

VITA

PERSONAL

Name: Eric A. D'Asaro
Address: Applied Physics Laboratory
University of Washington
1013 NE 40th Str, Box 355640
Seattle, Washington 98105-6698
Citizenship: U.S.

EDUCATION

B.A., 1976, Harvard University, Cambridge, Massachusetts (Physics)
M.S., 1976, Harvard University (Applied Physics)
Ph.D., 1980, Massachusetts Institute of Technology, Woods Hole Oceanographic
Institution, Cambridge, Massachusetts (Oceanography)
Dissertation: "Structure and dynamics of the benthic boundary layer above the Hatteras
Abyssal Plain"

HONORS AND AWARDS

Sverdrup Gold Medal, American Meteorological Society, 2011
Fellow, American Geophysical Union, 2010
Fellow, American Meteorological Society, 2011
National Science Foundation Graduate Fellowship, 1977-79
College of Ocean Fishery and Sciences Distinguished Research Award, 1989
Research Faculty Fellowship, College of Ocean and Fishery Sciences, 1991

EMPLOYMENT

1994 - Professor, School of Oceanography, University of Washington
Senior Principal Oceanographer, Applied Physics Laboratory
1990 - 1994 Associate Professor, School of Oceanography, University of Washington
1990 - Principal Oceanographer, Applied Physics Laboratory
1987 - 1990 Senior Oceanographer, Applied Physics Laboratory
1987 - 1990 Research Associate Professor, School of Oceanography
1982 - 1986 Research Assistant Professor, School of Oceanography
1982 - 1986 Oceanographer, Applied Physics Laboratory, University of Washington
1980 - 1982 Postdoctoral Research Associate, School of
Oceanography, University of Washington, Seattle, Washington

PROFESSIONAL ACTIVITIES

National Committees:

Chief Scientist, Impact of Typhoons on Pacific, 2010
Chairman, Ocean Storms Executive Committee
WOCE Surface Layer Planning Group

University Committees:

Chairman, Ocean Physics Dept., APL, 1990, 1993, 1998, 2004, 2011
Member, COFS College Council, 1988-90, Alternate 2008-09
Chair, COFS College Council, 1996-7
Chair, APL Council, 2002-2005
Member, APL Director Search Committee
Member, School of Oceanography Faculty Council, 2006-2007

Membership in Professional Societies:

Sigma Xi
American Geophysical Union
American Meteorological Society
Oceanography Society

Reviewer for

Atmosphere-Ocean	Limnology and Oceanography
Dynamics of Atmos. Oceans	Ocean Modelling
Fluid Dynamics Research	Phys. Fluids.
J. Phys. Ocean. – Assoc. Editor	Geophys. Res. Letters
J. Marine Res.	Annals of Glaciology
J. Marine Systems	J. Atmos. Sciences
J. Geophysical Research	Prog. Oceanogr.
J. Fluid Mech.	Continental Shelf Research
J. Atmos. Oceanic Technol.	Deep Sea Research

TEACHING

Courses Taught:

Oceanography 512, Oceanic Turbulence, 1983, Oceanography 548A, Oceanographic Data Analysis, 1985
Oceanography 548A, Upper Ocean Dynamics, 1987
Oceanography 548A, Polar Oceanography, 1991
Ocean 499 (2), Senior Research Projects, 1995 (two quarters)
Ocean 460 (2), Senior Research Projects, 1996 (two quarters)
Ocean 443/444, Senior Research Projects, 2001, 2004, 2008, 2010 (two quarters)
Ocean 500 , First year faculty lectures, Fall & Winter 2005/6, 2006/7

Students Granted Higher Degrees:

Mark Morehead, Physical Oceanography, M.S., 1988
Kraig Winters, Mathematics, Ph.D., 1989
Paulette Struckman, Oceanography, M.S., 1994
David Myers, Oceanography, M.S., 1995

Elizabeth Steffen, Oceanography, Ph.D., 2003
Eric Rehm, Oceanography, M.S. 2008
Rosalinda Fortier, Oceanography, M.S. 2011

Graduate Students Presently Supported:

Eric Rehm, 2004 – present
Rosalinda Fortier 2010-present

Post-Docs Supported:

Tim Boyd, 1989-93
Kraig Winters, 1989-91
Ren-Chieh Lien, 1995-96
Matthew Alkire, 2010-2011
Andre Shcherbina, 2009-2011

