

Aradhna K. Tripathi - Curriculum Vitae

Career History

Assistant Professor, UCLA (2010-present)
Joint appointments: Institute of Geophysics & Planetary Physics, Earth & Space Sciences
Department, Atmospheric & Oceanic Sciences Department
Visiting scientist, California Institute of Technology (2007-present)
Division of Geological and Planetary Sciences; Host: John Eiler
Research Fellow, University of Cambridge (2002-2009)
Department of Earth Sciences; Hosts: Harry Elderfield and Mike Bickle
Field expedition Leader, Svalbard (2008), Cauvery Basin (2008)
Sedimentologist, Ocean Drilling Program Expedition 199 (2001)
Undergraduate Research Fellow, Los Alamos National Laboratory (1995)

Education

B.Sc. Geology, California State University, Los Angeles (1996)
Distinctions: Began university at age 12; recipient of 1996 Aaron Waters Award (recognizes the outstanding, senior level student in the department)

Ph.D. Earth Sciences, University of California, Santa Cruz (2002)
Distinction: 1999 Aaron Waters Award (best dissertation proposal in department)

Research Fellowships

UK National Environmental Research Council (NERC) Fellowship (2006-2010)
Thomas Nevile Fellowship in Natural Sciences, Magdalene College, Univ. Cambridge (2006-2010)
Comer Abrupt Climate Change Fellowship (2003-2005)
Marshall Sherfield Postdoctoral Fellowship (2002-2003)
Schlanger Ocean Drilling Program Graduate Fellowship (2000)

Selected Honors/Awards

NSF ADVANCE Award Lecture (Univ. Ariz., 2009)
Wolfson College Visiting Fellowship, Univ. Cambridge (2002-2004)
Gates Millennium Scholarship (2000-2002)
Gretchen L. Blechschmidt Award from Geological Society of America (2000)
UC Regents Fellowship (1996-1997)
University Early Entrance Program (1992-1994)

International programs

Member of Antarctic Geologic Drilling Project Team (South McMurdo Sound; Shore-based)
Proponent of Integrated Ocean Drilling Program Proposal (Arctic Ocean- North Atlantic Gateway)
Cooperating Scientist in ICDP Hominid Sites and Paleolakes Drilling Project

Advisors, Students, and Research Staff

Postdoctoral advisors: John Eiler, Harry Elderfield, Mike Bickle
Graduate committee: James Zachos, Peggy Delaney, Christina Ravelo
Postdoctoral advisee: Gaojun Li (Fall 2010)
Ph.D. students: *Caltech:* Nivedita Thiagarajan (2007-present); *Cambridge:* Chris Roberts (2006-2010), Caroline Dawber (2005-2009)
M.Sc. students: *Cambridge:* Anya Crocker (2007), Michael Spencer (2006), Helen Macintyre (2005), Aileen Dennis (2005), Caroline Sindrey (2004)

Undergraduate student advisees: *California State University, Los Angeles*: Marcus Enriquez (2009 present); *Cambridge*: Aaron Bufe (2008-2009), Emma Khadun (2007-2008), Oliver Shorttle (2006-2007), Katie Atkinson (2006), Yannick Bahe (2006); *Kiel*: Jan Tolzmann (2009); Owena Reinke (2008); *UC Santa Cruz*: Jay Rehor (2000), Jessica Chapman (2000)

High school student advisees: *Cambridge*: Lavaniya Thanabalasundaram (2007-2009), Amy Ruddlesen (2008-2009), Zahrah Rosun (2009); Ruby Jennings (2008), Muhammad Yaradua (2008), Sakshi Sadhu (2006)

Technical staff: Jiaojiao Li (2009-present), Jeannie Booth (2006-present), Robbie Macdonald (2007), Ruth Shaw (2006-2007), Simon Crowhurst (2005-2007), Patrizia Ferretti (2004)

