
CURRICULUM VITAE

MILES A. SUNDERMEYER, Ph.D

Associate Professor w/ Tenure
Department of Estuarine and Ocean Sciences
School for Marine Science and Technology
University of Massachusetts Dartmouth
706 S. Rodney French Blvd.
New Bedford, MA 02744

voice: (508) 999-8892

fax: (508) 999-8197

email: msundermeyer@umassd.edu

<http://www.smast.umassd.edu/msundermeyer/>

1. HIGHER EDUCATION

- Ph. D. Massachusetts Institute of Technology / Woods Hole Oceanographic Institution Joint Program in Physical Oceanography, September, 1998.
Thesis: “Studies of Lateral Dispersion in the Ocean.” Thesis advisors, Dr. James Ledwell and Dr. Kenneth Brink.
- Sc. M. Massachusetts Institute of Technology / Woods Hole Oceanographic Institution Joint Program in Physical Oceanography, September, 1995.
Thesis: “Isopycnal Mixing in the North Atlantic Tracer Release Experiment: Observations and Numerical Simulations of Lagrangian Particles and Passive Tracer.” Thesis advisor, Dr. James Price.
- B. A. Departments of Physics, University of California, Santa Cruz, June 1991.
Thesis: “Dimensional Analysis of Low-order Atmospheric Models.” Thesis advisor, Prof. Geoffrey Vallis.
Department of Mathematics, University of California, Santa Cruz, June 1991.
Senior Project: A review of the chaotic behavior of non-linear dynamical systems.

August 1998-August 2000

Postdoctoral Fellow

Center for Marine Science and Technology
University of Massachusetts Dartmouth.

2. TEACHING EXPERIENCE

February 2001-Present

Associate Professor w/ Tenure (Sept. 2006-Present)

Assistant Professor (Feb. 2001-Aug. 2006)

School for Marine Science and Technology
University of Massachusetts Dartmouth.

September – December, 2010

Affiliate Faculty

College of Oceanic and Atmospheric Sciences
Oregon State University, Corvallis

Fall 1999

Lecturer

Massachusetts Maritime Academy

3. OTHER EXPERIENCE

August 1998-Present

Guest/Visiting Investigator

Department of Applied Ocean Physics and Engineering
Woods Hole Oceanographic Institution

August 2000-February 2001

Research Associate

1992-1998	School for Marine Science and Technology University of Massachusetts Dartmouth Graduate Research Assistant Department of Physical Oceanography Woods Hole Oceanographic Institution
1991-1992	Research Assistant Department of Physics University of California, Santa Cruz.
Spring 1990, Fall 1989, Winter, 1988	Teaching Assistant Department of Mathematics University of California, Santa Cruz.
1988-1989	Laboratory Assistant Max Planck Institute für Strömungsforschung Göttingen, Germany.

4. ACADEMIC AND PROFESSIONAL HONORS

Honors awarded for Bachelors thesis in physics

Education abroad student at the University of Göttingen, Germany, 1988-1989

5. SCHOLARSHIP AND PROFESSIONAL ACTIVITIES:

REFEREED PUBLICATIONS

Notes:

* Primary author was Dr. Sundermeyer's student, publication was part of student's ScM. or Ph.D. thesis.

** Primary author was Dr. Sundermeyer's Postdoctoral Fellow, publication was part of Postdoc's research at UMassD.

1. Kunze, E, and **M. A. Sundermeyer**, 2015. The Role of Intermittency in Internal-Wave Shear Dispersion, *J. Phys Oceanogr.*, In Press.
2. Shcherbina, A., **M. A. Sundermeyer**, E. Kunze, E. D'Asaro, G. Badin, D. Birch, A.M.E.G. Brunner-Suzuki, J. Callies, B.T. Kuebel Cervantes, M. Claret, B. Concannon, J. Early, R. Ferrari, L. Goodman, R.R. Harcourt, J.M. Klymak, C.M. Lee, M.-P. Lelong, M.D. Levine, R.-C. Lien, A. Mahadevan, J.C. McWilliams, M.J. Molemaker, S. Mukherjee, J.D. Nash, T. Özgökmen, S.D. Pierce, S. Ramachandran, R.M. Samelson, T.B. Sanford, R.K. Shearman, E.D. Skillingstad, K.S. Smith, A. Tandon, J.R. Taylor, E.A. Terray, L.N. Thomas, and J.R. Ledwell, 2015. The LatMix Summer Campaign: Submesoscale Stirring in the Upper Ocean. *Bull. Amer. Meteor. Soc. (BAMS)*. **96**, 1257–1279. doi:10.1175/BAMS-D-14-00015.1.
3. Kunze, E., J.M. Klymak, R.-C. Lien, R. Ferrari, C.M. Lee, **M. A. Sundermeyer**, and L. Goodman, 2015. Submesoscale Water-Mass Spectra in the Sargasso Sea, *J. Phys Oceanogr.*, **45** (5), 1325–1338, doi:10.1175/JPO-D-14-0108.1.
4. **Sundermeyer, M. A.**, E. Skillingstad, J. Ledwell, B. Concannon, E. A. Terray, D. A. Birch**, S. Pierce, B. Cervantes, 2014. Observations of Large-Aspect Ratio Large Eddy Circulation in the Ocean Surface Mixed Layer. *Geophys. Res. Lett.*, **41**, 7584-7590, doi:10.1002/2014GL061637.
5. *Sawabini, A., **M. A. Sundermeyer**, B. H. Howes, D. Schlezinger, 2014. Regional Forcing by Light on Dissolved Oxygen Levels in Shallow Temperate Estuaries. *Estuaries and Coasts*, **38**, 3, 1062-1076, doi: 10.1007/s12237-014-9879-1.
6. *Brunner-Suzuki, A.-M. E. G, **M. A. Sundermeyer**, M.-P. Lelong, 2014. Upscale Energy Transfer by the Vortical Mode and Internal Waves. *J. Phys. Oceanogr.*, **44.9**, 2446-2469.
7. *Radlinski, M. K., **M. A. Sundermeyer**, J. J. Bisagni, S. X. Cadrin, 2013. Spatial and Temporal Distribution

of Atlantic Mackerel, *Scomber Scombrus*, along the Northeast Coast of the United States. *ICES J. Mar. Sci.*, **70** (6), 1151-1161. doi:10.1093/icesjms/fst029.

