

## CV-Julia Perdrial

Department of Geology  
University of Vermont  
Delehanty Hall  
180 Colchester Avenue  
Burlington, VT 05405

Phone: (802) 656 0665  
e-mail: Julia.Perdrial@uvm.edu  
webpage: <https://www.juliaperdrial.com/>

### EDUCATION

- 01/2008** PhD in Physics, Chemistry and Biology of the Environment, Université Louis Pasteur, Strasbourg, France. *Advisor: Prof. Laurence Warr (CNRS-France, University of Greifswald, Germany).* Title of thesis: *Hydration of swelling clays and bacteria interaction - An experimental in-situ reaction study.*
- 07/2004** MS (Diploma) in Mineralogy, Geology and Geochemistry, Ruprecht Karls University of Heidelberg, Germany. *Advisor: Laurence Warr.* Title of thesis: *Low temperature mineral alteration in fault zones of the Lizard Ophiolite Complex, SW-England.*

### APPOINTMENTS

- 07/2017-current** Co-Director of the Environmental Science Program, University of Vermont
- 08/2013- current** Assistant Professor of Geochemistry, University of Vermont
- 10/2012-07/2013** Assistant Research Scientist, University of Arizona
- 1/2010-09/2012** Postdoctoral Research Associate, University of Arizona
- 9/2008-12/2009** Visiting Postdoctoral Scholar, University of Arizona
- 12/2007-2/2008** Graduate Research Assistant, Ernst Moritz Arndt University, Germany

### RESEARCH INTERESTS:

My research interests include laboratory and field-based investigations of low-temperature (bio)-geochemical processes, including: carbon dynamics, dissolved organic matter (DOM) chemistry, catchment hydrology and biochemistry, biotic and abiotic primary and secondary mineral alteration and weathering, clay mineralogy, and general environmental geochemistry.

### PUBLICATIONS IN PEER-REVIEWED JOURNALS:

Please note that J.N.Berger = J.N.Perdrial. Graduate students = ***bold italics***. Undergraduate students = *italics*.

#### In Preparation:

- **Perdrial, J.N.**, Sullivan, P., Dere, A., West, N. Streams as indicators for Critical Zone structure and function. Editorial, *Frontiers in Earth Science: Biogeosciences* (Effort 35%, Impact factor 6.4).
- *Landsmann, M.* **Perdrial, J.N.**, *Cincotta, M.* Adair, C. Effect of season and landscape position on water extractable dissolved organic matter from soils. To be submitted to *Chemical Geology*. (Effort 40% [MS adviser], Impact factor 3.48).
- Radke, A., S. E. Godsey, K.A. Lohse, **J.N. Perdrial**. Spatiotemporal Heterogeneity of Water and Dissolved Organic Carbon Sourcing in a Snow-dominated, Headwater Catchment (Effort 10%).
- MacNeille, R. B., K.Lohse, S. Godsey, D. Derryberry, E. McCorkle, S. Parson, C. Baxter. **J.N. Perdrial**. Stream structure at low flow: biogeochemical patterns of intermittent streams over space and time. (Effort 10%).

#### In review:

- **Cincotta, M., Perdrial, J.N.**, Shavitz, A., Libenson, A., Landsman, M., Perdrial, N., **Armfield, J.**, Adler, T., Shanley, J. Soil aggregates as a source of dissolved organic carbon to streams: an experimental study on the effect of solution chemistry on water extractable carbon, *Frontiers in Earth Science: Biogeosciences*. (Effort 40% [MS adviser], Impact factor 6.4).

- **Armfield, J., Perdrial, J.N., Gagnon, A., Ehrenkranz, J., Perdrial, N., Cincotta, M., Ross, D., Shanley, J., Underwood, K., Ryan, P.** Does stream water composition at Sleepers River in Vermont reflect dynamic changes in soils during recovery from acidification? *Frontiers in Earth Science: Biogeosciences* (Effort 40% [MS adviser], Impact factor 6.4).

#### 2018:

- **Perdrial J.N., Brooks P.D., Swetnam T., Rasmussen C., Lohse K.A., Litvak, M., Harpold, A.A., Broxton, P., Mitra, B., Meixner, T., Condon, K., Huckle, D., Stielstra, C., Vazquez-Ortega, A., Lybrand, R., Holleran, M., Orem, C., Chorover, J.** (2018). Climate and landscape as drivers of carbon storage in forested headwater catchments: insights from a complete C budget. *Biogeochemistry*. 138(3):225-243. (Effort 70%, Impact factor 3.43).

#### 2017:

- Wymore, A.S., West, N.R., Maher, K., Sullivan, P.L., Harpold, A.A., Karwan, D., Marshall, J.A., **Perdrial, J.N.**, Rempe, D.M., Ma, L. (2017). Growing New Generations of International Critical Zone Scientists. *Earth Surface Processes and Landforms*. (42):2498-2502 (Effort 20%, Impact factor 2.43).
- Li, L., Maher, K., Navarre-Sitchler, A., **Druhan, J.**, Meile, C., Lawrence, C., Moore, J., **Perdrial, J.N.**, Sullivan, P., Thompson, A., Jin, L., Bolton, E.W., Brantley, S., Dietrich, W., Mayer, K.U., Steefel, C.I., Valocchi, A., Zachara, J., Kocar, B., McIntosh, J., **Tutolo, B.M.**, Kumar, M., Sonnenthal, E., **Bao, Ch.**, Beisman, J.(2017). Expanding the role of reactive transport models in critical zone processes. *Earth Science Reviews* (165): 280-301 (Effort 12%, Impact factor 7.34).
- McIntosh, J., **Schaumberg, C., Perdrial, J.N.**, Harpold, A.A., **Vazquez-Ortega, A.**, Rasmussen, C., Vinson, D., **Zapata-Rios, X.**, Brooks, P.D., Meixner, T., Pelletier, J., Derry, L., Chorover, J. (2017). Geochemical evolution of the Critical Zone across variable time scales informs concentration-discharge relationships: Jemez River Basin Critical Zone Observatory. *Water Resources Research*. (53): 4169-4196 (Effort 25%, Impact factor 3.79).
- Clark, K.E., Shanley, J.B., Scholl, M.A., Perdrial, N., **Perdrial, J.N.**, Plante, A.F., McDowell, W.H. (2017). Tropical River suspended sediment and solute dynamics in storms during an extreme drought. *Water Resources Research* (53): 3695-3712 (Effort 25%, Impact factor 3.79).

