Frank J. Pavia

CONTACT INFORMATION

School of Oceanography
University of Washington
Seattle, WA 98105

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EMPLOYMENT

University of Washington School of Oceanography

Assistant Professor, Jan. 2024-present

California Institute of Technology

Stanback Postdoctoral Fellow, Dec. 2019-Nov. 2023

EDUCATION

Columbia University, New York, NY

Ph.D., Earth and Environmental Sciences, October 2019

Thesis: Biogeochemical Studies of the South Pacific Ocean Using Thorium and Protactinium Isotopes

Columbia University, New York, NY

M.A., Earth and Environmental Sciences, May 2016

Columbia University, New York, NY

B.A., Earth Science and Chemistry, May 2014

HONORS AND AWARDS

Sloan Research Fellow, 2026
Caltech Foster and Coco Stanback Postdoctoral Fellowship, 2019
Department of Defense NDSEG Fellowship, 2015 (Declined)
NSF Graduate Research Fellowship, 2015
Alaska Geological Society Scholarship, 2013

SUBMITTED PAPERS ** Indicates Student Advisee ** Indicates Authors Contributed Equally*

[6] Lund, D.C., S. McCart, **F.J. Pavia**, K.A. Farley. Hydrothermal activity drives glacial-interglacial changes in East Pacific Rise metal fluxes. *Submitted.*

[5] Rahman, S. A.M. Shiller, R.F. Anderson, C.T. Hayes, **F.J. Pavia**. To Ba or not to Ba (Part II): Evaluating sedimentary excess barite (BaSO4) as a proxy for overlying water column export production. *In Review, Global Biogeochemical Cycles.*

[4] Abell, J.T., **F.J. Pavia**, J.L. Middleton, G. Winckler. Exploring the Cenozoic Earth system with extraterrestrial ^{3}He. *Accepted, Climate of the Past.* (Link to Preprint)

[3] Seltzer, A.M., P.H. Barry, D.V. Bekaert, R. Karolyte, **F.J. Pavia**, R.L. Tyne, K. McPaul, G. Brown, D.J. Byrne, C.J. Ballentine, B. Marty, M.W. Broadley. Fissiogenic xenon reveals extensive degassing of Earth's deep mantle. *In Review, PNAS.*

[2] Trudgill, M.D., W.R. Gray, **F.J. Pavia**, H. Kobayashi, M. Adloff, J. Rae, P. Richard, M. Fries, N. Umling, S. Eggleston, D. Paillard, W. Berelson, J.F. Adkins, H. Rebaubier, G. Isguder, F. Manssouri, L. Prinet, L. Petersen*, H. Latting*. Alkalinity cycling rapidly buffers deep ocean pH during the last glacial cycle. *In Revision.*

[1] Tomchovska, I.*, **F.J. Pavia**, W.R. Gray, P.A. Rafter, J.F. Adkins, W.M. Berelson, K.A. Farley. Evaluating the Behavior of ^{230}Th and ^{3}He Constant-Flux Proxies Across a Carbonate Preservation Gradient in the Cocos Ridge. *Accepted, Global Biogeochemical Cycles.*

PUBLICATIONS *h-Index: 17*

[43] Green, R.A., P.A. Rafter, C. Sun, W.R. Gray, J.W.B. Rae, M. Pelly, C. Xu, K. Thirumalai, J.R. Southon, **F.J. Pavia**, M.P. Hain. Simulating deglacial radiocarbon anomalies with pH-neutral geologic carbon. *Paleoceanography & Paleoclimatology, 41*, e2025PA005217. https://doi.org/10.1029/2025PA005217.

[42] Rafter, P.A., M.P. Hain, E. Arellano-Torres, K. Thirumalai, E.J. Tappa, M. Machain Castillo, M.F. Soto-Jimenez, T. DeVries, I. Hendy, J.C. Herguera, W.R. Gray, R.A. Green, **F.J. Pavia**, J.W.B. Rae, J. Southon. Spatial and temporal variability of eastern Pacific radiocarbon chemistry from the ice age to today. *Paleoceanography & Paleoclimatology, 41*, e2025PA005265. https://doi.org/10.1029/2025PA005265.

[41] Middleton, J.E., **F.J. Pavia**, R.F. Anderson, R. Schwartz, M.Q. Fleisher, Y. Lao, Y. Zhou, C. Kinsley, J. Schaefer, M. Frank, G. Winckler. Oceanographic and climatic controls of meteoric ^{10}Be fluxes to seafloor sediments: A global synthesis. *Quaternary Science Reviews, 383*, 109922. https://doi.org/10.1016/j.quascirev.2026.109922.

