

CURRICULUM VITAE

William M. Landing

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PERSONAL:

Born: March 16, 1953 Boston, Massachusetts. U.S. Citizen

EDUCATION:

B.A. (Chemistry) University of California, Santa Cruz	1975
M.S. (Chemical Oceanography) University of Washington	1978
Ph.D. (Chemistry) University of California, Santa Cruz	1983

POSITIONS:

Professor, Department of Oceanography, Florida State University	1996-Present
Courtesy Professor, Department of Chemistry, Florida State University	2000-Present
Associate Professor, Department of Oceanography, Florida State University	1991-1996
Assistant Professor, Department of Oceanography, Florida State University	1985-1991
NSF/NATO Post-Doctoral Fellow	1984-1985
Department of Analytical and Marine Chemistry Chalmers University of Technology and University of Göteborg 412-96 Göteborg, Sweden	
Post-Doctoral Research Associate	1983-1984
University of California, Santa Cruz Santa Cruz, California 95064	
Adjunct Lecturer, Chemistry Board	1982, 1983
University of California, Santa Cruz Santa Cruz, California 95064	

RESEARCH INTERESTS: Environmental chemistry, chemical oceanography, and low-temperature aqueous geochemistry: (1) Biogeochemistry of trace elements in marine and fresh waters with emphasis on the effects of biological and inorganic processes on dissolved - particulate fractionation, solution speciation, and redox chemistry; (2) Development of analytical schemes for studies of trace element equilibrium complexes and redox states in natural waters.

SOCIETY MEMBERSHIPS:

Alpha Chi Sigma
American Chemical Society
American Geophysical Union
Participant
The Oceanographic Society
Union of Concerned Scientists

HONORS AND AWARDS:

1974	USC Oncology Training Fellowship
1980	NOAA Distinguished Authorship Award
1982	Dissertations Symp. in Chem. Ocean. (DISCO-IV)
1984	NSF/NATO Post-Doctoral Fellowship
2000	Courtesy Professor, Department of Chemistry, FSU

NATIONAL/INTERNATIONAL SERVICE:

- 1987 Invited participant. CHEMRAWN IV, modern chemistry and chemical technology applied to the oceans and its resources. Keystone, Co.
- 1988 AGU/ASLO Ocean Sciences Meeting, Session Chairman, "Biogeochemistry and Diagenetic Processes in Suboxic and Anoxic Marine Environments."
- 1989 American Chemical Society Fall National Meeting, Session Chairman, "Symposium on Aqueous Chemistry and Geochemical Cycles of Iron and Manganese: Geochemistry of Marine and Estuarine Systems."
- 1990 UNESCO/IOC Trace Metals Baseline Expedition in the Southeast Atlantic, Coordinator/"Designated Sampler" for U.S. participation.
- 1990 NSF Chemical Oceanography Proposal Evaluation/Review Panel.
- 1991 NSF Steering Committee Member, "Analysis and Characterization of Marine Particles."
- 1991 NSF Chemical Oceanography Proposal Evaluation/Review Panel.
- 1991 NOAA Proposal Evaluation/Review Panel.
- 1992 American Geophysical Union Ocean Sciences Meeting, Session Chairman, "Biogeochemical Cycling in the Atlantic Ocean," Session I and II.
- 1993 UNESCO/IOC Trace Metals Baseline Expedition in the North Atlantic, Coordinator for U.S. participation.
- 1994 International Conference on Mercury as a Global Pollutant, Whistler, BC, Session Chairman.
- 1995 American Chemical Society Fall National Meeting, Symposium organizer and session chairman, "Mercury Deposition and Cycling," Sessions 1-4.
- 1999 American Chemical Society Fall National Meeting, Symposium organizer and session chairman, "Geochemistry and Bioavailability of Nitrogen and Phosphorus in Dissolved Organic Compounds".
- 1999 (to present) Associate Editor, MARINE CHEMISTRY.
- 2001 Program Chair-Elect, Geochemistry Division, American Chemical Society
- 2002 Program Chair and Chair-Elect, Geochemistry Division, American Chemical Society
- 2002 American Geophysical Union Fall National Meeting, Session Chair, "Impacts of Air/Sea Exchange on Biogeochemical Processes in the Ocean I."
- 2002 American Geophysical Union Fall National Meeting, Session Chair, "Impacts of Air/Sea Exchange on Biogeochemical Processes in the Ocean II Posters."
- 2003 Chair, Geochemistry Division, American Chemical Society.
- 2004 Member, Standard Reference Materials and Methods Sub-Committee, NSF-GEOTRACES Planning Committee.