#### 2016:

- Miller, M. Boyer, E., McKnight, D., Brown, M., Iavorivska, L., Hunsaker, C. Inamdard, S. McDowell, W., Kaplan, L., Gabor, R., Lin, H., Johnson, D., **Perdrial, J.N.** (2016). Regional Variation in Organic Matter Quantity and Quality among Five Critical Zone Observatories. *Water Resources Research*. 52-10: 8201-8216. (Effort 8%, Impact factor 3.79)
- **Caulk, R. A.**, E. Ghazanfari, **Perdrial, J.N** and N. Perdrial (2016). "Experimental investigation of fracture aperture and permeability change within Enhanced Geothermal Systems." *Geothermics* 62: 12-21. (Effort 10%, Impact factor 2.32).
- **Vázquez-Ortega, A., D. Huckle, Perdrial, J.N**, M. K. Amistadi, M. Durcik, C. Rasmussen, J. McIntosh and J. Chorover (2016). "Solid-phase redistribution of rare earth elements in hillslope pedons subjected to different hydrologic fluxes." *Chemical Geology* 426: 1-18. (Effort 15% [MS co-adviser], Impact factor 3.48).

#### 2015:

- **Vázquez-Ortega, A., Perdrial, J.N**, A. Harpold, **X. Zapata, C.** Rasmussen, J. McIntosh, M. Schaap, J. Pelletier, P. Brooks, M. K. Amistadi and J. Chorover (2015). "Rare earth elements as reactive tracers of biogeochemical weathering in forested rhyolitic terrain." *Chemical Geology* 391 19-32. (Effort 35% [MS-co-adviser], Impact factor 3.48).
- **Stielstra, C.M.**, Lohse, K.A., Chorover, J., McIntosh, J.C., Barron-Gafford, G.A., **Perdrial, J.N.**, Litvak, M., Barnard, H.R., Brooks, P.D. (2015). Climatic and landscape influences on soil moisture are primary determinants of soil carbon fluxes in seasonally snow-covered forest ecosystems. *Biogeochemistry* 123(3):447-465. (Effort 10%, Impact factor 3.73).

#### 2014:

- **Perdrial, J.N.**, J. McIntosh, A. Harpold, P. Brooks, P. Troch, *J. Ray*, **X. Zapata-Rios**, **C Porter**, J. Chorover. (2014). Controls of stream water carbon in seasonally snow-covered mountain catchments: impact of water fluxes, catchment aspect and seasonal processes. *Biogeochemistry* 118(1-3): 273-290. (Effort 90%, Impact factor 3.73).
- **Perdrial, J.N.**, Perdrial N., **Porter C.**, **Vazquez-Ortega A.**, *Leedy J.* and Chorover J. (2014). Experimental assessment of fiberglass passive capillary wick sampler (PCap) suitability for inorganic soil solution constituents, *Soil Science Society of America Journal*, 78, 486-495. (Effort 85%, Impact factor 2.0).

#### **2012:**

- **Perdrial, J.N.**, N. Perdrial, A. Harpold, X. Gao, **R. Gabor**, *K. LaSharr*, J. Chorover (2012). Impacts of sampling dissolved organic matter with capillary wicks versus aqueous soil extraction. *Soil Science Society of America Journal* (76):2019–2030. (Effort 80%, Impact factor 2.0).

#### **2011:**

- Chorover J., Troch P.A., Rasmussen C., Brooks P., Pelletier J., Breshears D.D., Huxman T., Lohse K., McIntosh J., Meixner T., Papuga S., Schaap M., Litvak M., **Perdrial J.N.**, Harpold A., and Durcik M. (2011) How Water, Carbon, and Energy Drive Critical Zone Evolution: The Jemez-Santa Catalina Critical Zone Observatory. *Vadose Zone Journal* 10(3): 884-899. (Effort 15%, Impact factor 2.2).
- **Perdrial, J.N.** and L.N. Warr (2011). Hydration behavior of MX80 bentonite in a confined volume system: Implications for backfill design. *Clays and Clay Minerals* 59(6): 640-653. (Effort 80%, Impact factor 1.4).

#### **2010:**

- N. Perdrial, **Perdrial, J.N.**, J.E. Delphin, F. Elsass, N. Liewig (2010). Temporal and spatial monitoring of mobile nanoparticles in a vineyard soil: evidence of nanoaggregate formation. *European Journal of Soil Science*, 61, 456-468. (Effort 20%, Impact factor 2.4).

#### **2009:**

- **Perdrial, J.N.**, L.N. Warr, M-C. Lett F. Elsass and N. Perdrial (2009). Interaction between smectite and bacteria: implications for bentonite backfill in nuclear waste disposal. *Chemical Geology*, 264, 281-294. (Effort 80%, Impact factor 3.7).
- L.N. Warr, **J.N. Berger**, M-C. Lett and M. Kodja (2009). Clay-enhanced bioremediation of marine oil pollution *Applied Clay Science*, 46, 337-345. (Effort 25%, Impact factor 2.3).

#### **2007:**

- L.N. Warr, **J.N. Berger** (2007). Hydration of bentonite in natural waters: Application of “confined volume” wet-cell X-ray diffractometry. *Physics and Chemistry of the Earth* 32, 247–2. (Effort 40%, Impact factor 1.5).

#### **PEER REVIEWED, INVITED BOOK CHAPTER:**

---

- **Perdrial, J.N.**, Thompson, A., Chorover, J. (2015). “Soil geochemistry in the Critical Zone: Influence on atmosphere, surface- and ground-water composition” in “Principles and dynamics of the Critical Zone”, Houser, C., Giardino, R. (eds) 19: 173-201. (Effort 85%).

#### **NON-PEER REVIEWED PUBLICATIONS:**

---

These non-peer reviewed publications originate from my activities geared towards fostering interdisciplinary Critical Zone science among early career scientists (students, postdoc and pre-tenured faculty).

- **Perdrial, J.N.**, Karwan, D., Harpold, A.A., Wymore, A. (2016). How can we facilitate (international) cross CZO research? Results of a test survey on collaboration with CZO’s in the US (white Paper, effort 80%).
- **Perdrial, J.N.**, MK Amistadi, *K. LaSharr*, *Rebecca Lybrand*, *D. Huckle*, *M. Pohlmann*, *R. Maxwell*, *A. Vazquez-Ortega*, *X. Zapata-Rios*, *T. Lau*, N. Abramson, *L. Guthridge*, *D. Bernard*, *J. Chorover* (2013). CZO Lab Handbook: best lab practices in CZO aqueous geochemistry. (Effort 60%)

- Harpold, A.A., D. Karwan, **J.N. Perdrial**, *J.A. Marshall, J. Driscoll, A. Neal, and C. Phillips* (2013): [Graduate Research Group White Paper, Cross-CZO Research Potential](#) (white paper). (Effort 35%).

