

Robert N. Ulrich

Department of Earth, Planetary, and Space Sciences
University of California, Los Angeles

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Education

Expected June

- 2024 **Ph.D. in Biogeochemistry**
University of California, Los Angeles (UCLA)
- 2024 **Certificate in Writing Pedagogy**
UCLA Writing Programs
- 2021 **Associate of the Center for the Integration of Teaching, Research, and Learning (CIRTL)**
UCLA
- 2021 **Certificate in Data Science**
CODATA-RDA School of Research Data Science
- 2019 **M.S. in Biogeochemistry**
UCLA
- 2017 **B.S. in Chemistry**
Virginia Tech, Blacksburg, VA
- 2017 **B.S. in Geosciences (conc. in Geochemistry)**
Virginia Tech, Blacksburg, VA

Research Appointments

- 2017-present **Graduate Researcher**, Paleoclimate & Biogeochemistry Lab, Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles, CA
Dissertation: A multi-geochemical tracer perspective on calcium carbonate biomineralization
Committee: Aradhna Tripathi (chair), Rob Eagle, Dave Jacobs, Peng Ni
- 2018-present **Researcher**, ReclaimingSTEM Institute, 501(c)(3), Seattle, WA
Science communication, policy analysis, community-building, identity formation
Primary collaborators: Evelyn Valdez-Ward
- 2017 **Geochemistry Intern**, S.S. Papadopulos & Associates, Inc., Bethesda, MD
Mineralization, water quality
- 2015-2017 **Undergraduate Researcher**, Biogeochemistry of Earth Materials Lab, Department of Geosciences, Virginia Tech, Blacksburg, VA
Calcium carbonate biomineralization, sample dissection, mineral syntheses, elemental geochemistry, amorphous precursors
Advisors: Patricia Dove, Sebastian Mergelsberg
- 2014-2015 **Undergraduate Researcher**, Sedimentary Systems Lab, Department of Geosciences, Virginia Tech, Blacksburg, VA
Microscopy, grain size analysis
Advisor: Brian Romans

Peer-reviewed Publications

‡invited *denotes a student mentee co-author

- In review J.K. Lucarelli, B. Purgstaller, Z.A. Parvez, **R.N. Ulrich**, J.M. Watkins, R.A. Eagle, M. Dietzel, A.K. Tripathi. Paired Δ_{47} and Δ_{48} analyses and model calculations constrain equilibrium, experimentally-manipulated kinetic isotope effects, and mixing effects in calcite.
- In review A. Terrazas, N. Hwangbo, A.J. Arnold, **R.N. Ulrich**, A.K. Tripathi. Seasonal lake-to-air temperature transfer functions derived from an analysis of 965 modern lakes.
- In prep. **R.N. Ulrich**, J.K. Lucarelli, *R. Han, *S. Singh, *A. Hakim, *J. Trainer, H.L. Bricker, *L.C. Gentile, *C.M. Pham, R.A. Eagle, J.B. Ries, A.K. Tripathi. $\delta^{13}\text{C}$, $\delta^{18}\text{O}$, and dual carbonate clumped (Δ_{47} , Δ_{48}) isotope analyses unveil distinct kinetic origins of vital effects in diverse marine calcifiers.
- In press E. Valdez-Ward, **R.N. Ulrich**, N. Bennett, E. Martinez, S. Castillo, A. Mattheis, S.Menezes, K. Treseder. Science communicators from marginalized backgrounds challenge STEM cultural norms to promote community belonging. *Journal of Communications*.
- 2023 J.K. Lucarelli, B. Purgstaller, **R.N. Ulrich**, R.A. Eagle, A. Leis, K.E. Goetchl, M. Dietzel, A.K. Tripathi. Dual clumped isotope data for amorphous calcium carbonates and transformation products reveal a novel mechanism for nonequilibrium effects. *Geochimica et Cosmochimica Acta*, 359, p 119-134
- 2023 Z.A. Parvez, J.K. Lucarelli, I.W. Matamoros, J. Rubi, K. Miguel, B.M. Elliott, R. Flores, **R.N. Ulrich**, R.A. Eagle, J. Watkins, J. Christensen, A.K. Tripathi. Dual carbonate clumped isotopes (Δ_{47} - Δ_{48}) constrains kinetic effects and timescales in peridotite-associated springs at The Cedars, Northern California. *Geochimica et Cosmochimica Acta*, 358, p 77-92
- 2023 E. Valdez-Ward, **R.N. Ulrich**, N. Bennett, L.A. Cat, T. Marcus, S. Menezes, A. Mattheis, K.K. Treseder. ReclaimingSTEM: A healing-centered counterspace for inclusive science communication and policy training. *Frontiers in Science Communication*, 8, 1026383
- 2023 J.K. Lucarelli, H.M. Carroll, **R.N. Ulrich**, B.M. Elliott, T.B. Coplen, R.A. Eagle, A.K. Tripathi. Equilibrated Gas and Carbonate Standard-Derived (Δ_{47} and Δ_{48}) Clumped Isotope Values. *Geochemistry, Geophysics, Geosystems*, 24, e2022GC010458
- 2021 ‡**R.N. Ulrich**. Queer geoscientists need more than visibility. *Nature Reviews Earth & Environment*, 2662-138X(online)
- 2021 **R.N. Ulrich**, M. Guillermic, J. Campbell*, A. Hakim*, R. Han*, S. Singh*, J.D. Stewart, C. Román-Palacios, H.M. Carroll, I. DeCorte, R.E. Gilmore, W. Doss, A.K. Tripathi, J.B. Ries, R.A. Eagle. Patterns of element incorporation in calcium carbonate biominerals recapitulate phylogeny for a diverse range of marine calcifiers. *Frontiers in Earth Science* (SPECIAL ISSUE: Proxies and Biomineralization: from the lab bench to paleoenvironments), 9, 641760
- 2021 D. Upadhyay, J.K. Lucarelli, A.J. Arnold, R. Flores, H.L. Bricker, **R.N. Ulrich**, G. Jesmok, L. Santi, W. Defliese, R.A. Eagle, H.M. Carroll, J.B. Bateman, V. Petryshyn, S. Loyd, J. Tang, A. Priyadarshi, B.M. Elliott, A.K. Tripathi. Carbonate clumped isotope analysis (Δ_{47}) of 21 carbonate standards determined via gas source isotope ratio mass spectrometry on four instrumental configurations using carbonate-based standardization and multi-year datasets. *Rapid Communications in Mass Spectrometry*, 35(17), e9143