[40] **Pavia, F.J.**, J.E. Lambert (2026). Carbon dioxide removal by enhanced weathering on American green clay tennis courts. *Applied Geochemistry, 200*, 106737. https://doi.org/10.1016/j.apgeochem.2026.106737.

[39] **Pavia, F.J.**, J.R. Farmer, L. Gemery, T.M. Cronin, J. Treffkorn, K.A. Farley (2025). Cosmic dust reveals dynamic shifts in central Arctic sea-ice coverage over the last 30,000 years. *Science, 390*, 628-632. https://doi.org/10.1126/science.adv5767.

[38] Rahman, S. A.M. Shiller. R.F. Anderson. C.T. Hayes. **F.J. Pavia** (2025). To Ba or not to Ba: Evaluating excess barite (BaSO4) as a proxy for water column respiration. *Global Biogeochemical Cycles, 39*, e2025GB008671. https://doi.org/10.1029/2025GB008671.

[37] Cooperdock, E.H.G., J.C. de Obeso, **F.J. Pavia** (2025). Uranium Addition and Loss in Serpentinites: The Potential Role of Iron Oxides *Geochemistry, Geophysics, Geosystems, 26*, e2025GC012353. https://doi.org/10.1029/2025GC012353.

[36] Quinan, M.P., W.M. Berelson, J.E.P. Cetiner, N.E. Rollins, **F.J. Pavia**, S. Dong, J.L. Jones, M.A. Brzezinski, J.F. Adkins (2025). Biogenic Si cycling along the Cocos Ridge: differences between in situ and ex situ extracted pore waters imply rapid rates of dissolved Si uptake upon core recovery. *Deep Sea Research II, 223*, 104554. https://doi.org/10.1016/j.dsr.2025.104554.

[35] Tomchovska, I.*, **F.J. Pavia**, J.F. Adkins, K.A. Farley (2025). Fractionation During Sediment Winnowing Drives Divergent Mass Accumulation Rates derived from ^{230}Th and ^{3}He on the Cocos Ridge. *Geochimica et Cosmochimica Acta, 395*, 149-165. https://doi.org/10.1016/j.gca.2025.02.021.

[34] Osorio-Rodriguez, D., **F.J. Pavia**, D.R. Utter, K. Landry, M. Gomes, N.D. Dalleska, V.J. Orphan, W.M. Berelson, J.F. Adkins (2025). Microbial cycling of sulfur and other redox-sensitive elements in porewaters of San Clemente Basin, California, and Cocos Ridge, Costa Rica. *Geobiology, 23*, e70013. https://doi.org/10.1111/gbi.70013.

[33] Cetiner, J.E., W.M. Berelson, N.E. Rollins, X. Liu, **F.J. Pavia**, A.R. Waldeck, S. Dong, K.

Fleger, H.A. Barnhart, M. Quinan, R.P. Wani, P.A. Rafter, A.D. Jacobsen, R.H. Byrne, J.F. Adkins (2025). Carbonate dissolution fluxes in deep-sea sediments as determined from in situ porewater profiles in a transect across the saturation horizon. *Geochimica et Cosmochimica Acta, 390*, 145-159. https://doi.org/10.1016/j.gca.2024.11.027.

[32] Costa, K.M., F. Ossa Ossa, A. Dunlea, **F.J. Pavia**, L. Tegler, M. Auro, M. Andersen, S. Nielsen (2025). Global sedimentation rates of oxic pelagic clays refined with sedimentary thorium isotope compositions. *Geochemistry, Geophysics, Geosystems, 26*, e2024GC011717. https://doi.org/10.1029/2024GC011717.

[31] Dong, S., **F.J. Pavia**, A.V. Subhas, W.R. Gray, J.F. Adkins, W.M. Berelson (2025). Carbon Cycling in Marine Particles Based on Inorganic and Organic Stable Isotopes. *Geochimica et Cosmochimica Acta, 388*, 208-220. https://doi.org/10.1016/j.gca.2024.10.005.

[30] Bian, X., S. Yang, R.J. Raad, A.M. Lunstrum, S. Dong, H. Meng, N. Kemnitz, N.E. Rollins, J. Pittman, **F.J. Pavia**, D.E. Hammond, W.M. Berelson, J.F. Adkins, S.G. John (2024). A benthic source of isotopically heavy Ni from continental margins and implications for global ocean Ni isotope mass balance. *Earth and Planetary Science Letters, 645*, 118951. https://doi.org/10.1016/j.epsl.2024.118951.

[29] Katz, S.D., R.P. Kelly, R.S. Robinson, **Pavia, F.J.**, R. Pockalny, R. Lohmann. Biomass burning is a source of modern black carbon to equatorial Atlantic Ocean sediments (2024). *Communications Earth & Environment, 5*, 536. https://doi.org/10.1038/s43247-024-01642-x.

