Dr. Chandranath Basak

Email: cbasak@udel.edu
Web: https://basak-clim-chem.weebly.com/

University of Delaware
Department of Earth Sciences
255 Academy Street, Newark,
DE 19716, USA

Google Scholar: https://scholar.google.com/citations?user=RyR0bqcAAAAJ&hl=en

APPOINTMENTS

2022 – University of Delaware, Newark, DE
Assistant Professor; Department of Earth Sciences

Affiliate: Delaware Environmental Institute

2019 – 2022 University of Delaware, Newark, DE
Research Assistant Professor; Department of Earth Sciences

2017 – Lamont-Doherty Earth Observatory, Columbia University, New York
Adjunct Associate Research Scientist

2017 – 2019 California State University, Bakersfield, CA
Assistant Professor

2014 – 2017 Lamont-Doherty Earth Observatory, Columbia University, New York
Postdoctoral Research Scientist

2011 – 2013 Max Planck Research Group - Marine Isotope Geochemistry at Carl von Ossietzky University, Institute for Chemistry and Biology of the Marine Environement, Germany
Postdoctoral Research Scientist

PROFESSIONAL PREPARATION

2011 University of Florida, Gainesville, FL
Ph.D. in Geological Sciences

2006 Indiana State University, Terra Haute, IN
M.Sc. in Geology

2004 Jadavpur University, India
M.Sc. in Applied Geology

2002 University of Calcutta, India
B.Sc. in Geology (Honors); Minor: Chemistry and Mathematics

GRANTS AND AWARDS

2024 National Science Foundation (Submitted); Unlocking the Deep Ocean Circulation Mysteries of the Subantarctic South Pacific Ocean and its influence on Climate Over the Last 2 Million Years ($550,417 NSF, MG&G, **Basak, C., PI**)

National Science Foundation (Submitted); RAISE: Enhanced Recovery of Rare-Earth Elements Through Formation of High-Temperature Sulfate Liquids: Towards More Circular Utilization pathways. ($749, 025, NSF, **Basak, C., Co-PI**)

University of Delaware Research Foundation (Submitted); Rare Earth Elements and Melting Antarctica: Monitoring our Rapidly Changing Oceans for a Safer Future. ($44, 995, UDRF; **Basak, C., PI**)

2023 National Science Foundation; sub-contract from Columbia University (Awarded); Collaborative Research: Nd isotopes and REEs in the North Pacific ($64,969 NSF, **Basak, C., PI**)

2022 National Science Foundation (Awarded); Collaborative Research: A porewater perspective on benthic sources of neodymium to the North Atlantic ($362,830, NSF, MG&G; **Basak, C., UD PI)**

National Science Foundation; sub-contract from Oregon State Univeristy (Awarded); Collaborative Research: US GEOTRACES Pacific Meridional Transect: Sources and Sinks of Neodymium Isotopes and Rare Earth Elements ($90,688, NSF, **Basak, C., PI**)

2021 National Science Foundation (Awarded); Collaborative Research: US GEOTRACES GP17-OCE: Understanding Nd isotopes and REE systematics in the South Pacific ($495,676, NSF, Chemical Oceanography; **Basak, C., PI**)

2019 National Science Foundation (Awarded); Collaborative Research: Investigating the Influences of Hydrothermal and Respired Carbon in Intermediate Waters of the Equatorial Pacific Ocean During the Last Deglaciation ($255,788, NSF, MG&G; **Basak, C.**, **UD PI**)

National Science Foundation; sub-contract from Columbia Univeristy (Awarded); Deep ocean Circualtion and water mass structure in the high latitude South Pacific across the Plio/Pleistocene ($17,997, IODP post expedition award, **Basak, C., PI**).

