

Curriculum Vitae – Wade R. McGillis

Columbia University in the City of New York
Lamont Doherty Earth Observatory, Geochemistry and the
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Education

1994 Postdoctoral Scholar, Woods Hole Oceanographic Institution, Woods Hole, MA.
1993 Ph.D., Mechanical Engineering, University of California, Berkeley, CA.
1990 M.S., Mechanical Engineering, University of California, Berkeley, CA.
1988 B.S., (*magna cum laude*), Mechanical Engineering, Northeastern University, Boston, MA.

Research Interests

Research interests include the air-water surface exchange of carbon dioxide, particles, heat, momentum and other climate, weather, and contaminant relevant compounds. Research activities also include understanding processes controlling ocean, coastal, and river carbon dioxide transport; interfacial hydrodynamics and boundary layer turbulence.

Professional Experience

2004 – date Doherty Scientist, Geochemistry, Lamont Doherty Earth Observatory, Columbia University, NY.
2004 – date Assoc. Professor, Earth and Environmental Engineering, Columbia University, NY.
2000 – 2004 Associate Scientist, Applied Ocean Physics and Engineering Department (AOPE), Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA.

- 1996 – 2000 Assistant Scientist, AOPE, WHOI, Woods Hole, MA.
- 1994 – 1996 Postdoctoral Investigator, AOPE, WHOI, Woods Hole, MA.
- 1988 – 1993 Research Assistant, University of California, Berkeley, CA.
- 1991 – 1992 Teaching Assistant, University of California, Berkeley, CA.
- 1990 – 1993 Research Fellow, Western Research Laboratory, Digital Equipment Corporation (DEC), Palo Alto, CA.
- 1986 – 1987 Engineering Intern, Heat Transfer Research/Interferometry, DEC, Marlborough, MA.
- 1985 – 1986 Engineering Intern, Thermodynamics/Combustion, New England Power Co, Salem, MA.
- 1984 – 1985 Intern, Automated Thermoplastic Manufacturing, Pixley-Richards, Plymouth, MA.

Honors, Awards, and Fellowships

- 2005 Leverhulme Award – University of East Anglia Visiting Fellowship, United Kingdom.
- 2004 Fellowship Award – Japanese Society for Promotion of Science, Kyoto University, Japan.
- 2003 Best Scientific Paper Award 2002, National Oceanic and Atmospheric Administration.
- 2002 Best Scientific Paper Award 2001, National Oceanic and Atmospheric Administration.
- 2001 Coastal Ocean Institute Fellowship, Woods Hole Oceanographic Institution, Woods Hole.
- 1998 Fellowship – Cooperative Institute for Marine and Atmospheric Studies, Univ of Miami.
- 1997 Francis Ogilvie Young Investigator, Massachusetts Institute of Technology, Massachusetts.
- 1993 Postdoctoral Scholar Fellowship, Woods Hole Oceanographic Institution, Massachusetts.
- 1987 Joseph Ferretti Academic Excellence Fellowship, Northeastern University,

Professional Activities

- 2006 Chair, United States Surface Ocean Lower Atmospheric Study (SOLAS);
- 2006 Chair, International SOLAS Air-Sea Exchange Science Implementation Group;
- 2006 Chair, NOAA OGP Programs Carbon Cycle Science Advisory Panel;
- 2006 Chair, Princeton University Coop Institute External Visiting Committee;
- 2006 Member, World Climate Research Program Surface Flux Committee;

