

CURRICULUM VITAE

SALLY MACINTYRE

Department of Ecology, Evolution and Marine Biology
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Education:

A.B., Zoology (cum laude), Duke University, Durham, North Carolina, 1968-1972.

Ph. D., Duke University, Zoology Department and Department of Mechanical Engineering (minor), Durham, North Carolina, 1974-1981. Thesis: Stratification and mixing in shallow, tropical African lakes.

Research Interests:

Physical, biological and chemical coupling: effects of physical processes on ecosystem function, including rates of nutrient and light supply to phytoplankton and resulting primary productivity; formation and persistence of marine and lacustrine aggregates, dispersion of pollutants, and gas exchange in lakes and coastal waters.

Field studies and analysis of physical processes leading to transport of biologically important materials in lakes and oceans: Turbulence in the upper mixed layer, thermocline, and benthic boundary layer, internal wave dynamics, surface energy budgets, and convective circulation.

Academic Positions:

2/81-5/82	National Science Foundation Postdoctoral Fellow Marine Science Institute, UC Santa Barbara
6/82 -1/85	Assistant Research Engineer I Dept. of Mechanical and Environmental Engineering UC Santa Barbara
2/85-6/90	Assistant Research Engineer II Marine Science Institute UC Santa Barbara
9/86-3/89	Lecturer (part-time) Dept. of Biological Sciences UC Santa Barbara
7/90-7/93	Assistant Research Oceanographer/Limnologist III Marine Science Institute and Computer Systems Laboratory UC Santa Barbara
7/93 - 7/95	Assistant Research Oceanographer/Limnologist IV

	Marine Science Institute and Institute for Computational Earth Systems Science UC Santa Barbara
7/95 - 6/97	Associate Research Oceanographer/Limnologist II Marine Science Institute and Institute for Computational Earth Systems Science UC Santa Barbara
7/97 – 6/99	Associate Research Oceanographer/Limnologist III Marine Science Institute and Institute for Computational Earth Systems Science UC Santa Barbara
9/96 - present	Lecturer (part time) Department of Ecology, Evolution, and Marine Biology UC Santa Barbara
7/99 –6/04	Research Oceanographer/Limnologist Marine Science Institute and ICESS UC Santa Barbara
7/04	Professor Department of Ecology, Evolution and Marine Biology UC Santa Barbara

Consulting Service:

Marine Review Committee, Solana Beach, CA., - Review quarterly and annual reports and research proposals totalling ca. 500-1000 pages yearly, 1982-1987.

Centre for Limnological Modeling, Univ. of Western Australia, Nedlands, W.A. - Advise and report on limnological problems related to the transport of particulates, 1987- 1992.

Awards:

United States Geological Survey Predoctoral Fellowship, 1976-1979.

National Science Foundation National Needs Postdoctoral Fellowship, March, 1979.
(tenured, 1981-1982).

National Research Council Postdoctoral Fellowship, May, 1979.

U.S. Antarctic Service Medal, 1991

Glennon Fellowship, University of Western Australia, 2002

Publications:

- (1) Peters, R.H., and S. MacIntyre. 1976. Orthophosphate turnover in East African lakes. **Oecologia** 25:313-319.
- (2) MacIntyre, S. and J.M. Melack. 1982. Meromixis in an equatorial African soda lake. **Limnol. Oceanogr.** 27:595-609.

- (3) MacIntyre, S. 1984. Current fluctuations in the surface waters of small lakes. Pages 125-131. In: W.H. Brutsaert and G.H. Jirka (eds.), **Gas Transfer at Water Surfaces** D. Reidel Publishing Co.
- (4) MacIntyre, S. and J.M. Melack. 1984. Vertical mixing in Amazon floodplain lakes. **Verh. Internat. Verein. Limnol.** 22:1283-1287.
- (5) MacIntyre, S. 1986. Flow measuring system for small lakes. **Limnol. Oceanogr.** 31:900-906.
- (6) Alldredge, A.L., C. C. Gotschalk and S. MacIntyre. 1987. Evidence-for sustained residence of macrocrustacean fecal pellets in surface waters off southern California. **Deep-Sea Research.** 34:1641-1652.
- (7) MacIntyre, S. and J.M. Melack. 1988. Frequency and depth of vertical mixing in an Amazon floodplain lake (L. Calado, Brazil). **Verh. Internat. Verein. Limnol.** 23:80-85.
- (8) Crill, P., K.B. Bartlett, J.D. Wilson, D.K. Sebacker, R.C. Harriss, J.M. Melack, S. MacIntyre, L. Lesack, and L. Smith-Morrill. 1988. Trophospheric methane from an Amazon floodplain lake. **J. Geophys. Res.** 93:1564-1570.
- (9) MacIntyre, S., W.J. Lick and C.H. Tsai. 1990. Variability of entrainment of cohesive sediments in freshwater. **Biogeochemistry** 9:187-209.
- (10) Melack, J.M. and S. MacIntyre. 1992. Phosphorus concentrations, supply and limitation in tropical African lakes and rivers. Pages 1-18. In: H. Tiessen (ed.,) **Phosphorus Cycles in Terrestrial and Aquatic Ecosystems. Regional Workshop 4: Africa.** SCOPE and UNEP, Nairobi 1991.
- (11) Smith, R. C., B.B. Prézelin, K. S. Baker, R.R. Bidigare, N.P. Boucher, T. Coley, D. Karentz, S. MacIntyre, H.A. Matlick, D. Menzies, M. Ondrusek, Z. Wan and K.J. Waters. 1992. Ozone Depletion: Ultraviolet Radiation and Phytoplankton Biology in Antarctic Waters. **Science** 255:952-959.
- (12) Widder, E.A., J.F. Case, S.A. Bernstein, S. MacIntyre, M.R. Lowenstine, M.R. Bowlby and D.P. Cook. 1993. A new large volume bioluminescence bathyphotometer with defined turbulence excitation. **Deep-Sea Research.** 40:607-627.
- (13) MacIntyre, S. 1993. Mixing in the euphotic zone of a shallow, turbid lake: Consequences for the phytoplankton. **Limnol. Oceanogr.** 38: 798-817.
- (14) MacIntyre, S., R. Wanninkhof, and J. Chanton. 1995. Trace gas exchange across the air-water interface in freshwater and coastal marine environments. Chapter 3 in (P. Matson and R. Harriss, eds.) **Biogenic Trace Gases: Measuring Emissions from Soil and Water.** Blackwell. pp. 52-97.
- (15) MacIntyre, S., A.L. Alldredge, and C.C. Gotschalk. 1995. Accumulation of marine snow at density discontinuities in the water column. **Limnol. Oceanogr.** 40: 449-468.
- (16) MacIntyre, S., and J. M. Melack. 1995. Vertical and horizontal transport in lakes: linking littoral, benthic, and pelagic habitats. **J. N. Am. Benthol. Soc.** 14: 599-615.
- (17) MacIntyre, S. 1997. Turbulent eddies and their implications for phytoplankton within the euphotic zone of Lake Biwa, Japan. **Japanese Journal of Limnology** 57:395-410.
- (18) MacIntyre, S. 1998. Turbulent mixing and resource supply to phytoplankton, p. 539-567. In J. Imberger, [ed.] **Physical Processes in Lakes and Oceans, Coastal and Estuarine Studies,** AGU