GRADUATE STUDENTS:

	Date Entered Program	Date Completed Program (Degree)
Paulo Barrocas	01/98	12/15/03 (Ph.D.)
Clifton Buck	08/01	Continuing
Sara D. Cleveland	09/03	Continuing
Jane L. Guentzel	01/90	2/21/97 (Ph.D.)
Paul Hansard	09/02	Continuing
Christopher J. Lach	09/88	06/91 (MS)
Brent L. Lewis	09/86	12/90 (Ph.D.)
Rodney T. Powell	09/88	12/91 (MS)
	01/92	12/95 (Ph.D.)
Scott Sigler	01/95	12/98 (MS)
Jintu Wang	09/88	11/92 (MS)
Matthew Young	01/05	Continuing

COURSES TAUGHT:

UC Santa Cruz:

CHEM 120 Principles of Instrumental Analysis (upper-division undergraduate course) (1982, 1983).

Florida State University:

OCE-1001 Elementary Oceanography (undergraduate "breadth" requirement for non-science majors).
ISC-2003 Global Change Science (undergraduate interdisciplinary course)
OCC-5050 Basic Chemical Oceanography (graduate level core-course)
OCC-5052 Aquatic Chemistry (thermodynamics, speciation, kinetics)
OCC-5065 Environmental Chemistry (anthropogenic influences on the environment)
OCC-5939 Chemical Oceanography Seminar (invited speakers and student presentations)
OCC-5415 Marine Geochemistry (cosmogenesis, terrestrial and marine geochemical cycles)
OCC-5417 Geochemical Ocean Tracers (physical modeling, tracers)

OTHER SIGNIFICANT TEACHING EFFORTS:

Individual Research Project Sponsor; FSU Young Scholars Program Summer Science and Math Camp (two students per summer; 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2004, 2005).

Undergraduate Research Sponsor; CHEM 1051L Honors Program (2 students each year; 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002).

Undergraduate Research Sponsor; ONR Program in Environmental Numerical Modeling Support for Under-Represented Groups (Prof. J.J. O'Brien, Dr. Patricia Stith); (1 undergraduate student each year; 1994, 1995).

Undergraduate Research Sponsor: NSF Research Experiences for Undergraduates Program; (support each year for undergraduate research assistants; 1987, 1988, 1991, 1992, 1993, 1994, 1996, 2000, 2001, 2002, 2003, 2004, 2005).

REFEREED PUBLICATIONS:

- 1) R.A. Feely, E.T. Baker, J.D. Schumacher, G.J. Massoth, and W.M. Landing. Processes affecting the distribution and transport of suspended matter in the Northeast Gulf of Alaska. *Deep-Sea Research* 26(4), 445-464. 1979.
- 2) W.M. Landing and K.W. Bruland. Manganese in the North Pacific. *Earth and Planetary Science Letters* 49, 45-56. 1980.
- 3) W.M. Landing and R.A. Feely. The chemistry and vertical flux of particles in the Northeastern Gulf of Alaska. *Deep-Sea Research* 28(1), 19-37. 1981.
- 4) R.A. Feely, G.J. Massoth, and W.M. Landing. Major and trace element composition of suspended matter in the N.E. Gulf of Alaska: relationships with major sources. *Marine Chemistry* 10, 431-453. 1981.
- 5) K.W. Bruland, R.P. Franks, W.M. Landing and A. Soutar. Southern California inner basin sediment trap calibration. *Earth and Planetary Science Letters* 53, 400-408. 1981.
- 6) W.M. Landing, C. Haraldsson, and N. Paxeus. Vinyl polymer agglomerate based transition metal cation chelating ion-exchange resin containing the 8-hydroxyquinoline functional group. *Analytical Chemistry* 58, 3031-3035. 1986.
- 7) W.M. Landing and K.W. Bruland. The contrasting biogeochemistry of iron and manganese in the Pacific Ocean. *Geochimica et Cosmochimica Acta* 51, 29-43. 1987.
- 8) W.M. Landing and S. Westerlund. The solution chemistry of ferrous iron in Framvaren Fjord. *Marine Chemistry* 23, 329-343. 1988.
- 9) W.C. Burnett, W.M. Landing, W.B. Lyons, and W.H. Orem. Jellyfish Lake, Palau: a model anoxic environment for geochemical studies. *EOS Transactions of the American Geophysical Union*, 70(33), 777-783. 1989.
- 10) S.A. Gropper, K. Anderson, W.M. Landing, and P.B. Acosta. The selenium status of formula-fed and cow's milk-fed infants. *Journal of the American Dietetic Association*, 90(11), 1547-1550. 1990.
- 11) W.H. Orem, W.C. Burnett, W.M. Landing, W.B. Lyons, and W. Showers. Jellyfish Lake, Palau: early diagenesis of organic matter. *Limnology and Oceanography*, 36(3), 526-543. 1991.