2006 Member, NSF Ocean Carbon and Biogeochemistry Advisory Committee;
2006 Member, NSF ORION Science and Technology Advisory Committee (STAC);
2006 Member, International SOLAS Science Steering Committee;
2006 Associate Editor for Journal of Geophysical Research;
2006 Member of the Mid-Atlantic Bight Ocean Observing Association (MACOORA);
2006 Member of the International SOLAS Summer School Organizing Committee;
2005 NSF ORION Science and Technology Committee Member;
2005 Chair of the US Surface Ocean Lower Atmospheric Study (US-SOLAS);
2005 Committee Member of World Climate Research Program, Working Group on Fluxes;
2005 Member of International SOLAS Science Steering Committee;
2005 Chair of the Implementation Group 2, International SOLAS;
2005 Associate Editor for Journal of Geophysical Research;
2005 Member of the North East Observing Systems (NEOS) Committee;
2005 Member of the AMS Boundary Layer Turbulence Committee;
2005 Member of the International SOLAS Summer School Organizing Committee;
2005 AGU Air-Sea Interactions Committee, Member;
2005 WHOI NOAA/CICOR Council of Fellows;
2004 Chair of the United States Surface Ocean Lower Atmospheric Study (SOLAS);
2004 Committee Member of World Climate Research Program, Working Group on Fluxes;
2004 Conference Chairman for the BLT/IAS, American Meteorological Society, Portland, ME;
2004 Member of International SOLAS Science Steering Committee;
2004 Chair of the Implementation Group 2, International SOLAS;
2004 Associate Editor for Journal of Geophysical Research;
2004 Member of the North East Observing Systems (NEOS) Committee;
2004 Member of the AMS Boundary Layer Turbulence Committee;
2004 Member of the United States SOLAS Advisory Committee, Member;
2004 Member of the International SOLAS Summer School Organizing Committee;
2004 AGU Air-Sea Interactions Committee, Member;
2004 WHOI NOAA/CICOR Council of Fellows;
2003 Chair of the Implementation Group 2, International SOLAS;
2003 Associate Editor for Journal of Geophysical Research;

- 2003 Member of the North East Observing Systems (NEOS) Committee;
- 2003 Member of the AMS Boundary Layer Turbulence Committee;
- 2003 Member of the United States SOLAS Advisory Committee, Member;
- 2003 Member of the International SOLAS Summer School Organizing Committee;
- 2003 AGU Air-Sea Interactions Committee, Member;
- 2003 WHOI NOAA/CICOR Council of Fellows;
- 2002 Member of the AMS Boundary Layer Turbulence Committee;
- 2002 Member of the United States SOLAS Advisory Committee, Member;
- 2002 Member of the International SOLAS Summer School Organizing Committee;
- 2002 Visiting Committee, NOAA CIRES Science Advisory Panel, Boulder, CO;
- 2002 Leader of the AGU Ocean Science Special Sessions on Air-Sea Exchange;
- 2002 AGU Air-Sea Interactions Committee, Member;
- 2002 NOAA Global CO2 Observations Report, Contributing Author;
- 2002 WHOI NOAA/CICOR Council of Fellows;
- 2001 RIOMAR Workshop Participant;
- 2001 AGU Air-Sea Interactions Committee, Member;
- 2001 NOAA Global CO2 Observations Report, Contributing Author;
- 2001 WHOI NOAA/CICOR Council of Fellows;
- 2000 NOAA Global CO2 Observations Report, Contributing Author;
- 2000 IGAC Chapter, Contributing Author;
- 2000 WHOI NOAA/CICOR Council of Fellows;
- 1999 WHOI NOAA/CICOR Council of Fellows;
- 1998 Co-founder of the Martha's Vineyard Observatory (www.whoi.edu/mvco).

Professional Societies

- American Geophysical Union;
- American Meteorological Society;
- American Society of Mechanical Engineers;
- American Physical Society.

Reviewer

Journal of Geophysical Research – Oceans;
Journal of Geophysical Research – Atmospheres;
Journal of Heat Transfer;
Journal of Fluid Mechanics;
Journal of Deep Sea Research;
Journal of Marine System;
Nature;
Geophysical Research Letters;
National Science Foundation;
National Oceanic and Atmospheric Administration;
Natural Sciences and Engineering Research Council, Canada;
Natural Environment Research Council, United Kingdom;
National Research Foundation, South Africa.