- (19) Scully, N.M., W.F. Vincent, D.R.S. Lean, and S. MacIntyre. 1998. Hydrogen peroxide as a natural tracer of mixing in surface layers. **Aquatic Sciences** 60: 169-186.
- (20) Robarts, R.D., M. Waiser, O. Hadas, T. Zohary, and S. MacIntyre. 1998. Contrasting relaxation of phosphorus limitation due to typhoon-induced mixing in two morphologically distinct basins of Lake Biwa, Japan. **Limnol. Oceanogr.** 43: 1023-1036.
- (21) MacIntyre, S., K.M. Flynn, R. Jellison, and J.R. Romero. 1999. Boundary mixing and nutrient flux in Mono Lake, CA. **Limnol. Oceanogr.** 44: 512-529.
- (22) Washburn, L., S. Stone, and S. MacIntyre. 1999. Produced water dispersion in a coastal environment and its biological implications. **Continental Shelf Research.** 19: 57-78.
- (23) Jellison, R., S. MacIntyre, and F.J. Millero. 1999. Density and conductivity properties of Na-CO₃-Cl-SO₄ brine from Mono Lake, California. **Int. J. Salt Lake Res.** 8: 41-53.
- (24) MacIntyre, S., and J.R. Romero. 2000. Predicting upwelling, boundary mixing, and nutrient fluxes in lakes. **Verh. Internat. Verein. Limnol.** 27:246-250.
- (25) Graham, W. M., S. MacIntyre, and A.L. Alldredge. 2000. Diel patterns in the concentration of marine snow in surface waters. **Deep Sea Res. I.** 47:367-395.
- (26) MacIntyre, S. W. Eugster, and G.W. Kling. 2001. The critical importance of buoyancy flux for gas flux across the air-water interface. In **Gas Transfer at Water Surfaces**, edited by M.A. Donelan, W.M. Drennan, E.S. Saltzman, and R. Wanninkhof. AGU
- (27) MacIntyre, S., and R. Jellison. 2001. Nutrient fluxes from upwelling and enhanced turbulence at the top of the pycnocline in Mono Lake, CA. **Hydrobiologia.** 466: 13-29.
- (28) MacIntyre, S., J. R. Romero, and G.W. Kling. 2002. Spatial-Temporal Variability in Mixed Layer Deepening and Lateral Advection in an Embayment of Lake Victoria, East Africa. **Limnology and Oceanography** 47: 656-671.
- (29) Alldredge, A.L., T.J. Cowles, S. MacIntyre, J.E.B. Rines, P.L. Donaghay, C.F. Greenlaw, D.V. Holliday, M.M. Deksheniaks, J.M. Sullivan, and J.R.V. Zaneveld. 2002. Occurrence and mechanisms of formation of a dramatic thin layer of marine snow in a shallow Pacific fjord. **Mar. Ecol. Prog. Ser.** 233: 1-12.
- (30) Hobbie, J.E., G. Shaver, J. Laundre, K. Slavik, L. Deegan, J. O'Brien, S. Oberbauer, and S. MacIntyre. Climate forcing at the Arctic LTER site. pp. 74-91 *In* David Greenland, Douglas Goodin, Raymond Smith, eds. **Climate Variability and Ecosystem Response at Long-Term Ecological Research (LTER) Sites.** Oxford University Press. N.Y.
- (31) McManus, M.A., AL Alldredge, A Barnard, E Boss, J Case, TJ Cowles, PL Donaghay, LB Eisner, DJ Gifford, CF Greenlaw, C Herren, DV Holliday, D Johnson, S MacIntyre, D McGehee, TR Osborn, MJ Perry, R Pieper, JEB Rines, DC Smith, JM Sullivan, MK Talbot, MS Twardowski, A Weidemann and JR Zaneveld 2003. Changes in Characteristics, Distribution and Persistence of Thin Layers Over a 48 Hour Period. **Mar. Ecol. Prog. Ser.** 261: 1-19.
- (32) Eugster, W., G.W. Kling, T. Jonas, J.P. McFadden, A. Wuest, S. MacIntyre, and F.S. Chapin III. 2003. CO₂ exchange between air and water in an Arctic Alaskan and mid-latitude Swiss lake: the importance of convective mixing. **J. Geophys. Res. (Atmospheres).** 108(D12), 4362, doi: 10.1029/202JD002653.
- (33) Wurtsbaugh, W., J. Cole, D. McKnight, P. Brezonik, S. MacIntyre, and K. Potter. 2003. Emerging Research Questions for Limnology: The Study of Inland Waters. Boulder, CO., Am. Soc. Limnol. Oceanogr. 45 p.

- (33) Banerjee, S, and S. MacIntyre. 2004. The air-water interface: turbulence and scalar exchange. pp. 181-237 in John Grue, Philip L. F. Liu, and Geir K. Pedersen eds. *Advances in Coastal and Ocean Engineering*. World Scientific.
- (34) Kratz, T. K., S. MacIntyre, and K. E. Webster. 2005. Causes and consequences of spatial heterogeneity in lakes. Pp. 329-347 In Lovett, G. M., C. G. Jones, M. G. Turner, and K.C. Weathers (eds.). *Ecosystem Function in Heterogeneous Landscapes*. Springer, NY.
- (35) MacIntyre, S., J.O. Sickman, S.A. Goldthwait, and G.W. Kling. 2006. Physical pathways of nutrient supply in a small, ultra-oligotrophic arctic lake during summer stratification. **Limnol. Oceanogr.** 51: 1107-1124.
- (36) Caceres, C.E., S.R. Hall, M.A. Duffy, A.J. Tessier, C. Helmle, and S. MacIntyre. 2006. Physical structure of lakes constrains epidemics in *Daphnia* populations. **Ecology** 87: 1438-1444.
- (37) Gaylord, B.P., J.H. Rosman, D.C. Reed., J.R. Koseff, J.P. Fram, S. MacIntyre, K. Arkema, C. McDonald, J.L. Largier, M.A. Brzezinski, P.T. Raimondi, S.G. Monismith, and B. Mardian. (In submission.) Spatial patterns of flow and their modifications within and around a giant kelp forest. *Limnol. Oceanogr.*
- (38) Johnson, C.R., W.J. O'Brien, and S. MacIntyre. (in press). Vertical and temporal distribution of two copepod species, *Cyclops scutifer* and *Diatomus pribilofensis*, in Toolik Lake, AK. *J. Plankton Research*.
- (39) Evans, M.A., S. MacIntyre, G.W. Kling. (in submission). Internal wave effects on primary productivity: experiments, theory and modeling. *Limnol. Oceanogr.*
- (40) McPhee-Shaw, E.E., S. MacIntyre, and W.J. Shaw. (in review). Internal waves and mixing in Mono Lake, California. *J. Geophys. Res.*

Book Reviews:

MacIntyre, S. 1987. *Aquatic Studies*. Review of Limnology in Australia. P. De Decker and W.D. Williams, eds. *Science* 236:1579-1581.