[28] Houchin, S.K., F.L.H. Tissot, M. Ibanez-Mejia, M. Newville, A. Lanzirotti, **F.J. Pavia**, G. Rossman. Uranium Oxidation States in Zircon and Other Accessory Phases (2024). *Geochimica et Cosmochimica Acta, 381*, 156-176. https://doi.org/10.1016/j.gca.2024.07.032.

[27] Costa, K.M., **F.J. Pavia**, C.G. Piecuch, J.F. McManus, G.A. Weinstein (2024). Pelagic sedimentation rates in the North Pacific using Thorium-230 depth profiling. *Geochimica et Cosmochimica Acta, 369*, 126-140. https://doi.org/10.1016/j.gca.2023.11.020.

[26] **Pavia, F.J.**, J.T. Abell, J.L. Middleton, A. Leal, S.M. Vivancos, M.Q. Fleisher, G. Winckler, R.F. Anderson (2024). Discrepant mass accumulation rates of sediment in the South Pacific Ocean from ^{230}Th and ^{3}He measurements. *Geochimica et Cosmochimica Acta, 365*, 215-228. https://doi.org/10.1016/j.gca.2023.11.019.

[25] **Pavia, F.J.**, E.H.G. Cooperdock, J.C. de Obeso, K.W.W. Sims, F.L.H. Tissot, F. Klein (2023). Uranium isotopes as tracers of serpentinite weathering. *Earth and Planetary Science Letters, 623*, 118434. https://doi.org/10.1016/j.epsl.2023.118434.

[24] Abell, J.T., G. Winckler, A. Pullen, C.W. Kinsley, P.A. Kapp, J.L. Middleton, **F.J. Pavia**, D. McGee, H.L. Ford, M.E. Raymo (2023). Evaluating the drivers of Quaternary dust fluxes to the western North Pacific: East Asian dustiness and Northern Hemisphere gustiness. *Paleoceanography and Paleoclimatology, 38*, e2022PA004571. https://doi.org/10.1029/2022PA004571.

[23] Subhas, A.V.**, **F.J. Pavia****, S. Dong, P.J. Lam (2023). Global Trends in the Distribution of Biogenic Minerals in the Ocean. *Journal of Geophysical Research: Oceans, 128*, e2022JC019470. https://doi.org/10.1029/2022JC019470.

[22] Phillips, A.A., M.E. White, M. Seidel, F. Wu, **F.J. Pavia**, P.C. Kemeny, A.C. Ma, L.I. Aluwihare, T. Dittmar, A.L. Sessions (2022). Novel sulfur isotope analyses constrain sulfurized porewater fluxes as a minor component of marine dissolved organic matter. *Proceedings of the National Academy of Sciences, 119*, e2209152119. https://doi.org/10.1073/pnas.2209152119.

[21] Moore, K.R., T.M. Present, **F.J. Pavia**, J.P Grotzinger, J.R. Hollis, S. Sharma, D. Flannery, T. Bosak, M. Tuite, A.H. Knoll, K. Williford (2022). Biosignature preservation aided by organic-cation interactions in Proterozoic tidal environments. *Palaios, 37*, 486-498. https://doi.org/10.2110/palo.2022.017.

[20] S. Rahman, A.M. Shiller, R.F. Anderson, M.A. Charette, C.T. Hayes, M. Gilbert, K.R. Grissom, P.J. Lam, D.C. Ohnemus, **F.J. Pavia**, B.S. Twining, S.M. Vivancos (2022). Dissolved and particulate barium distributions along the US GEOTRACES North Atlantic and East Pacific Zonal Transects: Global Implications for the marine barium cycle. *Global Biogeochemical Cycles 36*, e2022GB007330. https://doi.org/10.1029/2022GB007330.

[19] **Pavia, F.J.****, C.S. Jones**, S.K.V. Hines** (2022). Geometry of the Meridional Overturning Circulation at the Last Glacial Maximum. *Journal of Climate, 35*, 5465-5482. https://doi.org/10.1175/JCLI-D-21-0671.1

[18] Dong, S., X. Wang, A. Subhas, **F.J. Pavia**, J.F. Adkins, W. Berelson (2022). Suspended carbon and nitrogen along a North Pacific transect: concentrations, isotopes, and C/N ratios. *Limnology and Oceanography, 67*, 247-260. https://doi.org/10.1002/lno.11989.

[17] **Pavia, F.J.**, S. Wang*, J.E. Middleton, R.W. Murray, R.F. Anderson (2021). Trace Metal Evidence for Deglacial Ventilation of the Abyssal Pacific and Southern Oceans. *Paleoceanography and Paleoclimatology, 36* e2021PA004226. https://doi.org/10.1029/2021PA004226.

