Tristan J. Horner

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Education

M.Sci. Geology & Geophysics | 2004–2008
Imperial College London
Dissertation: *The Cadmium Isotope Composition of Ferromanganese Crusts*
Advisors: Mark Rehkämper & Maria Schönbächler

D.Phil. Earth Sciences | 2008–2012
University of Oxford
Dissertation: *Cadmium Isotope Fractionation in Seawater*
Advisors: Gideon M. Henderson & Rosalind E.M. Rickaby

Professional Experience

Associate Scientist | 2021–present
Assistant Scientist | 2016–2021
Woods Hole Oceanographic Institution

***Agouron Institute (Geobiology)* Postdoctoral Fellow** | 2014–2016
Woods Hole Oceanographic Institution
Sponsor: Makoto A. Saito

***Doherty Foundation* Postdoctoral Scholar** | 2012–2014
Woods Hole Oceanographic Institution
Sponsors: Phoebe J. Lam & Sune G. Nielsen

Exploration Geoscientist | 2007
Gold Fields Australia
Agnew Gold Mine, Western Australia, Australia

Health, Safety, Environment, & Communities Assistant | 2006
Rio Tinto Mining & Exploration Ltd.
Chapudi Coal Project, Limpopo Province, South Africa

Awards

Early Career Award | 2022 | Woods Hole Oceanographic Institution

Outstanding Contribution in Reviewing | 2018 | Chemical Geology

Science Fellow | 2014 | National Network for Ocean and Climate Change Interpretation

Geobiology Postdoctoral Fellowship | 2014 | Agouron Institute

DISCO XXIII | 2012 | University of Hawai'i/NSF/NOAA

Doherty Postdoctoral Scholarship | 2012 | Woods Hole Oceanographic Institution

NERC Studentship | 2008 | University of Oxford/NERC/Nu Instruments

Ernest Edward Glorney Scholarship | 2008 | Imperial College London

Watts Medal | 2008 | Imperial College London

H.H. Read Scholarship | 2004 | Imperial College London

Professional Affiliations

Current

American Geophysical Union | Life Member

Geochemical Society

Previous

American Association for the Advancement of Science

American Chemical Society

European Geosciences Union

Geological Society of America

Research Interests

Chemical Oceanography

Earth History

Isotope Geochemistry

Mineral–Fluid Reactions

Ocean Circulation and Productivity Proxies

Trace Metal Cycling

Professional Activities

Editorial Positions

Co Editor-in-Chief | *Earth Planet. Sci. Lett.* | 2024–present

Associate Editor | *Geochim. Cosmochim. Acta* | 2022–2024

Guest Editor | *Chem. Geol.* for Special Issue titled: *The Cycles of Trace Elements and Isotopes in the Oceans* | 2017–2021

Service to WHOI

Member of *Appointments and Promotion Procedures* Working Group | 2024–present

Steering committee for WHOI Plasma Facility | 2016–present

Ad Hoc Review Panelist, *Ocean and Climate Innovation Accelerator Program* | 2022

Ad Hoc Committee for faculty promotion to *Associate Scientist* | 2022

Counsel to the COVID-19 *Re-Opening Oversight Team* | 2020–2021

Ad Hoc Review Panelist, *Independent Study Awards* | 2018

Faculty search committee for *Open-Rank Scientist* position | 2017

Organizer of weekly Department Seminars | 2016–2017

Guest lecture for Summer Student Fellows (undergraduate students) | 2016

Science Fellow for *National Network for Ocean and Climate Change Interpretation* (Fall 2014A Study Circle) | 2014–2015

Guest lecture for NNOCCI Study Circle Fall 2014A Participants (informal science educators) *Isotopic Earth Science: The confluence of Rock and Heavy Metal* | 2014

Discussion leader for Academic Programs Office workshop on *Responsible Conduct in Research* (for Summer Student Fellows and Woods Hole Partnership in Educational Program Summer Science Interns) | 2014

Postdoctoral Association Treasurer | 2013–2014

Service to the wider community

Manuscript reviewer for: *Chem. Geol.*; *Chem. Erde*; *Earth Planet. Sci. Lett.*; *Environ. Sci. Technol.*; *Geochim. Cosmochim. Acta*; *Geochem. Geophys. Geosys.*; *Geochem. Perspect. Lett.*; *Geology*; *Geophys. Res. Lett.*; *Global Biogeochem. Cycles*; *J. Geophys. Res.: Oceans*; *Mar. Chem.*; *Nat. Commun.*; *Nat. Geosci.*; *Paleoceanogr.*; *Proc. R. Soc. London, Ser. A*; *Science*; *Sci. Total Environ.*; and, *Treatise Geochem.* | 2013–present

Mail reviewer for *American Chemical Society* (Doctoral New Investigator and New Directions Programs), *GAČR* (Czech Science Foundation), and *National Science Foundation* (Chemical Oceanography, Major Research Instrumentation, Marine Geology and Geophysics, and Ocean Sciences Postdoctoral Fellowship Programs) | 2013–present

External Examiner for *Ph.D. Defense* of Lena Chen, School of Earth and Environment, University of Leeds (Leeds, UK) | 2024

Chair for Theme 12 of the 2024 Goldschmidt Conference: *Chemistry and Physical Processes of the Oceans and Atmosphere* | 2023–2024

Ad Hoc Review Panelist (Chemical Oceanography Program), *Natl. Sci. Found.* (Alexandria, VA, USA) | 2022

External Examiner for *Ph.D. Defense* of Yang Yu, *GEOMAR Helmholtz Centre for Ocean Research* (Kiel, GER; via telepresence) | 2021

Organizing Committee and *Biological Productivity* Working Group co-Chair for joint PAGES–GEOTRACES Synthesis Workshop: *Trace Element and Isotope Proxies in Paleoceanography* (Aix-Marseille, FRA); see workshop report by Tachikawa *et al.* | 2018

Ad Hoc Review Panelist (Marine Geology & Geophysics Program), *Natl. Sci. Found.* (Alexandria, VA, USA) | 2017

Session Organizer and Convener (Non-Conventional Stable Isotopes in the Ocean: Novel Applications, Technological Advances, and Future Applications) *Goldschmidt 2017* (Paris, FRA) | 2017

Session Organizer (Oceanic Cycling of Trace Elements Using Elemental, Isotopic, and Modeling Approaches) *Goldschmidt 2016* (Yokohama, JPN) | 2016

Session Convener (Paleoclimatology/Paleooceanography) *Geological Society of America* Annual Meeting (Vancouver, BC, CAN) | 2014

Establishing a 'delta-zero' isotopic reference standard for cadmium; see publication #4. by Abouchami *et al.* | 2010–2013

Workshop participation

Invited participant and poster presenter at *NASA Accelerating Informatics for Earth Science* Workshop (Washington DC, USA) | 2024

Participant in *Ocean Carbon & Biogeochemistry* Scoping Workshop: *Laying the foundation for a potential future BioGeoSCAPES program* (virtual) | 2021

Panelist and Invited Speaker at Marine Biogeochemistry Short Course: *Application of Isotopes in Ocean, Earth, and Environmental Research* (Centro de Ciências do Mar, Faro, PRT) | 2021

