

Courtney J. Sprain
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EDUCATION

University of Minnesota-Twin Cities, MN, Geology	B.Sc., 2012
University of Minnesota-Twin Cities, MN, Geophysics	B.Sc., 2012
University of California, Berkeley, CA, Earth and Planetary Science	Ph.D., 2017

PROFESSIONAL APPOINTMENTS

Assistant Professor, University of Florida	August 2019 – present
Postdoctoral Research Associate, University of Liverpool	Summer 2017 – July 2019

GRANTS

NSF EAR-CAREER-Geophysics: “ <i>CAREER: Full-vector Characterization of the recent (0-5 Myr) Geomagnetic field using novel magnetic field recorder</i> ”, #2237807 – \$694,308	08/01/2023–07/31/2028
NSF EAR-Sedimentary Geology and Paleobiology: “ <i>Collaborative Research: Assembling the foundation of modern mammal community structure in the first 7 million years after the K/Pg mass extinction</i> ”, #2321344 – \$185,386	08/01/2023–07/31/2026
NSF EAR-Geophysics: “ <i>Collaborative Research: NSFGEO-NERC: The history of the Earth's magnetic field strength over the last five million years: Filling in the southern hemisphere gap</i> ”, #2245629 – \$127,684	07/15/2023–07/14/2025
NSF EAR-Instrumentation and Facilities: “ <i>Acquisition of a JR-6A Spinner Magnetometer</i> ”, #2207720 – \$78,410	07/01/2022
Leakey Foundation: “ <i>Geochronology and Geomorphology of Late Pleistocene Deposits at Mochena Borago, Ethiopia: Contextualizing Human Behavioral Changes >50 ka</i> ” – \$25,000	03/01/2022–02/28/2024
NSF EAR-Cooperative Studies of Earth's Deep Interior: “ <i>Understanding the influence of mantle dynamics on the generation of Earth's magnetic field throughout the plate tectonics cycle</i> ”, #2054605 – \$428,655	07/15/2021–06/30/2025
Post-Expedition Award, IODP Expedition 392; U.S. Science Support Program Office associated with the International Ocean Discovery Program (USSSP-IODP): “ <i>Geochronologic, Paleomagnetic, and Rock Magnetic analysis of sediments and lavas obtained on IODP Expedition 392</i> ”, #OCE-1450528 – \$17,998	10/01/2022–12/31/2023
IODP Expedition 392; U.S. Science Support Program Office associated with the International Ocean Discovery Program (USSSP-IODP): “ <i>Agulhas Plateau Cretaceous Climate</i> ”, #OCE-1450528 – \$48,572	02/01/2022–01/31/2023
NSF EAR-Petrology and Geochemistry: “ <i>Collaborative Research: Using Hiatus Durations To Quantify The Tempo Of Deccan Volcanism</i> ”, #2016763 – \$289,273	12/01/2020–11/30/2024

HONORS AND AWARDS

Awards:

NSF Faculty Early Career Development Program (CAREER) award	2023
AGU Geomagnetism, Paleomagnetism, and Electromagnetism William Gilbert Award	2022
AGU 2017 Editors' Citation for Excellence in Refereeing	2018
<i>-Nominated by Editor Josh Feinberg: Geochemistry, Geophysics, Geosystems</i>	
George D. Louderback outstanding graduate student award, EPS, UC-Berkeley	2014
<i>-Granted to outstanding graduate student, nominated by advisor and approved by committee</i>	

Fellowships:

National Science Foundation-Graduate Research Fellowships Program, Fellow	2014 – 2017
Chateaubriand STEM Fellow (Awarded but declined)	2014 – 2015
Ford Predoctoral Fellowship, Honorable Mention	2015
The Julia and Rudy Wenk Graduate Student Fellowship, EPS, UC-Berkeley	2012 – 2013
National Science Foundation-Graduate Research Fellowships Program, Honorable Mention	2012