[16] Hayes, C.T. et al. (27 co-authors including **F.J. Pavia**, 2021). The Composition and Flux of Seafloor Sediments in the Global Ocean. *Global Biogeochemical Cycles, 35*, e2020GB006769. https://doi.org/10.1029/2020GB006769.

[15] Lee, J.M., P.J. Lam, S.M. Vivancos, **F.J. Pavia**, R.F. Anderson, Y. Lu, H. Cheng, P. Zhang, R.L. Edwards, Y. Xiang, S.M. Webb (2021). Changing chemistry of particulate manganese in the near- and far-field hydrothermal plumes from 15°S East Pacific Rise and its influence on metal scavenging. *Geochimica et Cosmochimica Acta, 300*, 95-118. https://doi.org/10.1016/j.gca.2021.02.020.

[14] Pinedo-Gonzalez, P., R.F. Anderson, S.M. Vivancos, **F.J. Pavia**, M.Q. Fleisher (2021). A new method to extract ^{232}Th, ^{230}Th, and ^{231}Pa from seawater using a bulk-extraction technique with Nobias PA-1 chelating resin. *Talanta, 223*, 121734. https://doi.org/10.1016/j.talanta.2020.121734.

[13] **Pavia, F.J.**, R.F. Anderson, P. Pinedo-Gonzalez, M.Q. Fleisher, M.A. Brzezinski, R.S. Robinson (2020). Isopycnal Transport and Scavenging of ^{231}Pa and ^{230}Th in the Pacific Southern Ocean. *Global Biogeochemical Cycles, 34*, e2020GB006760. https://doi.org/10.1029/2020GB006760. (GEOTRACES IPO Highlight).

[12] **Pavia, F.J.**, R.F. Anderson, G. Winckler, M.Q. Fleisher (2020). Atmospheric Dust Inputs, Iron Cycling, and Biogeochemical Connections in the South Pacific Ocean from Thorium Isotopes. *Global Biogeochemical Cycles, 34*, e2020GB006562. https://doi.org/10.1029/2020GB006562. (GEOTRACES IPO Highlight).

[11] Costa, K.M., C.T. Hayes, R.F. Anderson, **F.J. Pavia**, and 30 others (2020). ^{230}Th-normalization: New insights on an essential tool for quantifying sedimentary fluxes in the modern and Quaternary ocean. *Paleoceanography and Paleoclimatology, 35*, e2019PA003820. https://doi.org/10.1029/2019PA003820.

[10] Middleton, J.E., S. Mukhopadhyay, K.M. Costa, **F.J. Pavia**, G. Winckler, J.F. McManus, M.

D'Almeida, C.H. Langmuir, P.J. Huybers (2020). The spatial footprint of hydrothermal scavenging on $^{230}Th_{xs}$-derived mass accumulation rates. *Geochimica et Cosmochimica Acta, 272*, 218-234. https://doi.org/10.1016/j.gca.2020.01.007.

[9] Jacobel, A.W., R.F. Anderson, S.L. Jaccard, J.F. McManus, **F.J. Pavia**, G. Winckler (2020). Deep Pacific Storage of Respired Carbon during the Last Ice Age: Perspectives from bottom water oxygen reconstructions. *Quaternary Science Reviews, 230*, 106065. https://doi.org/10.1016/j.quascirev.2019.106065.

[8] Seltzer, A.M., **F.J. Pavia**, J. Ng, J.P. Severinghaus (2019). Heavy Noble Gas Isotopes as New Constraints on the Ventilation of the Deep Ocean. *Geophysical Research Letters, 46*, 8926-8932. https://doi.org/10.1029/2019GL084089.

[7] **Pavia, F.J.**, R.F. Anderson, P.J. Lam, B.B. Cael, S.M. Vivancos, M.Q. Fleisher, Y. Lu, H. Cheng, P. Zhang, R.L. Edwards (2019). Shallow Particulate Organic Carbon Regeneration in the South Pacific Ocean. *Proceedings of the National Academy of Sciences, 116*, 9753-9758. https://doi.org/10.1073/pnas.1901863116. (GEOTRACES IPO Highlight). (OCB Highlight)

[6] Jacobel, A.W.., R.F. Anderson, G. Winckler, K.M. Costa, J. Gottschalk, J.L. Middleton, **F.J. Pavia**, E.M. Shoenfelt, Y. Zhou (2019). No evidence for equatorial Pacific dust fertilization. *Nature Geoscience, 12* , 154-155. https://doi.org/10.1038/s41561-019-0304-z