Discussion Leader at Chemical Oceanography Gordon Research Conference: *Chemical Signatures Across Space and Time* (Holderness, NH, USA) | 2019

Participant in COME ABOARD Perspective Meeting (Honolulu, HI, USA); see publication #16. by Fassbender *et al.* | 2016

Rapporteur for *Ocean–Sediment boundary* break-out group, *Royal Society* 'Theo Murphy' meeting: *Quantifying fluxes and processes in trace-metal cycling at ocean boundaries* (Chicheley Hall, UK) | 2015

Participant in *Ocean Carbon & Biogeochemistry* Scoping Workshop: *Improving predictive biogeochemical models through single cell-based analyses of marine plankton physiological plasticity, genetic diversity and evolutionary processes* (Bigelow Laboratory for Ocean Sciences, ME, USA) | 2014

Participant in *GEOTRACES* workshop and intercalibration for: *Stable isotopes of biologically important trace metals* (Imperial College London, UK) | 2012

Outreach activities

The Clean Lab Chronicles | A newsletter I write with Peter Crockford about how to navigate academia, tailored to researchers in the Earth sciences | 2024–present

Workshop at *Massachusetts Environmental Education Society Annual Conference, Worcester, USA* (co-presented with A. MacBlane, Mass Audubon) | *Integrating Climate Literacy into Existing Curricula* | 2016

Workshop at *AGU Fall Meeting 2015, San Francisco, USA* (co-presented with J. Sweetland, FrameWorks Institute) | *Climate Communications: A Strategic Science Translation Approach* | 2015

Guest lecture at *Wellfleet Bay Wildlife Sanctuary, Cape Cod, USA* | *Earth's Carbon Cycle: Past, Present, Future*, presented as part of Climate Change Education and Outreach Training for Mass Audubon Science Educators | 2015

Guest lecture (*Webinar)* | *Freshwater Q&A: Does "ocean" acidification also affect bodies of fresh water, like lakes?* Presented for Alumni of the National Network for Ocean and Climate Change Interpretation | 2015

Judge for *Falmouth Public Schools Science & Engineering Fair*, *Lawrence (Middle) School, USA* | 2015, 2016, 2017, 2018, 2020

Guest lecture at *Boston Nature Center, USA* | *Earth's Carbon Cycle: Past, Present, Future*, presented as part of a workshop on Climate Change Education and Outreach Training for Mass Audubon Science Educators) | 2015

Guest lecture at *SeaWorld, San Diego, CA* | *An overview of the carbon cycle at Earth's surface*, presented as part of NNOCCI Study Circle Fall 2014A) | 2014

Tutoring of Sixth Form (12th Grade) students through Earth Sciences *UNIQ Summer School* at the *University of Oxford* on topics such as sea-level, salinity, and heat transport | 2012

Participation in Education Programs

Formal instruction

In the Classroom
Co-instructor for graduate-level classes *12.759: Seminar in Oceanography* (2018; 2020), *12.744: Marine Isotope Chemistry* (2019; 2021), and *12.752/3: Geodynamics* (2020)

Guest lecture on *Isotope fractionation* for graduate-level class *12.741: Marine Bioinorganic Chemistry* (2018; 2020; 2022)

Teaching assistant for undergraduate-level classes on: *Atmosphere & Hydrosphere*, *Radiogenic Isotope Geochemistry*, *Sedimentary Geology*, & *Stable Isotope Geochemistry* | 2008–2011

Tutor for *Stable Isotope Geochemistry* & *UNIQ Earth Science Summer School* | 2010–2012

In the Field
Demonstrator for undergraduate field trips: *Dorset Field Course* (Mesozoic stratigraphy), *Cornwall Field Course* (Palaeozoic tectonics and metamorphism), & *Spain Field Course* (Miocene tectonics and volcanism) | 2009–2012

Committees and suchlike

Doctoral Thesis Committee for Jennifer Kenyon (2019–2022), Lydia Babcock-Adams (2019–2022), Riss Kell (2019–2022), and Katherine Squires (2024–present)

Doctoral Thesis Defense Chair for Nicholas Hawco (2017), Gabriela Farfan (2018), and Jingxuan 'Jay' Li (2023)

Doctoral Thesis Proposal Defense Chair for Kevin Sutherland (2016), Tianyi Huang (2018), Jennifer Kenyon (2019), Jessica Dabrowski (2019), and Shawnee Traylor (2021)

Academic Advising Committee (2021–2022)

Supervision

Postdoctoral Researchers and Technical Staff

Pierre Cadeau, *Marie Skłodowska-Curie Global [Postdoctoral] Fellow* | Co-advised with Olivier Rouxel (Ifremer) | 2024–present

Georgi Laukert, *Marie Skłodowska-Curie Global [Postdoctoral] Fellow* | Co-advised with Katharine Hendry (British Antarctic Survey) | 2023–present

Margot C.F. Debyser, *Postdoctoral Investigator* | Co-advised with Matthew Charette | 2023–present

Ichiko Sugiyama, *Postdoctoral Investigator* | Co-advised with Makoto Saito | 2022–present

Peter W. Crockford, *WHOI Postdoctoral Scholar* | Co-advised with Ann Dunlea and Scott Wankel | 2021–2023 | On to: *Assistant Professor* at Carleton University

Emilie Le Roy, *Center for Marine and Environmental Radioactivity WHOI Postdoctoral Scholar* then *Postdoctoral Investigator* | Co-advised with Matthew Charette | 2019–2021 | On to: *Project Officer* at GEOTRACES International Project Office

Elizabeth K. King, *WHOI Postdoctoral Scholar* | Sole advisor | 2018–2019 | On to: *Program Manager (Environmental Chemistry)* at Army Research Office

Ann G. Dunlea, *Postdoctoral Investigator* | Co-advised with Bernhard Peucker-Ehrenbrink | 2018–2019 | On to: *Assistant Scientist* at Woods Hole Oceanographic Institution

Dalton S. Hardisty, *WHOI Postdoctoral Scholar* | Co-advised with Sune Nielsen and Scott Wankel | 2016–2018 | On to: *Assistant Professor* at Michigan State University

Maureen E. Auro, *Research Associate II* then *Research Associate III* | Co-advised with Sune Nielsen | 2016–2022

Graduate Students

Jordyn D. Wemhoner, *MIT–WHOI Joint Program* Graduate Student | Sole advisor | 2024–present

Iulia-Madalina Streanga, *MIT–WHOI Joint Program* Graduate Student | Co-advised with Daniel Repeta | 2019–present

Logan A. Tegler, *Summer Student Fellow* from Arizona State University (2017) then *MIT–WHOI Joint Program* Graduate Student | Co-advised with Sune Nielsen | 2018–2023 | On to: *Postdoctoral Researcher* at University of Hawai'i–Mānoa

Jule T. Middleton, *MIT–WHOI Joint Program* Graduate Student | Sole advisor | 2017–2022 | On to: *Postdoctoral Researcher* at University of California, Santa Barbara