#### **CONFERENCE PRESENTATIONS:**

Note: graduate students = ***bold italics***, undergraduate students = *italics*.

#### **2018:**

##### *National and international meetings:*

- Perdrial, N., ***Armfield, J., Reeder, G., Gagnon, A., Rampe, E., Perdrial, J.N.*** (2018). The Martian Critical Zone: Concept and Experimental Example. Goldschmidt Conference, Boston, MA August 12-17. (peer reviewed).
- ***Juice, S.M.,*** Adair, C., Schaberg, P., Hawley, G., Kosiba, A., Waite, C., Wang, D., ***Perdrial, J.N.*** (2018). Interacting effects of climate change and soil characteristics on carbon and nitrogen loss from northern hardwood forests. Ecological Society of America Meeting, New Orleans, August 5-10 (peer reviewed talk).
- ***MacNeille, R. B.,*** Lohse, K., Godsey, S., Derryberry, D., McCorkle, E., Parson, S., Baxter, C., ***Perdrial, J.N.*** (2018). Stream structure at low flow: biogeochemical patterns of intermittent streams over space and time. Society of Freshwater Sciences Annual Meeting, Detroit, MI, May 20-25 (peer reviewed poster).
- ***Cincotta, M., Perdrial, J.N., Shavitz, A., Landsman, M. Liebenson, A., Shanley, J.*** (2018). The soil aggregates play in the generation of dissolved organic carbon: a case study at Sleepers River watershed. GSA meeting Northeastern section, Burlington, March 18-20 (peer reviewed talk).
- *Shavitz, A., Perdrial, J.N., Cincotta, M., Armfield, J., Shanley, J.* (2018). Influence of soil chemistry on carbon and nutrient liberation in the Sleepers River watershed. GSA meeting Northeastern section, Burlington, March 18-20 (peer reviewed poster).
- ***Armfield, J., Gagnon, A., Perdrial, J., Ehrenkrantz, J., Perdrial, N., Cincotta, M., Ross, D., Shanley, J., Bailey, S., Ryan, P.*** (2018). Weathering dynamics in the acid impacted Sleepers River watershed: combining observations of stream and soil data. GSA meeting Northeastern section, Burlington, March 18-20 (peer reviewed poster).
- ***Landsman-Gerjoi, M., Lancellotti, B., Beisel, C., Cincotta, M.,*** Adair, C., Schroth, A., ***Perdrial, J.N.*** (2018). Incubations vs. fluorescence spectroscopy: a field and lab study on DOM bioavailability. GSA meeting Northeastern section, Burlington, March 18-20 (peer reviewed poster).
- ***Ryan, K.,*** Shanley, J., Stubbins, A., ***Perdrial, J.,*** Raymond, P., Hosen, J. (2018). In-situ optical sensors reveal hot moments of dissolved organic matter exports in Sleepers River Research Watershed, Vermont. GSA meeting Northeastern section, Burlington, March 18-20 (peer reviewed talk).

##### *Local meetings:*

- *Follansbee, B., Pinder, G., Perdrial, J.N.* (2018). A Geochemical Analysis on Lake Iroquois Groundwater Seepage: Is There a Relationship between Cations and Phosphorus? UVM Student Research Conference, Burlington VT, April 17<sup>th</sup> (not peer reviewed).
- *Beisel, C., Landsman, M., Perdrial, J.N.* (2018). The Impact of Clay Structure on Carbon Bioavailability. UVM Student Research Conference, Burlington VT, April 17<sup>th</sup> (not peer reviewed).
- *Mecca, S., Perdrial, J.N., Cincotta, M., Seybold, E., Lancellotti, B., Schroth, A., Adair, C.* (2018). Effect of ionic strength on soil water extracts from BREE wetlands. EPSCoR CWDD symposium, Burlington, VT, March 20<sup>th</sup> (not peer reviewed).
- *Adler, T., Perdrial, J.N., Schroth, A., Adair, C.* (2018). Optimizing Fluorescence Spectroscopy Methods in DOC Analysis. EPSCoR CWDD symposium, Burlington, VT, March 20<sup>th</sup> (not peer reviewed).
- ***Perdrial, J.N., Lancellotti, B., Seybold, E., Landsman-Gerjoi M., Anderson, B., Beisel, Blum, E., C., Collins, A., Couderc, A., Czyzyk, K., Libenson, A., May, N., McCarthy, K., Quesnell, T., Quock, M., Reilly, M., Ryan, S., Cincotta, M.,*** Adair, C., Schroth, A. (2018). EPSCoR soil monitoring network as classroom: preliminary data on the biogeochemistry of soils and streams. Lake Champlain Research Conference, January 8-9, Burlington VT (not peer reviewed).

## **2017:**

### *National and international meetings:*

- **Lancellotti, B.**, Ross, D., Adair, C., Schroth, A., **Perdrial, J.N.** (2017). Quantifying Phosphorus Retention in Soils of Riparian Buffers Influenced by Different Land Use Practices, AGU Fall meeting, San Francisco, December 11-15 (peer reviewed poster).
- **Perdrial, J.N.**, *Landsmann, M.*, **Cincotta, M.**, Adair, C., (2017). Do clay minerals affect dissolved organic matter bioavailability in batch experiments? Goldschmidt Conference, Paris, France, August 13 – 19 (peer reviewed talk).
- **Perdrial, J.N.** (2017). Carbon dynamics from a Critical Zone perspective: interfaces at the catchment and molecular scale. 1<sup>st</sup> Geobiology Society Conference, Banff, Canada, June 11-14 (invited talk).