2018 W.M. Keck Foundation (Awarded); Introducing Undergraduate Students to Ocean Science Research ($150,000, **Basak, C., PI**)

California State University, Bakersfield (Awarded); Behavior of Rare Earth Elements (REEs) in Oxygen Minimum Zone (**4 teaching credits release** to engage in research, scholarship and creative activity; **Basak, C., PI**)

2017 National Science Foundation (Awarded); Testing fidelity of Nd isotopes as a paleocirculation tracer in the Southeast Indian-Southern Ocean ($142,645, NSF, MG&G; **Basak, C., PI**)

National Science Foundation (Awarded); Collaborative Research: US GEOTRACES Pacific Meridional Transect: Source and Sinks of Nd Isotopes and REE ($443,776, NSF, Chemical Oceanography; **Basak, C., Co-PI**)

2015 Lamont Climate Center (Awarded); Oxygen Minimum Zone fluctuation in the Arabian Sea during abrupt climate change events ($10,000, **Basak, C., PI**)

CURRENT RESEARCH PROJECTS

2023 Rare Earth Elements and Melting Antarctica: Monitoring our Rapidly Changing Oceans for a Safer Future.

2022 A porewater perspective on benthic sources of neodymium to the North Atlantic

2021 US GEOTRACES GP17-OCE: Understanding Nd isotopes and REE systematics in the South Pacific

2019/2020 Investigating the influences of hydrothermal and respired carbon in intermediate waters of the equatorial Pacific ocean during the last deglaciation

Deep ocean circulation and water mass structure in the high latitude South Pacific across the Plio/Pleistocene

Mapping rare earth elements in a fast changing ocean

2018 Testing fidelity of Nd isotopes as a paleocirculation tracer in the Southeast Indian-Southern Ocean

Dissolved rare earth elements along an oxygen gradient off San Diego

2017 US GEOTRACES Pacific Meridional Transect: Source and sinks of Nd isotopes and REE

2016 Understanding the subarctic North Pacific past circulation changes: Nd isotopic approach

2014 US GEOTRACES: Dissolved Nd isotope ratios along the GEOTRACES Eastern Pacific Zonal Transect

PUBLICATIONS

Peer-reviewed journal articles and expedition report

1. **Basak, C.**, Wu, Y., Haley, B. A., Muratli, J. M., Pena, L. D., Bolge, L.B., Fitzsimmons, J.N., Sherrell, R.B., Goldstein, S. L.,: Suspended Particulate Matter Influence on Dissolved Nd Concentration and Isotopic Composition Along GEOTRACES Section GP16, ***Earth and Planetary Science Letters*** (Accepted with minor revision).

2. Lamy, F., Winckler, G., Arz, H.W., Farmer, J. R., Gottschalk,J., Lembke-Jene, L., Middleton, J. L., van der Does,M., Tiedemann, R., Zarikian, C.A., **Basak, C.,** Brombacher, A., Dumm, L., Esper, O. M., Herbert, L. C., Iwasaki, S., Kreps, G., Lawson, V. J., Lo, Li., Malinverno, E., Martinez-Garcia, A., Michel, E., Moretti, S., Moy, C. M., Ravelo, A. C., Riesselman, C. R., Saavedra-Pellitero, M., Sadatzki, H., Seo, I., Singh, R. K., Smith, R.A., Souza, A. L., Stoner, J.S., Toyos, M., Venancio, I.M., Oliveira, P., Wan, S., Wu, S., Zhao, X.: Five million years of Antarctic Circumpolar Current strength variability, ***Nature*** (Accepted)

3. Middleton, J. L., Gottschalk, J., Winckler, G., Hanley, J., Knudson, C., Farmer, J. R., Lamy, F., Lisiecki, L. E., and the **Expedition 383 Scientists:** Evaluating manual versus automated benthic foraminiferal $\delta^{18}O$ alignment techniques for developing chronostratigraphies in marine sediment records, ***EGUsphere*** [*preprint*], https://doi.org/10.5194/egusphere-2023-2906, 2023.