- 2020 S.T. Mergelsberg, J.J. De Yoreo, Q.R.S. Miller, F.M. Michel, **R.N. Ulrich**, P.M. Dove. Metastable Solubility and Local Structure of Amorphous Calcium Carbonate (ACC). *Geochimica et Cosmochimica Acta*, 289, p 196-206
- 2019 S.T. Mergelsberg, **R.N. Ulrich**, S. Xiao, P.M. Dove. Composition Systematics in the Exoskeleton of the American Lobster, *Homarus americanus*, and Implications for Malacostraca. *Frontiers in Earth Science*, 7:69

Trade Publications

- On hold **R.N. Ulrich**. “The Hard Parts of Life”.
- 2022 **R. Ulrich**. How do oysters make pearls? *TED Education*. [Link to video](#)
- 2022 **R.N. Ulrich**. Marine aerosols and mountain rain. *Nature Reviews Earth & Environment*, 3(7), p 422
- 2022 **R.N. Ulrich**. Ancient continent in modern oceans. *Nature Reviews Earth & Environment*, 3(6), p 358
- 2022 **R.N. Ulrich**. Increasing heat in an aging forest. *Nature Reviews Earth & Environment*, 3(6), p 357
- 2022 **R.N. Ulrich**. Cooling Archean cratons. *Nature Reviews Earth & Environment*, 3(5), p 290
- 2022 **R.N. Ulrich**. Driving dark carbon fixation. *Nature Reviews Earth & Environment*, 3(5), p 289
- 2022 **R.N. Ulrich**. Typhoon self-sabotage. *Nature Reviews Earth & Environment*, 3(4), p 221
- 2022 **R.N. Ulrich**. When Texas went dark. *Nature Reviews Earth & Environment*, 3(2), p 105
- 2021 **R.N. Ulrich**. Funding agricultural emission mitigation. *Nature Reviews Earth & Environment*, 3, p 2
- 2021 **R.N. Ulrich**. Bacteria in the wind. *Nature Reviews Earth & Environment*, 2, p 823
- 2021 **R.N. Ulrich**. Corals losing control. *Nature Reviews Earth & Environment*, 2, p 831

Grants and Funding

- 2017-present Center for Diverse Leadership in Science Early Career Fellow and Leadership Facilitator (>\$100,000)
- 2023 NSF Advancement of Informal Science Learning REVISE Center & ReclaimingSTEM Institute (\$43,000)
Collaborators: Evelyn Valdez-Ward, Lisette Torres-Gerald (TERC), Stephen Alkins (TERC)
- 2022-2023 Switzer Network & ReclaimingSTEM Institute (\$15,000)
Collaborators: Evelyn Valdez-Ward (RSI), Erin Lloyd (Switzer)
- 2022-2023 U.S. National Parks Service & ReclaimingSTEM Institute (\$14,000)
Collaborators: Evelyn Valdez-Ward (RSI), Linh Anh Cat (NPS), Ted Gostomski (NPS)
- 2018-2023 National Science Foundation Graduate Research Fellowship (\$138,000)
- 2021 Sigma Xi Grants-in-Aid-of-Research (Award no. G03152021120195272)
The biomineralization of plants: Connecting Ficus cystoliths to climate using

geoschemistry and functional traits

- Collaborators: Hannah M. Carroll (WCU), John Nason (ISU), Nathan Kraft (UCLA), Robert Eagle (UCLA), Aradhna Tripathi (UCLA)
- 2021 UCLA Fielding School of Public Health & ReclaimingSTEM (\$10,000)
Collaborators: Evelyn Valdez-Ward, Kirsten Schwarz
- 2020 Center for Diverse Leadership in Science Program Support Fund (\$9,000)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2020 Union of Concerned Scientists Sponsorship (\$1,000)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2020 National Science Policy Network Sponsorship (\$650)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2020 Colorado University, Boulder Sponsorship (\$500)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2020 Ecological Society of America Best in Practice C&E Award (\$400)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2019 American Geophysical Union Celebrate100 Grant (\$10,000)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2019 Center for Diverse Leadership in Science Program Support Fund (\$250)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2019 UCLA Graduate Programs in the Biosciences Sponsorship (\$250)
Collaborators: Evelyn Valdez-Ward, Tamara Marcus, Linh Anh Cat
- 2019 UCLA Campus Life Support for Student Programming Fund (\$300)
- 2019 Connie Hammen Fund (\$1,500)
- 2018 UCLA Campus Life Support Student Programming Fund (\$1,435)
\$325 for Queers in STEM Fall Research Symposium
Collaborators: John Billingsley, Andrea O’Riordan, Aanand Patel, Matthew Voss
\$800 for Queers in Nature: An exhibition of Queers in STEM
Collaborators: John Billingsley, Justin Valliere
\$310 for Queers Eating Pizza: A Celebration in STEM
Collaborators: John Billingsley, Andrea O’Riordan
- 2017 UCLA Office of Instructional Development Mini-grant (\$250)

