

BIOGRAPHICAL SKETCH

ROBERT B. DUNBAR

W.M. Keck Professor of Earth Sciences, Stanford University
Professor of Environmental Earth System Science, Stanford University
J. Frederick and Elisabeth B. Weintz University Fellow in Undergraduate Education
Director, Stanford University Stable Isotope Biogeochemistry Laboratory
Senior Fellow, Woods Institute for the Environment, Stanford University

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EDUCATION: Ph.D., 1981, Oceanography, University of California, San Diego
B.S., 1975, Geology (Special Honors), University of Texas, Austin

PROFESSIONAL EXPERIENCE: W.M. Keck Professor of Earth Sciences, Stanford University, 2008-present
Professor of Environmental Earth System Science, Stanford University, 2007-present
Adjunct Professor, Victoria University of Wellington, New Zealand, 2010-present
Trustee, Consortium for Ocean Leadership, 2009-present
Chair, Board of Trustees, Consortium for Ocean Leadership, 2013-2016
Vice-Chair, Board of Trustees, Consortium for Ocean Leadership, 2011-2013
Professor of Geological and Environmental Sciences, Stanford University, 1997-2007
Richard Lyman Award Recipient, Stanford University, 2009
Senior Fellow, Institute for International Studies, Stanford University, 1998-2011
Senior Fellow, Woods Institute for the Environment, Stanford University, 2004-present
Founding Director, Interdisciplinary Graduate Program in Environment and Resources (E-IPER), Stanford University, 2001-2005
Director, Stanford Univ. Stable Isotope Biogeochemistry Laboratory, 1997-present
J. Frederick and Elisabeth B. Weintz University Fellow in Undergraduate Education, 2004-2013
Bass University Fellow in Undergraduate Education, 2013-retirement
Victoria P. and Roger W. Sant Director of the Earth Systems Program, Stanford University, 2003-2012
Associate Chair, Department of Geological and Environmental Sciences, Stanford University, 2001-2004
Adjunct Professor of Geology and Geophysics, Rice University, 1997-2004
Professor of Geology and Geophysics, Rice University, 1994-1997
Visiting Scientist, National Geophysical Data Center, 1994-1996
Assistant/Associate Professor of Geology, Rice University, 1982-1994
Master, Baker College, Rice University, 1989-1994
Visiting Research Fellow, Research School of Earth Sciences, Victoria University of Wellington, New Zealand, 1988
Visiting Scientist, Geology Department, University of New Mexico, Albuquerque, New Mexico, 1988
Visiting Assistant Professor of Earth Sciences, University of California, San Diego, 1981-82
Lecturer in Earth Sciences, University of California, San Diego, 1979-80
Graduate Research & Teaching Assistant, University of California, San Diego: Oceanography, Sedimentology, Marine Geology, Geochemistry, 1975-1981

**PRESENT RESEARCH
INTERESTS:**

- 1) Climate system dynamics
- 2) Ocean chemistry/biogeochemistry
- 3) Coral reef ecology
- 4) Climatic forcing of marine ecosystems
- 5) Policy issues related to the coastal oceans, climate change and anthropogenic effects
- 6) Antarctic glacial history

**PROFESSIONAL
ACTIVITIES:**

- Invited Speaker, ISOLAT Symposium, Cambridge, UK, September, 2013
- Invited Participant, Scientific Committee on Antarctic Research Horizon Scan, 2014
- Speaker, Stanford+Connects, Pasadena, CA, February, 2014
- Keynote speaker, Ecopoesis Conference, California College of the Arts, 2012
- Keynote speaker, UC Davis Graduate Ecology Symposium, 2012
- Chair, Final IAEA CRP workshop on “Isotopic studies of the ENSO System in the Ocean”, Monaco, 2012
- Keynote speaker, SCAR (Scientific Committee on Antarctic Research) Open Sciences Conference, Portland Oregon, 2012
- Keynote speaker, Late Cenozoic Environmental Changes in Antarctic Cryosphere: Perspectives from Sea, Land, and Ice Sheets, National Institute of Polar Research, Tokyo, Japan, 2012.
- Invited participant, US-Korean-Italian Workshop on Time Series Observation in the Ross Sea, Incheon, Korea, 2012
- Member, Coral Reefs and Climate Change Working Group, Center for Ocean Solutions, 2011-present
- Co-Leader, GSA/UT Austin Geologic Field Trip to Antarctica, 2012-2013
- Member, HOLOCLIP project team, European Union, 2011-present
- Re-elected to Board of Trustees, Consortium for Ocean Leadership, 2012-2015
- Member, Past Antarctic Ice Sheet Dynamics development team, SCAR, 2012-
- U.S. Member, Science Implementation and Planning Committee (SIPCOM), IODP, 2011-2013
- Invited speaker, SETI Institute, 2012
- Mentor, Jefferson High School Science Teacher, NASA Mentoring Program, 2011-2012
- Session Chair and Keynote speaker, International Symposium on Antarctic Earth Sciences, Edinburgh, 2011
- Invited Speaker, Northern Illinois University, University of Minnesota, Livermore Valley Association, Kennedy Middle School, 2011
- U.S. Member, Science Planning Committee (SPC), IODP (Ocean Drilling Program), 2011
- Chair, NSF-UNOLS Polar Research Vessel Committee, 2010-2012
- Mentor of Middle School Science Teacher, NASA Mentoring Program, 2010-2011
- Vice-Chair, Board of Trustees, Consortium for Ocean Leadership, 2011-present
- Chair, Public Policy Committee, Consortium for Ocean Leadership, 2011-present
- Invited Participant, US-Italian Workshop on Time Series Observation in the Ross Sea, Ischia, Italy, 2010
- Member, Working Group on Sea Level Rise and the Pacific Small Island and Developing States, Earth Justice and U.N. Foundation, 2010-present
- Chair, Ocean Drilling Subcommittee, Consortium for Ocean Leadership, 2010-present
- Invited speaker, TED Mission Blue to Galapagos, 2010
- Member, Visiting Review Committee, Ocean Sciences Program, Texas A&M University, Corpus Christi
- Invited Speaker, 2010, Victoria University of Wellington, New Zealand, Los Altos Earth Day Event, Bohemian Grove (museum talk and camp talk), Steve Schneider Symposium (Monterey), Cal Academy of Arts and Sciences, Ocean Leadership (DC)
- Member, New Ship Acquisition and Funding Models Committee, Consortium for Ocean Leadership, 2010-2011
- Member, Sample Allocation Committee, IODP Expedition 318, 2010 - present
- Member, Audit Committee, Consortium for Ocean Leadership, 2009-present
- Participant, McMurdo Ice Shelf Science Workshop, Wellington, New Zealand, 2009