4. Hoogakker, B., Davis, C., Wang, Y., Kusch, S., Nilsson-Kerr, K., Hardisty, D., Jacobel, A., Reyes Macaya, D., Glock, N., Ni, S., Sepúlveda, J., Ren, A., Auderset, A., Hess, A., Meissner, K., Cardich, J., Anderson, R., Barras, C., **Basak, C.,** Bradbury, H., Brinkmann, I., Castillo, A., Cook, M., Costa, K., Choquel, C., Diz, P., Donnenfield, J., Elling, F., Erdem, Z., Filipsson, H., Garrido, S., Gottschalk, J., Govindankutty Menon, A., Groeneveld, J., Hallman, C., Hendy, I., Hennekam, R., Lu, W., Lynch-Stieglitz, J., Matos, L., Martínez-García, A., Molina, G., Muñoz, P., Moretti, S., Morford, J., Nuber, S., Radionovskaya, S., Raven, M., Somes, C., Studer, A., Tachikawa, K., Tapia, R., Tetard, M., Vollmer, T., Wu, S., Zhang, Y., Zheng, X.-Y., and Zhou, Y.: Reviews and syntheses: Review of proxies for low-oxygen paleoceanographic reconstructions, ***EGUsphere*** [*preprint*], https://doi.org/10.5194/egusphere-2023-2981, 2024.

5. Wu, Y., Pena, L. D., Anderson, R. F., Hartman, A. E., Bolge, L. L., **Basak**, **C**., Kim, J., Rijkenberg, M. J. A., de Baar, H. J. W., & Goldstein, S. L. 2022. Assessing neodymium isotopes as an ocean circulation tracer in the Southwest Atlantic. *Earth and Planetary Science Letters* 599, 117846.

6. Haley, B.A., Wu, Y., Muratli, J.M., **Basak, C.**, Goldstein, S., 2021. Rare earth element and neodymium isotopes of the eastern US GEOTRACES Equatorial Pacific Zonal Transect (GP16). *Earth and Planetary Science Letters* 576, 117-233.

7. Lamy, F., Winckler, G., Alvarez Zarikian, C.A., and the **Expedition 383 Scientists**, 2021. Dynamics of the Pacific Antarctic Circumpolar Current. Proceedings of the International Ocean Discovery Program, 383: College Station, TX (International Ocean Discovery Program).

8. Wu, Y., Pena, L. D., Goldstein, S. L., **Basak, C.,** Bolge, L. L., Jones, K.M., McDaniel, D.K., Hemming, S.R., 2020. A User-Friendly Workbook to Facilitate Rapid and Accurate Rare Earth Element Analyses by ICP-MS for Multi-spiked Samples. *Geochemistry, Geophysics, Geosystems*, 21, 2020GC009042.

9. Lamy, F., Winckler, G., Alvarez Zarikian, C.A., and the **Expedition 383 Scientists**, 2019. *Expedition 383 Preliminary Report: Dynamics of the Pacific Antarctic Circumpolar Current.* International Ocean Discovery Program. **https://doi.org/10.14379/iodp.pr.383.2019**

10. Naik, S.S., **Basak, C.**, Goldstein, S.L., Naidu, P.D., Naik, S.N., 2019. A 16 kyr record of ocean circulation and monsoon intensification from the central Bay of Bengal. *Geochemistry, Geophysics, Geosystems* 20, 872-882.

11. Sarkar, S., **Basak, C.**, Frank, M., Berndt, C., Huuse, M., Badhani, S., Bialas, J., 2019. Late Eocene onset of the Proto-Antarctic Circumpolar Current. *Scientific Reports* 9, 10125.

12. **Basak, C.**, Fröllje, H., Lamy, F., Gersonde, R., Benz, V., Anderson, R.F., Molina-Kescher, M., Pahnke, K., 2018. Breakup of last glacial deep stratification in the South Pacific. *Science* 359, 900-904.

13. Schlitzer, R. **et al.**, 2018. The GEOTRACES Intermediate Data Product 2017. *Chemical Geology*, https://doi.org/10.1016/.chemgeo.2018.05.040

14. Horikawa K., Martin E. E., **Basak C.**, Onodera J., Osamu Seki, Sakamoto T., Ikehara M., Sakai S., Kawamura K., 2015. Pliocene climate cooling enhanced by flow of low salinity Bering Sea water to the Arctic Ocean. *Nature Communications*, 6.