- 12) W.M. Landing, W.C. Burnett, W.B. Lyons, and W.H. Orem. Nutrient cycling and the biogeochemistry of manganese, iron, and zinc in Jellyfish Lake, Palau. *Limnology and Oceanography*, 36(3), 515-525. 1991.
- 13) B.L. Lewis and W.M. Landing. The biogeochemistry of manganese and iron in the Black Sea. *Deep-Sea Research* 38, 773-803. 1991.
- 14) J. Schijf, H.J.W. de Baar, J.R. Wijbrans, and W.M. Landing. Dissolved rare earth elements in the Black Sea. *Deep-Sea Research* 38, 805-824. 1991.
- 15) W.M. Landing and B.L. Lewis. Thermodynamic modeling of trace metal speciation in the Black Sea. In: NATO-ASI Symposium Series "Black Sea Oceanography," E. Izdar and J.W. Murray (eds.), 125-160. 1991.
- 16) B.L. Lewis and W.M. Landing. The investigation of dissolved and suspended-particulate trace metal fractionation in the Black Sea. *Marine Chemistry* 40, 105-141. 1992.
- 17) K. Kenison Falkner, G.P. Klinkhammer, T.S. Bowers, J.F. Todd, B.L. Lewis, W.M. Landing, and J.M. Edmond. The behavior of barium in anoxic marine waters. *Geochimica et Cosmochimica Acta* 57, 537-554. 1993.
- 18) E.R. Sholkovitz, W.M. Landing, and B.L. Lewis. Ocean particle chemistry: the fractionation of rare earth elements between suspended particles and seawater. *Geochimica et Cosmochimica Acta* 58, 1567-1579. 1994.
- 19) W.M. Landing, G.A. Cutter, J.A. Dalziel, A.R. Flegal, R.T. Powell, D. Schmidt, A. Shiller, P. Statham, S. Westerlund, and J. Resing. Analytical intercomparison results from the 1990 Intergovernmental Oceanographic Commission Open-Ocean Baseline Survey for Trace Metals: Atlantic Ocean. *Marine Chemistry* 49, 253-265. 1995.
- 20) C. Pollman, G. Gill, W. Landing, J. Guentzel, D. Bare, D. Porcella, E. Zillioux, and T. Atkeson. Overview of the Florida Atmospheric Mercury Study (FAMS). *Water, Air and Soil Pollution* 80, 285-290. 1995.
- 21) G.A. Gill, J.L. Guentzel, W.M. Landing, and C.D. Pollman. Total gaseous mercury measurements in Florida: The FAMS project (1992-1994). *Water, Air and Soil Pollution* 80, 235-244. 1995.
- 22) J.L. Guentzel, W.M. Landing, G.A. Gill, and C.D. Pollman. Atmospheric deposition of mercury in Florida: The FAMS Project (1992-1994). *Water, Air and Soil Pollution* 80, 393-402. 1995.
- 23) W.M. Landing, J.J. Perry, jr., J.L. Guentzel, G.A. Gill, and C.D. Pollman. Relationships between the atmospheric deposition of trace elements, major ions, and mercury in Florida: The FAMS Project (1992-1993). *Water, Air, and Soil Pollution* 80, 343-352. 1995.
- 24) R.T. Powell, D.W. King, and W.M. Landing. Iron distributions in surface waters of the south Atlantic. *Marine Chemistry* 50, 13-20. 1995.
- 25) R.T. Powell, W.M. Landing, and J.E. Bauer. Colloidal trace metals, organic carbon, and nitrogen in a southeastern U.S. estuary. *Marine Chemistry* 55, 165-176. 1996.
- 26) J.L. Guentzel, R.T. Powell, W.M. Landing, and R.P. Mason. Mercury associated with colloidal material in an estuarine and an open ocean environment. *Marine Chemistry* 55, 177-188. 1996.
- 27) G.A. Cutter, W.M. Landing, C.T. Measures, and P.A. Yeats. The IOC Baseline Survey for Trace Contaminants in the Atlantic Ocean. *EOS Trans. of the American Geophysical Union*, Vol. 77(2), 9-13. 1996.
- 28) K.O. Buesseler, J.E. Bauer, R.F. Chen, T.I. Eglinton, O. Gustafsson, W.M. Landing, K. Mopper, S.B. Moran, P.H. Santschi, and R. Vernon-Clark. An intercomparison of cross-flow filtration techniques for sampling marine colloids - Overview and organic carbon results. *Marine Chemistry* 55, 1-31. 1996.
- 29) R. Reitmeyer, R.T. Powell, W.M. Landing, and C.I. Measures. Colloidal aluminum and iron in seawater - an intercomparison between various cross-flow ultrafiltration systems. *Marine Chemistry* 55, 75-91. 1996.
- 30) W.B. Lyons, R.M. Lent, W.C. Burnett, P.Chin, W.M. Landing, W.H. Orem, and J.M. McArthur. Jellyfish Lake, Palau: Regeneration of C, N, Si, and P in anoxic marine lake sediments. *Limnology and Oceanography* 41(7), 1394-1403. 1996.
- 31) S.B. Moran, M.A. Charette, J.A. Hoff, R.L. Edwards, and W.M. Landing. Distribution of Th-230 in the Labrador Sea and its relation to ventilation. *Earth and Planetary Science Letters*, 150, 151-160. 1997.
- 32) W.M. Landing, J.L. Guentzel, G.A. Gill, and C.D. Pollman. Methods for measuring mercury in rainfall and aerosols in Florida. *Atmospheric Environment*, 32/5, 909-918. 1998.