Key Papers

- Tripati, A.**, Thiagarajan, N., Eagle, R., Gagnon, A., Bauch, H., Eiler, J., in revision, Equilibrium ^{13}C - ^{18}O isotope signatures and 'clumped isotope' thermometry in foraminifera and coccoliths, *Geochimica et Cosmochimica Acta*.
- Tripati, A.**, Roberts, C., Eagle, R., 2009, Coupling of CO_2 and ice sheet stability over major climate transitions of the last 20 million years, *Science*, 326, 1394-1397.
- Huntington, K., Eiler, J., Affek, H., Guo, W., Bonifacie, M., Yeung, L., Thiagarajan, N. Passey, B., **Tripati, A.**, Daeron, M., Came, R., 2009, Methods and limitations of 'clumped' CO_2 isotope (Δ_{47}) analysis by gas-source isotope-ratio mass spectrometry. *Journal of Mass Spectrometry*, doi:10.1002/jms.1614.
- Tripati, A.**, Eagle, R., Morton, A., Dowdeswell, J., Atkinson, K., Bahe, Y., Dawber, F., Khadun, E., Shaw, R., Shorttle, O., Thanabalasundaram, L., 2008, Evidence for Northern Hemisphere glaciation back to 44 Ma from ice-rafted debris in the Greenland Sea, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2007.09.045.
- Tripati, A.** and Elderfield, H., 2005, Deep-Sea Temperature and Circulation Changes at the Paleocene Eocene Thermal Maximum, *Science*, 308(5729), 1894-1898.
- Tripati, A.**, Backman, J., Elderfield, H., and Ferretti, P., 2005, Eocene bipolar glaciation associated with global carbon cycle changes, *Nature*, 436, 341-346.
- Tripati, A.** and Elderfield, H., 2004, Abrupt hydrographic changes in the equatorial Pacific and subtropical Atlantic from foraminiferal Mg/Ca indicate greenhouse origins for the thermal maximum at the Paleocene-Eocene Boundary, *Geochemistry, Geophysics, Geosystems*, 5(2), doi:10.1029/2003GC000631. (Cited in IPCC 2007 report)
- Tripati, A.**, Delaney, M.L., Zachos, J.C., Anderson, L.D., Kelly, D.C., and Elderfield, H., 2003, Tropical Sea-Surface Temperature Reconstruction for the Early Paleogene Using Mg/Ca Ratios of Planktonic Foraminifera, *Paleoceanography*, 18(4), doi:10.1029/2003PA000937.

Invited Talks – Conferences

- 2008 *International Geological Congress* (Norway)
- 2007 *European Geosciences Union* (Austria)
- 2006 *European Geosciences Union* (Austria)
- 2005 *American Geophysical Union* (USA; 2 talks)

Invited Talks - Public

- 2009 *Comenius Lecture* (St. John's College, Cambridge, UK; 2 lectures)
- 2008 *Comenius Lecture* (St. John's College, Cambridge, UK; 2 lectures)
- 2008 *Leverhulme Climate Symposium/Cambridge Science Festival* (Cambridge, UK)
- 2007 *Comenius Lecture* (St. John's College, Cambridge, UK)
- 2006 *CSULA Annual Banquet* (USA)
- 2006 *Comenius Lecture* (St. John's College, Cambridge UK; 2 lectures)

Invited Talks - Universities

- 2010 *California Institute of Technology Geoclub* (USA)
University of Saskatchewan (Canada)
Institute for Marine Research, CNR (Italy)
- 2009 *Massachusetts Institute of Technology* (USA)
Scripps Institute of Oceanography (USA)
University of Arizona (USA)
University of Southern California (USA)
- 2008 *Carnegie Institution, Department of Global Ecology* (USA)
University of California, Los Angeles (USA)
University of California, Irvine (USA)
University of Southern California (USA)
University of Birmingham (UK)
University of Leicester (UK)
Kiel University (Germany)
- 2007 *California Institute of Technology Geoclub* (USA)
Imperial College (UK)
- 2006 *University College, London* (UK)
- 2005 *Comer Annual Meeting* (USA)
University of Stockholm (Sweden)
- 2003-2005 *University of Cambridge*
- 2002 *Stanford University* (USA)
Texas A&M University (USA)

