

BIOGRAPHICAL SKETCH - ROBERT B. DUNBAR

W.M. Keck Professor of Earth Sciences, Stanford University
Professor of Earth System Science, Stanford University
Bass 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

MEDALS: Antarctic Service Medal of the United States, 1983
SCAR Medal for Excellence in Antarctic Research, 2016

PROFESSIONAL EXPERIENCE: W.M. Keck Professor of Earth Sciences, Stanford University, 2008-present
Professor of Earth System Science, Stanford University, 2007-present
Member, NAS/NRC Committee on Sustaining Ocean Observations to Understand Future Changes in Earth's Climate, 2016-2017
Stanford University Member Representative, Consortium for Ocean Leadership, 2007-present
Bass University Fellow in Undergraduate Education, 2013-present
Adjunct Professor, Victoria University of Wellington, New Zealand, 2010-present
Member, Advisory Council, Inian Islands Institute, 2013-present
Member, Management Committee, Center for Ocean Solutions, 2009-present
Trustee, Consortium for Ocean Leadership, 2009-2016
Chair, Board of Trustees, Consortium for Ocean Leadership, 2013-2016
Member, NAS/NRC Strategic Visions for Antarctic Research Comm., 2014-2015
Vice-Chair, Board of Trustees, Consortium for Ocean Leadership, 2011-2013
Richard Lyman Award Recipient, Stanford University, 2009
Professor of Geological and Environmental Sciences, Stanford University, 1997-2007
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-present
Victoria P. and Roger W. Sant Director of the Earth Systems Program, Stanford University, 2003-2012
Governor, Joint Oceanographic Institutions, 2003-2007
Associate Chair, Geological & Environmental Sciences, Stanford Univ., 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, Univ. New Mexico, Albuquerque, 1988

Visiting Assistant Professor, Earth Sciences, Univ. 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 dynamics – tropical and polar
- 2) Ocean chemistry/biogeochemistry
- 3) Coral reef ecology and biogeochemistry
- 4) Climate forcing of marine ecosystems
- 5) Policy issues related to the coastal oceans, climate change and anthropogenic effects
- 6) Antarctic glacial history

**PROFESSIONAL
ACTIVITIES:**

- Master Speaker, Net Positive Energy + Water Conference, CA, 2016
- Keynote speaker, Bluefin Futures Symposium, Monterey, CA, 2016
- Co-organizer and host, Pacific Leaders Summit, Honolulu, HI, June, 2016
- Member, Program Committee, International Coral Reef Symposium, Honolulu, HI, 2016
- Stanford+Connects speaker, Stanford, CA, May, 2016
- Session convener, Scientific Committee on Antarctic Research Open Sci. Conf., 2016
- Invited Speaker, Pre-collegiate Science Conference, Stanford, CA, 2015
- Invited Speaker, Future of the Venetian Lagoon, Comune di Venezia, Italy, 2015
- Eminent speaker, Frontiers in Marine Research Symposium, Univ. South Florida, FL 2015
- Invited speaker, Marine Geosciences Leadership Symposium, Washington, D.C., 2015
- Invited speaker, Antarctic Shelf Biogeochemistry, ASLO Biannual Meeting, Spain, 2015
- Stanford+Connects speaker, San Diego, CA, November, 2014
- Stanford+Connects speaker, Pasadena, CA, February, 2014
- Workshop presenter, Footlocker event on Ocean Acidification training for US-affiliated Community Colleges of the Pacific, Palau, 2014
- Organizer (with Alan Cooper), Arts/Science intersection event, Scientific Committee on Antarctic Research Open Sciences Conference, Auckland, New Zealand, 2014
- Invited participant, Scientific Committee on Antarctic Research Horizon Scan, 2014
- Convener, GBMF Workshop on Coral Reef Management, Hawaii, Feb, 2014
- Keynote speaker, Ecopoiesis Conference, California College of the Arts, 2012
- Invited speaker, ISOLAT Symposium, Cambridge, UK, September, 2013
- 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
- Convenor, 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 Paleocology 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
 - Leader, Stanford Alumni Travel Study, Canadian Rockies, July, 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 Travel Study, 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 Travel Study, Falklands, South Georgia, Antarctica, January, 2005
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Honolulu to Line Islands and return, May/June, 2005
 - Leader, Stanford Alumni 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)
 - Coral dissolution control volume experiment, Heron Island, Australia, February, 2006
- Chief Scientist: - Lake coring expedition, RV *Neecho*, 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
 - Marine Biology, Biogeochemistry, and Ocean Physics, Ross Sea, Antarctica, R/V *Nathaniel B. Palmer*, October-December, 2006 (CORSACS)
 - Leader, Stanford Alumni Travel Study, Falklands, South Georgia, Antarctica, January, 2007
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Honolulu to Line Islands and return, May/June, 2007
 - Coral drilling expedition, Palmyra Atoll, June, 2007
 - Leader, Stanford Alumni Travel Study, Kilimanjaro Expedition, August, 2007
- Chief Scientist: - Submersible Diving, Northwest Hawaiian Islands National Monument, RV *Kaimikai O Kanaloa*, DSRV *Pisces V*, October-November, 2007
 - Leader, Stanford Alumni Travel Study, 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
 - Leader, Stanford Alumni Travel Study, Falklands, South Georgia, Antarctica, January, 2009
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Papeete, Marquesas, Honolulu, May-June, 2009
 - Leader, Stanford Alumni Travel Study, 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
 - Leader, Stanford Alumni Travel Study, Falklands, South Georgia, Antarctica, Jan-Feb, 2011

- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Honolulu to Line Islands and return, May/June, 2011
 - Leader, Moore Foundation Science Scoping Trip to Palmyra Atoll, March/April, 2011
 - Leader, Palmyra Atoll ocean acidification field program, May, 2011
 - Leader, Limnology studies in Patagonia, August, 2011
 - Leader, Palmyra Atoll ocean acidification field program, Sept/Oct, 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 Travel Study, Maldives, Lakshadweep Islands, India, Dec., 2012
 - Lecturer and Leader, 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
 - Leader, Stanford Alumni Travel Study, Galapagos Islands, July, 2013
 - Leader, Lake Coring and Seismic Program, RV Neecho, Chile, March-April 2014
 - Leader, C system chemistry field experiments, Palmyra Atoll, July-August, 2014
 - Leader, Stanford Alumni Travel Study, Seychelles/Tanzania, November-December, 2014
 - Leader, Stanford Alumni Travel Study, Falklands, South Georgia, Antarctica, January- February, 2015
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Tahiti to Kiribati to Hawaii, May/June, 2015
 - Leader, Palau C cycle sampling program, July, 2015
 - Leader, Stanford Alumni Trip, Mount Everest Base Camp Trek, October, 2015
 - Co-leader, Oceanography and Coral Reef Ecology of the Chagos Archipelago, *Vava II*, April, 2016
 - Co-leader, Coral Paleoclimatology Expedition to Mauritius, June-July, 2016
 - Leader, Stanford Alumni Travel Study, Iceland and Greenland, July-August, 2016
 - Leader, Fjord oceanography, *RV Neecho*, September 2016
 - Leader, Stanford Alumni Travel Study, Antarctica, January, 2017
- Co-Chief Scientist: - Stanford@SEA, *RC Seamans*, Tahiti to Kiribati to Hawaii, May/June, 2015

PUBLICATIONS: (h-index = 64, i10-index = 163 as of November 2016) - Google Scholar:

<https://scholar.google.com/>

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, doi:10.1038/293453a0.