- 33) J.L. Guentzel, W.M. Landing, G.A. Gill, and C.D. Pollman. Mercury and major ions in rainfall, throughfall, and foliage from the Florida Everglades. *The Science of the Total Environment* 213, 43-51. 1998.
- 34) P.J. Statham, P.A. Yeats, and W.M. Landing. Manganese in the eastern Atlantic Ocean: processes influencing deep and surface water distributions. *Marine Chemistry* 61, 55-68. 1998.
- 35) R. Ebinghaus, S.G. Jennings, W.H. Schroeder, T. Berg, T. Donaghy, J. Guentzel, C. Kenny, .H. Kockl, K. Kvietskus, W. Landing, T. Mühleck, J. Munthe, E.M. Prestbo, D. Schneeberger, F. Slemr, J. Sommar, A. Urba, D. Wallschläger, Z. Xiao. International field intercomparison measurements of atmospheric mercury species at Mace Head, Ireland. *Atmospheric Environment* 33(18), 3063-3073. 1999.
- 36) Mortazavi-B. Iverson-R-L. Landing-W-M. Lewis-F-G. Huang-W., Control of phytoplankton production and biomass in a river-dominated estuary: Apalachicola Bay, Florida, USA., *Marine Ecology progress Series*, 198, 19-31. 2000.
- 37) Mortazavi B, Iverson RL, Landing WM, Huang W. Phosphorus Budget of Apalachicola Bay: a River-Dominated Estuary in the Northeastern Gulf of Mexico. *Marine Ecology Progress Series* 198, 33-42. 2000.
- 38) H. Dierssen, W. Balzer, and W.M. Landing. Simplified synthesis of a cation-chelating resin: application to trace metal profiles from Jellyfish Lake, Palau. *Marine Chemistry* 73, 173-192. 2001.
- 39) J.L. Guentzel, W.M. Landing, G.A. Gill, and C.D. Pollman. Processes influencing rainfall deposition of mercury in Florida: The FAMS Project (1992-1996), *Environmental Science and Technology* 35, 863-873. 2001.
- 40) Wang, Y., Hsieh, Y. P., Landing, W., Choi, Y., Salters, V., and Campbell, D. Chemical and carbon isotopic evidence for the source and fate of dissolved organic matter in the Florida Everglades. *Biogeochemistry* 61(3), 269-289. 2002.
- 41) Jennifer M. Llewelyn, William M. Landing, Alan G. Marshall and William T. Cooper. Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Dissolved Organic Phosphorus Species in a Treatment Wetland after Selective Isolation and Concentration. *Analytical Chemistry* 74 (3): 600-606. 2002.
- 42) C.D. Pollman, W.M. Landing, J.J.Perry jr., and T. Fitzpatrick. Wet deposition of phosphorus in Florida. *Atmospheric Environment* 36 (14): 2309-2318. 2002.
- 43) Alexandra C. Stenson, William M. Landing, Alan G. Marshall and William T. Cooper. Ionization and Fragmentation of Humic Substances in Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. *Analytical Chemistry*, 74, 4397-4409. 2002.
- 44) M.T. Brown, W. M. Landing, C.I. Measures. Dissolved and particulate Fe in the western and central North Pacific: Results from the 2002 IOC Cruise. *Geochemistry, Geophysics, Geosystems* 6(10), 1-20. 2005.
- 45) Buck, C. S., W. M. Landing, J. A. Resing, and G. T. Lebon. Aerosol iron and aluminum solubility in the northwest Pacific Ocean: Results from the 2002 IOC cruise, *Geochemistry, Geophysics, Geosystems*, 7, Q04M07, doi:10.1029/2005GC000977. 2006.
- 46) M.A. Ranville, C.S. Buck, W.M. Landing, L.S. Cutter, G.A. Cutter, and A.R. Flegal. Atmospheric contamination over the North Pacific Ocean. Submitted to *Geochemistry, Geophysics, Geosystems*.
- 47) Measures, C. I., G. A. Cutter, W. M. Landing, and R. T. Powell. Hydrographic observations during the 2002 IOC Contaminant Baseline Survey in the western Pacific Ocean, *Geochemistry, Geophysics, Geosystems*, 7, Q03M06, doi:10.1029/2004GC000855. 2006.
- 48) Andrew R. Bowie, Simon J. Ussher, William M. Landing, and Paul J. Worsfold. Intercomparison between FI-CL and ICP-MS for the determination of dissolved iron in Atlantic seawater. In Press. *Environmental Chemistry*.