Awards

- 2024 UCLA President’s Postdoctoral Fellowship Finalist
- 2023 Al Aubin Service to the UCLA LGBT Community Award
- 2022 UCLA Department of Earth, Planetary, and Space Sciences Education & Outreach Award
- 2022 Stanford Postdoctoral Recruitment Initiative in Sciences and Medicine (PRISM) Cohort
- 2021 Inclusive SciComm Inaugural Community Cohort
- 2021 NASA InSightSeer
- 2019 UCLA Department of Earth, Planetary, and Space Sciences Outreach Award
- 2019 Kavli Foundation Emerging Network Leader Scholarship
- 2019 Curtis Shepard LGBTQ+ Leadership Award
- 2018 UCLA Department of Earth, Planetary, and Space Sciences Extramural Award
- 2018 COACH Travel Scholarship

2018 Point Foundation Scholar Semi-finalist
2018 Featured Scientist for Pearson Education's Elevate Science California Program
2017 UCLA Graduate Division Fellowship Award
2016 Virginia Tech Thomas T. Jeffries Endowed Fund Scholarship

Teaching Appointments

UCLA Teaching

Fall 2023 **Earth Process and Evolutionary History**
Department of Ecology and Evolutionary Biology, UCLA
Teaching Assistant

2018-2023 **Writing** (generally, appointments, workshops, retreats, etc.)
Graduate Writing Center, UCLA
Senior Graduate Writing Consultant

Spring 2022 **Dinosaurs and Their Relatives**
Department of Earth, Planetary, & Space Sciences, UCLA
Teaching Assistant

Fall 2017 **Introduction to Environmental Science**
Institute of the Environment and Sustainability, UCLA
Teaching Assistant

Virginia Tech Teaching

2016-2017 **General Chemistry**
Department of Chemistry, Virginia Tech, Blacksburg, VA
Teaching Assistant

Other Teaching Experience

2015-2017 **Chemistry and Environmental Geochemistry**
Private Tutor

2014-2015 **Chemistry**
Department of Chemistry, Virginia Tech, Blacksburg, VA
Tutor

Other Relevant Work Experience

2023-present **Project Manager**, Center for Diverse Leadership in Science NSF Cultural Transformation in the Geosciences Community grant (\$7.5 million, 50 fellows/year)

2019-present **Associate Director**, ReclaimingSTEM Institute, 501(c)(3)

2022 **Educator**, Science Friday

2021-2022 **Interim Editor**, *Nature Reviews Earth & Environment*

2020-2021 **Writer**, Professor Dave Explains (2.63 million subscribers), YouTube

Undergraduate (U), Post-Graduate (PG) and Graduate (G) Student Mentoring

2024 K. Goebel, *Arizona State University (G)*
2024 A. Thomas, *Arizona State University (G)*
2023 M. Carver, *Navajo Tech University (U)*
2023 T. Clark, *Navajo Tech University (U)*

2023 S. Hong, *University of California, Los Angeles (U)*
 2021-2022 N. Yoshioka, *University of California, Los Angeles (U)*
 2021-2022 O. Simon, *University of California, Santa Barbara (PG)*
 2019-2022 S. Singh, *University of California, Los Angeles (U, PG)*
 2019-2022 R. Han, *University of California, Los Angeles (U)*
 2021 M. Fu, *University of California, Los Angeles (U)*
 2019-2021 D. Brown, *Fort Valley State University (U)*
 2020-2021 J. Campbell, *University of California, Los Angeles (U)*
 2019-2021 A. Hakim, *University of California, Los Angeles (U, PG)*
 2019 Y. Rizal, *University of California, Los Angeles (U)*
 2018-2019 J. Yoon, *University of California, Los Angeles (U)*
 2018-2019 H. Bricker, *University of California, Los Angeles (U)*
 2018-2019 J. Trainer, *University of California, Los Angeles (U)*
 2018-2019 C. Pham, *University of California, Los Angeles (U)*
 2018 L. Gentile, *University of California, Los Angeles (U)*
 2018 M. Kalwhick, *University of Texas at Austin (U)*
 2017-2018 A. Villa, *University of California, Los Angeles (U)*

*I have also coached approximately 600 graduate and professional students on their writing—across genres and disciplines—since 2018

Invited Seminars

2023 Guest Lecture for the National Science Foundation MSI STRONG Program at UT Austin. Austin, TX.
 2023 Presentation at CSU Dominguez Hills Department of Biology. Dominguez Hills, CA.
 2022 Presentation at Columbia University Lamont-Doherty Geochemistry Seminar. New York, NY.
 2022 Presentation at CSU Dominguez Hills Department of Biology. Dominguez Hills, CA.
 2021 Presentation and conversation facilitator for the New York Academy of Sciences Global STEM Alliance. Virtual.
 2021 Presentation at CSU Fresno Department of Earth & Environmental Sciences. Fresno, CA.
 2021 Presentation at CSU Stanislaus Department of Biological Sciences. Stanislaus, CA.
 2021 Guest Lecturer at SUNY Cortland Department of Biological Sciences. Virtual.
 2020 Presentation at UCLA Department of Earth, Planetary, and Space Sciences Geochemistry Seminar. Los Angeles, CA.
 2020 Presentation at University of Wyoming Department of Geoscience. Virtual.
 2020 Presentation and Panel at the California Academy of Sciences Breakfast Club.
 2020 Presentation for the UCLA Department of Atmospheric & Oceanic Sciences. Los Angeles, CA.
 2019 Presentation and panelist for the Dr. Lucy Jones Center for Science and Society Activation Symposium. Los Angeles, CA.
 2019 Presentation with Lisa Graumlich for the Sharing Science LGBTQ+ STEM Day Webinar during the American Geophysical Union Centennial. Virtual.