Educational Activities

- UCLA IGPP Fellowship committee (2010-present)
Grant and proposal writing workshop - Association of Black Women in Higher Education (2009)
UCLA AGEF program (2009- present)
Comenius lectures - to business people on climate change (2006-2009)
Recruited and worked with high school and undergraduate students on research projects (2006-2009)
Cambridge Science Festival lecture (2008)
I'm a Scientist, Get me out of here! Participant (2008)
EPSRC 'NOISE' role model and MentorSET participant (2004-2008)
Royal Society of Chemistry: What Chemistry has done for me (2007)

Reviewer for:

- Reviewed manuscripts for: Geology, EPSL, Paleoceanography, G³
Funding agencies: NSF (Marine Geology & Geophysics; Arctic Sciences; Panel for Graduate Fellowships), NERC (UK), NWL (Netherlands)

Media experience (links available on request)

- Interviewed by *New Scientist* on research and climate change issues (2010)
Interviewed by *Time Magazine* on research and climate change issues (2009)
Interviewed by *Scientific American* on research and climate change issues (2009)
Interviewed by *BBC* on research and climate change issues (2009)
Interviewed by *Columbian National Public Radio* on research and climate change issues (2009)
Research on new isotopic technique featured on *Discovery Channel* website (2009)
Advised BBC Program *Blue Peter* for episode "Green Peter" on climate change (2007)
Interviewed by *Cambridge Evening News*, 2004, 2006
Interviewed by *Spectrum* and *Mint*, 2004

Aradhna K. Tripathi – Full Publication List

SUBMITTED OR IN REVIEW (COPY AVAILABLE ON REQUEST)

1. Haley, B., Frank, M., **Tripathi, A.**, Changes of ocean circulation and the global carbon budget during the the Paleocene-Eocene Thermal Maximum, *Science*, 14 pages.
2. **Tripathi, A.**, Eagle, R., Roberts, C., Li, G., in review, A 20 million year long record of foraminiferal B/Ca ratios: Systematics and climate implications, *Geochimica et Cosmochimica Acta*, 61 pages.
3. Csank, A., **Tripathi, A.**, Patterson, W., Eagle, R., Rybczynski, N., Ballantyne, A., Eiler, J., in review, Accurate estimates of Arctic land surface temperatures during the Early Pliocene from two novel proxies, *Geology*, 23 pages.
4. Dawber, C., **Tripathi, A.**, in review, Evidence for Variations in Ice Volume and Bipolar Glaciation During the Middle Eocene ‘Doubthouse’, *Paleoceanography* 26 pages.
5. Dawber, C., **Tripathi, A.**, Gale, A., MacNiocail, C., Hesselbo, S., in review, Glacioeustasy during the middle Eocene: Insights from the stratigraphy of the Hampshire Basin, UK, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 46 pages.
6. **Tripathi, A.**, Eagle, R., Thiagarajan, N., Gagnon, A., Bauch, H., Halloran, P., Eiler, J., in revision, Equilibrium ^{13}C - ^{18}O isotope signatures and ‘clumped isotope’ thermometry in foraminifera and coccoliths, *Geochimica et Cosmochimica Acta*.