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., 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.
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- Nickols, K.J., D. Koweek, S. Lummis, S.Y. Litvin, R. Dunbar, D. Mucciarone, 2013, Establishing the natural variability of carbon system parameters and water mass properties within kelp forests, Western Society of Naturalists 2013 Annual Meeting, Oxnard, CA, page 74.
- 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.
- Nickols, K.J., Koweek, D.A., Leary, P., Litvin, S.Y., Lummis, S., Luthin, T., Mucciarone, D., Dunbar, R., 2014, Spatial variability of carbon system parameters associated with kelp forests in an upwelling system. Proceedings of the 2014 Eastern Pacific Ocean Conference.
- DeJong, H., Dunbar, R., Mucciarone, D., and D. Koweek, 2014, Carbon chemistry during the early autumn in the Ross Sea, Antarctica: Implications for carbon export and Ocean Acidification state, Biannual Scientific Committee on Antarctic Research Open Sciences Conference, Auckland, New Zealand, August, 2014.
- Dunbar, R., DeJong, H., and Mucciarone, D., 2014, Ross Sea Temperature, Salinity, and $\delta^{18}\text{O}$: Evidence for Accelerating Ice Sheet Melt, Biannual Scientific Committee on Antarctic Research Open Sciences Conference, Auckland, New Zealand, August, 2014.
- DeJong, H.B., Dunbar, R.B., Mucciarone, D., and Koweek, D., 2015, Carbon chemistry of the Ross Sea, Antarctica during early Autumn: implications for carbon export and CO₂ flux, (ID: 27680), 2015 Aquatic Sciences Meeting, The Association for the Sciences of Limnology and Oceanography, Granada, Spain, February, 2015.
- Dunbar, R., Riesselman, C., DeJong, H., DiTullio, G., Orellana, M., Lee, P., Lee, A., and Hansell, D., 2015, Late summer algal blooms in frazil and pancake ice of the Ross Sea: Origins, biophysical linkages, and implications for the C cycle (ID: 27659), 2015 Aquatic Sciences Meeting, The Association for the Sciences of Limnology and Oceanography, Granada, Spain, February, 2015.
- Rogers, J.S., Monismith, S.G., Koweek, D.A., and Dunbar, R.B., 2015, Wave Dynamics of a Pacific Atoll with HighFrictional Effects. Gordon Research Conference for Coastal Ocean Modeling, June 7-12, 2015.
- Koweek, D.A., Mucciarone, D.A., and Dunbar, R.B., 2015, Investigating the Utility of Bubble Plumes for Ecosystem Engineering, Proceedings of the 7th International Symposium on Gas Transfer at Water Surfaces, May 18-21, 2015, Seattle.
- Nickols, K.J., Koweek D.A., Luthin, T., Litvin, S.Y., Leary, P., Mucciarone, D., Dunbar, R., Lummis, S., 2015, Spatial variability and context dependency of CO₂ chemistry in a central California kelp forest. 2015 Coastal and Estuarine Research Federation Conference.
- Nickols, K.J., Koweek D.A., Leary, P., Litvin, S.Y., Lummis, S., Luthin, T., Mucciarone, D., Dunbar, R., 2015, Physical contributions to spatial variability of carbon system parameters within a central California kelp forest. Proceedings of the 2015 Eastern Pacific Ocean Conference.
- Langone, L., Dunbar, R.B., Giglio, F., Manno, C., Mucciarone, D., Asper, V., Capello, M., Smith, W.O., and Ravaioli, M., 2015, Particle fluxes in the Ross Sea: A 20-year synthesis (ID: 27450), 2015 Aquatic Sciences Meeting, The Association for the Sciences of Limnology and Oceanography, Granada, Spain, February, 2015.
- Marks, G., LaVigne, M., Hill, T., Sauthoff, W., Guilderson, T., Roark, B., and Dunbar, R., 2015, Ba/Ca Ratios in North Pacific Bamboo Corals Record Changes in Intermediate Water Biogeochemistry, B22B-02, American Geophysical Union 2015 Fall Meeting, San Francisco, December, 2015.

- Nickols, K., Koweek, D., Leary, P., Litvin, S., Lummis, S., Mucciarone, D., Dunbar, R., and T. Bell, 2016, A Year in the Life of a Central California Kelp Forest: Physical and Biological Insights into Carbon Cycling, EC53A-08, American Geophysical Union 2016 Oceans Sciences Meeting, New Orleans, February, 2016.
- Koweek, D., Mucciarone, D., and R. Dunbar, 2016, Bubble Stripping as a Tool to Reduce High Dissolved CO₂ in Coastal Marine Ecosystems, EC54B-1314, American Geophysical Union 2016 Oceans Sciences Meeting, New Orleans, February, 2016.
- Rogers, J., Monismith, S., Koweek, D., Torres, W., and R. Dunbar, 2016, Hydrodynamics of a Pacific Atoll System – Mechanisms for Flow and Ecological Implications, EC24C-1123, American Geophysical Union 2016 Oceans Sciences Meeting, New Orleans, February, 2016.
- Riesselman, C., Parker, R., Gilmer, G., Lee, J., Yoo, K.-C., Lee, M., Subt, C., McKay, R., Rosenheim, B., Levy, R., Ohneiser, C., and Dunbar, R., 2016, Response of the marginal marine environment to post-glacial warming in the Ross Sea, Antarctica, MG41A-08, American Geophysical Union 2016 Oceans Sciences Meeting, New Orleans, February, 2016.
- Moy, C.M Dunbar, R.B., Moreno, P.I., Guilderson, T.P., and Villa-Martinez, R., 2016, Northern Hemisphere and tropical climate influences on the Southern Hemisphere westerly winds during the Holocene, VIII Southern Connection Congress, Punta Arenas, Chile, January, 2016.
- Newton, K., J. Bendle, R. McKay, A. Albot, H. Moossen, O. Seki, V. Willmott, S. Schouten, C. Riesselman, and R. Dunbar, 2016, Glacial discharge, upwelling and productivity off the Adélie coast, Antarctica: results from a 171 m Holocene sediment core from IODP Expedition 318, European Geosciences Union Annual Meeting, EGU2016-1052.
- Lewis, S., Dunbar, R., and Mucciarone, D., 2016, Can corals reveal land-use change? Trace element and isotopic records suggest patterns of land use change in the Republic of Palau, (Abstract ID: 30078), International Coral Reef Symposium, Honolulu, Hawaii, June, 2016.
- Dunbar, R.B., Mucciarone, D.A., Osborne, M., and B.A. Roark, 2016, Easter Island (Rapa Nui) corals track 19th and 20th century decadal and longer variance in sea surface temperatures, (Abstract ID: 30078), International Coral Reef Symposium, Honolulu, Hawaii, June, 2016.

