

JULIAN P. SACHS

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EDUCATION

- Massachusetts Institute of Technology/** Cambridge, MA
Woods Hole Oceanographic Institution Woods Hole, MA
Ph.D. 1997 Chemical Oceanography
Thesis entitled "Nitrogen Isotope Ratios in Chlorophyll and the Origin of Eastern Mediterranean Sapropels" (Dr. Daniel Repeta, supervisor)
- Massachusetts Institute of Technology** Cambridge, MA
B.S. 1991 Earth, Atmospheric & Planetary Sciences
Minor in Literature. Thesis entitled "The Geochemistry of Rhenium" (Dr. Edward A. Boyle, supervisor)

EMPLOYMENT

- University of Washington** Seattle, WA
2006- Associate Professor, School of Oceanography
- Massachusetts Institute of Technology** Cambridge, MA
2005-2006 Associate Professor, Department of Earth, Atmospheric & Planetary Sciences
2000-2005 Assistant Professor, Department of Earth, Atmospheric & Planetary Sciences
- Barnard College / Columbia University** New York, NY
1999-2000 Assistant Professor, Department of Environmental Science and Department of Chemistry.
- University of Colorado at Boulder** Boulder, CO
1997-1999 Post-doctoral Research Scientist, Institute of Arctic and Alpine Research (Dr. Scott Lehman, supervisor)

RESEARCH GRANTS

- **NSF-OCE-1027079**, "Evaluating the Environmental Influences on D/H Fractionation in Algal Lipids," J.P. Sachs (sole PI), 10/1/10-9/30/14, \$645,463.
- **NSF-AGS-1043207**, "Pacific Islands Climate Change Education Partnership," J.P. Sachs (subcontractor), 10/1/2010-9/30/2012, \$80,774.
- **NSF-EAR-0823503**, "Late Holocene ITCZ Shifts from Lipids on Tropical Pacific Islands," J.P. Sachs (sole PI), 10/1/08-9/30/12, \$593,625.
- **NOAA-NA08OAR4310685**, "Tropical Pacific Climate Variability During the Last Millennium from Sediments, Corals & Mollusks," J.P. Sachs (sole PI), 9/1/08-8/31/11, \$393,320.
- **NSF-ATM-0811382**, "Holocene SST & ENSO Reconstructions from Peruvian Mollusks," J.P. Sachs (sole PI), 7/1/08-6/30/09, \$98,898.
- **NSF-EAR-0745982**, "Evaluating the Influence of Salinity on Lipid D/H Fractionation in Saline Lakes," J.P. Sachs (sole PI), 10/1/08-9/30/11, \$245,612.
- **American Chemical Society-Petroleum Research Fund 46937-AC2**, "A Paleosalinity Proxy from Lipid D/H Ratios," J.P. Sachs (sole PI), 9/1/07-8/31/09, \$90,000.
- **National Geographic Society 8129-06**, "Coring the Sediments of Clipperton Atoll Lagoon for Climate Reconstruction," J.P. Sachs (sole PI), 5/1/07-4/30/08, \$23,498.
- **NSF-ESH-0639640**, "Continuous Holocene Climate Records from Equatorial Pacific Islands," J.P. Sachs, 6/15/06-6/14/09, \$410,094.
- **NSF-OCE-0624954**, "Collaborative Research: Changes in Ocean Circulation, Productivity & Carbon Cycle during Heinrich Events," J.P. Sachs (co-PI with R. Anderson, Columbia University), 2/1/06-1/31/08, \$96,301 (JS portion).
- **Comer Science & Education Foundation**, "Hydrologic changes in the tropical Pacific during the Holocene," J.P. Sachs (sole PI), 2/1/06-1/31/08, \$220,000.
- **MIT Earth System Exploration Fund**, "A Molecular Isotopic Approach to Reconstructing El Niño," J.P. Sachs (sole PI), 7/1/05-1/15/06, \$20,050.
- **NOAA-NA06OAR4310122**, "Extreme Cooling of the US-Canadian Eastern Seaboard During the Holocene," J.P. Sachs (sole PI), 2/1/05-1/31/08, \$228,470.
- **MIT-France Program**, "On the importance of the Earth's tilt in the climate system", J.P. Sachs (co-PI with Francoise Vimeux, CNRS/LSCE, Gif-sur-Yvette, France), 6/30/03-6/29/04, \$15,600.
- **Comer Science & Education Foundation**, "Abrupt climate change from alkenone paleotemperatures in southern mid-latitude sediments," J.P. Sachs (sole PI), 9/1/02-1/31/06, \$330,000.
- **NOAA-NA16GP2679**, "Late Holocene Shelf-Slope Dynamics and Climate," J.P. Sachs (sole PI), 6/1/02-5/30/04, \$101,910.
- **Henry L. and Grace Doherty Career Development Professorship in Ocean Utilization**, "Determining Abrupt Climate Change Mechanisms: High-Resolution

Paleothermometry in Southern Ocean Sediments" J.P. Sachs (sole PI), 10/30/02-9/29/04, \$52,238.

- **NSF-OCE-0116940**, "Collaborative Research: Slope Water Dynamics and Climate on Millennial to Centennial Time Scales". J.P. Sachs (co-PI with L. Keigwin, Woods Hole Oceanographic Institution), 10/1/01-9/30/04, \$89,870.
- **MIT Wade Fund**, "In Search of Abrupt Climate Change Mechanisms from Paleothermometry in Recent Ocean Sediments," J.P. Sachs (sole PI), 6/1/01-5/31/02, \$52,355.
- **NSF-OCE-0196019**, "Synchronizing Ice and Sediment Records with Leaf Wax Abundances," J.P. Sachs (sole PI), 10/1/00-9/30/01, \$99,992.

AWARDS AND HONORS

2002-2008	Gary Comer Abrupt Climate Change Fellow
2005	MIT Earth System Initiative Award
2001-2004	Henry & Grace Doherty Professorship in Ocean Utilization, MIT
2002	National Academy of Sciences Frontiers of Science Symposium, Invited Speaker
2001	National Academy of Sciences Frontiers of Science Symposium, Invited Participant
2001	Jeptha H. & Emily V. Wade Award for Research, MIT
1995-1996	Woods Hole Oceanographic Institution Ocean Ventures Fund Award, MIT
1991-1994	Office of Naval Research Graduate Fellowship, MIT
1991	Goodyear Award for Writing, MIT
1991	Student Representative on MIT Science Dean Search Committee

NON-UNIVERSITY SERVICE

Proposal Review Panels

NSF Geobiology & Low Temperature Geochemistry, Arlington VA, May 3-5, 2010
NSF Ocean Acidification, Arlington, VA, June 1-4, 2010
NOAA Climate Change Data & Detection, Silver Spring, MD, Nov. 3-5, 2009
DFG (German Science Foundation) Priority Program-Integrated Analysis of Interglacial Climate Dynamics, Bonn, Germany, May 7-8, 2009
NSF Marine Geology & Geophysics, Arlington, VA, May 14-17, 2007
DFG (German Science Foundation) Priority Program-Integrated Analysis of Interglacial Climate Dynamics, Bonn, Germany, April 2-3, 2007
NSF Marine Geology and Geophysics proposal review panel, May 2005

Government Service

Leader, US Congressional Delegation (House Science & Technology Committee) to Galapagos, June 2008