Oceanographic Cruises and Field Experiments

2005 Autonomous, high-resolution atmospheric/oceanic pCO₂ measurements, MVO, Woods Hole, MA.
2005 Duck Research Facility, Air-Sea Processes and Exchange, Duck, North Carolina, Oct.
2005 NSF Hudson River Submerged Aquatic Vegetation Study, Aug.
2005 Rain-Wind-Wave Experiment, University of Delaware, Mar.
2005 Florida Bay Air-Water Carbon Dioxide Flux cruises Feb-May.
2004 Hudson River Air-Water Carbon Dioxide Flux Cruises Jul-Oct.
2004 R/V Endeavor, Labrador Sea Ocean-Atmosphere Carbon Dioxide Experiment, Jun - Aug.
2003 Coupled Boundary Layers, Air-Sea Transfer (CBLAST), Martha's Vineyard Observatory.
2003 Hudson River Air-Water Gas Exchange: Hudson River Foundation.
2002 MVO ocean-atmosphere exchange studies.
2002 Biosphere II: Rain and air-water gas exchange, Mar.
2001 R/V Ronald H. Brown: Chief Scientist, GasEx-2001 Equatorial Pacific CO₂ study, Jan-Mar.
2000 R/P FLIP: Fluxes, air-sea interaction, and remote sensing (FAIRS), Sept-Oct.
2000 R/V Growler: Estuarine air-water gas transfer, Parker River Estuary, MA, Aug.
2000 North Sea Dutch Oil Platform: Exploratory high-winds air-sea flux experiment, Mar.
1998 NASA Wallops Wind-Wave Facility: air-water gas exchange, Nov.
1998 R/V Ronald H. Brown: GasEx-98 North Atlantic atmosphere-ocean CO₂ fluxes, May-Jun.
1997 R/V Oceanus: Gas transfer in coastal waters, Western Atlantic coastal waters, July.

1995 R/V New Horizon: Gas transfer in coastal waters, California Coast, Mar-Apr.
1994 University of Heidelberg Wind-Wave Facility: Air-water gas exchange, Oct-Nov.

Workshops (Invited)

2006 ORION, Science and Technology Committee (STAC), January, Washington, DC.
2005 ORION, Science and Technology Committee (STAC), October, Washington, DC.
2005 Coastal Carbon Science Issues, NSF/NOAA/NASA, September, Boulder, CO.
2005 Hudson River Foundation, River Physics, August, New York, NY.
2005 OC³, Woods Hole Oceanographic Institution, August, Woods Hole, Massachusetts.
2005 SOLAS Executive Committee Workshop, Tokyo, Japan, May 29 – Jun 1.
2005 Mid-Atlantic Coastal Ocean Observing Regional Association (MACOORA), Delaware.
2005 SOLAS Executive Committee Workshop, Montreal, March 29 – Apr 1.
2005 Hudson River Foundation Workshop – Metabolism and Lower Food Web, New York, NY.
2005 Massachusetts/Rhode Island Bays and adjacent shelf Workshop (MARIB), Fall River, MA.
2005 New York/New Jersey Clean Ocean and Shore Trust (COAST), Columbia University.
2005 MACOORA Workshop, Times Square, NY.
2005 New York/New Jersey Clean Ocean and Shore Trust (COAST), Rutgers University, NJ.
2005 Ocean-Atmosphere-Sea Ice-Snowpack (OASIS), Rome, Italy
2004 Kyoto Workshop on Air-Sea Interactions, Kyoto, Japan.
2004 World Climate Research Program, Working Group on Surface Fluxes.
2004 SOLAS International Open-Science Meeting, Halifax, Canada.
2004 Ocean Research Interactive Observatory Networks (ORION), Puerto Rico.
2003 ILEAPS, Helsinki, Finland.
2003 SOLAS Summer School, Corsica, France.
2003 NSF/NOAA/NASA/DOE Interagency North American Carbon Program, Wash, DC.
2003 NSF Autonomous and Lagrangian Platforms and Sensors (ALPS), San Diego CA.
2003 NSF International Ocean Carbon Coordination, Paris France.
2002 NSF Pacific Atmosphere-Ocean System on Circum-Pacific Carbon Balance, Honolulu HI.
2002 NOAA Volunteer Observing Ship (VOS) pCO₂ systems, Miami FL.
2001 NSF RIOMAR, New Orleans, LA.
2001 NSF/NOAA/ONR US SOLAS Washington, DC.
2001 ONR CBLAST, Washington, DC.
2000 NOAA CO₂ Observation Planning Group Meeting, Denver, CO.
1999 NSF-NOAA Workshop on in-situ gas exchange studies, San Diego, CA.

