

11/14/2013

*Curriculum Vitae*  
**MARIA PROKOPENKO**

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323-630-4968

**EDUCATION**

Moscow State University, Geology	B.S. 1992
Moscow Institute of Foreign Languages, English	B.A. 1995
University of Cincinnati, Geology	M.S. 1998
University of Southern California, Los Angeles, Earth Sciences (Dissertation title: <i>Fractionation of Nitrogen isotopes during early diagenesis</i> )	Ph.D. 2004
Princeton University, postdoc, Stable Isotope Geochemistry	2005-2007
University of Southern California, postdoc, Geochemistry/Oceanography	2007-2010

**APPOINTMENTS**

2011 – present	Visiting scholar, Department of Geology, Pomona College
2011 – present	Adjunct assistant research professor, Department of Earth Sciences, USC
2010 – present	Visiting lecturer, Department of Geology, Pomona College
2010 – 2011	Assistant research professor, Department of Earth Sciences, USC
2007 – 2010	Postdoctoral fellow, Department of Earth Sciences, USC
2005 – 2007	Hess postdoctoral fellow, Department of Geosciences, Princeton University
2001 – 2004	Research assistant, Department of Earth Sciences, USC
1998 – 2000	Teaching assistant, Department of Earth Sciences, USC
1995 – 1997	Teaching assistant, Department of Geology, University of Cincinnati

**UNIVERSITY SERVICES**

- 2013 – present Second reader of undergraduate senior theses at Pomona College and Keck Science Department at Claremont McKenna College (four theses in academic year 2013-2014)
- 2012 – present Member of dissertation committee of Caitlin Tems (graduate student at USC)
- 2011 – present Member of dissertation committee of William Haskell (graduate student at USC)
- 2007 – present Mentoring graduate and undergraduate students at USC
- 2005 – 2007 Mentoring undergraduate students at Princeton University

**SYNERGISTIC ACTIVITIES**

- 2013 Session convenor, Goldschmidt Geochemical Conference 2014; proposed session 19d: “Oxygen and its Isotopes in Biogeochemical Studies: Processes, Rates and Interactions with Other Cycles” has been provisionally confirmed
- 2005 – present External reviewer for Limnology and Oceanography, Journal of Geophysical Research - Oceans, Deep Sea Research (Part II), Geophysical Research Letters, Geochimica et Cosmochimica Acta, Biogeosciences, Rapid Communications in Mass Spectrometry, Biogeosciences, Nature Geosciences
- 2003 – 2005 Instructor of geochemistry at International Summer Geobiology Course, Catalina Island

**PUBLICATIONS** (\* denotes student author)

*In preparation*

**M.G. Prokopenko**, D. E. Hammond, W.Z. Haskell II\*, W. M. Berelson, H. Brix, L. Y. Yeung, A. N. Knapp, R. Stanley, N. Rollins, E. D. Young, D. Capone, “Net community and gross photosynthetic production in the Eastern Tropical South Pacific - Linking biogeochemistry and hydrography in the transition zone between coastal upwelling regime and subtropical gyre” (to be submitted to Journal of Geophysical Research – Oceans)

**M.G. Prokopenko**, J. Granger, S.B. Moran, M.W. Lomas, “Seasonal variability of net and gross biological production and the role of spring water column stratification in controlling carbon export efficiency of the eastern Bering Sea shelf ecosystem” (to be submitted to Geophysical Research Letters)

*In review*

**Prokopenko, M.G.**, J. Granger, M. Long, C. W. Mordy, N. Cassar, E. Cockey, P. DiFiore, C. Ladd, R. Sambrotto and S.B. Moran, “Mixed layer depth controls the instantaneous net to gross production ratios and export efficiency in spring blooms over the eastern Bering Sea shelf” (accepted with revisions to Deep Sea Research, Part II)

Townsend-Small, A. **Prokopenko M.**, Berelson, W., “Nitrous oxide in the water column and sediments of the oxygen minimum zone, Eastern Tropical North Pacific, southern California and northern Mexico” (in review, Journal of Geophysical Research – Oceans)

Laurence Y. Yeung, William M. Berelson, Douglas E. Hammond, **Maria G. Prokopenko**, Christa Wolfe, and Nick Rollins, “Upper-ocean gas dynamics for biogeochemical applications using radon profiles in the Eastern Tropical South Pacific” (in review, Deep Sea Research, Part I)