8. *Brunner-Suzuki, A.-M. E. G., **M. A. Sundermeyer**, M.-P. Lelong, 2012. Vortex Stability in a Large-Scale Internal Wave Shear. *J. Phys. Oceanogr.*, **42**, 1668–1683, doi:10.1175/JPO-D-11-0137.1.
9. **Birch, D. A. and **M. A. Sundermeyer**, 2011. Breaking internal wave groups: Mixing and momentum fluxes. *Phys. Fluids* **23**, 096602; doi:10.1063/1.3638155.
10. *Stuart, G. A., **M. A. Sundermeyer**, and D. Hebert, 2011. On the geostrophic adjustment of an isolated lens: dependence on Burger number and initial geometry. *J. Phys. Oceanogr.* **41**, 725–741.
11. **Sundermeyer, M. A.**, E. A. Terray, J. R. Ledwell, A. G. Cunningham, P. E. LaRocque, J. Banic, and W. J. Lillycrop, 2007. Three-dimensional mapping of fluorescent dye using a scanning, depth-resolving airborne lidar. *J. Atmos. Ocean. Technol.*, **24**, 1,050-1,065.
12. *Pease, C., and **Sundermeyer, M. A.**, 2006. Spatial and temporal variations in Richardson number on Georges Bank. *Geophys. Res. Lett.*, **33** L06608, doi:10.1029 /2005GL024903.
13. **Sundermeyer, M. A.**, B. J. Rothschild, and A. R. Robinson, 2006. Assessment of Environmental Correlates with the Distribution of Fish Stocks Using a Spatially Explicit Model, *Ecol. Model.*, **197**, 116-132.
14. **Sundermeyer, M. A.**, and M.-P. Lelong, 2005. Numerical Simulations of Lateral Dispersion by the Relaxation of Diapycnal Mixing Events. *J. Phys. Oceanogr.*, **35**, (12), 2,368–2,386.
15. Lelong, M.-P. and **M. A. Sundermeyer**, 2005. Geostrophic Adjustment of an Isolated Diapycnal Mixing Event and its Implication for Small-Scale Lateral Dispersion. *J. Phys. Oceanogr.* **35**, (12), 2,352–2,367.
16. **Sundermeyer, M. A.**, J. R. Ledwell, N. S. Oakey, and B. J. W. Greenan, 2005. Stirring by Small-Scale Vortices Caused by Patchy Mixing, *J. Phys. Oceanogr.*, **35**, 1,245-1,262.
17. **Sundermeyer, M. A.**, B. J. Rothschild, and A. R. Robinson. 2005. Using Commercial Landings Data to Identify Environmental Correlates with Distributions of Fish Stocks, *Fisheries Oceanogr.* **14** (1), 47-63.
18. Ledwell, J. R., T. F. Duda, **M. A. Sundermeyer**, and H. E. Seim. 2004. Mixing in a Coastal Environment, Part I: A View from Dye Dispersion *J. Geophys. Res.* **109**, C10013, doi:10.1029/2003JC002194/
19. **Sundermeyer, M. A.**, B. J. Rothschild, and A. R. Robinson, 2003. Environmental Indicators and the Predictability of Commercial Fish Stocks, *ICES Marine Science Symposia - Hydrobiological Variability in the ICES Area, 1990-1999*, **219**, 396-399.
20. **Sundermeyer, M. A.** and J. R. Ledwell, 2001. Lateral Dispersion over the Continental Shelf: Analysis of Dye-Release Experiments, *J. Geophys. Res.*, **106**, 9,603-9,621.
21. Price, J. F. and **M. A. Sundermeyer**, 1999. Stratified Ekman Layers, *J. Geophys. Res.*, **104**, 20,467-20,494.
22. **Sundermeyer, M. A.** and J. F. Price, 1998. Lateral Mixing and the North Atlantic Tracer Release Experiment: Observations and Numerical Simulations of Lagrangian Particles and a Passive Tracer, *J. Geophys. Res.*, **103**, 21,481-21,497.
23. **Sundermeyer, M. A.** and G. K. Vallis, 1993. Correlation Dimensions of Primitive Equation and Balanced Models, *J. Atmos. Sci.*, **50**, 2556-2564.

NON REFEREED PUBLICATIONS

Terray, E. A., J. R. Ledwell, **M. A. Sundermeyer**, T. Donoghue, S. Bohra, A. G. Cunningham, P. E. LaRocque, W. J. Lillycrop, and C. E. Wiggins. Airborne Fluorescence Imaging of the Ocean Mixed Layer. In: *Proc. Of the IEEE/OES Eighth Working Conference on Current Measurement Technology*, June, 2005, Southampton, U.K.

An Experiment to Dye For, *Oceanus Magazine*, Vol. **44**, No. 2, Sept. 2005, p. 11. (Online version available at:

<http://www.whoi.edu/oceanus/viewArticle.do?id=6858>).

Robinson, A.R., B.J. Rothschild, W.G. Leslie, J.J. Bisagni, M.F. Borges, W.S. Brown, D. Cai, P. Fortier, A. Gangopadhyay, P.J. Haley, Jr., H.S. Kim, L. Lanerolle, P.F.J. Lermusiaux, C.J. Lozano, M.G. Miller, G. Strout and **M.A. Sundermeyer**, 2001. The Development and Demonstration of an Advanced Fisheries Management Information System (AFMIS). *Proc. 17th Conf. on Interactive Information and Processing Systems for Meteorology, Oceanography and Hydrology*, Amer. Meteorol. Soc., 186-190.

Nowhere to Hide – Managing Fisheries in Real Time, *ICES/CIEM Newsletter*, Issue No. **38**, Dec. 2001, pp. 20-21.

Fish Abundance Analysis, *ICES/GLOBEC Newsletter*, No. **7**, April 2001, p. 6.

UNPUBLISHED WORK

A. Works submitted for refereed publication

Klymak, J.M., R.K. Shearman, J. Gula, C.Lee, E.A. D’Asaro, L.N. Thomas, R.R. Harcourt, A.Y. Shcherbina, M.A. Sundermeyer, M.J. Molemaker, J.C. McWilliams, 2015. Submesoscale streamers exchange water on the North Wall of the Gulf Stream. Submitted to: *Nature Geoscience*.

B. Work in progress for refereed publication

Draft Manuscripts (Available on Request - Submission Anticipated in 2015):

*Stuart, G. A., **M. A. Sundermeyer**, and D. Hebert, 2015. Laboratory Studies of Lateral Dispersion by the Relaxation of Diapycnal Mixing Events. To be Submitted to *J. Phys. Oceanogr.*

*Debiegun, D. L., **M. A. Sundermeyer**, 2015. On using satellite remote sensing to estimate small-scale lateral dispersion in the ocean. To be Submitted to *J. Geophys. Res.*

Jacobs, J., M.-P. Lelong, and **M.A. Sundermeyer**, 2015. Instability, dipole formation, and merging of two proximal vortices of geostrophic adjustment. To be Submitted to: *J. Phys. Oceanogr.*

David, C., Howes, B. L, **Sundermeyer, M. A.**, Hayashi K., Shaw, K., Pather, S., 2015. Relating estuarine habitat quality, tidal exchange and inlet migration: A Case Study of Allens Pond, South Dartmouth, MA. To be Submitted to: *Estuaries and Coasts*.

Manuscripts in Preparation:

Jacobs, J., M.-P. Lelong, and **M.A. Sundermeyer**. Clustering parameterized wave-breaking events and the effect on lateral dispersion. To be Submitted to: *J. Phys. Oceanogr.*

Sundermeyer, M. A., D. A. **Birch, J. R. Ledwell, M. Levine, B. Concannon. Dispersion in the open ocean pycnocline at 1-6 day time scales. Manuscript in Preparation.

Sundermeyer, M. A., D. A. **Birch, J. R. Ledwell. Dispersion studies in the Gulf Stream during winter forcing conditions. Manuscript in Preparation.

Birch, D. A., **M. A. Sundermeyer, J. R. Ledwell, E. D’Asaro. A test of vertical shear dispersion in the ocean. Manuscript in Preparation.

Concannon, B., **M. A. Sundermeyer**, E. A. Terray, J. R. Ledwell, E. D’Asaro. Use of airborne LIDAR for dispersion studies. Manuscript in Preparation.

Ledwell, J. R., **M. A. Sundermeyer**, B. Concannon, T. Ozgokmen, L. Goodman. Dye plumes in the wake of a sled towed in the stratified ocean. Manuscript in Preparation.