Invited participant, Expert Workshop on the Vulnerability of the Galapagos Islands to Climate Change, Isla Santa Cruz, Galapagos, April 20-23, 2009
Advisor to the Marshallese Government
Delivered 6 lectures & organized 4 workshops on climate impacts and remediation in Majuro, Marshall Islands, 2007-2009.
Represented the Marshall Islands at the International Climate Change Congress in Copenhagen, March 2009.
Lecturer/advisor on climate change to Palau Government and Environmental Management Personnel, Koror, Palau, June 2004

High School Science Competitions & Teaching

Instructor, Climate Quest Summer Camp for high school students, University of Washington, Seattle, WA, July 2008.
Judge, Washington State Ocean Sciences (Orca) Bowl for high school students, 2007-2009, 2011.
Judge, Siemens-Westinghouse Science Competition, NE Regional Finals, MIT, 2000-2004

Scientific Panels, Invited

NSF Workshop on Proxies, San Francisco, CA, December, 2005
NSF ESH-MESH Planning Workshop, Washington, DC, Nov. 2005
NOAA Rapid Climate Change Panel, Lamont-Doherty Earth Observatory, Palisades, NY, 1999
NSF Workshop on Alkenone-Based Paleoceanographic Indicators, Woods Hole, MA, 1999 (Rapporteur)

Conference & Workshop Organization

Workshop Co-Organizer, "Community Partnerships for Climate Change Education and Adaptation," Pohnpei, Federated States of Micronesia, Dec. 13-15, 2011.
Session Co-Organizer, "Beyond the Instrumental Record of Climate Change," Fall AGU Meeting, San Francisco, CA, Dec. 11-15, 2006.
Conference Co-Organizer, "The Expression of Heinrich Events in the Southern Hemisphere," Gif-sur-Yvette, France, May 3-4, 2004.

Journal Editorial Service

Associate Editor, *Geochemistry, Geophysics, Geosystems*, July 2008-present
Editorial Board, *ISRN Oceanography*, Dec. 2011-present.
Guest Editor, PNAS, 2011 (<http://www.pnas.org/content/early/2011/05/23/1101708108.abstract>)
Editorial Board Member, *Saline Systems*, January 2007-2010

Professional Reviews

- **Journal Articles, 8-12/yr** (# since Jan 1, 2004): *Nature* (5), *Science* (3), *Nature Geoscience* (1), *Paleoceanography* (7), *Organic Geochemistry* (4), *Earth and*

Planetary Science Letters (3), *Geochemistry, Geophysics, Geosystems* (8), *Paleogeography, Paleoclimatology, Paleoecology* (1), *Deep-Sea Research* (2), *Geology* (3), *Geochimica et Cosmochimica Acta* (8), *Quaternary Science Reviews* (2), *Phytochemistry* (1), *Quaternary Research* (1), *Global and Planetary Change* (1), *Marine Chemistry* (1), *Saline Systems* (2), *Geophysical Research Letters* (1), *Analytical Chemistry* (2), *Biogeosciences* (2), *Proceedings of the National Academy of Science* (2), *Galapagos Research* (1), *Climate Dynamics* (1)

- **Proposals, 5-15/yr:** NSF Ocean Sciences (Marine Geology & Geophysics, Chemical Oceanography), NSF Atmospheric Sciences (Paleoclimate, Climate Dynamics), Earth Sciences (Geobiology & Low-Temperature Geochemistry, Hydrology, Earth System History), NOAA Climate Change Data & Detection, American Chemical Society Petroleum Research Fund, the National Geographic Society, the German Science Foundation (DFG), the Netherlands, the United Kingdom, Israel.

Professional Societies

American Geophysical Union
Geochemical Society of America

UNIVERSITY SERVICE

- *Climate Modeler Search Committee*, UW School of Oceanography, Oct. 2011- .
- *UW School of Oceanography Faculty Council*, elected representative from Chemical Oceanography, 2007-2011.
- *ARCS Foundation*, featured speaker at ARCS fundraising event, April 12, 2010.
- *College of the Environment Organization and Structure Working Group*, Univ. of Washington, invited by Provost Wise to a small-group discussion in August '07, then to participate on this committee.
- *Marine Stratigraphy Search Committee*, UW School of Oceanography, appointed representative of Chemical Oceanography option, 2008.
- *Ad Hoc Committee on Integration of Marine Geology and Geophysics in the School of Oceanography*, appointed representative of Chemical Oceanography option, 2006-2007.
- *Graduate School Representative (GSR) on the following committees:*
 - Marizio Di Pierro (Atmos. Sci.), 2011-
 - Aaron Donohoe (Atmos. Sci.), 2010-2011
 - Deborah Dryer (Chemistry Dept.), 2010-2011
 - Mark Zelinka (Atmos. Sciences), 2010-2011
 - Stephanie Benight (Chemistry Dept.), 2009-2011
 - Denise Bale (Chemistry Dept.), 2008-2011

GRADUATE STUDENTS

Ashley Maloney (2010-present), Nemiah Ladd (2009-present), Alyssa Atwood (2007-present), Amy Cash (2006-2007), Dan Nelson (2007-present), Casey Saenger (MIT-WHOI, 2004-2006), Jessie Kneeland (MIT, 2004-2006), Monica Byrne (MIT, MS'05), Amy Englebrecht (MIT, MS'04), James Bronzan (Columbia, MS'00)

POSTDOCTORAL INVESTIGATORS

Julie Richey (2010-present), Avery Cook Shinneman (2009-2011), Ines Mügler (2009-2011), Juzhi Hou (2009-2010), Matthieu Carre (2006-2008), Valerie Schwab (2006-2007), Dirk Sachse (2005-2007), Rienk Smittenberg (2003-2007), Zhaohui Zhang (2003-2006), Katharina Pahnke (2004-2005), Athanasios Koutavas (2003-2005), Denise Bäckström (2001-2003)

GRADUATE ADVISORY COMMITTEES

Katie Wetzel (UW PhD Candidate, 2011-present), Jeff Bowman (UW PhD Candidate, 2009-present), Sharon Patris (UC Merced PhD Candidate, 2011-present), Elly Walsh (UW MS, 2008), Rob Korty (MIT PhD, 2005), Kristy Dahl (MIT/WHOI PhD, 2005), Peter Huybers (MIT PhD, 2004), Taka Ito (MIT PhD, 2004)

UNDERGRADUATE RESEARCHERS

Ariel Townsend (2011-present), Thien-Y Le (2011-present), Johnny Huynh (2011-present), Jake Zaragoza (JISAO Summer Intern from Texas Southern University, 2011), Tory Johnson (2010-present), Jane Lee (2011), Kyle Thomas (JISAO Summer Intern from Texas Southern University, 2010), Conor Myhrvold (Princeton, 2009-present), Frances Janny (2009-2010), James Sadler (2008-2009), Jeffrey Bowman (2006-2008), Eric Battisti (2007-2008), Carrie Frantz (2006-2007), Brittany Demianew (2006-2007), Daniel Luksic (2006), Evan Howard (2006), Brittany Kimball (2006-2007), Jen Nomura (2006), Katherine Ricke (MIT Research & Thesis, 2001-2004), Vivian Leung (MIT, 2003), Deborah Dryer (MIT 2002-2003), Zach Gazak (MIT 2003), Maria Schriver (MIT 2002), Corrina Chase (MIT Research & Thesis, 2001-2002)

HIGH SCHOOL RESEARCHERS

David Golub (2011-present), Nathan Kato (2010-2011), Eric Battisti (2006), Alex Rawji (2004)

PUBLICATIONS

BOOK CHAPTERS

1. **Sachs, J.P.** 2009. Paleoclimate and the Future: A Knife-edge Balance. In: De Roy, T. (Ed.), *Galapagos: Preserving Darwin's Legacy*, pp. 41-45. Bateman Publishers, Auckland, New Zealand.
2. **Sachs, J.P.** 2009. Nitrogen isotopes in paleoclimate research. In: Gornitz, V. (Ed.), *Encyclopedia of Paleoclimatology and Ancient Environments*, pp. 612-613. Springer, The Netherlands.
3. **Sachs, J.P.**, Pahnke, K., Smittenberg, R., Zhang, Z. 2007. Biomarker Indicators of Past Climate. In: Elias, S. (Ed.), *Encyclopedia of Quaternary Science*, pp. 1627-1634. Elsevier, Amsterdam.