INVITED SEMINARS

Determining Earth's Evolution through Paleomagnetism workshop, "Landscapes on Fire: How clinker deposits can help us fill in gaps in the recent paleomagnetic record"	Spring 2024
University of Michigan Smith Lecture, "Understanding the causes and consequences of the KPg mass extinction event"	Spring 2023
Utah State University Geosciences Department Speaker Series, "Understanding the causes and consequences of the KPg mass extinction event"	Fall 2022
Florida State University EOAS Colloquium, "Understanding the causes and consequences of the Cretaceous-Paleogene Mass Extinction event"	Fall 2022
Lehigh EES Seminar, "Understanding the causes and consequences of the Cretaceous-Paleogene mass extinction"	Fall 2022
Yale University EPS Colloquium, "Understanding the Causes and Consequences of Mass Extinction Events"	Spring 2022
Carnegie-Earth and Planets lab, "Long-term behavior of the Earth's magnetic field: How can we use paleomagnetism to understand the evolution of Earth's deep interior?"	Fall 2021
University of Houston-Department seminar, "Understanding the causes and consequences of Mass Extinction events"	Fall 2021
University of Liverpool-ESRG seminar, "Understanding the causes and consequences of Mass Extinction events"	Spring 2021
Magnetics Information Consortium (MagIC) Workshop, Invited Speaker, "Using paleomagnetism to understand the causes and consequences of the KPg mass extinction"	Spring 2021
University of Miami-Geotopics seminar, "Understanding the causes and consequences of Mass Extinction events"	Spring 2020
Magnetic NetworkZ online seminar series, "Landscapes on Fire: Do rocks baked by coal seam fires reliably record the geomagnetic field?", doi: 10.7288/V4/ERDA/2443.	Summer 2020
Lamont-Doherty Earth Observatory-Geochemistry Seminar, "Understanding the causes and consequences of mass extinction events"	Fall 2019
University of Alabama-Dept. Seminar, "Timing and Tempo of a Global Catastrophe: Relating Forcing Mechanisms to Environmental Response and Biotic Change Around the KPg"	Fall 2019
University of Florida-Dept. Seminar, "Understanding the causes and consequences of mass extinction events"	Fall 2019
GRC on Geochronology, "Timing and Tempo of a Global Catastrophe: Relating Forcing Mechanisms to Environmental Response and Biotic Change Around the KPg"	Fall 2019

School of Ocean Sciences, Bangor University-Seminar Series, “Timescale of events around the KPg: Links between the Chicxulub impact, Deccan volcanism, and the KPg”	Fall 2018
University of Minnesota-Hard Rock Seminar, “Long-term behavior of the Earth’s magnetic field: How can we use magnetism to understand the evolution of Earth’s deep interior?”	Fall 2018
University of Minnesota-Soft Rock Seminar, “Timescale of events around the KPg: Links between the Chicxulub impact, Deccan volcanism, and the KPg”	Fall 2018
Scottish Universities Environmental Research Centre Seminar Series, “High-Precision ⁴⁰ Ar/ ³⁹ Ar dating of the Deccan Traps: New insight into the KPg mass extinction”	Fall 2017