Technical Reports:

MacIntyre, S. 1986. The bioluminescence bathyphotometer: Internal hydrodynamics. Report to the Office of Naval Research.

MacIntyre, S., W.J. Lick and P. Cullen. 1984. Portable entrainment simulator. Report to the U.S. Environmental Protection Agency.

MacIntyre, S., and W.J. Lick. 1984. Entrainment from the River Raisin. Report to the U.S. Environmental Protection Agency.

MacIntyre, S. 1994. Turbulent mixing in Lake Biwa. BITEK Symposium/Workshop, Short Paper. Otsu/Nagahama, Japan, 5-9 November 1994.

Kling, G.W., S. MacIntyre, J.S. Steinfeld, and F. Hirslund. 2006. Lake Kivu Gas Extraction. Report on Lake Stability. Report to the World Bank by the Expert Committee

Grant Proposals Awarded:

Biogenic Gas Emissions and Dynamics Along the Amazon River Floodplain. Co-principal investigator with J.M. Melack. NASA/University of Washington. 1987-88. \$21,000.

Mixing Processes in Lakes and Coastal Waters. Co-principal investigator. UCSB Opportunity Fund. 1987. \$7,600.

Temporal and Spatial Variations of Chemical Signals in the Aquatic Environment and Their Influence on Larval Settlement. Co-principal investigator with R.K. Zimmer-Faust. NSF. 1990-1992. \$66,974.

Ozone Diminution, UVB, and Phytoplankton Biology in Antarctic Waters. Co-principal investigator with Ray Smith and Barbara Prezelin. NSF. 1990-1992. \$340,000.

Augmentation of a New Calibration Lab for Oceanographic, Conductivity, Temperature and Depth Sensors. Co-principal investigator. UCSB Special Opportunity Research Application. 1992. \$4,176.

Spatial Scale of Produced Water Impacts as Indicated by Plume Dynamics and Biological Field Assays. Co-principal Investigator with L. Washburn and C. Osenberg. Minerals Management Service. 1992-1994. \$58,331.

Vertical Turbulent Transport and Its Effects on Light and Nutrient Supply in the Euphotic Zone. Office of Naval Research. 1993-1995. \$43,334.

BITEX 93: Vertical Mixing in the North and South Basins of Lake Biwa and Resulting Differences in Nutrient Flux and Light Climate of Phytoplankton. Japanese Government Research Awards for Foreign Specialists. 1993. \$7,194.

Lake Victoria: Structure and Function of a Tropical Ecosystem. NSF/University of Michigan. 1994-1997. \$57,655.

Vertical Mixing and Resource Supply to Phytoplankton. NSF. 1994-1997. \$290,000.

Experiences in Environmental Science for In-service and Pre-Professional Teachers and Students in Elementary Schools. California Dept. of Education. 1996. \$10,009.

The Relationship between the Fine-Scale Vertical Distributions of Macrozooplankton, Marine Snow, and Turbulence in the Upper Water Column. Co-principal investigator with A. L. Alldredge. ONR. 1996-1998. \$153,155.

Formation of Marine Biological Thin Layers: Recruitment of Zooplankton. Co-principal investigator with A.L. Alldredge and J. F. Case. ONR 1997-2000. \$145,053. AASERT Award for Christy Herren.

Turbulent Mixing: Effects on Resource Supply and Primary Production in Lakes. NSF. 1998- 2001. \$375,000

Diurnal Patterns in the Persistence of 'Thin-Layers' of Marine Snow, Zooplankton, and Turbulent Microstructure in Coastal Waters. ONR. 1998-2000. \$280,000. Co-PI with Alice Alldredge

Boundary Mixing over Sloping and Rough Topography: Pathways of Energy Transport. NSF, Physical Oceanography. 1999-2002. Co-PIs, Stephen Monismith, Stanford University, Geoff Schladow, UC Davis. \$720,000

Patterns of 'Thin Layers' of Marine Snow, Zooplankton, Phytoplankton, and Turbulence in Coastal Waters and Fjords. Office of Naval Research, 2000. co-PI with Alice Alldredge, \$78,000

Turbulent Mixing, Internal Waves, and Intrusions: Effects on Resource Supply and Primary Productivity in Lakes. NSF. 9/01/2001-8/31/2004. \$440,000

Coastal Bioluminescence Prediction Network (BPN): An Economical Development by Supplementation of Existing Environmental Monitoring Resources. Co-PI with James F. Case. \$228,476. Defense University Research Instrumentation Program (DURIP).

Collaborative Research: Physical Limnology for the Parasite Ecologist. Co-principal investigator with Alan Tessier, Marianne Heubner, and Carla Caceres. NSF 5/1/2003-4/30/2007. \$905,637.

Collaborative Research: Aquatic Plant Beds as Biogeochemical Hot Spots in a Large River Ecosystem. NSF. \$147,094. Collaborative with J.J. Cole and Nina Caraco (Institute for Ecosystem Studies), Wade McGillis (Columbia) and Pete Raymond (Yale). 9/1/2004 – 8/31/2007.

Ecosystem Functioning in Giant Kelp Forests: Linking Hydrodynamics to an Essential Forage Species and its Benthos. UC Marine Council with Gaylord, Reed, Brzezinski, Holbrook (UCSB) \$662,617; 7/1/04-8/31/07.

Determining Factors for Eurasian Watermilfoil (*Myriophyllum spicatum L.*) spread in and around Lake Tahoe, CA-NV. PI – Bruce Kendall, Co-PI Sally MacIntyre. University of California Center for Water Research, \$60,000; 6/1/06 - 5/31/08

Proposals Pending:

Turbulent Mixing, Internal Waves, and Intrusions: Temporal and Spatial Variability of Resource Supply and Metabolic Activity in Lakes. NSF. \$521,625 Recommended for Funding Feb. 2007.

Arctic Lakes are Sieves: Will Climate Warming Close the Pores. NSF. \$262,415

EnGen: Microbial Responses to Enhanced Turbulence in a Stratified Lake. Co-PI with J.T. Hollibaugh. \$891,003.