15. **Basak, C.**, Pahnke, K., Frank, M., Lamy, F., Gersonde, R., 2015. Neodymium isotopic characterization of Ross Sea Bottom Water and its advection through the southern South Pacific. *Earth and Planetary Science Letters* 419, 211-221.

16. **Basak, C.**, and Martin, E. E., 2013. Antarctic weathering and carbonate compensation at the Eocene-Oligocene transition. *Nature Geoscience*, 6(2): 121-124.

17. van de Flierdt T., Pahnke K., and **GEOTRACES intercalibration participants**, 2012. GEOTRACES intercalibration of neodymium isotopes and rare earth elements in seawater and marine particulates – Part 1: international intercomparison. *Limnology and Oceanography: Methods*, 10, 234-251.

18. MacLeod, K.G., Isaza Londono, C., Martin, E.E., Jimenez Berrocoso, A., and **Basak, C.**, 2011. Changes in North Atlantic circulation at the end of the Cretaceous greenhouse interval. *Nature Geoscience*, 4(11), 779-782.

19. **Basak C.**, Martin E. E., and Kamenov, G. D., 2011. Seawater Pb isotopes extracted from Cenozoic marine sediments. *Chemical Geology*, 286, 94–108.

20. **Basak, C.**, Martin, E.E., Horikawa, K., and Marchitto, T.M., 2010. Southern Ocean source of 14C- depleted carbon in the North Pacific Ocean during the last deglaciation. *Nature Geoscience*, 3(11): 770-773.

21. Jiménez Berrocoso, A., MacLeod K.G., Martin, E.E., Bourbon, E., Isaza-Londoño, and **Basak, C.**, 2010. Nutrient trapping during Late Cretaceous organic-rich shale deposition in the tropical North Atlantic. *Geology* 38, 1111-1114.

22. Martin, E.E., Blair, S.W., Kamenov, G.D., Scher, H.D., Bourbon, E., **Basak, C.** and Newkirk, D.N., 2010. Extraction of Nd isotopes from bulk deep-sea sediments for paleoceanographic studies on Cenozoic time scales. *Chemical Geology*, 269(3-4): 414-431.

23. Dekov V. M., Cuadros J., Kamenov G. D., Weiss D., Arnold T., **Basak C.**, and Rochette P., 2010. Metalliferous sediments from the H.M.S. Challenger voyage (1872-1876). *Geochimica et Cosmochimica Acta* 74(17), 5019-5038.

24. **Basak, C.**, Rathburn, A.E., Pérez, M.E., Martin, J.B., Kluesner, J.W., Levin, L.A., De Deckker, P., Gieskes, J.M. and Abriani, M., 2009. Carbon and oxygen isotope geochemistry of live (stained) benthic foraminifera from the Aleutian Margin and the Southern Australian Margin. *Marine Micropaleontology*, 70(3-4): 89-101.

Manuscripts in preparation [* mentored postdoc]

1. Kapuge, A. K. I. U.[§], **Basak, C.**, Farmer, J. R. Deep Ocean Circulation Variability in the High-Latitude South Pacific for the Last 800 kyr Using ε_{Nd} Isotopic Signatures. (in preparation).

2. Cruz, A.P.S. *, Basak, C., Rafter, P., Ramos, R. C. P., Rathburn, A.E., Barbosa, C.F.. Neodymium Isotope Response to Hydrologic and Water Mass Changes in the Equatorial and Subtropical Western Atlantic During the Last 40 kyr. (to be submitted to *Earth and Planetary Science Letters*).

3. **Basak, C.**, Symes, E.§, Middleton, J. L., Farmer, J. R., Winckler, G., Cruz, A. P. S.. Deep Ocean Circulation Changes in the South Pacific during the Mid-Pleistocene Transition. (to be submitted to *Earth and Planetary Science Letters*).