1999 NSF Workshop on Ocean Observatories, Dania, FL.

Committees

2005 – date Member of the ORION Science and Technology Advisory (STAC) Committee.

2004 – date Chair: United States SOLAS.

2004 – date Working Group for Surface Fluxes, WCRP.

2004 – date Chair: Implementation 2 International SOLAS

2004 – date International Surface Ocean Lower Atmosphere Study Science Steering Committee.

2003 – date North East Observing System (NEOS), Member.

2002 – date AMS Boundary Layer Turbulence Committee, Member.

2002 – date US Surface Ocean Lower Atmosphere Study (SOLAS) Committee, Member.

2002 – date SOLAS Summer School Organizing Committee, Member.

2002 Visiting Committee, NOAA CIRES Science Advisory Panel, Boulder, CO.

2001 – date AGU Air-Sea Interactions Committee, Member.

Presentations (Invited)

2005 Florida Bay Science Conference, Duck Key, Florida

2005 US Carbon Program Workshop, OC³, Woods Hole, MA.

2005 Liege Conference on Air-Water Gas Transfer, Liege, Belgium.

2005 Rutgers University, New Brunswick, NJ.

2004 London Royal Society, London, UK.

2004 University of East Anglia, Norwich, UK.

2004 University of Kyoto, Kyoto, Japan.2004

2004 SOLAS International Open Science Meeting, Halifax, Canada.

2004 Diurnal Cycling in the Ocean: Physics, Chemistry, and Biology, AGU, OR.

2003 Marine Sciences, State University of New York – Stonybrook, NY.

2003 Earth and Atmospheric Science, Purdue University, IN.

2002 Meteorology, Pennsylvania State University, PA.

2002 Earth and Atmospheric Science, Purdue University, IN

2001 Physical Oceanography, University of Rhode Island, RI.
2000 Linking Climate Variability and Coastal Processes, AGU.
2000 Keynote, Gas Transfer at Water Surfaces Meeting, Miami, FL.
1999 Gordon Conference for Chemical Oceanography, Meriden, NH.
1999 Special session on air-sea gas transfer, AGU, Boston, MA.
1999 Lamont-Doherty Earth Observatory, Wally Broecker Lecture Series, NY.
1999 Hurricane Conditions, CIMAS Fellowship, Univ. Miami, FL.
1999 Direct Measurements of Air-Sea Gas Fluxes, CIMAS Fellowship, Univ. Miami, FL.
1999 NSF Workshop on Coastal Observatories, Florida Atlantic University, Dania, FL.
1999 2nd International Symposium on CO₂ in the Ocean, Tsukuba, Japan.
1998 Direct Estimates of Air-Sea Gas Flux - GasEx98, JGOFS, WHOI, MA.
1998 Graduate School of Oceanography, University of Rhode Island, RI.
1997 Interfacial Hydrodynamics Measurements in the Ocean, MIT, MA.
1997 Near Surface Turbulence, University of Minnesota, MN.
1996 Air-Sea Exchange of Biogenic Gases, Parsons Lab, MIT, MA.
1996 Air-Sea Interactions, University of Virginia, VA.
1994 Effect of Surfactants on Air-Water Fluxes, Imperial College, London, UK.