Teaching:

1986	Lecturer, Biology 145AL, Chemical and Physical Methods in the Aquatic Environment
1987	Faculty Sponsor, Biology 193, 1 student quarter - undergraduate
1987	Lecturer, Biology 145B, Ecological Processes in the Aquatic Environment
1988	Lecturer, Biology 145A and Biology 145B, Ecological Processes in the Aquatic Environment
1989	Lecturer, Biology 145B, Ecological Processes in the Aquatic Environment
1992	Guest Lecturer, Biology 148, Ecology of Running Waters and Biology 145A, Ecological Processes in the Aquatic Environment
1996	Instructor, ES 193, Teaching Ecological Literacy, 2 quarters
1996	Faculty Sponsor, ES 195, two undergraduate interns
1997	Guest lecturer, Bren School of Science and Management, Biogeochemistry Class
1996-present	Lecturer, EEMB 145AL, Chemical and Physical Methods in the Aquatic Environment, (renamed EEMB 142BL Winter 2003)
1996-present	Lecturer, EEMB 145A, Ecological Processes in the Aquatic Environment , (renamed EEMB 142B Winter 2003)

1997	Faculty Mentor and Guest Lecturer, 1 undergraduate intern in NASA Summer Workshop in Earth System Science
1998	Lecturer, EEMB, 595Q, Two quarter graduate/undergraduate seminar on Physical-Biological Coupling, <i>Turbulence and Circulation of Phytoplankton</i>
1998	Faculty Advisor, EEMB 184, Undergraduate Intern, Alexis Racelis
1998	Guest Lecturer, NASA Summer Workshop in Earth System Science
1999	EEMB 194, 4 undergraduate interns
1999	Lecturer, EEMB 595Q, Two quarter graduate seminar on Physical-Biological Coupling, based on S. Vogel's <i>Life in Moving Fluids</i>
2000	EEMB 194, 6 undergraduate interns
2002	Guest Lecturer, EEMB/Bren Ecology of Lakes and Wetlands
2005-present	EEMB 117/217, Flow in Aquatic Ecosystems
2006	EEMB 595, Graduate Seminar in Freshwater Ecology, Spring Quarter

Graduate Student Advising:

1983-87	Member of Doctoral Committee for Susan Schoen, Ph.D. student in Biological Sciences studying effects of Langmuir circulations on distribution of plankton.
1986-1992	Member of Doctoral Committee for Robert Jellison, Ph.D. student in Biological Sciences studying limnology of Mono Lake, California.
1990-1993	Member of Doctoral Committee for Oscar Schofield, Ph.D. student in Biological Sciences studying phytoplankton physiology and biological oceanography.
1991-1996	Member of Doctoral Committee for Jose Romero, Ph.D. student in Biological Sciences studying limnology of Mono Lake, California.
1992-1994	Member of Doctoral Committee of Huamin Ma, Ph.D. student in Mechanical and Environmental Engineering studying internal waves in stratified flows.
1993 - 1995	Member of Master's Committee of Shannon Stone, student in Mechanical and Environmental Engineering studying dispersion of a plume of produced water.
1994 - 2000	Member of Doctoral Committee of Steven Swearer, student in Biological Sciences studying dispersion of fish larvae.
1995 - 2000	Co-Chairman of Doctoral Committee of Kevin Flynn, student in Geography studying physical limnology of Mono Lake, CA. Terminated.
1996 - 2000	Member of Doctoral Committee of Gabrielle Johnson, student in Marine Science Interdepartmental Program studying photoadaptation of phytoplankton in turbulent water bodies.

1996-1997	External Examiner: Jennifer Verduin, Univ. Of Western Australia, Ph.D. Biology Mark Bailey, Univ. Of Western Australia, M.S., Civil Eng. John Hely-Hutchinson, Univ. Of Port Elizabeth, South Africa, Ph.D. Geology
1998 – 2002	Member of Doctoral Committee of Christy Herren, student in Marine Science Interdepartmental Program studying bioluminescence
1999-2004	Member of Doctoral Committee of Sveinn O. Palmarrsson, Dept. of Civil and Environmental Engineering, UC-Davis, studying internal waves, turbulence, and development of intrusions
2000	External Examiner: Angelo A. Saggio, University of Western Australia, Ph. D. Civil Engineering
2002	Member of Doctoral Committee of Tamara Lunsmsn, Dept of Mechanical Engineering, UCSB
2003	Member of Doctoral Committee of Xinshuang (Jack) Nan, Dept of Mechanical Engineering, UCSB.
2003	External Examiner, Katherine O'Brien. University of Western Australia, Ph.D. Civil Engineering
2003	External Examiner, Rudi Regel, University of Adelaide, Ph.D. Botany
2004 - present	Member of Doctoral Committee of Kevin Shock; Dept of Civil Engineering, U. Washington
2004	External Examiner, Piet Verburg, Dept. of Biology, University of Waterloo, Canada
2004	External Examiner, Clelia Marti, Dept. of Civil Engineering, U. Western Australia
2005	Member of Doctoral Committee of Shawna McMahan, Dept of Ecology, Evolution and Marine Biology, UCSB
2005	Chair, Doctoral Committee of Robyn Smyth, Dept of Ecology, Evolution and Marine Biology, UCSB
2005	Member of Doctoral Committee of Marion Wittmann, Bren School, UCSB
2005	Member of Masters Committee, Shinichi Asao, EEMB, UCSB.
2006	External Examiner, Andreas Gomez-Giraldo, Dept. of Civil Eng. UWA
2006	Undergraduate Advising: Arron Layns and Jennifer Romanowich, Honors Theses
2007	External Examiner, Anita Huber, Dept of Civil Engineering, UWA (Master's Thesis)
2006-	Chair, Masters Committee, Avrey Parsons-Field, EEMB

University Service:

1995 - 1996	Professional Research Representative for Committee on Computing, Information Technology, and Telecommunications Policy
1996 - 2001	Member, Advisory Committee for Marine Science Institute
2002 – 2004	Marine Science Institute Committee for Prof. Researchers
2002 – 2004	Marine Science Institute Committee on Resources
2005 -	Member, ICES Advisory Committee
2006 -	Chair, EEMB Computing Committee

Research Expeditions:

1971	Adirondack Mountains, NY. Forestry research - 2 months.
1972	Rift Valley lakes, Ethiopia. Limnological survey - 2 months.
1972-74	Freshwater and saline lakes, Kenya. Limnological research - 22 months.
1976	Lake Bosumtwi, Ghana. Limnological research - 2 weeks.
1976	Rift Valley lakes, Kenya. Research on physical processes affecting phytoplankton distributions - 3 months.
1981	Amazon Basin, Brazil. Research on physical processes in floodplain lakes - 1 month.
1983	Amazon Basin, Brazil. Research on physical processes in floodplain lakes - 2 months.
1987	Australian wetlands - Turbulent microstructure in a shallow, eutrophic lake - 1 week.
1990	Antarctica, Bellingshausen Sea, R-V. Polar Duke - Effects of increased UV-B radiation on phytoplankton photosynthesis - 7 weeks
1991	Coastal California, R.V. Pt. Sur - Relation of temperature finestructure to distribution and aggregation of marine snow - 2 weeks
1992	Sierra Nevada Lakes - Variations in temperature finestructure in mesotrophic and oligotrophic lakes - 2 weeks
1993	Monterey Bay, CA., R-V. Sproul - Relation of temperature finestructure to distribution and aggregation of marine snow - 10 days
1993	Lake Biwa, Japan - Relation of physical transport to biogeochemical processes in large lakes - 1 month
1995	Mono Lake, CA. - April, July, and October - Relation of vertical mixing to nutrient fluxes and phytoplankton circulation - 4 weeks total
1996	East Sound, San Juan Islands, WA - Formation and persistence of thin layers of phytoplankton, marine snow, and zooplankton - 1 week
1996	Santa Barbara Channel, R.V. Pt. Sur - Turbulent mixing and distributions of marine snow and zooplankton - 1 week
1997	Convict Lake, CA. - August - Diurnal mixing cycles as estimated with microstructure profiling and a photochemically induced tracer
1997	R.V. Sproul - coastal waters off San Diego; distributions of plankton in relation to vertical mixing, with Peter Franks and Jules Jaffe.
1998	Mono Lake, CA - April - Mixing rates during moderate wind speeds; a comparison of eddy diffusivities calculated using microstructure profilers with lake wide estimates obtained with using SF6 as a tracer and the heat flux method - 1 month
1998	East Sound, San Juan Islands, WA - ONR sponsored Thin Layers Experiment - 3 weeks
1999	Toolik Lake, Alaska - Internal waves, turbulent mixing, stream inflows and productivity
2000	Toolik Lake, Alaska - Internal waves, turbulent mixing, light climate of phytoplankton, Mono Lake, CA. - Aug-Sept. Energy transfers from internal waves to dissipation
2001	Toolik Lake, Alaska - June, July. Development of chlorophyll maxima after ice out, winter mixing, TEP Mono Lake, CA. - August. Turbulent mixing and spatial variability in rates of biogeochemical processes Lake Tahoe, CA. - Sept., Internal waves and turbulent mixing; light climate of phytoplankton.
2002-2006	Toolik Lake, Alaska - Internal waves, turbulent mixing, stream inflows and productivity
2003-2005	Kellogg Biological Station - Relation parasites, Daphnia and physical limnology
2005	Hudson River - Dispersion and formation of anoxic zones in the Hudson River
2005	Moorea - Flow, transport and ecosystem function of a coral reef
2006	Toolik Lake, Alaska - Internal waves, turbulence and nutrient fluxes

Professional and Public Service:

1. *Membership in professional and honorary organizations.*

American Association for the Advancement of Science

American Geophysical Union
 American Society of Limnology and Oceanography
 International Association of Limnology (Elected National Representative in 2005)
 Society of the Sigma Xi

2. *Editorial activities:*

Elected to Editorial Board of the American Society of Limnology and Oceanography, 1985-1988.

Advisory Board of Aquatic Sciences, 1988-2001.

Reviewer for Limnology and Oceanography, Earth and Planetary Science Letters, Hydrobiologia, Water Resources Research, Journal of Geophysical Research, Aquatic Sciences, Japanese Journal of Limnology, Arctic and Alpine Research, Journal of Marine Systems, Deep-Sea Research, Marine Ecological Progress Series, Journal of Hydraulic Engineering, Lakes and Reservoirs: Research and Management, Limnology, BioScience, J. Great Lakes Res, Estuarine, Coastal and Shelf Science, J. Marine Research, J. Env. Engineering. (~ 10 – 15 per year)

Associate Editor: Limnology and Oceanography: Methods, 2002 – 2006

Associate Editor: Biogeosciences, Journal of Geophysical Research, 2004 – 2006

Section Editor: Lake Physics in Encyclopedia of Inland Waters (Gene Likens, Editor in Chief)

3. *Committee service:*

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| 1992 - 1995 | Member of the NSF sponsored steering committee charged with developing a freshwater research agenda for the ecological sciences (Freshwater Imperative). |
| 1995 | Committee of Visitors, Ecological Studies Cluster, Division of Environmental Biology |
| 1997 - 1998 | Organizing Committee, Scientific meeting, "Lakes as Indicators of Anthropogenic Processes in the Environment, Switzerland, August 1998 |
| 1997 - 1999 | Steering Committee, Cyanobacteria Risk Assessment for Biwa-ko (CRAB), to plan and implement research agenda from 1988 through 2001 |
| 1998 – present | American Geophysical Union <i>ad hoc</i> Committee on Recognizing and Encouraging the Contributions of the Biological Sciences to the Study of the Earth |
| 2002 – present | Science of Freshwater Inland Seas (SOFIS) working group. Committee charged by NSF to develop a research agenda for large lakes of the world for the next decade. |
| 2002 – present | ASLO Committee on Education and Human Resources. |
| 2002- present | ASLO Steering Committee charged by NSF to develop research initiatives for inland waters for the next decade. |
| 2005 – present | U.S. Sale (Subglacial Antarctic Lake Environment) Committee for Limnology and Biogeochemistry |

4. *Service to Professional Societies:*

Secretary-Treasurer to the Society of the Sigma Xi, UCSB Chapter, 1988-1990, 1992-1993.

Chair of Sigma Xi's Committee for Science in the Local Schools, 1989-1990, 1991-1993, 1995-

1996

President-Elect, Society of the Sigma Xi, UCSB Chapter, 1990-1991, 1993-1994.

President, Society of the Sigma Xi, UCSB Chapter, 1991-1992, 1994-1995.

Ad Hoc Committee for Increasing Diversity in Science and Mathematics, Sigma Xi, 1992-1994.

Session Chair and Organizer, "Physical and Biological Coupling in Marine and Freshwater Systems," American Society of Limnology and Oceanography Annual Meeting, Edmonton, Alberta, Canada, June, 1993.

Member-at-large, American Society of Limnology and Oceanography, 1992-1995.

Chair, Hutchinson Award Committee, American Society of Limnology and Oceanography, 1993-1995.

Session Chair, "Physical and Biological Coupling, Micro-scales", ASLO and AGU Ocean Sciences Meeting, San Diego, CA, 1996

Member, International Society of Limnology's Task Group on Physical Limnology, 1996 – 2005.

