

# Sierra V. Petersen

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## RESEARCH APPOINTMENTS

**Assistant Professor** **2017-present**  
Earth and Environmental Sciences Department, University of Michigan, Ann Arbor, MI

**Postdoctoral Research Fellow** **2014-2017**  
NSF-OCE postdoctoral fellow (2014-2016), postdoctoral fellow (2016-2017)  
Earth and Environmental Sciences Department, University of Michigan, Ann Arbor, MI

## EDUCATION

**Harvard University, Cambridge, MA** **2009-2014**  
**Ph.D.**, Earth & Planetary Sciences; Advisor: Daniel P. Schrag  
Thesis: "Rapid Climate Change in the Cenozoic: Insights from Geochemical Proxies"  
*Research topics:* paleoclimate/paleoceanography, Dansgaard-Oeschger events, glacial cycles, stable isotope geochemistry, clumped isotope paleothermometry, Cenozoic climate

**Harvard University, Cambridge, MA** **2009-2012**  
**A.M.**, Earth & Planetary Sciences; Advisor: Daniel P. Schrag

**California Institute of Technology (Caltech), Pasadena, CA** **2005-2009**  
**B.Sc.** with honors, Geochemistry

## ACADEMIC HONORS, AWARDS, and FELLOWSHIPS

Sloan Research Fellowship **2021**  
Crosby Research Award, University of Michigan **2019**  
Outstanding Postdoctoral Fellow Award, University of Michigan **2016**  
Marine Geoscience Leadership Symposium (MGLS) **2015**  
NSF Ocean Sciences Postdoctoral Research Fellowship **2014-2016**  
NOAA Climate and Global Change Postdoctoral Fellowship (Declined) **2014**  
Graduate School of Arts and Sciences Merit Fellowship, Harvard University **FALL 2013**  
James Mills Peirce Fellowship, Harvard University **2009-2010**  
Howard Reynolds Memorial Prize, Caltech **2009**  
Summer Undergraduate Research Fellowship, Samuel P & Frances Krown Fellow, Caltech **2008**  
Summer Undergraduate Research Fellowship, Jim & Karen Cutts Fellow, Caltech **2006**

## PEER-REVIEWED PUBLICATIONS

(\*Student author in Petersen group)

21. \*Zhang, J.Z., **S.V Petersen**, I.Z. Winkelstern, K.C. Lohmann (2021) Seasonally Variable Aquifer Discharge and Cooler Climate in Bermuda during the Last Interglacial Revealed