Summer Student Fellows

Evren Arif, *Summer Student Fellow* from Tufts University | 2024

Ökyü Z. Mete, *Summer Student Fellow* from Dartmouth College | 2021

Evan M. Paris, *Summer Student Fellow* from Vassar College | 2020

Benjamin M. Geyman, *Summer Student Fellow* from Bowdoin College | 2016

Visitors

Yun-Ju 'Lorena' Sun, *Guest Student* from University of Bristol | 2022

Tarun K. Dalai, *Mary Sears Guest Investigator* from Indian Institute of Science Education and Research Kolkata | 2019

Elywn de la Vega, *WHOI/NOCS Exchange* Student from University of Southampton | 2016–2017

Jamie L. Ptacek, *Guest Student* from Bowdoin College | 2016–2017

Allyson Tessin, *Guest Student* from University of Michigan | 2016

Helena V. Pryer, *Guest Student* from University College London | 2015–2016

Kimberley K. Mayfield, *Guest Student* from University of California Santa Cruz | 2015–2020

Stephanie L. Bates, *Guest Student* from Bristol University | 2015

Christopher W. Kinsley, *General Exam Project* (MIT–WHOI Joint Program) | 2014–2015

Fieldwork

April–June 2023 | R/V *Atlantis* AT50-10 | Scientist; Golfito (Costa Rica)–San Diego CA (USA) | *CliOMZ: Connections between macro- and micro-nutrients in oxygen minimum zones*

October 2018; September 2019 | Siders Pond | Scientist; Falmouth MA–Falmouth MA

January–February 2016 | R/V *Falkor* FK160115 | Scientist; Hawai'i–Tahiti: *ProteOMZ: Proteomics in an Oxygen Minimum Zone*

August 2015 | R/V *Blue Heron* BH15-11 | Co-Chief Scientist; Duluth MN–Duluth MN (USA) | *UNOLS Chief Scientist Training Program*

March–May 2010 | *Fieldwork* | Geologist; Baja California Sur (Mexico) | *Landscape evolution at a young rifted margin*

August 2010 | R/V *Calanus* | Scientist; Oban–Oban (Scotland) | *Using the radium quartet to estimate water mixing* | 2010

Refereed Publications

*Student or Postdoctoral Mentee; †corresponding author (if not first author)

51. *Mayfield, K.K., †**T.J. Horner**, A. Torfstein, M.E. Auro, *P.W. Crockford, and A. Paytan (2024). Barium Cycling in the Gulf of Aqaba, *Front. Earth Sci.*, **12**, 1178487, doi:10.3389/feart.2024.1178487.

50. *Tegler, L.A., †**T.J. Horner**, V. Galy, S.M. Bent, Y. Wang, H.H. Kim, *Ö.Z. Mete, and S.G. Nielsen (2024). Distribution and Drivers of Organic Carbon Sedimentation Along the Continental Margins, *AGU Adv.*, **5**(4), e2023AV001000, doi:10.1029/2023AV001000.

49. *Le Roy, E., M.A. Charette, P. Henderson, A.M. Shiller, W.S. Moore, N. Kemnitz, D.E. Hammond, and **T.J. Horner** (2024). Controls on dissolved barium and radium-226 distributions in the Pacific Ocean along GEOTRACES GP15, *Global Biogeochem. Cycles*, **38**(6), e2023GB008005, doi:10.1029/2023GB008005.

48. *Tegler, L.A., S.G. Nielsen, Y. Wang; F. Scholz, J.D. Owens, L.C. Peterson, M.E. Auro. P.J. Lam, *C.W. Kinsley, and **T.J. Horner** (2024). Refining the roles of productivity, redox, and remineralization on the cadmium isotope composition of marine sediments, *Geochim. Cosmochim. Acta.*, **372**, 134–153, doi:10.1016/j.gca.2024.03.010.

47. *Streanga, I.-M., D.J. Repeta, J.S. Blusztajn, and **T.J. Horner** (2024). Speciation and cycling of iodine in the Subtropical North Pacific Ocean, *Front. Mar. Sci.*, **10**, 1272968, doi:10.3389/fmars.2023.1272968.

46. *Sun, Y.-J., L.F. Robinson, I.J. Parkinson, J.A. Stewart, W. Lu, D.S. Hardisty, Q. Liu, J. Kershaw, M. LaVigne, and **T.J. Horner** (2023). Iodine-to-calcium ratios in deep-sea scleractinian and bamboo corals, *Front. Mar. Sci.*, **10**, 1264380, doi:10.3389/fmars.2023.1264380.

45. Farmer, J.R., J.S. Fehrenbacher, **T.J. Horner**, and E.R. Kast (2025). Tools to trace past productivity and ocean nutrients. In A. Paytan and A. Turchyn (Eds.), *Treatise on Geochemistry* (3rd ed., Vol. 5, Earth's Surface Envelope: Evolution Over Time, pp. 111–151). Elsevier. doi:10.1016/B978-0-323-99762-1.00039-5. [Invited]

44. *Mete, Ö.Z., A.V. Subhas, H.H. Kim, A.G. Dunlea, L.M. Whitmore, A.M. Shiller, W.D. Leavitt, and †**T.J. Horner** (2023). Barium in seawater: Dissolved distribution, relationship to silicon, and barite saturation state determined using machine learning, *Earth Syst. Sci. Data*, **15**(9), 4023–4045, doi:10.5194/essd-15-4023-2023.

43. *Middleton, J.T., A. Paytan, M.E. Auro, M.A. Saito, and **T.J. Horner** (2023). Barium isotope signatures of barite–fluid ion exchange in Equatorial Pacific sediments, *Earth Planet. Sci. Lett.*, **612**, 118150, doi:10.1016/j.epsl.2023.118150.

42. *Middleton, J.T., W.-L. Hong, A. Paytan, M.E. Auro, E.M. Griffith, and **T.J. Horner** (2023). Barium isotope fractionation in barite–fluid systems at chemical equilibrium, *Chem. Geol.*, **627**, 121453, doi:10.1016/j.chemgeo.2023.121453.

41. Ostrander, C.M., S.G. Nielsen, H.J. Gadol, L. Villarroel, S.D. Wankel, **T.J. Horner**, J.S. Blusztajn, and C.M. Hansel (2023). Thallium isotope cycling between waters, particles, and sediments across a redox gradient, *Geochim. Cosmochim. Acta*, **348**, 397–409, doi:10.1016/j.gca.2023.03.028.

40. Tiwari, R.K., T.K. Dalai, S. Samanta, W. Rahaman, S.K. Singh, and **T.J. Horner** (2022). Geochemistry of uranium in the Ganga (Hooghly) River estuary, India: The role of processes in the water column and below the sediment-water interface, *Mar. Chem.*, **247**, 104173 doi:10.1016/j.marchem.2022.104173.

39. Saunders, J.K., M. McIlvin, C.L. Dupont, D. Kaul, D. Moran, **T.J. Horner**, A.E. Santoro, E. Webb, T. Bosak, and M.A. Saito (2022). Microbial functional diversity across biogeochemical provinces in the central Pacific Ocean, *Proc. Natl. Acad. Sci.*, **119**(37), e2200014119, doi:10.1073/pnas.2200014119.