Lelong, M.-P., **M. A. Sundermeyer**, E. Kunze. Numerical study of internal wave development and interaction w/ vortical modes in promoting submesoscale dispersion. Manuscript in Preparation.

Levine, M., B. Cervantes, S. Pierce, J. R. Ledwell, **M. A. Sundermeyer**, D. A. Birch, B. Concannon. Pycnocline dispersion at 1-12 hour time scales. Manuscript in Preparation.

Thomas, L., J. Taylor, E. Dasaro, **M. A. Sundermeyer**. Symmetric Instability: analysis of observations and interpretation using realistically forced large eddy simulations. Manuscript in Preparation.

Ozgekmen, T., **M. A. Sundermeyer**, D. A. Birch, M.-P. Lelong. Submesoscale dynamics inferred from drifter dispersion. Manuscript in Preparation.

CONFERENCE PRESENTATIONS AND ABSTRACTS

Sundermeyer, M. A.; Ledwell, J. R.; Concannon, B.; Birch, D.; Levine, M. A.; Pierce, S.; Cervantes, B. Full Waveform Lidar Applications - Fluorescent Dye Dispersion in the Seasonal Pycnocline. UMass Experimental Center for Environmental Lidar Workshop, July, 2015, Lowell, MA.

Sundermeyer, M. A.; Ledwell, J. R.; Concannon, B.; Birch, D.; Levine, M. A.; Pierce, S.; Cervantes, B. Observations of Fluorescent Dye Dispersion in the Seasonal Pycnocline Using Scanning, Depth-Resolving Airborne Lidar. 16th Annual JALBTCX Airborne Coastal Mapping Charting Technical Workshop, June, 2015, Corvallis, OR.

Sundermeyer, M. A.; Birch, D. A.; Ledwell, J. R.; Levine, M. A.; Concannon, B.; Observations of dye dispersion in the seasonal pycnocline: An evaluation of vertical shear dispersion and evidence of small-scale stirring (Abstract ID: 17508). AGU/ASLO Ocean Sciences Meeting, February, 2014, Honolulu, HI.

Lelong, P. G.; Kunze, E.; **Sundermeyer, M. A.**; Early, J. J.; A numerical study of lateral dispersion in a field of ocean internal waves (Abstract ID: 14447). AGU/ASLO Ocean Sciences Meeting, February, 2014, Honolulu, HI.

Early, J. J.; LeLong, M. P.; Smith, K. S.; **Sundermeyer, M. A.**; Sykulski, A. M.; Submesoscale diffusivity inferred from surface drifters (Abstract ID: 14868). AGU/ASLO Ocean Sciences Meeting, February, 2014, Honolulu, HI.

Sundermeyer, M. A., A. Sawabini, D. Schlezinger, and B. Howes Regional Forcing by Light on Dissolved Oxygen Levels in Shallow Temperate Estuaries. 2013 Mid-Atlantic Bight Physical Oceanography and Meteorology Meeting, Oct., 2013, Narragansett, RI.

Sundermeyer, M. A., D. A. Birch^{**}, J. R. Ledwell, E. A. Terray, M. D. Levine, and M. D. Pierce. Studies of Small-Scale Lateral Dispersion in the Ocean. AGU/ASLO Ocean Sciences Meeting, February, 2012, Salt Lake City, UT.

Levine, M. D., B. K. Cervantes, S. Pierce, J. R. Ledwell, **M. A. Sundermeyer**, D. A. Birch^{**}. Horizontal and Vertical Diffusivity Estimated from a Dye Streak. AGU/ASLO Ocean Sciences Meeting, February, 2012, Salt Lake City, UT.

Concannon, B. M., E. A. Terray, **M. A. Sundermeyer**, J. R. Ledwell. LIDAR Studies of Small-Scale Lateral Dispersion in the Ocean. AGU/ASLO Ocean Sciences Meeting, February, 2012, Salt Lake City, UT.

Kunze, E., E. D'Asaro, A. Scherbina, D. A. Birch^{**}, **M. A. Sundermeyer**, R.-C. Lien. Hammerhead Tow-yos in the Sargasso Sea. AGU/ASLO Ocean Sciences Meeting, February, 2012, Salt Lake City, UT.

Brunner-Suzuki, A.-M.^{*}, M. A. Sundermeyer, and M.-P. Lelong, 2012. The Vortical Mode, Internal Waves, and Inverse Energy Cascades. AGU/ASLO Ocean Sciences Meeting, February, 2012, Salt Lake City, UT.

Birch, D. A.^{**}. "Mechanisms of sub-mesoscale mixing". 2011 Mid-Atlantic Bight Physical Oceanography and Meteorology Meeting, Oct., 2011, Cambridge, MD.

Sundermeyer, M. A., M.-P. Lelong. Signatures of Sub-Mesoscale Mixing and Stirring of Passive Tracers AGU/ASLO Ocean Sciences Meeting, February, 2010, Portland, OR.

D. A. Birch^{**} and **M. A. Sundermeyer**. Mixing by Breaking Internal Wave Groups. AGU/ASLO Ocean Sciences Meeting, February, 2010, Portland, OR.

Brunner-Suzuki, A.-M.^{*}, **M. A. Sundermeyer**, and M.-P. Lelong. Vortical Mode Stirring in a Time-Varying Strain Field. AGU/ASLO Ocean Sciences Meeting, February, 2010, Portland, OR.