PUBLISHED ABSTRACTS AND PRESENTATIONS (LAST 5 YEARS)

(*posdoctoral scholar; § graduate student; ** presenting author)

1. Khatiwala, S., **Basak, C.**, & Schmittner, A. 2023.Impact of cavenging by Nepheloid Layers on the Distribution of Protactinium and Thorium Isotopes in the Ocean, Goldschmidt, Lyon, France.

2. Wu, Y., **Basak, C.**, Muratli, J. M., Pena, L. D., Bolge, L., Haley, B. A., & Goldstein, S.L. 2023. Neodymium Isotopes along the GEOTRACES GP16 Eastern Pacific Zonal Transect, Goldschmidt, Lyon, France.

3. Symes, E.§, **Basak, C.**, Middleton, J. L., Farmer, J. R., Winckler, G., Cruz, A. P. S., & Science Party E383. 2023. Deep Ocean Circulation Changes in the South Pacific during the Mid-Pleistocene Transition, Goldschmidt, Lyon, France.

4. Kapuge, A. K. I. U.§, **Basak, C.** & Farmer, J. R. 2023. Deep Ocean Circulation Variability in the High-Latitude South Pacific for the Last Six Glacial Terminations Using εNd Isotopic Signatures, Goldschmidt, Lyon, France.

5. Kapuge, A. K. I. U.§, **Basak, C**., Farmer, J. R. 2022. Reconstructing Pleistocene Deep Ocean Circulation Changes using Nd isotopes in the Pacific Sector of the Southern Ocean, 14th International Conference on Paleoceanography; Bergen, Norway.
6. **Basak, C.**, Wu, Y., Goldstein, S.L., Bolge, L., 2022. Testing the Fidelity of Nd Isotopes as a Circulation Tracer in the Southeast Indian - Southern Ocean, Ocean Sciences Meeting (virtual), Hawaii, USA.

7. **Basak, C.**, Wu, Y., Haley, B.H., Muratli, J., Pena, L.D., Bolge, L., Fitzsimmons, J.N., Sherrell, R.M., Goldstein, S.L., 2021. Role of suspended particulate matter and dissolved Nd in the hydrothermal plume from the East Pacific Rise, Goldschmidt Conference (virtual), France (*invited speaker*).

8. Cruz, A. P. S.*, **Basak, C.**, Portilho-Ramos, R., Rathburn, A.E., Barbosa, C.F., 2019. Reconstruction of Antarctic Intermediate Water Geometry in the Mid-latitude South Atlantic During the Last 40 kyr, Fall meeting of American Geophysical Union, San Francisco, USA.

9. Goldstein, S. L., Pena, L. D., Yehudai, M., Kim, K., Segui, M. J., Knudson, K. P., **Basak, C.**, Hartman, A.E., Lupien, R., 2019. AMOC Variability over the Last ~2 Ma from a North-South Atlantic Transect Using Nd Isotopes, Fall meeting of American Geophysical Union, San Francisco, USA.

10. **Basak, C.**, Wu, Y., Muratli, J. M., Goldstein, S. L., Haley, B. A., Pena, L. D., 2019. Dissolved Nd isotope ratios along the GEOTRACES Eastern Pacific Zonal Transect, Japan Oceanographic Society, Toyama, Japan.

11. Vivancos, S. M., Anderson, R.F., Pavia, F.J., Fleisher, M.Q., Lu, Y., Zhang, P., Cheng, Y., Edwards, R.L., Muratli, J.M., Haley, B.A., **Basak, C.**, Goldstein, S.L., 2018. Oceanic Dissolved Residence Times of Bioactive and Rare Earth Elements in the Eastern Tropical Pacific Ocean Along the GEOTRACES GP16 Transect. Ocean Sciences Meeting, Portland, USA.

12. Kim, K., Segui, M. J., Knudson, K. P., Yehudai, M., Goldstein, S. L., Pena, L. D., **Basak, C.**, Ferretti, P., 2017.Reconstruction of the North Atlantic end-member of the Atlantic Meridional Overturning Circulation over glacial–interglacial cycles, Fall meeting of American Geophysical Union, New Orleans, USA.