- Site proponent and shipboard Site Leader, Integrated Ocean Drilling Program Expedition 318 to Antarctica, 2008-present
- Member, Committee of Visitors, Public evaluation of effectiveness of Office of Polar Research, US National Science Foundation, 2009-2010
- Member of Program Committee, Antarctic Climate Evolution Conference, Granada, Spain, 2009
- Member, Visiting Review Committee, Department of Marine Sciences, University of Otago, Dunedin, New Zealand, 2009
- Chair, IAEA ENSO Workshop, Lima, Peru, April, 2009
- Elected Trustee, Consortium for Ocean Leadership, Washington D.C., 2009-present
- Richard Lyman Award Recipient, Stanford University, 2009
- Member, Visiting Review Committee, Oceanography Department, Texas A&M University, College Station, Texas
- Member, Management Committee, Center for Ocean Solutions, Stanford University, 2008-present
- Co-Chair, Antarctic Climate Evolution Leadership Workshop, Edinburgh, 2008
- Member, Program Committee, 2008 SCAR (Scientific Committee on Antarctic Research) Open Sciences Conference, Saint Petersburg, Russia
- Chair of Palmyra Atoll Research Consortium Finance Committee, 2008-2010
- Participant, Southern McMurdo Sound ANDRILL Project, 2007-2009
- Stanford Representative, Consortium for Ocean Leadership, 2007-present
- Vice-Chancellor's Research Fellowship Award, Australian National University, 2007
- Plenary Speaker, SCAR (Scientific Committee on Antarctic Research) Open Sciences Conference, Hobart, Australia, 2006
- Member, AGU Program Committee, 2006 Joint Meeting, Baltimore
- Stanford Representative to CORE, 2006-2007
- Member, Program Committee, 2006 SCAR (Scientific Committee on Antarctic Research) Open Sciences Conference, Hobart, Australia
- Participant, ANDRILL, McMurdo Ice Shelf Project, 2006
- Invited Participant, East Antarctic Margin Drilling Workshop, Spoleto, Italy, 2005
- Invited Speaker, Isotopes as climate tracers short course, IAEA, Trieste, 2004
- Invited Speaker, International Conference on Isotopes in Environmental Studies, IAEA, Monaco, 2004
- Elected Chair of Antarctic Research Vessel Oversight Committee, 2005-2008
- Elected Chair of Palmyra Atoll Research Consortium Science Committee, 2004-2005
- Elected Chair of Cooperative Research Project on El Nino Variability, International Atomic Energy Agency, 2004-2013
- Invited Participant, SCAR (Scientific Committee on Antarctic Research) meeting, Bremen, 2004
- Lecturer, Instituto de Verano, 2004, Universidad de Concepcion, Chile
- Governor, Joint Oceanographic Institutions, 2003-2007
- Member, U.S. Steering Committee for Antarctic Drilling, 2003-2012
- Inaugural S.T. Lee lecturer in Antarctic Environmental Studies, 2003
- Invited speaker at Holocene Climate Workshop, Eikom, Norway, 2003
- AGU Ocean Sciences Meeting Scheduling Committee, 2003-2004
- Member, Antarctic Research Vessel Oversight Committee, 2002-2005
- Member, Next Generation Polar Research Vessel Design Committee, 2003
- Member of Scientific Experts Group, IMAGES, 2002-
- Invited Participant, SPC-IODP transition meeting, Sapporo, 2003
- Co-convenor- IMAGES Southern Ocean Working Group conference, Barcelona, September, 2002
- Alternate Governor, Joint Oceanographic Institutions, 2001-2003
- Invited Participant, Antarctic Climate Evolution Data/Model Integration Workshop, Amherst, MA, May, 2002
- Invited Participant, National Science Foundation Earth System History RFP panel, Washington D.C. July, 2002

- National Science Foundation Integrated Global C cycle review panel, 2002
- Distinguished Lecture Speaker, Ocean Drilling Program, 2001-2002
- Secretary, Paleoceanography and Paleoclimatology Focus Group, AGU, 2002-2004
- Invited participant, Conference on U.S. Participation (CUSP) in the Integrated Ocean Drilling Program, Washington D.C., 2002
- Provost's Lecture, SUNY Stony Brook, April 2002
- Invited Speaker, Climate Change in the Antarctic Peninsula Workshop, Hamilton, New York, 2002
- Invited Speaker, Antarctic Glacial Modeling workshop, Amherst, 2002
- Member, Steering Comm., ACE (Antarctic Climate Evolution), a new SCAR project
- Co-convenor- IMAGES Southern Ocean Working Group conference, Bremerhaven, June, 2001
- Member, American Geophysical Union Committee on Paleoceanography and Paleoclimatology, 1994-2010
- Leader, Annual Records of Tropical Systems (IGBP/PAGES), 1999-2008
- Convener, first ARTS (Annual Records of Tropical Systems) Open Science Meeting, Noumea, New Caledonia, November, 2001
- Invited Speaker, ANTOSTRAT symposium, Erice, Italy, September, 2001
- Member, Steering Comm., ACE (Antarctic Climate Evolution), a new SCAR project
- Session Chair (2 sessions), Paleoclimatology: Observations and Modeling, American Geophysical Union, San Francisco, 2000
- Invited participant, International Workshop on "Submerged Coral Drilling", St. Petersburg, Florida, 2000
- Invited Speaker, SOJGOFS Symposium, Brest, France, July, 2000.
- Invited participant, IMAGES SciCom meeting to discuss ARTS/IMAGES Interactions, Woods Hole, Massachusetts, 2000
- Member, US Science Advisory Committee for the Ocean Drilling Program, USSAC, and USSAC Executive Committee, 1996-1999
- Invited Participant, Gordon Research Conference on Polar Marine Science, Ventura, California, March, 1999
- Session Chair (2 sessions), Annual to Interdecadal Records of Climate Variability: Past and Present, American Geophysical Union, San Francisco, 1999
- Leader, Research on Ocean/Atmosphere Variability and Ecosystem Response in the Ross Sea (ROAVERRS) Program, 1996-2002
- Invited Participant and Speaker, AESOPS Workshop, US Joint Global Ocean Flux Study, Keystone, Colorado, August, 1999
- Invited Participant, PAGES-LOICZ Workshop on Sea Level and Climate, Honolulu, November, 1999.
- Keynote Speaker, International Symposium on Paleoecology of Reefs and Carbonate Platforms: Miocene to Modern, International Association of Sedimentologists, Aix-en-Provence, 1999.
- Invited Speaker, Antarctic Radiocarbon Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA, May, 1999
- Co-leader, Annual Records of Tropical Systems (IGBP/PAGES), 1995-1998
- Session Chair, COMPLEX workshop on the future of Ocean Scientific Drilling, Vancouver, Canada, May, 1999
- Invited Speaker, American Quaternary Association Annual Meeting, Puerto Vallarta, Mexico, September, 1998
- Shore-based scientist and participant, Ocean Drilling Program Sampling Party, Leg 178, Bremen, Germany, 1998
- Invited participant, PAGES Open Sciences Meeting, London, 1998
- Invited participant and session organizer, History of El Niño, PAGES Pole-Equator-Pole Americas Transect Workshop, Merida, Venezuela, 1998
- Invited Participant, Sclerosponges as Paleoclimate indicators workshop, Miami, 1998
- Invited Speaker, Workshop on cross-validation of high-resolution climate proxies and instrument records, University of Washington, June, 1997