NON-REFEREED PUBLICATIONS:

- 1) W.M. Landing, The Chemistry and Vertical Flux of Particulate Material in the N.E. Gulf of Alaska. M.S. Thesis, School of Oceanography, University of Washington, Seattle, Washington, 102 pp. 1978.
- 2) W.M. Landing. The Biogeochemistry of Manganese and Iron in the Pacific Ocean. Ph.D. Dissertation, University of California, Santa Cruz, California, 202 pp. 1983.
- 3) W.M. Landing. Chemical kinetic/thermodynamic models for iron in the ocean. Applied Geochemistry 3, 89-90. 1988.
- 4) W.M. Landing. The suboxic marine geochemistry of iron. 1985 Årsbok, Svenska Havsforsknings Föreningen (1985 Report of the Swedish Marine Research Society), 78-95. 1985.
- 5) W.M. Landing and P.A. Yeats. The analysis and characterization of marine particles: sample manipulation and speciation. Chapter 2, 23-32. In: Geophysical Monograph 63, Marine Particles: Analysis and Characterization, David C. Hurd and Derek W. Spencer (eds), American Geophysical Union, Washington D.C., 472 pp. 1991.
- 6) W.M. Landing and B.L. Lewis. Collection, processing, and analysis of marine particulate and colloidal material for transition metals, 263-272. In: Geophysical Monograph 63, Marine Particles: Analysis and Characterization, David C. Hurd and Derek W. Spencer (eds), American Geophysical Union, Washington D.C., 472 pp. 1991.

PRESENTATIONS FROM THE LAST FIVE YEARS:

INVITED LECTURES:

- 2003 W.M.Landing, Sources, Transport, and Deposition of Atmospheric Iron to the Surface Ocean: Impacts on Iron Chemistry and Biogeochemical Cycles. College of Arts and Sciences, Valdosta State University. January 23, 2003.
- 2004 W.M. Landing. Deposition of aerosol Fe and Al in the North Atlantic: Results from the 2003 CLIVAR A16N Expedition. NOAA/Pacific Marine Environmental Laboratory, Seattle, WA. May 6, 2004.
- 2004 W.M. Landing. The impact of aerosol deposition on the chemistry of iron and aluminum in the oceans. Department of Oceanography, University of Washington. May 7, 2004.
- 2005 W.M. Landing. Sections of Dissolved Iron and Aluminum in the North Atlantic and the North Pacific: Results from the CLIVAR Repeat Hydrography A16N and P02 Expeditions. Department of Chemistry, University of Otago, New Zealand. February 25, 2005.
- 2006 W.M. Landing. The Atmospheric Mercury Cycle. Tallahassee Sierra Club.
- 2006 W.M. Landing. Global ocean survey of dissolved iron and aluminum and aerosol iron and aluminum solubility supporting the CLIVAR/CO2 Repeat Hydrography project. Department of Earth Science, Oxford (UK) University.
- 2006 W.M. Landing. Global ocean survey of dissolved iron and aluminum and aerosol iron and aluminum solubility supporting the CLIVAR/CO2 Repeat Hydrography project. School of Earth, Ocean, and Environmental Science, Plymouth (UK) University.
- 2006 W.M. Landing. Global ocean survey of dissolved iron and aluminum and aerosol iron and aluminum solubility supporting the CLIVAR/CO2 Repeat Hydrography project. School of Oceanography, Southampton (UK) University.
- 2006 W.M. Landing. Global ocean survey of dissolved iron and aluminum and aerosol iron and aluminum solubility supporting the CLIVAR/CO2 Repeat Hydrography project. Department of Chemistry, Goteborg University (Sweden).
- 2006 W.M. Landing. Local and Global Cycling of Atmospheric Mercury. Royal Society of Chemistry Lecture, Plymouth (UK) University.

INTERNATIONAL MEETINGS: (speaker underlined, ¹invited, ²published abstract)

2002² M. Sahni, W. C. Finney, R.J. Clark, W. Landing, and B. R. Locke. Degradation of Aqueous Phase Trichloroethylene using Pulsed Corona Discharge, HAKONE VIII, International Symposium on High Pressure, Low Temperature Plasma Chemistry, July 21-25, 2002, Puhajarve, Estonia. [poster]

NATIONAL MEETINGS: (speaker underlined, ¹invited, ²published abstract)