Educational Activities

Graduate Students Advised

Josh Wilson, Ph.D., MIT/WHOI, co-Advisor (MIT Advisor Nick Makris), 2002 – date.

Research Topic: Acoustic sensing of air-sea interactions.

Dr. Erik J. Anderson, Ph.D., MIT/WHOI, co-Advisor (with M. Grosenbaugh), 1998 – 2004.

Research Topic: Boundary layers on live swimming fish.

Dr. Jerry S. Fries, Ph.D., MIT/WHOI, Thesis Committee Member. 2001.

Research Topic: Sediment transport in turbulent boundary layers.

Prof. Alexandra H. Techet, Advisor (MIT Advisor M. Triantafyllou), MIT/WHOI, 1997 – 2001.

Research Topic: Near-boundary hydrodynamics about fish-like swimming bodies.

Dr. Sean P. McKenna, Advisor, MIT/WHOI, 1996 – 2000.

Research Topic: Free surface turbulence and air-water gas transfer.

Samuel Tolkoff, MS, MIT Mechanical Engineering/Ocean Engineering, 1996 – 1998.

Research Topic: Automation and control of swimming robots.

Courses Taught

2004 Field Methods for Environmental Engineering (EAEE E4006.001)

2005 Field Methods for Environmental Engineering (EAEE E4006.001)

2006 Field Methods for Environmental Engineering (EAEE E4006.001)

Postdoctoral Scientists Advised

Dr. Brian Ward, 2001 – 2003.

Professor Peter Raymond, 2001 – 2002.

Dr. Christopher Zappa, 1999 – 2003.

Supervisor

Jonathan Bent, Columbia University

Timothy Newberger, Columbia University

Greg O’Keeffe, Columbia University

Undergraduate Students Advised

Hoang Tang, Columbia College, 2004-2005.

Jacy Bird, WHOI Summer Student Fellow, Brown University, 2002.

Research Topic: Gas transfer in shallow flows.

Jesse Chuhta, WHOI Summer Student Fellow, Colorado School of Mines, 1999.

Research Topic: A coastal flux tower for coupled atmosphere-ocean processes.

Jessica Lundquist, WHOI Summer Student Fellow, University of California Davis, 1998.

Research Topic: Momentum and drag coefficients during hurricane conditions.

Eric Tytell, Summer Student Fellow, University of North Carolina, 1997.

Research Topic: Hydrodynamics of impulsively starting fish.

Samuel Burns, Summer Investigator, Oberlin College, 1996.

Research Topic: Gas transfer experiments in a laboratory wind-wave tank.

Keith Contre, Summer Student Fellow, North Carolina State, 1995.

Research Topic: Direct measurements of air-sea CO₂ fluxes.

Postdoctoral Advisor

Dr. Erik J. Bock (deceased), Woods Hole Oceanographic Institution.

Graduate Research Advisor

Professor Van P. Carey, University of California Berkeley.

Collaborators In the Last Five Years

William Asher, APL/UW; James Edson, WHOI; Kerry Emanuel, MIT; John Dacey, WHOI; Chris Fairall, ETL/NOAA; Richard Feely, PMEL/NOAA; Nelson Frew, WHOI; Tetsu Hara, URI; Jeffrey Hare, ETL/NOAA; David Ho, LDEO; Mike DeGrandpre, UM; Mark Donelan, RSMAS/UM; William Drennan, RSMAS/UM; Andrew Jessup, APL/UW; Peter Raymond, Yale; Colm Sweeney, CMDL/NOAA; Rik Wanninkhof, AOML/NOAA.