[5] Lund, D.C., **F.J. Pavia**, E.I. Seeley, S. McCart, P.A. Rafter, K.A. Farley, P.D. Asimow, R.F. Anderson (2019). Hydrothermal Scavenging of ^{230}Th on the Southern East Pacific Rise During the Last Deglaciation. *Earth and Planetary Science Letters, 510*, 64-72. https://doi.org/10.1016/j.epsl.2018.12.037

[4] **Pavia, F.J.**, R.F. Anderson, E. Black, L. Kipp, S.M. Vivancos, M.Q. Fleisher, M.A. Charette, V. Sanial, W. Moore, M. Hult, Y. Lu, H. Cheng, P. Zhang, R.L. Edwards (2019). Timescales of Hydrothermal Scavenging in the South Pacific Ocean from ^{234}Th, ^{230}Th, and ^{228}Th. *Earth and Planetary Science Letters, 506*, 146-156. https://doi.org/10.1016/j.epsl.2018.10.038. (GEOTRACES IPO Highlight)

[3] Hayes, C.T., E.E. Black, R.F. Anderson, M. Baskaran, K.O. Buesseler, M.A. Charette, H. Cheng, J.K. Cochran, R.L. Edwards, P. Fitzgerald, P.J. Lam, Y. Lu, S.O. Morris, D.C. Ohnemus, **F.J. Pavia**, G. Stewart, Y. Tang (2018). Flux of Particulate Elements in the North Atlantic Ocean Constrained by Multiple Radionuclides. *Global Biogeochemical Cycles, 32*, 1738-1758. https://doi.org/10.1029/2018GB005994. (OCB Highlight) (EOS Highlight)

[2] Schlitzer, R. et al. (including **F. J. Pavia**) (2018). The GEOTRACES Intermediate Data Product 2017. *Chemical Geology, 493*, 210-223. https://doi.org/10.1016/j.chemgeo.2018.05.040

[1] **Pavia, F.J.**, R.F. Anderson, S.M. Vivancos, M.Q. Fleisher, P.J. Lam, Y. Lu, H. Cheng, P. Zhang, R.L. Edwards (2018). Intense Hydrothermal Scavenging of ^{230}Th and ^{231}Pa in the Deep Southeast Pacific. *Marine Chemistry, 201*, 212-228. https://doi.org/10.1016/j.marchem.2017.08.003

Book Chapters (Peer-Reviewed)

[2] Dunlea, A.G., J.E. Middleton, **F.J. Pavia** (2025). The Marine Sediment Archive of Hydrothermal Activity. In *Hydrothermal Circulation and Seawater Chemistry: Links and Feedbacks* (eds L.A. Coogan, A.V. Turchyn, A.G. Dunlea, W. Bach). https://doi.org/10.1002/9781394229185.ch7

[1] Bell, J.E., **F.J. Pavia** (2021). Time Bomb: Pessimistic Approaches to Climate Change Studies. In *Timescales* (eds B. Wiggin, C. Fornoff, P.E. Kim). University of Minnesota Press, Minneapolis. https://doi.org/10.5749/j.ctv1cdxg76.4

MENTORING

Ph.D. Students Advised

Tara Kalia, Ph.D. Student, University of Washington School of Oceanography. 2024-Present
Bella Amato, Ph.D. Student, University of Washington School of Oceanography. 2025-Present
Meilun Zhang (co-advised by M. Walczak), Ph.D. Student, University of Washington School of Oceanography. 2025-Present
Makenzie Williamson, Ph.D. Student, University of Washington School of Oceanography. 2026-Present

Masters Students Advised

Samantha Breuer, University of Washington Department of Chemistry, 2025-2026
Makenzie Williamson, University of Washington Department of Chemistry. 2024-2025
Libby Petersen, University of Washington Department of Chemistry. 2024-2025

Undergraduate Students Advised

Alison Schmidt, University of Washington Department of Chemistry. 2026-Present
Claire Sheppard, University of Washington School of Oceanography. 2025-2025
Helen Latting, University of Washington School of Oceanography. 2024-2025