REFEREED PUBLICATIONS

- D'Asaro, E.A. (1978), Mixed layer velocities induced by internal waves. *Journal of Geophysical Research*, 83: 2437-2438.
- Armi, L. and E. A. D'Asaro (1980), Flow structures of the Benthic Ocean. *Journal of Geophysical Research*, 85: 469-483.
- D'Asaro, E. A. (1981), Velocity structure in the Benthic Ocean. *Journal of Physical Oceanography*, 12: 323-336.
- D'Asaro, E.A. (1981), Absorption of internal waves by the Benthic boundary layer. *Journal of Physical Oceanography*, 14: 489-505
- D'Asaro, E.A. and H. Perkins (1984), A near-internal wave spectrum for the Sargasso Sea in late summer. *Journal of Physical Oceanography*, 14: 489-505.
- D'Asaro, E.A. and P. Muller (1984), New directions in internal wave and microstructure research. *EOS*, 65: 378-380.
- D'Asaro, E.A. (1984), Wind forced internal waves in the North Pacific and Sargasso Sea. *Journal of Physical Oceanography*, 14: 781-794.
- D'Asaro, E.A. (1985), Upper ocean temperature structure, inertial currents, and Richardson numbers observed during strong meteorological forcing. *Journal of Physical Oceanography*, 15: 943-962.
- D'Asaro, E.A. (1985), The energy flux from the wind to near-inertial motions in the surface mixed layer. *Journal of Physical Oceanography*, 15: 1043-1059.
- Gregg, M.C., E.A. D'Asaro, T.J. Shay and N. Larson (1986), Observations of persistent mixing and near-inertial waves. *Journal of Physical Oceanography*, 16: 856-885.
- D'Asaro, E.A. (1988), Generation of submesoscale vortices: a new mechanism. *Journal of Geophysical Research*, 93: 6685-6693.

- D'Asaro, E.A. (1988), Observations of small eddies in the Beaufort Sea. *Journal Geophysical Research*, 93: 6669-6693.
- D'Asaro, E.A. (1989), The decay of wind-forced mixed layer inertial oscillations due to the β -effect. *Journal of Geophysical Research*, 94: 2045-2056.
- Winters, K.B. and E.A. D'Asaro (1989), Two-dimensional instability of amplitude internal gravity wave packets near a critical level. *Journal of Geophysical Research*, 94: 12,709-12,719.
- Morehead, Mark D. and E. A. D'Asaro (1990), Internal Waves and Velocity Fine Structure in the Arctic Ocean. *Journal of Geophysical Research*, 96, 12,725-12,738.
- Muller, Peter, Eric D'Asaro and Greg Holloway (1992), Internal gravity waves and mixing. *EOS, Transactions, American Geophysical Union*, Vol. 73, No. 3, pp. 25 & 31-32.
- D'Asaro, Eric A. (1992), Estimation of velocity from ARGOS-tracked surface drifters during OCEAN STORMS. *Journal of Atmospheric and Oceanic Technology*, 9(5): 680-686.
- D'Asaro, Eric A. and James H. Morison (1992), Internal waves and mixing in the Arctic Ocean. *Deep-Sea Research*, 39(2): S459-S484.
- Winters, K. B. and E. A. D'Asaro (1994), 3-D wave breaking near a critical level. *Journal of Fluid Mechanics*, 272, 255-284..
- Boyd, T. and E. D'Asaro (1993), Cooling of the West Spitzbergen Current. *J. Geophys. Res.*, 99(C11), 22,597-22618.
- Morison, J., R. Andersen, N. Larson, E. D'Asaro, T. Boyd (1994), The correction for thermal inertial effects in Sea-Bird CTD data. *J. Atmos. Oceanic Tech.*, 22(4), 1152-1164.
- D'Asaro, E.A., S. Walker and E. Baker (1994), Structure of two hydrothermal megaplumes. *J. Geophys. Res.*, 99(C10), 20,361-20,373.
- Winters, K.B. and E. A. D'Asaro (1994), Three-dimensional wave instability near a critical level, *J. Fluid Mech.*, 272, 255-284.
- Winters, K.B., P. N. Lombard, J.J. Riley and E.A. D'Asaro (1995), Available potential energy and mixing in density stratified fluids. *J. Fluid Mech.*, 289, 115-128.
- D'Asaro, E.A., C.C. Eriksen, M.A. Levine, P. Niiler, C.A. Paulson and P. van Meurs, (1995), Upper ocean inertial currents forced by a strong storm. Part I: Data and comparisons with linear theory. *J. Phys. Oceanogr.*, 25, 2909-2936..
- D'Asaro, E.A. (1995), Upper ocean inertial currents forced by a strong storm. Part II: Modelling. *J. Phys. Oceanogr.*, 25, 2937-2952.
- D'Asaro, E.A. (1995), Upper ocean inertial currents forced by a strong storm. Part III: Interaction of inertial currents and mesoscale eddies, *J. Phys. Oceanogr.*, 25, 2953-2958.
- D'Asaro, E.A., D.M. Farmer, J.T. Osse, G. T. Dairiki (1996), A Lagrangian float, *J. Atmos. & Oceanic Tech.*, 13(6), 1230-1246.