Morales\* L.V., Granger J., Chang B.X., **Prokopenko M.G.**, Plessen B., Sigman D.M., “Elevated  $^{15}\text{N}/^{14}\text{N}$  in particulate organic matter, zooplankton, and diatom frustule-bound nitrogen in the ice covered water column of the Bering Sea eastern shelf” (accepted to Deep Sea Research, Part II)

*Published*

**2013**

**Prokopenko, M.G.**, M.B. Hirst\*, L. De Brabandere, W.M. Berelson, D.J. Lawrence\*, J. Granger, B.X. Chang, S. Dawson., E.J. Crane, L. Chong\*, B. Thamdrup, A. Townsend-Small, D.M. Sigman, 2013, “Syntrophy between anammox bacteria and *Thioploca* drives nitrogen losses in anoxic marine sediments”, Nature, v. 500, pp. 194-198, doi:10.1038/nature12365

Granger, J., **Prokopenko, M.G.**, Mordy, C.W. and Sigman, D.M., 2013, “The proportion of remineralized nitrate on the ice-covered eastern Bering Sea shelf evidenced from the oxygen isotope ratio of nitrate”, Global Biogeochemical Cycles, 27(3), pp. 962-971.

**2012**

\*Chong, L., **Prokopenko, M.G.**, Berelson, W.M., Townsend-Small, A., McManus, J., 2012, “Nitrogen cycling within suboxic and anoxic marine sediments from the continental margin of Western North America”, Marine Chemistry, v. 128, pp. 13-25, doi:10.1016/j.marchem.2011.10.007

Yeung, L.Y., W. M. Berelson, E. D. Young, **M.G. Prokopenko**, N. Rollins, V.J. Coles, J. P. Montoya, E. J. Carpenter, and P. L. Yager, Impact of diatom-diazotroph associations on carbon export in the Amazon River plume, 2012, Geophysical Research Letters, 39, 6, doi: L18609 10.1029/2012gl053356

Sañudo-Wilhelmy S.A., L. Cutter, R. Durazo, E. Smail\*, L. Gomez-Consarnau, E. A. Webb, **M. Prokopenko**, D.M. Karl and W. M. Berelson, Multiple B-vitamin deficiency in large areas of the coastal ocean, 2012, PNAS, doi:10.1073/pnas.1208755109

Ren, H., Sigman, D.M., Thunell, R.C., **Prokopenko, M.G.**, “Nitrogen isotopic composition of planktonic foraminifera from the modern and recent sediments, 2012, Limnology and Oceanography, 57(4), 1011-1024, doi: 10.4319/lo.2012.57.4.1011

Silver, Bianca J., Raymond, R., Sigman, D., **Prokopenko, M.**, Sherwood Lollar, B., Lacrampe-Couloume, G., Fogel, M., Pratt, L., Leticariu, L., Onstott, T., 2012, The origin of NO<sub>3</sub>- and N<sub>2</sub> in deep subsurface fracture water of South Africa, *Chemical Geology*, v. 294-295, pp. 51-62, doi:10.1016/j.chemgeo.2011.11.017

## 2011

**Prokopenko, M.G.**, Sigman, D.M., Berelson, W.M., Hammond, D.E., Barnett, B., Chong, L., Townsend-Small, A., 2011, "Denitrification in anoxic sediments supported by biological nitrate transport", *Geochimica et Cosmochimica Acta*, doi:10.1016/j.gca.2011.09.023

**Prokopenko M.G.**, 2011, Open review of "Comment on 'Consistent calculation of aquatic gross production from oxygen triple isotope measurements' by Kaiser (2011)" by D. P. Nicholson", *Biogeosciences*, 8, C3041–C3041, 2011

**Prokopenko, M.G.**, Pauluis, O. M., Granger, J., Yeung, L. Y., 2011, "Exact evaluation of gross photosynthetic production from the oxygen triple-isotope composition of O(2): Implications for the net-to-gross primary production ratios", *Geophys. Res. Letters*, 38, doi:10.1029/2011GL047652

Granger, J., **Prokopenko, M.G.**, Sigman, D., Mordy C., Morse, Z., Morales, L\*, Sambrotto, R., Plessen B., 2011, "Nitrification-coupled denitrification in sediment of the eastern Bering Sea shelf leads to 15N-enrichment of fixed N in shelf waters", *Journal of Geophysical Research –Oceans*, doi:10.1029/2010JC006751