- 2019 Presentation and panelist for the National Organization of Gay and Lesbian Scientists and Technical Professionals Out-to-Innovate Summit. Los Angeles, CA.
- 2018 Guest Lecturer in the Teaching Earth, Planetary, and Space Sciences course at UCLA.

Other Speaking Engagements

- 2021 Talk and panel for the UCLA LGBTQ+ 25th Anniversary Spring Donor & Alumni Event. Virtual.
- 2020 Talk for the UCLA Lavender Graduation. Virtual.

Conference Presentations and Posters

‡invited; *undergraduate mentee; †invited, not accepted

- 2023 [Poster] **R. N. Ulrich**, J. K. Lucarelli, Z. Parvez, A. J. Arnold, J. B. Ries, A. K. Tripathi, R. A. Eagle. Isotopic Evidence ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$, $\Delta_{63/47}$, and $\Delta_{64/48}$) for Interspecific Responses to Simulated Ocean Acidification Scenarios. American Geophysical Union. San Francisco, CA.
- 2023 [Poster] K. Fish, J. L. Drake, M. Guillermic, **R. N. Ulrich**, R. A. Eagle, A. K. Tripathi. A phylogenetic underpinning of patterns of major and minor element incorporation in coral skeletons. American Geophysical Union. San Francisco, CA.
- 2023 ‡[Talk] A. K. Tripathi, H. Tandy, A. Villa, R. Flores, A. J. Arnold, H. M. Carroll, M. Guillermic, **R. N. Ulrich**, C. R.-Palacios, M. Kuppusamy, F. Chang, R. Came, J. L.-Stieglitz, R. A. Eagle., D. Brown, I. Maradiaga, D. Singh. Clumped isotope geochemistry in foraminifera as a tool in paleoceanography: New planktic and benthic data and revised calibrations using Deming, York, and Bayesian regression models. American Geophysical Union. San Francisco, CA.
- 2023 [Talk] S. Moore, C. Atkins, S. Peters, L.V. Santana, **R.N. Ulrich**, E. Wilson. What We Learned from Intentional Mentoring of STEM Majors from Minority Serving Institutions. Geological Society of America. Pittsburgh, PA.
- 2023 ‡[Talk] **R.N. Ulrich**, J.K. Lucarelli, A.J. Arnold, J.B. Ries, A.K. Tripathi, R.A. Eagle. Dual carbonate clumped (Δ_{47} , Δ_{48}) and bulk ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$) isotopes in cultured marine calcifiers provide insights into the origins of vital effects. Goldschmidt. Lyon, France.
- 2022 [Talk] **R.N. Ulrich**, M. Guillermic, *J. Campbell, *A. Hakim, *R. Han, *S. Singh, J.D. Stewart, C. Román-Palacios, H.M. Carroll, I. De Corte, R.E. Gilmore, W. Doss, A.K. Tripathi, J.B. Ries, R.A. Eagle [Talk]. Geobiology Gordon Research Seminar. Ventura, CA.
- 2022 [Poster] **R.N. Ulrich**, J.L. Drake, *S. Singh, *R. Han, *N. Yoshioka, *M. Guillermic, C. Bove, L. Cameron, J.B. Ries, R.A. Eagle. A clustering analysis approach to explore patterns of major and minor element incorporation in coral skeletons and evaluation as a tool to diagnose diagenesis. Geobiology Gordon Research Seminar. Ventura, CA.
- 2022 †[Talk] **R.N. Ulrich**. A global vision of geoscience accessibility: what could this look like, what key steps can we all take to make this a reality? [Talk]. Equity, Diversity, and Inclusion in the Geosciences Conference. Virtual.