- Invited Speaker, ATRIC Climate Variability Workshop, Melbourne, Australia, 1996
- Invited Speaker, ESH (Earth Systems History) Workshop, Portland, Oregon, 1996
- Participant, Ocean-CLIVAR planning workshop, Villefranche sur Mer, 1996
- Co-organizer, Annual Records of Tropical Systems Workshop, Hawaii, 1996
- Invited Speaker, Climate of the last 1000 years, International Union of Geodesy and Geophysics, 21st General Assembly, Boulder, Colorado, 1995
- Invited Speaker, Global Change and Climate Change in Pre-History Workshop, U.S. Forest Service, Houston, 1995
- Steering Committee, NOAA Paleoclimatology Program, 1994-1996, Chair 1995-1996
- Invited Speaker, Monitoring for Climate Change Detection in the Americas, IAI Workshop, Viña del Mar, Chile, 1995.
- Session Chair (4 sessions), Tropical Ocean-Atmosphere Interactions: Past and Present, American Geophysical Union, San Francisco, 1995
- Keynote Speaker, PEP-1 (Pole-Equator-Pole Transects) Workshop, La Paz, 1995.
- NSF Review Panel, Earth Systems History Program, 1995, 1996, 1997
- Member, PEP-1 (Pole-Equator-Pole transects) steering committee
- Planning Committee and Meeting Co-chair, Past Changes in Western North America Workshop, Albuquerque, January, 1995
- Mentor and host of DOE Distinguished Global Change Postdoctoral Fellow (B.K. Linsley), 1992-1994
- Theme Sessions Co-chair, 11th Annual Pacific Climate Meeting, 1994
- Invited Speaker, "CLIVAR-PAGES Workshop", Venice, November, 1994
- Invited Participant - "Reconstructing global climate change over the past two millennia from anaerobic sediments of the eastern Pacific ocean", San Francisco, April, 1994
- Invited Participant - NATO Advanced Research Institute on "Climatic fluctuations and forcing factors during the last 2000 years", Tuscany, Italy, October, 1994
- NOAA Review Panel, National Undersea Research Program, 1993
- Invited Participant - Workshop on "Biogeochemistry of Ross Sea Sediments", Istituto Geologia Marina, Bologna, Italy, 1993
- Invited Participant - "Pole-Equator-Pole Paleoclimate Workshop", Panama, September, 1993
- NOAA Review Panel, Paleoclimate Program, 1992
- Organized "Climate Reconstruction from Corals Workshop", Puerto Rico, 1992
- Keynote Speaker, 5th International Congress on Pacific Neogene Stratigraphy, Shizuoka, Japan, 1991
- Invited Participant to Workshop on a U.S. JGOFS (Joint Global Ocean Flux Study) program in the Southern Ocean, National Science Foundation, October, 1990
- Editorial Review Board, Proceedings of the Ocean Drilling Program, Leg 115, Scientific Results, 1989-1990
- Organized and led IGCP 156 Field Workshop, Peru, May, 1988 (with P. Baker)
- NSF Review Panel, Marine Geology and Geophysics, 1986-1989
- NSF Review Panel, USSSP, Ocean Drilling Program, 1987
- The American Geophysical Union, 1980 - present
- The Society of Economic Paleontologists and Mineralogists (Honorary Membership and Achievement Award, 1980), 1980-1993
- International Association of Sedimentologists, 1981-1992
- Peruvian Geological Society, 1984 - 1990
- Organized and led IGCP 156 Field Workshop, Peru, May, 1988 (with P. Baker)
- International Geological Correlation Project 156 - Phosphorites, 1984-1991
- IGCP Project 246 - Pacific Neogene Events, 1986-1992
- Antarctic Service Medal, 1984
- Outstanding paper, GSA Annual Meeting, 1980, Marine Geology session
- Invited participant, NATO Workshop on "Coastal Upwelling: Its Sediment Record", Portugal, 1981
- Phi Beta Kappa

- Phi Kappa Phi
- Phi Eta Sigma

EXPEDITIONS:

- Numerous cruises 1974-75, R/V *Longhorn*, Gulf of Mexico
- Pleiades, leg 3, 1976, R/V *Melville*, Eastern Equatorial Pacific
- IndoMed, legs 2 and 12, 1977, 1978, R/V *Melville*, North and South Atlantic
- Chief Scientist: - SABA 79, 1979, R/V *New Horizon*, Santa Barbara Basin
- Chief Scientist: - Sediment Trap Intercalibration Experiment, 1979 R/V *Gillis*, Panama Basin
- Chief Scientist: - NOFC 80, 1980, R/V *Melville*, California Borderlands
- Deep Freeze 83, 1983, USCGS *Glacier*, Ross Sea, Antarctica
- Antarktis II/3, 1984, F/S *Polarstern*, Antarctic Peninsula and Weddell Sea
- Panama Reef Drilling Program, 1984, R/V *Benjamin*, Gulf of Panama
- Geologic mapping, Coastal Peru and Ecuador, 1984, 1985, 1986, 1987, 1988, 1990
- Land and sea ice based Geology and Oceanography in McMurdo Sound, Antarctica as a member of USARP, 1984, 1986, 1987, 1988, 1989, 1990, 1991
- ODP Leg 128, Sea of Japan, R/V *Resolution*, Aug-Oct, 1989
- Chief Scientist: - Ross Sea Flux Experiment, USCGC *Polar Sea*, Jan-Feb, 1992
- Submerged coral drilling, Galapagos Islands, Jan, 1993
- Chief Scientist: - Ross Sea Flux Experiment, USCGC *Polar Sea*, Jan-Feb, 1994
- Submerged coral drilling, Kenya, Mar, 1995, August/September, 1996
- Chief Scientist: - ROAVERRS (Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea) R/V *Nathaniel B. Palmer* December/January, 1996/97
- Lake coring and water column process cruise, Lake Titicaca, RV *Neecho*, May/June, 1996
- Chief Scientist: - Submersible Diving, Hawaii, RV *Kaimikai O Kanaloa*, DSRV *Pisces V*, August, 1997
- Chief Scientist: - Fanning Island Coral Drilling, RV *Machias*, October, 1997
- Chief Scientist: - ROAVERRS (Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea) R/V *Nathaniel B. Palmer* December/January, 1997/98
- Coral Drilling in Galapagos, RV *Samba*, June, 1998
- Chief Scientist: - ROAVERRS (Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea) R/V *Nathaniel B. Palmer* October-December, 1998
- Marine Geology and Geophysics, Palmer Deep and Antarctic Peninsula, R/V *Nathaniel B. Palmer* March-April, 1999
- Chief Scientist: - Marine Geology and Geophysics, Palmer Deep and Antarctic Peninsula, R/V *Lawrence Gould*, April-May, 2000
- Marine Geology and Geophysics, Biogeochemistry, East Antarctic Margin, R/V *Nathaniel B. Palmer*, January-April, 2001
- Coral reef instrumentation and C system monitoring, January, 2002
- Chief Scientist: - Marine Geology and Geophysics, Palmer Deep and Antarctic Peninsula, R/V *Lawrence Gould*, March, 2002
- Submersible Diving Gulf of Alaska, RV *Atlantis*, DSRV *Alvin*, June-July, 2002
- Leader, Stanford Alumni Trip, Falkland's, South Georgia, Antarctica, January, 2003
- Lake coring in Tierra del Fuego, January, 2003
- Stanford@SEA, *Robert Seamans*, Hawaii-Palmyra-Kingman, May-June, 2003
- Sediment trap recovery cruise, Lake Titicaca, July, 2003
- Lake Coring, Patagonia, AWS installation, Tierra del Fuego, Jan-Feb 2004
- Chief Scientist: - Submersible Diving, Hawaii, RV *Kaimikai O Kanaloa*, DSRV *Pisces V*, October, 2004
- Beagle Canal, Tierra del Fuego, refitting and launch of Stanford research vessel, 2005
- Easter Island coral drilling for paleoclimatology, March, 2005
- Leader, Stanford Alumni Trip, Falklands, South Georgia, Antarctica, January, 2005
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Honolulu to Line Islands and return, May, 2005
- Leader, Stanford Alumni Association Travel Study Expedition to Sea of Okhotsk, 2005
- Coral drilling expedition, Palmyra Atoll, June, 2005
- Chief Scientist: - Submersible Diving, Samoa and Line Islands, RV *Kaimikai O Kanaloa*, DSRV's *Pisces IV and V*, July-August, 2005
- Marine Biology, Biogeochemistry, and Ocean Physics, Ross Sea, Antarctica, R/V