POPULAR PRESS

4. **Sachs, J.P.** and Myhrvold, C. 2011. A shifting band of rain. *Scientific American*, March, 2011: 60-65.

JOURNAL ARTICLES

5. Sadler, J., M. Carré, M. Azzoug, A.J. Schauer, J. Ledesma, F. Cardenas, B.M. Chase, I. Bentaleb, S. Müller, M. Mandeng, E.J. Rohling, J.P. **Sachs** (2012), Reconstructing past upwelling intensity and the seasonal dynamics of primary productivity along the Peruvian coastline from mollusk shell stable isotopes, *Geochem. Geophys. Geosyst.*, doi:10.1029/2011GC003595, in press.
6. Schwab, V.F., J.P. **Sachs** (2011) Hydrogen isotopes in individual alkenones from the Chesapeake Bay estuary. *Geochimica et Cosmochimica Acta* 75(23): 7552–7565.
7. Carre, M., M. Azzoug, I. Bentaleb, B.M. Chase, M. Fontugne, D. Jackson, M.-P. Ledru, A. Maldonado, J.P. **Sachs** (2011) Mid-Holocene background climate in the south-eastern Pacific and its influence on South America. *Quaternary International*. In press.
8. Zhang, Z., P. Metzger, and J.P. **Sachs** (2011), Co-occurrence of long-chain diols, keto-ols, hydroxy acids and keto-acids in recent sediments of Lake El Junco, Galápagos Islands. *Organic Geochemistry* 42: 823-837.
9. Smittenberg, R. H., C. Saenger, M. N. Dawson & J. P. **Sachs** (2011) Compound-specific D/H ratios of the marine lakes of Palau as proxies for West Pacific Warm Pool hydrologic variability. *Quaternary Science Reviews* 30:921-33.
10. **Sachs**, J.P., Schwab, V.F. 2011. Hydrogen isotopes in dinosterol from the Chesapeake Bay estuary. *Geochimica et Cosmochimica Acta* 75: 444-459.

11. Bradtmiller, L.I., Anderson, R.F., **Sachs**, J.P., Fleisher, M.Q. 2010. A deeper respired carbon pool in the glacial equatorial Pacific Ocean. *Earth and Planetary Science Letters* 299(3-4): 417-425.
12. **Sachs**, J.P., Ladd, S.N. 2010. Climate and oceanography of the Galapagos in the 21st century: expected changes and research needs. *Galapagos Research* 67: 50-54.
13. Bush, M., P. Colinvaux, Steinitz-Kannan, M, J. Overpeck, J.P. **Sachs**, J. Cole, A. Collins, J. Conroy, Z. Zhang (2010) "Forty years of paleoecology in the Galapagos." *Galapagos Research* 67: 55-61.
14. **Sachs**, J.P., Sachse, D., Smittenberg, R.H., Zhang, Z., Battisti, D.S., Golubic, S. 2009. Southward movement of the Pacific intertropical convergence zone AD 1400-1850. *Nature Geoscience* 2(7): 519-525.
15. Bühring, S.I., Smittenberg, R.H., Sachse, D., Lipp, J.S., Golubic, S., **Sachs**, J.P., Hinrichs, K.-U., Summons, R.E. 2009. A hypersaline microbial mat from the Pacific Atoll Kiritimati: insights into composition and carbon fixation using biomarker analyses and a ¹³C-labeling approach. *Geobiology* 7: 1-16.
16. Zhang, Z., **Sachs**, J.P., Marchetti, A. 2009. Hydrogen isotope fractionation in freshwater and marine algae: II. Temperature and nitrogen-limited-growth-rate effects. *Organic Geochemistry* 40(3): 428-439.
17. Schwab, V.F., **Sachs**, J.P. 2009. The measurement of D/H ratios in alkenones and their isotopic heterogeneity. *Organic Geochemistry* 40(1): 111-118.
18. Koutavas, A., **Sachs**, J.P. 2008. Northern timing of deglaciation in the eastern equatorial Pacific from alkenone paleothermometry. *Paleoceanography* 23: PA4205, doi:10.1029/2008PA001593.
19. Bowman, J.S., **Sachs**, J.P. 2008. Chemical and physical properties of some saline lakes in Alberta and Saskatchewan. *Saline Systems* 4:3 doi:10.1186/1746-1448-4-3.
20. Sachse, D., **Sachs**, J.P. 2008. Inverse relationship between D/H fractionation in cyanobacterial lipids and salinity in Christmas Island saline ponds. *Geochimica et Cosmochimica Acta* 72: 793-806.
21. Pahnke, K., **Sachs**, J.P., Keigwin, L.D., Timmermann, A., Xie, S.-P. 2007. Eastern tropical Pacific hydrologic changes during the past 27,000 years from D/H ratios in alkenones. *Paleoceanography* 22: PA4214, doi:10.1029/2007PA001468.
22. Smittenberg, R.H., **Sachs**, J.P. 2007. Purification of dinosterol for compound specific hydrogen isotopic analysis using semi-preparative high-performance liquid chromatography. *Journal of Chromatography A* 1169: 70-76.

