

Julio C. Sepúlveda

Department of Geological Sciences & Institute of Arctic and Alpine Research (INSTAAR)
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RESEARCH INTERESTS

- Organic and stable isotope biogeochemistry
- Lipid biomarkers as tracers for microbial processes and biogeochemical cycles
- Geobiology
- Paleoenvironmental sciences, CO₂ forcing and climate change, co-evolution of climate and biology

EDUCATION

2008/11 Ph.D., Marine Geosciences (Dr. rer. nat.; Magna cum Laude), Univ. of Bremen, Germany
2005/04 M.Sc., Oceanography (with honors), Univ. of Concepción, Chile.
2001/04 B.S., Marine Biology and Oceanography (with honors), Univ. of Concepción, Chile

PROFESSIONAL EXPERIENCE

2020–present Adjunct Assistant Professor, Dept. of Geology, State Univ. of New York at Buffalo
2019–present Core Faculty Member, Center for Microbial Exploration, Univ. Colorado Boulder
2016–present Adjunct Scientist, Millennium Institute of Oceanography, Univ. Concepción, Chile
2016–present Core collaborator, NASA Astrobiology Institute Rock Powered Life, Univ. Colorado Boulder
2014–present Assistant Professor of Organic Geochemistry, Dept. of Geological Sciences, Univ. Colorado Boulder
2014–present Fellow, Institute of Arctic and Alpine Research (INSTAAR)
2013–2014 Research Scientist, Department of Earth, Atmospheric and Planetary Sciences, MIT
2010–2012 Postdoctoral Associate, Department of Earth, Atmospheric and Planetary Sciences, MIT.
Advisor: Prof. Roger Summons
2009–2009 Postdoctoral Fellow, Department of Earth, Atmospheric and Planetary Sciences, MIT.
Advisor: Prof. Roger Summons
2006–2007 Visiting Research Fellow (6 mo.), Department of Earth, Atmospheric and Planetary Sciences, MIT. Advisor: Prof. Roger Summons
2005–2008 Graduate Research Fellow, Center for Marine Environmental Sciences (MARUM), Univ. Bremen, Germany. Advisor: Prof. Kai-Uwe Hinrichs
2002–2003 Visiting Research Fellow (9 mo.), Department of Marine Chemistry, Woods Hole Oceanographic Institution, USA. Advisor: Dr. Konrad Hughen
2000–2005 Undergraduate and Graduate Research Fellow, Research Assistant, Department of Oceanography, Univ. Concepción, Chile. Advisor: Prof. Silvio Pantoja
1998–2000 Research Assistant, FONDAP-HUMBOLDT Program, Department of Oceanography, Univ. Concepción, Chile. Advisor: Prof. Victor Gallardo

HONORS AND AWARDS

- 2020/01 Arts and Sciences Fund for Excellence, University of Colorado Boulder
- 2018/01 American Chemical Society Petroleum Research Fund - Doctoral New Investigator Award
- 2012/02 MIT-2012 School of Science Infinite Kilometer Award, for exceptional contributions to the community and mentoring of students
- 2010/01 MARUM Research Prize – Best PhD. thesis in Marine Geosciences, University of Bremen
- 2005–2008 International Graduate College – Proxies in Earth History (EUROPROX) Fellowship
- 2004/09 IMAGES–SCOR Student Travel Grant, 8th Int. Conference in Paleoceanography, France
- 2003/02 American Society of Limnology and Oceanography (ASLO) Student Travel Award, USA
- 2002–2003 Woods Hole Oceanographic Institution (WHOI), University of Concepción, Andes Foundation – Student Research Fellowship to perform 9 months of research at WHOI
- 2001–2003 Graduate School Scholarship, University of Concepción, Chile
- 2001/05 Best undergraduate thesis in Marine Biology year 2000. University of Concepción, Chile
- 1999/05 Best student presentation in Biological Oceanography, Marine Sciences Meeting, Chile

COMPETITIVE FUNDING (>\$6.5 Ma total: \$3,759,459 to CU Boulder since 2014)

- 2019-2022 **Sepúlveda, J. (PI)**, Molnar, P. (Co-PI). NSF Sedimentary Biology and Paleobiology 1929199 (\$497,116 to CU). Evolution of Pliocene-Pleistocene climate and vegetation in the Tropical Andes.
- 2019-2022 Miller, G.H. (PI), **Sepúlveda, J. (co-PI)**. NSF GEO/Office of Polar Programs OPP-1836981 (\$935,044 to CU Boulder). Integrating novel molecular techniques to disentangle the roles of climate, time, and human agency on the evolution of the Icelandic landscape.
- 2018-2021 Jennings, A. (PI), **Sepúlveda, J. (co-PI)**, Jahn, A. (Co-PI), Andrews, J. (Co-PI), Marchitto, T. (Co-PI). NSF Office of Polar Programs 1804504 (\$668,325 to CU Boulder). Timing and Paleoceanographic Impacts of the Onset of Arctic-Baffin Bay Throughflow.
- 2018-2020 **Sepúlveda, J. (PI)**. American Chemical Society Petroleum Research Fund (ACS-PRF) 58815-DNI2 - Doctoral New Investigator Award (\$110,000 to CU Boulder). Assessing the Role of Nitrogen Cycling on Black Shale Formation.
- 2018-2021 Miller, G.H. (PI), **Sepúlveda, J. (co-PI)**, Bunce, M., (co-PI). NSF Division of Polar Programs, Arctic System Science (ARCSS) Program 1737712 (\$1,279,775 to CU Boulder; \$2,290,769 total). Collaborative Research: Ecosystem Response to a Warming Arctic: Deciphering the Past to Inform The Future. Collaborators: Thomas, E. (PI, University of Buffalo); Walker, D. (PI, University of Alaska), Reynolds, M. (co-PI, University of Alaska)
- 2018-2019 **Sepúlveda, J. (PI)**. NSF Earth Life Transitions EAR-1338318 (\$15,982 to CU) – Supplemental support: Research Experiences for Undergraduates (REU). Undergraduate student Jonn van Oosten.
- 2017-2020 Eberle, J. (PI), **Sepúlveda, J. (co-PI)**. NSF Sedimentary Biology and Paleobiology 1736256 (\$92,221 to CU; \$454,801 total). Collaborative Research: Faunal Composition, Provinciality and Paleobiology of a Late Cretaceous Arctic Vertebrate Assemblage Revealed Through Cross-Latitudinal Comparisons. Collaborators: Druckenmiller, P. (PI), Erickson, G. (PI).
- 2017-2020 Vargas, C. (PI), Von Dasow, P. (co-PI), **Sepúlveda, J. (collaborator)**, Ulloa, O. (collaborator). CONICYT-Chile Research award 1170065 (\$338,684 total). CARbon Cycling and Physiological Traits in Phytoplankton Functional Groups under low pH/low

Oxygen conditions (CARpHOX). *Note: PI or co-PI status for research grants is not allowed for researchers outside of Chile.*