8 th Nordic Paleomagnetism Workshop, “Long-Term Variations in the Paleomagnetic Field”	Fall 2017
Cretaceous-Paleogene Boundary Symposium, UC-Berkeley, “Resolving the Timeline of Events around the KPg Boundary”	Spring 2017

PUBLICATIONS

Self = bold * = student author & = postdoc

Accepted:

1. BP Weiss, EN Mansbach, C Maurel, **C Sprain**, NL Swanson-Hysell, and W Williams, 2024, *What We Can Learn About Mars from the Magnetism of Returned Samples*, Accepted at the Proceedings of the National Academy of Science.

In Print:

2. Y Engbers, R Bono, D.Thallner, **C Sprain**, M Murray, K Bristol*, B Handford, T Torsvik, and A Biggin, 2024, *A global paleosecular variation database for the Paleogene: stationary secular variation behavior since the Triassic?*, *Geochemistry, Geophysics, Geosystems*, v. 25, e2023GC011203, <https://doi.org/10.1029/2023GC011203>.
3. J Dannberg, R Gassmüller, D Thallner, F LaCombe*, and **C Sprain**, 2024, *Changes in the core-mantle boundary heat flux throughout a supercontinent cycle*, *Geophysical Journal International*, <https://doi.org/10.1093/gji/ggae075>.
4. M Hounslow, A Biggin, P Cozar, I Somerville, T Kamenikova, and **C Sprain**, 2024, *A hyperactive geomagnetic field in the Late Visean (Early Carboniferous), from the late Asbian type section in northwest England, UK*, *Geochemistry, Geophysics, Geosystems*, v. 25, e2023GC011282, <https://doi.org/10.1029/2023GC011282>.
5. G Uenzelmann-Neben, SM Bohaty, LB Childress, OA Archontikis, SJ Batenburg, PK Bijl, A Burkett, P Chanda, JJ Coenen, E Dallanave, PC Davidson, KE Doiron, J Geldmacher, D Gürer, SJ Haynes, JO Herrle, Y Ichiyama, D Jana, MM Jones, C Kato, DK Kulhanek, J Li, J Liu, J McManus, AN Minakov, DE Penman, **CJ Sprain**, AC Tessin, T Wagner, and T Westerhold. 2023. *Expedition 392 Proceedings Volume Agulhas Plateau Cretaceous Climate: drilling the Agulhas Plateau and Transkei Basin to reconstruct the Cretaceous–Paleogene tectonic and climatic evolution of the Southern Ocean basin, 5 February–7 April 2022*, Proceedings of the International Ocean Drilling Program, vol. 392. <http://publications.iodp.org/proceedings/392/392title.html#pgfId-1002344>
6. G Uenzelmann-Neben, SM Bohaty, LB Childress, OA Archontikis, SJ Batenburg, PK Bijl, A Burkett, P Chanda, JJ Coenen, E Dallanave, PC Davidson, KE Doiron, J Geldmacher, D Gürer, SJ Haynes, JO Herrle, Y Ichiyama, D Jana, MM Jones, C Kato, DK Kulhanek, J Li, J Liu, J McManus, AN Minakov, DE Penman, **CJ Sprain**, AC Tessin, T Wagner, and T Westerhold. 2022. *Expedition 392 Preliminary Report Agulhas Plateau Cretaceous Climate: drilling the Agulhas Plateau and Transkei Basin to reconstruct the Cretaceous–Paleogene tectonic and climatic evolution of the Southern Ocean basin, 5 February–7 April 2022*. International Ocean Drilling Program Preliminary Reports. 392 IODP: 1–56. <https://doi.org/10.14379/iodp.pr.392.2022>
7. T Mittal, **CJ Sprain**, P Renne, and M Richards, 2022, *Deccan volcanism at K-Pg time: From the Guajira Desert to the Apennines, and from Mediterranean Microplates to the Mexican Killer Asteroid:*