23. Zhang, Z., Metzger, P., **Sachs**, J.P. 2007. Biomarker evidence for the co-occurrence of three races (A, B and L) of *Botryococcus braunii* in El Junco Lake, Galápagos. *Organic Geochemistry* 38(9): 1459-1478.
24. **Sachs**, J.P. 2007. Cooling of Northwest Atlantic slope waters during the Holocene. *Geophysical Research Letters* 34: L03609, doi:10.1029/2006GL028495.
25. Zhang, Z., **Sachs**, J.P. 2007. Hydrogen isotope fractionation in freshwater algae: I. Variations among lipids and species. *Organic Geochemistry* 38(4): 582-608.
26. Saenger, C.P., Miller, M.C., Smittenberg, R.H., **Sachs**, J.P. 2006. A Physico-chemical survey of inland lakes and saline ponds: Christmas Island (Kiritimati) and Washington (Teraina) Islands, Republic of Kiribati. *Saline Systems* 2:8 doi:10.1186/1746-1448-2-8.
27. Pahnke, K., **Sachs**, J.P. 2006. Sea surface temperatures of southern middle-latitudes 0-160 ky BP. *Paleoceanography* 21: PA2003, doi:10.1029/2005PA001191.
28. **Sachs**, J.P., Anderson, R.F. 2005. Increased Subantarctic ocean productivity during Heinrich Events. *Nature* 434: 1118-1121.
29. Keigwin, L.D., **Sachs**, J.P., Rosenthal, Y., Boyle, E.A. 2005. The 8200 year B.P. event in the slope water system, western subpolar North Atlantic. *Paleoceanography* 20: PA2003, doi:10.1029/2004PA001074.
30. **Sachs**, J.P. 2005. Context: Off the grid. *Quaternary Science Reviews* 24(16-17): 1779-1780.
31. Englebrecht, A.C., **Sachs**, J.P. 2005. Determination of sediment provenance at drift sites using hydrogen isotopes and unsaturation ratios in alkenones. *Geochimica et Cosmochimica Acta* 69(17): 4253-4265.
32. Jackson, M., Oskarsson, N., Trønnnes, R.G., Grønvold, K., Hart, S., Oppo, D., McManus, J., **Sachs**, J.P. 2005. Holocene Loess Deposition in Iceland: Evidence for Millennial-Scale Atmosphere-Ocean Coupling in the North Atlantic. *Geology*, 33(6): 509-512.
33. **Sachs**, J.P., Anderson, R.F. 2003. Fidelity of alkenone paleotemperature reconstructions in southern Cape Basin sediment drifts. *Paleoceanography* 16(4): 1082, doi:10.1029/2002PA000862.
34. Stenni, B., Jouzel, J., Masson-Delmotte, V., Röthlisberger, R., Castellano, E., Cattani, O., Falourd, S., Johnsen, S. J., Longinelli, A., **Sachs**, J.P., Selmo, E., Souchez, R., Steffensen, J.P., Udisti, R. 2003. A late-glacial high resolution site and source temperature record derived from the EPICA Dome C isotope records (East Antarctica). *Earth and Planetary Science Letters* 217: 183-195.

35. Keigwin, L.D., **Sachs**, J.P., Rosenthal, Y. 2003. A 1600-year History of the Labrador Current off Nova Scotia. *Climate Dynamics* 21(1): 53-62.
36. Koutavas, A., Lynch-Stieglitz, J., Marchitto Jr., T.M., **Sachs**, J.P. 2002. El Nino-Like Pattern in Ice Age Tropical Pacific Sea Surface Temperature. *Science* 297: 226-230.
37. Lehman, S.J., **Sachs**, J.P., Crotwell, A.M., Keigwin, L.D., Boyle, E.A. 2002. Relation of subtropical Atlantic temperature, high latitude ice rafting, deep water formation, and European climate 135,000-60,000 years ago. *Quaternary Science Reviews* 21: 1917-1924.
38. Pantoja, S., Repeta, D.J., **Sachs**, J.P., Sigman, D.M. 2002. Stable isotope constraints on the nitrogen cycle of the Mediterranean Sea water column. *Deep Sea Research I* 49: 1609-1621.
39. Anderson, R.F., Chase, Z., Fleisher, M.Q., **Sachs**, J.P. 2002. The Southern Ocean's biological pump during the Last Glacial Maximum. *Deep-Sea Research II* 49: 1909-1938.
40. **Sachs**, J.P., Anderson, R.F., Lehman, S.J. 2001. Glacial surface temperatures of the southeast Atlantic Ocean. *Science* 293: 2077-2079.
41. Smith, L.M., **Sachs**, J.P., Jennings, A.E., Anderson, D.M., de Vernal, A. 2001. Light 13C events during deglaciation of the East Greenland continental shelf attributed to methane release from gas hydrates. *Geophysical Research Letters* 28(11): 2217-2220.
42. Rosell-Mele, A., Bard, E., Emeis, K.-C., Grimalt, J.O., Müller, P., Schneider, R., Bouloubassi, I., Epstein, B., Fahl, K., Fluegge, A., Freeman, K., Goni, M., Güntner, U., Hartz, D., Hellebust, S., Herbert, T., Ikehara, M., Ishiwatari, R., Kawamura, K., Kenig, F., de Leeuw, J., Lehman, S., Mejanelle, L., Ohkouchi, N., Pancost, R.D., Pelejero, C., Prah, F., Quinn, J., Rontani, J.-F., Rostek, F., Rullkötter, J., **Sachs**, J.P., Blanz, T., Sawada, K., Schulz-Bull, D., Sikes, E., Sonzogni, C., Ternois, Y., Versteegh, G., Volkman, J.K., Wakeham, S. 2001. Precision of the current methods to measure the alkenone proxy U^{K}_{37} and absolute alkenone abundance in sediments: Results of an interlaboratory comparison study. *Geochemistry, Geophysics, Geosystems* 2: 2000GC000141.
43. **Sachs**, J.P., Schneider, R.R., Eglinton, T.I., Freeman, K.H., Ganssen, G., McManus, J.F., Oppo, D.W. 2000. Alkenones as paleoceanographic proxies. *Geochemistry, Geophysics, Geosystems* 1: 2000GC000059.
44. **Sachs**, J.P., Repeta, D.J. 2000. The purification of chlorins from marine particles and sediments for nitrogen and carbon isotopic analysis. *Organic Geochemistry*, 31(4): 317-329.
45. **Sachs**, J.P., Lehman, S.J. 1999. Subtropical North Atlantic temperatures 60,000 to 30,000 years ago. *Science* 286: 756-759.

46. **Sachs**, J.P., Repeta, D.J. 1999. Oligotrophy and nitrogen fixation during eastern Mediterranean sapropel events. *Science* 286: 2485-2488.
47. **Sachs**, J.P., Repeta, D.J., Goericke, R. 1999. Nitrogen and carbon isotopic ratios of chlorophyll from marine phytoplankton. *Geochimica et Cosmochimica Acta* 63(9): 1431-1441.
48. Ocampo, R., **Sachs**, J.P., Repeta, D.J. 1999. Isolation and structure determination of the unstable $^{13}\text{C}_2$, $^{17}\text{O}_2$ -Cyclophosphoribide an enol from recent sediments. *Geochimica et Cosmochimica Acta* 63(22): 3743-3749.
49. Colodner, D., **Sachs**, J.P., Ravizza, G., Turekian, K., Edmond, J., Boyle, E. 1993. The geochemical cycle of rhenium: a reconnaissance. *Earth and Planetary Science Letters* 117: 205-221.

ORAL PRESENTATIONS

(Underlined authors are my students & postdocs)

- *INVITED* **Sachs**, J.P., M. Carre, S. Tudhope, I. Mügler, J. Lough, J. Richey (2011). "Little Ice Age Climate in the Tropical Pacific from Sediment, Mollusks and Coral." 2011 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2011.
- *INVITED* **Sachs**, J.P. (2011). "Little Ice Age (1400-1800 A.D.) Climate of the Tropical Pacific." Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, November 16, 2011.
- *INVITED* **Sachs**, J.P., M. Carre, S. Tudhope, I. Mügler, J. Lough, J. Richey (2011). "Tropical Pacific climate during the Little Ice Age." Holocene Paleoclimate In The Hawaiian Islands And Its Large-Scale Context. Kilauea Military Camp, Big Island, Hawai'i, November 7-8, 2011.
- **Sachs**, J.P. and A. Sussman (2011). "Climate impacts and education in the US-Affiliated Pacific Islands." Pacific Education Conference, College of Micronesia, Pohnpei, FSM, July 19-21, 2011.
- *INVITED KEYNOTE SPEAKER* **Sachs**, **J.P.** (2010). "Environmental influences on D/H Fractionation in Algal Lipids." Australian Organic Geochemistry Conference, National Museum, Canberra, Australia, December 7-10, 2010.
- *INVITED* **Sachs**, **J.P.**, M. Carre, S. Tudhope, J. Lough, D. Sachse, Z. Zhang, R. Smittenberg (2010). "Tropical Pacific Climate During the Last Millennium." INTERDYNAMIK Workshop, Atlantic Hotel, University of Bremen, Bremen, Germany, February 29, 2010.
- *INVITED* **Sachs**, **J.P.**, D. Sachse, R. Smittenberg, Z. Zhang, C. Saenger, A. Atwood, D. Nelson, N. Ladd, O. Kawka, (2010). "Large Natural Changes in Tropical Pacific Rainfall Prior to the 20th Century." University of Washington Climate Impacts Group Seminar, Seattle, WA, March 9, 2010.