- Nathaniel B. Palmer*, December-February, 2005-2006 (CORSACS)
- Chief Scientist: - Coral dissolution control volume experiment, Heron Island, Australia, February, 2006
 - Lake coring expedition, RV *Shenu*, Lago Fagnano, Patagonia, March, 2006
 - Leader, Stanford Alumni Association Travel Study Expedition to New Guinea, 2006
 - Leader, Stanford Alumni Association Travel Study Expedition, Canadian Rockies, 2006
- Co-Chief Scientist: - Marine Biology, Biogeochemistry, and Ocean Physics, Ross Sea, Antarctica, R/V *Nathaniel B. Palmer*, October-December, 2006 (CORSACS)
 - Leader, Stanford Alumni Trip, Falklands, South Georgia, Antarctica, January, 2007
 - Stanford@SEA, RC *Seamans*, Honolulu to Line Islands and return, May, 2007
 - Coral drilling expedition, Palmyra Atoll, June, 2007
- Chief Scientist: - Leader, Stanford Alumni Trip, Kilimanjaro ascent, August, 2007
 - Submersible Diving, Northwest Hawaiian Islands National Monument, RV Kaimikai O Kanaloa, DSRV *Pisces V*, October-November, 2007
 - Leader, Stanford Alumni Trip, New Zealand, January, 2008
 - Leader, Limnology studies in Patagonia, September, 2008
- Chief Scientist: - Ocean acidification studies, Great Barrier Reef, RV *Capricorn Star*, November, 2008
- Chief Scientist: - Coral drilling for paleoclimatology, Palau, RV *Reel Time*, Nov-Dec, 2008
- Co-Chief Scientist: - Leader, Stanford Alumni Trip, Falklands, South Georgia, Antarctica, January, 2009
 - Stanford@SEA, RC *Seamans*, Papeete, Marquesas, Honolulu, May-June, 2009
 - Leader, Stanford Alumni Trip, Bering Sea, Russia, Alaska, July-August, 2009
 - Shipboard Scientist, *Joides Resolution*, Integrated Ocean Drilling Program expedition to Wilkes Land, Antarctica, Jan-Mar, 2010
 - TED Expedition to the Galapagos Islands, April, 2010
 - Leader, Limnology studies in Patagonia, September, 2010
- Co-Chief Scientist: - Leader, Stanford Alumni Trip, Falklands, South Georgia, Antarctica, Jan-Feb, 2011
 - Stanford@SEA, RC *Seamans*, Honolulu to Line Islands and return, May, 2011
 - Leader, Moore Foundation Scoping Trip to Palmyra Atoll, March/April, 2011
 - Leader, Palmyra Atoll ocean acidification field program, May, 2011 & Sep/Oct 2011
 - Leader, Limnology studies in Patagonia, August, 2011
 - Leader, C system chemistry field experiments, Ofu, American Samoa, Nov 2011
 - Leader, submerged coral paleoclimate drilling program, T'au, Nov/Dec 2011
 - Leader, Lake Coring and Seismic Program, RV *Neecho*, Chile, Jul-Aug 2012
 - Leader, C system chemistry field experiments, Palmyra Atoll, Sep-Oct 2012
 - Leader, Stanford Alumni Trip, Maldives, Lakshadweep Islands, India, Dec. 2012
 - Lecturer, UTIG/GSA 125th Anniversary Geoscience field trip to Antarctica, Dec/Jan, 2012-2013
 - Shipboard Scientist, *Nathaniel B. Palmer*, expedition to Ross Sea and Thwaites Coast, Antarctica, Feb-April, 2013

PUBLICATIONS

- Dunbar, R. B., 1975, Variation in grain size modes in the proximal offshore of Padre Island, Texas, Senior Thesis, University of Texas at Austin, 40 p.
- Dunbar, R. B., and W. H. Berger, 1981, Fecal pellet flux to modern bottom sediments of Santa Barbara Basin (California) based on sediment trapping, **Geological Society of America Bulletin**, 92, 212-218.
- Dunbar, R. B., and G. M. Wellington, 1981, Stable isotopes in a branching coral monitor seasonal temperature variation, **Nature**, 293, 453-455.
- Dymond, J., Fischer, K., Clauson, M., Cobbler, R., Gardner, W., Sullivan, L., Soutar, A., Berger, W., and R. Dunbar, 1981, A sediment trap intercomparison study in Santa Barbara Basin, **Earth and Planetary Science Letters**, 53, 409-418.

- Dunbar, R. B., 1981, Sedimentation and the history of upwelling and climate in high fertility areas of the northeastern Pacific Ocean, Ph.D. dissertation, University of California, San Diego, 226 pp.
- Dunbar, R. B., 1983, Stable isotope record of upwelling and climate from Santa Barbara Basin, California, in: J. Thiede and E. Suess (Eds.), **Coastal Upwelling: Its Sediment Record**, Part B, Plenum Press, p. 217-246.
- Wefer, G., Dunbar, R. B., and E. Suess, 1983, Stable isotopes in foraminifera off Peru recording high fertility and change in upwelling history, in: J. Thiede and E. Suess (Eds.), **Coastal Upwelling: Its Sediment Record**, Part B, Plenum Press, p. 295-310.
- Glynn, P. W., Druffel, E. M., and R. B. Dunbar, 1983, A dead Central American coral reef tract: possible link with the Little Ice Age, **Journal of Marine Research**, 41, 605-637.
- Dunbar, R. B., and G. Wefer, 1984, Stable isotope fractionation in benthic foraminifera from the Peruvian continental margin, **Marine Geology**, 59, 215-225.
- Dunbar, R. B., Anderson, J. B., Domack, E. W., and S. S. Jacobs, 1985, Oceanographic influences on sedimentation along the Antarctic continental shelf, in S. S. Jacobs (ed.), **Oceanology of the Antarctic Shelf**, Antarctic Research Series, American Geophysical Union, 43, 291-312.
- Grossman, E. L. Betzer, P. R., Dudley, W. C. and R. B. Dunbar, 1986, Stable isotopic variation in pteropods and atlantids from North Pacific sediment traps, **Marine Micropaleontology**, 10, 9-22.
- Leventer, A., and R. B. Dunbar, 1987, Diatom flux in McMurdo Sound, Antarctica. **Marine Micropaleontology**, 12, 49-64.
- Matty, J. M., Anderson, J. B., and R. B. Dunbar, 1987, The role of suspended sediment transport, sedimentation, and resuspension in controlling water quality in Lake Houston, Texas. **Environmental Geology**, 10, 175-186.
- Dunbar, R. B., Baker, P. A., Marty, R. C., and J. Cruzado, 1988, Geologic setting, stratigraphy, and biogenic sediments of the Pisco Basin, in: R. B. Dunbar and P. A. Baker (eds.): **Cenozoic Geology of the Pisco Basin**, IGCP Project 156 Field Workshop, Lima, Peru, p. 7-41.
- Stock, C. E., Wright, R., and R. B. Dunbar, 1988, Geology of Quebrada Huaracangana, in: R. B. Dunbar and P. A. Baker (eds.): **Cenozoic Geology of the Pisco Basin**, IGCP Project 156 Field Workshop, Lima, Peru, p. 79-98.
- Allen, M. R., and R. B. Dunbar, 1988, Phosphatic sediments of the Pisco Basin, in: R. B. Dunbar and P. A. Baker (eds.): **Cenozoic Geology of the Pisco Basin**, IGCP Project 156 Field Workshop, Lima, Peru, p. 109-126.
- Ellender, R.D., J.B. Anderson and R.B. Dunbar, 1987, Role of sediment in the persistence and transport of enteric viruses in the estuarine environment. In: **Viruses in soils, sediments, and sludges**, V. Chalapati Rao and J.L. Melnick, (eds.), CRC Press, Boca Raton, FL., pp. 37-55.
- Wright, R., Dunbar, R. B., Allen, M., and P. Baker, 1988, Morphology of stacked marine delta lobes, East Pisco Basin, Peru. In: A. W. Bally (ed.) Atlas of Seismic Stratigraphy, **AAPG Studies in Geology**, #27, v. III, p. 192-196.
- Shen, G.T., Dunbar, R.B., Colgan, M.W., and P. W. Glynn, 1988, El Nino and little ice age effects on upwelling in the eastern tropical Pacific, **Chemical Geology**, 70, 198-209.
- Marty, R., Dunbar, R. B., Martin, J. B., and P. A. Baker, 1988, Eocene diatomite from the Peruvian coastal desert, **Geology**, 16, 818-822.
- Biggs, D. C., Berkowitz, S. P., Altabet, M. A., Bidigare, R. R., DeMaster, D. J., Dunbar, R.B., Leventer, A., Macko, S. A., Nittrouer, C. A., and M. E. Ondrusek, 1988, A cooperative study of upper ocean particulate fluxes in the