Nominations Committee, American Society of Limnology and Oceanography, 1997

Session Chair and Organizer, "Mixing and Transport in Lakes: Physical Processes and Biological and Chemical Consequences", ASLO and AGU Ocean Sciences Meeting, San Diego, CA, 1998

Session Chair, 'Physical Limnology', 27th Congress of the International Society of Limnology. Dublin, Ireland, 1998

ASLO Lifetime Achievement Award Subcommittee, 1998 - 2002

Program Committee, Ocean Sciences 2000 meeting, 1999 –2000

ASLO Publications Committee Working Group, 2002 –

ASLO Committee on Human Resources

Session Chair, 'Physical Limnology and Biogeochemistry, ASLO 2003

Session Chair, 'Physical Limnology', ASLO 2005

Chair, Physical Limnology Section of the International Society of Limnology – 2005 - present

U.S. National Representative (elected) International Society of Limnology – 2004 – present

Organizing Committee for 2008 Annual Meeting of the American Society of Limnology and Oceanography

5. *Review activities-*

Review proposals from National Science Foundation, Sea Grant; University of California Water Resources Center; NOAA; Marsden Foundation, New Zealand; Canadian Foundation for Climate and Atmospheric Sciences (3 - 8 per year, total).

Panel Member - NSF Coastal Ocean Processes Program - Great Lakes, May 1997

Site review team – North Temperate Lakes LTER site, October 1999

Site review team – NSF/NOAA Coastal Ocean Processes KITES and EEGLE projects on Lakes Superior and Michigan, October 1999

Site review team – McMurdo Dry Valleys LTER site, January 2002

6. *Community Service:*

1985	Lectured on science as a career for women to the Brownie Troop of Laguna Blanca School.
1989	Lectured on oceanography and limnology as careers for women in Career Day for Girl's Clubs of Santa Barbara
1989	Initiated UCSB Chapter of Sigma Xi's Science in the Schools Project which is designed to bring professional scientists into primary and secondary school classrooms.
1991	Participant in Girl's Inc. Career Fair
1991	Participant in career day, Ventura Unified School District
1991	Panelist, Fall Conference of Tri-Counties Association for the Education of Young Children
1991-1996	Member, Parents Science Council, Ellwood School. Instrumental in promoting science activities at all grade levels.
1991-1993	Taught 1st and 2nd grade science, weekly (1991), bi-weekly (1992), Ellwood School
1992, 1995	Consultant, NSF's Early Equity in Math and Sciences Project
1993	Participant in Girl's Club Program on Career Choices
1993	Lecture on Antarctica to UCSB Retirees Association
1993	Lecture on Africa to 3rd and 6th grade classes at Ellwood School
1994-1996	Member (1994-1995), and Chair (1995-1996) Site Council, Ellwood School
1995	Lectured to high school teachers in NSF's Scope, Sequence, and Coordination Project
1995	Lectured to Junior High and Senior High Teachers in S.B. County's Science Partnership for School Innovation
1995-1996	Organizer and Workshop Leader, <i>Experiences in Environmental Science for Elementary School Teachers</i> (for teachers) and <i>Teaching Ecological Literacy</i> (for undergraduates)
1998-1999	Advisor, Marymount Academy's <i>Year of the Environment</i>

Professional Activities:

1. *Research at other institutions:*

Collaborated with Prof. Jorg Imberger and Dr. J.C. Patterson, Centre for Environmental Fluid Dynamics, University of Western Australia, in a field study of the effects of turbulent mixing, as measured using microstructure profilers, on distributions of particulates and nutrients, 1987-1988.

Lake Biwa Transport Experiment, Lake Biwa Research Institute, August - September, 1993

2. *Invited lectures:*

Canada Center for Inland Waters; Burlington, Ontario, 1983

Centre for Water Research, University of Western Australia, Nedlands, W.A., 1987

University of Adelaide, Adelaide, Australia, 1987.
 Taupo Research Laboratory, Division of Marine and Freshwater Science (DSIR), Taupo, New Zealand, 1988.
 Department of Mechanical Engineering, UCSB, 1989
 Department of Biological Sciences, UCSB, 1989
 Department of Geography, UCSB, 1990
 Government Industrial Research Institute, Kure, Japan, 1993
 Marine Science Institute, UCSB, 25th Anniversary Symposium, 1994
 Institute of Theoretical Physics, UCSB, 1994
 Department of Aerospace Engineering, University of Southern California, 1997
 Department of Civil Engineering, Stanford University, 1997
 Lakes as Indicators for Anthropogenic Processes in the Catchment Area, Ascona, Switzerland, 1998
 WHOI – March 2000
 Scripps – March 2000
 Symposium on Gas Transfer at Air-Water Interface, Miami, Florida, June 2000
 WHOI – March 2002
 Centre for Water Research, University of Western Australia, May 2002
 Biodiversity Symposium, Ann Arbor, MI, Oct 2002. Biodiversity of Planktonic Communities: Scaling up and
 down.

Cornell University– Oct. 2002
 Great Lakes Environmental Research Laboratories – Oct 2002
 UCSB – Feb. 2003
 University of Waterloo – March 2003
 University of Colorado at Boulder – April 2003
 UC Davis – June 2003
 Kellogg Biological Station – September 2003
 Stanford – Thermal Structure, Internal Waves and Turbulence, Nov. 2004
 UCSB – Turbulence, Internal Waves and Intrusions: Implications for Aquatic Ecology, Nov. 2004
 ASLO Tutorial – Consequences of Turbulence at Interfaces Feb. 2005
 European Physical Limnologists – Plenary – Consequences of Turbulence at Interfaces, Lancaster, England
 Sept. 2005
 UC Riverside – Turbulence, Internal Waves and Intrusions: Implications for Aquatic Ecology, Nov. 2005
 Utah State University – Turbulence, Internal Waves and Intrusions: Implications for Ecosystem Function,
 April 2006
 ASLO Plenary Address – Challenges in Linking Atmospheric, Terrestrial and Aquatic Ecosystems, June 2006

3. *Invited workshops.*

Freshwater Imperative, Friday Harbor, WA., January 1993
 Planning meeting for Lake Biwa Transport Experiment, Honolulu, HI, April 1993
 Coastal Toxicology Retreat, Bodega Bay, CA., September 1994
 Great Lakes Coastal Ocean Processes, Milwaukee, WI., October 1994
 Lake Biwa Transport Experiment Participant, Session Chair, and Panelist,
 Otsu and Nagahama, Japan, November 1994
 ONR Thin-Layers Planning Meeting, Corvallis, OR, August 1997
 Cyanobacterial Risk Assessment for Biwa-ko, Monterey, CA., September 1997; Otsu, Japan, October 1998
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual
 Planning Meeting, Woods Hole, MA, March 5-7, 1999
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual
 Planning Meeting, Woods Hole, MA, March 10-12, 2000
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual
 Planning Meeting, Woods Hole, MA, March 2-4, 2001
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual
 Planning Meeting, Woods Hole, MA, March 1-3, 2002
 Science of Freshwater Inland Seas, July 2002