- by Subannual Clumped Isotope Analysis, *Paleoceanography & Paleoclimatology*, 36, e2020PA004145, doi:10.1029/2020PA004145.
20. Bernasconi, S.M., M. Daëron, K.D. Bergmann, M. Bonifacie, A.N. Meckler, H.P. Affek, N. Anderson, D. Bajnai, E. Barkan, E. Beverley, D. Blamart, L. Burgener, D. Calmels, C. Chaduteau, M. Clog, B. Davidheiser-Kroll, A. Davies, F. Dux, J. Eiler, B. Elliot, A.C. Fetrow, J. Fiebig, S. Goldberg, M. Hermoso, K.W. Huntington, E. Hyland, M. Ingalls, M. Jaggi, C.M. John, A.B. Jost, S. Katz, J.R. Kelson#, T. Kluge, I.J. Kocken, A. Laskar, T.J. Leutert, D. Liang, J. Lucarelli, T.J. Mackey, X. Mangenot, N. Meinicke, S.E. Modestou, I.A. Müller, S. Murray, A. Neary, N. Packard, B.H. Passey, E. Pelletier, **S.V. Petersen**, A. Piasecki, A. Schauer, K.E. Snell, P.K. Swart, A. Tripathi, D. Upadhyay, T. Vennemann, I. Winkelstern, D. Yarian, N. Yoshida, N. Zhang, M. Ziegler (2021) InterCarb: A Community Effort to Improve Interlaboratory Standardization of the Carbonate Clumped Isotope Thermometer Using Carbonate Standards, *Geochemistry, Geophysics, Geosystems*, 22, e2020GC009588, doi:10.1029/2020GC009588.
  19. Tierney, J.E., C.J. Poulsen, I.P. Monanez, T. Bhattacharya, R. Feng, H.L. Ford, B. Honisch, G.N. Inglis, **S.V. Petersen**, N. Sagoo, C.R. Tabor, K. Thirumalai, J. Zhu, N.J. Burls, Y. Godderis, G.L. Foster, B.T. Huber, L.C. Ivany, S.K. Turner, D.J. Lunt, J.C. McElwain, B.J.W. Mills, B.L. Otto-Bleisner, A. Ridgwell, and Y.G. Zhang (2020), Past Climates inform our future, *Science*, v.370 no. 6517, doi:10.1126/science.aay3701.
  18. Mohr, R., T. Tobin, **S.V. Petersen**, A. Dutton, and \*E. Oliphant (2020) Subannual stable isotope records reveal climate warming and seasonal anoxia associated with two extinction intervals across the Cretaceous-Paleogene boundary on Seymour Island, Antarctica, *Geology*, 48(11), 1131-1136, doi:10.1130/G47758.1.
  17. \*S. Scholz, **S.V. Petersen**, J. Escobar, C. Jaramillo, A.J.W. Hendy, W.D. Allmon, J.H. Curtis, B.M. Anderson, N. Hoyos, J.C. Restrepo, N. Perez (2020) Isotope Sclerochronology indicates enhanced seasonal precipitation in northern South America (Colombia) during the Mid Miocene Climatic Optimum, *Geology*, 48(7), 668-672, doi:10.1130/G47235.1.
  16. Kelson, J., L. Burgener, K. Huntington, G. Hoke, **S.V. Petersen**, D. Brecker, and T. Gallagher (2020) A proxy for all seasons? A synthesis of clumped isotope data from Holocene soil carbonates, *Quaternary Science Reviews*, 234, 106259, doi:10.1016/j.quascirev.2020.106259.
  15. \*Meyer, K.W., **S.V. Petersen**, K.C. Lohmann, J.D. Blum, S.J. Washburn, M.W. Johnson, J.D. Gleason, A.Y. Kurz, and I.Z. Winkelstern (2019) End-Cretaceous Mercury Concentrations Reveal Climate Influence of Deccan Traps Large Igneous Province, *Nature Communications*, 10, 5356, doi:10.1038/s41467-019-13366-0.
  14. B.J. Linzmeier, A.D. Jacobson, B.B. Sageman, M.T. Hurtgen, M.E. Ankney, **S.V. Petersen**, T.S. Tobin, G.D. Kitch, and J. Wang (2019) Calcium isotope evidence for environmental variability before and across the Cretaceous-Paleogene mass extinction, *Geology*, v. 48 (1), 34-38, doi:10.1130/G46431.1.
  13. **Petersen, S.V.**, W.F. Defliese, C. Saenger, M. Daëron, C.M. John, K.W. Huntington, J.R. Kelson, S.M. Bernasconi, A.S. Colman, T. Kluge, G.A. Olack, A.J. Schauer, D. Bajnai, M. Bonifacie, S.F.M Breitenbach, J. Fiebig, A.B. Fernandez, G.A. Henkes, D. Hodell, A. Katz, S. Kele, K.C. Lohmann, B.H. Passey, D.A. Petrizzo, B.E. Rosenheim, A. Tripathi, R. Venturelli, E.D. Young, and I.Z. Winkelstern (2019) Effects of improved <sup>17</sup>O Correction on Inter-Laboratory Agreement in Clumped Isotope Calibrations, Estimates of