- 2022 [Poster] **R.N. Ulrich**, J.K. Lucarelli, Z.A. Parvez, *A. Hakim, *R. Han, *S. Singh, J.B. Ries, A.K. Tripathi, R.A. Eagle. Dual carbonate clumped isotope analysis resolves interspecific differences underlying biomineralization in marine calcifiers. American Geophysical Union. Chicago, IL.
- 2022 [Talk] J.K. Lucarelli, B. Purgstaller, **R.N. Ulrich**, Z.A. Parvez, A. Leis, R.A. Eagle, K. Goetschl, M. Dietzel, A.K. Tripathi. Dual clumped isotope data for amorphous calcium carbonates and transformation products reveal novel mechanisms for nonequilibrium effects. American Geophysical Union. Chicago, IL
- 2022 ‡[Talk] **R.N. Ulrich** and E. Valdez-Ward. ReclaimingSTEM: centering healing in science communication. American Geophysical Union. Chicago, IL.
- 2022 [Talk] A. Terrazas, N. Hwangbo, A.J. Arnold, R.N. Ulrich, A.K. Tripathi. Season lake surface water temperature to mean annual air temperature relationships and applications: An analysis of 1000 lakes. American Geophysical Union. Chicago, IL.
- 2022 [Talk] J.K. Lucarelli, B. Purgstaller, **R.N. Ulrich**, Z.A. Parvez, A. Leis, R.A. Eagle, K. Goetschl, M. Dietzel, A.K. Tripathi. Dual clumped isotope data for amorphous calcium carbonates and transformation products reveal novel mechanisms for nonequilibrium effects. Goldschmidt. Honolulu, HI.
- 2022 [Talk] **R.N. Ulrich**. Exploring phylogenetic and mineralogic signals in the elemental geochemistry of calcium carbonate biominerals. Southern California Geobiology Symposium. Riverside, CA.
- 2021 ‡[Talk] **R.N. Ulrich**, M. Guillermic, *J. Campbell, *A. Hakim, *R. Han, *S. Singh, J.D. Stewart, C. Román-Palacios, H.M. Carroll, I. De Corte, R.E. Gilmore, W. Doss, A.K. Tripathi, J.B. Ries, R.A. Eagle. Broad-scale patterns of elemental ratios recapitulate phylogeny for a diverse range of marine calcifiers. American Geophysical Union. New Orleans, LA.
- 2021 ‡[Talk] E. Valdez-Ward and **R.N. Ulrich**. Reclaiming STEM: An inclusive approach to science communication and policy training. American Geophysical Union. New Orleans, LA.
- 2021 ‡[Talk] E. Valdez-Ward and **R.N. Ulrich**. Creating Inclusive STEM Spaces. American Institute of Biological Sciences IDEA Conference. Virtual.
- 2021 [Poster] *E.T. Goldrick, *L. Mulvana, H.L. Bricker, **R.N. Ulrich**, J.B. Bateman. Regional analysis of carbonate clumped isotopes in common garden snails of New York. SUNY Cortland Undergraduate Science Symposium. Cortland, NY.
- 2021 ‡[Talk and Panel] **R.N. Ulrich**, R. Baxter, J. Preston, P. De Luna. Careers after graduate school. ComSciCon Flagship Conference. Virtual.
- 2021 ‡[Talk] E. Valdez-Ward, N. Bennett, **R.N. Ulrich**, T. Marcus, L.A. Cat. Reclaiming SciComm: Inclusive Approaches to Grad Student Training. Ecological Society of America Meeting. Online.
- 2021 [Talk] **R.N. Ulrich**, M. Guillermic, *J. Campbell, *A. Hakim, *R. Han, *S. Singh, J.D. Stewart, C. Román-Palacios, H.M. Carroll, I. De Corte, R.E. Gilmore, W. Doss, A.K. Tripathi, J.B. Ries, R.A. Eagle. Interspecific element incorporation in biogenic carbonates recapitulates phylogeny for diverse marine species. Goldschmidt. Online.
- 2021 [Talk] **R.N. Ulrich**, J.K. Lucarelli, *R. Han, *J. Campbell, *A. Hakim, *S. Singh, J.B. Ries, A.K. Tripathi, R.A. Eagle. Coupled Δ_{47} - Δ_{48} clumped isotope analysis

- indicates origins of kinetic isotope effects in cultured biogenic marine carbonates. Goldschmidt. Virtual.
- 2021 ‡[Talk and Facilitation] **R.N. Ulrich**. Louisa May Stokes Alliance. Oregon State University. Virtual.
- 2021 ‡[Talk] E. Valdez-Ward, **R.N. Ulrich**, T. Marcus, L.A. Cat. ReclaimingSTEM: A model for inclusive science communication and science policy training. American Geophysical Union. Virtual.
- 2020 ‡[Talk] **R.N. Ulrich**. Cultivating belonging by centering people. Geological Society of America. Online.
- 2020 †[Talk] **R.N. Ulrich**. Cultivating leadership for change and justice in the geosciences. American Meteorological Society. Virtual.
- 2020 [Poster] H. Tandy, I. Maradiaga, Z.A. Parvez, J. Knighton, **R.N. Ulrich**, S. Goeman-Shulsky, R. Spriggs, A.K. Tripathi. Virtual team-based opportunities to nurture science identity, belonging, and leadership. Geological Society of America. Virtual.
- 2020 [Poster] *D. Brown, R. Flores, B. Zerehaimanot, *S. Tay, A. Villa, H. Tandy, I. Maradiaga, *C. Blair, **R.N. Ulrich**, M. Guillermic, J. Lynch-Stieglitz, F. Chang, A.K. Tripathi. An Assessment of First Order and Second Order Controls on Foraminifera $\Delta 47$ in Planktic and Benthic Foraminifera from a Meta-analysis of Core-Top Data. National Association of Black Geoscientists Meeting. Virtual.
- 2020 [Talk] **R.N. Ulrich**, T. Marcus, L.A. Cat, E. Valdez-Ward. Our workshop: Reclaiming STEM, bringing your identity and culture to STEM. Center for Diverse Leadership in Science & QSTEM Research and Outreach Winter Symposium. Los Angeles, CA.
- 2020 †[Talk] **R.N. Ulrich** and E. Valdez-Ward. National Science Policy Network Annual Symposium. Virtual.
- 2020 †[Talk] **R.N. Ulrich**. Wonder women in STEM Conference. Virtual.
- 2019 [Poster] **R.N. Ulrich**, *J. Trainer, *H.L. Bricker, *L.C. Gentile, *C.M. Pham, A.K. Tripathi, J.B. Ries, R.A. Eagle. Exploring relationships amongst $\delta^{13}\text{C}$, $\delta^{18}\text{O}$, $\Delta 47$, and $\delta^{11}\text{B}$ estimates of calcifying fluid pH in cultured marine biogenic carbonates. American Geophysical Union. San Francisco, CA.
- 2019 ‡[Talk and Panel] **R.N. Ulrich**. American Geophysical Union LGBTQ+ Town Hall. American Geophysical Union. San Francisco, CA.
- 2019 ‡[Talk and Panel] **R.N. Ulrich**. Power of Science Lies in its Diverse Voices. American Geophysical Union. San Francisco, CA.
- 2019 †[Talk and Facilitator] **R.N. Ulrich**. How to Be an Effective Mentor and Mentee. American Geophysical Union. San Francisco, CA.
- 2019 [Poster] **R.N. Ulrich**, H. Friedman, H. Marvin, M. Voss, A. O’Riordan, J. Engels, A. Patel, J. Valliere, and J. Billingsley. Queers in STEM: Creating Space for LGBTQIA2+ in STEM. American Geophysical Union. San Francisco, CA.
- 2019 ‡[Talk] E. Valdez-Ward, **R.N. Ulrich**, T. Marcus, L.A. Cat. Reclaiming STEM: Bringing You Identity and Culture to STEM. American Geophysical Union. San Francisco, CA.
- 2019 [Poster] **R.N. Ulrich**, J.B. Bateman, H. Lu, A.K. Tripathi. Using real-world datasets to analyze sensitivity to population size in carbonate clumped isotope measurements. Society for the Advancement of Chicanos and Native Americans in Science. Honolulu, HI.