### *Local meetings:*

- *Ehrenkranz, J.*, **Armfield, J.**, **Cincotta, M.**, **Perdrial, J.N.** (2017). Mapping changes in soil composition due to the recovery from acidification: a combined lab and field study. Student Research Conference, Burlington, VT, April 27 (not peer reviewed).
- *Landsmann-Gerjoi, M.*, **Cincotta, M.**, **Perdrial, J.N.**, **C. Adair** (2017). Mapping changes in soil composition due to the recovery from acidification: a combined lab and field study. Student Research Conference, Burlington, VT, April 27 (not peer reviewed).
- Clark, K., Shanley, J., Stallard, R., Scholl, M., Plante, A., **Perdrial, J.N.**, Murphy, S., Perdrial, N., Gonzalez, G., McDowell, B. (2017). Impacts of extreme climate events - drought and hurricane - on carbon and nitrogen in streams draining the Luquillo Mountains. AGU Chapman Conference, Puerto Rico, January 22-27 (peer reviewed poster).

## **2016:**

### *National and international meetings:*

- Clark K., Shanley J., **Perdrial J.N.**, Plante A.F., McDowell W., (2016). Tropical river suspended load and solute dynamics in storms within an extreme drought, Luquillo Critical Zone Observatory, Puerto Rico. AGU Fall Meeting, December 11-16 (peer reviewed talk).
- **Perdrial, J.N.**, **Hampsch, A.**, Adair, C., (2016). Bioavailability of Carbon of a Vermont River Corridor is a Function of Land cover. Goldschmidt Conference, June 26 – July 1, Yokohama, Japan (peer reviewed talk).

### *Local meetings:*

- *Landsmann-Gerjoi, M.*, **Perdrial, J.N.** (2016). Does Dissolved Organic Matter Interaction with Clay Minerals affect C Bioavailability? UVM Student Research Conference, April 28, Burlington, VT (not peer reviewed).
- *Evans, I.*, **Hampsch, A.**, *Cincotta, M.*, **Perdrial, J.N.** (2016). Does sample preparation impact carbon absorbance and fluorescence properties of soil leachate? Vermont Geological Survey Student Conference, April 30, Middlebury, VT (not peer reviewed).

## **2015:**

### *National and international meetings:*

- Gabor, R., Brooks, P. **Perdrial, J.** (2015). From Soil to Surface Water: a Meta-Analysis of Catchment-Scale Organic Matter Production and Transport. AGU Fall Meeting, December 14-18 (invited talk).
- **Perdrial, J.N.**, S. Hernandez-Ruiz, *T. Lau, A. Hampsch, J. Chorover* (2015). How important are the lower fluorescence excitation wavelengths for understanding the dynamics of Critical Zone soil solution and stream water carbon? Gordon Conference on Catchment Science, June 13-19, Andover NH (peer reviewed poster).
- **Hampsch, A.**, **J.N. Perdrial**, *L. Jones, D. Jaeger, A. Wetz* (2015). Using parallel factor (PARAFAC) analysis to assess carbon heterogeneity in Vermont's floodplains: Fingerprinting dissolved organic matter by land cover. Gordon Conference on Catchment Science, June 13-19, Andover NH (peer reviewed poster).

### *Local meetings:*

- **Caulk, R., Perdrial, J.,** Perdrial, N., Ghazanfari, E. (2015). Experimental method for the evaluation of permeability change within Enhanced Geothermal System fractures. NASA VSGC, September 16, University of Vermont, VT (not peer reviewed).

#### **2014:**

##### *National and international meetings:*

- **Perdrial, J.N.,** Dolan, A., *Kempsley, M.* (2014). Do Vermont's floodplains constitute an important source of labile carbon? AGU Fall meeting, San Francisco, December 15-19 (peer reviewed poster).

##### *Local meetings:*

- *Christie, S., Bonner, E., Caulk, R., Dolan, A. Duggan, S. Soderstrom, E., Perdrial, J.* (2014). Assessing Carbon and Metal Characteristics of Connecticut River Floodplain Sediments. UVM Student Research Conference, April 16<sup>th</sup> (not peer reviewed).
- *Loughlin, C., Perdrial, J.N.* (2014). Wetlands in the Connecticut River Floodplain: an important carbon source? UVM Student Research Conference, April 16<sup>th</sup> (not peer reviewed).

#### **2013:**

##### *National and international meetings:*

- **Perdrial, J.N.,** Brooks, P.D., **Swetnam, T.,** Lohse, K.A., Rasmussen, C. Harpold, A.A., Litvak, M.E., **Broxton, P.A.,** Mitra, B. **Condon, K., Huckle, D., Vazquez-Ortega, A., Lybrand, R.A., Holleran, M.Orem,** C.A., Meixner, T, Chorover, J. (2013). Do fire disturbances account for missing C in snow dominated headwater catchments in NM? AGU Fall Meeting, San Francisco, December 9-13 (peer reviewed poster).
- Brooks, P.D., **Biederman, J.A., Condon, K.,** Chorover, J., McIntosh, J.C., Meixner, T, **Perdrial, J.N.** (2013). A cross-site comparison of factors controlling streamwater carbon flux in western North American catchments (Invited). AGU Fall Meeting, San Francisco, December 9-13 (invited poster).
- Chorover, J., **Perdrial, J.N.,** Field, J., Pelletier, J., **Pohlmann, M.,** Losleben, M., *Lasharr, K., Amistadi, MK., Brooks, P.D., McIntosh, J., Meixner, T., Gallery, R., Rich, V., Rasmussen, C., Schaap, M., Breshears, D.* (2013). Fluid Chemistry Dynamics Before and After Fire in the Jemez River Basin Critical Zone Observatory. AGU Fall Meeting, San Francisco, December 9-13 (peer reviewed talk).
- Chorover, J., P. Brooks, A. Harpold, M. Litvak, J. McIntosh, J. Pelletier, **J.N. Perdrial,** P. Troch, C. Rasmussen. (2013). Critical zone evolution by jerks. Goldschmidt Conference, Florence, Italy, August 24-30 (invited keynote)
- **Perdrial, J.N., Stielstra, C., Lybrand, R. Swetnam, T.,** Mitra, B., **Huckel, D.,** Harpold, A., J. McIntosh, T. Meixner A. **Vasquez-Ortega, K. Condon, P.** Brooks, J. Chorover. (2013). Closing the Carbon balance for snow dominated headwater catchments in the US SW. Gordon Conference for Catchment Science, Andover NH, June 16-21 (peer reviewed poster).