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- Schwartz, D. L. * and **M. A. Sundermeyer**. Estimating Small-Scale Lateral Diffusivity from Tracer Streaks in a Mesoscale Eddy Field. *AGU/ASLO Ocean Sciences Meeting*, February, 2010, Portland, OR.
- J. Jacobs, M.-P. Lelong, and **M. A. Sundermeyer**. Submesoscale lateral dispersion following spatially correlated wave-breaking events. *AGU/ASLO Ocean Sciences Meeting*, February, 2010, Portland, OR.
- M.-P. Lelong and **M. A. Sundermeyer**. Characteristics of adjustment-driven submesoscale turbulence. *AGU/ASLO Ocean Sciences Meeting*, February, 2010, Portland, OR.
- Birch, D.A. **, **M. A. Sundermeyer**, Stirring and Mixing by Internal Waves Breaking at Critical Levels. *IAMAS-IAPSO-IACS 2009 Joint Assembly (MOCA-09)*, July, 2009, Montréal, Canada.
- Brunner-Suzuki, A.-M. *, **M. A. Sundermeyer**, D. Hebert. Lateral Mixing by Vortical Modes. *Gordon Research Conference on Coastal Ocean Circulation*, June, 2009, New London, NH.
- Sundermeyer, M. A.**, E. A. Terray, J. R. Ledwell. Observations of Upper Ocean Mixing Using Airborne LIDAR. *2008 Ocean Sciences Meeting*, Mar., 2008, Orlando, FL.
- Sundermeyer, M. A.**, E. A. Terray, J. R. Ledwell. Lateral Dispersion in the Coastal Ocean – High Resolution Dye Release Experiments Using Airborne LIDAR.
7th International Conference on HydroScience and Engineering, Sept. 2006, Philadelphia, PA
16th Annual Atmospheric and Oceanic Fluid Dynamics Conference, July, 2007, Santa Fe, NM.
- Stuart, G. A. *, **M. A. Sundermeyer**, and D. L. Hebert. Laboratory Studies of Stirring by Small-Scale Geostrophic Motions.
Middle Atlantic Bight Physical Oceanography and Meteorology Meeting, Nov, 2005, Stony Brook, NY.
16th Annual Atmospheric and Oceanic Fluid Dynamics Conference, July, 2007, Santa Fe, NM. (--
AWARDED BEST STUDENT ORAL PRESENTATION --)
Gordon Research Conference – Coastal Ocean Modeling, Jun., 2007, New London, NH
IAMAS-IAPSO-IACS 2009 Joint Assembly (MOCA-09), July, 2009, Montréal, Canada.
- Sundermeyer, M. A.**, and M.-P. Lelong. Lateral Stirring by the Relaxation of Diapycnal Mixing Events. *GTP Workshop on Coherent Structures in Atmosphere and Ocean at NCAR*, July, 2005, Boulder, CO.
- Lelong, M.-P. And **M. A. Sundermeyer**. Energetics of a Field of Submesoscale Vortices Resulting from the Relaxation of Diapycnal Mixing Events. *GTP Workshop on Coherent Structures in Atmosphere and Ocean at NCAR*, July, 2005, Boulder, CO.
- Sundermeyer, M. A.**, E. A. Terray, J. R. Ledwell, G. Cunningham, J. Banic, P. LaRocque, and J. Lillycrop. A Pilot Study for Conducting High Resolution Dye Release Experiments in the Upper Ocean Using Airborne LIDAR.
Middle Atlantic Bight Physical Oceanography and Meteorology Meeting, Nov, 2005, Stony Brook, NY.
Gordon Research Conference, Coastal Ocean Circulation, June 2005, New London, NH.
IAPSO / SCOR Ocean Mixing Conference, October, 2004, Victoria, BC, Canada.
- Terray, E. A., J. R. Ledwell, **M. A. Sundermeyer**, T. Donoghue, S. Bohra, A. G. Cunningham, P. E. LaRocque, W. J. Lillycrop, and C. E. Wiggins. Airborne Fluorescence Imaging of the Ocean Mixed Layer. *IEEE/OES Eighth Working Conference on Current Measurement Technology*, June, 2005, Southampton, U.K.
- Lelong, M.-P. And **M. A. Sundermeyer**. Numerical Simulations of Vortical Mode Stirring: An Efficient Mechanism of Lateral Dispersion in Stratified Waters. *IAPSO / SCOR Ocean Mixing Conference*, October, 2004, Victoria, BC, Canada.
- Lelong, M.-P. And **M. A. Sundermeyer**. Geostrophic Adjustment of Diapycnal Mixing Events: Implications for Small-Scale Lateral Mixing. *Eos Trans. AGU 84 (52)*, Ocean Sci. Meet. Suppl, Abstract No. OS42N-09, 2003. (*AGU Ocean Science Meeting*, January 2004, Portland, OR)
- Pease, C. *, and **M. A. Sundermeyer**. Variation in mean Richardson number statistics over Georges Bank using GLOBEC Broadscale Survey Data. *Middle Atlantic Bight Physical Oceanography and Meteorology Meeting*,

Oct, 2003, New Bedford, MA.

Lelong, M.-P. And **M. A. Sundermeyer**. Lateral Stirring by the Relaxation of Diapycnal Mixing Events. *International Union of Geodesy and Geophysics (IUGG) 2003 Meeting*, June 30-July 11, 2003, Sapporo, Japan.

Sundermeyer, M. A. Lateral Dispersion, Modeled and Observed. *Gordon Research Conference, Coastal Ocean Modeling*, June 2003, New London, NH.

Sundermeyer, M. A., M.-P. Lelong. Numerical Simulations of Vortical Mode Stirring: An Efficient Mechanism for Lateral Dispersion in Stratified Waters.

Middle Atlantic Bight Physical Oceanography and Meteorology Meeting, Oct, 2003, New Bedford, MA.

Gordon Research Conference, Coastal Ocean Modeling, June 2003, New London, NH.

Sundermeyer, M. A., J. R. Ledwell, and M.-P. Lelong. Observational Evidence of Lateral Dispersion by the Relaxation of Diapycnal Mixing Events. *Eos. Trans. AGU*, 83 (4), Ocean Sciences Meet. Suppl., Abstract No. OS310-07, 2002. (*AGU/ASLO Ocean Science Meeting*, February 2002, Honolulu, HI)

Lelong, M.P., **M.A. Sundermeyer**, and E. Kunze. Numerical Simulations of Lateral Dispersion by the Relaxation of Diapycnal Mixing Events. *Eos. Trans. AGU*, 83 (4), Ocean Sciences Meet. Suppl., Abstract No. OS310-08, 2002. (*AGU/ASLO Ocean Science Meeting*, February 2002, Honolulu, HI)

Brown, W.S., F.L. Bub, B.J. Rothschild, **M.A. Sundermeyer**, A. Gangopadhyay, R. Lane, A.R. Robinson, and P.J. Haley. The Use of Near-Real-Time, High Resolution Fish and Environment Data into an Advanced Fisheries Management Information System. *Eos. Trans. AGU*, 83 (4), Ocean Sciences Meet. Suppl., Abstract No. OS32J-03, 2002. (*AGU/ASLO Ocean Science Meeting*, February 2002, Honolulu, HI.)

Sundermeyer, M. A. Lateral Dispersion over the Continental Shelf: Evidence of Stirring by the Relaxation of Diapycnal Mixing Events. *Gordon Research Conference, Coastal Oceanography*, June 2001, New London, NH.

Sundermeyer, M. A., B. J. Rothschild, A. R. Robinson. A Study of Environmental Indicators and the Predictability of Commercial Fish Stocks.

2001 Annual ICES Annual Science Conference, September 2001, Oslo, Norway.

ICES Symposium on Hydrobiological Variability in the ICES Area, 1990-1999, August 2001, Edinburgh, Scotland.

Northeast Fisheries Science Center, National Marine Fisheries Service, January 2001, Woods Hole, MA.

Southern New England Chapter of the American Fisheries Society 2001 Winter meeting, January 2001, Narragansett, RI.

Brown, W.S., F.L. Bub, B.J. Rothschild, **M.A. Sundermeyer**, A. Gangopadhyay, R. Lane, and A.R. Robinson. Assimilating Near-Real-Time Fish and Environment Data into an Advanced Fisheries Management Information System.

2001 Annual ICES Annual Science Conference, September 2001, Oslo, Norway.

Middle Atlantic Bight Physical Oceanography and Meteorology Meeting, October 2001, Groton, CT.

Robinson, A.R., B.J. Rothschild, W.G. Leslie, J.J. Bisagni, M.F. Borges, W.S. Brown, D. Cai, P. Fortier, A. Gangopadhyay, P.J. Haley Jr., H.S. Kim, L. Lanerolle, P.F.J. Lermusiaux, C.J. Lozano, M.G. Miller, G. Strout, and **M.A. Sundermeyer**. The development and demonstration of an Advanced Fisheries Management and Information System (AFMIS). *American Meteorological Society 81st Annual Meeting*, January 2001, Albuquerque, NM.

Sundermeyer, M.A., B.J. Rothschild, A.R. Robinson, P. J. Haley. Multivariate Correlations of Physics and Fish using an Integrated Empirical/Numerical Approach. *Eos. Trans. AGU*, 80 (4), Ocean Sciences Meet. Suppl., Abstract No. OS51D-10, 2000. (*AGU/ASLO Ocean Sciences Meeting*, January 2000, San Antonio, TX.)