- Weddell Sea, in Barker, P.F., Kennett, J.P., O'Connell, S., Stewart, N.J. and others, **Proceedings of the Ocean Drilling Program**, Initial Reports, 113, 77-86.
- Leventer, A., and R. B. Dunbar, 1988, Recent diatom record of McMurdo Sound, Antarctica: implications for the history of sea ice extent, **Paleoceanography**, 3, 259-274.
- Dunbar, R. B., Leventer, A. R., and Stockton, W. L., 1989, Biogenic sedimentation in McMurdo Sound, Antarctica, **Marine Geology**, 85, 155-179.
- Marty, R. C., Dunbar, R. B., Baker, P. A., and J. Martin, 1989, Reply to Comment on.... Late Eocene diatomite from the Peruvian coastal desert. **Geology**, 17, 958-959.
- Druffel, E. R. M., Dunbar, R. B., Wellington, G. M., and S. A. Minnis, 1990, Reef-building corals and identification of ENSO warming episodes, in: P. W. Glynn (ed.), **Global ecological consequences of the 1982-83 El Nino-Southern Oscillation**, Elsevier, p. 233-254.
- Dunbar, R. B., Marty, R. C., and P. A. Baker, 1990, Cenozoic marine sedimentation in the Sechura and Pisco Basins, Peru, **Palaeogeography, Palaeoclimatology, Palaeoecology**, 41, 235-261.
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- Stadnyk, A.D., Vizcaino, A., Dunbar, R.B., Mucciarone, D.A., and LeRoy, S.L., 2012, Paleoclimate implications of an isotopic analysis of early Holocene sediments from Lago Fagnano, Tierra del Fuego, Abstract 10718 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, Utah, 20-24 February.
- Kline, D.I., Schneider, K., Teneva, L., Miard, T., Chai, A., Marker, M., Mitchell, B.G., Dunbar, R., Dove, S., and Hoegh-Guldberg, O., 2012, A short-term in situ CO₂ enrichment experiment at Heron Island (GBR) caused declining calcification of crustose coralline algae, Abstract 11160 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, Utah, 20-24 February.
- Vizcaino, A., Dunbar, R.B., Jimenez-Espejo, F., Wahl, D., Mucciarone, D., Guilderson, T., and Moy, C., 2012, Southern hemisphere westerlies in the mid-late Holocene, Abstract 12734 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, Utah, 20-24 February.
- Teneva, L.T., Dunbar, R.B., Mucciarone, D.A., Koweek, D., and Archambault, A., Assessing coral reef vulnerability to ocean acidification via high-resolution baseline monitoring of carbon budgets on Palmyra Atoll, Abstract 12788 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, Utah, 20-24 February.
- Koweek, D., Teneva, L., Archambault, A., Mucciarone, D.A., and Dunbar, R.B., 2012, Palmyra Atoll's anoxic lagoons: Understanding the hydrography and assessing risk for the coral reefs, Abstract 12825 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, Utah, 20-24 February.
- Guilderson, T.P., M.D. McCarthy, R.B. Dunbar, A. Englebrecht, E.B. Roark, 2013, Mid-late Holocene North Pacific trade winds as inferred from deep-sea coral skeletal $\delta^{15}N$ and $\delta^{13}C$ biogeochemistry. Abstract GC23A-0899 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 10-14 Dec.
- Kimball, J.B., A. Tripathi, R.B. Dunbar, and R. Eagle, 2013, 13C-18O bonding ($\Delta 47$) in deep-sea corals: a calibration study, Abstract PP23A-1935 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 10-14 Dec.
- Brenner, L.D., B.K. Linsley, E.P. Dassie, and R.B. Dunbar, 2013, Exploring Coral Reconstructions of Intertropical Convergence Zone Oscillations over Central America During the Common Era, Abstract PP51A-1921 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 10-14 Dec.
- Torres, W., D. Koweek, S. Monismith, M. Barkdull, and R.B. Dunbar, 2014, The Turbulent Boundary Layer over Reef Ecosystem Substrates, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.
- Rogers, J., S.M. Monismith, D. Koweek, and R.B. Dunbar, 2014, Hydrodynamics of a Pacific atoll, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.
- Zabel, C., D. Koweek, L. Teneva, and R.B. Dunbar, 2014, Linking benthic community composition with reef metabolism at near-pristine backreef environments of Palmyra Atoll, Central Pacific, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.

Koweek, D., J. Rogers, C. Zabel, D. Mucciarone, L. Teneva, and R.B. Dunbar, 2014, High-resolution community metabolism from a functioning coral reef ecosystem: the balance between environmental and ecological controls, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.

Tangri, N., R.B. Dunbar, B.K. Linsley, and D.A. Mucciarone, 2014, Tropical Pacific Climate Dynamics as Captured in a Continuous 500 year Coral record from American Samoa, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.

Dunbar, R.B., S.A. Pekar, F. Jimenez-Espejo, X. Crosta, U. Morgenstern, 2014, An Ultra-High Resolution Isotopic and Trace Element Record of Holocene Climate Change in East Antarctica: IODP EXP 318 Hole 1357 – The Adelie Basin, Abstract presented at 2014 Ocean Sciences AGU Meeting, AGU, Honolulu, Hawaii, 23-28 Feb.

COMPETITIVE RESEARCH GRANTS (SINCE 1994):

- 1) National Science Foundation, Division of Polar Programs, DPP-8818136, "Sinking and suspended particulate matter on the Antarctic Continental margin", \$424,500, 1 Jul 89 - 30 Jun 94.
- 2) National Oceanic and Atmospheric Administration, Office of Global Programs, DOC #NA90AA-D-AC827 (w/ G. Wellington), "Long-term climate records from Eastern Pacific corals", \$191,574, 1 Oct 1990 - 30 Sep 1994.
- 3) National Science Foundation, Atmospheric Sciences, Climate Dynamics, ATM-9116780 (w/ B. Linsley), "High frequency ocean-climate variability and Younger Dryas-style events in the Sulu Sea during the last 750,000 years", \$61,848, 1 Mar 92 - 28 Feb 95.
- 4) National Oceanic and Atmospheric Administration, Office of Global Programs, DOC #NA26GP046901 (w/ J. Cole), Workshop on coral-based climate reconstruction, \$28,000, 1 Sep 92 - 31 Aug 94.
- 5) Department of Energy, Distinguished Global Environmental Change Post-Doctoral Research Program, Rice University designated as host institution and R.B. Dunbar designated as DOE Mentor of Post-Doctoral Fellow B. Linsley, \$72,000, 1 Sep 92 - 31 Aug 94.
- 6) National Science Foundation, Office of Polar Programs, OPP-9221578, "Biogeochemistry of carbon and silicon on the Antarctic Shelf: Particle flux and taxonomic studies", \$60,763, 1 Jul 93 - 30 Jun 94.
- 7) Department of Energy, National Institute for Global Environmental Change (w/ B. Linsley), "High resolution Reconstruction of Eastern Pacific Climate during the Past 1000 Years using corals", \$22,178, 1 Dec 93 - 30 Nov 94.
- 8) National Science Foundation, Atmospheric Sciences, Climate Dynamics, ATM-94 (w/ B. Linsley), "Collection of multi-century coral records of ocean-atmosphere variability from Clipperton Atoll", \$39,123, 1 Mar 94 - 1 Sep 95.
- 9) National Science Foundation, Atmospheric Sciences, Climate Dynamics, ATM-9409779, "Recent climate variability in the western Indian Ocean and East Africa: exploring the potential of isotopic records in Kenyan corals", \$25,909, 1 April 94 - 31 Mar 96.
- 10) Department of Energy, National Institute for Global Environmental Change (w/ B. Linsley), "Documenting changes in eastern Pacific Climate using corals: Baseline data for validation of climate models", \$349,942, 1 Dec 94 - 30 Nov 97.
- 11) National Oceanic and Atmospheric Administration, Office of Global Programs, DOC #GC95-162 (w/ G. Wellington), "Climate records from Eastern Pacific Corals", \$156,393, 1 Apr 95 - 31 Aug 97.
- 12) National Science Foundation, Atmospheric Sciences, Climate Dynamics (w/ P. Baker, G. Seltzer, and S. Fritz) "SGER: Paleoclimatic Research in Lake Titicaca", \$15,080, 1 Jul 94 - 30 Jun 95.
- 13) National Science Foundation, Office of Polar Programs, OPP-9419605, "Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea (ROAVERRS)", \$333,083, 15 Aug 95 - 31 Aug 01. R.B. Dunbar lead P.I. on group proposal funded at ~\$2,200,000.
- 14) National Science Foundation, Atmospheric Sciences, Climate Dynamics, ATM-9528411, (w/ J. Cole), "Support for a Workshop on Annual Records of Tropical Systems", \$49,718, 1 Nov 95 - 31 Oct 96.
- 15) National Science Foundation, Atmospheric Sciences, Climate Dynamics, ATM-9624715, (w/ P. Baker, G. Seltzer, and S. Fritz), "Lake Titicaca: Toward a detailed Record of late Quaternary climate in subtropical South America", \$105,414, 1 Jan 96 - 31 Dec 96.
- 16) National Oceanic and Atmospheric Administration, Office of Global Programs (w/ B. Linsley), "Annual to Seasonal Climate Records from Line Island Corals", \$34,763, 1 Jan 97 - 31 Dec 99.