#### **Prior to my appointment at UVM:**

##### *National and international meetings:*

- Harpold, A., P. Brooks, J. **Perdrial, J.N.,** McIntosh, T. Meixner, **X. Zapata,** and J. Chorover (2012). Quantifying variation in solute sources and nutrient cycling in montane headwater catchments. AGU, Fall Meeting 2012, December 3-7 (peer reviewed talk).
- *Prescott-Smith, J., Perdrial, J.N., Pohlmann, M.,* Perdrial, N., Chorover, J. (2012). Characterizing particulate and dissolved matter in a small forested headwater stream during a monsoon storm. AGU, Fall Meeting 2012, December 3-7 (peer reviewed poster).
- **Pohlmann, M., Perdrial, J.N., Prescott-Smith, J.,** Amistadi, MK., Troch, P., Chorover, J. (2012). Resolving dissolved vs. colloidal and particulate weathering product forms across the storm hydrograph. AGU, Fall Meeting 2012, December 3-7 (peer reviewed poster).
- **C.M. Porter,** J.C. McIntosh, L.A. Derry, T. Meixner, J. Chorover, P.D. Brooks, C. Rasmussen, **J.N. Perdrial** (2012). Determining Solute inputs to soil and stream waters in a seasonally snow-covered mountain catchment in northern New Mexico using Ge/Si 87Sr/86Sr and ion chemistry. AGU Fall Meeting 2011, December 3-7 (peer reviewed poster).

- **A. Vazquez-Ortega, J.N. Perdrial, A.A. Harpold, X. Zapata-Rios, C. Rasmussen, J.C. McIntosh, M. Schaap, J.D. Pelletier, M.K. Amistadi, J. Chorover.** (2012). Rare Earth Elements as reactive tracers of biogeochemical weathering in the Jemez River Basin Critical Zone Observatory. AGU Fall Meeting 2011, December 3-7 (peer reviewed poster).
- D.G. Zaharescu; K. Dontsova, C.I. Burghilea, J. Chorover, R. Maier, **J. N. Perdrial** (2012). Life on rock. Scaling down biological weathering in a new experimental design at Biosphere-2. AGU Fall Meeting 2011, December 3-7 (peer reviewed poster).
- **J.N. Perdrial, C. Rasmussen, J.C. McIntosh, X. Zapata-Rios, A.A. Harpold, A. Vazquez-Ortega, C. Porter, P.D. Brooks, T. Meixner, B. Mitra, P.A. Troch, J. Chorover** (2012) Carbon and Water: the Energy for weathering and chemical denudation. American Geophysical Union, Fall Meeting 2012, December 3-7 (peer reviewed talk).
- **Perdrial, J. N., P. Brooks, J. Chorover, K. Condon, A. Harpold, M. Holleran, D. Huckle, R. Lybrand, P. Troch, J. McIntosh, T. Meixner, B. Mitra, M. Pohlmann, C. Rasmussen, T. Swetnam, A. Vazquez-Ortega, X. Zapata-Rios** (2012). Do water and carbon fluxes control chemical denudation? Goldschmidt, Montreal. June 24-29 (peer reviewed talk).
- **Perdrial, J.N., Vasquez-Ortega, A., McIntosh, J., Harpold, A., Porter, C., Zapata-Rios, X., Guthridge, L., Brooks, P.D., Chorover, J.** (2012). Stream water organic matter characteristics after the Las Conchas wildfire: perspective from the critical zone. GSA meeting Rocky Mountain section, ABQ, May 15-17 (peer reviewed talk).
- **J.N. Perdrial, N. Perdrial, A. Harpold, A. Peterson, A. Vasquez, J. Chorover** (2011). Probing dissolved organic matter in the critical zone: a comparison between in situ sampling and aqueous soil extracts. AGU Fall Meeting 2011, December 5-9 (peer reviewed poster).
- **J.N. Perdrial, P. Brooks, J. Chorover, A. Harpold, I. Heidebuechel, J. McIntosh, J. Ray, X. Zapata-Rios** (2011). Impact of water sources & flow paths on carbon in streams of seasonally snow-covered catchments Goldschmidt Conference, Prague, August 14-19 (peer reviewed talk).
- Zaharescu, D., Dontsova, K. Chorover, J., Huxman, T. Maier, R., **Perdrial, J.N.** (2011). Effect of Plant-Microbial Associations on Weathering of Basalt, Granite, Schist, and Rhyolite. Goldschmidt Conference, Prague, August 14-19 (peer reviewed poster).
- **J.N. Perdrial, J. McIntosh, P. Brooks, J. Chorover** (2010). DOM as a potential tracer for in-stream processes in small mountain catchments (JRB-SCM Critical Zone Observatory). AGU Fall Meeting 2010, San Francisco, December 13-17 (peer reviewed talk).
- **E. Dolan, J.N. Perdrial, A. Vázquez-Ortega, S. Hernández-Ruiz, J. Chorover** (2010). Testing the application of Teflon/quartz soil solution samplers for DOM sampling in the Critical Zone: Field and laboratory approaches. AGU Fall Meeting 2010, San Francisco, December 13-17 (peer reviewed poster).
- **J. Ray; J.C. McIntosh; J.N. Perdrial; P.D. Brooks; J. Chorover; C. Rasmussen; T. Meixner** (2010) Sources and Cycling of Carbon in Two Semi-Arid Catchments, Valles Caldera Preserve, NM: Insights From Carbon Isotopes. AGU Fall Meeting 2010, San Francisco, December 13-17 (peer reviewed poster).
- **J.N. Berger, L.N. Warr, M-C. Lett and N. Perdrial** (2007). Monitoring smectite hydration in the presence of bacteria. 44rd Annual Meeting of the Clay Mineral Society, Santa Fe, New Mexico, USA. June 2-6 (peer reviewed talk).
- **J.N. Berger, L.N. Warr, M-C. Lett and N. Perdrial** (2007). Effect of bacteria on the water storage and retention capacity of swelling clays. EGU General Assembly, Vienna, April 15-20 (peer reviewed talk).
- **L.N. Warr, J.N. Berger, M-C. Lett, M. Khodja** (2007). An experimental study of clay bacterial interaction in Prestige oil. . EGU General Assembly, Vienna, April 15-20 (peer reviewed poster).
- **J.N. Berger, L.N. Warr, M-C. Lett, N. Perdrial.** Smectite hydration, solution chemistry and bacterial activity: interactions in a confined volume system (2006). Bridging Clays, 43rd Annual Meeting of the CMS-4ème Colloque du GFA, Ile d'Oleron. (peer reviewed talk).
- **J.N. Berger, L.N. Warr, M-C. Lett N. Perdrial** (2006). Monitoring the effect of swelling clay on metal reducing bacteria. EGU General Assembly, Vienna, April 2-7 (peer reviewed poster).
- **J.N. Berger, L.N. Warr, M-C. Lett, J. Duplay** (2005). The Influence of *Shewanella Putrefaciens* on the Swelling Behavior of Nontronite in Solution. Annual Meeting of the Clay Mineral Society, Burlington, VT, June 11-15 (peer reviewed poster).