- 2017/11-12 Schneider, W. (PI), Vargas, C. (co-PI), Von Dasow, P. (co-PI), **Sepúlveda, J. (co-PI)**, Ulloa, O. (co-PI), Escribano, R. (co-PI). CONICYT-Chile National Competition for ship time on AGS-61 Cabo de Hornos (ICM IC120019; 12 days of ship time in northern Chile; \$330,000 total). Assess the physical and biogeochemical properties/conditions of the Anoxic Marine Zone and the deep-water masses off central/northern Chile upon ongoing climate change.
- 2014-2019 **Sepúlveda, J. (PI)**, Follows, M. (Co-PI). NSF Earth Life Transitions EAR-1534474 (\$160,996 to CU; \$1,015,888 total). Collaborative Research: Perturbation of the Marine Food Web and Extinction During the Oceanic Anoxic Event at the Cenomanian/Turonian. Collaborators: Bralower, T. (PI), Kump, L. (Co-PI), Arthur, M. (Co-PI) (EAR-1338316), Sageman, B. (PI; EAR-1338312), Leckie, M. (PI; EAR-1338317).
- 2012-2014 Summons, R.E. (Co-PI), Whiteside, J. (Co-PI), **Sepúlveda, J. (postdoc)**. NSF-EAR-1147685 (\$126,567 to MIT; \$253,886 total). Collaborative Research: Using Molecular Fossils to Investigate Environmental Perturbations During the End-Triassic Mass Extinction: Global vs. Local Signals.
- 2012-2013 **Sepúlveda, J. (PI)**, Summons, R.E. (PI). MIT-Chile/MISTI Global Seed Fund Award (\$29,567): The biogeochemistry of the Oxygen Minimum Zone of northern Chile in a warming world: present and past evolution using novel lipid biomarkers.
- 2012-2013 Prieto, A. (PI), **Sepúlveda, J. (Co-PI)**. CONICYT-Chile Innovation Fund for Competitiveness (\$170,000): Archeology of Torres del Paine National Park.
- 2011-2012 **Sepúlveda, J. (PI)**, Summons, R.E. (PI). MIT-Spain/MISTI Global Seed Fund Award (\$27,300): Developing a new post-extinction model of the Cretaceous-Paleogene Mass Extinction Event.
- 2005-2006 AquaSendas non-profit Organization (**Sepúlveda, J., co-director**). EXPLORA CONICYT-Chile Program for education and outreach ED9/04/046 (\$44,115). Lakes, bays and fjords: Natural laboratories to investigate global change.
- 2003 Pantoja, S. (PI), **Sepúlveda, J. (MSc. student)**. CONICYT-Chile, Program for International Scientific Collaboration (\$7,000): Organic matter preservation under oxic/anoxic conditions in marine sedimentary environments off Northern Chile.
- 2002-2003 Pantoja, S. (PI), Huguen, K. (Co-PI), **Sepúlveda, J. (MSc. student)**. CONA-Chile. CIMAR-FIORDO 7 (\$10,000): High-resolution records of climate change and early diagenesis in sediments of the Chilean fjord system.

MANUSCRIPTS UNDER REVIEW (*graduate student: #postdoc)

30. *Pérez-Ángel, L., Molnar, P., Snell, K., Montes, C., Gonzalez, C., **Sepúlveda, J.**, An improved regional branched GDGT-based soil temperature calibration for the Tropical Andes of Colombia: Towards a soil calibration for the tropics.
29. #Meilijson, A., Finkelman-Torgeman, E., Bialik, O.M., Boudinot, F.G., Steinberg, J., Karcz, K., Waldmann, N.D., Benjamini, C., Vinegar, H., Makovsky, Y., **Sepúlveda, J.**, Lower Cretaceous sediments with terrestrial organic matter as potential source rocks for oil generation in the deep Levant Basin.
28. *Boudinot, F.G., **Sepúlveda, J.**, Forest fires as a positive feedback on marine anoxia: Evidence from the Cretaceous Oceanic Anoxic Event 2.

PEER-REVIEW PUBLICATIONS (*graduate student: #postdoc)

27. *Boudinot, F.G., Dildar, N., Leckie, M., Parker, A., Jones, M.M., Sageman, B.B., Bralower, T.J., **Sepúlveda, J.**, Neritic ecosystem response to Oceanic Anoxic Event 2 in the Cretaceous Western Interior Seaway, USA. Accepted in *Palaeogeography, Palaeoclimatology, Palaeoecology*.
26. *Harning, D.J., Curtin, L., Geirsdóttir, Á., D'Andrea, W.J., Miller, G.H., **Sepúlveda, J.**, 2020. Lipid biomarkers quantify Holocene summer temperature and ice cap sensitivity in Icelandic lakes. *Geophysical Research Letters*.
25. Hull, P.M., Bornemann, A., Penman, D., Henahan, M.J., Norris, R.D., Wilson, P.A., Blum, P., Alegret, L., Batenburg, S., Bown, P., Bralower, T.J., Cournede, C., Deutsch, A., Donner, B., Friedrich, O., Jehle, S., Kim, H., Kroon, D., Lippert, P., Lorocho, D., Moebius, I., Moriya, K., Peppe, D.J., Ravizza, G.E., Röhl, U., Schueth, **Sepúlveda, J.**, J.D., Sexton, P., Sibert, E., Sliwinska, K.K., Summons, R.E., Thomas, E., Westerhold, T., Whiteside, J., Yamaguchi, T., Zachos, J.C., 2020. On Impact and Volcanism across the Cretaceous-Paleogene Boundary. *Science* 367, 266–272.
24. Kusch, S., **Sepúlveda, J.**, Wakeham, S., 2019. Origin of sedimentary BHPs along a Mississippi River–Gulf of Mexico export transect: Insights from spatial and density distributions. *Frontiers in Marine Science* 6:729. doi: 10.3389/fmars.2019.00729.
23. *Crump, S.E., Miller, G.H., Power, M., **Sepúlveda, J.**, Dildar, N., Coghlan, M., Bunce, M., 2019. Arctic shrub colonization lagged peak postglacial summer warmth: Molecular evidence in lake sediment from Arctic Canada. *Global Change Biology* 25, 4244–4256. <https://doi.org/10.1111/gcb.14836>
22. **Sepúlveda, J.**, Alegret, L., Haddad, E., Cao, C., Thomas, E., Summons, R.E., 2019. Stable isotope constraints on marine productivity across the Cretaceous-Paleogene mass extinction. *Paleoceanography and Paleoclimatology*, 34, 1195–1217. <https://doi.org/10.1029/2018PA003442>
21. *Harning, D.J., Andrews, J.T., Cabedo-Sanz, P., Belt, S.T., Dildar, N., Geirsdóttir, A., Miller, G.H., **Sepúlveda, J.**, 2019. Sea ice control on winter subsurface temperatures of the North Iceland Shelf during the Little Ice Age: A TEX₈₆ calibration case study. *Paleoceanography and Paleoclimatology*, 34, 1006–1021. <https://doi.org/10.1029/2018PA003523>
20. #Meilijson, A., Hilgen, F., **Sepúlveda, J.**, Steinberg, J., Fairbank, V., Flecker, R., Waldmann, N.D., Spaulding, S.A., Bialik, O.M., *Boudinot, F.G., Makovsky, Y., 2019. Chronology with a pinch of salt: integrated stratigraphy of Messinian evaporites in the deep Eastern Mediterranean reveals long lasting halite deposition during Atlantic connectivity. *Earth-Science Reviews* 194, 374-398.
19. Jones, M.M., Sageman, B.B., Oakes, R.L., Parker, A.L., Leckie, R.M., Bralower, T.J., **Sepúlveda, J.**, Fortiz, V., 2019. Astronomical pacing of relative sea level during Oceanic Anoxic Event 2: Preliminary studies of the expanded SH#1 Core, Utah. *Geological Society of America Bulletin* 131 (9-10): 1702-1722. doi: <https://doi.org/10.1130/B32057.1>
18. Holtvoeth, J., Whiteside, J., Engels, S., Sales de Freitas, F., Grice, K., Greenwood, P., Johnson, S., Kendall, I., Lengger, S., Lücke, A., Mayr, C., Naafs, D., Rohrssen, M., **Sepúlveda, J.**, 2019. The paleolimnologist's guide to compound-specific stable isotope analysis – an introduction to principles and applications of CSIA on Quaternary lake sediments. *Quaternary Science Reviews* 207, 101-133.
17. MacLeod, K.G., Quinton, P.C., **Sepúlveda, J.**, Negra, M.H., 2018. Postimpact earliest Paleogene warming shown by fish debris oxygen isotopes (El Kef, Tunisia). *Science* 360, 1467–1469.