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”, (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 – 8/31/14.

- 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 – 5/31/14.
- 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)”, \$567,033, 3/1/12 – 7/31/16.
- 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 – 12/31/15.
- 59) The Center for Innovation in Global Health, Stanford University, “Integrating climatic, genomic and archeo-historic data: a proof-of-concept study to improve malaria ‘early warning’ predictive model”, Seed Grant awarded to K. Seetah, \$50,000.

Pending:

- 60) National Science Foundation, “Collaborative Research: Can seagrass beds protect marine calcifiers from pH perturbations? Towards understanding coral/seagrass/macroalgae interactions and synergies in Palau”, NSF-OCE 7666222, \$385,645, 1 Sep 16 – 31 August 19.
- 61) National Science Foundation, “Measurement of Antarctic Ice Loss using Stable Isotopic Measurements in Seawater”, NSF-PLR, \$658,613, 1 Dec 16 – 30 Nov 19.
- 62) National Science Foundation, “Collaborative Research: Cobalamin and Iron Co-Limitation Of Phytoplankton Species (CICLOPS) in Terra Nova Bay”, NSF-PLR, \$381,155, 1 Dec 17 – 30 Nov 20.
- 63) National Science Foundation, “LTER: Global Change in Sitka Sound, a Subarctic Marine Ecosystem (SSLTER)”, NSF-LTER, \$6,720,000, 1 Jan 2017 – 31 Dec 2022.

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
2012-2013	Kenny Schneider, Ph.D., Hebrew University

Graduate Students Supervised (as 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 faculty member at the University of Otago
Matthew Long, Ph.D. 2010, Stanford, now at NCAR
Johnny Bartz, M.S., Stanford, 2011, now in Ph.D. program at RSMAS
Ethan Estess, M.S., Stanford, 2011, now with Hopkins Marine Station
Christina Riesselman, Ph.D., Stanford, 2011, now faculty member at University of Otago
Mike Osborne, Ph.D., Stanford, now with Stanford World Vision
Lida Teneva, Ph.D., Stanford, 2013, now with Conservation International, Hawaii
Sharmini Pitter, Ph.D., Stanford, 2013, now faculty member at Florida Agricultural and Mechanical University
Justine Kimball, Ph.D. student, Stanford, 2014, Knauss SeaGrant Fellow, now with NOAA
Sverre LeRoy, Ph.D. student, Stanford
David Koweek, Ph.D. student, Stanford, 2016, Carnegie Institution Post-Doctoral Fellow
Hans DeJong, Ph.D. student, Stanford
Neil Tangri, Ph.D. student, Stanford
Cassandra Brooks, E-IPER Ph.D. student, Stanford (joint with L. Crowder, E-IPER)
Staci Lewis, E-IPER Ph.D. student, Stanford
Heidi Hirsh, Ph.D. student, Stanford
Hannah Beutler, M.S. student, Stanford
Anna Wietelmann, M.S. student, Stanford
Kristen Green, E-IPER Ph.D. student, Stanford (joint with L. Crowder, E-IPER)
Andrew Hennig, Ph.D. Student, Stanford
Dylan Anslow, 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
Emma Hutchinson
Meghan Shea

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
The Uttermost Part of the Earth: The intersection of Nature and the human enterprise in Patagonia

University and Departmental Service

Speaker, Stanford+Connects, 2016
Speaker, Stanford+Connects, 2015, multiple events
School of Earth, Energy, and Environmental Sciences Faculty Ambassador, 2015-present
Member, Management Committee, Center for Ocean Solutions, Woods Institute, 2008-present
Member Committee on Undergraduate Standards and Policy (C-USP), 2011-2014
Coordinator, EESS weekly seminar series, Spring, 2012
Member, Faculty Search Committee for an appointment to “The Douglas Chair”, 2011-2014
Member, Advisory Board, Haas Center for Public Service, 2010-2014
Member, Vice-Provost’s “critical engagement” focus group, 2010-2011
Member, Freshman and Sophomore Programs Advisory Committee, 2010-2014
Member, Y2E2 Building Management Committee, 2008-present
Member, Faculty Search Committee for Director of the Center for Ocean Solutions, 2009-2010
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, 2003-2013
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