- Honoring the Career of Walter Alvarez*, The Geological Society of America Special Paper 557. 471-496. [https://doi.org/10.1130/2022.2557\(22\)](https://doi.org/10.1130/2022.2557(22))
8. RK Bono, GA Paterson, A van der Boon, YA Engbers, JM Grappone, B Handford, LMA Hawkins, SJ Lloyd, **CJ Sprain**, D Thallner, and AJ Biggin, 2022, *The PINT database: a definitive compilation of absolute palaeomagnetic intensity determinations since 4 billion years ago*, Geophysical Journal International, v. 229, 522–545, <https://doi.org/10.1093/gji/ggab490>.
 9. **CJ Sprain**, JM Feinberg, R. Lamers, and RK Bono, 2021, *Characterization of magnetic mineral assemblages in clinkers: Potential tools for full vector paleomagnetic studies*. Geochemistry, Geophysics, Geosystems, v. 22, e2021GC009795. <https://doi.org/10.1029/2021GC009795>
 10. LM Hawkins, JM Grappone, **CJ Sprain**, P Saengduean, EJ Sage, S Thomas-Cunningham, S., ... and AJ Biggin, 2021, *Intensity of the Earth's magnetic field: Evidence for a Mid-Paleozoic dipole low*. Proceedings of the National Academy of Sciences, v. 118, e2017342118.
 11. TS Tobin, JW Honeck, LN Weaver, IM Fendley, **CJ Sprain**, ML Tuite, DT Flannery, and GP Wilson, 2021, *Analyzing sources of uncertainty in terrestrial organic carbon isotope data: A case study across the K-Pg boundary in Montana, USA*, Palaeogeography, Palaeoclimatology, Palaeoecology v. 574, <https://doi.org/10.1016/j.palaeo.2021.11045>.
 12. A Schaen, ...**CJ Sprain** et al. (41 authors), 2021, *On the reporting and interpretation of $^{40}\text{Ar}/^{39}\text{Ar}$ geochronologic data*, Geological Society of America Bulletin, v. 133, 461–487.
 13. GP Wilson Mantilla, SGB Chester, WA Clemens, JR Moore, **CJ Sprain**, BT Hovatter, WS Mitchell, WW Mans, R Mundil, R., and PR Renne, 2021, *Earliest Palaeocene purgatoriids and the initial radiation of stem primates*, Royal Society Open Science, v. 8, 210050.
 14. A Biggin, RK Bono, DG Meduri, **CJ Sprain**, CJ Davies, R Holme, and P Doubrovine, 2020, *Quantitative estimates of geomagnetic axial dipole dominance in deep geological time*, Nature Communications, v. 11, 1–9.
 15. JM Grappone, A Biggin, T Barrett, M Hill, and **CJ Sprain**, 2020, *Comparison of Thermal and Microwave Paleointensity Estimates in Specimens Displaying Non-Ideal Behavior in Thellier-Style Paleointensity Experiments*, Journal of Geophysical Research-Solid Earth, v. 125, e2020JB019802.
 16. IM Fendley, **CJ Sprain**, PR Renne, I Arenillas, JA Arz, V Gilabert, S Self, L Vanderkluyzen, K Pande, J Smit, and T Mittal, 2020, *No Cretaceous-Paleogene Boundary in Exposed Rajahmundry Traps: A Refined Chronology of the Longest Deccan Lava Flows from $^{40}\text{Ar}/^{39}\text{Ar}$ Dates*, *Magnetostratigraphy, and Biostratigraphy*, Geochemistry, Geophysics, Geosystems, v. 21, e2020GC009149
 17. DG Meduri, AJ Biggin, CJ Davies, RK Bono, **CJ Sprain**, and J Wicht, 2020, *Numerical dynamo simulations reproduce palaeomagnetism field behaviour*, Geophysical Research Letters, v. 48, e2020GL090544.
 18. E Kulakov, **C Sprain**, A Smirnov, G Paterson, A Biggin, L Hawkins, L Fairchild, P Doubrovine, and E Piispa, 2019, *Analysis of an updated paleointensity database (Q_{PI} -PINT) for 65-200 Ma: Implications for the long-term history of dipole moment through the Mesozoic*, Journal of Geophysical Research-Solid Earth, v. 124, 9999–10022, doi: <https://doi.org/10.1029/2018JB017287>.
 19. **CJ Sprain**, AJ Biggin, CJ Davies, RK Bono, and D Meduri, 2019a, *An assessment of long duration geodynamo simulations using new paleomagnetic modeling criteria (Q_{PM})*, Earth and Planetary Science Letters, v. 526, p.115758.
 20. IM Fendley, T Mittal, **CJ Sprain**, M Marvin-DiPasquale, T Tobin, and P Renne, 2019, *Constraints on the volume and rate of Deccan Traps flood basalt eruptions using a combination of high-resolution terrestrial mercury records and geochemical box models*, Earth and Planetary Science Letters, v. 524, p. 115721.
 21. **CJ Sprain**, PR Renne, L Vanderkluyzen, K Pande, S Self, and T Mittal, 2019b, *The Eruptive Tempo of Deccan Volcanism in Relation to the Cretaceous-Paleogene Boundary*, Science, v. 363, p. 866 – 870.
 22. SM Smith, **CJ Sprain**, GP Wilson, WA Clemens, DL Lofgren, and PR Renne, 2018, *Early mammalian recovery after the end-Cretaceous mass extinction: A high-resolution view from McGuire Creek area*,

