSF, Physical Oceanography
The Influence of Microscale Breaking on Gas Transfer Using Infrared Techniques
\$467,000: 1 Nov 1996 - 30 Oct 1999 (with W. E. Asher, co-PI, APL-UW)

ONR, Augmentation Award for Sci. and Eng. Research Training (AASERT)
Modulation of Ocean Skin Temperature by Swell Waves
\$179,266: 1 Jun 1995 – 31 May 1998

ONR, Space and Remote Sensing
Effect of Waves and Wave Breaking on IR Measurements of SST
\$356,000: 1 Oct 1995- 30 Sep 1997

University of Washington, College of Ocean and Fisheries Science
Research Faculty Fellowship: Microscale Wave Breaking Studies using IR Imagery
3 mm salary support: 1 Jul 1995 – 30 Jun 1996

University of Washington, Applied Physics Laboratory
Equipment Grant
\$24,866: 1 Oct 1994 – 30 Sep 1995

ONR – Applied Research Laboratory Program
The Infrared Signature of Free Surface Wakes
\$187,667: 1 Oct 1993 – 30 Sep 1996 (with Co-I Harry Yeh, Civil Engineering, UW)

NASA, Physical Oceanography
Small-scale Variability of Infrared Sea Surface Temperature
\$387,000: 1 Oct 1991 – 31 Dec 1995

ONR, Space and Remote Sensing
Modeling and Estimation of heat flux due to breaking waves using IR techniques
\$357,298: 1 Oct 1993- 30 Sep 1995

ONR Code 124
Simultaneous Microwave and Acoustic Measurements of Breaking Waves
\$329,980: 1 Oct 1991 – 30 Sep 1993 (with P. Dahl, Co-PI, APL-UW)

ONR, Space and Remote Sensing
The Influence of Breaking Waves and Surface Slicks on IR SST Measurements
\$297,597: 1 May 1991 – 30 Sep 1993

University of Washington, Applied Physics Laboratory
\$21,600: 1 May 1991 – 30 Sep 1993
Equipment Grant

Pending Proposals

DoD/ONR Defense University Research Instrumentation Program (DURIP)
Enhanced Remote Sensing Capabilities for DARLA: Data Assimilation and Remote Sensing for Littoral Applications
\$302,171: 15 Jun 2011 to 14 Jun 2012

Experimental Measurement Campaigns

Ongoing: Laboratory experiments in UW Harris Hydraulic Laboratory

- Role of subsurface turbulence in heat and gas transfer (wind /turbulence tank)
- Investigation of the infrared signature of breaking waves and foam (wave tank)