- 2019 ‡[Talk] **R.N. Ulrich**, L.A. Cat, E. Valdez-Ward. Reclaiming STEM: Bringing your identity and culture to STEM. Inclusive SciComm. University in South Kingston, RI.
- 2019 [Talk] B. Purgstaller, K.E. Goetschl, V. Mavromatis, A.K. Tripathi, J.K. Lucarelli, **R.N. Ulrich**, R.A. Eagle, M. Dietzel. Towards a mechanistic understanding of the transformation of amorphous calcium carbonate to high magnesium calcite. Goldschmidt. Barcelona, Spain.
- 2019 †[Talk] **R.N. Ulrich**. Conference for Undergraduate Women in Physics. Out in STEM. Irvine, CA.
- 2019 [Talk] **R.N. Ulrich**. It's okay to be different: what every shell-bearing invertebrate needs to know. Center for Diverse Leadership in Science and Queers in STEM Spring Research & Outreach Symposium. Los Angeles, CA.
- 2018 [Poster] **R.N. Ulrich**, *H.L. Bricker, *L.C. Gentile, *C.M. Pham, *J.S. Trainer, J.B. Ries, A.K. Tripathi, R.A. Eagle. Searching for disequilibrium: Clumped isotope and stable carbon and oxygen isotope signatures in cultured biogenic marine carbonates. American Geophysical Union. Washington, D.C.
- 2018 [Poster] **R.N. Ulrich**, *H.L. Bricker, A.A. Kruythoff, A.K. Tripathi. Video blogs: a tool for promoting diversity, inclusion, and accessibility. American Geophysical Union. Washington, D.C.
- 2018 [Poster] J.B. Bateman, A.A. Kruythoff, M. Linz, *M. Stokes, **R.N. Ulrich**, A.K. Tripathi. Geoscientists are humans too: Increasing inclusivity in geosciences through empathy-building conversations with Diversi-Tea. American Geophysical Union. Washington, D.C.
- 2018 [Poster] J.K. Lucarelli, A.A. Kruythoff, *D. Updhyay, *G. Jesmok, L.M. Santi, **R.N. Ulrich**, I. Maradiaga, *C. Blair, *M. Stokes, J.B. Bateman, A.J. Arnold, *H.L. Bricker, B.M. Elliot, *R. Flores, A.K. Tripathi. A team-based approach to undergraduate research that fosters collaboration through peer and vertical mentorship: best practices. American Geophysical Union. Washington, D.C.
- 2018 [Poster] *H.L. Bricker, D. Bhagwandin, A.A. Kruythoff, **R.N. Ulrich**, A. Kelley-Cosio, *J. Mohda, D. Robinson, D. Colgan, A.K. Tripathi. Rising up, speaking out: Increasing equity & diversity through Climate Currents, a public communications platform. American Geophysical Union. Washington, D.C.
- 2018 [Poster] **R.N. Ulrich**, *J.S. Trainer, A.K. Tripathi, J.B. Ries, R.A. Eagle. Deviations of oxygen and carbonate clumped isotope signatures from equilibrium in cultured biogenic carbonates. International Clumped Isotope Workshop. Long Beach, CA.
- 2018 [Poster] A.A. Kruythoff, *M. Stokes, J.B. Bateman, I. Maradiaga, M. Linz, A. Adebisi, *G. Jesmok, *D. Updhyay, *E. Glaser, **R.N. Ulrich**, *H.L. Bricker, *J. Modha, *V. Ramirez, *L. Washington, A.M. Kelley-Cosio, D. Bhagwandin, A.J. Arnold, *R. Flores, L.M. Santi, *N. Petruzelli, J.K. Lucarelli, A.K. Tripathi. Team-based community outreach: A tool for developing scientific identity and social belonging in trainees and promoting geoscience literacy. Geological Society of America. Indianapolis, IN.
- 2018 [Poster] **R.N. Ulrich**, *H.L. Bricker, L.C. Gentile, C.M. Pham, J.S. Trainer, A.K. Tripathi, R.A. Eagle. Assessing if there are disequilibrium clumped isotope signatures in cultured biogenic carbonates. Society for the Advancement of Chicanos and Native Americans in Science. San Antonio, TX.