16. *Matys, E.D., **Sepúlveda, J.**, Pantoja, S., Lange, C.B., Caniupán, M., Lamy, F., Summons, R.E., 2017. Bacteriohopanepolyols along redox gradients in the Humboldt Current System off northern Chile. *Geobiology* 15(6), 844-857.
15. *Kasprak, A., **Sepúlveda, J.**, Price-Waldman, R., Williford, K.H., Schoepfer, S.D., Haggart, J.W., Ward, P.D., Summons, R.E., Whiteside, J.H., 2015. Pervasive photic zone euxinia in the northeastern Panthalassic Ocean during the end-Triassic extinction. *Geology* 43, 307-310.
14. *Srain, B., Pantoja, S., **Sepúlveda, J.**, Lange, C.B., Muñoz, P., Summons, R.E., McKay, J., Salamanca, M., 2015. Interdecadal changes in intensity of the oxygen minimum zone off Concepción, Chile (~ 36° S) over the last century. *Biogeosciences* 12, 6045-6058.
13. *Srain, B., **Sepúlveda, J.**, Pantoja, S., Summons, R., R. Quinones, H.A. Levipán, 2015. Archaeal and bacterial assemblages in the Oxygen Minimum Zone of the upwelling ecosystem off Central Chile as determined by organic biomarkers. *Gayana* 79 (1), 26-44.
11. *French, K. L., **Sepúlveda, J.**, Trabucho-Alexandre, J., Gröcke, D.R., Summons, R.E., 2014. Organic geochemical evidence for environmental changes leading to the early Toarcian oceanic anoxic event in Hawsker Bottoms, Yorkshire, England. *Earth and Planetary Science Letters* 390, 116-127.
12. Bertrand, S., Hughen, K., **Sepúlveda, J.**, Pantoja, S., 2014. Covariability of precipitation seasonality and sea surface temperature in northern Chilean Patagonia during the late Holocene. *Quaternary Science Reviews* 105, 195-208.
10. *Arreguín-Rodríguez, G. J., Alegret, L., **Sepúlveda, J.**, *Newman, S., Summons, R. E., 2014. Enhanced terrestrial input supporting the *Glomospira* acme across the Paleocene-Eocene boundary in Southern Spain. *Micropaleontology* 60, 43-51.
9. Bertrand, S., Hughen, K., **Sepúlveda, J.**, Pantoja, S., 2012. Geochemistry of surface sediments from the fjords of Northern Chilean Patagonia (44–47°S): Spatial variability and implications for paleoclimate reconstructions. *Geochimica et Cosmochimica Acta* 76, 125–146
8. **Sepúlveda, J.**, Pantoja, S., Hughen, K., 2011. Sources and distribution of organic matter in northern Patagonia fjords, Chile (~44–47°S): A multi-tracer approach for carbon cycling assessment. *Continental Shelf Research*, 31, 315–329
7. Hackett, P., **Sepúlveda, J.**, McCarthy, K., 2011. Improving climate change education: a geoscientific and psychological collaboration. In Y. Fisher, A. Friedman (Eds.); *New horizons for facet theory: interdisciplinary collaboration – searching for structure in content, spaces and measurement* (pp. 171–178). United Kingdom: FTA Publications
6. **Sepúlveda, J.**, Wendler, J., Summons, R.E. and Hinrichs, K-U., 2009. Rapid resurgence of Marine Productivity after the Cretaceous-Paleogene Mass Extinction Event. *Science* 326, 129–132
5. **Sepúlveda, J.**, Wendler, J., Leider, A., Kuss, H-J., Summons, R.E. and Hinrichs, K-U., 2009. Molecular isotopic evidence of environmental and ecological changes across the Cenomanian–Turonian boundary in the Levant Platform of central Jordan. *Organic Geochemistry* 40, 553–568
4. **Sepúlveda, J.**, Pantoja, S., Hughen, K., Bertrand, S., Figueroa, D., León, T., Drenzek, N., Lange, C., 2009. Late Holocene sea-surface temperature and precipitation variability in northern Patagonia, Chile (Jacaf Fjord, 44°S). *Quaternary Research* 72, 400–409
3. Rebolledo, L., **Sepúlveda, J.**, Lange C., Pantoja, S., Bertrand, S., Hughen, K., Figueroa, D., 2008. Late Holocene marine productivity changes in Northern Patagonia–Chile inferred from a multi-proxy analysis of Jacaf channel sediments. *Estuarine, Coastal and Shelf Science* 80, 314–322

2. **Sepúlveda, J.**, Pantoja, S., Huguen, K., Lange, C., Gonzalez, F., Muñoz, P., Rebolledo, L., Castro, R., Contreras, S., Avila, A., Rossel, P., Lorca, G., Salamanca, M. and Silva, N., 2005. Fluctuations in export productivity over the last century from sediments of a southern Chilean fjord (44°S). *Estuarine, Coastal and Shelf Science* 65, 587-600
1. Pantoja, S., **Sepúlveda, J.**, González, H. 2004. Decomposition of sinking proteinaceous material during fall in the oxygen minimum zone off northern Chile. *Deep Sea Research-I* 51, 55-70

MANUSCRIPTS IN PREPARATION (*advised student)

- Sepúlveda, J.**, Löscher, C., Henríquez, C., Schubotz, F., Matys, E.D., Lange, C., Pantoja, S., Summons, R.E, Intact and Core Archaeal Lipids Along Strong Geochemical Gradients in the Oxygen Minimum Zone of Northern Chile. *In preparation.*
- *Cantarero, S., Dildar, N., Vargas, C., von Dassow, P., **Sepúlveda, J.**, Intact Polar Lipids in the oxygen minimum zone of the Eastern Tropical South Pacific off northern Chile. *In preparation.*
- Vargas, C.A., Walker, B., De Pol-Holz, R., Aguayo, P., Farías, L., **Sepúlveda, J.**, von Dasow, P., Walker, J., Xu, X., Ulloa, O., Olivares, F., Henríquez-Castillo, C., Salisbury, A source of isotopically light carbon in low pH Anoxic Marine Zones. *In preparation.*

INVITED MEETINGS AND PRESENTATIONS

- 2019/04 Hanse Wissenschaftskolleg (Institute for Advanced Study, HWK), Delmenhorst, Germany. Marine Organic Biogeochemistry Workshop. Participant
- 2017/07 International Geobiology Course, Wrigley Marine Institute, CA. Invited Instructor (declined last minute due to family emergency)
- 2016/05 Denver Museum of Nature and Science, Denver, CO, USA. Speaker
- 2016/04 US Geological Survey, Denver, CO, USA. Speaker
- 2015/02 Institute of Arctic and Alpine Research (INSTAAR), Boulder, CO, USA. Invited speaker
- 2014/08 Gordon Research Conference in Organic Geochemistry, Holderness, NH, USA. Speaker
- 2014/03 School for the Environment, Univ. of Massachusetts Boston, USA. Invited speaker
- 2014/03 School of Earth Sciences, Univ. of Bristol, UK. Invited speaker
- 2014/03 National Oceanography Centre, Southampton, UK. Invited speaker
- 2014/02 Department of Geological Sciences, Univ. of Colorado Boulder, USA. Invited speaker
- 2014/01 Environmental Earth System Science, Stanford Univ., USA. Invited speaker
- 2013/11 Max Plank Institute for Marine Microbiology, Bremen, Germany. Invited speaker
- 2013/03 Department of Earth Sciences, Univ. of Southern California, USA. Invited speaker
- 2013/03 Department of Earth and Planetary Sciences, Northwestern Univ., USA. Invited speaker
- 2012/11 Department of Earth Sciences, Univ. of Zaragoza, Spain. Speaker
- 2012/09 Department of Earth, Atmospheric and Planetary Sciences, MIT, USA. Speaker
- 2012/08 Department of Oceanography, Univ. of Concepción, Chile. Speaker
- 2012/06 Department of Marine Chemistry, Woods Hole Oceanographic Institution, USA. Speaker
- 2012/05 Institute of Marine and Coastal Sciences, Rutgers Univ., USA. Speaker
- 2012/03 Department of Geology, Univ. of Tunis El Manar, Tunisia. Speaker
- 2011/05 Smithsonian National Museum of Natural History, USA. Speaker
- 2010/10 Department of Earth, Atmospheric and Planetary Sciences, MIT, USA. Speaker
- 2010/05 Geological Sciences, Brown Univ., USA. Speaker
- 2008/06 Hanse Wissenschaftskolleg, Delmenhorst, Germany. Speaker
- 2007/04 Geology and Geophysics, Woods Hole Oceanographic Institution, USA. Speaker
- 2005/11 2nd Northern German Organic Geochemistry Meeting, Univ. Oldenburg, Germany. Speaker