- Mineral-Specific Offsets and Temperature Dependence of Acid Digestion Fractionation, *Geochemistry, Geophysics, Geosystems*, 20, 3495–3519, doi:10.1029/2018GC008127.
12. de Winter, N.J., J. Vellekoop, R. Vorsselmans, A. Golreihan, J. Soete, **S.V. Petersen**, K.W. Meyer\*, S. Casadio, R.P. Speijer, and P. Claeys (2018), An assessment of latest Cretaceous *Pycnodonte vesicularis* (Lamarck, 1806) shells as records for palaeoseasonality: A multi-proxy investigation, *Climate of the Past*, 14, 725-749, doi:10.5194/cp-14-725-2018.
  11. \*Meyer, K.W., **S.V. Petersen**, K.C. Lohmann, and I.Z. Winkelstern (2018), Climate of the Late Cretaceous North American Gulf and Atlantic Coasts, *Cretaceous Research*, 89, 160-173, doi:10.1016/j.cretres.2018.03.017.
  10. Gallagher, T.M., N.D. Sheldon, J.L. Mauk, **S.V. Petersen**, N. Gueneli, and J.J. Brocks (2017), Constraining the thermal history of the North American Midcontinent Rift System using carbonate clumped isotopes and organic thermal maturity indices, *Precambrian Research*, 294, 53-66, doi:10.1016/j.precamres.2017.03.022.
  9. Bassis, J.N., **S.V. Petersen**, and L.M. Cathles (2017), Heinrich events driven by feedback between ocean forcing and glacial isostatic adjustment, *Nature*, 542, 332-334, doi:10.1038/nature21069.
  8. Winkelstern, I.Z., M.P. Rowe, K.C. Lohmann, W.F. Defliese, **S.V. Petersen**, A.W. Brewer (2017), Meltwater pulse recorded in Last Interglacial mollusk shells from Bermuda, *Paleoceanography*, 32, 132-145, doi:10.1002/2016PA003014.
  7. **Petersen, S.V.**, C.R. Tabor, K.C. Lohmann, C.J. Poulsen, K.W. Meyer\*, S.J. Carpenter, J.M. Erickson, K.K.S. Matsunaga, S.Y. Smith, and N.D. Sheldon (2016), Salinity and Temperature of the Late Cretaceous Western Interior Seaway, *Geology*, 44, 903-906, doi:10.1130/G38311.1.
  6. **Petersen, S.V.**, A. Dutton, and K.C. Lohmann (2016), End-Cretaceous extinction in Antarctica linked to both Deccan volcanism and meteorite impact via climate change, *Nature Communications*, 7:12079, doi: 10.1038/ncomms12079.
  5. **Petersen, S.V.**, I.Z. Winkelstern, K.C. Lohmann, and K.W. Meyer\* (2016), The effects of Porapak™ trap temperature on  $\delta^{18}\text{O}$ ,  $\delta^{13}\text{C}$ , and  $\Delta_{47}$  in preparing samples for clumped isotope analysis, *Rapid Communications in Mass Spectrometry*, 30, 199-208, doi: 10.1002/rcm.7438.
  4. **Petersen, S.V.**, D.P. Schrag (2015), Antarctic ice growth before and after the Eocene-Oligocene Transition: New estimates from clumped isotope paleothermometry, *Paleoceanography*, 30 (10), 1305-1317, doi: 10.1002/2014PA002769.
  3. **Petersen, S.V.**, D.P. Schrag (2014), Clumped isotope measurements of small carbonate samples using a high-efficiency dual-reservoir technique, *Rapid Communications in Mass Spectrometry*, 28, 2371-2381, doi: 10.1002/rcm.7022.
  2. **Petersen, S.V.**, D.P. Schrag, and P.U. Clark (2013), A new mechanism for Dansgaard-Oeschger cycles, *Paleoceanography*, 28, 24-30, doi: 10.1029/2012PA002364.
  1. Chapman, A.D., P.I. Luffi, J.B. Saleeby, and **S. Petersen** (2011), Metamorphic evolution, partial melting and rapid exhumation above an ancient flat slab: Insights from the San Emigdio Schist, southern California, *Journal of Metamorphic Geology*, 29: 601-626, doi: 10.1111/j.1525-1314.2011.00932.x.

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## CONFERENCE PRESENTATIONS and POSTERS

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(\*Author is my student, \*\*Author is my postdoc)