## NON-SCHOLARLY CONTRIBUTIONS AND OUTREACH:

### 2018:

- **Radio interview** (30 minutes) with Keith Pannell from Science Studio, a radio show featuring the "ever progressing world of science", on how soils and water interact to influence stream water chemistry (available here: <http://ktep.org/programs/science-studio>, aired 02/18/2018).
- **Community outreach** to the Sustainability Academy at Lawrence Barnes, a minority serving elementary school in Burlington, VT to the module on "Land and Water". Activities included data collection and data recording, viewing part of the documentary saving our waters" and a discussing how water changes while moving through our landscape (01/11/2018).

### 2017:

- **Documentary** in collaboration with Vermont PBS and EPSCoR entitled "Saving our Waters". My contribution was to show a newly installed soil sensor network to investigate the effect of soils on stream and lake water quality (available here: <https://www.vermontpbs.org/water/>, e.g. part 1, minute 13:35-15:00 and part 3, minute 9:45-10:50, aired 10/19/2017).

### Prior to my appointment at UVM in 2013:

- **Newspaper article** from the Arizona Daily Star on the Arizona Critical Zone Observatory entitled "Catalina's rock: Life's foundation" (available here: [https://tucson.com/news/science/catalinas-rock-life-s-foundation/article\\_7b8c3009-5d7f-53d0-9f0b-724de5200eb8.html](https://tucson.com/news/science/catalinas-rock-life-s-foundation/article_7b8c3009-5d7f-53d0-9f0b-724de5200eb8.html), 10/28/2012).
- **Newspaper article** from the Arizona Daily Star on the Arizona Critical Zone Observatory entitled "Living in, discovering the Critical Zone" (available here: [https://tucson.com/special-section/living-in-discovering-the-critical-zone/article\\_01876a29-8c56-5263-8f84-755be8f04866.html](https://tucson.com/special-section/living-in-discovering-the-critical-zone/article_01876a29-8c56-5263-8f84-755be8f04866.html), 11/14/2010).

## GRANTS:

### In preparation:

- **NSF-EAR, \$500,000.** "Acquisition of a research-grade powder X-ray diffractometer for research and education in geological, environmental and material sciences", **co-PI, effort 35%**.

### Funded:

#### 2018:

- **CAS-FRSA** (The College of Arts and Sciences Faculty Research Support Awards, FY 2018-2019), **\$4954.** "Will you become a greenhouse gas? Testing fluorescence spectroscopy as tool to predict the fate of carbon in natural waters", **lead-PI, effort 100%**.

#### 2017:

- **NSF-GG:** 2018-2021. **\$300,204.** "Collaborative Research: Combining Complex Systems Tools, Process-Based Modelling and Experiments to Bridge Scales in Low Temperature Geochemistry", **lead-PI, effort 80%**.
- **VT-NASA EPSCoR Faculty Research Awards:** 2017/2018. **\$13,249.** "Expanding the concept of the Critical Zone from Terrestrial to Planetary Systems: What can we learn about weathering on Mars?", **lead-PI, effort 100%**.
- **VTSGC Graduate Research Fellowship Competition:** 2017/2018. **\$26,500.** "Soil Aggregates: What role do they play in the generation of dissolved organic carbon?", **lead-PI, effort 100%**.

#### 2016:

- **NSF-EPSCoR:** 2016-2021, VT EPSCoR Research Infrastructure Improvement (RII). **\$20,000,000.** "Basin Resilience to Extreme Events (BREE)", **co-I, effort 10%**. Note: for this specific program the designation "co-PI" does not exist but my contribution for this project is equivalent of that of a **co-PI**: I co-authored the proposal, contribute substantially to the research of the ecology team, co-advise PhD and post-doctoral researchers and receive summer funding.
- **CAS-FRSA** (The College of Arts and Sciences Faculty Research Support Awards, FY 2017-2018), **\$3987.** "Do soil organo-mineral aggregates drive stream water carbon fluxes?", **lead-PI, effort 100%**.

#### 2015:

- **NSF-SAVI**, (Science Across Virtual Institutes) workshop of the CZO National Office: 2015. **\$10,350**. “Critical Zone Resiliency and Disturbance: A One Day Early Career Workshop To Develop Testable Hypotheses Using Common X-CZO Measurements”, **co-PI, effort 50%**.

**2014:**

- **CAS-FRSA** (The College of Arts and Sciences Faculty Research Support Awards, FY 2014-2015), **\$4998.16**. “Carbon, nutrient and contaminant metal release from old vs. young near-stream sediments during flooding”, **lead-PI, effort 100%**.

**2013:**

- **NSF**: 2013-2018, EAR-1331408, **\$4,900,000**, “Transformative Behavior of Water, Energy and Carbon in the Critical Zone: II. Quantifying the Interactions between Long and Short Term Processes that Control Critical Zone Services”, as **(post-doctoral) co-author**, effort 10%.

**2012:**

- **SAHRA** 2012-2013 (Sustainability of semi-arid hydrology and riparian areas), **10,000\$**, “Influence of water availability on carbon cycling in seasonally-snow covered catchments” **co-author**, effort 30%.

**2010:**

- **NSF-GG**: 2010-2013, **\$424,000**, “Plant-microbe-mineral interaction as a driver for rock weathering and chemical denudation”, **co-author**, effort 15%.

**Submitted but not funded:**

**2018:**

- **Swedish Research Council** Postdoctoral Fellowship: 2018-2020, (Lead PI J. Place). “Unravelling the role of structures in bedrock weathering”, **co-author, effort 15%**.

**2017:**

- **USGS**: 2017-2020, **\$224,623**. (Lead-PI K. Rose) “Testing and applying a novel in situ fluorescence index sensor to characterize the source and fate of dissolved organic matter in inland waters”, **co-PI, effort 40%**.
- **UVM REACH**: 2017/2018. **\$19,667**. “A new research approach to investigate the Earths Critical Zone using “Big Data” analysis”, **lead-PI, effort 80%**.
- **NSF** Geotechnical Engineering and Materials: 2017-2019, (Lead-PI E. Ghazanfari) **\$183,634**. “Exploring treatment of expansive clays using ionic stabilizers”, **co-PI, effort 40%**.