CONFERENCE AND MEETING ABSTRACTS (*graduate student; **undergraduate student; #postdoc)

- 2019/12 **Sepúlveda, J.**, *Boudinot, F.G., Forest fires as a positive feedback on marine anoxia: Evidence from the Cretaceous Oceanic Anoxic Event 2. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 *Raberg, J., Crump, S., de Wet, G., Dildar, N., Miller, G., **Sepúlveda, J.**, Distinguishing the Sources of brGDGTs at Lake Quapat, Baffin Island Using Intact Polar Lipids. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 *Yager, J.A., van Dijk, J., West, A.J., Corsetti, F.A., **Sepúlveda, J.**, Biomarker evidence for ecological and environmental stress across the Triassic-Jurassic boundary at the Levanto section in Northern Peru. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 #van Dijk, J., **Sepúlveda, J.**, Alegret, L., Bralower, T., Hull, P., Negra, M.H., Röhl, U., Westerhold, T., Whiteside, J., and the El Kef Coring Program Science Team, Revival of the microbial neritic ecosystems and carbon cycling at the Cretaceous/Paleogene boundary: A compound-specific isotope study from El Kef, Tunisia. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 #de Wet, G., Raberg, J., Thomas, E., Miller, G., **Sepúlveda, J.**, The influence of anoxia on downcore brGDGT paleotemperature reconstructions – evidence over the Holocene from Baffin Island lake sediment records. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 #Crump, S.E., Fréchette, B., Miller, G.H., Power, M., de Wet, G., Thomas, E.K., **Sepúlveda, J.**, Briner, J.P., Bounce, M.A., Vegetation response to climate warming across multiple interglacials inferred from High Arctic lake sediment. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 #Colwyn, D.A., Snell, K.E., Benowitz, J.A., Porter, T.J., **Sepúlveda, J.**, A preliminary Cenozoic record of terrestrial polar amplification in south-central Alaska. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/12 Gorbey, D.B., Thomas, Crump, S., de Wet, G., E., Raberg, J., Miller, G., **Sepúlveda, J.**, Assessing Change in Summer Arctic Moisture Source and Aridity over the Past 7,000 Years Using Leaf Wax $\delta^2\text{H}$ in Baffin Island Lake Sediment. American Geophysical Union Fall Meeting, San Francisco, CA.
- 2019/08 #Meilijson, A., Finkelman, E., Ashckenazi-Polivoda, S., Boudinot, F.G., Bialik, O.M., Coletti, G., Steinberg, J., Karcz, K., Waldmann, N.D., **Sepúlveda, J.**, Makovsky, Y., Petroleum potential of Cretaceous source rocks in the Levant Basin. 2nd Conference of the Arabian Journal of Geosciences, Sousse, Tunisia.
- 2019/08 *Boudinot, F.G., **Sepúlveda, J.**, Evidence for increased forest fires in response to organic carbon burial during OAE2 as a positive feedback on marine productivity. Goldschmidt Conference, Barcelona, Spain.
- 2019/08 *Pérez-Angel, I., **Sepúlveda, J.**, Molnar, P., Montes, C., Rajagopalan, B., Snell, K., Dildar, N., González-Arango, C., An improved regional branched GDGT-based soil temperature calibration for the Tropical Andes of Colombia. Goldschmidt Conference, Barcelona, Spain.
- 2019/08 *Rempfert, K.R., Kraus, E.A., Nothaft, D.B., Spear, J.R., **Sepúlveda, J.**, Templeton, A.S., Characterization of Intact Polar Lipid Biomarkers from a Site of Active, Low-Temperature Serpentinization. Goldschmidt Conference, Barcelona, Spain.
- 2019/07 *Harning, D.J., Curtin, L., Geirsdóttir, Á., Miller, G.H., D'Andrea, W.J., Thordarson, T., **Sepúlveda, J.**, Lipid biomarkers quantify Holocene temperature in Icelandic lakes and soils. 20th International Union for Quaternary Research (INQUA) Meeting, Dublin, Ireland.

- 2019/07 *Crump, S., Gorbey, D., Raberg, J., Power, M., de Wet, G., Florian, C.R., Thomas, E., Miller, G., **Sepúlveda, J.**, Bunce, M., Deciphering dynamic vegetation histories by integrating bulk geochemistry, leaf wax compounds, and ancient DNA in lake sediment from Arctic Canada. 20th International Union for Quaternary Research (INQUA) Meeting, Dublin, Ireland.
- 2019/06 *Rempfert, K.R., Marquez, J., Zeigler, S.K.D., Ellison, E.E., **Sepúlveda, J.**, Templeton, A.S., Utilization of contamination controls in the identification of endogenous lipid biomarkers from subsurface serpentinites in the Samail Ophiolite, Oman. Astrobiology Science Conference (AbSciCon), Seattle, WA.
- 2019/06 Leckie, R.M., Parker, A., Jones, M., Sageman, B., Boudinot, F.G., Bralower, T., Fortiz, V., Oakes, R., **Sepúlveda, J.**, Forams of coastal Utah: A record of Oceanic Anoxic Event 2 (~94-93 Ma) along the western edge of the US Western Interior Sea. 11th North American Paleontological Convention (NAPC), Riverside, CA.
- 2019/04 *Boudinot, F.G., Dildar, N., Jones, M.M., Sageman, B.B., **Sepúlveda, J.**, An organic geochemical record of microbial community changes during Oceanic Anoxic Event 2 (~94Ma) in the Western Interior Seaway. Front Range Microbiome Symposium, Fort Collins, CO
- 2019/04 *Raberg, J.H., Crump, S., de Wet, G., Dildar, N., Miller, G.H., **Sepúlveda, J.**, Intact Polar brGDGTs at Lake Quapat, Baffin Island: Implications for Sources of the Paleotemperature Proxy. 49th International Arctic Workshop, Stockholm, Sweden.
- 2019/04 *Harning, D.J., Curtin, L., Geirsdóttir, Á., Miller, G.H., D’Andrea, W.J., Thordarson, T., Gunnarsdóttir, S., **Sepúlveda, J.**, Lipid biomarkers quantify Holocene temperature in Icelandic lakes and soils. 49th International Arctic Workshop, Stockholm, Sweden.
- 2019/04 Jennings, A.E., Andrews, J.T., Woelders, L., Jahn, A., Marchitto, T., **Sepúlveda, J.**, Lecavalier, B., St. Onge, G., Timing and paleoceanographic impacts of the onset of Arctic-Baffin Bay throughflow during the Holocene. 49th International Arctic Workshop, Stockholm, Sweden.
- 2018/12 *van Oosten, J., *Boudinot, F.G., Davidheiser-Kroll, B., Snell, K., **Sepúlveda, J.**, Nitrogen cycle dynamics during the Cretaceous Oceanic Anoxic Event 2 in the Western Interior Seaway. American Geophysical Union Fall Meeting, Washington DC, DC.
- 2018/12 #de Wet, G., *Crump, S., *Raberg, J., Gorbey, D.B., Bunce, M., Thomas, E., Miller, G., **Sepúlveda, J.**, Pairing lipid biomarkers and sedimentary ancient DNA to reconstruct paleoenvironmental change in the Arctic – preliminary results from the PACEMAP Project on Baffin Island. American Geophysical Union Fall Meeting, Washington DC, DC.
- 2018/12 *Harning, D.J., Curtin, L., Geirsdóttir, Á., Miller, G.H., D’Andrea, W.J., **Sepúlveda, J.**, Paired brGDGT and alkenone records quantify Holocene summer temperature in Icelandic lakes. American Geophysical Union Fall Meeting, Washington DC, DC.
- 2018/11 **Sepúlveda, J.**, *Boudinot, F., Dildar, N., Kopf, S., Jones, M., Sageman, B.B., Bralower, T., Leckie, M., A high-resolution record of marine productivity and carbon cycling across Oceanic Anoxic Event 2 in the western interior seaway. Geological Society of America Annual Meeting, Indianapolis, IN.
- 2018/11 Sageman, B.B., Jones, M., Arthur, M.A., **Sepúlveda, J.**, *Boudinot, F., Colder or drier? The late Cenomanian Plenus event in north America. Geological Society of America Annual Meeting, Indianapolis, IN.
- 2018/11 Jones, H., Bralower, T., Roehl, U., Westerhold, T., **Sepúlveda, J.**, Whiteside, J., Alegret, L., Negra, H., Vellekoop, J., Henahan, M., Hull, P., The Significance of calcareous nannoplankton “boom-bust” successions following the K-Pg mass extinction event: new