- Winters, K.B. and E.A. D'Asaro (1996), Diascalar flux and the rate of fluid mixing. *J. Fluid Dyn.*, 317, 179-193.
- Winters, K. B. And E.A. D'Asaro (1997), Direct simulation of internal wave energy transfer. *J. Phys. Oceanogr.*, 27, 1937-1945.
- D'Asaro, Eric and G. Dairiki (1997), Turbulence intensity measurements in a wind driven mixed layer, *J. Phys. Oceanogr.*, 27, 2009-2022.
- Lien, R-C., E. D'Asaro and G. Dairiki (1998), Lagrangian frequency spectra of vertical velocity and vorticity in high-Reynolds-number oceanic turbulence, *J. Fluid Mech.*, 362, 177-198.
- Farmer, David M., E. A. D'Asaro, M. V. Trevorrow, G. T. Dairiki (1997), Three-dimensional structure in a tidal convergence front, *Continental Shelf Research*, 15 (13), 1649-1673.
- Group, The Lab Sea (1998) The Labrador Sea Deep Convection Experiment. Bulletin of the American Meteorological Society: Vol. 79, No. 10, pp. 2033 - 2058.
- D'Asaro, E. A., and R.-C. Lien (1999), Waves, turbulence, and mixing parameterization, *'Aha Huliko'a proceedings, Hawaiian Winter Workshop*, P. Muller and D. Henderson eds. University of Hawaii, 269-278.
- D'Asaro, E., and R-C. Lien (2000), The wave-turbulence transition in stratified flows. *J. Phys. Oceanogr.*, 30, 1669-1678.
- D'Asaro, E.A., R.C. Lien (2000), Lagrangian measurements of waves and turbulence in stratified flows, *J. Phys. Ocean.*, 30, 641-655.
- Evens, T.J., D.J. Chapman, R.A. Robbins and E.A. D'Asaro (2000), An analytical flat-plate photobioreactor with a spectrally attenuated light source for the incubation of phytoplankton under dynamic light regimes, *Hydrobiologia*, 434: 55-62.
- D'Asaro, E.A. (2000), Langmuir circulation and oil spills: A tale of two tribes, *Spill Science & Technology Bulletin*, Vol. 6, No. 3/4, p. 207-211.
- Harcourt, R.R., E. L. Steffen, R. W. Garwood, E. A. D'Asaro (2002), Fully Lagrangian floats in Labrador Sea deep convection: Comparison of numerical and experimental results. *J. Phys. Oceanogr.*, 32, 493 - 510.
- Lien, R.-C., E.A. D'Asaro and M.J. McPhaden (2002), Internal waves and turbulence in the upper central equatorial Pacific: Lagrangian and Eulerian observations, *J. Phys. Oceanogr.*, 32, 2619-2639.
- D'Asaro, E.A., K.B. Winters, and R-C Lien (2002), Lagrangian analysis of a convective mixed layer, *J. Geophys. Res.*, 107(C5), 10.1029/2000JC000247.
- Lien, R-C. and E.A. D'Asaro (2002), The Kolmogorov constant for the Lagrangian velocity spectrum and structure function, *Phys. of Fluids*, 14, 4456-4459.
- Steffen, E.L. and E.A. D'Asaro (2002), Deep convection in the Labrador Sea as observed by Lagrangian floats. *J. Phys. Oceanogr.*, 32, 475-492.
- D'Asaro, E.A. (2001), Turbulent vertical kinetic intensity in the ocean mixed layer, *J. Phys. Oceanogr.*, 31, 3530-3537.