## Before 2010

**Prokopenko, M.G.**, Hammond, D.E., Berelson, W.M., Bernhard, J.M., Stott, L., Douglas, R., 2006a, "Nitrogen cycling in the sediments of Santa Barbara basin and Eastern Subtropical North Pacific: Nitrogen isotopes, diagenesis and possible chemosymbiosis between two lithotrophs (*Thioploca* and Anammox)—"riding on a glider", *Earth and Planetary Science Letters*, 242 (1-2), pp. 186-204

**Prokopenko, M.G.**, Hammond, D.E., Spivack, A., and Stott, L., 2006b. Impact of long-term diagenesis on  $\delta^{15}\text{N}$  of organic matter in marine sediments: Sites 1227 and 1230. *In* Jørgensen, B.B., D'Hondt, S.L., and Miller, D.J. (Eds.), *Proc. ODP, Scientific Results*, 201: College Station, TX (Ocean Drilling Program), doi:10.2973/odp.proc.sr.201.117.2006  
[http://www-odp.tamu.edu/publications/201\\_SR/201TOC.HTM](http://www-odp.tamu.edu/publications/201_SR/201TOC.HTM)

Berelson, W. M., **Prokopenko, M.**, Graham, A., Sansone, F., McManus, J., Bernhard, J., 2005, "Anaerobic diagenesis of carbon and silica in continental margin sediments: Discrete zone of TCO<sub>2</sub> production", *Geochim. Cosmoc.Acta*, 96 (19), pp.4611-4629

**Prokopenko, M.G.**, Hammond, D.E. and Stott, L., 2006c. Lack of isotopic fractionation of  $\delta^{15}\text{N}$  of organic matter during long-term diagenesis in marine sediments, ODP Leg 202, Sites 1234 and 1235. *In* Tiedemann, R., Mix, A.C., Richter, C., and Ruddiman, W.F. (Eds.), *Proc. ODP, Scientific Results*, 202: College Station, TX (Ocean Drilling Program), doi:10.2973/odp.proc.sr.202.207.2006,  
[http://www-odp.tamu.edu/publications/201\\_SR/202TOC.HTM](http://www-odp.tamu.edu/publications/201_SR/202TOC.HTM)

Meister, P., **Prokopenko, M.**, C.G. Skilbeck, M. Watson, and J.A. McKenzie, 2006, Data report: Compilation of Total Organic and Inorganic Carbon data from Peru margin and Eastern Equatorial Pacific drill. *In* Jørgensen, B.B., D'Hondt, S.L., and Miller, D.J. (Eds.), *Proc. ODP, Scientific Results*, 201: College Station, TX (Ocean Drilling Program), doi:10.2973/odp.proc.sr.201.117.2006  
[http://www-odp.tamu.edu/publications/201\\_SR/201TOC.HTM](http://www-odp.tamu.edu/publications/201_SR/201TOC.HTM)

Huff, W.D.; Bergström, S.M.; Kolata, D.R.; Cingolani, C.; Krekeler, M.P.; **Prokopenko, M.**; "Ordovician K-bentonites in the Argentine Precordillera and their relation to Laurentian volcanism," *INSUGEO, Tucumán, Serie de correlación Geológica*, 17, 97-202, 2003,

Stott, L.D., Bunn, T., **Prokopenko, M.**, Mahn C., Gieskes, J., Bernhard, J., 2002, "Does the oxidation of methane leave an isotopic fingerprint in the geologic record?", *Geochem, Geophys., Geosyst.*, 3(2), art. # 1012.

## Invited talks

- Division of Geological and Planetary Sciences, California Institute of Technology, “Investigating deep sea corals as a new archive of  $\delta^{15}\text{N}$  records for studies of N cycle through time - stories from the Coral Garden”, October 2013
- Department of Marine and Environmental Biology, Univ. of Southern California, “Net and gross biological production in the Eastern Tropical South Pacific: Linking biogeochemistry and hydrography in the transition zone between coastal upwelling regime and subtropical gyre”, October 2013
- Department of Earth Sciences, University of Bristol, “Deep sea corals as a new archive of  $\delta^{15}\text{N}$  record for studies of N cycle through time”, September 2013
- Department of Geology, University of Cincinnati, “Being a walrus in the warming world: Using triple O isotopes and  $\text{O}_2/\text{Ar}$  ratios to determine factors controlling carbon export production in spring blooms on the Bering Sea shelf”, November 2012
- Department of Earth and Space Sciences, University of California, Los Angeles, “ $\text{O}_2$  and the three O isotopes as geochemical proxies for studies of the biological carbon cycling” February 2012
- Division of Geological and Planetary Sciences, California Institute of Technology, “What controls primary production in spring blooms on the Bering Sea Shelf” January 2011
- Scripps Institute of Oceanography, UCSD, “Biological nitrate transport – a new twist in the global nitrogen cycle”, October 2010
- Department of Earth Science System, UC Irvine, “Biologically – mediated nitrate transport and anaerobic nitrogen cycling in sediments of two California Borderland basins”, November 2009
- Gordon Conference in Chemical Oceanography, “The role of biological transport of nitrate in the sedimentary N cycle”, August 2009
- Department of Ocean and Atmospheric Sciences, UCLA, “Non-diffusive nitrate transport and its role in benthic nitrogen cycling in the California Borderland Basins”, May 2006
- Department of Geosciences, Princeton University, “Isotopic fractionation of nitrogen isotopes during early diagenesis in marine sediments: The story of two anoxic sites”, February 2004
- Dissertation Symposium on Chemical Oceanography XVIII, Waikoloa, Hawaii, “Effects of early diagenetic processes on nitrogen isotopes in marine sediments”, September 2003