Sundermeyer, M.A. and J. R. Ledwell. Lateral Dispersion over the Continental Shelf. *Mid-Atlantic Bight Physical Oceanography Meeting*, October 1999, Woods Hole, MA.

Sundermeyer, M. A., and J. R. Ledwell. Rates and Mechanisms of Lateral Dispersion over the Continental

Shelf. *Eos. Trans. AGU*, 79 (1), Ocean Sciences Meet. Suppl., Abstract No. OS41J-07, 1998. (*AGU/ASLO Ocean Sciences Meeting*, February 1998, San Diego, CA.)

Duda, T.F., J.R. Ledwell, H.E. Seim, C.R. Rehmann, **M.A. Sundermeyer**, C.J. Sellers, and S.C. Sutherland. Vertical Mixing of Dye in Stratified Shelf Waters. *Eos. Trans. AGU*, 79 (1), Ocean Sciences Meet. Suppl., Abstract No. OS31K-11, 1998. (*AGU/ASLO Ocean Sciences Meeting*, February 1998, San Diego, CA.)

Sundermeyer, M. A., and J. R. Ledwell. An Assessment of Lateral Dispersion Using Dye Experiments over the Continental Shelf. *Gordon Research Conference, Coastal Ocean Circulation*, June 1997, New London, NH.

Sundermeyer, M. A., and J. F. Price. Isopycnal Mixing and the North Atlantic Tracer Release Experiment: Observations and Numerical Simulations of Lagrangian Particles and Passive Tracer. *Eos. Trans. AGU*, 77 (46), Abstract No. OP11A-05, 1996. (*AGU Fall Meeting*, December 1996, San Francisco, CA.)

OTHER PROFESSIONAL ACTIVITIES

RESEARCH CRUISES

Introductory Physical Oceanography (MAR555) 1/2-Day Class Field Trip, Buzzards Bay, MA. *R/V Lucky Lady*, Fall 2006, 2009, 2013, 2014, 2015. Chief Scientist, Dr. Miles Sundermeyer.

Lateral Mixing and Coherent Turbulence (LatMix), 2012. *R/V Atlantis* Cruise 19, Feb 22 – Mar 17, 2012. Chief Scientist, Dr. Jody Klymak.

Lateral Mixing and Coherent Turbulence (LatMix), 2011. *R/V Cape Hatteras* Cruise 0511, June 1-20, 2011. Chief Scientist, Dr. James Ledwell.

Lateral Mixing and Coherent Turbulence (LatMix) Engineering Test Cruise, 2010. *R/V Cape Hatteras* Cruise 0910, Aug 2-9, 2010. Chief Scientist, Dr. James Ledwell.

Development Cruise for Dye Experiments with Airborne LIDAR. *R/V F. G. Walton Smith* Cruise 0813, September 7-11, 2008. Chief Scientist, Dr. James Ledwell.

A Pilot Study Using Airborne LIDAR to Survey Dye-Release Experiments. *R/V Stephan*, June 1-3, 2004. Chief Scientists, Drs. Miles Sundermeyer and E. Terray.

Georges Bank Dye Studies. *R/V Endeavor* Cruises 323 & 324, May 5 – June 7, 1999. Chief Scientist, Dr. James Ledwell.

Applied Fisheries and Management Information System Massachusetts Bay Initialization Survey. *R/V Lucky Lady*, Aug 17, 18, 20, and 21, 1998. Chief Scientist, Dr. Nicholas Fofonoff.

Georges Bank Area II Scallop Survey, *F/V Guidance*, Sept 16 – 25, Oct 5 – 11, 1998. Chief Scientists, Dr. Miles Sundermeyer and Mr. Arv Pashkas.

Coastal Mixing and Optics Dye/Microstructure. *R/V Oceanus* Cruise 309, July 30 – Aug 13, 1997. Chief Scientist, Dr. James Ledwell.

Coastal Mixing and Optics Dye/Microstructure. *R/V Oceanus* Cruise 284, Sept 4 – 18, 1996. Chief Scientist, Dr. James Ledwell.

Coastal Mixing and Optics Dye Pilot Study. *R/V Oceanus* Cruise 273, Sept 9 – 14, 1995. Chief Scientist, Dr. James Ledwell.

Sampling Cruise 6 of the North Atlantic Tracer Release Experiment. *R/V Seward Johnson* Cruise 9404, Nov 10 – Dec 5, 1994. Chief Scientist, Dr. James Ledwell.

Massachusetts Institute of Technology / Woods Hole Oceanographic Institution Joint Program and Sea Education Association Educational Cruise. *SSV Corwith Cramer* Cruise C-122B, March, 1992. Chief Scientist, Dr. Paul Joyce.

PROFESSIONAL ACTIVITIES/MEMBERSHIPS

Associate member of Sigma Xi, the Scientific Research Society (~1998 – present)

Member of American Geophysical Union (1996 – present)

Member of American Meteorological Society (~1996 – present)

American Academy of Underwater Sciences (AAUS) certified research diver (1996 - ~2000)

6. CURRICULAR MATERIALS

LIST OF COURSES DEVELOPED/TAUGHT AT UMASS DARTMOUTH

Semester	Year	Course #	Course Title
Spring 2016	MAR105		Introductory Ocean Sciences
(planned)	MAR620		Case Studies in Estuarine Dynamics
	MAR701		Doctoral Dissertation Research
Fall 2015	MAR555		Introductory Physical Oceanography
Spring 2015	MAR105		Introductory Ocean Sciences
	MAR595		Independent Study - Coastal and Estuarine Dynamics
	MAR603		Pre-Dissertation Research
	MAR620		Case Studies in Estuarine Dynamics – Cancelled due to low enrollment
Fall 2014	MAR555		Introductory Physical Oceanography
	MAR603		Pre-Dissertation Research
Spring 2014	MAR700		Graduate Seminar, Estuarine and Ocean Sciences
	MAR603		Pre-Dissertation Research
Fall 2013	MAR555		Introductory Physical Oceanography
	MAR595		Independent Study
Spring 2013	MAR550		Laboratory in Oceanography – Data and Methods
	MAR603		Pre-Dissertation Research
Fall 2012	MAR660		Coastal Physical Oceanography – Cancelled due to low enrollment
	MAR603		Pre-Dissertation Research
Spring 2012	MAR550/MAR596		Independent Study / Laboratory in Oceanography – Data and Methods
	MAR700		Graduate Seminar, Estuarine and Ocean Sciences
	MAR701		Doctoral Dissertation Research
	MAR600		Masters Graduate Degree Thesis Research
Fall 2011	MAR660		Coastal Physical Oceanography
	MAR701		Doctoral Dissertation Research
	MAR603		Pre-Dissertation Research
	MAR600		Masters Graduate Degree Thesis Research
Spring 2011	SABBATICAL LEAVE, Woods Hole Oceanographic Institution, Woods Hole, MA		
Fall 2010	SABBATICAL LEAVE, Oregon State University, Corvallis, OR		
Spring 2010	MAR620		Case Studies in Estuarine Dynamics
	MAR701		Doctoral Dissertation Research
	MAR603		Pre-Dissertation Research
Fall 2009	MAR555		Introductory Physical Oceanography
	MAR701		Doctoral Dissertation Research
	MAR603		Pre-Dissertation Research
Spring 2009	MAR599		Special Topics: Laboratory in Oceanography – Data and Methods
	MAR701		Doctoral Dissertation Research
	MAR603		Pre-Dissertation Research
Fall 2008	MAR660		Coastal Physical Oceanography
	MAR701		Doctoral Dissertation Research
	MAR603		Pre-Dissertation Research
Spring 2008	MAR620		Case Studies in Estuarine Dynamics
	MAR701		Doctoral Dissertation Research