Refereed Publications

1. McNeil, C. L., B. Ward, W. R. McGillis, M. D. DeGranpre, and L. Marcinowski, 2005. Fluxes of N₂, O₂ and CO₂ in Nearshore Waters off Martha's Vineyard, *Continental Shelf Research*, (in revision).
2. Salisbury, J., D. Vandemark, C. Hunt, J. Campbell, W. R. McGillis, and W. McDonald, 2005. Seasonal observations of surface waters in two Gulf of Maine estuary-plume systems: relationships between watershed attributes, optical measurements and surface pCO₂, *Journal of Estuarine, Shelf and Coast Science*, (submitted).
3. McNeil, C. L., Katz, D. R., B. Ward, W. R. McGillis, and B. D. Johnson, 2005. A method to estimate net community metabolism from profiles of dissolved O₂ and N₂, *Hydrobiologia*, (submitted).
4. Ho, D. T., F. Veron, E. Harrison, L. F. Bliven, N. Scott, and W. R. McGillis, 2005. The combined effect of rain and wind on air-water gas exchange: A feasibility study, *Journal of Marine Systems*, (submitted).

5. McGillis, W. R., and R. Wanninkhof, 2005. Aqueous CO₂ Gradients for Air-Sea Flux Estimates, *Journal of Marine Chemistry*, in press.
6. Zappa, C. J., and W. R. McGillis, 2005. Scaling Gas Transfer with Turbulent Dissipation for a Range of Environmental Processes, *Science*, (submitted).
7. Adamik, P., S. M. Gallagher, E. Horgan, L. P. Madin, W. R. McGillis, A. Govindarajan, and P. Alatalo, 2005. Effects of turbulence on the feeding rate of pelagic predators: the planktonic hydroid *Clytia gracilis*, *Marine Ecology Progress Series*, (in press).
8. McKenna, S. P., and W. R. McGillis, 2004. Observations of flow repeatability and secondary circulation in an oscillating grid-stirred tank, *Physics of Fluids*, V 16, N 9.
9. McGillis, W. R., W. E. Asher, R. Wanninkhof, A. T. Jessup, and R. A. Feely, 2004. Air-Sea Exchange, *J. Geophys. Res.*, Vol. 109, C08S01.
10. McGillis, W., J. Edson, C. Zappa, S. McKenna, E. Terray, W. Drennan, M. Donelan, J. Hare, and C. Fairall, M. D. DeGrandpre, R. Wanninkhof, and R. Feely, 2004. Air-sea CO₂ fluxes in the Equatorial Pacific, *J. Geophys. Res.*, Vol. 109, C08S02.
11. Feely, R., R. Wanninkhof, W. McGillis, M.-E. Carr, and C. Cosca, 2004. The effects of wind-speed and gas exchange parameterizations on the air-sea CO₂ fluxes in the equatorial Pacific Ocean *J. Geophys. Res.*, Vol. 109, C08S03.
12. DeGrandpre, M. D., R. Wanninkhof, W. R. McGillis, and P. G. Strutton, 2004. A Lagrangian study of surface pCO₂ dynamics in the eastern equatorial Pacific Ocean, *J. Geophys. Res.*, Vol. 109, C08S07.
13. Edson, J. B., C. J. Zappa, J. E. Hare, and W. R. McGillis, 2004. Scalar flux profile relationships over the open-ocean, *J. Geophys. Res.*, Vol. 109, C08S09.
14. Zemmelen, H. J., W. Klaassen, W. W. C. Gieskes, H. J. W. de Baar, H. W. de Groot, J. W. H. Dacey, E. J. Hintsa, and W. R. McGillis, 2004. Relaxed eddy accumulation measurements of the sea-to-air transfer of dimethylsulfide over the northeastern Pacific, *J. Geophys. Res.*, DOI10.1029/2003JC001795.
15. Hare, J. E., C. Fairall, W. McGillis, B. Ward, and R. Wanninkhof, 2004. Evaluation of the NOAA/COARE air-sea gas transfer parameterization using GasEx data, *J. Geophys. Res.*, DOI 10.1029/2003JC001795.