- Fall 2010 (2 weeks): Preliminary experiment for DARLA at the USACE Field Research Facility at Duck, NC to investigate the application of infrared techniques in the nearshore zone
- 2005, 2006, 2008, 2009: COHSTREX field campaigns on Snohomish River, Everett, WA.
Investigation of remotely-sensed signatures of coherent flow structures in rivers.
- 2003-2007: Long-term IR and contact SST measurements for satellite validation aboard NOAA R/V Ronald H. Brown and UW R/V Thomas G. Thompson
- Summer 2004 (6 weeks): NASA Wallops Island Air-Sea Interaction Facility
Laboratory investigations of the role of microscale wave breaking in gas transfer and the modulation of skin temperature by swell waves
- Summers: 2001-2003 CBLAST-LOW Experiments, Airborne IR of SST spatial variability
- Spring 2001 (4 weeks): GasEx II Cruise, NOAA R/V Brown (Equatorial Pacific), IR imagery and radiometry for gas transfer (with W. E. Asher, APL-UW)
- Fall 2000 (32 days): FAIRS Experiment, Chief Scientist, R/P FLIP off Monterey, CA. Investigate effect of ocean surface wave processes on air-sea fluxes using remote sensing techniques (infrared, passive and active microwave)
- Spring 1999 (2 weeks): Airborne measurements in Gulf of Mexico
IR signature of microscale wave breaking for comparison to radar backscatter (w/ W. Plant, APL/UW)
- Fall 1998 (4 weeks): NASA Wallops Island Air-Sea Interaction Facility
Laboratory investigations of the role of microscale wave breaking in gas transfer and modulation of skin temperature by swell waves
- Summer 1998 (6 weeks): GasEx Cruise, NOAA R/V Brown (N. Atlantic)
IR imagery and radiometry and towed thermistor chain for comparison to gas transfer study and SST validation
- Spring 1996 (3 weeks): FISLE Cruise, NOAA R/V Baldrige (Gulf of Mexico)
IR imagery and radiometry for gas transfer and SST validation
- Fall 1995 (4 weeks): COPE Experiment aboard R/P FLIP (Oregon Coast)
IR imagery and radiometry and wave following thermistor chain for study of internal waves in coastal region
- Summer 1994 (2 weeks): Canada Centre for Inland Waters (Burlington, Ontario, Canada)
Laboratory investigation of IR signature of breaking waves
- Fall 1993 (4 weeks): BlimpEx (Oregon Coast)
IR imagery from airship in conjunction with wave-following thermistor chain towed from a surface ship for study of effect of waves, slicks, and estuarine outflow in coastal region
- Spring 1992 (2 weeks): LeadEx (Arctic Ocean off Prudhoe Bay)
Airborne IR imagery and radiometry for study of ice and lead dynamics

Winter 1992: APL/UW Experiment on R/P FLIP (400 n. mi. off S. California)
Microwave measurements of breaking waves for comparison to acoustic measurements
(with P. Dahl, APL/UW) and IR imagery and radiometry for study of large-scale wave
breaking and modulation of SST by waves

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations

Course	Title	Quarter	Credit Hrs	Enrollment	Evaluations? Response	Item 1	Item 3	Item 4	Average, Items 1-4
CEE 473	Intro. to Coastal Engineering	2002	3	5	5	4.2	4.2	4.8	4.2
CEE 473	Intro. to Coastal Engineering	2001	3	11	6	4.14	4.38	3.92	4.19
OCEAN 529a	Air-Water Transfer of Heat and Gas	1995							

SERVICE

Departmental service

2007-date Chair, Air-Sea Interaction and Remote Sensing Department, APL-UW
1997-2000 Applied Physics Laboratory "AIRS" Strategic Initiative to establish a new department of Air-Sea Interaction and Remote Sensing
1998 Panel Member, Applied Physics Laboratory Self-Study Report to the Dean

College service

2004-2006 APL Representative to College of Ocean and Fisheries Sciences Council
1997-1999 Alternate Member of College of Ocean and Fisheries Sciences Council

Professional society and other service

2007-date Organizing Committee, NASA Sea Surface Temperature Science Team

2010 Local Host, NASA SST Science Team Meeting

2010 Organizer, Special Session on Turbulence in Rivers, AGU Fall Mtg.

2010 Member of Program Committee, 6th International Symposium on Gas Transfer at Water Surfaces, Kyoto, Japan

2007 JASON briefing, Ocean and Riverine Depth

2004 Technical Program Committee, APS Division of Fluid Mechanics Meeting

2003-2004 Guest Editor, Special Issue on Air-Sea Exchange, J. Geophysical Research

2004 Member, Local Organizing Committee for 2004 American Physical Society, Division of Fluid Mechanics Annual Meeting

- 2002, 2004 Organizer, Special Session on Air-Sea Exchange, AGU Ocean Sciences Mtg.
- 2000 Member of Program Committee, 4th International Symposium on Gas Transfer at Water Surfaces, Miami.
- 1998 Member of Technical Committee and Chairman of Invited Session, IGARSS 98 (Int. Geosci. Remote Sens. Sympos.), Seattle, Washington.
- 1998 Invited Speaker, CASOTS International Workshop (Combined Action to Study the Oceans Thermal Skin), Ispra, Italy.