## Contributed abstracts in 2010-2013

### 2013

- Xingchen T. Wang, Maria G. Prokopenko, Daniel M. Sigman, Jess F. Adkins, Sophie Hines, “Lower surface nutrients in the ice-age Subantarctic as evidenced from skeleton-bound  $\delta^{15}\text{N}$  of deep-sea corals”, International Conference on Paleoceanography, Sitges, Spain, September 2-6, 2013
- Prokopenko M, Corsetti F, Gaines R, Loyd S, Kaufman J & Berelson W, “An Abrupt Change in the Nitrogen Cycle and Redox Conditions of Surface Environments in Ediacaran-Cambrian as Recorded in Carbonate Associated Nitrate (CAN)”, Goldschmidt Geochemistry Conference, Florence, Italy, August 26-30, 2013
- Haskell WZ, Prokopenko MG, Hammond DE, Stanley RHR & Berelson WM, “Net Community and Gross Primary Production in the Southern California Bight Based on Carbon Export, Dissolved  $\text{O}_2/\text{Ar}$  and Triple Oxygen Isotopes: Exploration of How the Magnitude and Timing of Upwelling Events may Influence Export Efficiency”, Goldschmidt Geochemistry Conference, Florence, Italy, August 26-30, 2013
- Maria G. Prokopenko, Douglas E. Hammond, William M. Berelson, Laurence Y. Yeung, William Z. Haskell II, Rachel Stanley, “Net Community and Gross primary production and carbon export in the transition zone between Peru Current and South Pacific Gyre, as determined with dissolved  $\text{O}_2/\text{Ar}$  ratios and oxygen triple isotope composition of  $\text{O}_2$ ”, 45<sup>th</sup> International Liege Colloquium, Liege, Belgium, May 13-17, 2013

### 2012

- Haskell, W.Z., Prokopenko, M.G., Hammond, D.E., Modeling the effects of variable coastal upwelling on the oxygen concentration and triple isotopic composition of the surface mixed layer in the Southern California Bight, AGU, San Francisco, CA, Dec. 3-8, 2012

Prokopenko M.G., Granger J., Long M., Mordy C., Ladd, C., Net and Gross Oxygen Production and potential carbon export efficiency of spring blooms on the Eastern Bering Sea Shelf , ASLO-Ocean Sciences Meeting, Salt Lake City, February 20-24, 2012

Haskell, W.Z., Kadko, D., Berelson, W.M., Hammond, D.E., Prokopenko, M.G., Knapp, A., Capone, D., A0350, Upwelling velocities and eddy diffusivity from  $^7\text{Be}$  measurements used to compare vertical nutrient fluxes to export POC flux in the ETSP, ASLO-Ocean Sciences Meeting, Salt Lake City, February 20-24, 2012

Hammond, D. E, Prokopenko, M. G., Yeung, L. Y., Berelson, W. M, Stanley, R. ., Haskell II, W. Z., Knapp, A. N., Rollins, N. ., Young, E. D., Capone, D. G., A0358, Net Community and Gross Photosynthetic Production rates in the ETSP, based on  $\text{O}_2/\text{Ar}$  ratios and triple oxygen isotopic composition of dissolved  $\text{O}_2$ , ASLO-Ocean Sciences Meeting, Salt Lake City, February 20-24, 2012

Berelson, W. M., Rollins, N., Haskell, W. Tems, C., Wolfe, C., Prokopenko, M. , Knapp, A., Casciotti, K. L., Hammond, D. E., Capone, D. G. Sedimentation and biogenic matter remineralization in the Eastern Tropical South Pacific (ETSP); sediment trap and sediment pore water fluxes, -Ocean Sciences Meeting, Salt Lake City February 20-24, 2012