46. **Petersen, S.V.**, A.N. Curley\*, S.M. Edie, R.C. Mohr, E. Oliphant\*, T. Tobin, Survivorship vs. Extinction at the KPg Boundary: An isotopic look at vital effects in bivalves, Goldschmidt, Lyon, France, July 2021 (invited talk, hybrid)
45. \*\*Kelson, J.R., **S.V. Petersen**, N. Niemi, B. Passey, Deltas in an estuary: clumped and triple oxygen analyses reveal isotopically depleted headwaters in the early Eocene of Southern CA, AGU Fall Meeting, San Francisco, California, December 2020 (virtual, talk)
44. Minnebo, L., I.Z. Winkelstern, J.Z. Zhang\*, **S.V. Petersen**, Interpreting Interglacial Stratigraphy in Bermuda with new Amino Acid Data, AGU Fall Meeting, San Francisco, California, December 2020 (virtual, poster)
43. \*Zhang, J.Z., **S.V. Petersen**, I.Z. Winkelstern, K.C. Lohmann, Variable Aquifer Discharge and Cooler Climate in Bermuda during the Last Interglacial Revealed by Subannual Clumped Isotope Analysis, AGU Fall Meeting, San Francisco, California, December 2020 (virtual, poster)
42. \*O’Hora, H.E., **S.V. Petersen**, S.R. Scholz\*, J. Vellekoop, Clumped isotope analysis of the Cretaceous-Paleogene mass extinction linked to volcanically induced global warming, GSA Annual Meeting, online, October 2020 (virtual, poster)
41. \*Hoffman, J.J., M.M Jones\*\*, **S.V. Petersen**, A.N. Curley\*, Multi-Proxy seasonality investigation of the Mid-Cretaceous Western Interior Seaway using oyster macrofossils, GSA Annual Meeting, online, October 2020 (virtual, poster)
40. \*Scholz, S.R., **S.V. Petersen**, Reconstructing seasonal-scale precipitation patterns from high resolution oxygen isotope sclerochronology of coastal turritellid gastropods, GSA Annual Meeting, online, October 2020 (virtual, poster)
39. \*Curley, A.N., **S.V. Petersen**, S.M. Edie, R.C. Mohr, T.S. Tobin, and E. Oliphant\*, Biological Controls on the Stable Isotope and Trace Element Composition of Maastrichtian Age Bivalve Shells from Seymour Island, Antarctica, GSA Annual Meeting, online, October 2020 (virtual, poster)
38. \*\*Kelson, J., K. Huntington, D. Breecker, L. Burgener, T. Gallagher, G. Hoke, and **S.V. Petersen**, Advancing Terrestrial Paleoclimate with a Process-Based understanding of the Seasonal Bias of the Clumped and Stable Isotopic Compositions of Soil Carbonates, GSA Annual Meeting, online, October 2020 (virtual, talk)
37. \*\*Jones, M.J., A.N. Curley\*, **S.V. Petersen**, A tropically hot and salty Western Interior Seaway (USA) spanning Cretaceous Ocean Anoxic Event 2, GSA Annual Meeting, online, October 2020 (virtual, talk)
36. \*Hoffman, J.J., M.M Jones\*\*, **S.V. Petersen**, A.N. Curley\*, Multi-Proxy investigation of the Cenomanian Western Interior Seaway using oyster macrofossils, GSA North-Central Meeting, May 2020 (poster, canceled due to COVID-19)
35. \*Wedel, S., **S.V. Petersen**, J.Z. Zhang\*, I.Z. Winkelstern, K.C. Lohmann, Temperature and oxygen isotope seasonality of the Last Interglacial (MIS-5E) from analysis of stable and clumped isotopes of Bermuda bivalves, GSA North-Central Meeting, May 2020 (poster, canceled due to COVID-19)
34. \*O’Hora, H.E., **S.V. Petersen**, S.R. Scholz\*, J. Vellekoop, Clumped isotope analysis of the Cretaceous-Paleogene mass extinction linked to volcanically induced global warming, GSA North-Central Meeting, May 2020 (poster, canceled due to COVID-19)
33. **Petersen, S.V.**, M.M. Jones\*\*, J.J. Hoffman\*, Multi-proxy investigation of the Cenomanian Western Interior Seaway using oyster macrofossils, AGU Fall Meeting, San Francisco, California, December 2019 (poster)