Fall 2007	MAR660	Coastal Physical Oceanography - Cancelled due to low enrollment
	MAR620	Case Studies in Estuarine Dynamics - Cancelled due to low enrollment
	MAR701	<i>Doctoral Dissertation Research</i>
	MAR603	<i>Pre-Dissertation Research</i>
Spring 2007	MAR620	Case Studies in Estuarine Dynamics
	MAR603	<i>Pre-Dissertation Research</i>
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Fall 2006	MAR555	Introductory Physical Oceanography
	MAR603	<i>Pre-Dissertation Research</i>
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Spring 2006	MAR670	Advanced Time Series Analysis
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Fall 2005	MAR660	Coastal Physical Oceanography
	MAR599	Special Topics – Case Studies in Estuarine Dynamics II
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Spring 2005	MAR620	Case Studies in Estuarine Dynamics
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Fall 2004	MAR555	Introductory Physical Oceanography
	MAR603	<i>Pre-Dissertation Research</i>
	MAR600	<i>Masters Graduate Degree Thesis Research</i>
Spring 2004	MAR603	<i>Pre-Dissertation Research</i>
Fall 2003	MAR660	Coastal Physical Oceanography
	MAR603	<i>Pre-Dissertation Research</i>
Spring 2003	MAR620	Case Studies in Estuarine Dynamics
Fall 2002	MAR555	Introductory Physical Oceanography
	MAR603	<i>Pre-Dissertation Research</i>

Fall 2001/Spring 2002 - The SMAST graduate program was approved by the Mass. Board of Higher Education in Winter of AY01-02. SMAST did not offer classes in Fall 2001, and began accepting students in Spring 2002. AY02-03 was thus the program's first full year.

Fall 1999 “Marine Environmental Pollution Monitoring” taught at Massachusetts Maritime Academy

POSTDOCTORAL FELLOWS, GRADUATE STUDENTS, INTERNS ADVISED

Research Associates: Daniel A. Birch (Ph.D., 2007) – Sept 2010-Aug 2012

Postdoctoral Fellows: Daniel A. Birch (Ph.D., 2007) – Sept 2008-Aug 2011

Current Students: Ph.D.: Micheline Labrie (PSM AY2013-14; Ph.D. Sept 2014 - present)

Graduated Students: MSc.: Xianqin Yao (June 2014)
 Ph.D.: Anne-Marie E. G. Brunner -Suzuki (June 2012)
 MSc. Anna M. Sawabini (June 2012)
 MSc. Deborah L. Schwartz (Jan 2012)
 MSc.: Mary K. Radlinski (Sept. 2009)
 MSc.: Grant A. Stuart (June 2007)
 MSc.: Christopher Pease (June 2005)

Interns (past): Christopher Luebke, Jatin Patel, Brendon Puntin, Chandrakanth Amidala, Santosh chandra Hari babu

Academic/Thesis Committee Member for the Following Students:

- SMAST/SMS Sc.M student Paul Mancuso; Principal advisor: Prof. B. Howes (ScM. expected 2016)
- Physics/SMS Ph.D. student Sonaljit Mukherjee; Principle advisor: Prof. A. Tandon (Ph.D. expected 2015)
- SMAST/SMS Ph.D. student Yunfang Sun; Principal advisor: Prof. C. Chen (Ph.D. 2014)

SMASST/SMS Ph.D. student Camile David; Principal advisor: Prof. B. Howes (Ph.D. 2014)
SMASST/IGS Ph.D. student Roland Samimi; Principal advisor: B. Howes (Ph.D. June 2013)
SMASST/IGS Sc.M. student Sara Sampieri; Principal advisor: B. Howes (ScM. June 2013)
SMASST/IGS Sc.M. student Mathew Upton; Principal advisor: J. Bisagni (ScM. June 2003)
SMASST/IGS Sc.M. student Christopher Luebke; Principal advisor: L. Goodman
SMASST/IGS Sc.M. student Jianjun Wang; Principal advisor: B. Howes
Univ. Washington Applied Mathematics Dept. Ph.D. student, Joshua Jacobs; Principal advisor: M.-P. Lelong, NorthWest Research Associates (Ph.D. Aug 2012).

Advised five-member Dept. Electrical and Computer Engineering Senior Design project team, C. Boucher, M. Alfonse, C. Grilo, J. Sochin, W. Turner (AY09-10)

Co-Advised (*un-official*, w/ Prof. D. MacDonald) four-member Dept. Electrical and Computer Engineering Senior Design project team, D. Forbes, T. Butler, J. Mathew, and D. Caron (AY06-07)

7. RESEARCH GRANTS

Pending Proposals:

“Collaborative Research: Mixing and Large Eddy Circulation in the Surface Mixed Layer” **M.A. Sundermeyer** (PI; w/ A. Tandon, UMassD; J. Kinsey, WHOI; E. Skyllingstad, OSU); Total Award: \$1,769,037; UMass portion: \$1,264,394, National Science Foundation; 6/1/16 to 5/31/19.

Funded Projects:

Active Grants:

“Collaborative Research: The Role of Internal Wave-Wave Interactions in Stirring and Mixing the Ocean” **M.A. Sundermeyer** (Co-PI; w/ M.-P. Lelong, NWRA; E. Kunze, APL/UW); Total Award: \$942,415; UMass portion: \$283,485, National Science Foundation; 1/1/16 to 12/31/18.

“LatMix 2011 and 2012 Dispersion Analysis” **M.A. Sundermeyer** (PI), UMass portion: \$29,553, Office of Naval Research; 1/1/15 to 12/31/15.

“Quantifying Impacts of Oyster Aquaculture on Estuarine Nitrogen Related Water Quality” L. Counsell (Three Bays Preservation Inc), M. Labrie, **M.A. Sundermeyer**, B. Howes, D. Schlezinger (UMassD); UMass portion: \$25,481, Massachusetts Environmental Trust; 6/1/15 to 5/31/17.

“An Experimental Center for Environmental Lidar” **M.A. Sundermeyer** (UMD Lead) (w/ B. Howes, UMD; S. Chakrabarti (Project Lead), T. Cook, D. Willis, UML; M. Lackner, UMA; C. Schaaf, UMB), \$150,000 (UMD portion: \$27,500), UMass President’s 2014 Science and Technology Initiatives Fund; 6/1/14-5/31/16.

Completed Grants:

“LIDAR and Numerical Modeling Studies of Small-Scale Lateral Dispersion in the Ocean – Option Years 4 and 5” **M.A. Sundermeyer** (Co-PI; w/ J. Ledwell, WHOI; B. Concannon, NAVAIR), UMass portion: \$268,825, Office of Naval Research; 11/1/11 to 12/31/14 (including no-cost extension).

“LIDAR and Numerical Modeling Studies of Small-Scale Lateral Dispersion in the Ocean” **M.A. Sundermeyer** (Co-PI; w/ J. Ledwell, WHOI; B. Concannon, NAVAIR), UMass portion: \$275,983, Office of Naval Research; 11/1/08 to 10/31/11.