Student Committees

Katie Webb, Ph.D. Student, UW Department of Environmental and Occupational Health (GSR). 2026-Present
Joshua Anderson, Ph.D. Student, UMass Boston School of the Environment. 2026-Present
Danqiu Chen, Ph.D. Student, UW Department of Earth and Space Sciences (GSR). 2026-Present
Kyle Nash, Ph.D. Student, University of Washington Earth and Space Sciences. 2025-Present
Lucy Helms, Ph.D. Student, UW Department of Earth and Space Sciences. 2025-Present
Katherine Stelling, Ph.D. Student, UW School of Oceanography. 2025-Present
Bangran Tang, M.S. Student, Lehigh University Department of Earth and Environmental Science. 2025-Present
Je-Yun Chun, Ph.D. Student, UW Atmospheric and Climate Sciences (GSR). 2025-2026
Cassia Cai, Ph.D. Student, UW School of Oceanography. 2025-Present
Stevie Walker, Ph.D. Student, UW School of Oceanography. 2024-Present
Claudia Luthy, Ph.D. Student, UW School of Oceanography. 2024-Present
Raisha Rahman, Ph.D. Student, UW School of Oceanography. 2024-present
Andrei Medvedev, Ph.D. Student, UW School of Oceanography, 2024-present
Jade Sauve, Ph.D. Student, UW School of Oceanography. 2024-2025
Alex Lowe, Ph.D. Student, UW Department of Biology (GSR), 2024.

Staff

Samantha Breuer, Research Scientist, University of Washington, 2026-Present
Claire Sheppard, Research Scientist, University of Washington. 2025-Present
Makenzie Williamson, Research Scientist, University of Washington. 2025-2026
Jakub Sliwinski, TraceLab Manager, University of Washington. 2024-2026

TEACHING

Ocean 210 Integrative Oceanography, Spring 2025, Spring 2026
Ocean 529c Seminar on Marine $CaCO_3$ Cycle, Winter 2026
Ocean 583 Isotope Biogeochemistry, Winter 2026
Ocean/ATM/ESS 554 Paleoclimate Proxies, Winter 2025
Ocean 520 Marine Chemistry, Autumn 2024, Autumn 2026
Ocean 220 Introduction to Field Oceanography, Spring 2024

INVITED PRESENTATIONS

- University of Washington Astrobiology Colloquium, April 2026
- University of Washington School of Oceanography Seminar, February 2026

- University of Washington Chem Lunch, October 2025
- UW Program on Climate Change Summer Institute, September 2025
- Lamont-Doherty Earth Observatory Colloquium, March 2025
- University of Utah Geology and Geophysics Distinguished Lecture Series, February 2025
- University of Washington Earth and Space Sciences Colloquium, October 2024
- Oregon State University Ocean Ecology and Biogeochemistry Seminar, October 2024
- Texas A&M Geology and Geophysics Colloquium, April 2024
- University of Washington Chem Lunch, March 2024
- University of Victoria SEOS Seminar, January 2024
- University of Arizona Geosciences Colloquium, August 2023
- University of California Santa Cruz Whole Earth Seminar, May 2023
- Colorado School of Mines Van Tuyl Lecture, December 2022
- University of Colorado Boulder Geological Sciences Colloquium, November 2022
- University of Washington School of Oceanography, June 2022
- Lawrence Livermore National Lab, June 2021.
- Caltech Environmental Science and Engineering Seminar, June 2021.
- North Carolina State MEAS Seminar, January 2021.
- Caltech Geoclub Seminar, October 2020.
- University of Southern California Paleoenvironmental Seminar, April 2020.
- Scripps Marine Chemistry and Geochemistry Seminar, April 2019.
- Lamont-Doherty Geochemistry Seminar, November 2018.
- WHOI Marine Chemistry and Geochemistry Seminar, November 2018.
- MIT EAPS Seminar, November 2018.
- UCONN Avery Point Marine Sciences Seminar, October 2018.
- UC Berkeley Isotope Geochemistry Seminar, May 2018.

Conference Presentations (Presenting Author and Student Presentations only)

** Indicates Graduate Student Advisee ** Indicates Undergraduate Student Advisee*

K. Nash*, M. Cantine, **F.J. Pavia**, P. Sinelli. Corals, Climate, and Canoes: Archaeological Corals as Dual Archives of Environmental Change and Human Migration. GSA Connects, 2026.

M. Williamson*, C. Sheppard**, A. Le, K.M. Costa, **F.J. Pavia**. Uranium-series Isotopes and Trace Elements in Pteropod Aragonite: Potential for Absolute Dating of Marine Sediments. GSA Connects, 2026.

F.J. Pavia, T.M. Present, D.L. Johnson, J.F. Adkins. The Porewater Enrichment and Sediment to Seawater Flux of Uranium-234. GSA Connects, 2026.

M. Williamson*, **F.J. Pavia**, C. Sheppard**, A. Le, K.M. Costa. Uranium-series isotopes and trace elements in pteropod aragonite: primary vs. secondary uptake and potential for absolute dating of marine sediments. Goldschmidt Conference, 2026.

I. Tomchovska*, **F.J. Pavia**, W.R. Gray, P.A. Rafter, W.M. Berelson, J.F. Adkins, K.A. Farley. Evaluating the behavior of the ^{230}Th and ^{3}He constant flux proxies across a carbonate preservation gradient. Goldschmidt Conference, 2026.