- Montana, USA, Geological Society of America Bulletin, v. 130, 2000–2014, doi: <https://doi.org/10.1130/B31926.1>.
23. **CJ Sprain**, PR Renne, GP Wilson, and WA Clemens, 2018a, *Calibration of Chron C29r: New high-precision geochronologic and paleomagnetic constraints from the Hell Creek region, Montana and their implications for the Cretaceous-Paleogene boundary mass extinction*, Geological Society of America Bulletin, v. 130, 1615–1644. doi: <https://doi.org/10.1130/B31890.1>.
 24. **CJ Sprain**, NL Swanson-Hysell, L Fairchild, and K Gaastra, 2018b, *A field like today's? The strength of the geomagnetic field 1.1 billion years ago*, Geophysical Journal International, v, 213, p. 1969 – 1983, doi: <https://doi.org/10.1093/gji/ggy074>.
 25. LM Fairchild, NL Swanson-Hysell, J Ramezani, **CJ Sprain**, and SA Bowering, 2017, *The end of Midcontinent Rift magmatism and the paleogeography of Laurentia*, Lithosphere, L580.1, v. 9, 117–133. Doi: doi:10.1130/L580.1.
 26. MA Richards, W Alvarez, S Self, L Karlstrom, PR Renne, M Manga, **CJ Sprain**, J Smit, L Vanderkluyesen, and S Gibson, 2017, *Triggering of the largest Deccan eruptions by the Chicxulub impact: Reply*, Geological Society of America Bulletin, v. 129, p. 256 – 256.
 27. **CJ Sprain**, JM Feinberg, PR Renne, and M Jackson, 2016a, *Importance of titanohematite in detrital remanent magnetizations of strata spanning the Cretaceous-Paleogene boundary, Hell Creek region, Montana*, Geochemistry, Geophysics, Geosystems, v. 17, p. 660 – 678.
 28. **CJ Sprain**, JM Feinberg, JW Geissman, B Strauss, and MC Brown, 2016b, *Paleointensity during periods of rapid reversal: A case study from the Middle Jurassic Shamrock batholith, western Nevada*, Geological Society of America Bulletin, v. 128, p. 223 – 238, doi: <https://doi.org/10.1130/B31283.1>.
 29. L Sagnotti, B Giaccio, JC Liddicoat, S Nomade, PR Renne, G Scardia, and **C Sprain**, 2016, *How fast was the Matuyama-Brunhes geomagnetic reversal? A new subcentennial record from the Sulmona Basin, central Italy*, Geophysical Journal International v. 204, p. 798 – 812, doi: <https://doi.org/10.1093/gji/ggv486>.
 30. **CJ Sprain**, PR Renne, GP Wilson, and WA Clemens, 2015, *High-resolution chronostratigraphy of the terrestrial Cretaceous Paleogene transition and recovery interval in the Hell Creek region, Montana*, Geological Society of America Bulletin, v. 127, p. 393 – 409, doi: <https://doi.org/10.1130/B31076.1>.
 31. PR Renne, **CJ Sprain**, MA Richards, S Self, L Vanderkluyesen, and K Pande, 2015, *State shift in Deccan volcanism at the Cretaceous-Paleogene boundary, possibly induced by impact*, Science, v. 350, p. 76 – 78, doi: <https://doi.org/10.1126/science.aac7549>.
 32. B Giaccio, E Regattieri, G Zanchetta, S Nomade, PR Renne, **CJ Sprain**, RN Drysdale, PC Tzedakis, P Messina, G Scardia, A Sposato, and F Bassinot, 2015, *Duration and dynamics of the best orbital analogue to the present interglacial*, Geology, v. 43, p. 603 – 606, doi: <https://doi.org/10.1130/G36677.1>.
 33. MA Richards, W Alvarez, S Self, L Karlstrom, PR Renne, M Manga, **CJ Sprain**, J Smit, L Vanderkluyesen, and S Gibson, 2015, *Triggering of the largest Deccan eruptions by the Chicxulub impact*, Geological Society of America Bulletin v. 127, p. 1507 – 1520, doi: <https://doi.org/10.1130/B31167.1>.
 34. RB Ickert, SR Mulcahy, **CJ Sprain**, JF Banaszak, and PR Renne, 2015, *Chemical and Pb isotope composition of phenocrysts from bentonites constrains the chronostratigraphy around the Cretaceous-Paleogene boundary in the Hell Creek region, Montana*, Geochemistry, Geophysics, Geosystems, v. 16, p. 2743 – 2761, doi: <https://doi.org/10.1002/2015GC005898>.
 35. L Sagnotti, G Scardia, B Giaccio, JC Liddicoat, S Nomade, PR Renne, and **CJ Sprain**, 2015, *Extremely rapid directional change during Matuyama-Brunhes geomagnetic polarity reversal*, Geophysical Journal International, v. 199, p. 1110 – 1124, doi: <https://doi.org/10.1093/gji/ggu287>.