38. Whitmore, L.M, A.M. Shiller, **T.J. Horner**, Y. Xiang, M.E. Auro, D. Bauch, F. Dehairs, P.J. Lam, J. Li, M.T. Maldonado, C. Mears, R. Newton, A. Pasqualini, H. Planquette, R. Rember, and H. Thomas (2022). Strong Margin Influence on the Arctic Ocean Barium Cycle Revealed by Pan-Arctic Synthesis, *J. Geophys. Res. Oceans*, **127**(4), e2021JC017417, doi:10.1029/2021JC017417.

37. Cohen, N.D, A.E. Noble, D.M, Moran, M.R. McIlvin, T.J. Goepfert, N.J. Hawco, C.R. German, **T.J. Horner**, C.H. Lamborg, J.P. McCrow, A.E. Allen, and M.A. Saito (2021). Hydrothermal trace metal release and microbial metabolism in the northeastern Lau Basin of the South Pacific Ocean, *Biogeosci.*, **18**(19), 5397–5422 doi:10.5194/bg-18-5397-2021.

36. Farrell, U. . . . **T.J. Horner**, . . . et al. containing 104 co-authors (2021). The Sedimentary Geochemistry and Paleoenvironments Project, *Geobiology*, **19**(6), 545–556, doi:10.1111/gbi.12462.

35. Conway, T.M., **T.J. Horner**, Y. Plancherel, and A.G. González (2021). A decade of progress in understanding cycles of trace elements and their isotopes in the oceans, *Chem. Geol.*, **580**, 120381, doi:10.1016/ j.chemgeo.2021.120381. [Invited]

34. **Horner, T.J.**, †S.H. Little, †T.M. Conway, †J.R. Farmer, J.E. Hertzberg, D.J. Janssen, A.J. Lough, J. McKay, A. Tessin, S.J.G. Galer, S.L. Jaccard, F. Lacan, A. Paytan, K. Wuttig, and GEOTRACES–PAGES Biological Productivity Working Group Members (2021). Bioactive trace metals and their isotopes as paleoproductivity proxies: An assessment using GEOTRACES-era data, *Global Biogeochem. Cycles*, **35**(11), e2020GB006814, doi:10.1029/2020GB006814.

33. Farmer, J.R., J.E. Hertzberg, D. Cardinal, S. Fietz, K. Hendry, S. L. Jaccard, A. Paytan, P.A. Rafter, H. Ren, C. J. Somes, J.N. Sutton, and **GEOTRACES–PAGES Biological Productivity Working Group Members** (2021). Assessment of C, N, and Si Isotopes as Tracers of Past Ocean Nutrient and Carbon Cycling, *Global Biogeochem. Cycles*, **35**(7), e2020GB006775, doi:10.1029/2020GB006775.

32. Roca-Martí, M., C.R. Benitez-Nelson, B.P. Umhau, A.M. Wyatt, S.J. Clevenger, S. Pike, **T.J. Horner**, M.L. Estapa, L. Resplandy, and K. Buesseler (2021). Concentrations, ratios, and sinking fluxes of major bioelements at Ocean Station Papa, *Elem. Sci. Anth.*, **9**(1), 00166, doi:10.1525/elementa.2020.00166.

31. *Dunlea, A.G., *L.A. Tegler, B. Peucker-Ehrenbrink, A.D. Anbar, S.J. Romaniello, and **T.J. Horner** (2021). Pelagic clays as archives of marine iron isotope chemistry, *Chem. Geol.*, **575**, 120201, doi:10.1016/ j.chemgeo.2021.120201.

30. **Horner, T.J.** and *P.W. Crockford (2021). *Barium Isotopes: Drivers, Dependencies, and Distributions through Space and Time*, Elements in Geochemical Tracers in Earth System Science, Cambridge University Press, doi:10.1017/9781108865845. [Invited]

29. *Hardisty, D.S., **T.J Horner**, N. Evans, R. Moriyasu, A.R. Babbin, S.D. Wankel, J.W. Moffett, and S.G. Nielsen (2021). Limited iodate reduction in shipboard seawater incubations from the Eastern Tropical North Pacific Oxygen Deficient Zone, *Earth Planet. Sci. Lett.*, **554**, 116676, doi:10.1016/j.epsl.2020.116676.

28. *Mayfield, K.K., A. Eisenhauer, D. Santiago Ramos, J.A. Higgins, **T.J. Horner**, M.E. Auro, T. Magna, N. Moosdorf, M.A. Charette, M.E. Gonneea, C.E. Brady, N. Komar, B. Peucker-Ehrenbrink, and A. Paytan (2021). Groundwater Discharge Impacts Marine Isotope Budgets of Li, Mg, Ca, Sr, and Ba, *Nat. Commun.*, **12**, 148, doi:10.1038/s41467-020-20248-3.

27. Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, **T.J. Horner**, and M. Kastner (2020). Barite precipitation on suspended organic matter in the mesopelagic zone, *Front. Earth Sci.*, **8**, 567714, doi:10.3389/feart.2020.567714.

26. Fan, H., S.G. Nielsen, J.D. Owens, M.E. Auro, Y. Shu, D.S. Hardisty, **T.J. Horner**, C.N. Bowman, S.A. Young, and H. Wen (2020). Constraining oceanic oxygenation during the Shuram excursion in South China using thallium isotopes, *Geobiology*, **18**(3), 348–365 doi:10.1111/gbi.12379.

25. Nielsen, S.G., Y. Shu, M.E. Auro, G. Yogodzinski, R. Shinjo, T. Plank, S. Kay, and **T.J. Horner** (2020). Barium isotope systematics of subduction zones, *Geochim. Cosmochim. Acta*, **275**, 1–18, doi:10.1016/j.gca.2020.02.006.

24. *Hardisty, D.S., **T.J. Horner**, S.D. Wankel, J.S. Blusztajn, and S.G. Nielsen (2020). Experimental observations of marine iodide oxidation using a novel sparge-interface MC-ICP-MS technique, *Chem. Geol.*, **532**, 119360, doi:10.1016/j.chemgeo.2019.119360.

23. *Geyman, B.M., *J.L. Ptacek, †M. LaVigne, and †**T.J. Horner** (2019). Barium in deep-sea bamboo corals: Phase associations, barium stable isotopes, and prospects for paleoceanography, *Earth Planet. Sci. Lett.*, **525**, 115751, doi:10.1016/j.epsl.2019.115751.

22. Hodgskiss, M.S.W., P.W. Crockford, Y. Peng, B.A. Wing, and **T.J. Horner** (2019). A productivity collapse to end Earth's Great Oxidation, *Proc. Natl. Acad. Sci.*, **116**(35), 17207–17212, doi:10.1073/pnas.1900325116.

21. Crockford, P.W., B.A. Wing, A, Paytan, A., M.W.S. Hodgskiss, K.K. Bitterwolf, J.A. Hayles, *J.E. Middleton, A.-S. Ahm, D.T. Johnston, F. Caxito, G. Uhlein, G.P. Halverson, B. Eickmann, M. Torres, and **T.J. Horner** (2019). Barium-isotopic constraints on the origin of post-Marinoan barites, *Earth Planet. Sci. Lett.*, **519**, 234–244, doi:10.1016/j.epsl.2019.05.018.

20. Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, J.K.B. Bishop, **T.J. Horner**, P.L. Morton, and M. Kastner (2019). Barite formation in the ocean: origin of amorphous and crystalline precipitates, *Chem. Geol.*, **511**, 441–451, doi:10.1016/j.chemgeo.2018.09.011.

19. Wu, F., J.D. Owens, T. Huang, A.R. Sarafian, K-F. Huang, I. Sen, **T.J. Horner**, J. Blusztajn, P. Morton, and S.G. Nielsen (2019). Vanadium Isotope Composition of Seawater, *Geochim. Cosmochim. Acta*, **244**, 403–415, doi:10.1016/j.gca.2018.10.010.

18. Nielsen, S.G., **T.J. Horner**, *H.V. Pryer, J. Blusztajn, Y. Shu, M.D. Kurz, and V. Le Roux (2018). Barium isotope evidence for pervasive sediment recycling in the upper mantle, *Sci. Adv.*, **4**(7), eaas8675, doi:10.1126/sciadv.aas8675.

17. Schlitzer, R., ... **T.J. Horner**, ... et al. containing 284 co-authors (2018). The GEOTRACES Intermediate Data Product 2017, *Chem. Geol.*, **493**, 1210–223 doi:10.1016/j.chemgeo.2018.05.040.

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15. **Horner, T.J.**, *H.V. Pryer, S.G. Nielsen, P.W. Crockford, J.M. Gauglitz, B.A. Wing, and R.D. Ricketts (2017). Pelagic barite precipitation at micromolar ambient sulphate, *Nat. Commun.*, **8**, 1342, doi:10.1038/s41467-017-01229-5.

14. Serrato Marks, G., M. LaVigne, T.M. Hill, W. Sauthoff, T.P. Guilderson, E.B. Roark, R.B. Dunbar, and **T.J. Horner** (2017). Reproducibility of Ba/Ca variations recorded by northeast Pacific bamboo corals, *Paleoceanogr.*, **32**, 966–979, doi:10.1002/2017PA003178.

13. Owens, J.D., S.G. Nielsen, **T.J. Horner**, C.M. Ostrander, and L.C. Peterson (2017). Thallium-isotopic compositions of euxinic sediments as a proxy for global manganese-oxide burial, *Geochim. Cosmochim. Acta*, **213**, 291–307, doi:10.1016/j.gca.2017.06.041.

12. *Bates, S.L, †K.R. Hendry, *H.V. Pryer, *C.W. Kinsley, K.M. Pyle, E.M.S. Woodward, and **T.J. Horner** (2017). Barium isotopes reveal role of ocean circulation on barium cycling in the Atlantic, *Geochim. Cosmochim. Acta*, **204**, 286–299, doi:10.1016/j.gca.2017.01.043.

11. Nielsen, S.G., J.D. Owens, and **T.J. Horner** (2016). Analysis of high-precision vanadium isotope ratios by medium resolution MC-ICP-MS, *J. Anal. At. Spectrom.*, **31**, 531–536, doi:10.1039/C5JA00397K.

10. **Horner, T.J.**, *C.W. Kinsley, and S.G. Nielsen (2015). Barium-isotopic fractionation in seawater mediated by barite cycling and oceanic circulation, *Earth Planet. Sci. Lett.*, **430**, 511–522, doi:10.1016/j.epsl.2015.07.027.

9. **Horner, T.J.**, †H.M. Williams, J.R. Hein, M.A. Saito, K.W. Burton, A.N. Halliday, and S.G. Nielsen (2015). Persistence of deeply sourced iron in the Pacific Ocean, *Proc. Natl. Acad. Sci.*, **112**(5), 1292–1297, doi:10.1073/pnas.1420188112.

8. Georgiev, S.V., **T.J. Horner**, H.J. Stein, J.L. Hannah, B. Bingen, and M. Rehkämper (2015). Cad mium-isotopic evidence for increasing primary productivity during the Late Permian anoxic event, *Earth Planet. Sci. Lett.*, **410**, 84–96, doi:10.1016/j.epsl.2014.11.010

7. Hermoso, M., **T.J. Horner**, F. Minoletti, and R.E.M. Rickaby (2014). Constraints on the vital effect in coccolithophore and dinoflagellate calcite by oxygen isotopic modification of seawater, *Geochim. Cosmochim. Acta.*, **141**, 612–627, doi:10.1016/j.gca.2014.05.002

6. Xue, Z., M. Rehkämper, **T.J. Horner**, W. Abouchami, R. Middag, T. van de Flierdt, and H.J.W. de Baar (2013). Cadmium isotope variations in the Southern Ocean, *Earth Planet. Sci. Lett.*, **382**, 161–172, doi:10.1016/j.epsl.2013.09.014

5. **Horner, T.J.**, R.B.Y. Lee, G.M. Henderson, and R.E.M. Rickaby (2013). Nonspecific uptake and homeostasis drive the oceanic cadmium cycle, *Proc. Natl. Acad. Sci.*, **110**(7), 2500–2505, doi:10.1073/pnas.1213857110.

4. Abouchami, W., S.J.G. Galer, **T.J. Horner**, M. Rehkämper, Z. Xue, M. Lambelet, F. Wombacher, M. Schönbächler, M. Gault-Ringold, C. Stirling, A. Shiel, D. Weiss, and P.F. Holdship (2013). A common reference material for cadmium isotope studies – NIST SRM 3108 Cd, *Geostand. Geoanal. Res.*, **37**(1), 5–17, doi:10.1111/j.1751-908X.2012.00175.x.

3. **Horner, T.J.**, R.E.M. Rickaby, and G.M. Henderson (2011). Isotopic fractionation of cadmium into calcite, *Earth Planet. Sci. Lett.*, **312**(1-2), 243–253, doi:10.1016/j.epsl.2011.10.004.

2. Rehkämper, M., F. Wombacher, **T.J. Horner**, and Z. Xue (2011). Natural and anthropogenic Cd isotope variations, in *Handbook of Environmental Isotope Geochemistry*, *Adv. Isot. Geochem.*, vol. 1, edited by M.M. Baskaran, 1st ed., 125–154, Springer, Heidelberg, doi:10.1007/978-3-642-10637-8_8.

1. **Horner, T.J.**, M. Schönbächler, M. Rehkämper, S.G. Nielsen, H. Williams, Z. Xue, A.N. Halliday, and J.R. Hein (2010). **Ferromanganese crusts as archives of deep-water Cd isotope compositions**, *Geochem. Geophys. Geosyst.*, **11**, Q04001, doi:10.1029/2009GC002987.