- *INVITED* **Sachs, J.P.**, Z. Zhang, R. Smittenberg, D. Sachse, V. Schwab, A. Marchetti, O. Kawka, D. Nelson, A. Cash, J. Bowman, B. Demianew (2010). "Influences on Hydrogen Isotope Ratios in Algal Lipids." Conference on Terrestrial Archives of Past Climate and Biodiversity Change, The Australian National University, Canberra, Australia, February 2-6, 2010.
- *INVITED* **Sachs, J.P.**, V. Schwab, D. Sachse, A. Atwood, D. Nelson, Z. Zhang, O. Kawka, R. Smittenberg (2010). "Tropical Pacific Rainfall Changes During the Last Millennium." Conference on Terrestrial Archives of Past Climate and Biodiversity Change, The Australian National University, Canberra, Australia, February 2-6, 2010.
- *INVITED* **Sachs, J.P.**, D. Sachse, Z. Zhang, R. Smittenberg, M. Carre, I. Mügler, D. Nelson, A. Atwood, N. Ladd (2009). "ITCZ Shifts During the Last Millennium from Lipids on Tropical Pacific Islands." 2009 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 14-18, 2009.
- *INVITED* **Sachs, J.P.**, D. Sachse, Z. Zhang, R. Smittenberg (2009). "Tropical Pacific Hydrologic Changes during the late Holocene from Lipid D/H Ratios on Remote Islands." ISOCOMPOUND: Advances in Analyses and Applications of Compound-Specific Stable Isotopes in Ecology, Ecosystem- and Earth Sciences. Potsdam, Germany, June 1-5, 2009.
- *INVITED* **Sachs, J.P.** (2009). "Tropical Hydrologic Changes During the Last Millennium." Atmospheric Sciences Colloquium, University of Washington, Seattle, WA, April 3, 2009.
- **Sachs, J.P.**, M. Stege, T. Keju (2009). "Recent Movements of the ITCZ in the Tropical Pacific and Ramifications for the Marshall Islands." International Climate Change Congress, Copenhagen, Denmark, March 10, 2009.
- *INVITED* **Sachs, J.P.** (2009). "Pacific ITCZ Shifts During the Last Millennium Inferred from Lipid D/H Ratios." INTERDYNAMIK Workshop, Atlantic Hotel, University of Bremen, Bremen, Germany, February 24, 2009.
- *INVITED* **Sachs, J.P.** (2008). "Pacific Rainfall Changes During the Last Millennium from Microbes, Molecules & Isotopes in Tropical Island Sediments." College of Marine Science Seminar, University of South Florida, St. Petersburg, FL, Nov. 25, 2008.
- *INVITED* **Sachs, J.P.** (2008). "Tropical Pacific Climate Variations During the Last Millennium." Department of Earth and Ocean Sciences Seminar, University of British Columbia, Vancouver, British Columbia, Canada, Nov. 20, 2008.
- *INVITED* **Sachs, J.P.** (2008). "Environmental Controls on D/H Fractionation During Lipid Synthesis in Algae." Department of Earth and Ocean Sciences Colloquium, University of British Columbia, Vancouver, British Columbia, Canada, Nov. 20, 2008.
- *INVITED* **Sachs, J.P.** (2008). "Rainfall Shifts Across the Tropical Pacific During the Last 1,200 Years." Friday Afternoon Archaeological Lecture Series, Department of Anthropology, University of Washington, Nov. 14, 2008.
- *INVITED* **Sachs, J.P.** (2008). "Tropical Pacific Climate During the Last Millennium." Environmental Science & Engineering Seminar Series, California Institute of Technology, Pasadena, CA, Nov. 5, 2008.

- *INVITED* **Sachs, J.P.** (2008). "Surface Ocean Synthesis, Pt. 2: Alkenone SST Records, 22-10 ka." SynTrace21,000 Workshop, University of Wisconsin, Madison, WI, August 11-13, 2008.
- *INVITED* **Sachs, J.P.** (2008). "Environmental Controls on Molecular D/H and their Application to Tropical Rainfall Reconstructions During the Last Millennium." Organic Geochemistry Gordon Conference, Holderness School, Holderness, NH, August 3-8, 2008.
- *INVITED* **Sachs, J.P.**, D. Sachse, Z. Zhang, R. Smittenberg (2007). "Tropical Pacific Hydrologic Changes During the Last 1,000 Years from Lipid D/H Ratios in Lake & Ocean Sediments." 2007 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 9-14, 2007.
- **Sachs, J.P.**, D. Sachse, Z. Zhang, R. Smittenberg (2007). "The Influence of Salinity, Growth Rate & Temperature on D/H Fractionation in Algal Lipids from Culture and Field Studies." 2007 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 9-14, 2007.
- *INVITED* **Sachs, J.P.**, D. Sachse, Z. Zhang, R. Smittenberg (2007). "Late Holocene Hydrologic Changes in the Tropical Pacific from Lipid D/H Ratios." 234th Fall National Meeting of the American Chemical Society, Boston, MA, August 19-23, 2007.
- *INVITED* **Sachs, J.P.** (2006). "D/H Ratios in Lipid Biomarkers Record Tropical Pacific Climate Variations Since the Last Glacial Period." 2006 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 11-15, 2006.
- **Sachs, J.P.**, Z. Zhang, R. Smittenberg, C. Saenger, D. Sachse (2006). "Holocene Hydrologic Changes in the Tropical Pacific." 2006 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 11-15, 2006.
- **Sachs, J.P.** (2006). "Severe Cooling of the NW Atlantic Linked to Gulf Stream Retreat During the Last 10,000 Years." Second International Conference on Global Warming and the Next Ice Age, Santa Fe, NM, July 17-21, 2006.
- *INVITED* **Sachs, J.P.** (2006). "Tropical Pacific Hydrologic Variations Since the Last Ice Age." Atmospheric Sciences Colloquium, University of Washington, Seattle, WA, April 28, 2006.
- **Sachs, J.P.**, Z. Zhang, R. Smittenberg, C. Saenger, K. Pahnke, A. Koutavas (2005). "Holocene ENSO Reconstructions from Molecular Rain Gauges." 2005 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2005.
- *INVITED* **Sachs, J.P.** (2005). "Reconstructing ENSO from Hydrogen Isotopes in Lipids." The Comer Abrupt Climate Change Fellowship Roundtable, Palisades Executive Conference Center, Palisades, NY, October 19-22, 2005.
- *INVITED* **Sachs, J.P.** (2005). "Severe Cooling of the Northwest Atlantic During the Last 10,000 Years." Gordon Research Conference on Chemical Oceanography, Tilton School, Tilton, NH, August 9-12, 2005.
- *INVITED* **Sachs, J.P.** (2005). "Holocene Cooling of the Slope Waters East of the US & Canada." Paleoclimate Lunch Seminar, Woods Hole Oceanographic Institution, Woods Hole, MA, May 26, 2005.