16. Ward, B., R. Wanninkhof, W. R. McGillis, A. T. Jessup, M. D. DeGrandpre, J. E. Hare, and J. B. Edson, 2004. Biases in air-sea flux of CO₂ resulting from ocean surface temperature gradients during GasEx-2001, *J. Geophys. Res.*, DOI 10.1029/2003JC001800.
17. Ho, D., C. Zappa, W. McGillis, L. Bliven, J. Dacey, B. Ward, P. Schlosser, and M. Hendricks, 2004. Influence of rain on air-sea gas exchange: Lessons from a model ocean, *J. Geophys. Res.*, DOI 10.1029/2003JC001806.
18. Frew, N., J. Edson, W. McGillis, S. McKenna, R. Nelson, T. Hara, B. Uz, U. Schimpf, E. Bock, B. Jähne and H. Haussecker, 2004. Air-sea gas transfer: Its dependence on wind stress, small-scale roughness and surface films *J. Geophys. Res.*, DOI 10.1029/2003JC002131.
19. Hintsa, E. J., J. W. H. Dacey, W. R. McGillis, J. B. Edson, C. J. Zappa, and H. J. Zemmeling, 2004. Sea-to-air fluxes from measurements of the atmospheric gradient of dimethylsulfide and comparison with simultaneous relaxed eddy accumulation measurements, *J. Geophys. Res.*, Vol 109, doi:10.1029/2002JC001617.
20. Zemmeling, H. J., W. Klaassen, W. W. C. Gieskes, H. J. W. de Baar, H. W. de Groot, J. W. H. Dacey, E. J. Hintsa, and W. R. McGillis, 2004. Relaxed eddy accumulation measurements of the sea-to-air transfer of dimethylsulfide over the northeastern Pacific, *J. Geophys. Res.*, Vol 109, doi:10.1029/2002JC001616.
21. McKenna, S. P., and W. R. McGillis, 2004. The role of free-surface turbulence and surfactants in air-water gas transfer, *International Journal of Heat and Mass Transfer*, 47, 539-553.
22. Zappa, C. J., P. A. Raymond, E. A. Terray, and W. R. McGillis, 2003. Variation in surface turbulence and the gas transfer velocity over a tidal cycle in a macro-tidal estuary, *Estuaries*, Vol. 26, No. 6, 1401-1415.
23. Zemmeling, H. J., W. W. C. Gieskes, W. Klaassen, H. W. de Groot, H. J. W. de Baar, J. W. H. Dacey, E. J. Hintsa, and W. R. McGillis, 2002. Simultaneous use of relaxed eddy accumulation and gradient flux technique for the measurement of sea-to-air exchange of dimethyl sulphide, *Atmospheric Environment*, Volume 36, Issues 36-37, 5709-5717.
24. Austin, T., J. Edson, W. McGillis, M. Purcell, R. Petitt, M. McElroy, C. Grant, and S. Hurst, 2002. A Network-based telemetry architecture developed for the Martha's Vineyard Coastal Observatory, *IEEE Journal of Ocean Engineering*, Vol 27, No. 2, 228-234.