32. Jones, M.M.\*\*\*, **S.V. Petersen**, B.B. Sageman, D. Selby, A.D. Jacobson, B.S. Singer, B.R. Jicha, Thermal and paleoceanographic responses to OAE2 from  $\Delta_{47}$  geochemistry and a refined chronostratigraphy, *Goldschmidt*, Barcelona, Spain, August 2019 (invited talk)
31. **Petersen, S.V.**, J.Z. Zhang\*, S.R. Scholz\*, R.C. Heaman\*, N.J. de Winter, J. Vellekoop, Separating Seasonality in Temperature and the Oxygen Isotopic Composition of Water: Sub-Annual Clumped Isotope Analysis of Gastropods, *5<sup>th</sup> International Sclerochronology Conference*, Split, Croatia, June 2019 (talk)
30. de Winter, N.J., J. Vellekoop, A. Clark, **S.V. Petersen**, S.R. Scholz\*, S. Goderis, M. Leermakers, R. Speijer, and P. Claeys, *Campanile* gastropods as recorders of Eocene hothouse climate: A multi-proxy study, *EGU General Assembly*, Vienna, Austria, April 2019 (to come)
29. Fiebig, J., Bajnai, D., Loffler, N., and **Petersen, S.**, Carbonate clumped isotope calibrations: kinetics matter, *7<sup>th</sup> International Clumped Isotope Workshop*, Los Angeles, California, January 2019 (talk)
28. Huntington, K.W., Kelson, J.R., Breecker, D.O., Hoke, G.D., Burgener, L.K., and **Petersen, S.**, Factors controlling seasonality of soil carbonate accumulation and the interpretation of terrestrial paleoclimate records, *7<sup>th</sup> International Clumped Isotope Workshop*, Los Angeles, California, January 2019 (talk)
27. Dawson, R.R., **Petersen, S.V.**, Hull, P.M., Ivany, L.C., and Affek, H.P., Cretaceous Temperature Estimates from Fossil Mollusk: An Interlaboratory Comparison, *7<sup>th</sup> International Clumped Isotope Workshop*, Los Angeles, California, January 2019 (poster)
26. **Petersen, S.V.**, W.F. Defliese, C. Saenger, M. Daëron, K.W. Huntington, C.M. John, J.R. Kelson, S.M. Bernasconi, A.S. Colman, T. Kluge, G.A. Olack, A.J. Schauer, D. Bajnai, M. Bonifacie, S.F.M. Breitenbach, J. Fiebig, A.B. Fernandez, G.A. Henkes, D. Hodell, A. Katz, S. Kele, K.C. Lohmann, B.H. Passey, M.Y. Peral, D.A. Petrizzo, B.E. Rosenheim, A.E. Tripathi, R. Venturelli, E.D. Young, and I.Z. Winkelstern, Effects of Improved  $17\text{O}$  Correction on Inter-Laboratory Agreement in Clumped Isotope Calibrations, *7<sup>th</sup> International Clumped Isotope Workshop*, Los Angeles, California, January 2019 (talk)
25. **Petersen, S.V.**, S.R. Scholz\*, R.C. Heaman\*, N.J. de Winter, J. Vellekoop, J. Escobar, A. Hendy, and C. Jaramillo, Expanding the marine gastropod clumped isotope calibration and exploring the potential for Vital Effects in  $\Delta_{47}$ , *7<sup>th</sup> International Clumped Isotope Workshop*, Los Angeles, California, January 2019 (poster)
24. Mohr, R.C., T.S. Tobin, A. Dutton, and **S.V. Petersen**, Sclerochronological Records of Carbonate Isotopes from Antarctic Bivalves Reveal Climate Warming and Variations in Seasonal Productivity Across the K-Pg Boundary, *GSA Annual Meeting*, Indianapolis, Indiana, November 2018 (talk)
23. \*Scholz, S.R., **S.V. Petersen**, Escobar, J., C. Jaramillo, A. Hendy, W. Allmon, F. Moreno, J. Curtis, B. Anderson, N. Hoyos, J.C. Restrepo, N. Perez, Isotope sclerochronology and tropical seasonality during the Mid Miocene Climatic Optimum, *Goldschmidt*, Boston, Massachusetts, August 2018 (talk)
22. Linzmeier, B.J., A.D. Jacobson, B.B. Sageman, M.T. Hurtgen, M.E. Ankney, S.V. Petersen, and T.S. Tobin, Linking Deccan volcanism and the bolide impact with calcium isotope stratigraphy from the Late Maastrichtian of Seymour Island, Antarctica, *Goldschmidt*, Boston, Massachusetts, August 2018