F.J. Pavia, J. Farmer, T. Kalia*, A. Schmidt**, J. Treffkorn, K.A. Farley. Extraterrestrial ^{3}He in sediments as a tracer of past ice dynamics. Developments in Noble Gas Expertise and Understanding, 2026.

T. Kalia*, J. Anderson, J.R. Farmer, **F.J. Pavia**. Application of a novel inorganic proxy to reconstruct Arctic sea ice coverage during past warm periods. Ocean Sciences Meeting, 2026.

F.J. Pavia. Balancing Budgets: Constraints on Sediment Accumulation and Dissolution from

Paired Constant Flux Proxies ^{3}He and^{230}Th (**Invited**). Chemical Oceanography Gordon Conference, 2025.

F.J. Pavia, J. Farmer, L. Gemery, T. Cronin, J. Treffkorn, K.A. Farley. Large deglacial and Holocene shifts in central Arctic sea-ice coverage. AGU Fall Meeting, 2024.

F.J. Pavia, D.C. Lund, S. McCart. Hydrothermal Impacts on Trace Element Removal in the Modern and Deglacial Oceans. AGU Chapman Conference on Hydrothermal Circulation and Seawater Chemistry, 2023.

F.J. Pavia, R. Clark, A. Lepp, R.M. Comas, L. Simkins, J. Wellner, K.A. Farley. Calibrating extraterrestrial ^{3}He in ice-proximal marine sediments as a quantitative proxy for past West Antarctic Ice Sheet melt rates. West Antarctic Ice Sheet Workshop, 2022.

F.J. Pavia, L. Gemery, J. Farmer, T. Cronin, J. Treffkorn, K.A. Farley. Sea ice history of the Central Arctic from Marine Isotope Stage 3 to present using sedimentary helium isotopes. International Conference on Paleoceanography, 2022.

F.J. Pavia, W. Wang, J.K. Moore. Constraints on Global Dust Inputs and Iron Cycling from Measurements and Models of Thorium Isotopes (**Invited**). Goldschmidt Conference, 2022.

F.J. Pavia, K.A. Farley. A New Proxy for Arctic Sea Ice Coverage over the last 50,000 years. Comer Climate Conference, 2021.

F.J. Pavia, E.H.G. Cooperdock, J.C. de Obeso, F. Tissot, P.B. Kelemen, K.W.W. Sims, F. Klein. Uranium Isotopes in Serpentinites as Tracers of Redox Conditions and Weathering. AGU Fall Meeting, 2021.

F.J. Pavia, Z. Baumann, C.H. Lamborg. The LGM to Present Mercury Cycle. Comer Climate Conference, 2020.

F.J. Pavia, R.F. Anderson, G. Winckler, M.Q. Fleisher. Atmospheric Dust Inputs, Iron Cycling, and Biogeochemical Connections in the South Pacific Gyre. Ocean Sciences Meeting, 2020.

M.Q. Fleisher, **F.J. Pavia**, R.F. Anderson, S.M. Vivancos, G. Winckler, J.T. Abell. Near-Bottom ^{230}Th and ^{231}Pa Scavenging and Anomalous ^{230}Th Burial Rates in the South Pacific. Ocean Sciences Meeting, 2020.

F.J. Pavia, J.T. Abell, G. Winckler, R.F. Anderson. Reconstruction of Modern Dust Deposition in the South Pacific from Water Column and Sedimentary Methods. AGU Fall Meeting, 2019.

F.J. Pavia, S. Wang, R.F. Anderson, R.W. Murray. Trace Metal Indicators of Abyssal Ventilation During the Last Deglaciation. Comer Climate Conference, 2019.

Pavia, F.J., R.F. Anderson, M.Q. Fleisher, G. Winckler. Supply and Removal of Trace Elements in the South Pacific Gyre from Long-Lived Thorium and Protactinium Isotopes. Chemical Oceanography Gordon Conference, 2019.

Pavia, F.J., P.J. Lam, J.K. Bishop, L.J. Gloege, R.F. Anderson. A global database of size-fractionated POC and PIC concentrations compared to satellite-based estimates. OCB Summer Workshop, 2019.

Pavia, F.J., R.F. Anderson, P.J. Lam, B.B. Cael, S.M. Vivancos, M.Q. Fleisher, P. Zhang, Y. Lu, H. Cheng. Distinct POC regeneration regimes in the Peru OMZ compared to oxic waters of the

eastern Tropical South Pacific, ASLO Aquatic Sciences Meeting, 2019.

Pavia, F.J., R.F. Anderson, S. Wang. Abyssal Ventilation in the Pacific Sector of the Southern Ocean During the Last Ice Age, AGU Fall Meeting, 2018.