- 17) National Science Foundation, Atmospheric Sciences, Climate Dynamics/ESH, OCE-9632287 (w/ J. Cole), “Deciphering the oceans influence on East African climate using multicentury, multivariate coral records”, \$279,375, 1 June 98 - 31 May 00.
- 18) National Science Foundation, Office of Polar Programs, OPP-9615668, “Holocene Paleoenvironmental Change along the Antarctic Peninsula: A Test of the Bi-Polar/Solar Signal”, \$75,180, 1 Jul 97 - 30 Jun 01.
- 19) National Science Foundation, Atmospheric Sciences, Climate Dynamics, “Quaternary Paleoclimate Record from Tropical South America: Lake Titicaca”, \$187,759, 1 Jan 97 - 31 Dec 01. (Total Group budget: \$632,431)
- 20) National Undersea Research Program, National Oceanic and Atmospheric Administration, “Annual-to-Centennial Climate Variability from Hawaiian Deep Water Sclerosponges and Corals”, submersible dive, ship-time, and travel support direct from NURP, 1 Feb 97 - 31 Jan 98.
- 21) National Oceanic and Atmospheric Administration, Office of Global Programs NA86GPO117-1, with NSF-Earth Systems History, “Paleoclimate records from Eastern Pacific Corals”, \$43,001, 1 Apr 98 - 31 Mar 00.
- 22) David and Lucille Packard Foundation, “Acquisition of a stable isotope mass spectrometer facility in support of ocean margins research”, \$240,000, 1 Oct 97 – 31 April 99.
- 23) National Science Foundation, Office of Polar Programs, NSF OPP-9909837, "Quaternary Glacial History and Paleoenvironments of the East Antarctic Margin", \$147,172, 1 Jul 00 - 31 Dec 03.
- 24) Bechtel Foundation, "Aligning Economic Growth, Resource Use, and Environmental Objectives in the Yaqui Basin, \$300,000, 1 Sep 99 - 30 Aug 03. (with P Matson et al.)
- 25) Bio-X Initiative, “Coral Reef Health and Interaction with the Global C Cycle: Innovative Technologies for Assessment”, \$175,000, 1 Dec 00 – 30 Nov 02. (w. J. Koseff)
- 26) Lawrence Livermore National Laboratory, “Late Quaternary shifts in tropical hydrology inferred from lacustrine facies on the South American Altiplano”, \$19,784, 1 Oct 00 – 30 Sep 01 (w. H. Rowe).
- 27) A.W. Mellon Foundation, "Ecological Problems at Intermediate Scales of Space and Time: An integrated training program", \$852,375, 1 Jan 01- 31 Dec 04 (with P.I.'s H. Mooney, C. Fields, et. al.)
- 28) National Science Foundation, Office of Polar Programs, NSF OPP-0207305, "Quaternary Glacial History and Paleoenvironments of the East Antarctic Margin: Supplement", \$39,962, 14 Jan 02 - 31 Dec 03.
- 29) National Oceanic and Atmospheric Administration, Office of Ocean Exploration, “Climate variability in the deep sea from corals on seamounts in the Gulf of Alaska”, 31 May 02 – 1 Jan 04.
- 30) National Oceanic and Atmospheric Administration, National Undersea Research Program, “Hawaii Undersea Research Lab, “Decadal-to-centennial climate variability revealed by deep sea corals from the central North Pacific gyre”, 1 June 04 – 31 May 07.
- 31) National Science Foundation, ODP-USSAC, “Stable isotope ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$) stratigraphy of the Eocene/Oligocene boundary: ODP Site 1263, Leg 208, \$29,000, 1 Nov 03 – 31 Oct 04.
- 32) UPS Foundation, “Urban water security in the developing mega-cities of South America”, \$44,000, 1 Feb 04 – 31 Jan 05.
- 33) National Science Foundation, Office of Polar Programs, NSF OPP-0338350, “Collaborative Research: Interactive Effects of Iron, Light and Carbon Dioxide on Phytoplankton Community Dynamics in the Ross Sea”, \$369,374, 1 June 04 – 31 May 07.
- 34) National Science Foundation, Atmospheric Sciences, Climate Dynamics, NSF ATM-0408668, “SGER: Holocene Variability of the South Pacific Westerly Wind Field”, \$59,581, 15 Feb 04 – 14 Feb 05.
- 35) National Science Foundation, Ocean Sciences, Climate Dynamics/ESH, NSF ATM-0402562, “Collaborative research: Interannual-to-centennial climate variability in the southeastern Pacific from Easter Island corals”, \$295,091, 1 June 04 – 31 May 07.
- 36) Environmental Interdisciplinary Initiatives Program, Stanford's Institute for the Environment, “Biomineralization and Past Climate Change: The Ion Micro-probe Revolution”, \$120,000, 1 June 04 – 31 May 06, with A. Meibom (P.I.).
- 37) National Oceanic and Atmospheric Administration, Office of Global Programs, “North Pacific Decadal to Centennial Variability from Deep Sea corals: a New Archive for Climate Change Detection”, \$355,000, 2/1/05-1/31/09.