21. \*Oliphant, E., **S.V. Petersen**, A. Dutton, K.C. Lohmann, Interpreting lifecycle behavior of extinct bivalve species through stable and clumped isotopic variations, *GSA Annual Meeting*, Seattle, Washington, October 2017 (talk)
20. \*Meyer, K.W., **S.V. Petersen**, J.D. Blum, K.C. Lohmann, S.J. Washburn, J.D. Gleason, G. Gehrke, Mercury concentrations and mercury stable isotope variations at the PETM: Volcanic loading signal of the North Atlantic Igneous Province?, *GSA Annual Meeting*, Seattle, Washington, October 2017 (talk)
19. \*Meyer, K.W., **S.V. Petersen**, K.C. Lohmann, J. Blum, S. Washburn, I.Z. Winkelstern, Late Cretaceous volcanism and climate change inferred from THg in marine invertebrate fossils, *Goldschmidt*, Paris, France, August 2017 (talk)
18. **Petersen, S.V.**, M. Daëron, W.F. Defliese, C.M. John, S.M. Bernasconi, A.S. Colman, K.W. Huntington, J.R. Kelson, T. Kluge, G.A. Olack, C. Saenger, A.J. Schauer, D. Bajnai, M. Bonifacie, J. Fiebig, A.B. Fernandez, P. Garcia de Real, G.A. Henkes, A. Katz, S. Kele, K.C. Lohmann, B.H. Passey, D.A. Petrizzo, B.E. Rosenheim, J. Tang, A.E. Tripathi, R. Venturelli, E.D. Young, U. Wacker, I.Z. Winkelstern, Continued Efforts Towards a Universal Clumped Isotope Calibration: Updating Published Calibrations to *Brand et al.* (2010) Parameters, *6<sup>th</sup> Clumped Isotope Workshop*, Paris, France, August 2017 (poster)
17. Esocbar, J., A. Hendy, C. Jaramillo, **S.V. Petersen**, J. Curtis, F. Moreno, B. Anderson, W. Allmon, S. Scholz\*, Isotope sclerochronology and clumped isotopes of Miocene molluscs from the Guajira Peninsula, Colombia, *XVI Congreso Colombiano de Geologia*, Santa Marta, Colombia, August 2017
16. \*Meyer, K.W., **S.V. Petersen**, K.C. Lohmann, J. Blum, S. Washburn, I.Z. Winkelstern, Late Cretaceous volcanism and associated climate change inferred from elevated THg in marine invertebrate fossils, *13<sup>th</sup> International Conference on Mercury as a Global Pollutant*, Providence, Rhode Island, July 2017 (talk)
15. de Winter, N. J., J. Vellekoop, R. Vorsselmans, A. Golreihan, **S.V. Petersen**, K.W. Meyer\*, R. P. Speijer, and P. Claeys, Cretaceous honeycomb oysters (*Pycnodonte vesicularis*) as palaeoseasonality records: A multi-proxy study, *EGU General Assembly*, Vienna, Austria, April 2017 (talk)
14. Winkelstern, I.Z., M.P. Rowe, K.C. Lohmann, W.F. Defliese, **S.V. Petersen**, A.W. Brewer, Deglacial Meltwater Pulse Recorded in Last Interglacial Mollusk Shells from Bermuda, *AGU Fall Meeting*, San Francisco, California, December 2016 (poster)
13. **Petersen, S.V.**, A. Dutton, and K.C. Lohmann, Climatic impacts of Deccan Traps volcanism recorded in mollusk shells from Seymour Island, Antarctica, *GSA Annual Meeting*, Denver, Colorado, September 2016 (talk)
12. **Petersen, S.V.**, A. Dutton, and K.C. Lohmann, End-Cretaceous extinction in Antarctica linked to both Deccan Traps volcanism and meteorite impact, *5<sup>th</sup> Clumped Isotope Workshop*, St. Petersburg, Florida, January 2016 (talk)
11. **Petersen, S.V.**, I.Z. Winkelstern, K.C. Lohmann, and K.W. Meyer\*, The effects of Porapak™ trap temperature on  $\delta^{18}\text{O}$ ,  $\delta^{13}\text{C}$ , and  $\Delta_{47}$  in preparing samples for clumped isotope analysis, *5<sup>th</sup> Clumped Isotope Workshop*, St. Petersburg, Florida, January 2016 (poster)
10. \*Meyer, K.W., **S.V. Petersen**, K.C. Lohmann, and I.Z. Winkelstern, Late Cretaceous Sea Surface Variability of the Southeast U.S., *5<sup>th</sup> Clumped Isotope Workshop*, St. Petersburg, Florida, January 2016 (poster)