- D'Asaro, E.A. (2002), Performance of autonomous Lagrangian floats, *J. Atmos. Oceanic Tech.*, 20, 6, 896-911
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- D'Asaro, E.A. (2003), The ocean boundary layer below Hurricane Dennis, *J Phys. Oceanogr.*, 33, 561-579.
- Steffen, E.L. and E.A. D'Asaro (2004), Meso-and submesoscale structure of a convecting field. *J. Phys. Oceanogr.*, 34(1), 44-60.
- D'Asaro, E.A., (2004), Air-Sea Heat flux measurements from nearly neutrally buoyant floats, *J. Atmos. & Oceanic Tech.*, Vol. 21, No. 7, pp. 1086–1094.
- D'Asaro, E. A. and K.B. Winters, K. B. and R.C. Lien, (2004), Lagrangian estimates of diapycnal mixing in a simulated KH instability, *J. Atmos. & Oceanic Tech.*, 21, 5, pp. 799–809.
- Ren-Chieh Lien and Eric A. D'Asaro. 2004, Lagrangian spectra and diapycnal mixing in stratified flow. *J. Phys. Oceanogr.*, 34, 4, pp. 978–984.
- D'Asaro, E.A. (2004), Lagrangian trajectories on the Oregon Shelf during upwelling, *Continental Shelf Research*, 24, Issues 13-14, 1421-1436.
- Ruo-Shan Tseng and Eric A. D'Asaro. 2004, Measurements of turbulent vertical kinetic energy in the ocean mixed layer from Lagrangian floats. *J. Phys. Oceanogr.*, 34, No. 9, pp. 1984–1990.
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- D'Asaro, Eric, Ren-Chieh Lien, 2007, Measurement of Scalar variance dissipation from

- Lagrangian floats, , *J. Atmos. & Oceanic Tech.*, (24), 1066-1077, DOI: 10.1175/JTECH2031.1
- D'Asaro, Eric, Craig McNeil, 2007, Air-Sea gas exchange at extreme wind speeds, *J. Marine Sys.*, 66 (2007) 92–109
- McNeil, Craig, Eric and D'Asaro, 2007, Parameterization of Air-Sea gas fluxes at extreme wind speeds, *J. Marine Sys.*, 66 (2007) 110–121
- Peter G., Eric A. D'Asaro, William M. Drennan, Jeffrey R. French, Pearn P. Niiler, Thomas B. Sanford, Eric J. Terrill, Edward J. Walsh and Jun A. Zhang, 2007, Air-Sea Exchange in Hurricanes: Synthesis of Observations from the Coupled Boundary Layer Air-Sea Transfer Experiment, *Bull. Am. Met. Soc.*, 88, 3, 357-74 DOI:10.1175/BAMS-88-3-357
- D'Asaro, Eric, Ren-Chieh Lien, Frank Henyey, 2007, High frequency internal waves on the Oregon Continental Shelf, *J. Phys. Oceanogr.*, (37), 1956-1967, DOI: 10.1175/JPO3096.1
- D'Asaro, Eric, 2007, Solar Power for Autonomous Floats, *J. Atmos. & Oceanic Tech.*, (24), 1309-1314, DOI: 10.1175/JTECH2041.1
- D'Asaro, Eric A., 2008, Convection and the seeding of the North Atlantic Bloom, *J. Mar. Systems*, (69), 233-237, doi:10.1016/j.jmarsys.2005.08.005
- Harcourt, R, Eric D'Asaro, 2008, Large Eddy Simulation of Langmuir Turbulence in pure wind seas, *J. Phys. Oceanogr.*, 38, 1542-1562, DOI: 10.1175/2007JPO3842.1
- D'Asaro, E., (2008), A diapycnal mixing budget on the Oregon shelf, *Limnol. Oceanogr.*, 53(5, part 2), 2008, 2137–2150
- Lien, R.C., E. D'Asaro, C. Menkes, (2008), Modulation of equatorial turbulence by tropical instability waves, *Geophys. Res. Letters*, 35, L24607, doi:10.1029/2008GL035860
- Brooks, Ian M., Yelland, Margaret J., Upstill-Goddard, Robert C., Nightingale, Phillip D., Archer, Steve, d'Asaro, Eric, Beale, Rachael, Beattie, Cory, Blomquist, Byron, Bloom, Anthony A., Brooks, Barbara J., Cluderay, John, Coles, David, Dacey, John, DeGrandpre, Michael, Dixon, Jo, Drennan, William M., Gabriele, Joseph, Goldsen, Laura, Hardman-Mountford, Nick, Hill, Martin K., Horn, Matt, Hsueh, Ping-Chang, Huebert, Barry, de Leeuw, Gerrit, Leighton, Timothy G., Liddicot, Malcolm, Lingard, Justin J. N., McNeil, Craig, McQuaid, James B., Moat, Ben I., Moore, Gerald, Neill, Craig, Norris, Sarah J., O'Doherty, Simon, Pascal, Robin W., Prytherch, John, Rebozo, Mike, Sahlee, Erik, Salter, Matt, Schuster, Ute, Skjelvan, Ingunn, Slagter, Hans, Smith, Michael H., Smith, Paul D., Srokosz, Meric, Stephens, John A., Taylor, Peter K., Telszewski, Maciej, Walsh, Roisin, Ward, Brian, Woolf, David K., Young, Dickon and Zemmelenk, Henk (2009) Physical exchanges at the air-sea interface: UK-SOLAS Field Measurements. *Bulletin of the American Meteorological Society*, 90, (5), 629-644. doi:10.1175/2008BAMS2578.1
- Harcourt, Ramsey R., Eric A. D'Asaro, 2010: Measurement of Vertical Kinetic Energy and Vertical Velocity Skewness in Oceanic Boundary Layers by Imperfectly Lagrangian Floats. *J. Atmos. Oceanic Technol.*, 27, 1918–1935. doi: 10.1175/2010JTECHO731.1