Presentations

Invited seminars

2024 Earth Surface Science Institute, University of Leeds

2023 School of Earth Sciences, University of Bristol

2022 Ocean & Climate Change Innovation Accelerator Consortium (via telepresence)

School of Earth Sciences, University of Bristol (via telepresence)

Exploring Ocean Iron Solutions Forum (via telepresence)

2021 Centro de Ciências do Mar, Faro, Portugal (via telepresence)

2020 Department of Earth Sciences, Dartmouth College

2019 Earth History and Paleobiology Seminar, Harvard University

2018 School for Marine Science & Technology, UMass Dartmouth

2017 Earth and Oceanographic Science, Bowdoin College

Darling Marine Center, University of Maine

School of Earth and Climate Sciences, University of Maine

2014 Institute of Marine and Coastal Sciences, Rutgers University

School of GeoSciences, University of Edinburgh

Graduate School of Oceanography, University of Rhode Island

Bigelow Laboratory for Ocean Sciences

Ocean Sciences, University of California Santa Cruz

2013 Institute of Geochemistry and Petrology, ETH Zürich

2012 Ocean and Earth Science, National Oceanography Centre (UK)

Invited abstracts

‡poster

2024 ‡**Horner, T.J.** (2024) From Data to Discovery: Accelerating Chemical Oceanography with ML, *NASA Accelerating Informatics for Earth Science 2024* (Washington DC, USA).

2021 ‡**Horner, T.J.** (2021) Barium in seawater: An isotopic perspective, *American Geophysical Union Fall Meeting* (New Orleans, USA).

Horner, T.J., S.H. Little, T.M Conway, J.R. Farmer, D.J. Janssen, and GEOTRACES–PAGES Biological Productivity Working Group Members (2021) Putting productivity proxies to the test with GEOTRACES data, *American Geophysical Union Fall Meeting* (New Orleans, USA).

2018 **Horner, T.J.** (2018) Barium-isotopic Proxies in Paleoceanography: Progress, Potential, and Pitfalls, *Geological Society of America Annual Meeting* (Indianapolis, USA).

Horner, T.J., *H.V. Pryer, S.G. Nielsen, and P.J. Lam (2018) Controls on the barium-isotopic composition of marine particles, *Goldschmidt 2018, Boston*

2017 **Horner, T.J.**, M.E. Auro, A. Paytan, and S.G. Nielsen (2017) What the flux? Isotopic constraints on the marine barium budget, *Goldschmidt 2017, Paris*.

Horner, T.J., S.F. Eltgroth, G.M. Henderson, R.E.M. Rickaby, and J.F. Adkins (2017) Reconstructing ocean circulation using paired measurements of Cd/Ca and Cd-isotopic compositions of deep-sea corals, *PAGES Open Science Meeting, Zaragoza*.

2015 **Horner, T.J.** (2015) Authigenic Trace Metal–Nutrient Interactions: Barium Transformations in Seawater and Their Isotopic Consequences, *Gordon Research Conference–Chemical Oceanography, Holderness, NH*.

2014 **Horner, T.J.**, S.V. Georgiev, H.J. Stein, J.L. Hannah, B. Bingen, and M. Rehkämper (2014) Cadmium-isotopic evidence for increasing primary productivity during the Late Permian anoxia, *Geological Society of America Annual Meeting* (Vancouver, CAN).

‡**Horner, T.J.**, S.N. Burgess, Y.-T. Hsieh, P.J. Lam, and S.G. Nielsen (2014) The barium-isotopic composition of the pelagic barite flux, *Goldschmidt, Sacramento*.

2012 **Horner, T.J.** (2012) Cadmium isotope fractionation in seawater: Driving mechanisms and palaeoceanographic applications, *DISCO XXIII, Lihue, Kaua'i*.

Horner, T.J., R.B.Y. Lee, G.M. Henderson and R.E.M. Rickaby (2012) A novel methodology to investigate isotopic biosignatures, *EGU General Assembly, Vienna*.

Contributed abstracts: Presenting author

2018 **Horner, T.J.**, *C.W. Kinsley, S.G. Nielsen, and P.J. Lam (2018) Authigenic and Biogenic Controls on Metal Isotope Fractionation in the Southern Ocean, *2018 Ocean Sciences Meeting, Portland*.

2017 **Horner T.J.**, *B.M. Geyman, *J.L. Ptacek, M.E. Auro, T. Hill, and M. LaVigne (2017) Barium in deep-sea bamboo corals: Phase relationships, stable isotopic distributions, and prospects for paleoceanography, *PAGES Open Science Meeting, Zaragoza*.

2016 **Horner, T.J.**, *H.V. Pryer, S.G. Nielsen, and R.D. Ricketts (2016) Biogenic barite preciptiation at micromolar ambient sulfate, *AGU Fall Meeting 2016, San Francisco*.

‡**Horner, T.J.** and *H.V. Pryer (2016) Microbially-mediated barite formation in the water column at micromolar sulfate, *Northeastern Geobiology Symposium, Harvard University*.

2015 **Horner, T.J.**, H.M. Williams, J.R. Hein, M.A. Saito, K.W. Burton, A.N. Halliday, and S.G. Nielsen (2015) Tracing Iron Sources to the Pacific Ocean over the Cenozoic, *Northeastern Geobiology Symposium, Princeton University, USA*.

2014 **Horner, T.J.**, H.M. Williams, J.R. Hein, K.W. Burton, A.N. Halliday, and S.G. Nielsen (2014) Dominance of deeply sourced iron in the Pacific Ocean, *Goldschmidt 2014, Sacramento*.

2013 **Horner, T.J.**, W.B. Homoky, S.V. Georgiev, H.J. Stein, J.L. Hannah, R.A. James, M. Rehkämper, and G.M. Henderson (2013) Suboxic sediments as an oceanic sink of isotopically-light Cd, *Goldschmidt 2013, Firenze*.

‡**Horner, T.J.**, W.B. Homoky, S.V. Georgiev, H.J. Stein, J.L. Hannah, R.A. James, M. Rehkämper, and G.M. Henderson (2013) A balanced isotopic budget for cadmium in the oceans, *Gordon Research Conferences–Chemical Oceanography, Biddeford, ME*.

2012 **Horner, T.J.**, R.B.Y. Lee, G.M. Henderson, and R.E.M. Rickaby (2012) The subcellular isotopic perspective on global Cd cycling, *GEOTRACES Workshop: Stable isotopes of biologically important trace metals, Imperial College London*.

‡**Horner, T.J.**, G.M. Henderson, R.E.M. Rickaby, and J.F. Adkins (2012) Reconstructing deep-ocean nutrients with paired Cd/Ca and Cd isotopes in deep-sea corals, *Goldschmidt 2012, Montreal*.

2011 ‡**Horner, T.J.**, R.B.Y. Lee, G.M. Henderson, and R.E.M. Rickaby (2011) Intracellular cadmium isotope fractionation, *AGU Fall Meeting 2011, San Francisco*.

Horner, T.J., R.E.M. Rickaby, and G.M. Henderson (2011) Isotopic fractionation of cadmium into calcite, *Goldschmidt 2011, Prague*.

2009 ‡**Horner, T.J.** (2009) Cadmium isotopes in the marine environment – A new tool in the study of present and past nutrient cycling, *Gordon Research Conferences–Chemical Oceanography, Tilton, New Hampshire*.

2008 **Horner, T.J.**, M. Schönbächler, M. Rehkämper, H. Williams, S.G. Nielsen, A.N. Halliday, and J.R. Hein (2008) The Cadmium Isotope Composition of Ferromanganese Crusts, *Research in Progress Meeting (Geochemistry Group), The Geological Society of London.*

Contributed abstracts: Non-presenting author

§invited

2024 */‡Sugiyama, I., M.R. McIlvin, A.E. Santoro, **T.J Horner**, and M.A. Saito (2024). Microbial metal demand in the Eastern Tropical Pacific assessed using iron and copper isotopes. *Ocean Carbon Biogeochemistry Meeting* (Woods Hole, MA).