- 2018 [Talk] **R.N. Ulrich**. What the (s)hell?! Queers in STEM Fall Research Symposium. Los Angeles, CA.
- 2017 [Talk] S.T. Mergelsberg, **R.N. Ulrich**, S. Xiao, P.M. Dove. Distribution of magnesium and phosphorus in the *H. americanus* exoskeleton: Insights for chemical signatures in biominerals. American Geophysical Union. New Orleans, LA.
- 2017 [Talk] S.T. Mergelsberg, **R.N. Ulrich**, P.M. Dove. The solubility of amorphous calcium carbonate(s) (ACC): Towards an understanding of chemical and structural evolution during mineralization. Geological Society of America. Seattle, WA.
- 2017 [Poster] **R.N. Ulrich**, S.T. Mergelsberg, P.M. Dove. Distribution of Magnesium and phosphorus in the *H. americanus* exoskeleton: Insights for chemical signatures in biominerals. Geoscience Student Research Symposium. Blacksburg, VA.
- 2016 [Poster] **R.N. Ulrich**, S.T. Mergelsberg, P.M. Dove. Exoskeleton heterogeneity in crustaceans: Quantifying compositional and structural variations across body parts in *H. americanus*. American Geophysical Union. San Francisco, CA.
- 2016 [Talk] S.T. Mergelsberg, **R.N. Ulrich**, F.M. Michel, P.M. Dove. Influence of magnesium content on the local structure of amorphous calcium carbonate (ACC): Real-time determination by *in situ* PDF analysis. American Geophysical Union. San Francisco, CA.
- 2016 [Poster] S.T. Mergelsberg, **R.N. Ulrich**, P.M. Dove. Morphological dependence of element stoichiometry in the *H. americanus* exoskeleton. American Geophysical Union. San Francisco, CA.
- 2016 [Talk] **R.N. Ulrich**. Dependence of exoskeleton composition on the mineral, protein, and chitin components in the American lobster, *H. americanus*. Geoscience Student Research Symposium. Blacksburg, VA.
- 2015 [Poster] **R.N. Ulrich**, S.T. Mergelsberg, P.M. Dove. Morphological dependence of element distributions in the organic and mineral fractions of the *H. americanus* exoskeleton. Geological Society of America. Baltimore, MD.

Community & Scholastic Service

Department-level

- 2020 UCLA Department of Earth, Planetary, and Space Sciences equity, diversity, and inclusion advisor
- 2018 UCLA Department of Earth, Planetary, and Space Sciences Teaching Earth, Planetary, and Space Sciences graduate student panelist

University-level

- 2022 Science Communication workshops at University of Minnesota Earth & Environmental Sciences co-coordinator
- 2022-2023 UCLA Master's Thesis Mentoring Program co-coordinator
- 2020-2021 UCLA Division of Physical Sciences Equity, Diversity, and Inclusion student advisory board
- 2020-2021 UCLA LGBTQ+ advocacy committee
- 2018-2021 Queer & Trans in STEM mentorship program mentor
- Summer 2020 UCLA Division of Physical Sciences equity, diversity, and inclusion advisor

2019-2020 UCLA Graduate Student Association LGBTQ+ Affairs Committee
 2019 Center for Diverse Leadership in Science and Queers in STEM Spring Research & Outreach Symposium organizer
 2019 UCLA Career Conference resumé and CV consultant
 2018-2019 *Climate Currents* editor
 2018 Queers in STEM Fall Research Symposium: Lightning Talks organizer
 2018 Pride Admit Weekend Campus Resource Fair mentor
 2018 UCLA Exploring Your Universe festival volunteer
 2018 ‘How to apply to graduate school’ panel moderator for the UCLA Organization for Cultural Diversity in Science Fall Science Showcase
 2018 ‘How to get into undergraduate research’ panel moderator for the UCLA Organization for Cultural Diversity in Science Fall Science Showcase
 2018 ‘Keys to success in the life & physical sciences’ panelist for UCLA graduate student orientation
 2018 UCLA Organization for Cultural Diversity in Science Spring science showcase volunteer
 2017-2018 Center for Diverse Leadership in Science social media and communications liaison
 2017 PEERS research networking event mentor
 2017 Organization of Cultural Diversity in Science Fall Science Showcase mentor
 2017 ‘Applying to graduate school’ panelist for UCLA
 2017 Exploring Your Universe geology booth volunteer
 2016-2017 Virginia Tech Department of Chemistry program ambassador

Discipline-level

2023-present American Geophysical Union Biogeosciences diversity, equity, and inclusions. Committee co-chair
 2023 ‘Biomineralizers as proxies: Insights for paleoceanography’, American Geophysical Union Fall Meeting, session chair and convener
 2023 ‘Empowering a diverse and global Earth and space community through education and public engagement’, American Geophysical Union Fall Meeting, session chair and convener
 2023 ‘Reclaiming STEM Identity’, NSF AISL Biennial PI Meeting, workshop planner and facilitator (collaborator: Dra. Evelyn Valdez-Ward)
 2023 ‘Challenges to Equity: How to Navigate Pushback to Your Work’, panel facilitator (collaborators: Dra. Evelyn Valdez-Ward; Dr. Stephen Alkins)
 2023 ‘Beyond Broadening Participation’, NSF AISL Biennial PI Meeting, workshop planner and facilitator (collaborator: Dra. Evelyn Valdez-Ward)
 2023 ‘Evaluating Equity: Measuring Impact of Equity-Oriented Efforts’, NSF AISL Biennial PI Meeting, panel facilitator (collaborator: Dra. Evelyn Valdez-Ward)
 2023 ‘Impact of Youth Mentorship Programs’, NSF AISL Biennial PI Meeting, panel facilitator (collaborator: Dra. Evelyn Valdez-Ward; Dr. Diane Miller)
 2023 NSF Biennial Advancement for Informal Science Learning PI Meeting curriculum development advisor
 2022 ‘Advancements in paleoceanographic proxies: Insights from biomineralizers’, American Geophysical Union Fall Meeting, session chair and convener