RECENT CONFERENCE PROCEEDINGS

Self = bold * = student author # = invited \$ = postdoc

1. **CJ Sprain** and JM Sprain, 2024. Dig into Earth Science with the Rock Box, *UF IFAS/Extension 4-H Volunteers Forum, 2024–Gainesville*.
2. **CJ Sprain**, E Dallanave, D Guerer, C Kato, A Tessin, SM Bohaty, G Uenzelmann-Neben, LB Childress, S Washburn*, G Gaarder*, and IODP Expedition 392 Scientists, 2023. Environmental Magnetic Analysis of sediments obtained on IODP Expedition 392. *IODP Post-cruise meeting, 2024–The Netherlands*.
3. R Gassmoeller, D Thallner\$, FS LaCombe*, C Ritchie*, J Dannberg, and **CJ Sprain**, 2023. Connecting Earth’s Mantle and Core: Modeling Heterogeneous Core-Mantle Boundary Heat Flux over Time. *AGU Fall Meeting, 2023–San Francisco*.
4. AJ Biggin, YA Engbers, CJ Davies, RK Bono, JE Mounds, D Thallner\$, **CJ Sprain**, and DG Meduri, 2023. The paleomagnetic signature of changes in Earth’s core Rayleigh number. *AGU Fall Meeting, 2023–San Francisco*.
5. D Thallner\$, **CJ Sprain**, J Dannberg, R Gassmoeller, RK Bono, CJ Davies, DG Meduri, and A Biggin, 2023. The Influence of Spatially Heterogeneous Core-Mantle Boundary Heat Flux on Earth’s Geodynamo. *AGU Fall Meeting, 2023–San Francisco*.
6. **CJ Sprain**, E Dallanave, D Guerer, C Kato, A Tessin, SM Bohaty, G Uenzelmann-Neben, LB Childress, S Washburn*, G Gaarder*, and IODP Expedition 392 Scientists, 2023. Paleomagnetic and Rock Magnetic Analysis of Sediments and Lavas on IODP Expedition 392 Agulhas Plateau Cretaceous Climate. *AGU Fall Meeting, 2023–San Francisco*.
7. D Guerer, E Dallanave, SM Bohaty, G Uenzelmann-Neben, **CJ Sprain**, P Hu, and AP Roberts, 2023. Age of emplacement and paleolatitude of the Agulhas Plateau-IODP Expedition 392, Site U1582. *AGU Fall Meeting, 2023–San Francisco*.
8. KE Bristol*, **CJ Sprain**, A Griffis*, T Mittal, IM Fendley, RA Duraiswami, A Monteiro, M Mijjum, and MM Tremblay, 2023. Assessing Eruptive Hiatus Durations of the Deccan Traps Large Igneous Province using Quantitative Paleosecular Variation Analysis. *AGU Fall Meeting, 2023–San Francisco*.
9. I Fendley, SM Hong, **CJ Sprain**, TS Tobin, LN Weaver, GP Wilson, and PR Renne, 2023. Volcanism, Impact, and Climate Change: Terrestrial Carbon Isotope Records across the Cretaceous-Paleogene Boundary. *AGU Fall Meeting, 2023–San Francisco*.
10. HJ Cheong*, **CJ Sprain**, GP Wilson, TS Tobin, A Tholt, A Fuentes, and PR Renne, 2023. Chronostratigraphy of Early Paleogene Terrestrial Sedimentary Section in the Terry Badlands, Eastern Montana. *AGU Fall Meeting, 2023–San Francisco*.
11. M Holliday*, and **CJ Sprain**, 2023. New Full-Vector Paleomagnetic Data from ϵ -Fe₂O₃ Bearing Clinker Deposits of Powder River Basin, Montana, USA. *AGU Fall Meeting, 2023–San Francisco*.
12. K Doiron, S Brassell, P Bijl, T Wagner, JO Herrle, G Uenzelmann-Neben, S Bohaty, L Childress, and **IODP Expedition 392 Scientists**, 2023. Evolutionary Developments in Alkenones from the Campanian to Paleocene Recorded in Sediments from the Transkei Basin (IODP Site U1581). *AGU Fall Meeting, 2023–San Francisco*.
13. J Geldmacher, J Liu, Y Ichiyama, PC Davidson, and **IODP Expedition 392 Scientist**, 2023. The origin of the Agulhas Plateau at the African-Southern Ocean gateway: Planned research on igneous rocks from IODP Exp. 392. *AGU Fall Meeting, 2023–San Francisco*.
14. PC Davidson, AAP Kopper, and **IODP Expedition 392 Scientists**, 2023. Preliminary ⁴⁰Ar/³⁹Ar results from IODP Exp. 392: basement ages from the Agulhas Plateau. *AGU Fall Meeting, 2023–San Francisco*.
15. A Tessin, J McMancu, D Penman, G Uenzelmann-Neben, A Burkett, S Bohaty, L Childress, and **IODP Expedition 392 Scientists**, 2023. Seafloor weathering of Large Igneous Province volcanoclastics as a driver of ocean geochemistry. *AGU Fall Meeting, 2023–San Francisco*.
16. D Jana, M Torres, K Thirumalai, K Evans, A Burkett, G Uenzelmann-Neben, S Bohaty, L Childress, and **IODP Expedition 392 Scientists**, 2023. Using X-Ray Micro CT Scanning to assess preservation of foraminifera across multiple sites in the Sub-Antarctic Southern Ocean. *GSA Connects, 2023–Pittsburgh*.