9. Bassis, J.N., **S.V. Petersen**, and L.M. Cathles, Heinrich events driven by feedback between ocean forcing and glacial isostatic adjustment, *AGU Fall Meeting*, San Francisco, California, December 2015 (poster)
8. **Petersen, S.V.**, C.R. Tabor, K.W. Meyer\*, K.C. Lohmann, C.J. Poulsen, and S.J. Carpenter, Equator To Pole in the Cretaceous: A comparison of clumped isotope data and CESM model runs, *AGU Fall Meeting*, San Francisco, California, December 2015 (talk)
7. **Petersen, S.V.**, C.R. Tabor, S.J. Carpenter, K.W. Meyer\*, K.C. Lohmann, and C.J. Poulsen, A Fresh Look: Salinity and Temperature of the Western Interior Seaway using the Clumped Isotope Paleothermometer, *GSA Annual Meeting*, Baltimore, Maryland, November 2015 (talk)
6. \*Meyer, K.W., K.C. Lohmann, and **S.V. Petersen**, Subtropical Warming in the Late Cretaceous Inferred from Clumped Isotope Paleothermometry. *Goldschmidt*, Prague, Czech Republic, August 2015 (talk)
5. **Petersen, S.V.** and D.P. Schrag, Reductions in sample size requirements using a dual-reservoir measurement technique and its application to foraminifera. *4<sup>th</sup> Clumped Isotope Workshop*, Zurich, Switzerland, August 2014 (talk)
4. **Petersen, S.V.** and D.P. Schrag, Temperature Change across the Eocene-Oligocene Transition using the Carbonate Clumped Isotope Paleothermometer on Foraminifera. *Goldschmidt*, Sacramento, California, June 2014 (poster)
3. **Petersen, S.V.**, D.P. Schrag, and P.U. Clark, Dansgaard-Oeschger cycles driven by ice-shelf break-up and regrowth. *AGU Fall Meeting*, San Francisco, California, December 2012 (poster)
2. Chapman, A.D., P Luffi, J.B. Saleeby, and **S. Petersen**, Partial melting, counterclockwise P-T path, and rapid exhumation above an ancient flat slab: Insights from the San Emigdio Schist, southern California. *GSA Annual Meeting*, Denver, Colorado, November 2010 (poster)
1. Ghosh, P, J. Eiler, and **S. Petersen**, Carbonate clumped isotope thermometry of Mollusks and Its applications to Pleistocene gastropod fossils from South Dakota, *Goldschmidt*, Cologne, Germany, August 2007 (talk)

## INVITED TALKS & SEMINARS

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- Goldschmidt session 8n, Lyon France, July 2021
- Western Michigan University, Kalamazoo, MI, November 2019
- Aspen Global Change Institute, Workshop: The Future of Past Climate, Aspen, CO, May 2019
- University of Colorado – Boulder, Boulder, CO, Geosciences/INSTAAR/Geography, November 2017
- Northwestern University, Evanston, IL, Earth and Planetary Sciences, May 2017
- University of Michigan, Ann Arbor, MI, Earth & Environmental Sciences, March 2017
- Arizona State University, Tempe, AZ, School of Earth & Space Exploration, March 2017
- Michigan State University, Lansing, MI, Earth & Environmental Sciences, March 2017
- University of Exeter, Penryn, UK, Cambourne School of Mines, January 2017
- University of Washington, Seattle, WA, Earth and Space Sciences, January 2017
- Stony Brook University, Stony Brook, NY, Geosciences, April 2016
- University of Michigan, Ann Arbor, MI, Earth & Environmental Sciences, January 2016

- University of Florida, Gainesville, FL, Geological Sciences, January 2016
- Indiana University-Purdue University-Indianapolis (IUPUI), Indianapolis, IN, Earth Science, October 2015

## TEACHING EXPERIENCE

### **University of Michigan**

EARTH 222: Intro Oceanography	<b>FALL 2018, 2019</b>
EARTH 223: Intro Oceanography Lab	<b>FALL 2018, 2019</b>
EARTH 543: Seminar in Paleoceanography	<b>FALL 2019</b>
EARTH 240: Primitive Navigation & Wayfinding in the Natural World	<b>WINTER 2020</b>

### **Harvard University**

EPS 22: The Fluid Earth (teaching fellow)	<b>SPR 2012</b>
SPU 26: Primitive Navigation (teaching fellow)	<b>FALL 2012</b>
EPS 8: History of the Earth (teaching fellow)	<b>SPR 2011</b>