IN PREPARATION (COPY AVAILABLE ON REQUEST)

7. **Tripathi, A.**, Eagle, R., Eiler, J., Beaufort, L., Holocene and glacial temperatures in the West Pacific Warm Pool from clumped isotope thermometry in foraminifera and coccoliths.
8. **Tripathi, A.**, Dawber, C., Relationship between bottom water carbonate saturation and X/Ca in core-top samples of the benthic foraminifera *Oridorsalis umbonatus*.
9. Dawber, C., **Tripathi, A.**, Controls on elemental ratios in *Oridorsalis umbonatus*: Insights from Middle Eocene data.
10. Roberts, C., LeGrande, A., **Tripathi, A.**, Equilibrium climate and seawater oxygen isotopes in a Paleogene simulation with GISS ModelE-R.
11. Finnegan, S., Bergmann, K., Fischer, W., Jones, D., Fike, D., **Tripathi, A.**, Hughes, N., Eiler, J., in prep., Carbonate “clumped” isotopic constraints on the duration and magnitude of late Ordovician-Early Silurian glaciation.
12. **Tripathi, A.**, Eagle, R., Sheng, X., Eiler, J., Li, G., Chen, J., in prep, Glacial-interglacial changes in the Eastern Asian Monsoon from clumped isotope thermometry.

2010

13. Eagle, R., Schauble, E., **Tripathi, A.**, Tutken, T., Eiler, J., in press, Direct measurement of the body temperature of an extinct species through the analysis of ^{13}C - ^{18}O bonds in bioapatite, *Proceedings of the National Academy of Sciences*.
14. Torfstein, A., Winckler, G., **Tripathi, A.**, in press, Productivity feedback did not terminate the Paleocene-Eocene Thermal Maximum, *Climate of the Past* 6, 265-272.
15. Elderfield, H., Greaves, M., Barker, S., Hall, I., **Tripathi, A.**, Ferretti, P., Booth, L., Daunt, C., 2010, A record of bottom water temperature and seawater d^{18}O for the Southern Ocean over the past 440 kyr based on Mg/Ca of benthic foraminiferal *Uvigerina* spp., *Quaternary Science Reviews*, 29, 160-169.

2009

16. **Tripathi, A.**, Roberts, C., Eagle, R., 2009, Coupling of CO_2 and ice sheet stability over major climate transitions of the last 20 million years, *Science*, 326, 1394-1397.

17. Huntington, K., Eiler, J., Affek, H., Guo, W., Bonifacie, M., Yeung, L., Thiagarajan, N., Passey, B., **Tripati, A.**, Daeron, M., Came, R., 2009, Methods and limitations of 'clumped' CO₂ isotope (D₄₇) analysis by gas-source isotope-ratio mass spectrometry. *Journal of Mass Spectrometry*, doi:10.1002/jms.1614.
18. Spielhagen, R., **Tripati, A.**, 2009, Evidence for near-freezing temperatures and climate oscillations in the Arctic during the early Cenozoic, *Paleogeography, Palaeoecology, Palaeoclimatology*, 278, 48-56.
19. **Tripati, A.**, Sampson, D., Allmon, W., 2009, Possible evidence for a large decrease in seawater Sr/Ca ratios and strontium concentrations during the Cenozoic, *Earth and Planetary Science Letters*, 282, doi:10.1016/j.epsl.2009.03.020.
20. Roberts, C., **Tripati, A.**, 2009, Modelled reconstructions of the oceanic carbonate system for different histories of atmospheric carbon dioxide during the last 20 Ma, *Global Biogeochemical Cycles*, 23, doi: 10.1029/2008GB003310.
21. Roberts, C., LeGrande, A., **Tripati, A.**, Climate sensitivity to Arctic seaway restriction during the early Paleogene, *Earth and Planetary Science Letters*, 286, 576-585.

2008

22. **Tripati, A.**, Eagle, R., Morton, A., Dowdeswell, J., Atkinson, K., Bahe, Y., Dawber, F., Khadun, E., Shaw, R., Shorttle, O., Thanabalasundaram, L., 2008, Evidence for Northern Hemisphere glaciation back to 44 Ma from ice-rafted debris in the Greenland Sea, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2007.09.045.

2007

23. Sime, N., De La Rocha, C., Tipper, E., **Tripati, A.**, Galy, A., Elderfield, H. and Bickle, M., 2007, Interpreting the calcium isotopic composition of seawater through the Neogene and Quaternary, *Geochimica et Cosmochimica Acta*, 71, 3979-3989.