13. Goldstein, S. L., Pena, L. D., Yehudai, M., Segui, M. J., Kim, J., Knudson, K. P., **Basak, C.**, 2017. The Atlantic Meridional Overturning Circulation over time: a Nd isotope perspective, Fall meeting of American Geophysical Union, New Orleans, USA.

14. **Basak, C.**, Muratli, J., Wu, Y., Haley, B., Goldstein, S. L., 2016. Dissolved Nd isotope ratios along the US GEOTRACES Eastern Pacific Zonal Transect. Fall meeting of American Geophysical Union, San Francisco, USA.

15. Plancherel, Y., **Basak, C.****, Khatiwala, S., Anderson, R. F., 2016. The influence of ne pheloid layers on global model simulations of 231Pa and 230Th. Fall meeting of American Geophysical Union, San Francisco, USA. [**presenting author].

16. Naik, S. S., **Basak, C.**, Naidu, D., Goldstein, S. L., 2016. A 16 kyr seawater neodymium isotope record from the central Bay of Bengal. Fall meeting of American Geophysical Union, San Francisco, USA.

17. **Basak, C.**, Goldstein, S. L., Anderson, R. F., Romahan, S. Pätzold, J., 2016. Ocean Circulation and Past Variability in Arabian Sea Oxygen Minimum Zone. International Conference of Paleoceanography 12, Utrecht, Netherlands.

18. Pahnke, K., **Basak, C.**, Fröllje, H., Lamy, F., Gersonde, R., Anderson, R.F., 2016. Breakup of last glacial deep stratification in the south pacific. International Conference of Paleoceanography 12, Utrecht, Netherlands.

RESEARCH EXPEDITIONS

2022	Coring training cruise for PIs onboard R/V Roger Revelle off Oregon (10 days). Sailed as a trainee PI.
2019	International Ocean Discovery Program, Expedition 383 (9 weeks). Sailed as an inorganic Geochemist.
2018	Southern Indian Ocean (7 weeks). Funded PI.
	Student training cruise onboard R/V Robert Gordon Sproul off San-Diego (1 Day) . Sailed as a mentor.
	Research cruise off San-Diego (4 days). Sailed as a research scientist with active mentoring role for both undergraduate and graduate students.
2011	Selected participant in the UNOLS Early Career Investigator Oceanographic Research Cruise Training Program (1 week). Involved in water sampling, sediment coring, and plankton tows.
2007	Invited participant on a research cruise onboard R/V Atlantis off Monterey Bay, CA (1 week). Involved in water sample collection and preservation for stable isotope analyses.
2005	Invited participant on a research cruise onboard R/V Roger Revelle (6 days). Involved in dredging submarine rock samples and mapping of the sea floor off the coast of California.

INVITED TALKS

2023	Chemical Oceanography Gordon Research Conference, NH, USA
2022	Scripps Institution of Oceanography, San Diego, CA, USA
	Florida State University, Dept. of Earth, Ocean, and Atmospheric Science, Tallahassee, FL, USA
2021	Texas A&M, Dept. of Oceanography, College Station, TX, USA
	Woods Hole Oceanographic Instituition, MA, USA
	Goldschmidt Conference, France
2020	Rutgers University, New Brunswick, NJ, USA
	Temple University, Philadelphia, PA, USA.
2019	Texas A&M University, College Station, TX, USA.
	Japan Oceanographic Society Annual Meeting, Toyama, Japan.

2018 University of Delaware, Newark, DE, USA.

2017 California State University, Bakersfield, CA, USA.

2015 Arizona State University, Tempe, AZ, USA.
Lamont Doherty Earth Observatory, Palisades, NY, USA.
City College of New York, NY, USA.