17. OE Oneneme, SE Swisher, AM Burkett, and **IODP Expedition 392 Scientists**, 2023. High Resolution Time Series of the PETM-MicroCT, Ecology, and Biodiversity. A case study of IODP 392, Agulhas Plateau. *GSA Connects, 2023–Pittsburgh*.
18. LN Weaver, TS Tobin, PK Wilson Deibel, IM Fendley, VA Korasidis, and **CJ Sprain**, 2023. Extinction of dinosaurian megafauna may explain consistent facies changes in continental Cretaceous-Paleogene boundary sections. *GSA Connects, 2023–Pittsburgh*.
19. J Gruetzner, G Uenzelmann-Neben, SM Bohaty, LB Childress, and **IODP Expedition 392 Scientists**, 2023. Core-Log Seismic Integration for the Cretaceous to Oligocene sequence in the African-Southern Ocean gateway: First results from the Agulhas Plateau (IODP Sites U1579 and U1580). *International Ocean Discovery Program Meeting, 2023–Germany*.
20. E Dallanave, **CJ Sprain**, G Uenzelmann-Neben, S Bohaty, LB Childress, D Kulhanek, and IODP Expedition 392 Scientists, 2023. Preliminary magnetic polarity stratigraphy of IODP Exp. 392 (Agulhas Plateau Cretaceous Climate). *International Ocean Discovery Program Meeting, 2023–Germany*.
21. PC Davidson, AAP Koppers, J Geldmacher, G Uenzelmann-Neben, SM Bohaty, LB Childress, and **IODP Expedition 392 Scientists**, 2023. Geochronology of the Agulhas Plateau at the African-Southern Ocean gateway: Preliminary results from IODP Exp. 392. *International Ocean Discovery Program Meeting, 2023–Germany*.
22. A Brown, DK Kulhanek, SM Bohaty, E Anagnostou, S Khanolkar, T Westerhold, E Dallanave, and **IODP Expedition 392 Scientists**, 2023. Stable Isotope analysis of foraminifera from the Mid-Oligocene Glacial Interval (MOGI), IODP Site U1579, Agulhas Plateau, southwestern Indian Ocean. *IODP/ICDP Colloquium 2023, Hannover, Germany*.
23. DK Kulhanek, OA Archontikis, JO Herrle, DE Penman, SM Bohaty, T Westerhold, AM Burkett, **CJ Sprain**, SJ Batenburn, and IODP Expedition 392 Scientists, 2023. Well-preserved calcareous nannofossils across the Paleocene-Eocene Thermal Maximum from International Ocean Discovery Program (IODP) Site U1580, southern Agulhas Plateau, southwestern Indian Ocean. *IODP/ICDP Colloquium 2023, Hannover, Germany*.
24. K Doiron, S Brassell, P Bijl, T Wagner, JO Herrle, G Uenzelmann-Neben, S Bohaty, L Childress, and **IODP Expedition 392 Scientists**, 2023. Evolutionary Lineages of Alkenones Recorded in Cretaceous and Paleocene Sediments from the Transkei Basin (IODP Site U1581). *Goldschmidt, 2023–Lyon, France*.
25. K Doiron, S Brassell, P Bijl, T Wagner, JO Herrle, G Uenzelmann-Neben, S Bohaty, L Childress, and **IODP Expedition 392 Scientists**, 2023. Cretaceous and Paleocene Sediments from the Transkei Basin (IODP Site U1581) Record Evolutionary Developments in Alkenones. *International Meeting on Organic Geochemistry, 2023–Montpellier, France*.
26. J Dannberg, D Thallner, R Gassmoeller, **C Sprain**, F LaCombe*, and C. Ritchie*, 2023. Coupling Models of Plate Motion History, Mantle Convection and the Geodynamo to explain long-term Geomagnetic Field Behavior. *EGU Annual Meeting, 2023–Vienna, Austria*.

PROFESSIONAL ASSOCIATIONS AND SERVICES

Professional Memberships

American Geophysical Union (AGU)	2012 – Present
Geological Society of America (GSA)	2011 – Present

Journal Referee

Lithos, Quat. Geochronology, Sedimentology, Scientific Reports, GJI, Geology, G-cubed, Journal of the Geological Society, Earth and Planetary Science Letters, GSA, Gchron, MethodsX, Chemical Geology, Nature Geoscience, Science, Rocky Mountain Geology, JGR-Solid Earth, Gondwana Research, Journal of Archaeological Research, Bulletin of Volcanology

Session/Workshop Convener

IUGG 2023 General Assembly, “Planetary Magnetic Fields and Secular Variation at All Temporal Scales”, Session	August 2023
AGU Fall Meeting, “Environmental Effects and Eruptive Dynamics of Large Igneous Provinces: A Multidisciplinary Perspective”, Session	December 2021
AGU Fall Meeting, “Mineral and Rock Magnetism”, Session	December 2021
SE Section GSA Meeting, “Solar System Processes: Impact Cratering, Planetary Surfaces and Meteorites, SE Section GSA meeting”, Session	April 2021
JpGU and AGU Joint meeting, “Earth and planetary magnetism: Observations, modeling, and implications on dynamics and evolution”, Session	May 2020
AGU Fall Meeting, “Advances and Applications in Quaternary Geochronology”, Session	December 2019

Workshop Participant

Determining Earth’s Evolution using Paleomagnetism Workshop, Participant	Winter 2024
9 th Nordic Paleomagnetism Workshop, Participant	Summer 2022
Magnetics Information Consortium (MagIC) Workshop, Invited Speaker/Participant	Spring 2021
NSF EarthRates ’20-’21 virtual all hands meeting, Participant	Winter 2020–2021
8 th Nordic Paleomagnetism Workshop, Invited Speaker/Participant	Fall 2017
Magnetics Information Consortium (MagIC) Workshop, Participant	Spring 2017