- 38) National Science Foundation, Marine Geology and Geophysics, NSF OCE-0551792, “Collaborative Research: Pacific Ocean Gyre Exchange and Ventilation Processes: Proxy Development using Deep Sea Corals”, \$305,931, 3/1/06 – 2/28/09.
- 39) National Science Foundation, Office of Polar Programs, Polar Earth Sciences, NSF ANT-0639409, "Collaborative Research: The 10th International Symposium on Antarctic Earth Science (ISAES X)", \$111,708, 3/1/07 – 2/28/09 (Alan Cooper, lead P.I.).
- 40) National Science Foundation, Ocean Sciences, Chemical Oceanography, NSF OCE-0729236, “Coral Reef Primary Production and Calcification: Quantitative Analysis of Sensitivity to Environmental Forcing using a Control Volume Approach”, \$511,231, 11/1/07-10/31/10.
- 41) ANDRILL, National Science Foundation via University of Nebraska, “Mid-Pliocene through Holocene Paleooceanographic Studies”, \$26,535, 9/1/07-8/31/08.
- 42) ANDRILL, National Science Foundation via University of Nebraska, “Plio-Pleistocene evolution of sea-ice and nitrate utilization in the Ross Sea, Antarctica”, \$29,728, 9/1/07-8/31/08.
- 43) Environmental Ventures Program, Woods Institute for the Environment, “Understanding the effects of fishing on Coral Reef Ecosystems: An interdisciplinary approach”, \$163,492, 9/1/08 – 8/31/10.
- 44) National Science Foundation, Office of Polar Programs, NSF OPP-0938553, “Participant Support for the First Antarctic Climate Evolution Symposium”, \$50,000, 6/1/09 – 5/31/10.
- 45) National Science Foundation, Ocean Sciences, Chemical Oceanography, NSF OCE-0941199, “Coral Reef Primary Production and Calcification: Quantitative Analysis of Sensitivity to Environmental Forcing using a Control Volume Approach: Supplement”, \$63,235, 9/1/09 – 10/31/10.
- 46) Australian Research Council, Discovery Projects Program, “Ocean Acidification in a Rapidly Increasing CO₂ World”, \$855,000 (AUS), 1/1/09 – 12/31/11. (Malcolm McCulloch, ANU, Project lead)
- 47) National Oceanic and Atmospheric Administration, Office of Ocean Exploration, “Interdisciplinary Deep Exploration of the Line Islands: Deep Sea Coral Communities, Biodiversity, and Climate Change”, \$468,300, 1/1/12 – 12/31/14 (recommended for funding but award is now pending availability of suitable vessel and ROV or submersible).
- 48) Environmental Ventures Program, Woods Institute for the Environment, “Understanding the Carbon Cycle in Terrestrial and Marine Ecosystems With Field-Based Measurements Using a Revolutionary Isotopic Technique (CRDS)”, \$196,266, 9/1/10 – 8/31/12.
- 49) Consortium for Ocean Leadership, National Science Foundation, “Participation in IODP Expedition 318 to Wilkes Land, Antarctica, \$95,376, 1/4/10 – 1/3/11.
- 50) Consortium for Ocean Leadership, National Science Foundation, “Initial Characterization of Site U1357 Cores: Towards development of an annually-resolved record of climate and glacial variability in East Antarctica”, \$14,999, 7/1/10 – 6/30/11.
- 51) National Oceanic and Atmospheric Administration, National Undersea Research Program, “Hawaii Undersea Research Lab, “Central Tropical Pacific Deep Sea Coral Communities: Climate and Chemical Change in the Ocean Interior across the Equator”, 1 Jan 11 – 31 Dec 13 (recommended for funding but award is now pending availability of suitable vessel and ROV or submersible).
- 52) The Gordon and Betty Moore Foundation, “Observations and modeling of the C system dynamics at Palmyra Atoll: In support of the development of management strategies for ocean acidification impacts in the tropics”, \$832,692, 12/1/10 – 8/31/13.
- 53) National Science Foundation, ATM - GEO/ATM - Paleoclimate Program, NSF EAR-1103550, “Holocene Climate Change in Southwestern Patagonia: New Insights from Large Lake Paleolimnology”, \$592,251, 2/1/11 – 1/31/14.
- 54) Environmental Ventures Program, Woods Institute for the Environment, “How marine species affect ocean acidification: the other side of the coin, \$198,760, 10/01/11 – 09/30/13.
- 55) National Science Foundation, Marine Geology and Geophysics, IODP, NSF OCE-1129101, “Collaborative Research: An Ultra-High Resolution Holocene Climate Record from a Varved Sediment Sequence from the Adelie Coast, Antarctica (IODP Exp 318)”, \$234,828, 6/1/11 – 5/31/13.
- 56) National Science Foundation, Office of Polar Programs, NSF OPP-1142044, “Collaborative Research: TRacing the fate of Algal Carbon Export in the Ross Sea (TRACERS)”, \$456,000, 3/1/12 – 2/28/15.

- 57) National Science Foundation, Division of Ocean Sciences, OCE-1203999, “Collaborative Research: Developing a Continuous Reconstruction of Tropical Pacific Climate over the Last 500-700 Years: Analysis of Massive *Porites* Corals from American Samoa”, \$273,506, 6/1/12 – 5/31/14.
- 58) The Gordon and Betty Moore Foundation, “Understanding Coral Reef Resilience to Advance Science and Conservation”, \$253,000, 11/6/12 – 6/30/14.
- 59) Schmidt Ocean Institute, Marine Science and Technology Foundation, “The FUTURE FOCE: (Finding, Understanding and Testing Underwater at Risk Ecosystems with the Free Ocean Carbon Enrichment system), 10/1/13 – 9/30/16, \$125,327.

Pending:

- 60) National Science Foundation, Division of Ocean Sciences, OCE-CRI, “Collaborative Research Ocean Acidification: In situ studies of the interactive effects of ocean acidification and elevated temperature on coral physiology and calcification”, \$252,376, 8/1/14 – 7/31/17.
- 61) National Science Foundation, Office of Polar Programs, NSF OPP, “Collaborative Research: An Interdisciplinary Study of Convective Processes in the Western Ross Sea”, 1/1/14 – 12/31/17, \$664,119.
- 62) National Science Foundation, Division of Ocean Sciences, “Collaborative Research: Multi-coral reconstruction of eastern Pacific ITCZ variability over the last several centuries”, 6/1/14 – 5/31/16, \$197,522.

UNIVERSITY SERVICE AT RICE AND STANFORD:

Post doctoral Fellows Supervised

- | | |
|-----------|--|
| 1990-1994 | Braddock Linsley, Ph.D., University New Mexico, now Professor, Columbia University |
| 1993-1994 | Linda Bonnell, Ph.D. Indiana, now at Rogalan Research, Stavanger, Norway |
| 2002-2004 | Kelly Kryc, Ph.D., Boston University, now GSA Congressional Science Fellow, Washington DC |
| 2003-2005 | Dominik Fleitman, Ph.D., Universitat Bern, now Professor, University of Bern, Switzerland |
| 2005-2008 | Brendan Roark, Ph.D. University of California, Berkeley, now Professor, Texas A&M University |
| 2005-2007 | Eduard Costa, Ph.D., University of Barcelona, now teaching in Spain |
| 2005-2008 | Fanny Houlbreque, Ph.D., Université Paris VI, now Program Officer, IAEA, Monaco |
| 2009-2012 | Alexis Vizcaino i Martí, Ph.D., University of Barcelona, currently at Stanford |
| 2012-2013 | Kenny Schneider, Ph.D., Hebrew University, currently at Stanford |

Graduate Students Supervised (lead advisor) (degree date or expected degree date)

- Steffi Minnis, M.A., Rice, May, 1986, now with an environmental consulting company, New Jersey
- Lorinda Driskill (co-chair with R.E. Casey), M.A., Rice, May, 1987, now a geoscientist with Landmark Graphics
- Amy Leventer, Ph.D., Rice, 1988, now Professor at Colgate University
- Kim Miskell-Gerhardt, Ph.D., Rice, 1989, scientist with Exxon-Mobil, now retired
- Richard C. Marty, Ph.D., Rice, 1989, now with an environmental consulting company
- Carrie Stock, M.A., Rice, 1991, now with an environmental consulting company, North Carolina
- Erika Frantz, M.A., Rice, 1993, scientist with BP Amoco
- Carlos Azalgara (co-chair with A.W. Bally), M.A., Rice, 1994, now a geoscientist with Petrobras Venezuela
- William Jones, M.A., Rice, 1995, now at University of Adelaide, Australia
- Jennifer Rogers (now Jennifer Villinski), M.A., Rice, 1995, scientist with BP Amoco
- Robb Houston, M.A., Rice, 1999, now with an environmental consulting company in Michigan
- Charlotte Kelchner, M.A., Rice, 2004, now with Encyclopedia Britannica
- Harold Rowe, Ph.D., Stanford, 2001, now Professor at University of Texas, Arlington
- Lindley Zerbe, M.S., Stanford, 2002, Singapore Space Agency, now graduate school
- Kevin Thiessen, Ph.D., Stanford, 2002, now Professor at University of Saint Thomas
- Nancy Grumet Prouty, Ph.D., Stanford, 2004, Research Oceanographer, USGS Santa Cruz
- David Munro, M.S., Stanford, 2004, now Ph.D. student at University of Washington
- Michael Mastrandrea, Ph.D. student, Stanford, 2004, now Project Scientist, IPCC
- Michael Lutz, Ph.D. student, Stanford, 2005, now at Rosenstiel School, U. Miami
- Ashley Maloney, M.S., Stanford, 2005, now Ph.D. student at University of Washington
- Jessica Kelleher, M.S., Stanford, 2007, Program Manager for Public Lands Defense at The Wyss Foundation
- Elizabeth Scheimer, M.S., Stanford, 2007, now in U.S. Navy