Martin, Patrick, Lampitt, Richard S., Perry, Mary Jane, Sanders, Richard, Lee, Craig and D'Asaro, Eric (2011) Export and mesopelagic particle flux during a North Atlantic spring diatom bloom. *Deep Sea Research Part I, Oceanographic Research Papers*, 58, (4), 338-349. doi:10.1016/j.dsr.2011.01.006

D'Asaro, E., C. Lee, L. Rainville, R. Harcourt, and L. Thomas, 2011, Enhanced turbulence and energy dissipation at ocean fronts, *Science*, 332, 318-322, doi:0.1126/science.1201515

Matthew B. Alkire, Ph.D.; Eric D'Asaro; Craig Lee; Mary Jane Perry; Amanda Gray; Ivona Cetinić; Nathan Briggs; Eric Rehm; Emily Kallin; Jan Kaiser; Alba González-Posada, 2011, Estimates of net community production and export using high-resolution, Lagrangian measurements of O₂, NO₃⁻, and POC through the evolution of a spring diatom bloom in the North Atlantic, *Deep Sea Research Part I, Oceanographic Research Papers*, 64, June 2012, Pages 157-174, ISSN 0967-0637, 10.1016/j.dsr.2012.01.012.

W. Bagniewski, K. Fennel, M. J. Perry, and E. A. D'Asaro, 2010, Optimizing models of the North Atlantic spring bloom using physical, chemical and bio-optical observations from a Lagrangian float, *Biogeosciences Discuss.* 7, 1–44, 2010 www.biogeosciences-discuss.net/7/1/2010/ doi:10.5194/bgd-7-1-2010

Zhao, Z., and E. D'Asaro (2011), A perfect focus of the internal tide from the Mariana Arc, *Geophys. Res. Lett.*, 38, L14609, doi:10.1029/2011GL047909

D'Asaro, E., P. Black, L. Centurioni, P. Harr, S. Jayne, I.-I. Lin, C. Lee, J. Morzel, R. Mrvaljevic, P.P. Niiler, L. Rainville, T. Sanford, and T.Y. Tang. 2011. Typhoon-ocean interaction in the western North Pacific: Part 1. *Oceanography*, 24(4):24–31, doi:10.5670/oceanog.2011.91.

Nathan Briggs, Mary Jane Perry, Ivona Cetinić, Craig Lee, Eric D'Asaro, Amanda M. Gray, Eric Rehm, High-resolution observations of aggregate flux during a sub-polar North Atlantic spring bloom, 2011, *Deep Sea Research, Part I: Oceanographic Research Papers*, 58, 10, 1031-1039, ISSN 0967-0637, 10.1016/j.dsr.2011.07.007.

Fennel, K., I. Cetinić, E. D'Asaro, C. Lee, and M. J. Perry, 2011, Autonomous data describe North Atlantic spring bloom, *Eos Trans. AGU*, 92(50), 465, doi:10.1029/2011EO500002.

Lien, Ren-Chieh, Eric A. D'Asaro, Frank Henyey, Ming-Huei Chang, Tswen-Yung Tang, Yiing-Jang Yang, 2012, Trapped Core Formation within a Shoaling Nonlinear Internal Wave. *J. Phys. Oceanogr.*, 42, 511–525. doi: 10.1175/2011JPO4578.1

Amala Mahadevan, Eric D'Asaro, Craig Lee, Mary Jane Perry, 2012, Eddy-driven stratification initiates the North Atlantic Spring phytoplankton bloom, *Science*, in press

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