ASLO Symposium on Biodiversity, Sept/Oct 2002
 Emerging Themes in Limnology Workshop, Boulder, Dec 1-4, 2002
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual Planning Meeting, Woods Hole, MA, March 2-4, 2003
 Arctic Long Term Ecological Research (LTER) project and NSF Arctic Natural Science (ANS) Annual Planning Meeting, Woods Hole, MA, March, 2004
 Water: Challenges at the Intersection of Human and Natural Systems. PNNL, Richland WA, Sept. 2004
 Sensors for Environmental Observatories, Invited Speaker, NSF Workshop, Seattle WA, Dec 2004.
 Workshop to set Future Directions for Science Support at Toolik Field Station, NSF, Dec. 2004
 Observing Systems for Environmental Solutions, NSF Workshop, May 2005, Santa Fe, NM
 GLEON and CREON Workshop, San Diego, CA. March 2005

4. Papers presented or other participation at professional meetings:

- 1975 Orthophosphate concentrations in Kenyan Lakes. Thirty-eighth Meeting of the American Society of Limnology and Oceanography.
- 1977 Flow measurements and shear instability in an East African lake. Fortieth Meeting of the American Society of Limnology and Oceanography.
- 1978 Currents and turbulence in two African lakes. Forty-first Meeting of the American Society of Limnology and Oceanography.
- 1978 Current measurements with a warm-bead thermistor-flowmeter. Fall Meeting of the American Geophysical Union.
- 1979 Turbulent mixing in two Kenyan lakes. SIL-UNEP Workshop on African Limnology.
- 1981 Air flow over two shallow African lakes. Fall Meeting of the American Geophysical Union.
- 1982 Circulation in an Amazon floodplain lake. Ocean Sciences: AGU/ASLO Joint Meeting.
- 1983 Current fluctuations in the surface waters of small lakes. International Symposium on Gas Transfer at Water Surfaces, Cornell University, Ithaca, New York.
- 1983 (with J.M. Melack) Vertical mixing in Amazon floodplain lakes. Twenty-second Congress of the International Association of Limnology. Lyon, France.
- 1984 (with J.M. Melack) Eddy conductivities in an Amazon floodplain lake. Forty-seventh Annual Meeting of the American Society of Limnology and Oceanography.
- 1984 (with W.J. Lick) Entrainment of sediments from Lake Erie. Fall Meeting of the American Geophysical Union.
- 1984 (with W.R. Davis, W.R. Munns and W.J. Lick) A particle entrainment simulator for measuring resuspension of sediment. Fall Meeting of the American Geophysical Union.
- 1986 (with J.M. Melack) Frequency of vertical mixing in an Amazon floodplain lake L. Calado, Brazil). Forty-ninth Annual Meeting of the American Society of Limnology and Oceanography.

- 1986 (with J.M. Melack) Wind stress, heat loss, and vertical mixing in shallow, equatorial lakes. Fall Meeting of the American Geophysical Union.
- 1987 (with J.M. Melack) Frequency and depth of vertical mixing in an Amazon floodplain lake (L. Calado, Brazil). Invited paper. Special session on hydrodynamic processes in lakes. Twenty-third Congress of the International Association of Limnology. Hamilton, New Zealand.
- 1989 (with R.K. Zimmer-Faust) The feasibility of chemo-orientation in complex natural habitats. Invited paper. Annual Meeting of the Association for Chemoreception Sciences. Sarasota, Florida.
- 1989 (with R.K. Zimmer-Faust) Chemoreception in aquatic environments. 74th Annual Meeting of the Ecological Society of America. Toronto, Ontario.
- 1990 (with R.K. Zimmer-Faust and S.G. Morgan) Transport of waterborne chemicals and larval settlement. Invited paper. Annual Meeting of the National Shellfisheries Association.
- 1990 (invited paper with J.M. Melack and Jorg Imberger) Mixing and biological, chemical, and thermal heterogeneity in a shallow lake. Annual Meeting of the American Society of Limnology and Oceanography. Williamsburg, Virginia.
- 1992 Vertical mixing and the light climate of phytoplankton. ASLO Aquatic Sciences Meeting, Santa Fe, New Mexico.
- 1993 (Invited). Depths of mixing layers in stratified waters with different optical characteristics. Annual Meeting of the American Society of Limnology and Oceanography. Edmonton, Alberta, Canada.
- 1993 (Invited, with R.K. Zimmer-Faust and D. Pentcheff). Odor plumes and mechanisms of chemo-orientation in turbulent flow. Annual Meeting of the American Society of Limnology and Oceanography. Edmonton, Alberta, Canada.
- 1993 Turbulence in the Upper Layer: Effects on phytoplankton and on gas exchange. Bay Area Bio-Fluid-Mechanics Meeting. Berkeley, CA.
- 1994 (with A.L. Alldredge and C.C. Gotschalk). Abundance of marine aggregates and vertical distributions of salinity, density and Richardson number. Ocean Sciences Meeting, San Diego, CA.
- 1994 (with S. Stone and L. Washburn). Seasonal variations of a buoyant plume in a stratified environment. Ocean Sciences Meeting, San Diego, CA.
- 1994 (with J.M. Melack). Vertical and horizontal mixing in lakes: Linking littoral, benthic, and pelagic habitats. Plenary Address for Annual Meeting of the North American Benthological Society, Orlando, Florida.
- 1994 (with S. Stone and L. Washburn). Seasonal variations of a buoyant plume in a stratified environment. Coastal Toxicology Symposium.
- 1994 Turbulent Mixing in Lake Biwa. BITEX-93 Workshop, Nagahama, Japan.
- 1995 (Invited). Influence of turbulence on phytoplankton ecology. International Union for Theoretical and Applied Mechanics Symposium on Physical Limnology.

Broome, Australia.