Other Professional Service

9 th Nordic Paleomagnetism Workshop, Organizer	Summer 2022
Magnetic Information Consortium (MagIC) Database, advisory committee	Spring 2022–Present
GSA Geochronology Division board member, Secretary	Fall 2021–Present
KARAR: A FAIR ⁴⁰ Ar/ ³⁹ Ar and K/Ar Geochron Database, advisory committee	Fall 2021–Present
Invited Participant, GSA2017 SpeedDating! Keynote Symposium, Paleomagnetism	Fall 2017
Cretaceous-Paleogene Boundary Symposium, UC-Berkeley, Coordinator/Invited Speaker	Spring 2017

TEACHING

Instructor, GLY2030C, Environmental and Engineering Geology, University of Florida
 Instructor, GLY3603C, Introduction to Paleontology, University of Florida
 Instructor, GLY4930, Geomag., Paleomag., and Env. Mag., University of Florida
 Instructor, ESC1000, Introduction to Earth Science, University of Florida
 Graduate Instructor, EPS 119 Field Course, Klamath Mountains, UC Berkeley
 Graduate Instructor, EPS 119 Field Course, Bishop and Benton Range, UC Berkeley
 Graduate Instructor, EPS 100B Interpretation and Genesis of Rocks, UC Berkeley
 Graduate Instructor, EPS 118 Field Camp, UC Berkeley
 Graduate Reader, EPS 124/224 Isotopic Geochemistry, UC Berkeley
 Teaching Assistant, ESCI 1001 Earth and its Environments, U of Minnesota

STUDENTS

Postdoctoral Researchers:

Daniele Thallner Postdoc advisor, University of Florida 2022 – present

Graduate students:

Katie Bristol PhD advisor, University of Florida 2020 – present
 Hee Jun Cheong PhD advisor, University of Florida 2019 – present
 McKenna Holliday PhD advisor, University of Florida 2020 – May 2024

Undergraduate students:

Emilio Allan, research supervisor, University of Florida 2023 – present

Gabriela Gaarder, research supervisor, University of Florida	2022 – present
Sidney Washburn, research supervisor, University of Florida	2023 – 2023
Abigail Griffis, research supervisor, University of Florida	2022 – 2024
Savon Brooks, research supervisor, University of Florida	2022 – 2023
Chloe Ritchie, research supervisor, University of Florida	2021 – 2023
Olivia Kracht senior thesis supervisor, University of Florida	2020 – 2022
Victoria Pavlovics senior thesis supervisor, University of Florida	2019 – 2022
Ashley Dann senior thesis supervisor, University of Florida	2019 – 2022
Riley Lamers, senior thesis co-supervisor, University of Minnesota	2018 – 2019
Said Al Abdali, final year undergraduate dissertation supervisor, University of Liverpool	2018 – 2019
Ben Handford, final year undergraduate dissertation supervisor, University of Liverpool	2017 – 2018
Adam Tete, final year undergraduate dissertation supervisor, University of Liverpool	2017 – 2018

OUTREACH AND VOLUNTEERING

Interviews with Media:

Wired – “An Epic Fight Over What Really Killed the Dinosaurs”	2023
Scientific American Arabic edition – Article on PNAS article “Reconciling early Deccan Traps CO ₂ outgassing and pre-KPB global climate”	2021
AGU Eos – “A Robust Proxy for Geomagnetic Reversal Rates in Deep Time”	2021
National Geographic – “How the dinosaur-killing asteroid primed Earth for modern life”	2020
Gizmodo – “New Research Casts Doubt on Theory That Volcanoes Caused Dinosaur Extinction”	2020
Science News – “Volcanic gas bursts probably didn’t kill off the dinosaurs”	2020
Sky & Telescope magazine – Article on the K-T Extinction Debate	2020
National Geographic – “Earth’s magnetic field flips much more frequently than we thought”	2019
Smithsonian Magazine – “What Happened the Day a Giant, Dinosaur-Killing Asteroid Hit the Earth”	2019
National Geographic – “New fossils offer rare glimpse at life after a global apocalypse”	2019
The New York Times – “Colorado Fossils Show How Mammals Raced to Fill Dinosaurs’ Void”	2019
The New York Times – “The North Magnetic Pole’s Mysterious Journey Across the Arctic”	2019
Scientific American – “Ancient Earth’s Weakened Magnetic Field May Have Driven Mass Extinction”	2019

Outreach:

Developer of “The Rock Box”, a kit with five Earth Science lesson plans designed to be used in 4-H clubs throughout the state of Florida	2024
Organizer and host of Workshop “Digging into the Earth: An introduction to the UF Geological Sciences Department” for UF Extension Services/IFAS event 4-H University	2024
Coordinator of Department of Geological Sciences seminar and panel discussion for UN International Women and Girls in Science Day	2020
Exhibitor, “Magnetic to the Core”, Royal Society Summer Science Exhibition, London, UK	2019
Liverpool Women in Science (LivWise) Member	2018