insights from El Kef, Tunisia. Geological Society of America Annual Meeting, Indianapolis, IN.

- 2018/09 **Sepúlveda, J.**, Caniupán, M., Martínez-Méndez, G., *Matys, E., Lamy, F., Hebbeln, D., Lange, C.B., Pantoja, S., Summons, R.E., Nitrogen removal across glacial terminations in the Eastern Tropical South Pacific. Ocean Deoxygenation: Drivers and Consequences, Past, Present, Future. University of Kiel, Kiel, Germany.
- 2018/09 *Cantarero, S., Dildar, N., Vargas, C., von Dassow, P., **Sepúlveda, J.**, Lipidomics of microbial communities associated with the oxygen minimum zone of northern Chile. Ocean Deoxygenation: Drivers and Consequences, Past, Present, Future. University of Kiel, Kiel, Germany.
- 2018/08 *Boudinot, F., Dildar, N., Jones, M.M., Sageman, B.B., Kopf, S., **Sepúlveda, J.**, High-resolution compound-specific carbon isotope record of OAE2 traces global carbon cycling in oceanic and atmospheric reservoirs. Gordon Research Conference in Organic Geochemistry, Holderness, NH, USA.
- 2018/06 Crump, S.E., Power, M., Miller, G.H., **Sepúlveda, J.**, Dildar, N., Coghlan, M., and Bunce, M., Arctic shrub colonization lagged postglacial climatic optimum: Molecular evidence in lake sediment from Baffin Island, Arctic Canada: International Paleolimnology Association–International Association of Limnogeologists Joint Meeting, Stockholm, Sweden.
- 2018/04 #Meilijson, A., Boudinot, G., Makovsky, Y., Steinberg, J., Hilgen, F., **Sepúlveda, J.**, Life in a pinch of salt: organic proxies for the ecology and oceanographic environment of the deep Mediterranean Messinian salinity crisis. 2nd Rocky Mountain Geobiology Symposium, Golden, CO.
- 2018/04 *Harning, D.J., **Sepúlveda, J.**, Andrews, J.T., Cabedo-Sanz, P., Belt, S.T., Geirsdóttir, A., Miller, G.H., Subsurface Temperature Variability Of The North Iceland Shelf Over The Last Millennium. 48th International Arctic Workshop, Boulder, CO
- 2018/04 *Raberg, J.H., Gifford G.H., **Sepúlveda, J.**, Crump, S.E., De Wet, G., Walker, D.A., Reynolds, M.K., Thomas, E.K., Predicting Arctic Change Through Ecosystem Molecular Proxies (PACEMAP). 48th International Arctic Workshop, Boulder, CO
- 2018/04 *Crump, S.E., Power, M., Miller, G.H., **Sepúlveda, J.**, Coghlan, M., Bunce, M., The Paleocological Potential of Ancient DNA in Lake Sediment: Preliminary Results From Baffin Island. 48th International Arctic Workshop, Boulder, CO
- 2017/12 *Crump, S.E., **Sepúlveda, J.**, Bunce, M., Miller, G.H., Molecules in the mud: Combining ancient DNA and lipid biomarkers to reconstruct vegetation response to climate variability during the Last Interglacial and Holocene on Baffin Island, Arctic Canada. American Geophysical Union Fall Meeting, New Orleans, LA
- 2017/12 *Harning, D.J., **Sepúlveda, J.**, Andrews, J.T., Cabedo-Sanz, P., Belt, S.T., Marchitto, T.M., Ólafsdóttir, S., Geirsdóttir, A., Miller, G.H., A lipid biomarker perspective on oceanic variability of the North Iceland Shelf over the last millennium. American Geophysical Union Fall Meeting, New Orleans, LA
- 2007/12 **Moran, S., Boudinot, F.G., Dildar, N., **Sepúlveda, J.**, Tracing Carbon Cycling in the Atmosphere and Oceans in the Middle Cretaceous. American Geophysical Union Fall Meeting, New Orleans, LA
- 2017/12 Crump, S.E., Sepúlveda, J., Bunce, M., de Wet, G.A., Walker, D., Thomas, E., Reynolds, M., Raberg, J., Miller, G.H., 2017, The PACEMAP project – Predicting Arctic Change through Ecosystem Molecular Proxies: Arctic Change Meeting, Quebec City, Canada
- 2017/09 Fox, C.P., Whiteside, J.H., Olsen, P.E., **Sepúlveda, J.**, Summons, R.E., Grice, K., Alternative explanations for the initial organic carbon isotope excursion in the UK during the end-

Triassic mass extinction. 28th International Meeting in Organic Geochemistry, Florence, Italy