- 1996 Overturning Scales within the Euphotic Zone of Lake Biwa, Japan. Ocean Sciences Meeting, San Diego, CA.
- 1996 (with K.M. Flynn, J.R. Romero, and R. Jellison). Microstructure profiling in Mono Lake, CA. Ocean Sciences Meeting, San Diego, CA.
- 1996 (with M.J. Head and J. Imberger). Self-contained autonomous MicroProfiler (SCAMP). Ocean Sciences Meeting, San Diego, CA.
- 1997 (with R. Jellison, K.M. Flynn, and J.R. Romero). Boundary mixing and nutrient flux in Mono Lake, CA. ASLO Aquatic Sciences Meeting, Santa Fe, N.M.
- 1997 (with K. M. Flynn). Internal wave climate and boundary mixing in Mono Lake, CA. ASLO Aquatic Sciences Meeting, Santa Fe, N.M.
- 1997 (with N.M. Scully, W. Vincent, and D. Lean). Hydrogen Peroxide as a Natural Tracer of Mixing in Lakes. ASLO Aquatic Sciences Meeting, Santa Fe, N.M.
- 1997 (with R.D. Robarts, M.J. Waiser, O. Hadas, and T. Zohary). Contrasting relaxation of phosphorus limitation due to typhoon-induced mixing in two morphologically distinct basins of Lake Biwa, Japan. Lake Biwa Symposium at ANSWER '97, China
- 1998 Bioluminescence, Turbulence, Marine Snow, and Zooplankton: Associations in the Santa Barbara Channel. C. Herren, S. Haddock, A. Alldredge, J. Case, and S. MacIntyre. AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 (with K.M. Flynn) Frequency and Duration of Upwelling Events in Mono Lake. AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 Layering of Turbulence and Marine Snow in East Sound, WA (with A L Alldredge). AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 Formation of a Thin Layer of Marine Snow During Aggregation of a Diatom Bloom. (with A. L. Alldredge). AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 (INVITED) Turbulence and the Light Climate of Phytoplankton. (with J J. Frenette and W. F. Vincent.) AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 Diel Hydrodynamics of a Freshwater Tropical Bay. (with J R Romero and G.W Kling). AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 Vertical Mixing and Transport in the Lake Erie Central Basin, Part I: Physical Mechanisms. (with K. McCune, E. McDonald, D. Culver) . AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- 1998 (with J.R. Romero and E.J. Fee). Predicting Upwelling, Boundary Mixing, and Nutrient Fluxes in Lakes. 27th Congress of the International Society of Limnology.
- 1998 (plenary address). Ecological and Physical Changes Induced by Changing Surface Forcing. Conference on Lakes as Indicators for Anthropogenic Processes in the Catchment Area, Ascona, Switzerland, Sept. 13-18.
- 1999 (with K.M. Flynn). Mixing Potential of Event-driven Internal Waves in Mono Lake, CA. ASLO Aquatic Sciences meeting, Santa Fe, NM

- 1999 (with A.L. Alldredge). Layering of Marine Snow in East Sound, Washington. Aquatic Sciences Meeting, Santa Fe, NM
- 2000 Internal Waves, Solitons, and Turbulence in a Kettle Lake, Toolik Lake, Alaska. AGU/ASLO Ocean Sciences Meeting, San Antonio, Texas
- 2000 (with T.J. Cowles (lead), R. Desiderio, D.V. Holliday, P. Donaghay, M. Deksheniaks, and A. Alldredge) Temporal Patterns in Planktonic Thin Layer Formation/Maintenance as revealed by Integrated Instrumentation Approaches. AGU/ASLO Ocean Sciences Meeting, San Antonio, Texas,
- 2000 (Plenary address) Turbulence, Internal Waves, Heat Loss, and Gas Flux across the Air-Water Interface. Gas Transfer at Water Surfaces. The Fourth Symposium. June 5-8, 2000. Miami, Florida
- 2002 (with W. Shaw (lead) and E.E. McPhee-Shaw. Pathways to Dissipation in Lakes. AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii Feb. 2002
- 2002 (with E.E. McPhee-Shaw (lead) and W. Shaw). Critical Internal Wave Reflection, High-Frequency Internal Waves, and Turbulence in Mono Lake, California. AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 2002
- 2002 (with G.W. Kling, J.E. Hobbie, G.W. Kipphut, J. Sickman, S. Goldthwait.) Impacts of spring runoff and storm inflows on lake productivity. Annual Meeting of the American Society of Limnology and Oceanography, June 2002, Victoria, B.C., Canada
- 2002 (invited). Spatial/Temporal Scales of Physical Processes and Their Implications for Biocomplexity. ASLO Symposium on Biodiversity, Ann Arbor, MI, Sept/Oct. 2002.
- 2003 (with W. Shaw (lead)), Mixing in the seasonal thermocline of a large lake: Instability of the internal wave field. Annual Meeting of the American Society of Limnology and Oceanography. Feb. 2003. Salt Lake City, Utah
- 2003 Thermal structure, internal waves and turbulence in small and moderately sized lakes (invited tutorial), Annual Meeting of the American Society of Limnology and Oceanography. Feb. 2003. Salt Lake City, Utah
- 2003 (invited) Profiling and Moored Instrumentation: Applications for Aquatic Ecosystems. Symposium on Frontiers in Environmental Assessment Methods (FAME), Minneapolis, Minn. Aug. 2003.
- 2003 (with Tim K. Kratz (lead) and K. Webster. Causes and consequences of spatial heterogeneity in lakes. Cary Conference, Ecosystem Center, New York. April 2003.
- 2005 Turbulence at Interfaces. (invited tutorial). Annual Meeting of the American Society of Limnology and Oceanography. Feb. 2005. Salt Lake City, Utah
- 2005 Spatial and temporal variation in Metschnikowia epidemics in 18 populations of Daphnia dentifera. Carla Caceres, S.R. Hall, M.A. Duffy, S. MacIntyre, and A.J. Tessier. Annual Meeting of the American Society of Limnology and Oceanography. Feb. 2005. Salt Lake City, Utah
- 2005 Internal wave effects on phytoplankton primary production: Experiments, Theory, and Modeling. Mary Anne Evans, Sally MacIntyre, and G.W. Kling. Annual Meeting of the American Society of Limnology and Oceanography. Santiago, Spain. June 2005.
- 2005 Turbulence, Internal Waves and Intrusions: Implications for Biogeochemistry. Plenary Address. 10th Meeting of the European Physical Limnologists

- 2006 Biological response of *Macrocystis pyrifera* to physical variation in and around a kelp forest. H. Stewart, J.P. Fram, Dan Reed, Susan Williams, Sally MacIntyre, Mark Brzezinski, Brian Gaylord. ASLO/TOS Ocean Sciences Meeting, Honolulu, Hawaii.
- 2006 Challenges in Linking Atmospheric, Terrestrial, and Aquatic Systems. Plenary Address, Annual Meeting of the American Society of Limnology and Oceanography, Victoria, BC. June 2006
- 2006 Temporal variability of nitrate supplies to kelp forests. Jon Fram, Hannah Stewart, Sally MacIntyre, Dan Reed, Mark Brzezinski, Susan Williams, and Brian Gaylord. International Temperature Reef Symposium, June 2006.
- 2006 Fate and transport of storm-river-water in a small, ultra-oligotrophic lake: Toolik Lake, Alaska. Rueda, F., S. MacIntyre, and G.W. Kling. Proceedings of the Workshop of the European Physical Limnologists, June 2006.

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