25. McKenna, S. P., and W. R. McGillis, 2002. Fundamental performance of particle image and particle tracking velocimetry techniques. *Experiments in Fluids*, 32, 106-115.
26. Bock, E.J., J.B. Edson, N.M. Frew, T. Hara, H. Haussecker, B. Jähne, W.R. McGillis, S.P. McKenna, U. Schimpf, and M. Uz, 2002. Overview of the CoOP Experiments: Physical and chemical measurements parameterizing air-sea heat transfer. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 39-44.
27. Hara, T., M. B. Uz, H. Wei, E. J. Bock, J. Dieter, H. Haussecker, J. B. Edson, N. M. Frew, W. R. McGillis, S. P. McKenna, 2002. Surface wave observations and their relation to air-sea gas transfer during CoOP experiments. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 45-49.
28. McKenna, S. P., and W. R. McGillis, 2002. Surface divergence and air-water gas transfer. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 129-134.
29. Frew, N. M., E. J. Bock, R. K. Nelson, W. R. McGillis, J. B. Edson, and T. Hara, 2002. Spatial variations in surface microlayer surfactants and their role in modulating air-sea exchange. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 153-159
30. Soloviev, A., J.B. Edson, W.R. McGillis, P. Schluessel, and R. Wanninkhof, 2002. Fine thermohaline structure and gas exchange in the near-surface layer of the ocean during GasEx-98. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 181-185.
31. Asher, W.E., J.B. Edson, W.R. McGillis, R. Wanninkhof, D.T. Ho, and T.M. Litchendorf, 2002. Fractional area whitecap coverage and air-sea gas transfer velocities measured during GasEx-98. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M. Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 199-203.
32. Wanninkhof, R., S. Doney, T. Takahashi, and W. McGillis, 2002. The effect of using averaged winds on global air-sea CO₂ fluxes. In: *Gas Transfer at Water Surfaces*, M. A. Donelan, W. M.

- Drennan, E. S. Saltzman and R. Wanninkhof (eds.), AGU Geophysical Monograph Series, Vol.127, AGU Press, 351-356.
33. McGillis, W. R., J. B. Edson, J. D. Ware, J. W. H. Dacey, J. E. Hare, C. W. Fairall, R. Wanninkhof, 2001. Carbon dioxide flux techniques performed during GasEx-98. *Journal of Marine Chemistry*, 75, 267-280.
 34. McGillis, W. R., J. B. Edson, J. E. Hare, and C. W. Fairall, 2001. Direct covariance air-sea CO₂ fluxes, *Journal of Geophysical Research*, Vol. 106, No. C8, 16,729-16,745.
 35. Levy, L. C., W. R. McGillis, J. T. Germaine, and P. J. Culligan, 2001. Spinning drop tensiometry using a square section sample tube. *Journal of Colloid and Interface Science*, 234, 442-444.
 36. Anderson, E. J., W. R. McGillis, and M. A. Grosenbaugh, 2001. Live fish boundary layers, *Journal of Experimental Biology*, 204, 81-102.
 37. Fairall, C. W., J. E. Hare, J. B. Edson, and W. R. McGillis, 2000. Parameterization and micrometeorological measurements of air-sea gas transfer. *Boundary-Layer Meteorology*, 96, 63-105.
 38. McGillis, W. R., J. W. H. Dacey, N. M. Frew, E. J. Bock, and R. K. Nelson, 2000. Water-air flux of dimethylsulfide. *Journal of Geophysical Research*, Vol. 105, No. C1, 1187-1193.
 39. Bock, E. J., T. Hara, N. M. Frew, and W. R. McGillis, 1999. Relationship between air-sea gas transfer and short wind waves. *Journal of Geophysical Research*, 104, C11, 25821-25831.
 40. Wanninkhof, R., and W. R. McGillis, 1999. A cubic relationship between air-sea CO₂ exchange and windspeed. *Geophysical Research Letters*, Vol. 26, No. 13, 1889-1892.
 41. Hara, T., E. J. Bock, J. B. Edson, and W. R. McGillis, 1998. Observations of short wind-waves in coastal waters. *Journal of Physical Oceanography*, July, 1425-1438.
 42. McKenna, S. P., W. R. McGillis, and E. J. Bock, 1996. The influence of surface films on nearsurface vortical flows. *Journal of Colloids and Surfaces*, 18, V118, N3:263-272.
 43. McGillis, W. R., and V. P. Carey, 1996. On the role of Marangoni effects on the critical heat flux for pool boiling of binary mixtures. *Journal of Heat Transfer*, V118, 103-109.
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