- **Sachs, J.P.** and L.D. Keigwin (2005). “Severe Cooling of the Northwest Atlantic Ocean During the Holocene.” 2005 Meeting of the European Geophysical Union, Vienna, Austria, April 25-29, 2005.
- *INVITED* **Sachs, J.P.** (2005). “Reconstructing El Niño from Molecular Rain Gauges.” ClimaTea Seminar, Harvard University, Cambridge, MA, April 19, 2005.
- *INVITED* **Sachs, J.P.** (2005). “Cooling of the Eastern Seaboard During the Last 10,000 Years.” MIT Oceanography and Climate Sack Lunch Seminar, Massachusetts Institute of Technology, March 9, 2005
- *INVITED* **Sachs, J.P.** (2005). “Reconstructing El Niño from Molecular & Isotopic Rain Gauges.” Terrascope Lunch Seminar, Massachusetts Institute of Technology, March 8, 2005.
- **Sachs, J.P.** and L.D. Keigwin (2004). “Extreme Cooling of Slopewaters East of the USA and Canada During the Holocene.” 2004 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 13-17, 2004.
- *INVITED* **Sachs, J.P.** (2004). “Extreme Cooling of NW Atlantic Slopewaters During the Last 10,000 Years.” Chemical Oceanography Lunch Seminar, University of Washington, Seattle, WA, December 10, 2004.
- *INVITED* **Sachs, J.P.** (2004). “Holocene Cooling of NW Atlantic Slopewaters & the Start of the Next Ice Age.” Earth System History Seminar Series, Brown University, Providence, RI, December 6, 2004.
- *INVITED* **Sachs, J.P.** (2004). “The Ice Age is Coming: Cooling of NW Atlantic Slopewaters During the Last 10,000 Years.” ClimaTea Seminar Series, Harvard University, Cambridge, MA, November 23, 2004.
- *INVITED* **Sachs, J.P.** (2004). “On the importance of Earth’s Tilt in the Climate System.” Meeting of the MIT-France Advisory Board, Massachusetts Institute of Technology, October 29, 2004.
- *INVITED* **Sachs, J.P.** (2004). “A Southern Hemisphere Perspective on Heinrich Events.” 6th Summer Institute, NOAA Postdoctoral Program in Climate and Global Change, Steamboat Springs, Colorado, July 18-22, 2004.
- *INVITED* **Sachs, J.P.** (2004). “Climate History from Palau’s Marine Lakes.” Palau International Coral Reef Center, Koror, Palau, Micronesia, June 24, 2004.
- *INVITED* **Sachs, J.P.** (2004). “Expression of Heinrich Events in the Southern Ocean.” Program on Climate Change, University of Washington, Seattle, WA, May 17, 2004.
- *INVITED* **Sachs, J.P.** (2004). “Expression of Heinrich Events in the Southern Ocean.” Paleoclimate Lunch Seminar, Woods Hole Oceanographic Institution, Woods Hole, MA, April 15, 2004.
- **Sachs, J.P.** and R.F. Anderson, K. Pahnke, R. Zahn (2003). “The Expression of Heinrich Events in the Southern Hemisphere.” 2003 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 8-12, 2003.
- *INVITED* **Sachs, J.P.** (2003). “Impact on the Southern Ocean of Iceberg Floods in the North Atlantic.” Environmental Science Seminar Series, University of New Hampshire, Durham, NH, December 4, 2003.
- *INVITED* **Sachs, J.P.** (2003). “Can Icebergs in the North Atlantic Cause Algae to Grow in the Subantarctic Ocean?.” Department of Marine Science Seminar

Series, University of Southern Mississippi, Stennis Space Center, MS, November 21, 2003.

- **INVITED Sachs, J.P.** (2003). "Southern Ocean Impact of Iceberg Discharges (Heinrich Events) in the North Atlantic." Earth System History Seminar Series, Brown University, Providence, RI, October 20, 2003.
- **INVITED Sachs, J.P.** (2003). "The expression of Heinrich Events in the Southern Ocean." European Research Conference on "*Achieving Climate Predictability Using Paleoclimate Data*", San Feliu de Guixols, Spain, October 11-16, 2003.
- **INVITED Sachs, J.P.** (2003). "Ocean Surface Temperatures During the Last 150,000 Years." Course on Climate Variability Studies in the Ocean "*Tracing and Modelling the Ocean Variability*", International Center for Theoretical Physics, Trieste, Italy, June 16, 2003.
- **INVITED Sachs, J.P.** (2003). "Glacial Surface Temperatures & the Expression of Heinrich Events in Southern Mid-Latitudes." Earth Science Symposium, Laboratoire de Science et Climate de Environment and CNRS, Gif-sur-Yvette, France June 11, 2003.
- **INVITED Sachs, J.P.** (2003). "Glacial Surface Temperatures & the Expression of Heinrich Events in Southern Mid-Latitudes." Environmental Science Symposium, Weizmann Institute of Science, Rehovot, Israel, June 8, 2003.
- **INVITED Sachs, J.P.** (2003). "The (unexpected) temperature history of southern mid-latitudes during the last glacial period." MIT Atmospheric Science Symposium, MIT, Cambridge, MA, April, 24, 2003.
- **INVITED Sachs, J.P.** (2002). "The Record of Abrupt Climate Change in Ocean Sediments." 2002 National Academy of Sciences-Beckman Frontiers of Science Symposium, National Academy of Science, Irvine, CA, November 14-16, 2002.
- **INVITED Sachs, J.P.** (2002). "Alkenone Paleotemperatures in Southern Mid-Latitudes." 2002 NOAA/CORC ARCHES Annual Workshop, Lamont-Doherty Earth Observatory, Palisades, NY, November 6-8, 2002.
- **INVITED KEYNOTE ADDRESS Sachs, J.P.** and R.F. Anderson (2002). "Surface Temperatures from Alkenones in late Quaternary Marine Sediments." 2002 Goldschmidt Conferene, Davos, Switzerland, August 18-23, 2002.
- **Sachs, J.P.**, R.F. Anderson, S.J. Lehman (2001). "Sea Surface Temperatures of the Southeast Atlantic During the Last 70,000 Years." 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10-14, 2000.
- **INVITED Sachs, J.P.** (2001). "South Atlantic Surface Temperatures During the Last Glacial Period." 2001 NOAA/CORC ARCHES Annual Workshop, Lamont-Doherty Earth Observatory, Palisades, NY, November 26-28, 2001.
- **INVITED Sachs, J.P.** (2001). "Reconciling Sapropel Deposition with Oligotrophy in the Eastern Mediterranean Sea." Geological Society of America Annual Meeting, Boston, MA, November 6, 2001.
- **INVITED Sachs, J.P.** (2001). "A Geologic Perspective on Global Warming." Global Warming Program, Boston Public Library-Allston Branch, October 24, 2001.
- **INVITED Sachs, J.P.** (2001). "Abrupt Climate Change: Lessons from the Past." ERL Annual Industry Consortium Meeting, MIT, Cambridge, MA, May 14, 2001.