- 2017/09 **Sepúlveda, J.**, Summons, R.E., Bralower, T., Röhl, U., Negra, H., Baroumi, M., Westerhold, T., Hull, C., Whiteside, J., Alegret, L., El Kef Coring Program Science Team. The molecular signature of the Cretaceous/Paleogene (K/Pg) mass extinction event: the El Kef Coring Program. Climatic and Biotic Events of the Paleogene Conference, Snowbird, UT
- 2017/04 **Sepúlveda, J.**, Summons, R.E., Negra, H., Baroumi, M., Bralower, T., El Kef Coring Project Science Team. Organic geochemistry of a high-resolution record across the Cretaceous-Paleogene (K/Pg) mass extinction event: The El Kef Coring Program. Rocky Mountain Geobiology Symposium, Golden, CO.
- 2017/04 *Boudinot, F.G., **Sepúlveda, J.**, Jones, M., Sageman, B., Leckie, M., Response of a Marine Ecosystem to Global Change. Rocky Mountain Geobiology Symposium, Golden, CO
- 2017/04 *Pérez-Ángel, L., **Sepúlveda, J.**, Molnar, P., Snell, K., Montes, C., Gonzalez, C. Environmental evolution of the Tropical Andes during the Pliocene-Pleistocene transition. Rocky Mountain Geobiology Symposium, Golden, CO.
- 2017/04 **Gross, M., **Sepúlveda, J.**, Dildar, N., Boudinot, G., El Kef Coring Project Science Team. A dialogue of Paleo-wildfires in the Cretaceous-Paleogene (K-Pg) boundary at El Kef, Tunisia. Rocky Mountain Geobiology Symposium, Golden, CO.
- 2016/11 *Boudinot, F.G., **Sepúlveda, J.**, Jones, M., Sageman, B., Bralower, T., Oakes, R., Arthur, M., Leckie, M., Parker, A. Organic Geochemical Constraints on Environmental Change and Black Shale Formation: A High-Resolution Study of OAE2 in the US Western Interior Seaway. Society of Sedimentary Geology Research Conference: Oceanic Anoxic Events (OAEs), Austin, TX.
- 2016/09 *Boudinot, F.G., **Sepúlveda, J.**, Jones, M., Sageman, B., Bralower, T., Oakes, R., Arthur, M., Leckie, M., Parker, A., A High-Resolution Organic Geochemical Study of OAE-2 in the U.S. Western Interior Seaway. Geological Society of America Annual Meeting, Denver, CO.
- 2016/09 **Gross, M., **Sepúlveda, J.**, Alegret, L., Summons, R.E., An investigation of Paleo-wildfires during the Cretaceous-Paleogene (K-Pg) boundary at El Kef. Geological Society of America Annual Meeting, Denver, CO.
- 2016/09 Fox, C., Grice, K., Whiteside, J., **Sepúlveda, J.**, Summons, R.E., An alternative explanation to the initial carbon isotope excursion at St. Audrie's Bay during the end-Triassic mass extinction as indicated by biomarker analysis. Geological Society of America Annual Meeting, Denver, CO.
- 2016/09 Macleod, K.G., Quinton, P.C., **Sepúlveda, J.**, Negra, H., Temperature change across the Cretaceous/Paleogene boundary inferred from oxygen isotopic ratios in fish debris from El Kef, Tunisia. Geological Society of America Annual Meeting, Denver, CO.
- 2016/08 **Sepúlveda, J.**, Caniupán, Martínez-Méndez, G., Lamy, F., Hebbeln, D., Lange, C.B., Pantoja, S., Summons, R.E., Decoupling of anammox and denitrification in the Eastern Tropical South Pacific during glacial terminations. 12th International Conference in Paleoceanography, Utrecht, The Netherlands.
- 2016/07 **Sepúlveda, J.**, Summons, R., Negra, H., Baroumi, M., A new high-resolution organic geochemical record of the Cretaceous-Paleogene Mass extinction event. Gordon Research Conference in Organic Geochemistry, Holderness, NH, USA
- 2016/05 **Sepúlveda, J.**, Caniupán, M., Martínez-Méndez, G., Lamy, F., Matys, E., Yoder, M., Summons, R., Hebbeln, D., Lange, C., Pantoja, S., Anammox vs. denitrification in the Eastern Tropical South Pacific during glacial terminations. Chilean Ocean Sciences Meeting, Concepción, Chile.

- 2016/02 **Sepúlveda, J.**, Caniupán, M., Martínez-Méndez, G., Lamy, F., Matys, E., Yoder, M., Summons, R., Hebbeln, D., Lange, C., Pantoja, S., Anammox vs. denitrification in the Eastern Tropical South Pacific during glacial terminations. Gordon Research Conference in Geobiology, Galveston, TX, USA
- 2015/12 Jones, M., Sageman, B., Selby, D., Oakes, R., Bralower, T., Parker, A., Leckie, M., **Sepúlveda, J.**, Combining local lithofacies and global geochemical signals to test the acidification hypothesis for the onset of Oceanic Anoxic Event 2 in the U.S. Western Interior Basin. American Geophysical Union Fall Meeting, San Francisco, CA
- 2015/10 MacLeod et al., Quinton, P.C., Negra, H., **Sepúlveda, J.**, Temperature change across the Cretaceous/Paleogene boundary inferred from oxygen isotopic ratios in fish debris from El Kef, Tunisia. Midwest Geobiology Symposium. Bloomington, IN
- 2015/08 Whiteside, J., **Sepúlveda, J.**, Schaller, M., Blum, P., Summons, R.E., Record of Oceanic Anoxic Event 2 from the Central North Atlantic: The Meaning of TEX86-Derived Temperatures during Mesozoic OAEs. Goldschmidt Conference, Prague, Czech Republic.
- 2015/07 Whiteside, J., **Sepúlveda, J.**, Schaller, M., Blum, P., Summons, R.E., A New Record of Oceanic Anoxic Event 2 from the Central North Atlantic: The Meaning of TEX86-Derived Temperatures during Mesozoic OAEs. Conference “Climates of the past – lessons for the future”, Ascona, Switzerland.
- 2014/10 Whiteside et al., Insights into the mechanisms of end-triassic mass extinction and environmental change: an integrated paleontologic, biomarker and isotopic approach. GSA, Canada
- 2014/08 **Sepúlveda, J.**, et al., Holding your breath: How biomarkers link modern, past and future ocean de-oxygenation. Gordon Research Conference in Organic Geochemistry, Holderness, NH, USA
- 2013/09 **Sepúlveda, J.**, et al., Vertical and spatial distribution of intact and core archaeal lipids in response to oxygenation gradients. 26th IMOG, Spain
- 2013/09 *Matys, E., et al., Bacteriohopanepolyols in ocean waters subject to oxygenation gradients. 26th IMOG, Spain
- 2012/12 **Sepúlveda, J.**, et al., Ecosystem resilience to ocean deoxygenation and acidification: lessons from contrasting mass extinction events. AGU, USA
- 2012/12 *Giron M., et al., Constraining mass accumulation rates across the Cretaceous-Paleogene boundary clay layer using extraterrestrial helium-3. AGU, USA
- 2012/08 **Sepúlveda, J.**, et al., Ecosystem resilience to ocean deoxygenation and acidification: lessons from mass extinction events. GRC Organic Geochemistry, USA
- 2011/12 *Kasprak, A., et al., Anoxia precedes the end-Triassic mass extinction: evidence from the Kennecott Point Formation, British Columbia. AGU, USA
- 2011/09 **Sepúlveda, J.**, et al., Integrating biomarker and microfossil records across the Cretaceous-Paleogene mass extinction event. 25th IMOG, Switzerland
- 2011/01 **Sepúlveda, J.**, et al., Carbon cycling in a fading greenhouse world: a molecular and multi-isotopic study of OAE-3 in the Equatorial Atlantic (ODP Site 1259). Climate and ocean dynamics of the Cretaceous greenhouse world, The Netherlands
- 2010/12 **Sepúlveda, J.**, et al. Reassessing the recovery of marine primary production after the Cretaceous-Paleogene Mass Extinction. AGU, USA
- 2010/08 **Sepúlveda, J.**, et al., Reassessing the molecular signature of the Cretaceous-Paleogene mass extinction. GRC Organic Geochemistry, USA

- 2009/09 **Sepúlveda, J.**, et al., Oceanographic-climatic variability in the Late Cretaceous Equatorial Atlantic (ODP-1259). 24th IMOG, Germany
- 2007/10 **Sepúlveda, J.**, et al., Molecular-isotopic proxies for ecosystem changes and carbon cycle perturbations during extreme climates. 97th Geologische Vereinigung, Germany
- 2007/09 **Sepúlveda, J.**, et al., Changes in marine productivity across the Mid-Late Cretaceous (Cenomanian-Turonian Boundary) in west-central Jordan. 23rd IMOG, UK
- 2006/08 **Sepúlveda, J.**, et al., Environmental and ecological changes at the Levant platform during the Cenomanian-Turonian boundary. GRC Organic Geochemistry, USA
- 2004/09 **Sepúlveda, J.**, et al., Late Holocene changes in riverine runoff in a Chilean fjord (~ 44°S) related to changes in the intensity of the Westerlies. VIII ICP, France
- 2004/05 **Sepúlveda, J.**, et al., Exported productivity over the last century and early diagenesis in sediments of Puyuhuapi fjord, Chile (~44°S). XXIV MSM, Chile
- 2003/02 **Sepúlveda, J.**, et al., Decomposition of sinking proteinaceous material in the oxygen minimum zone (OMZ) off Northern Chile. ASLO Meeting, USA
- 2002/05 **Sepúlveda, J.**, et al., Vertical fluxes of proteinaceous material under different oxygenation conditions in the northern zone of the Humboldt current. XXII MSM, Chile
- 2001/05 **Sepúlveda, J.**, et al., Fluxes and composition of amino acids in the water column within the oxygen minimum zone of northern Chile. XXI MSM, Chile