“Collaborative Research: Lidar Studies of Lateral Dispersion in the Seasonal Pycnocline” **M.A. Sundermeyer** (Co-PI; w/ J. Ledwell, WHOI; B. Concannon, NAVAIR), UMass portion: \$381,652, National Science Foundation; 11/1/08 to 10/31/13 (including no-cost extension).

“Analysis of High Resolution Upper Ocean Dye Release Experiments Using Airborne LIDAR” **M.A. Sundermeyer** (Co-PI; w/ J. Ledwell, E. Terray, WHOI), UMass portion: \$66,005, Office of Naval Research via subcontract to WHOI; 4/1/08 to 9/30/09.

“Collaborative Research: Numerical Simulations of Small-Scale Stirring: Internal Waves, Diapycnal Mixing and

Horizontal Finestructure” **M.A. Sundermeyer** (Lead-PI; w/ M.-P. Lelong, NWRA), UMass portion: \$267,887, National Science Foundation; 10/1/06 to 9/30/10 (including no-cost extension).

“Collaborative Research: Laboratory Studies of Stirring by Small-Scale Geostrophic Motions” **M.A. Sundermeyer** (Lead-PI; w/ D. Hebert, URI), UMass portion: \$297,583, National Science Foundation; 5/1/04 to 4/30/08.

“Correlations of Physical Environmental Data with Scallop Density and Size Distributions on Georges Bank” **M.A. Sundermeyer** (PI). \$24,000, Graduate School of Marine Sciences and Technology / Massachusetts Marine Fisheries Institute; 1/1/05-6/30/06 (incl. No cost extension).

“An Assessment of Watermass Distributions and Circulation Patterns in Buzzards Bay in Relation to the Lobster Fishery.” **M.A. Sundermeyer** (PI). \$24,000, Graduate School of Marine Sciences and Technology / Massachusetts Marine Fisheries Institute; 1/1/05-6/30/06, (incl. No cost extension).

“A Pilot Study Using Airborne LIDAR to Survey Dye-Release Experiments: Supplement to ONR Grant Number: N00014-01-1-0984” **M.A. Sundermeyer** (Lead-PI; w/ M.-P. Lelong, NWRA; and J. Ledwell, WHOI), UMass portion: \$37,705, Office of Naval Research; 5/31/03 to 9/30/04.

“Airborne LIDAR Dye Mapping for Upper Ocean Mixing and Dispersion Studies,” J. Ledwell (PI), E. Terray (WHOI), and **M.A. Sundermeyer**. \$34,964, The Cecil H. and Ida M. Green Technology Innovation Fund; 12/1/02 to 11/30/03.

“Numerical Simulations of Episodic Mixing and Lateral Dispersion by Vortical Modes,” **M.A. Sundermeyer** (Lead-PI; w/ M.P. Lelong, NWRA; and J.R. Ledwell, WHOI), UMass portion: \$251,805, Office of Naval Research; 6/25/01 to 5/31/03.

8. SERVICE

A. Service to the Department

(Note, SMAST was first divided into Departments in 2005, thus service to the Department and Service to the School / SMAST are one in the same before this time, and thus listed as Service to SMAST).

- Chair ad hoc committee to develop a new undergraduate oceanography course on main campus (AY13-14)
- Member/Chair Dept. Estuarine and Ocean Sciences Curriculum Committee (AY11-12 thru AY14-15)
- Member Faculty Evaluation Committee, Dept. Estuarine and Ocean Sciences (AY06-07, AY12-13 thru AY15-16)
- Member Faculty Evaluation Committee (de facto, all DEOS tenured faculty), Dept. Estuarine and Ocean Sciences – Tenure review of D. MacDonald (AY07-08)
- Chair ad hoc committee to revise DEOS Faculty Evaluation Guidelines
- Organized Dept. of Estuarine and Ocean Sciences weekly seminar series (Spring 2012, Spring 2014)

B. Service to SMAST

SMAST Committee Memberships

- Member/Chair SMAST Curriculum Committee (AY02-03; as SMS Campus Coordinator, AY06-07; Chair AY09-10; AY11-12; AY14-15; AY15-16)
- Member Faculty Evaluation Committee, Dept. Fisheries Oceanography (AY06-07)
- Member Faculty Evaluation Committee, Dept. Fisheries Oceanography – 3rd/4th Year Contract Renewal Dr. B. Stevens (AY07-08)
- Member SMAST Academic Council – 4th/5th Year Contract Renewal Dr. S-Y. Hyun (AY13-14)
- Member SMAST Computer Committee (AY01-02 thru AY08-09)

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- IGS/SMS Campus Coordinator to the Dartmouth campus, Spring 2007
 - Member SMAST/IGS/SMS Graduate Student Review Committee (AY05-06)
 - Member SMAST Faculty Evaluation Committee (AY03-04)
 - Member SMAST Coordinating Council (AY02-03, AY03-04)

Ad Hoc Committee Memberships

- Member Search and Screen Committee for Assistant Dean of Operations at SMAST (Fall 2005)
- Member Search and Screen Committee for Deputy Director for Operations at SMAST (Spring 2005; following review of 13 complete applications, this position was later re-advertised as the above Assistant Dean position)
- Member SMAST Search and Screen Committee for Biogeochemist Faculty Position (Spring 2005)
- Member SMAST Search and Screen Committee for Estuarine Dynamicist Faculty Search (Fall 2002)
- Chair Ad Hoc Committee to assess the feasibility of a Research Faculty track at SMAST (May 2002) – Drafted a “white paper” to report committee’s discussions to SMAST general faculty

Other Service to SMAST

- Organized bi-weekly SMAST Sack-Lunch seminar series (AY01-02 thru AY08-09)
- Co-Organized SMAST weekly seminar series and special seminars (AY01-02)
- Initiated and organized weekly SMAST coffee & donut hour to provide a venue for informal communication among SMAST personnel from different research groups/labs (AY01-02; Subsequently terminated due to lack of funding.)
- Initiated and coordinated paper recycling program at SMAST (AY01-02; Subsequently terminated due to lack of infrastructure at SMAST) (Note: Because SMAST is an off-campus laboratory, campus recycling programs did not extend *de facto* to SMAST)
- Initiated printer/copier toner cartridge recycling at SMAST (with D. Timothy; AY01-02 and ongoing)
- Participated in 1day SMAST Faculty Retreat in New Bedford, MA to discuss SMAST team building and strategic planning (March 23, 2006), plus numerous SMAST Strategic planning meetings (AY07-08)
- Co-authored (w/ Dr. B. Howes) whitepaper and draft renovation plans for SMAST administrative and educational space reorganization/renovation (Fall 2007). This whitepaper was provided to the SMAST Dean in support of SMAST infrastructure improvement plans.
- Co-authored (w/ Dr. B. Howes) whitepaper on proposed new SMAST faculty activity profile (Fall, 2007). This whitepaper was provided to the SMAST Dean in support of discussions with the UMD Provost re: SMAST faculty teaching and research loads.
- Authored and distributed to DEOS faculty a whitepaper on teaching loads to predict course enrollment based on number of students in the department. This information was used in part to establish the goal of 7 new incoming students per year in DEOS.