2006

24. Paelike, H., Norris, R., Herrle, J., Wilson, P., Coxall, H., Lear, C., Shackleton, N., **Tripati A.**, and Wade, B., 2006, The heartbeat of the Oligocene climate system, *Science*, 314, 1894-1898.
25. **Tripati, A.**, Elderfield, H., Booth, L., Zachos, J., and Ferretti, P., 2006, High-resolution benthic foraminiferal stable isotope stratigraphy across the Oligocene-Miocene boundary at Site 1218, *ODP Leg 199 Scientific Results*.

2005

26. **Tripati, A.** and Elderfield, H., 2005, Deep-Sea Temperature and Circulation Changes at the Paleocene-Eocene Thermal Maximum, *Science*, 308(5729), 1894-1898.
27. **Tripati, A.**, Backman, J., Elderfield, H., and Ferretti, P., 2005, Eocene bipolar glaciation associated with global carbon cycle changes, *Nature*, 436, 341-346. See also, accompanying News and Views piece by Lee Kump on 333-334 of same issue.
28. Lyle, M., Olivarez Lyle, A., Backman, J. and **Tripati, A.**, 2005, Biogenic sedimentation in the Eocene equatorial Pacific: The stuttering greenhouse and Eocene carbonate compensation depth, *ODP Leg 199 Scientific Results*.

2004

29. **Tripati, A.** and Elderfield, H., 2004, Abrupt hydrographic changes in the equatorial Pacific and subtropical Atlantic from foraminiferal Mg/Ca indicate greenhouse origins for the thermal

maximum at the Paleocene-Eocene Boundary, *Geochem., Geophys., Geosyst.*, 5(2), doi:10.1029/2003GC000631. (Cited in IPCC 2007 report)

2003

30. **Tripati, A.**, Delaney, M.L., Zachos, J.C., Anderson, L.D., Kelly, D.C., and Elderfield, H., 2003, Tropical Sea-Surface Temperature Reconstruction for the Early Paleogene Using Mg/Ca Ratios of Planktonic Foraminifera, *Paleoceanography*, 18(4), 1101, doi:10.1029/2003PA000937.
31. Nomura, R., Nishi, H., and Shipboard Science Party, 2003, Lithological changes across the Paleocene/Eocene boundary, *J. Geol. Soc. Japan*, 108, 17-18.
32. Shipboard Science Party, 2003, Leg 199 investigates the “Greenhouse” Eocene in the tropical Pacific Ocean, *JOIDES Journal*, 29(1), 6-10.

2002

33. **Tripati, A.** and Zachos, J.C., 2002, Late Eocene Tropical Sea Surface Temperatures: A Perspective from Panama, *Paleoceanography*, 17(3), 1032, doi:10.1029/2000PA000605.
34. Shipboard Science Party, 2002, Leg 199 Initial Reports: Paleogene equatorial transect, *ODP Leg 199 Initial Reports*.
35. Quintin, L.L., Faul, K.L., Lear, C., Graham, D., Peng, C., Murray, R. and Shipboard Science Party, 2002, Geochemical analysis of bulk marine sediment by inductively-coupled plasma-atomic emission spectroscopy onboard the JOIDES Resolution. *ODP Leg 199 Initial Reports*.

2001

36. **Tripati, A.**, Zachos, J.C., Marincovich Jr., L., and Bice, K., 2001, Late Paleocene Arctic Coastal Climate as Inferred from Molluscan Stable and Radiogenic Isotope Ratios, *Palaeogeog., Palaeoclimatol., Palaeoecol.*, 170, 101-113.

2000

37. **Tripati, A.** and Zachos, J.C., 2000, Paleocene and Eocene Coastal Temperatures, *GFF*, 122, 171-172.
38. Paul, H., Zachos, J.C., Flower, B.P., and **Tripati, A.**, 2000, Orbital Forcing of Climate Across the Oligocene-Miocene Boundary, *Paleoceanography*, 5, 471-485.