*/‡Debyser, M.C.F., M.A. Charette, P. Henderson, and **T.J Horner** (2024). A first look at the distribution of barium and radium-226 in the South Pacific (GP17-OCE, GEOTRACES). *Northeastern Geobiology Symposium* (Yale University, CT).

*/‡Streanga, I.-M., **T.J Horner**, and D.J. Repeta (2024). Towards the identification of dissolved organic iodine compounds in seawater. *Northeastern Geobiology Symposium* (Yale University, CT).

*Sugiyama, I., M.R. McIlvin, A.E. Santoro, **T.J. Horner**, and M.A. Saito (2024). Microbial metal demand in the Eastern Tropical Pacific assessed using iron and copper isotopes, *Northeastern Geobiology Symposium* (Yale University, CT).

*/‡Streanga, I.-M., **T.J Horner**, and D.J. Repeta (2024). Characterization of Organic Iodine Produced by Marine Cyanobacteria. *Ocean Sciences Meeting 2024* (New Orleans, LA).

*Sugiyama, I., M.R. McIlvin, P. Lopez, D. Kelly, A.E. Santoro, **T.J. Horner**, and M.A. Saito (2024). Microbial metal demand in the Eastern Tropical Pacific assessed using iron and copper isotopes. *Ocean Sciences Meeting 2024* (New Orleans, LA).

Saito, M.A., R. Kell, R. Chmiel, D. Rao, N.L. Schanke, L. Lees, M.M. Brisbin, D.M. Moran, M.R. McIlvin, F. Bolinesi, O. Mangoni, R. Casotti, **T.J. Horner**, A.V. Subhas, M. Follows, A.E. Allen, R.B. Dunbar and G.R. DiTullio (2024). The Interactive Influence of the Micronutrients Iron, Zinc, and Vitamin B_{12} on Ross Sea and Amundsen Sea Primary Productivity. *Ocean Sciences Meeting 2024* (New Orleans, LA).

2023 *,‡Debyser, M.C.F., **T.J. Horner**, P. Henderson, and M.A. Charette (2023). A first look at the distribution of ^{226}Ra in the South Pacific (US GEOTRACES GP17-OCE), *Gordon Research Conference–Chemical Oceanography* (Manchester, NH).

*,‡Middleton, J.T., A. Payan, M.E. Auro, M.A. Saito, and **T.J. Horner** (2023). Barium isotope signatures of barite–fluid exchange in Equatorial Pacific sediments, *Gordon Research Conference–Chemical Oceanography* (Manchester, NH).

*Streanga, I.-M. D.J. Repeta, and **T.J. Horner** (2023). Distribution, chemical speciation, and biological cycling of iodine in the surface ocean around Station ALOHA, *Goldschmidt 2023* (Lyon, FRA).

Liang, H., **TJ. Horner**, and S.G. John (2023). Origin and dissolution of barite in the oceans: Insights from a global ocean dissolved Ba model, *Goldschmidt 2023* (Lyon, FRA).

*Tegler, L.A., S.G. Nielsen, **TJ. Horner**, B. Peucker-Ehrenrbink, S. Severmann, and A.G. Dunlea (2023). From Hydrothermalism to Dust Deposition: Tracing the Sources of Fe to the South Pacific Ocean over the Cenozoic, *AGU Chapman Conference on Hydrothermal Circulation and Seawater Chemistry* (Agros, CYP).

2022 Ostrander, C.M., S.G. Nielsen, E. Swanner, H.J. Gadol, L. Villarroel, S.D. Wankel, A. Heard, Y. Shu, H. Schulz-Vogt, M. Voss, T.J. Horner, and C. Hansel (2022). Towards a better understanding of thallium isotope cycling in modern redox-stratified settings, *AGU Fall Meeting* (Chicago, USA).

Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, T.J. Horner, and M. Kastner (2022). Organomineralization of barium in seawater: Implications for reconstructing the marine carbon cycle, 14$^{\text{th}}$ *International Conference on Paleoceanography* (Bergen, NOR).

*Laukert, G., S.S. Kienast, **T.J. Horner**, K. Doering, P. Grasse, D. Bauch, M. Frank, O. Huhn, and C. Mertens (2022). East Greenland's rising impact on the marine silicon cycle constrained by silicon isotopes, *Goldschmidt 2022* (Honolulu, HI).

*Middleton, J.T., A. Payan, and **T.J. Horner** (2022). Barium isotope fractionation during ion exchange at the barite–fluid interface: Implications for barium cycling in seawater, *Goldschmidt 2022* (Honolulu, HI).

*Tegler, L.A., **T.J. Horner**, S.G. Nielsen, S. Severmann, B. Peucker-Ehrenbrink, and A.G. Dunlea (2022). Iron Sources and Cycling over the Cenozoic: Evolution of the Iron Cycle in the South Pacific and Southern Ocean, *Goldschmidt 2022* (Honolulu, HI).

Saunders, J.K., M. McIlvin, C.L. Dupont, D. Kaul, D. Moran, **T.J. Horner**, A.E. Santoro, E.A. Webb, T. Bosak, and M.A. Saito (2022). Microbial Functional Diversity across Biogeochemical Provinces in the Central Pacific Ocean, *American Society for Mass Spectrometry Annual Conference* (Minneapolis, USA).

Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, **T.J. Horner**, and M. Kastner (2022). Barite Precipitation on Suspended Organic Matter in the Ocean Water Column, *EGU General Assembly* (Vienna, AUS).

*,‡Mete, Ö.Z., A.G. Dunlea, H.H. Kim, A.V. Subhas, and **T.J. Horner** (2022). Dissolved distribution of barium in seawater and its relationship to silicon, *Northeastern Geobiology Symposium* (MIT, USA).

Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, **T.J. Horner**, and M. Kastner (2022) Pathways to the formation of crystalline barite in the ocean water column: role of transient amorphous precursor phases, *Ocean Sciences Meeting* (virtual).

*Mete, Ö.Z., H.H. Kim, A.G. Dunlea, L.M. Whitmore, A.M. Shiller, and **T.J. Horner** (2022). Dissolved distribution of barium in seawater and its relationship to silicon, *Ocean Sciences Meeting* (virtual).

*Streanga, I.M. D.J. Repeta, and **T.J. Horner** (2022). Distribution, chemical speciation and biological cycling of iodine in the surface ocean around Station ALOHA, *Ocean Sciences Meeting* (virtual).

*Tegler, L.A., **T.J. Horner**, Y. Wang, F. Scholz, J.D. Owens, L.C. Peterson, W. Lu, and S.G. Nielsen (2022). What controls the cadmium isotope composition of organic-rich sediments–Redox or productivity? *Ocean Sciences Meeting* (virtual).

*,‡Streanga, I.M. D.J. Repeta, and **T.J. Horner** (2022). Speciation and cycling of iodine in the subtropical North Pacific Ocean *Simons Foundation SCOPE Meeting* (virtual).