Pavia, F.J., R.F. Anderson, P.J. Lam, M. Martin, R. Fine, S.M. Vivancos, M.Q. Fleisher, P. Zhang, Y. Lu, H. Cheng, R.L. Edwards. Vertical POC Flux Profiles and Oxygen Utilization Rates from Particulate ^{230}Th-Normalization, Goldschmidt Conference, 2017.

Pavia, F.J., R.F. Anderson, M.Q. Fleisher, S.M. Vivancos, Y. Lu, P. Zhang, H. Cheng, R.L. Edwards. Continuous, Rapid Scavenging of Thorium and Protactinium During Westward Advection of the East Pacific Rise Hydrothermal Plume, AGU Ocean Sciences Meeting, 2016.

Pavia, F.J., J.E. Nichols, G. Winckler, P. De Deckker. Pairing Leaf-Wax Isotopes and Lithogenic Fluxes to Understand the Drivers of Dustiness in the South Pacific, AGU Fall Meeting, 2014.

Pavia, F.J., G. Winckler, J.E. Nichols. The Sensitivity of *n*-alkanes in Marine Sediments to Changes in Dustiness: Further Developing the Use of Leaf Wax Biomarkers as a Dust Proxy. AGU Fall Meeting, 2013.

Pavia, F.J., J.E. Nichols, D.M. Peteet. Reconstructing Paleoclimate and Carbon Storage of Alaskan Peatlands During the Holocene. AGU Fall Meeting, 2012.

University and Department Service

- UW Nuclear Visioning Committee, 2026-Present
- Coordinated UW-wide visit for PNNL Nuclear Forensics Group, Fall 2025
- Two guest lectures in Ocean 520 Marine Chemistry, Fall 2025
- Guest lecture, UW Data Science in Oceanography Summer Program, August 2025
- UW Oceanography Hiring Committee, Fall 2024-present
- UW Oceanography Faculty Council, Fall 2024-present
- Faculty Advisor for Talia Russom Environmental Studies Senior Capstone, 2024-2025
- Professional Development Workshop for UW Oceanography postdocs, Fall 2024

Review Activities and Professional Service

- Peer Reviewer: *Geochemistry, Geophysics, Geosystems*, *Geophysical Research Letters*, *Frontiers in Marine Science*, *Frontiers in Earth Science*, *Biogeosciences*, *Paleoceanography & Paleoclimatology*, *Global Biogeochemical Cycles*, *Chemical Geology*, *JGR Oceans*, *Earth System Science Data*, *Science Advances*, *Oceanography*, *Nature Communications*, *Geochimica et Cosmochimica Acta*, *Climate of the Past*.
- Peer Reviewer: NSF OCE Postdoctoral Fellowship, NSF MG&G, NSF EAR, NSF ANS, U.S. SODCO
- Panel Reviewer: NASA PSTAR, NOAA mCDR, ARPA-E
- Organizer and Lead PI: U-series geochronology intercalibration workshop, October 2026.
- Convener, GSA Connects: U-series Disequilibrium Geochronology: Advances, Applications, and Emerging Frontiers, October 2026.
- Convener, AGU Fall Meeting: Systematics and Applications of Redox Proxies from Precambrian to Pleistocene, December 2019.

Media Coverage and Press

Racquet Magazine Coverage of Carbon Removal on Tennis Courts

Sports Illustrated Coverage of Carbon Removal on Tennis Courts

Defector Media Coverage of Carbon Removal on Tennis Courts

UW News Story on 2026 Sloan Fellows

New York Times Coverage of Arctic Sea Ice Paper

Interview on NPR Shortwave Podcast

Interview on Radio Ecoshock

Seagoing Experience

R/V Sally Ride (SR2113) **November-December 2021**
San Diego to San Diego. 28 days.
Water sampling, in-situ pump operation, gravity coring, multicoring.

R/V Sally Ride (SR2010) **December 2020**
San Diego to San Diego. 8 days.
Water sampling, in-situ pump operation, sediment sampling.

R/V Ka‘imikai-O-Kanaloa (HOT-303) **June 2018**
Honolulu to Honolulu. 5 days.
Water sampling for noble gas isotopes.

R/V IB Nathaniel B. Palmer (NBP17-02) **January-March 2017**
McMurdo Station, Antarctica to Lyttleton, New Zealand. 42 days.
Water sampling and filtration, multicoring, gravity coring, piston coring.

UltraPac Expedition, R/V Sonne (SO245). **December 2015-January 2016**
Antofagasta, Chile to Wellington, New Zealand. 43 days.
Water sampling and filtration, in-situ pump operation, box coring, gravity coring.