- 2022 ‘Supporting diversity in Earth and space science education and public engagement’, American Geophysical Union Fall Meeting, session chair and convener
- 2021-2022 American Geophysical Union Biogeosciences Diversity, Equity, and Inclusion steering committee member
- 2021-2022 National Science Foundation Center for the Advancement of Informal Science Education (CAISE) equity committee member
- 2021 Inclusive SciComm conference proposal reviewer
- 2017-2021 Center for Diverse Leadership in Science early career fellow leadership team
- 2021 ‘Sharing their science: Enabling scientists to engage audiences’, American Geophysical Union Fall Meeting session convener
- 2020 ‘The Next Generation of Geoscience Leaders: Strategies for Excellence in Diversity and Inclusion’, Geological Society of America Pardee Symposium facilitator
- 2019-2020 Center for Diverse Leadership in Science Workshop Series organizer
- 2019 National Science Policy Network diversity & inclusion committee

Community-level

- 2019-2020 Science Friday *Breakthrough Dialogues* advisory board
- 2020-2021 Queer & Trans in STEM collaborator chair
- 2018-2020 Letters to a Pre-Scientist pen pal
- 2019 National Organization of Gay and Lesbian Scientists and Technical Professionals Out-to-Innovate Summit poster judge
- 2018-2019 Queer & Trans in STEM (formerly Queers in STEM) president
- 2018 Queer & Trans in STEM co-founder
- 2017-2018 Center for Diverse Leadership in Science: K-12 outreach team

International-level

- 2018-2020 International LGBTQ+ STEM Day co-organizer
- 2020-2021 Sciencey Peeps Discord Server founder
Built a community to address the sudden isolation felt by people in STEM at the onset of the stay-at-home orders due to the COVID-19 global pandemic. Membership reached ~100 people from over 5 countries.
- 2017-2018 Center for Diverse Leadership in Science: Environmental Science without Borders organizing team

Manuscript Reviewer

Proceedings of the National Academy of Sciences, Scientific Reports

Professional Associations

American Geophysical Union, Geochemical Society

Certifications and Skills

* Conversant in Spanish and Vietnamese

Media Appearances

- 2023 *Worst Quality Crab*, podcast, [Mom's chicken with Deanna and Rob Ulrich](#)
- 2023 *Science Friday*, multi-platform media collaboration, [Delicious chemistry](#)
- 2022 "The Queer Variable", book feature, [Rob Ulrich](#)
- 2022 *StoryCollider*, podcast, [Fitting in: stories about belonging](#)
- 2021 *StoryCollider*, live show in Los Angeles, CA, [Difficult decisions](#)
- 2021 UCLA Sustainability, [Social Media Feature](#)
- 2021 *Daily Bruin*, profile, [LGBTQ+ students in STEM find community](#)
- 2021 *Vitamin PhD*, podcast by Boston University, [Speaking up in academia – Part 2](#)
- 2021 *ExoLore*, podcast by Dr. Moiya McTier, [M Dwarf Planet: Biology](#)
- 2021 *Vitamin PhD*, podcast by Boston University, [Speaking up in academia – Part 1](#)
- 2021 *Ologies*, podcast by Alie Ward, [Biomineralogy with Rob Ulrich](#)
- 2020 *Speaking of Geoscience*, article by Rebecca Dzombak, [Queer visibility in geoscience has been almost non-existent for decades. A new generation is working to change that](#)
- 2020 *Eos*, article by Lucila Houuttujin Bloemendaal, Katarena Matos, Kendra Walters, and Aditi Sengupta, [Raising our voices for diversity in geosciences](#)
- 2020 *Grad Chat*, interview with PhD Balance, LLC., [Difficult discussions with Rob Ulrich](#)
- 2020 *Massive Science*, article by Liza Brusman, Science thinks it's unbiased: [Queer scientists know that's not true](#)
- 2020 *ExoLore*, podcast by Dr. Moiya McTier, [The world of watermelon snow](#)
- 2020 *My Fave Queer Chemist*, podcast by Bec Roldan and Geraldo Duran-Camacho, Pride month series: [Rob Ulrich](#)
- 2019 UCLA video production, [Center builds community of diverse scientists](#)
- 2019 *Talk Nerdy*, podcast by Dr. Cara Santa Maria, [Rob Ulrich](#)
- 2019 *Eos*, article by Jessica Duncombe, [Shining a spotlight on LGBTQ+ visibility in STEM](#)
- 2019 *Chemical & Engineering News (C&EN)*, article by Katherine Bourzac, [Coming out in chem class](#)
- 2019 *Her STEM Story*, podcast by Prasha Sarwate, [Biogeochemist & Founder of Queers in STEM](#)
- 2019 *Time Scavengers*, interview, [Robert Ulrich, Biogeochemist](#)
- 2019 3-minute talk, [Shelling the past](#)
- 2018 *Science Sucks*, podcast by Ive Velikova, [How do marine organisms build their shells?, with Rob Ulrich](#)