- 2002² W. M. Landing and R. T. Powell. Colloidal Iron and Iron Redox Speciation in the Gulf of Mexico: Results from the SWISS Project. 2002 AGU/ASLO Ocean Sciences Meeting. February 11-15, 2002, Honolulu, Hawaii.
- 2002² C.S. Buck, W.M. Landing, J. Resing, and G.T. LeBon. The Speciation and Solubility of Aerosol Iron in the Gulf of Mexico: Results from the SWISS Project. 2002 AGU/ASLO Ocean Sciences Meeting, February 11-15, 2002, Honolulu, Hawaii.
- 2002² R.T. Powell, A. Wilson-Finelli, and W.M. Landing. Iron Speciation in the Gulf of Mexico. 2002 AGU/ASLO Ocean Sciences Meeting. February 11-15, 2002, Honolulu, Hawaii.
- 2002² J.J. Perry, W.M. Landing, and J. Prospero. Bulk deposition samples collected at Ragged Point, Barbados: implications of atmospheric deposition to the equatorial North Atlantic Ocean. 2002 AGU/ASLO Ocean Sciences Meeting. February 11-15, 2002, Honolulu, Hawaii.
- 2002² Yang Wang, Y. P. Hsieh, W. M. Landing, V. Salters, D. Campbell. Chemical and carbon isotopic evidence for the source and fate of dissolved organic matter in the northern Everglades. 2002 American Chemical Society Spring Meeting, Orlando, FL.
- 2002² Rodney T. Powell, Amy Wilson-Finelli, and William M. Landing. Dissolved Iron Complexation in the Gulf of Mexico. 2002 American Chemical Society Fall Meeting, Boston, MA.
- 2002² J. Sonke and W.M. Landing, Colloidal Iron, Aluminum, and DOC/DON in Surface Waters of the Northwest Pacific: Results from the 2002 NSF/IOC Cruise, Eos Trans. AGU, 83(47), Fall Meet. Suppl.
- 2002² Wilson-Finelli, A., Powell, R T., and Landing, W. Organic Fe Complexation in the Gulf of Mexico, Eos Trans. AGU, 83(47), Fall Meet. Suppl.
- 2002² Landing, W M., Buck, C S, and Powell, R T. Atmospheric Deposition and Upper Ocean Cycling of Iron and Aluminum in the Gulf of Mexico: Results from the SWISS project, Eos Trans. AGU, 83(47), Fall Meet. Suppl.
- 2002² Buck, C S., Landing, W M ., Resing, J., and LeBon, G T. The Speciation and Solubility of Aerosol Iron and Aluminum in the Northwest Pacific Ocean: Results From the 2002 NSF/IOC Cruise, Eos Trans. AGU, 83(47), Fall Meet. Suppl.
- 2002² Vetter, O Clarke, A , Landing, W. Continuous Measurement of Dust Size Distributions in a Marine Environment by Thermal Volatilization of Sea-Salt, Eos Trans. AGU, 83(47), Fall Meet. Suppl.
- 2003² Landing, W.M. and Buck, C.S. Solubility and deposition of Saharan and Asian dust to the open ocean. 2003 225th American Chemical Society National Meeting, New Orleans LA.
- 2003² Clifton S. Buck, William M. Landing, Joseph Resing, and Geoffrey T. LeBon. The Speciation and Solubility of Aerosol Iron and Aluminum in the North Atlantic Ocean: Results from the 2003 CLIVAR A16N Expedition. 2003 Fall Meeting American Geophysical Union (poster).
- 2003² Measures, C.I., Landing, W.M., Buck, C.S., and Brown, M.T. The influence of Eolian deposition on dissolved Al and Fe distributions in the North Atlantic during the CLIVAR A16N cruise. 2003 Fall Meeting American Geophysical Union (poster).
- 2004² Landing, W M., Measures, C I, Buck, C S, Brown, M. Sections of Dissolved Iron and Aluminum from the 2003 Repeat Hydrography A16N Expedition. 2004 AGU/Ocean Sciences Meeting. January 2004, Portland OR.
- 2004² Buck, C S, Landing, W M., Resing, J, LeBon, G T. The Fluxes of Total and Soluble Aerosol Fe and Al to the North Atlantic Ocean: The 2003 Repeat Hydrography A16N Expedition. 2004 AGU/Ocean Sciences Meeting. January 2004, Portland OR.
- 2004² Buck, C.S., Landing, W. M., Resing, J., LeBon, G. T., The speciation and solubility of aerosol iron and aluminum in the North Atlantic Ocean: results from the 2003 CLIVAR A16N expedition. 2004 ASLO/TOS Ocean Research Conference, February 2004, Honolulu, HI.
- 2004² Landing, W.M., Measures, C.I., Buck, C.S., Brown, M., A North Atlantic section for dissolved Fe and Al. 2004 ASLO/TOS Ocean Research Conference, February 2004, Honolulu, HI.
- 2004^{1,2} Landing, W.M. and Measures, C.I., Sections of Dissolved Iron and Aluminum in the North Atlantic and the North Pacific: Results from the CLIVAR Repeat Hydrography A16N and P02 Expeditions. 2004 Fall Meeting American Geophysical Union.