### **California Institute of Technology**

GE1: Earth and the Environment (teaching assistant)	<b>SPR 2008, SPR 2009</b>
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## TEACHING AWARDS

Honored Instructor, U. Michigan	<b>FALL 2018</b>
Bok Center for Teaching & Learning “Teaching Certificate Program”	<b>2014</b>
Departmental Teaching Fellow, Earth & Planetary Sciences Department	<b>2012 – 2014</b>
White Prize for Excellence in Teaching, Harvard University	<b>for SPU 26, FALL 2012</b>
Certificate for Distinction in Teaching, Harvard University	<b>for EPS 8, SPR 2011</b>

## SERVICE ACTIVITIES and PROFESSIONAL AFFILIATIONS

Session chair - 5<sup>th</sup> International Clumped Isotope Workshop (2016), Goldschmidt (2018)

Peer reviewer for *Proceedings of the National Academy of Sciences*, *Nature Climate Change*, *Science Advances*, *Geology*, *Geophysical Research Letters*, *Geochimica Cosmochimica Acta*, *AGU Advances*, *Geochemical Perspectives Letters*, *Quaternary Science Reviews*, *Cretaceous Research*, *Paleoceanography & Paleoclimatology (formerly just Paleoceanography)*, *Global Planetary Change*, *Palaeogeography Palaeoclimatology Palaeoecology*, *Journal of Mass Spectrometry*

Proposal reviewer and panelist for NSF, proposal reviewer for American Chemical Society, Chilean Antarctic Institute, German Research Foundation

Member of American Geophysical Union, Geochemical Society, Geological Society of America

## ADVISING, MENTORING and OUTREACH

### **Advising:**

*Graduate Students:* Jade Zhang (PhD student, 2018-present); Allison Curley (MS student, transitioning to PhD, 2019-present); Heidi O’Hora (MS student, 2019-present); Serena



Scholz (UG 2016-2019, CUGS master's student 2019-2020); Kyle Meyer (PhD student, 2014-2018, co-supervisor, lead supervisor = Prof Kyger Lohmann)

*Undergraduates:* Jon Hoffman (2019-present, w/postdoc Matthew Jones); Margaret Rudnick (2020-present, w/postdoc Julia Kelson); Elise Pelletier (2021); Steve Wedel (senior thesis, 2018-2020); Ziwei Xiang (2019-2020); Tianna Kilgore, (UROP program, 2018-2019); Rebecca Heaman (UROP program, 2018-2019); Alberto Aguilar-Martinez (lab technician, 2018); Elizabeth Oliphant (senior thesis, 2016-2018)

*Postdocs:* Dr. Matthew M. Jones (2019-2021); Dr. Julia R. Kelson (2019-present, lead supervisor, co-supervisors Prof Naomi Levin and Prof Ben Passey)

*Prelim and Thesis Committees (excluding my own students):* Madelyn Cook (Prelim, WN 2020); Nicholas Ellis (Prelim, FA 2020); Jake Okun (MS reader, 2021); Ryan Venturelli (University of South Florida, quals 2018, PhD defense Jan 2021)

***Mentoring:***

Association for Women in Science (AWIS), University of Michigan, faculty advisor **2017-pres.**  
Association for Women in Science (AWIS), University of Michigan, mentor **2016-2017**  
Caltech Alumni Women's Mentorship Program, mentor **2016-present**

***Outreach:***

FEMMES (Females Excelling More in Math, Engineering and the Science) Capstone event, activity leader, University of Michigan **2014, 2019**  
Outstanding Student Poster Award, poster judge, AGU Fall 2017 **2017**  
Outstanding Postdoctoral Fellow Award, selection committee, University of Michigan **2017**  
UROP Research Symposium, poster judge, University of Michigan **2017**  
Pioneer High School, Science Fair Judge, project mentor **2015-2017**  
Michigan Geophysical Union (MGU), poster judge, University of Michigan **2015, 2017-2019**  
National Ocean Science Bowl, Science Judge **2015, 2016**  
UROP Summer Research Symposium, poster judge, University of Michigan **2015**  
University of Michigan Earth Camp, activity leader **2015**  
Scientist in the Classroom, Samuel Adams Webster Elem. Sch. (3<sup>rd</sup> grade), Boston, MA **2012**