2021 Dunlea, A.G., *L.A. Tegler, B. Peucker-Ehrenbrink, S. Severann, and **T.J. Horner** (2021). Cenozoic Evolution of the Iron Cycle across the South Pacific and Southern Ocean, *American Geophysical Union Fall Meeting* (New Orleans, USA).

Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, **T.J. Horner**, and M. Kastner (2021). The role of P-rich precursors in barite formation in the ocean, *American Geophysical Union Fall Meeting* (New Orleans, USA).

*Le Roy, E., M.A. Charette, P.B. Henderson, A. Shiller, W. Moore, R. Lawrence, A. Shrikumar, K.L. Casciotti, P. van Beek, M. Souhaut, M.E. Auro, and **T.J. Horner** (2021). Controls on barium and radium-226 distributions along GEOTRACES GP15, *Goldschmidt 2021* (virtual).

Martinez-Ruiz, F., A. Paytan, P.J. Lam, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad-Ortega, **T.J. Horner**, and M. Kastner (2021). Factors controlling pelagic barite distribution across the ocean water column: new insights from the Great Calcite Belt, *Goldschmidt 2021* (virtual).

*Middleton, J.E., A. Paytan, M.A. Saito, and **T.J. Horner** (2021). Barium Isotope Signatures of Barite Diagenesis, *Goldschmidt 2021* (virtual).

Ostrander, C.M., S.G. Nielsen, H.J. Gadol, **T.J. Horner**, and C.M Hansel (2021). Thallium isotope cycling in a manganese-rich brackish meromictic pond, *Goldschmidt 2021* (virtual).

*Tegler, L.A., S.G. Nielsen, C.M. Ostrander, A.D. Anbar, B. Kendall, J.D. Owens, L.C. Peterson, F. Scholz, and **T.J. Horner** (2021). Redox and productivity controls on the cadmium isotope composition of organic-rich sediments, *Goldschmidt 2021* (virtual).

2020 ‡Schaal, I.V., *E.M. Paris, **T.J. Horner**, and A.G. Dunlea (2020). Source-to-sink micronutrient cycling between seawater, sediment, and nodules in the South Pacific, *AGU Fall Meeting 2020, San Francisco*.

‡Dalai, T.K. and **T.J. Horner** (2020). Barium Stable Isotopes in the Ganga (Hooghly) River Estuary, India, *Goldschmidt 2020, Hawaii, HI*.

*,‡Tegler, L.A., C. Ostrander, A.D. Anbar, B. Kendall. S.G. Nielsen, and **T.J. Horner** (2020). Minimal Cadmium-Isotopic Variations during a 'whiff' of O_2 at 2.5 Ga, *Goldschmidt 2020, Hawaii, HI*.

*,‡Middleton, J.E., A. Paytan, and **T.J. Horner** (2020). Barium-Isotopic Signatures of Barite Diagenesis, *Goldschmidt 2020, Hawaii, HI*.

Martinez-Ruiz, F., A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, **T.J. Horner**, and M. Kastner (2020). Role of Exopolymers in Pelagic Barite Precipitation in the Ocean, *Goldschmidt 2020, Hawaii, HI*.

‡Whitmore, L. M., **T.J. Horner**, R. Rember, Y. Xiang, P.J. Lam, F. Dehairs, H. Thomas, A.M. Shiller, and C. Mears (2020). To the North Pole and Back: A Pan-Arctic Barium Synthesis, *Ocean Sciences Meeting 2020* (San Diego, USA).

*,‡Le Roy, E., M.A. Charette, **T.J. Horner**, P. Henderson, P. van Beek, and M. Souhaut (2020). Dissolved And Particulate ^{226}Ra Along GEOTRACES Pacific Meridional Transect, *Ocean Sciences Meeting 2020* (San Diego, USA).

Hardisty, D, R. Moriyasu, Z. Evans, **T.J Horner**, A.R. Babbin, S.D. Wankel, J.W. Moffett, and S. Nielsen (2020). Constraints on marine ODZ iodine cycling and implications for paleoredox proxy applications, *Ocean Sciences Meeting 2020* (San Diego, USA).

‡Gadol, H., **T.J. Horner**, S.D. Wankel, and C.M. Hansel (2020). Light-mediated and particle-associated manganese oxide formation in the photic zone of a meromictic, manganese-rich pond, *Gordon Research Conference–Geobiology, Galveston, TX*.

2019 *,‡Tegler, L.A., C.M. Ostrander, A.D. Anbar, S.G. Nielsen, and T.J. Horner (2019). Exploring cadmium as a proxy for primary productivity before the Great Oxidation Event, *Geological Society of America Annual Meeting* (Phoenix, USA).

*,‡King E.K., **T.J. Horner**, and M.A. Charette (2019). Subterranean Estuarine Influence on Molybdenum Isotope Cycling, *Goldschmidt 2019, Barcelona*.

Crockford P.W., M. Hodgskiss, Y. Peng, B.A. Wing, and **T.J. Horner** (2019). Feast Then Famine: Exiting the GOE and Setting the Stage for a Billion Years of Environmental Stability, *Goldschmidt 2019, Barcelona*.

Martinez-Ruiz F, A. Paytan, M.T. Gonzalez-Muñoz, F. Jroundi, M.M. Abad, P.J. Lam, J.K.B. Bishop, **T.J. Horner**, P.L. Morton, and M Kastner (2019). Mechanisms of Pelagic Barite Precipitation, *Goldschmidt 2019, Barcelona*.

§Saunders J.K., McIlvin M., Moran D., Held N., Santoro A.E., Dupont C., **Horner T.J.**, Webb E., and Saito M.A. (2019). Tracking Microbial Bioenergetic Enzymes in Sub-Environments of Pelagic OMZs, *Gordon Research Conference–Chemical Oceanography, Holderness, NH*.

*,§Dunlea, A.G., *L.A. Tegler, B. Peucker-Ehrenbrink, A.D. Anbar, S.J. Romaniello, and **T.J. Horner** (2019). Relating Multi-Metal Patterns in Seawater and Sediment Across the South Pacific Gyre, *Gordon Research Conference–Chemical Oceanography, Holderness, NH*.

*,‡Middleton, J.E., E.M. Griffith, A. Paytan, and **T.J. Horner** (2019). Equilibrium and kinetic controls on barium-isotopic fractionation into barite, *Gordon Research Conference–Chemical Oceanography, Holderness, NH*.

Whitmore, L.M, **T.J. Horner**, P.J. Lam, C. Mears, R. Rember, F. Dehairs, H. Thomas, Y. Xiang, and A.M. Shiller (2019). To the North Pole and back: a pan-Arctic barium synthesis, *Ocean Carbon Biogeochemistry Meeting* (Woods Hole, MA).

‡Roca-Martí, M., **T.J. Horner**, M.L. Estapa, P. Masqué, and K.O. Buesseler (2019). How polonium-210, lead-210, and barium can contribute to EXPORTS, *NASA EXPORTS Science Team Meeting* (Williamsburg, VA).

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Annual Postdoctoral Symposium

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2013 *Climate and Paleo Seminar Series*

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Department of Marine Chemistry & Geochemistry Seminar