**2016:**

- **NASA**: 2016-2019, Carbon Cycle Science. \$1,081,599 (Lead PI C. Tague). “Assessing the sensitivity of carbon net ecosystem exchange to changes in climate, land use, and disturbance in two large river basins in the northeastern U.S. over multi-decadal time scales: a hydro-ecological investigation”, **co-PI, effort 20%**.
- **NSF-GG**: 2016-2019, **\$471,883**. “Characterizing fluvial processes that drive carbon source-sink dynamics of typical New England river corridors in a changing climate, **lead-PI, effort 80%**.
- **NSRC** Pre-proposal: 2016, **\$79,244**. “Understanding the Impacts of Ice Storms on Northern Forest Carbon Storage and Loss”, **co-PI, effort 35%**.
- **NSF-MRI**: 2016 – 2019, **not funded, \$660,472**. MRI: Acquisition of a Variable Pressure Field-Emission Scanning Electron Microscope for STEM Research and Education, **collaborator, effort <10%**.

**2014:**

- **NSF-GG**: 2014-2017, **\$368,507**, “Collaborative Research: Making sense of forested catchments as sources for biodegradable carbon: A complex systems approach to multi-scale critical zone data” **Lead-PI, effort 70%**.
- **Not funded: NSF** 2014-2017, EAR-Major research Instrumentation, **\$364,580**: “Acquisition of electron paramagnetic resonance (EPR) spectrometer at the University of Vermont.” **Senior personnel, effort <10%**.

**WORKSHOP PARTICIPATION**

- **2018**: Science communication workshop, Alan Alda Center for Communicating Science, Burlington VT (04/04/2018), **participant** (invited).

- **2017:** Science communication workshop, Alan Alda Center for Communicating Science, Burlington VT (02/06-02/07/2017), **participant** (invited).
- **2016:**
  - NSF Science Across Virtual Institute (SAVI) sponsored early career networking meeting “Towards a Global Critical Zone Network: International Early Career Meeting in Yokohama”, Goldschmidt Conference, Yokohama (06/29/2016), **co-organizer**.
  - NSF Critical Zone Observatory Network Reverse Site Visit “Symposium on CZ research: the next generation” Arlington, VA, **presenter** (invited).
  - Luquillo CZO All hands meeting Luquillo, PR “Investigating controls on stream water carbon dynamics in varied climates: Luquillo as endmember of a CZO climosequence?” (06/06-06/08/2016), **presenter**.
- **2015:**
  - NSF workshop: “Sino-U.S. Critical Zone Workshop on collaborations”, Guiyang (10/05-10/11/2015), **participant** (invited).
  - NSF Science Across Virtual Institute (SAVI) funded Early Career Scientist Workshop “Critical Zone Resiliency and Disturbance: A One Day Early Career Workshop To Develop Testable Hypotheses Using Common X-CZO Measurements”, University of New Hampshire (06/13-06/14/2015), **co-organizer**.
- **2014:** NSF workshop “The Role of Reactive Transport Models in Biogeochemical Sciences”, Washington DC (04/13-04/15 2014), **participant** (invited).

#### **INVITED LECTURES:**

---

- **2018:**
  - Department of Geosciences, University of Massachusetts Amherst, “The acidified Critical Zone recovers: observations from long-term stream data, soils and experiments”
  - GUND Institute, University of Vermont, “Biosphere meets Hydrosphere meets Geosphere: A Closer Look at Carbon Dynamics” (02/02/2018).
  - NASA Johnson Space Center project meeting Houston TX. “Expanding the concept of the Critical Zone from Terrestrial to Planetary Systems: What can we learn about weathering on Mars? (03/30/2018)”
- **2017:** Department of Geology, Colby College: “Carbon Dynamics from a Critical Zone Perspective” (10/27/2017).
- **2014:** Department of Geology, Middlebury College: “How does Critical Zone carbon respond to global change: examples from the northeastern and southwestern U.S.” (11/14/2014).

#### **TEACHING INTERESTS:**

---

I am interested in teaching Earth surface processes in an interdisciplinary setting (e.g. including Geology, Hydrology, Pedology, Ecology, Mineralogy and Biology) at all levels from first year to graduate students. My teaching load is 5 courses per year.

#### **Courses:**

GEOL095: Climate Change and Sustainability, intro-level undergraduate  
 GEOL110: Earth Materials with lab, mid-level undergraduate  
 GEOL135: Environmental Geochemistry with lab, mid-level undergraduate  
 GEOL235: Geochemistry of Natural Waters, upper-level undergraduate  
 GEOL371: Advanced Biogeochemistry, graduate-level  
 GEOL197/198: Research in Geology (see undergraduate research under “Mentoring”)

#### **Teaching relevant professional development:**

##### **2018:**

- Center for Workforce Development and Diversity Mentoring workshop (EPSCoR)

**2017:**

- Center for Workforce Development and Diversity Mentoring workshop (EPSCoR)
- “Designing for Learning Program”, Center for Teaching and Learning, UVM.

**2016:**

- “Building resilience in our students”, Faculty development day, (10/10/2016).

**2014:**

- “First Year Writing Institute” for instructors of teacher advisor program courses.
- “UVM Climate Symposium” to elevate climate change literacy through service learning

**2013:**

- “Pedagogical Program for Newly hired TT faculty” Center for Teaching and Learning
- Sustainability Fellowship Program.
- “Early Career in Geosciences: Teaching, research and Managing your Career” NSF Workshop.

**Teaching awards:**

2018: Nomination for the Kroepsch-Maurice Excellence in Teaching Award (pending).

2017: Nomination for the Kroepsch-Maurice Excellence in Teaching Award.

2014: Graduate Student Senate Award for Excellence in Teaching.

**MENTORING:**

The Geology department focuses on undergraduate and MS research and I advise many undergraduate and graduate students in my laboratory. All students conduct original research, receive training in geochemical lab and field methods, analytical techniques, data analysis and present their results at local, national and international meetings.

