

Aradhna Tripati

Department of Atmospheric & Oceanic Sciences, Department of Earth, Planetary, & Space Sciences, Institute of Environment and Sustainability, Institute of Geophysics and Planetary Physics, American Indian Studies Center, UCLA, 595 Charles Young Drive, Los Angeles, CA 90095, United States

History of employment:

Associate Professor with tenure, UCLA (2014-present)
Assistant Professor, UCLA (2009-present)
Visiting Scientist, California Institute of Technology (2007-2012)
Research Fellow, Department of Earth Sciences, University of Cambridge (2002-2009)

Degrees:

Ph.D. Earth Sciences, University of California, Santa Cruz (2002)
B.Sc. Geology, California State University, Los Angeles (1996)

Narrative of research experience:

The work I do is grounded in a broad training in geology, chemistry, and physics, and is coupled with a longstanding interest in the history and philosophy of science. I believe the field of paleoclimate has the potential to undergo an intellectual period of growth over the next two decades that is not unlike astronomy and space science. New tools are emerging that have the potential to illuminate past environmental change much more clearly than at any time in the history of our field, enabling exploration and discovery, and allowing for hypothesis-testing to resolve long-standing controversies – and for the development of completely new models! Therefore my research is focused on advancing our understanding of recently emerged tools such as the clumped isotope thermometer, and on applying new methods to reconstruct past climate and to study the dynamics of Earth systems. I am also active in collaborations with social scientists at UCLA, including from the Graduate School of Education and Information Systems, and in the American Indian Studies Center.

My research expertise includes clumped isotope geochemistry, paleoceanography and paleoclimate, and Earth systems history. Topics that I have contributed to include understanding the past causes and consequences of rising atmospheric carbon dioxide levels on climate, the evolution of atmospheric carbon dioxide levels and seawater pH, paleoclimate dynamics, environmental tracers, effects of geologic processes on sediments, climate change impacts on the water cycle, paleoaltimetry, justice and inclusion in STEM, and braided knowledge systems in geoscience and in STEM more broadly. I have raised over \$7M for advancing these areas, including established a leading clumped isotope laboratory at frontiers of multiple fields, and I have founded and direct the Center for Diverse Leadership in Science, UCLA, that has supported over 120 early career fellows (from 20 academic institutions including UCLA, HBCUs, HSIs, Tribal Institutions, and community colleges), and multiple faculty fellows who are growing their skills in inclusive teaching, mentoring, and leadership.

Recent publications (indicates mentee):*

- Santi, L.*, Arnold, A.*, Ibarra, D., Whicker, C.*, Mering, J.*, Lomarda, R.*, Lora, J.*, Tripati, A., in press 2020, Clumped Isotope Constraints on Changes in Hydroclimate in the Northwest Great Basin: Lake Surprise, California, *GSA Bulletin*.
- Chiang, B., Li, C., Foster, I.*, Tripati, A., Lloyd, M., Ryb, U., Luo, G., An, Z., She, Z., Xie, S., Tong, J., Zhu, M., Algeo, T., Huang, J., in press 2020, Evidence for formation of massive low-temperature dolomites in Ediacaran oceans, *PNAS*.
- Defliese, W.*, Tripati, A., in press 2020, Analytical effects on clumped isotope thermometry: Comparison of a common sample set run using multiple instruments and methods, *Rapid Communications in Mass Spectrometry*.
- Guillermic, M*, Misra, S., Eagle, R., Villa, A.*, Chang, F., Tripati, A., in press 2020, Seawater pH reconstruction using boron isotopes in multiple planktonic foraminifera species with different ecological niches and their potential to constrain pH and pCO₂ gradients, *Biogeosciences*.
- Hill, P.*, Schauble, E., Tripati, A., in press 2020, Theoretical constraints on the effects of added cations

- on clumped, oxygen, and carbon isotope signatures of dissolved inorganic carbon species and minerals, *Geochimica et Cosmochimica Acta*.
- Meinicke, N., Ho, S., Hannisdal, B., Nurnberg, D., Tripathi, A., Schiebel, R., Meckler, A., in press 2020, Calibration of the clumped isotope thermometer for planktonic foraminifers, *Geochimica et Cosmochimica Acta*.
- Leutert, T.*, Sexton, P., Tripathi, A., Piasecki, A., Ho, S., Meckler, A., 2019, Assessing the effects of diagenetic alteration on the clumped isotope paleothermometer in Middle Eocene planktic and benthic foraminifera, *Geochimica et Cosmochimica Acta* 257, 354-372.
- Tripathi, A. and Darby, D. (joint first author), 2018, Evidence for ephemeral middle Eocene to early Oligocene Greenland glacial ice and pan-Arctic sea ice, *Nature Communications*, doi:10.1038/s41467-018-03180-5.
- Lora, J.*, Mitchell, J., Risi, C., Tripathi, A., 2017, North Pacific atmospheric rivers and their influence on western North America at the Last Glacial Maximum, *Geophysical Research Letters*, doi:10.1002/2016GL071541.
- Lora, J.*, Mitchell, J., Tripathi, A., 2016, Abrupt reorganization of North Pacific and western North American climate during the last deglaciation, *Geophysical Research Letters*, 43, 11796-11804.

Honors:

- Climate Crisis Honoree, Washington DC (2019)
- Fellow, Geological Society of America (2018)
- Distinguished Lecturer, National Science Foundation (2018)
- Presidential Early Career Award in Science and Engineering (PECASE) under President Obama (2017)
- Bromery Award, Geological Society of America (2017)
- Chair International D'Excellence, Stable isotopes and paleoceanography, Labex Mer, European Institute of Marine Sciences (2015-2017)
- U.S. National Academy of Sciences Kavli Fellow (2015)
- E. O. Wilson Award for Outstanding Science - on the role of carbon dioxide in climate change (2014)
- NSF CAREER Award (2014-2018)
- National Environmental Research Council (NERC) Fellowship (2006-2010)
- Thomas Nevile Fellow in Natural Sciences, Magdalene College, Univ. Cambridge (2006-2010)
- Comer Abrupt Climate Change Fellowship (2003-2005)
- Marshall Sherfield Postdoctoral Fellowship (2002-2003)
- Gates Millennium Scholar (2000-2002)
- Schlanger Ocean Drilling Program Graduate Fellowship (2000)

Professional society memberships:

- American Geophysical Union (Lifetime)
- Geological Society of America
- Geochemical Society
- Earth Sciences Women's Network
- Union of Concerned Scientists
- Association of Polar Early Career Scientists
- 500 Women Scientists