2011 University of Oldenburg, Oldenburg, Germany.

WORKSHOPS AND PROFESSIONAL TRAINING (Last 5 years)

2023 What can marine authigenic Nd isotopes be reliably used for?- One day pre-conference worshop, Goldschmidt 2023, Lyon, France. **Role:** Co-organizer with five other scientists to develop concensus on a few pressing issues in the immediate scientific community.

2022 University-National Oceanographic Laboratory System (UNOLS) Coring PI Training Workshop. **Role:** Selected participant.

2021 Identifying New Community-Driven Science Themes for NSF's Support of Paleo Perspectives on Climate Change (P2C2): A Workshop (virtual). **Role:** Participant, as a member of the paleo community.

2020 GP17- Tahiti-Antarctica-Chile section planning workshop, (virtual). **Role:** Basak is the lead for measuring dissolved Nd isotopes and REE measurement efforts for Tahiti-Punta-Arenas section.

2019 Wally Broecker Symposium, Palisades, NY, USA.

2018 GP15-PMT Pre-cruise meeting and workshop, Norfolk, VA, USA. **Role:** Planning Workshop for NSF funded project, Basak is a funded PI who contributed to the overall planning.

CSU Water Resources and Policy Initiatives Conference, CSUSB Palm Desert Campus, Palm Desert, CA, USA.

The Scientific Inspirations of Wolfgang H. Berger: An honorary symposium at the Scripps Institution of Oceanography, La Jolla, San Diego, CA, USA.

2017 Indian Ocean Science Workshop, La Jolla, CA, USA.

TEACHING

2023-2024 University of Delaware

GEOL 108: Earthquakes and Volcanoes (Undergraduate lecture (asynchronous)); Enrollment: 250

GEOL 203: Earth Surface Processes (Undergraduate lecture; co-teaching); Enrollment: 31

MAST 637: Geological Oceanography (Graduate lecture); Enrollment: 9

GEOL 868: Research; Enrollment: 1

GEOL 869: Master's Thesis (Independent Study); Enrollment: 1

GEOL 969: Doctoral Dissertation (Independent Study); Enrollment: 2

2022-2023 University of Delaware

MAST 637: Geological Oceanography (Graduate lecture); Enrollment: 13

GEOL 602: Earth Science Speaker Series (Fall and Spring); Enrollment: 12

GEOL/MAST 852: Isotope Geochemistry (Graduate lecture; co-teaching) ; Enrollment: 8

GEOL 466: Independent Study; Enrollment: 1

GEOL 868: Research; Enrollment: 3

GEOL 869: Master's Thesis (Independent Study); Enrollment: 2

GEOL 887: Special Session Research; Enrollment: 2

GEOL 969: Doctoral Dissertation (Independent Study); Enrollment: 1

2021-2022 University of Delaware

GEOL 105: Geological Hazards and Their Human Impact (Undergradaute lecture) ; Enrollment: 193

GEOL 868: Research; Enrollment: 3

GEOL 887: Special Session Research; Enrollment: 3

2020-2021 University of Delaware

GEOL 105: Geological Hazards and Their Human Impact (Undergradaute lecture); Enrollment: 186

GEOL 467/667: Introduction to Biogeochemistry (Upper level undergraduate and graduate level class); Enrollment: 10

GEOL 868: Research; Enrollment: 2

2019	California State University, Bakersfield
	Geological Oceanography (Undergraduate lecture + lab course)
	Paleoclimate (Graduate lecture + lab course)
2018	California State University, Bakersfield
	Advanced Professional Development (Lecture + one-on-one session with students to imporove CVs, resume, research statement)
	Geological Oceanography (Undergraduate lecture + lab course)
	Research Methods and Strategies (Gradute lecture)
2017	California State University, Bakersfield
	Dangerous Earth (Undergraduate lecture + lab course)
	Ocean Sciences (Graduate lecture + lab course)

GUEST LECTURES

2020	Ocean and Climate, Earth 100, Introductory general education class for non-majors, Penn State Brandywine.
	Ocean research and opportunities, GEOL 601, Overview of the graduate program in Earth Sciences, University of Delaware.