TEACHING EXPERIENCE

Instructor, Department of Geological Sciences, University of Colorado Boulder

- 2020/Spring GEOL 4611/5611: Organic Geochemistry, 3 credit hours
- 2019/Fall GEOL 3040: Global Change: the recent geologic record, 3 credit hours
- 2019/Spring GEOL 1040: Global Change: An Earth Science Perspective, 3 credit hours
- 2019/Spring GEOL 5700/4700-005: Organic Geochemistry, 3 credit hours
- 2018/Fall GEOL 3040: Global Change: the recent geologic record, 3 credit hours
- 2017/Fall GEOL 3040: Global Change: the recent geologic record, 3 credit hours
- 2017/Fall GEOL 5700/4700-009: Techniques in Organic Geochemistry, 3 credit hours
- 2017/Spring GEOL 5700/4700-008: Organic Geochemistry, 3 credit hours
- 2016/Fall GEOL 3040: Global Change: the recent geologic record, 3 credit hours
- 2016/Spring GEOL 5700-030: Lipid Biomarkers in the Geosciences, 3 credit hours
- 2015/Fall GEOL 3040: Global Change: the recent geologic record, 3 credit hours
- 2015/Fall GEOL 5700-001: Parade of Professors, 1 credit hours
- 2015/Spring GEOL 5700/4700-044: Organic Geochemistry, 3 credit hours

Invited lecturer, Department of Earth, Atmospheric and Planetary Sciences, MIT

- 2013/Fall EAPS 12.707: graduate Pre-Pleistocene Paleoclimatology & Paleoceanography
- 2012/fall EAPS 12.021: undergraduate Earth Science, Energy, and the Environment
- 2012–2013 EAPS 12.471: graduate Fundamentals of Geobiology
- 2010/fall EAPS 12.080: Undergraduate Seminar
- 2009–2013 EAPS 12.458: graduate Molecular Biogeochemistry
- 2009–2014 EAPS 12.007: undergraduate Geobiology: History of Life on Earth

Department of Oceanography, University of Concepción, Chile

- 1999–2003 *Teaching assistant* in Philosophy of Science, International Courses in Oceanography, Environmental Ecotoxicology, Environmental Impact Assessment, Chemical and Biological Oceanography, Benthic and Demersal Systems

MENTORING EXPERIENCE

Postdoctoral researchers advised, CU Boulder

- 2019–present Dr. Joep van Dijk
- 2018–present Dr. Gregory de Wet (co-advised with G. Miller)
- 2018–present Dr. David Colwyn (main advisor K. Snell)
- 2018–2019 Dr. Lineke Woelders (co-advised with T. Marchitto and A. Jennings)
- 2016–2018 Dr. Aaron Meilijson

Graduate students advised, CU Boulder

- 2019–present PhD. student Edgart Flores, University of Concepción, Chile (co-advised with O. Ulloa)
- 2017–present GEOL PhD. student Sebastian Cantarero
- 2017–present GEOL PhD. student Jonathan Raberg (co-advised with G. Miller)
- 2016–present GEOL PhD. student Lina Ángel-Pérez (co-advised with P. Molnar)
- 2016–summer MSc. student Raman Umamaheswaran, U. Delhi, India (co-advised with K. Chin)
- 2015–present GEOL PhD. student F. Garrett Boudinot
- 2014–2017 PhD. student Marwa Baroumi, University of Tunis, Tunisia (co-advised with H. Negra)

Graduate student committees, member, CU Boulder (*also research co-advisor)

- 2020–present GEOL PhD. student Devon Gorbey – University at Buffalo (Advisor: E. Thomas)
- 2020–present EBIO PhD. student Patrick Morrison (Advisor: S. Mojszsis)
- 2018–present GEOL PhD. student Ciara Asamoto (Advisor: S. Kopf)
- 2016–present GEOL PhD. student Katie Rempfert* (Advisor: A. Templeton)
- 2015–present GEOL PhD. student Brigitta Romgstad (Advisor: T. Marchitto)
- 2015–present GEOL PhD. student Rebekah Simon* (Advisor: D. Budd)
- 2016–2019 GEOL PhD. student David Harning* (Advisor: G. Miller)
- 2016–2018 ATOC PhD. student Kristen Krumhardt (Advisor: N. Lovenduski)
- 2015–2019 GEOL PhD. student Victoria Crystal* (Advisors: K. Snell and J. Eberle)
- 2015–2019 GEOL PhD. student Sarah Crump* (Advisor: G. Miller)
- 2015–2016 GEOL PhD. student Chris Florian (Advisor: G. Miller)

Undergraduate students advised, CU Boulder

- 2019–present GEOL major Brooke Holman
- 2019–summer *Research advisor*, GEOL major Spencer Levy (Colorado College)
- 2019–present *Honors thesis advisor*, ENVS major and GEOL major Katelyn Eaman
- 2018–2019 *Honors thesis advisor*, GEOL major Jonn van Oosten
- 2018–2019 *Honors thesis advisor*, ENVS major Lucy Camuti
- 2018–2018 *Geology Mentorship advisor*, GEOL major Olabambo Oladipo
- 2018–2019 *Geology Mentorship advisor*, GEOL major Katie Quinn
- 2018–summer CU SMART *advisor*, sophomore Jamila Smith (State University of New York at Fredonia)
- 2017–summer UNAVCO-RESESS *advisor*, sophomore Steven Moran (Wichita State University)
- 2017–summer UROP *advisor*, GEOL major Nina Kentwortz
- 2016–2017 *Research advisor*, BIOCHEM major Christine Schlarbaum
- 2015–2017 UROP and *Honors thesis advisor*, GEOL/CHEM major Michael Gross

Graduate students advised (as research mentor) at MIT (USA) and Univ. of Bremen (Germany)

- 2012–2014 PhD. students Emily Matys (MIT), Sharon Newman (MIT), Katherine French (MIT), and Marwa Baroumi (Univ. Tunis, Tunisia)
- 2012/08 Visiting PhD. student Amy Chen (Macquarie Univ., Australia)
- 2011–2012 MSc. students Marie Giron (MIT) and Alex Kasprak (Brown Univ.)
- 2010–2014 Ph.D. student Benjamin Srain (Univ. of Concepción, Chile)
- 2006–2007 MSc. student Arne Leider (Univ. Bremen, Germany)

Undergraduate students advised at MIT (USA) and Univ. of Bremen

2014	UROP EAPS major Madonna Yoder
2001	UROP student Kelden Pehr
2010–2012	Undergraduate research assistants Emily Wooton and Sharon Newman
2006/07–08	Summer student Jeff Salacup (U-MASS, USA)
2005	Undergraduate thesis mentor for Arne Leider