- *INVITED* **Sachs, J.P.** (2001). "Abrupt Climate Change: Lessons from the Past." 2001 Earth, Atmospheric, and Planetary Sciences Lecture Series, MIT Independent Activities Period, January 26, 2001.
- *INVITED* **Sachs, J.P.** (2000). "Alkenone-Derived Surface Temperatures from the N and S Atlantic During the Late Quaternary." Wallace Broecker Seminar Series, Lamont-Doherty Earth Observatory, Palisades, NY, February 11, 2000.
- *INVITED* **Sachs, J.P.** (2000). "Atlantic Ocean Surface Temperatures During the Late Quaternary." Department of Earth, Atmospheric and Planetary Sciences Lecture Series, Massachusetts Institute of Technology, Cambridge, MA, February 4, 2000.
- *INVITED* **Sachs, J.P.** (1999). "SSTs from Alkenone Unsaturation Ratios in Marine Sediments." NOAA Rapid Climate Change Panel, Lamont-Doherty Earth Observatory, Palisades, NY, October 16, 1999.
- *INVITED* **Sachs, J.P.** (1999). "Abrupt Biomarker-Derived Temperature Fluctuations in the Subtropical North Atlantic 60,000-30,000 Years Ago." Geological Sciences Colloquium, University of Colorado at Boulder, April 14, 1999.
- *INVITED* **Sachs, J.P.** (1999). "Abrupt Biomarker-Derived Temperature Fluctuations in the Subtropical North Atlantic 60,000-30,000 Years Ago." Chemical Oceanography Seminar Series, Woods Hole Oceanographic Institution, Woods Hole, MA, April 13, 1999.
- *INVITED* **Sachs, J.P.** (1999). "Abrupt Biomarker-Derived Temperature Fluctuations in the Subtropical North Atlantic 60,000-30,000 Years Ago." Guest Colloquium, University of Pennsylvania, Philadelphia, PA, April 8, 1999.
- *INVITED* **Sachs, J.P.** (1999). "Chlorophyll, Nitrogen Isotopes, and Strange Events in the Mediterranean Sea." Guest Colloquium, Barnard College, New York, NY, March 8, 1999.
- *INVITED* **Sachs, J.P.** (1999). "Abrupt Sea Surface Temperature Fluctuations in the Subtropical Northwest Atlantic 60,000 to 30,000 Years Ago." Guest Colloquium, Lamont-Doherty Earth Observatory at Columbia University, Palisades, NY, March 9, 1999.
- **Sachs, J.P.** and S.J. Lehman (1998). "Large Century-to-Millennial Scale Sea Surface Temperature Fluctuations in the Subtropical NW Atlantic During Marine Isotope Stage 3." 1998 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 6-10, 1998.
- *INVITED* **Sachs, J.P.** (1998). "Abrupt Sea Surface Temperature Fluctuations in the Subtropical Northwest Atlantic 25,000 to 65,000 Years Ago." Guest Colloquium, Brown University, Providence, RI, December 4, 1998.
- *INVITED* **Sachs, J.P.** (1998). "Nitrogen Isotopes in Chlorophyll and the Origin of Eastern Mediterranean Sapropels." Guest Colloquium, Brown University, Providence, RI, December 3, 1998.
- **Sachs, J.P.** and S.J. Lehman (1998). "A New Late Pleistocene SST Record With 50-100 Year Resolution for the Subtropical North Atlantic." 1998 Spring Meeting of the American Geophysical Union, Boston, MA, May 26-29, 1998.
- **Sachs, J.P.** and D.J. Repeta (1997). "Nitrogen Isotopic Measurements of Chlorophyll Suggest Eastern Mediterranean Sapropels Result from Enhanced

Preservation of Organic Matter.” European Union of Geosciences 9, Strasbourg, France, March 23-27, 1997.

- **Sachs, J.P.** and D.J. Repeta (1996). “Nitrogen Isotopic Measurements of Chlorophyll Suggest Eastern Mediterranean Sapropels Result from Enhanced Preservation of Organic Matter.” 1996 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 15-19, 1996.
- **Sachs, J.P.**, D.J. Repeta, A. Hilker (1995). “Measurement and Assessment of the Carbon and Nitrogen Isotopic Composition of Chlorophyll Derivatives.” 17th International Meeting on Organic Geochemistry, Donostia-San Sebastian, Spain, September 4-8, 1995.

ORAL PRESENTATIONS BY CO-AUTHORS (2000-2007)

- Carré, M., J.P. **Sachs**, A. Schauer, W.E. Rodriguez, F. Cardenas Ramos (2012) "El Niño-Southern Oscillation Variability And Ocean Temperature Seasonality Recorded By Short-Lived Marine Mollusk Shells From Peru", AGU Ocean Sciences Conference, Salt Lake City, UT, February 2012.
- Ladd, S.M. and J.P. **Sachs** (2011). "Salinity and δD_{water} Determinations from Paired δD & $\delta^{13}C$ in Mangrove Lipids." 2011 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2011.
- Leduc, G., J.P. **Sachs**, O. Kawka, R. Schneider (2011). "Holocene changes in eastern equatorial Atlantic salinity as estimated by water isotopologues." 2011 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2011.
- Sussman, A., C. Fletcher, J.P. **Sachs** (2011) "A systems-based approach to transform climate education in the U.S. Affiliated Pacific Islands (USAPI)." 2011 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2011.
- Smittenberg, R., V. Schwab, **J.P. Sachs** (2007). "Purification of Sterols and Alkenones for Compound Specific Hydrogen Isotopic Analysis using HPLC." 2007 Goldschmidt Conference, Cologne, Germany, August 19-24, 2007.
- Sachse, D., G. Gleixner, J. Radke, **J.P. Sachs** (2007). "Prospects of hydrogen isotope measurements on lipid biomarkers for paleoclimate applications." 234th Fall National Meeting of the American Chemical Society, Boston, MA, August 19-23, 2007.
- Sachse, D., **J.P. Sachs**, S. Golubic (2007). "A major shift in Tropical Climate during the Little Ice Age." 3rd Meeting of the Gary Comer Abrupt Climate Change Fellowship, Palisades, NY, U.S.A., May 2007.
- Pahnke, K., **J.P. Sachs**, L. Keigwin (2005). "Glacial to Holocene Hydrological Changes in the Tropical East Pacific From D/H Ratios in Alkenones." 2005 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2005.

- Pahnke, K. and **J.P. Sachs** (2005) “Southern Hemisphere Sea Surface Temperatures 0-160 kyrs B.P.: High Versus low/mid Latitude Climate Change.” EAPS seminar, Massachusetts Institute of Technology, January 2005.
- Koutavas, A., J. Lynch-Stieglitz, **J.P. Sachs**, T.M. Marchitto (2003). “Response of the Equatorial Pacific Upwelling to Past Shifts in the Position of the ITCZ.” 2003 Spring Meeting of the American Geophysical Union, Nice, France, April, 2003.
- Keigwin, L.D., **J.P. Sachs**, Y. Rosenthal (2001). “A 1600-Year History of the Labrador Current off Nova Scotia.” 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10-14, 2001.
- Keigwin, L.D., **J.P. Sachs**, Y. Rosenthal (2001). “A 1600-Year History of the Labrador Current off Nova Scotia.” GSA, Geological Society of America Annual Meeting, Boston, MA, November 6, 2001.
- Koutavas, A., J. Lynch-Stieglitz, **J.P. Sachs** (2000). “Oxygen-Isotope and Alkenone Constraints on Glacial Cooling of the Eastern Equatorial Pacific.” 2000 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 15-19, 2000.