Knapp, A.N., Casciotti, K.L., Buchwald, C., Bonnet, S., Dekaezemacker. J., Gunderson, T., Prokopenko, M., Berelson, W.M., Capone, D., Quantifying the importance of Nitrate and  $\text{N}_2$  fixation as sources of new N for export production in the Eastern Tropical South Pacific using N isotope budget, -Ocean Sciences Meeting, Salt Lake City, February 20-24, 2012

## 2011

Prokopenko, M., Granger, J., Long, M., Mordy C., DiFiore, P., Cokelet, E., Daniel Sigman, Sambrotto, R., 2011, Factors controlling rates of Net Community and Gross Photosynthetic Production on the Eastern Bering Sea shelf, Gordon Research Conference, August, 14-19, 2011, Proctor Academy in Andover, NH

Prokopenko, M., Julie Granger, Matthew Long, Calvin Mordy, Peter DiFiore, Edward Cokelet, Nancy Kachel, Daniel Sigman and Bradley Moran, 2011, Rates of Net Community and Gross Photosynthetic Production on the Eastern Bering Sea shelf as estimated from  $\text{O}_2/\text{Ar}$  ratios and triple O isotopes under non-steady state conditions, Open Science Meeting, Ecosystem Studies of Sub-Arctic Seas, May 22-26, 2011, Seattle WA

Gaines, R., Trang, J., Scott, S., Crane, E.J., Prokopenko, M., Berelson, W., Potential for widespread microbial liberation of structurally-coordinated iron from common clay minerals in marine sediments, August 14-19, 2011, Goldschmidt Geochemistry Conference, Prague, Czech Republic

## 2010

Townsend-Small, A., Prokopenko, M., Berelson, W., Chong, L., Nitrous oxide concentrations and stable isotopes in water column and sediment profiles along the southern California and northwestern Mexican margin, Abstract PP34A-02, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Granger, J., Prokopenko, M., Sigman, D., Mordy, C., Nitrification-coupled denitrification in sediment of the eastern Bering Sea shelf leads to  $^{15}\text{N}$ -enrichment of fixed N in shelf waters, PP34A-05, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Yeung, L.Y., Shauble, E., Fleming, J., Prokopenko, M., Berelson, W., Young, E., Understanding the triple-isotopic mass dependence of equilibrium oxygen salvation, V31B-232, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Berelson, W., Yeung, L.Y., Hammond, D., Rollins, N., Hammond, D., Prokopenko, M., Comparison of Radon-222 and satellite-wind-based estimates of gas exchange in the Eastern Tropical South Pacific ocean, Abstract OS53E-08 , presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Ren, H., Thunnel, R., Sigman, D., Prokopenko, M., Nitrogen isotopic composition of planktonic foraminifera from the modern ocean and recent sediments, Abstract PP34A-04 , presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Prokopenko, M., Yeung, L.Y., Berelson, W., Hammond, D., Flemming, J., Rollins, N., Young, E., Haskell, W., Net Community and Gross Photosynthetic production rates in the Eastern Tropical South Pacific, as determined from  $\text{O}_2/\text{Ar}$  ratios and triple oxygen isotopic composition of dissolved  $\text{O}_2$ , GC23D-0951, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

- Haskell, W., Berelson, W., Hammond, D., Prokopenko, M., Yeung, L.Y., Capone, D., Export POC flux calculated from  $^{234}\text{Th}$  measurements, sediment traps and  $\text{O}_2$  supersaturation in the Eastern Tropical South Pacific, Abstract GC23D-0952, 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec
- Prokopenko, M., Granger, J., Cassar, N., DiFiore, P., Kachel, N., Kachel, D., Cockey, E., Sigman, D., Moran, B., 2010, Primary Production on the Eastern Bering Sea Shelf as Estimated from Oxygen/Argon Ratios and Triple Oxygen Isotopes, *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract IT35C-05
- Chong, L., Prokopenko, M., Townsend-Small, A., Berelson, W., 2010, Untangling a New Twist in the Nitrogen Cycle: Biological Nitrate Transport and Anaerobic Iron Oxidation, *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract IT15D-11