**PhD student advising:**

2017-2021: Brittany Lancellotti

2009-2013: Angelica Vazquez-Ortega (University of Arizona)

**MS student advising in the Geology Department:**

2018-2020: Thomas Adler

2017-2019: Max Landsman

2016-2018: Jesse Armfield, Malayika Cincotta

2014-2016: Alyson Hampsch

**Undergraduate research advising:****2018:**

- Carli Beisel, Environmental Science, University of Vermont.
- Brandon Follansbee, Geology, University of Vermont (co-advised with G. Pinder).
- Alex Gagnon, Environmental Science Major, University of Vermont.
- Herreld Rosado Loubriel, University of Turabo, Puerto Rico, EPSCoR Intern.
- Pamela Garcia, University of Puerto Rico, Puerto Rico, EPSCoR Intern.
- Aaron Shavitz, Environmental Science Major, University of Vermont (Honors Thesis)

**2017:**

- Thomas Adler, Environmental Engineering, University of Vermont, EPSCoR Intern.
- Sarah Mecca, Community College of Vermont, EPSCoR Intern.
- Morgan Schwartz, Geology, University of Vermont.
- Alex Gagnon, Environmental Science Major, University of Vermont.
- Ari Libenson, Environmental Science Major, University of Vermont.

**2016:**

- Ingrid Evans, Environmental Science Major, University of Vermont.
- Max Landsman-Gerjoi, Environmental Science Major, University of Vermont.
- Jack Ehrenkranz, Geology Major, University of Vermont.
- Ben Wilkes, Geology Major, University of Vermont.
- Tyler Davis, Environmental Science Major, University of Vermont.

**2015:**

- David Jaeger, Environmental Science Major, University of Vermont.
- Ashley Weltz, Geology Major, University of Vermont.
- Malayika Cincotta, Geology Major, University of Vermont.
- Elise Schumacher, High school student at Essex High School.

**2014:**

- Christine Loughlin, Chemistry major, University of Vermont.
- Lauren Jones, Environmental Science Major, University of Vermont.
- Ashley Weltz, Geology Major, University of Vermont.
- David Jaeger, Environmental Science Major, University of Vermont.
- Mae Kemsley, Wooster University.
- Aundrea Dolan, Coastal Carolina University.

**Theses committees:**

- Sophie Ryan (undergraduate honors thesis), Department of Geography (2018)
- Emma Cronin (undergraduate honors thesis), Department of Biology (2017).
- Brendan (Guangyu) Zhu, PhD, Department of Engineering, (2016-2020).
- Keegan Griffith, MS, Department of Plant and Soil Science (2016-2017).
- Meg Legrand, MS, Department of Geology (2016-2018).
- Austin Wilkes, MS, Department of Geology (2016-2018).
- Alison Denn, MS, Department of Geology, (2014-2016).
- Braden Rosenberg, MS, Department of Geology (2013-2015).
- Robert Caulk, MS, Department of Environmental and Civil Engineering (2013-2015).
- Adam Noel, PhD, Rubenstein School of Environment and Natural Resources (2012-2018).
- Kristen Underwood, PhD, Department of Environmental and Civil Engineering (2012-2018);
- Stephanie Juice, PhD, Rubenstein School of Environment and Natural Resources (2012-2018).

**SERVICE:**

---

**University level:**

- Elected member of the Sustainability Curriculum and Review Committee (SCRC, 2016-current).
- Faculty Marshal for the commencement ceremony 2016-current.

**Department and college level:**

- Member of the UVM undergraduate research award (APLE and SUITER) committee, 2015-current.
- Representative for the Geology Department at Academic Fair (student visitation days, 2015 - current).
- Representative of the Geology Department at the Open House in 2014- current.
- Organizer of the Geology Department Seminar Series every semester 2014-current.
- Invited faculty panelist at the invited student day (2015).
- Representative of the Geology Department at the CAS Homecoming event in 2013-current.
- Guided tours for prospective students and their families 4-8 times per year 2013-current.

**Professional Service:****Journal Lead-guest Editor**

- Frontiers in Earth Science: Biogeosciences, Research Topic: "Critical Zone (CZ) Export to Streams as Indicator for CZ Structure and Function" (2018).

**Reviews of professional journals articles**

- Biogeochemistry: 2013 (1), 2014 (3), 2015 (2), 2017, 2018
- Chemical Geology: 2010 (1), 2015 (2), 2016
- Clay and Clay Minerals: 2011 (1)
- Geoderma: 2008 (1), 2009 (1), 2010 (4), 2012, (1)
- Hydrological Processes: 2012, (1), 2013 (1)

- International Biodegradation & Biodeterioration: 2012 (1)
- Journal of Geophysical Research: 2016 (1)
- Journal of Hydrology: 2017
- Journal of Soils and Sediments: 2015 (1)
- Rhizosphere: 2017
- Science of the Total Environment: 2018
- Soil and Sediment Contamination an International Journal, 2012 (1).
- Soil Science Society of America Journal: 2013 (1), 2014 (1),
- Vadose Zone Journal: 2018
- Water: 2017
- Water Resources Research Journal: 2014 (2), 2015 (1), 2016 (2), 2017 (2)
- Water Resources, 2013 (1)

#### **Reviews of Proposals and review panels**

- Vermont Water Resources and Lake Studies Center, 2014, 2017
- ACS Petroleum Research Fund, 2015
- National Science Foundation Earth Science postdoctoral fellowship (NSF EAR-PF), 2016
- National Environment Research Council (NERC) Research Grant Application, 2016
- NSF Geobiology and Low Temperature Geochemistry, Review Panel, 2017

#### **Conference Session chair**

- *“Thresholds in Soil response to Global Change”*, convener, chair and student presentation liaison, American Geophysical Union Conference, San Francisco, CA, **2013**.
- *“Critical Zone science as incubator for interdisciplinary, process oriented science”* chair and Outstanding Student Poster liaison, American Geophysical Union Conference, San Francisco, CA, **2014**.
- *“Towards International Critical Zone Research in the Anthropocene: The Biogeochemistry of Ecosystems and Services”*, Goldschmidt Conference, Yokohama, Japan, **2016**.
- *“Critical Zone (CZ) export to streams and ground water as indicator for CZ functions in the Anthropocene: challenges and opportunities”*. Goldschmidt Conference, Paris, France, **2017**.
- *“Critical Zone Processes, Function and Resiliency: Challenges and Opportunities”*. GSA meeting Northeastern Section, Burlington VT, **2018**.

#### **Other Service**

- Invited participant at the UVM **Legislative Summit** on Water, 2017, Burlington, VT.
- Co-organizer of the **NSF cross-CZO Graduate Research Group** (meetings at AGU 2012, 2013, 2014, 2016)
- Student presentation judge: AGU Fall Meeting San Francisco 2012, 2013, 2014; Goldschmidt 2012, Montreal and Prague 2011.