POSTDOCTORAL MENTEE AND VISITING STUDENT

2023	Lena Jebasinski, University of Kiel
2022 - 2023	Yukiko Kozaka, University of Delaware
2018 - 2020	Anna Cruz, University of Delaware

GRADUATE ADVISEE (* committee chair)

2024	Cory Hite*, PhD student, Univerisity of Delaware
2023	Pranaykunar Tirpude*, PhD student, Univerisity of Delaware
2022	Elisabeth Carver, MS student; graduated Spring 2023; University of Delaware
	Desire Piphus, MS student; graduated Spring 2023; University of Delaware
2021	Emily Symes*, MS student; graduated Summer 2023; University of Delaware

	Laura Johnson*, MS student; planned defense in 2024; University of Delaware
2021	Isuri Kapuge*, PhD student (advanced to candidacy); University of Delaware
2020	Tyler Schmidt, PhD student (advanced to candidacy); University of Delaware
2018-20	Jesus Robles*, MS student; graduated Summer 2020; California State University, Bakersfield, CA.

INFORMAL MENTEE

2017-19	Salvador Vargas, (MS student), California State University, Bakersfield, CA
2015-17	Joohee Kim (undergraduate), Lamont Doherty Earth Observatory, Palisades, NY
2011-13	Melanie Behrens (PhD student), University of Oldenburg, Oldenburg, Germany
	Henning Fröllje (PhD student), University of Oldenburg, Oldenburg, Germany

UNDERGRADUATE MENTEE

2023	Denise Becker (University of Delaware, Undergradaute research)
2021	Alex Shepro (University of Delaware, summer research scholar)
2020	Daniel Vernon (University of Delaware)
2019	Alana Hodge (University of Delaware)

SERVICE (selected)

2024	Steering committee member, Future of ocean drilling in the US
	TT faculty search committee member, UD Department of Earth Sciences
	Committee member, Graduate admission, UD Department of Earth Sciences
2023	Elected member, UD Faculty Senate
	CT faculty search committee member, UD Department of Earth Sciences
	Chair, UD Department of Earth Sciences' safety committee
	Faculty advisor, UD CEOE EmPOWER (student-run initiative)
2022	Committee member, UD University student and faculty honors committee

	Committee member, UD CEOE Inclusion, Diversity, Equity and Accountability (IDEA)
2021	Panelist, Scientific Evaluation Panel, International Ocean Discovery Program (IODP)
	Ad hoc reviewer, Swiss National Science Foundation, US NSF
2020	Selected panelist for the Scientific Evaluation Panel, International Ocean Discovery Program (IODP)
	Panelist, Marine Geology and Geophysics Program National Science Foundation (NSF)
	Panelist, Graduate Research Fellowship Program National Science Foundation (NSF)
	Ad hoc reviewer, NSF
	Session organizer, American Geophysical Union, Fall meeting.
	Committee member, 'Respectful Conversations, Code of Conduct' Department of Earth Sciences, University of Delaware
	Committee member, University library committee
2019	Committee member, Environmental Health and Safety Committee, California State University, Bakersfield
	Ad hoc reviewer, NERC-IODP
2018	Panelist, Graduate Research Fellowship Program, National Science Foundation (NSF)
2017	Ad hoc reviewer, NSF
	Volunteer judge, Outstanding Student Presentation Competition, American Geophysical Union (AGU) fall meeting
2017, 2016	Mentor, Columbia's Lamont-Doherty Earth Observatory High School Student Intern Mentoring Program
2012	Ad hoc reviewer, United States-Israel Binational Science Foundation
2011 –	Manuscript reviewer: *Geology, Earth and Planetary Science Letters, Geochimica Cosmochimica Acta, Marine Geology, Chemical Geology, G3: Geochemistry, Geophysics, Geosystems, Nature, Nature Geoscience, Nature Communications, Geophysical Research Letters, Paleoceanography and Paleoclimatology, Quaternary Science Reviews, Science.*

PROFESSIONAL MEMBERSHIP

2010 – Geochemical Society

2005 – American Geophysical Union