Contributions to SMAST Research Programs (Early SMAST Program Development)

- ***AFMIS / RFAC:***
 - Conducted research on environmental indicators and the predictability of commercial fish stocks as part of the Advanced Fisheries Management Information System (AFMIS) / Regional Fisheries Application Center (RFAC). Attended numerous meetings during Fall/Winter 2001-2002 to discuss the progress of RFAC realtime modeling efforts. Collaborated with University of Alaska Fairbanks, and NOAA Environmental Technology Laboratory in Boulder, CO to develop a pilot study for detecting fish schools

using airborne LIDAR during Fall/Winter 2001-2002. This collaboration was initiated as part of the RFAC program between SMAST and the University of Alaska Fairbanks, but subsequently terminated due to a change of program emphasis.

- ***Mount Hope Bay Natural Laboratory***

- Attended numerous meetings during Fall/Winter 2001-2002 to synthesize the state of knowledge / understanding regarding Mount Hope Bay, and to formulate a framework for the Mount Hope Bay Natural Laboratory. Contributed a chapter (Chapter 6, “Modeling Efforts”), and contributed to a second chapter (Chapter 3, “Habitats and Habitat Quality”) for report entitled “Framework for Formulating the Mount Hope Bay Natural Laboratory: A Synthesis and Summary”, Jan 6, 2003. Attended meetings at SMAST and ATMC with representatives from Brayton Point Power Station to discuss scope of Mount Hope Bay Natural Laboratory program (Oct 3, 2001; Mar 26, 2002). Collaborated with B. Howes on eutrophication modeling in Mount Hope Bay. This work was initiated as part of the SMAST Mount Hope Bay Natural Laboratory project, but subsequently terminated due to a change of program emphasis.

- ***Other Interdisciplinary and Multidisciplinary Activities***

- Supervised 3 graduate students (Christopher Pease, MSc. June 2005; Mary Radlinski, MSc. June 2007; and Annie Sawabini, MSc. June 2012) working on research related to the Graduate School of Marine Sciences and Technology / Massachusetts Marine Fisheries Institute.
- Conducted multidisciplinary collaborative research with Dr. B. Howes as part of Massachusetts Estuaries Project examining oxygen dynamics as relates to physical forcing, including tides, wind forcing, surface heat fluxes, and circulation. This work included two separate “in-house” subcontracts as part of Massachusetts Estuaries Project directed by B. Howes

C. Service to UMass Intercampus Graduate School of Marine Science (IGS/SMS)

IGS/SMS Committee Memberships

- UMass Dartmouth representative to the IGS/SMS Curriculum Committee (AY02-03, AY03-04)
- Member IGS/SMS Marine and Atmospheric Systems Modeling and Analysis (MASMA) concentration area curriculum development committee (AY01-02 thru AY11-12). Attended numerous meetings and participated in the ongoing development of the MASMA concentration area description, curriculum, course structure, and requirements.
- Member IGS/SMS Coastal Systems Science (CSS) concentration area curriculum development committee (AY01-02 thru AY11-12). Attended meetings and participated in the ongoing development of the CSS concentration area description, curriculum, course structure, and requirements.

Other Service to IGS/SMS

- Participated in approximately annual IGS/SMS Faculty Retreats plus numerous IGS/SMS Faculty meetings from 2001 thru 2007 to discuss ongoing IGS curriculum development and admissions issues, including:
 - June 28-29, 2001; presented poster and talk, participated in discussion on IGS governance, graduate admissions and curriculum.
 - State House, Boston, November 2, 2001; discuss IGS governance, graduate admissions and curriculum.
 - UMass I-495 Conference Center, July 9, 2002; discuss IGS governance, graduate admissions and curriculum.
 - UMass I-495 Conference Center, January 23, 2004; discuss IGS governance, graduate admissions and curriculum.

- Two 1 day IGS Faculty Retreats (one on Jan. 9, 2006, the second on May 31, 2006) in Shrewsbury, MA to discuss IGS governance, general exam policy, and ongoing IGS curriculum development and admissions issues.
- Two 1 day IGS/SMS Faculty Retreats (one on Sept. 27, 2006 in Shrewsbury, MA, the second on Jan. 26, 2007 in Lowell, MA) to discuss IGS/SMS governance and ongoing IGS/SMS curriculum development and admissions issues.

D. Service to the University

University Committee Memberships

- Member of Advisory Committee for Chancellor's Colloquium Series (AY08-09, AY09-10)
- SMAST representative to University Curriculum Committee (AY02-03 thru AY04-06, AY07-08 thru AY09-10, AY12-13 thru AY15-16)
- Member University Sabbatical Leave Committee (AY07-08)
- Member University Strategic Plan SWOT Team, “Integrating Teaching/Learning Strategies and Preparing Students for Advancement in the 21st Century Environment” (Winter/Spring, 2007)
- SMAST representative to University Calendar Committee (AY05-06)
- Member UMass Faculty Federation Grievance Hearing Committee (AY04-05)

E. Service to Profession

Conference Sessions Chaired

Co-Organized / Co-Chair (w/ B. Howes, UMassD; S. Chakrabarti, T. Cooke, D. Willis, UMassL; C. Schaaf, UMassB, M. Lackner, UMassA) workshop entitled “Experimental Center for Environmental Lidar” at UMass Lowell Inn and Conference Center, July 2015, Lowell, MA.

Co-Chair (w/ M.-P. Lelong, NWRA; Sung Yong Kim, Korea Adv. Inst. Science & Technol.; Cédric Chavanne, Univ. Quebec at Rimouski) session entitled “Oceanic Sub-Mesoscale Processes”, 2014 Ocean Sciences Meeting, February, 2014, Honolulu, HI.

Co-Chair (w/ J. R. Ledwell, WHOI; R. Ferrari, MIT; and M.-P. Lelong, NWRA) session entitled “Lateral Mixing in the Ocean from Meters to Mesoscale”, 2008 Ocean Sciences Meeting, March, 2008, Orlando, FL.

Organized (w/ M.-P. Lelong, NWRA; K. Edwards, APL/UW) ONR funded workshop to “Assess Current Understanding of Lateral Mixing in the Ocean” October 2006.

Organized “Horizontal and Vertical Mixing” breakout session at Gordon Research Conference on Coastal Ocean Circulation, June 2005, New London, NH.

Co-Organized Mid-Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Meeting, October 2003, New Bedford, MA.

Chair session entitled “Mid-Atlantic Bight”, Mid-Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Meeting, October 2003, New Bedford, MA.

Co-Chair session entitled “Stratified Coastal and Estuarine Circulation: 1”, AGU/ASLO Ocean Sciences Meeting, February 2002, Honolulu, HI.

Committee / Panel Memberships

Member University National Oceanographic Laboratory System (UNOLS) Fleet Improvement Committee, National Science Foundation (Non-operator, Jan 2010 – present; uncompensated, reimbursed for travel only)

Founding UMass Dartmouth representative to University National Oceanographic Laboratory System (UNOLS), National Science Foundation (2013-present)

Expert Review Panel Member: Connecticut Sea Grant (Apr 2001; Aug 2009), National Science Foundation (May 2007; Jan 2011; uncompensated, reimbursed for travel only)

Expert Reviewer for: *J. Phys. Oceanogr.*, *J. Geophys. Res.*, *J. Mar. Sci.*, *J. Mar. Res.*, *Progr. In Oceanogr.*, *Estuaries*, *Environ. Fluid Mech.*, and the National Science Foundation (50+ instances over past 14 years; uncompensated)