POSTER PRESENTATIONS

- Nelson, D.B. and J.P. Sachs (2011) “Evaluating δD Values from Brassicasterol as a Paleohydrologic Indicator from a Transect Study in the Chesapeake Bay.” 2011 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-9, 2011.
- **Sachs, J.P.** (2008) "Divergent Trends in Holocene SSTs Derived from Alkenones and Mg/Ca in the Equatorial Pacific." 2008 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 15-19, 2008.
- Schwab, V.F. and **Sachs, J.P.** (2008). “Alkenone unsaturation ratios in the Chesapeake Bay Estuary, eastern USA.” EGU General Assembly, Vienna, Austria, April 2008.
- Schwab, V.F. and **Sachs, J.P.** (2008). “Alkenone purification for hydrogen isotope analysis by HPLC-MS: implications for paleoenvironmental reconstruction.” EGU General Assembly, Vienna, Austria, April 2008.
- Pahnke, K., **J.P. Sachs**, L. Keigwin, L. Peterson (2005). “Last Glacial to Holocene Hydrologic Changes in the Tropical Pacific Derived From D/H Ratios in Alkenones.” The Comer Abrupt Climate Change Fellowship Roundtable, Palisades Executive Conference Center, Palisades, NY, October 19-22, 2005.
- Zhang, Z. and **J.P. Sachs** (2004). “Hydrogen Isotope Fractionation Between Water and Algal Lipids of Three Strains of *Botryococcus braunii* Under Controlled Conditions.” 2004 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 13-17, 2004.
- Pahnke, K., **J.P. Sachs**, B. Manighetti (2004). “Southern Hemisphere mid-

Latitude Sea Surface Temperature Changes 0-150,000 Years B.P.: Low- versus High-Latitude Orbital Forcing.” 2004 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 13-17, 2004.

- Smittenberg, R.H. and **J.P. Sachs** (2004). “Reconstruction of ENSO Precipitation Using the Biomarker Records of Marine Tropical Lake Sediments of Palau, West Pacific: Towards the Use of Hydrogen Isotopes.” Gordon Research Conference on Organic Geochemistry, Holderness School, Plymouth, NH, August 8-13, 2004.
- Koutavas, A., **J.P. Sachs**, L.D. Stott, J. Lynch-Stieglitz, and P.B. deMenocal (2004). “Holocene Sea Surface Temperature Trends in the Equatorial Pacific Ocean.” 1st International CLIVAR Science Conference, Baltimore, MD, June 21-25, 2004.
- **Sachs, J.P.** and B. Manighetti (2002). “Deglacial Sea-Surface Temperatures off New Zealand.” 2002 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-10, 2002.
- Dryer, D. and **J.P. Sachs** (2002). “Potential of Leaf Wax Lipids for Synchronization of Marine Sediments and Polar Ice Cores.” 2002 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-10, 2002.
- Englebrecht, A.C. and **J.P. Sachs** (2002). “Determination of Sediment Provenance at Drift Sites from Hydrogen Isotopes in Lipids.” 2002 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-10, 2002.
- Schriver, M. and **J.P. Sachs** (2002). “Southeast Atlantic Sea-Surface Temperatures During the Last Full Glacial Cycle.” 2002 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 5-10, 2002.
- Englebrecht, A.C., **J.P. Sachs**, A.P. McNichol (2001). “Developing a ¹⁴C-Dating Method for Opalline Sediments.” 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10-14, 2001.
- Koutavas, A., J. Lynch-Stieglitz, **J.P. Sachs**, T.M. Marchitto (2001). “30,000-Year Record of Climate from the Galapagos Islands and Links with High Latitudes.” 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10-14, 2001.
- **Sachs, J.P.**, S.J. Lehman, R.F. Anderson (2000). “Alkenone Paleotemperatures in the SE Atlantic During the Last 41 kyr.” 2000 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 15-19, 2000.
- Smith, L.M., A.E. Jennings, **J.P. Sachs**, D.M. Anderson, J.T. Andrews, M. Hald (1999). “Anomalously low $\delta^{13}\text{C}$ Events During Deglaciation of the East Greenland Continental Shelf Adjacent to the Denmark Strait (68°N).” 1999 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 15-19, 1999.
- **Sachs, J.P.**, D.J. Repeta, A. Hilbert (1995). “Measurement and Assessment of the Nitrogen Isotopic Composition of Chlorophyll Derivatives.” 5th International

Conference on Paleoceanography, Halifax, Nova Scotia, Canada, October 10-14, 1995.

- **Sachs, J.P.** and S.J. Lehman (1998). "A New Late Pleistocene SST Record With 50-100 Year Resolution for the Subtropical North Atlantic." 6th International Conference on Paleoceanography, Lisbon, Portugal, August 23-28, 1998.

FIELD RESEARCH

2011 Kosrae, Federated States of Micronesia: Coring mangroves (leader)
2010 Kosrae, Federated States of Micronesia: Coring lagoons (leader)
2010 Republic of Nauru: Lake coring expedition (leader)
2010 Queensland, Australia: Mangrove sampling expedition (leader)
2009 Kosrae, Fed. States of Micronesia: Coring mangrove swamps (leader)
2009 Republic of the Marshall Islands: Coring lakes, lagoons & bogs (leader)
2008 Galapagos, Floreana & Isabella Islands: Coring lakes & lagoons (leader)
2008 Clipperton Atoll: Lagoon coring expedition (leader)
2007 Saline Lakes of Alberta, Saskatchewan & The Great Basin (leader)
2006 Chesapeake Bay: Research Cruises & Sampling Expedition (leader)
2005 Christmas & Washington Islands, Kiribati: Lake Coring Expedition (leader)
2004 The Galapagos Islands: Lake Coring Expedition (leader)
2004 Palau, Micronesia: Lake Coring Expedition (leader)
2002 Gulf of Maine, *R/V Oceanus*: Oceanographic Research Cruise
1996 Mediterranean Sea, *R/V Le Suroit*: Oceanographic Research Cruise
1994 Arabian Sea, *R/V Thomas Thomson*: Oceanographic Research Cruise
1993 Georges Bank, *R/V Oceanus*: Oceanographic Research Cruise
1992 Sargasso Sea, *R/V Endeavor*: Oceanographic Research Cruise
1991 Greenland, Greenland Ice Sheet Project 2: Ice Coring

RECENT EXTRAMURAL COLLABORATORS (PAST 3 YR)

Brian Popp (Univ. Hawaii), Michael Dawson (UC-Merced), Sandy Tudhope (Univ. Edinburgh), Mark Bush (Florida Institute of Technology), Simon Haberle (Australian National University), Pierre Metzger (Ecole Nationale Supérieure de Chimie de Paris), Robert Anderson (Lamont-Doherty Earth Observatory), Janice Lough (Austral. Inst. Mar. Sci), Mat Prebble (Australian National University), Axel Timmerman (Univ. Hawaii), Jean Lynch-Stieglitz (Georgia Tech), Pratiya Polissar (LDEO), Geoffrey Clarke (Austral. National Univ.), Timothy Thomas (U. Otago), George Philander (Princeton)