Chris Moy, Ph.D., Stanford, 2010, now Lecturer at the University of Otago
Matthew Long, Ph.D. 2010, Stanford, now post-doctoral fellow at NCAR
Christina Riesselman, Ph.D., Stanford, 2011, now Mendenhall post-doctoral fellow, USGS
Justine Kimball, Ph.D. student, Stanford
Mike Osborne, Ph.D. student, Stanford
Lida Teneva, Ph.D. student, Stanford
Sharmini Pitter, Ph.D. student, Stanford
Sverre LeRoy, Ph.D. student, Stanford
David Koweek, Ph.D. student, Stanford
Hans DeJong, Ph.D. student, Stanford
Neil Tangri, Ph.D. student, Stanford
Cassandra Brooks, Ph.D. student, Stanford (joint with L. Crowder, E-IPER)
Johnny Bartz, M.S. student, Stanford
Ethan Estess, M.S. student, Stanford

Undergraduate research supervised

Jennifer Villinski, now a Geoscientist with Exxon-Mobil
David Munro, now Ph.D. student at University of Washington
Lauren Rogers, now Ph.D. student at University of Washington
Tzvetie Erohina, Ph.D. at Stanford, now working for an Energy Company in Bakersfield, CA
Luna Federici, Fullbright scholar, New Zealand, graduate school University of Washington
Guy Marion, Ph.D., University of Queensland, now Vice President of Codesian Cloud Services
Melissa Roth, now IGERT Ph.D. student at UCSD
Julia Rosen, Graduate Student, OSU
Orion Lakota
Jessica McNally
Johny Bartz
Sam Urmy
Alex Greer
Marra de Graff
Nick Wenner
Jessica Hinojosa
Anna Trugman
Samantha Larson
Marra DeGraff
Alex Stadnyk
Adrian Archambeaux
Caleb Cruse
Claire Zabel
Laura Crews
Walter Torres

Courses taught (some courses shared with other faculty)

Introductory Oceanography
Marine Geology
Sedimentology
Sedimentary Geochemistry and Mineralogy
Field Geology
Paleoceanography/Deep-Sea Sedimentation
Stable Isotope Geochemistry
Stratigraphy and Historical Geology
Isotope Geochemistry
Climate Variability and Forcing Mechanisms of the past 2000 years
Seminar in Paleoceanography
Seminar in Latin American Geology

Seminar in organic rich shelf sediments
Seminar in forearc and backarc sedimentary systems
Seminar in Carbon Cycle Geochemistry
Seminar in Oscillatory Behavior in Climate Systems
Time Series Analysis in Geology
El Nino; predictability and modeling
Change in the Coastal Ocean: the view from Monterey Bay
Seminar in Geological and Environmental Sciences
Antarctic Marine Geology & Geophysics
Science, history, and literature of polar exploration
Stanford @ SEA
Environmental Forum
Science, History, and Literature of Polar Exploration
Stable Isotope Laboratory
Senior Seminar in Earth Systems
In the Age of the Anthropocene: Coupled-Human Natural Systems of Southeast Alaska
Corals of Palau: Ecology, the Physical Environment, and Reefs at Risk

University and Departmental Service

Member Committee on Undergraduate Standards and Policy (C-USP), 2011-present
Coordinator, EESS weekly seminar series, Spring, 2012
Member, Faculty Search Committee for an appointment to “The Douglas Chair”, 2011-present
Member, Advisory Board, Haas Center for Public Service, 2010-present
Member, Vice-Provost’s “critical engagement” focus group, 2010-present
Member, Freshman and Sophomore Programs Advisory Committee, 2010-present
Member, Y2E2 Building Management Committee, 2008-present
Member, Faculty Search Committee for Director of the Center for Ocean Solutions, 2009-2010
Member, Management Committee, Center for Ocean Solutions, Woods Institute, 2008-present
Member, Marine Chemistry Faculty Search Committee, 2008-2009
Co-Chair, Climate Science Faculty Search Committee, 2008-2009
Speaker, Stanford fund Events, New York City, Los Angeles, 2008
Speaker, Stanford Alumni Clubs in Colorado, East Bay, 2008
Speaker, Stanford Parents Day, 2008, 2009
Speaker, Stanford Homecoming, 2007, 2009
Member, Physical Oceanographer, Faculty Search Committee, 2006-2007
Speaker, Stanford Parents Day, 2007
Speaker, Stanford Alumni Clubs in San Diego, Los Angeles, 2006
Speaker, Stanford Alumni Clubs in Wyoming, Monterey Bay, Philadelphia, Palo Alto, 2005
Speaker, Stanford Admit Weekend, 2005, 2006, 2007, 2009, 2011
Speaker, End of Oil Symposium at Stanford, 2006
Chair, Joint SES/WIE Faculty search committee for a hire in climate science, 2005-2007
Co-chair, University Interdisciplinary Environmental Grants Committee, 2004-2006
Member, Faculty Leadership Committee, Woods Institute for the Environment, 2004-present
Co-director, Interdisciplinary Graduate Program in Environment and Resources, Stanford University, 2003-2005
Victoria P. and Roger W. Sant Director of the Earth Systems Program, Stanford University, 2003-present
Governor representing Stanford to the Joint Oceanographic Institutions (JOI), 2003-present
Member, Provost’s Committee on the Environmental Initiative, 2002-2004
Alternate Governor representing Stanford to the Joint Oceanographic Institutions (JOI), 2002-2003
Founding Director, Interdisciplinary Graduate Program in Environment and Resources, 2001-2002
Associate Chair, Geological and Environmental Sciences, 2000-2004
Member, Committee on Undergraduate Admissions and Financial Aid, 2000-2004
Elected member of Stanford Faculty Senate, 2000-2002
Chair, Ion Microprobe faculty search committee, 1999-2001
Member, Earth Sciences Advisory Council, 1999-present
Member, Graduate Admissions Committee, Stanford GES, 1997-1999
Member, Earth Systems Program steering committee, 1997-present

Elected Alternate, Electoral Unit 2, Senate of the Academic Council, Stanford University, 1998-2000
Chair, Curriculum Committee, Ocean Margins Initiative, 1998-2003
Director, Stanford University Stable Isotope Lab, 1998-present
Member, search committee for new faculty in the Ocean Margins Initiative, 1997-2000
Senior Fellow, Institute for International Studies, 1998-present
Speaker, Stanford Parents Weekend, 1998, 1999, 2000
Speaker, Stanford Admit Weekend, 1998, 1999, 2000
Chair, Committee on Environmental Curricula at Rice, 1995
Member, Undergraduate Admissions Committee, Rice University, 1996-1997
Member, Provosts Task Force, Environmental Strategic Planning, 1996-1997
Natural Sciences Divisional Advisor, Baker College, 1993-1997
Master of Baker College, 1989-1994
G&G Research Facilities Committee, 1993-1997
Chair, Masters Search Committee for Brown College Master, 1992-1993
Associate of Hanszen College, 1982-present (honorary since 1989)
Residential Colleges Management Advisory Committee, 1993-1994
Campus Safety Committee, 1991-1992
Chair, Committee of Masters and Committee of Masters and Presidents, 1990
Chair, Masters Search Committee for Sid Rich College Master, 1990-1991
Secretary, Committee of Masters and Committee of Masters and Presidents, 1990
Committee for development of a foundation course in science and engineering (NASC 101), 1987
Undergraduate curriculum committee, 1986-1988
Elected to Faculty Council, 1985-1986
Elected to University Council, 1985-1986
Ad-hoc committee for development of "coherent minor program", 1986
Safety Officer, G&G Department, 1984-1987 & 1989-1991
Chair, G&G Safety Advisory Committee, 1991-1995
G&G Acting Undergraduate Advisor, 1987
G&G Awards and Scholarship Committee, 1984-1985
G&G 5 year plan Committee, 1986
Ewing Chair Search Committee, 1985
Resident Associate, Hanszen College, 1983-1987
Director, Rice University Stable Isotope Laboratory, 1983-1997
Instructor, Rice University Continuing Studies Program, 1982