- 2006² W.M. Landing, S.D. Cleveland, and J.M. Caffrey. Trace element correlations in rainfall from the Pensacola Bay watershed. Spring 2006 meeting, American Chemical Society.
- 2006² Sara Cleveland, William Landing, Jane Caffrey. Atmospheric mercury input to the Pensacola Bay watershed from local emissions. Spring 2006 meeting, American Chemical Society.
- 2006² Clifton S. Buck, William M. Landing, Joseph Resing, Geoffrey T. Lebon. The Solubility of Aerosol Iron and Aluminum in the Pacific Ocean: Results from the CLIVAR/CO₂ Repeat Hydrography Cruises. 2006 Fall Meeting, American Geophysical Union.
- 2006² William M. Landing, Clifton S. Buck, Michael Bizimis, Christopher I. Measures. Ocean Sections of Dissolved Mn, Fe, Co, Ni, Cu, Zn, Cd, and Pb. 2006 Fall Meeting, American Geophysical Union.
- 2006² William T. Hiscock, Chris I. Measures, William M. Landing, Clifton S. Buck. Input and transport processes revealed in trace metal distributions along P16N. 2006 Fall Meeting, American Geophysical Union.
- 2006² Matthew T. Brown, Chris I. Measures, William M. Landing, Clifton S. Buck. Trace element distributions along P16S show the effect of Australian continental dust inputs. 2006 Fall Meeting, American Geophysical Union.

REGIONAL MEETINGS: (speaker underlined, ¹invited, ²published abstract)
None in the past 5 years.

STATE/LOCAL MEETINGS: (speaker underlined, ¹invited, ²published abstract)
None in the past 5 years.

CURRENT RESEARCH SUPPORT:

- National Science Foundation (Chemical Oceanography OCE-0550317). "Trace Element Analysis of Aerosol and Seawater Samples Collected on the A16N, P02, and P16S CLIVAR Cruises." \$320,229 (1/01/06-12/31/08).
- Florida Department of Environmental Protection: "Apalachicola NERRS Nutrient Project." 1368-811-37, 1368-899-37, 1368-906-37, \$99,600 (2/15/02-2/28/07). Landing, Iverson and Kostka, co-PIs.
- University of West Florida, "Atmospheric deposition of mercury and trace metals to the Pensacola Bay watershed." 091004-530, \$74,955 (05/01/05-04/30/07).

PRIOR RESEARCH SUPPORT:

- National Science Foundation (Chemical Oceanography and Marine Geology): \$17,000 (1986-1987) supplement for WML (to W.C. Burnett's NSF grant) to participate in a study of Jellyfish Lake, Palau Islands.
- National Science Foundation (Chemical Oceanography): "Trace Metal Biogeochemistry in the Black Sea," OCE-8613638, Year (1), \$154,057, 11-1-87 to 10-31-89, Research Experiences for Undergraduates Supplement, \$4,000 (1987), \$4,000 (1988), Supplement for participation in the IOC-Trace Metals Baseline Cruise in the South Atlantic, \$8,640 (1990).
- National Science Foundation (Chemical Oceanography): "Sources and properties of colloidal trace metals in the oceans," OCE-9102559, \$111,951, W.M. Landing and James E. Bauer, co-PIs. 4/1/91 - 3/31/93. Research Experiences for Undergraduates Supplement, \$4,000 (1991), \$4,000 (1992).
- National Science Foundation (Chemical Oceanography): "Colloidal trace metals and DOC/DON in the surface waters of the North Atlantic Ocean," OCE-9302562, \$121,354, W.M. Landing, 4/1/93-12/31/95. Research Experiences for Undergraduates Supplements, \$4,000 (1993), \$4,000 (1994).
- National Science Foundation (Chemical Oceanography): "Trace element input and cycling in the western south Atlantic." OCE-9531848, \$484,000 (\$161,290 to FSU), G.A. Cutter (ODU), W.M. Landing (FSU), C.T. Measures (UH), co-PIs, 10/1/95-4/30/98.
- National Science Foundation (Division of Earth Sciences): "Acquisition of a high resolution ICPMS for elemental concentration analysis in Earth Science research". EAR-9601952, \$267,500, G.A. Zindler, V.J. Salters, W.M. Landing and P.C. Ragland, co-PIs, 8/1/96-7/31/99.
- National Science Foundation (Chemical Oceanography OCE-9911339): "Influences of Atmospheric Deposition, Organic Complexation, and Photochemical Processes on the Redox Cycle of Iron in Surface Waters." 1368-776-22, \$208,024 (4/1/2000-9/31/2003).
- National Science Foundation (EAR-0106789). "Mercury Isotope Investigations of Pre- and Post-Industrial Atmospheric Deposition." \$158,898 (7/1/2001-6/30/2003). Odom, Salters, and Landing, co-PIs.
- National Science Foundation (Chemical Oceanography OCE-0117655): "Collaborative research:

- Biogeochemistry of trace elements in the western Pacific: atmospheric input and upper ocean cycling." 1368-804-22, \$243,403 (8/1/2001-8/31/2004).
- National Science Foundation (Chemical Oceanography OCE-0223378). "Collaborative Research: Global ocean survey of dissolved iron and aluminum and aerosol iron and aluminum solubility supporting the Repeat Hydrography (CO₂) project." 1368-887-22, \$305,276 (1/15/03-1/14/06).
- U.S. Environmental Protection Agency STAR Program, "Natural mercury isotopes as tracers of sources, cycling, and deposition of atmospheric mercury." 5024-684-28, \$827,147 (10/1/02-9/30/05). Landing, Odom, and Salters, co-PIs.
- Northwest Florida Water Management District: "Chemical analysis of sediments in Meginnis Arm, Lake Jackson," \$10,000, 7/27/89-4/30/90.
- Northwest Florida Water Management District: "Lake Water Quality Assessment: Lakes under the jurisdiction of the Northwest Florida Water Management District," \$51,907, Paul A. LaRock and W.M. Landing, co-PIs. 6/30/90-11/15/90.
- Florida Department of Environmental Regulation: "Deterioration of Lake Water Quality by Urban Runoff: Remediation using Artificial Wetlands," FDER WM-345, \$100,000, Paul A. LaRock and W.M. Landing, co-PIs. Ending Date: 9/1/90-11/15/91.
- Florida Department of Environmental Regulation: "Atmospheric contribution of nutrients to a Florida estuary: the role of acid rain and acid deposition," FDER CM-298, \$42,000, John W. Winchester and W.M. Landing, co-PIs. 1/1/91-12/31/91.
- Northwest Florida Water Management District: "Chemical analysis of sediments in Ford's Arm, Lake Jackson," \$37,500, 6/13/91-2/28/92.
- Florida Department of Environmental Regulation: "Atmospheric supply of pollutants to estuarine and coastal waters," \$50,000, W.M. Landing and J.W. Winchester, co-PIs. 9/30/91-9/29/92.
- Florida Department of Environmental Regulation: "Atmospheric deposition of mercury and other trace metals in Florida," FDER WM-412, \$199,864, W.M. Landing, Gary A. Gill (UC Santa Cruz), and C.D. Pollman (KBN Engineering), co-PIs. 5/1/92-4/30/93. (\$104,260 to FSU).
- Electric Power Research Institute: "Florida Atmospheric Mercury Study," \$1,200,000 (\$350,000 to FSU), W.M. Landing, Gary A. Gill (TAMU-Galveston), C.D. Pollman (KBN Engineering), co-PIs. 9/1/92-12/31/97.
- Florida Department of Environmental Protection: "Florida Atmospheric Mercury Study: Phase III," \$1,350,000 (\$353,608 to FSU), W.M. Landing, Gary A. Gill (TAMU-Galveston), C.D. Pollman (KBN Engineering), co-PIs. 9/1/92-12/31/97.
- Electric Power Research Institute: "Atmospheric deposition of mercury and other trace metals in north central Florida, south Florida, and the Everglades." \$266,100 (\$147,391 to FSU), W.M. Landing, Gary A. Gill (TAMU-Galveston), C.D. Pollman (KBN Engineering), co-PIs. 3/1/94-12/31/97.
- Electric Power Research Institute: "Florida Aquatic Ecosystem Mercury Cycling and Modeling Project (FAEMCMP)," \$800,000 (\$134,316 to FSU), W.M. Landing et al., co-PIs, 9/1/95-6/30/98.
- Northwest Florida Water Management District: "Nutrient transport and primary production in the Apalachicola River and Bay," \$304,252, R.L. Iverson and W.M. Landing, co-PIs. 2/1/93-9/30/98.
- South Florida Water Management District: "Speciation and sources of dissolved phosphorus in the Everglades". 5024-568-39, \$185,000, V.J. Salters, W.T. Cooper, W.M. Landing, L.M. Proctor, Y. Wang, co-PIs, 8/1/97-3/15/99.
- Florida Department of Environmental Protection (SP-507), "Developing a Bacterial Biosensor for Aquatic Mercury(II) Speciation and Bioavailability." 1368-750-37, \$159,310 (12/01/98-6/30/02). Landing and Proctor, co-PIs.
- Florida State University Cornerstone program, Program Enhancement Grant; "Developing Solid-State Microelectrode and Optical Waveguide Sensors for Measuring Trace Elements and Redox Species in Natural And Contaminated Waters." \$100,000 (4/1/2000-3/31/2002). Landing, Kostka, and Dahmen, co-PIs.
- Florida State University Cornerstone program, Program Enhancement Grant; "Determining the Speciation of Metals and Nutrients in Natural Waters." \$100,000 (4/1/2000-3/31/2002). Salters, Cooper, and Landing, co-PIs.
- Florida State University, Council for Research and Creativity. "A workshop and seminar series supporting

the FSU Interdisciplinary Program in Biogeochemical Dynamics.” 5024-729-48, \$24,943,
02/01/04-06/30/05.