#### FUNDED AND PENDING PROPOSALS

- “Collaborative Research: Fixed Nitrogen Removal in Sediments of the Continental Slope and Rise”; \$199,844; pending with NSF-OCE (Chem. Ocean.)
- “Collaborative Research: Use of Triple Oxygen Isotopes and  $\text{O}_2/\text{Ar}$  to constrain Net/Gross Oxygen Production during upwelling and non-upwelling periods in a Coastal Setting”; \$233,262; NSF OCE-1260296 (Chem. Ocean.), awarded to MP, Pomona College, 2013-2016
- “Nitrogen isotopic ( $\delta^{15}\text{N}$ ) composition of carbonate-bound organic nitrogen in Deep Sea Corals: A new, high resolution proxy for N cycle studies”; \$361,542; NSF OCE-1234664 (MGG), awarded to MP, Pomona College, 2012-2014
- “Applying  $\text{O}_2/\text{Ar}$ ,  $\Delta^{17}\text{O}$  and  $^{222}\text{Rn}$  Methodologies to Constrain Organic Carbon Productivity in the Upper Ocean of the ETSP”; \$205,000; NSF-OCE, submitted by D. Hammond, W. Berelson (USC) and E. Young (UCLA) as PIs, 2010-2012
- “Non-Local Bacterial Transport of Nitrate within Sediments Underlying Oxygen Deficient Zones: A New Twist in the N Cycle”; \$380,379; NSF-OCE; submitted by D. Sigman (Princeton Univ.) and W. Berelson (USC) as PIs, 2007-2010
- “Fractionation of nitrogen isotopes during long-term diagenesis in marine sediments”; \$20,000; Schlanger Graduate Fellowship, Ocean Drilling Program, 2002
- “The Use of  $^{15}\text{NH}_3$  to Estimate Fractionation of Nitrogen Isotopes during Diagenesis of Organic Matter”; 2001-2004; \$201,809; NSF-OCE, submitted by D. Hammond (USC) as PI, 2001-2004

#### SEA GOING EXPERIENCE

Spring 2011	R/V Melville, Geochemist, Eastern Tropical South Pacific
Spring 2010	R/V Atlantis, Geochemist, Eastern Tropical South Pacific
Fall 2009	R/V New Horizon, Co-chief Scientist, Gulf of California
Spring 2008	US Coast Guard Healy, Geochemist, continuous $\text{O}_2/\text{Ar}$ analysis on MIMS, Bering Sea
Spring 2007	US Coast Guard Healy, Geochemist, continuous $\text{O}_2/\text{Ar}$ gases analysis on MIMS, Bering Sea
Spring 2005	R/V New Horizon, Geochemist, California Borderland Basins
Spring 2003	R/V Wecoma, Co-chief Scientist, California Borderland Basins
Fall 2001	R/V New Horizon, Geochemist, Gulf of California
Summer 2001	R/V Point Sur, Geochemist, California Borderland Basins
Fall 2000	R/V Sprout, co-proponent and participant, Santa Barbara Basin

#### ANALYTICAL AND INSTRUMENTAL EXPERTISE

Standard geochemical methods of nutrient and dissolved Fe/Mn analysis; stable isotope analysis (including on-line and off-line sample preparation) of sedimentary organic matter, dissolved ammonium, nitrate and dissolved gases, oxygen triple isotope analysis of dissolved  $\text{O}_2$  and associated gas extractions on a vacuum line; sample preparation with “denitrifier method” for  $\delta^{15}\text{N}$  and  $\delta^{18}\text{O}$  analysis of nitrate/nitrite; operating and maintaining stable isotope mass spectrometers (Isoprime Micromass, Delta Plus, Finnigan 253) in various configurations (continuous flow interfaced with elemental analyzers, GasBench, dual inlet); operation and maintenance of Membrane Inlet Mass Spectrometer (MIMS) and Equilibrator Inlet Mass Spectrometer (EIMS) systems for  $\text{O}_2/\text{Ar}$  and  $\text{N}_2/\text{Ar}$  analysis; nitrate/nitrite measurements on the NOx analyzer

**FELLOWSHIPS AND HONORS**

2005-2007 Harry Hess Fellowship, Department of Geosciences, Princeton University  
2004 Sonosky Summer Fellowship at the Department of Earth Sciences, USC  
2002-2003 Schlanger ODP fellowship, Joint Oceanographic Institutions  
Spring 2000 Outstanding Teaching Assistant Award, Department of Geosciences, USC  
Summer 1997 NASA Planetary Biology Internship, Center for Great Lake Studies, with Ken Nealson

**PROFESSIONAL AFFILIATIONS**

American Geophysical Union, American Society of Limnology and Oceanography, European Association of Geochemistry