FIELDWORK AND SAMPLING

2020/02	GEOMAR-Kiel Off-Shore Mesocosms for Oceanographic Studies (KOSMOS), Callao, Perú
2019/09	Geological Field trip, Iceland. <i>Co-PI</i>
2017/02	GEOMAR-Kiel Off-Shore Mesocosms for Oceanographic Studies (KOSMOS), Callao, Perú
2015/06	Geological field trip, Sabana de Bogotá, Colombia
2015/05	NSF-ELT Coring Project science and sampling party, Northwestern Univ., Evanston, IL
2014/11	El Kef Coring Project science and sampling party, IODP Repository, Bremen, Germany
2013/02	Geobiology field trip, Torres del Paine National Park, Southern Patagonia, Chile
2012/11	Geological field trip, Zumaia, Spain. <i>PI</i>
2012/03	Geological field trip, northwestern Tunisia. <i>PI</i>
2009/08	MOOMZ–2 Cruise, Iquique, Chile. AGOR Vidal Gormaz
2006/06	Geological field trip, Stevens Klint, Denmark. <i>PI</i>
2005/01	RB-04-13 Cruise, Valparaíso–P. Arenas, Chile. R/V Ronald Brown (USA). <i>Chief Scientist</i>
2004/07	FONDAP–COPAS Cruise, Iquique, Chile. R/V Carlos Porter
2003/10	Blue Earth Global Expedition (BEAGLE), Valparaiso–Sao Paulo. R/V Mirai (Japan)
2002/04	FLUMO–II Cruise, Mejillones, Chile. Fondecyt Project 1000366, R/V Purihaala
2001/10	CIMAR Fiordo–7 Cruise, Northern Patagonia, Chile. AGOR Vidal Gormaz.
2001/04	FLUMO Cruise, Antofagasta, Chile. Fondecyt Project 1000366, R/V Abate Molina
2000/03	FONDAP–COPAS MinOx Cruise, Iquique, Chile. AGOR Vidal Gormaz
1998–2000	Multiple FONDAP–COPAS cruises off Concepción, Chile. R/V Kay–Kay

PUBLIC OUTREACH AND VOLUNTEER ACTIVITIES

2019/fall	<i>Mentor</i> , Earth Explorers Program
2018/summer	<i>Mentor</i> , CU Boulder Summer Multicultural Access to Research Training (SMART) Program
2018/04	<i>Participant</i> , INSTAAR Open House
2017/summer	<i>Mentor</i> , UNAVCO RECESS Program
2017/summer	<i>Mentor</i> , Junior Alexander Weber, East High School-Denver, Denver Public Schools' CareerConnect Program Summer Intern
2016/05	<i>Invited speaker</i> , Denver Museum of Science and Nature
2015/07	<i>Participant</i> , NSF Early Career Geoscience Faculty Workshop
2013–2014	<i>Team member</i> , FashionDescience Project, Team Gaia
2013/11	<i>Invited speaker</i> , "There is a scientist in my classroom" workshop. MIT, MA
2012–2014	<i>Tour guide</i> , "Geological Timeline" at MIT, Cambridge Science Festival
2012/02	<i>Reviewer</i> for MIT-K12 videos
2012/01	<i>Research advisor</i> for Alexandra Bryan (sophomore at Commonwealth School, Boston)
2011/10	<i>Invited speaker</i> , Scientist-Teacher-Classroom Partnerships workshop. MIT, MA
2011–2014	<i>Invited speaker</i> , Visiting Scientist Day, Ralph B. O'Maley Middle School, Gloucester, MA
2011/03	<i>Participant</i> , Engaging Early Career Scientists in Future Scientific Ocean Drilling workshop. College Station, TX
2011/03	<i>Participant</i> , "Telling your story" workshop. Harvard University, MA
2009/10	<i>Interviewed</i> for The New York Times, Astrobiology Magazine, MIT news
2004–present	<i>Founding member</i> , NGO AquaSendas Cultural Center, Concepción, Chile

LEADERSHIP AND SERVICE AT CU BOULDER

<i>2019-present</i>	<i>Committee member, INSTAAR Executive Committee</i>
<i>2018-present</i>	<i>Committee member, Boulder Faculty Assembly Diversity Committee</i>
<i>2017-present</i>	<i>Department Representative, Boulder Faculty Assembly</i>
<i>2017-2018</i>	<i>Organizer, INSTAAR Noon Seminar Series</i>
<i>2017-Fall</i>	<i>Department Representative, Inclusive Excellence</i>
<i>2017-Spring</i>	<i>Consultant, Standing Committee on Research Misconduct, Research and Innovation Office</i>
<i>2016-Spring</i>	<i>Invited Speaker, New Assistant Professor Program (NAPP) workshop, Faculty Teaching Excellence Program (FTEP)</i>
<i>2015-2017</i>	<i>Committee member (2 yrs), Graduate Admissions Committee, Geological Sciences</i>
<i>2015-2016</i>	<i>Committee member (1 yr), Geobiology Search Committee, Geological Sciences</i>
<i>2014-2015</i>	<i>Committee member (1 yr), Space and Facilities Committee, Geological Sciences</i>
<i>2014-Fall</i>	<i>Committee member, Ad hoc Committee for potential spousal hire, Geological Sciences</i>

PROFESSIONAL LEADERSHIP AND SERVICE, AND AFFILIATIONS

<i>2019/10</i>	<i>Panelist, NASA Exobiology Program – Transitions in Life Review Panel. Paradise Point Resort, San Diego, CA.</i>
<i>2018/05</i>	<i>Early career participant, NSF dedicated Research Coordination Network (RCN): Cenozoic pCO₂ Workshop. Lake Arrowhead Conference Center, San Bernardino Mountains, CA.</i>
<i>2017-present</i>	<i>Committee Member, Geochemical Society – Organic Geochemistry Division, Organic Geochemistry Best Paper Award</i>
<i>2017/08</i>	<i>Session Convener, Session 20c “Biogeochemical processes: microbes, genomes, lipids and evolution”. Goldschmidt Conference, Paris, France</i>
<i>2017/03</i>	<i>Early career participant, NSF dedicated Research Coordination Network (RCN): Cenozoic pCO₂ Workshop. Lamont-Doherty Earth Observatory, Palisades, NY.</i>
<i>2016/09</i>	<i>Session Convener, Session T131 “Marine and terrestrial records of extreme climates and extinction: making sense of similarities and differences”. Geological Society of America Annual Meeting, Denver, CO</i>
<i>2014/01</i>	<i>Convener, MIT-MISTI-Chile workshop “ The biogeochemistry of the Oxygen Minimum Zone of northern Chile in a warming world: present and past evolution using novel lipid biomarkers “. MIT, Cambridge MA, USA</i>
<i>2013/04</i>	<i>Early career participant, “Exploring the Cretaceous Greenhouse through Scientific Drilling Workshop”, University College London, London, UK</i>
<i>2012/12</i>	<i>Session Convener, AGU Fall Meeting 2012 session PP14, Extreme Climates and Extinction: Ancient Clues for Ocean Deoxygenation and Acidification. San Francisco, CA, USA</i>
<i>2012/11</i>	<i>Convener, MIT-MISTI-Spain workshop “Ecological Resilience to Extreme Climates across the Cretaceous-Paleogene”. Zarautz, Spain</i>
<i>2011/03</i>	<i>Convener, MIT-MISTI-Spain workshop “ Developing a new post-extinction model of the K-Pg Mass Extinction Event”. MIT, Cambridge, MA, USA</i>
<i>Journals</i>	<i>Reviewer for Astrobiology, Climate of the Past, Geobiology, Geochimica et Cosmochimica Acta, The Geological Society of America Bulletin, Geosciences Journal, Global and Planetary Change, Holocene, International Journal of Earth Sciences, Nature, Nature Communications, Organic Geochemistry, Palaeogeography, Palaeoclimatology, Palaeoecology, Paleoceanography and Paleoclimatology, Proceedings of the National Academy of Science, Scientific Reports</i>
<i>Agencies</i>	<i>Reviewer for the American Chemical Society Petroleum Research Fund (ACS-PRF), National Science foundation (NSF), National Committee for Scientific and Technological Development (CONICYT, Chile), National Oceanographic Committee (CONA, Chile)</i>

Affiliations

American Geophysical Union (AGU), European Association of Organic Geochemists (EAOG), Geological Society of America (GSA), National Association of Geoscience Teachers (NAGT)