

Environmental Mineralogy & Chemistry
Dept. of Geology
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- Uranium and strontium fate in waste-weathered sediments: Scaling of molecular processes to predict reactive transport.

UNIVERSITY OF VERMONT

Extraterrestrial Life (Spring ~250 students)
Earth System Sciences, (Fall ~160 students)
Environmental Geology, (Spring ~160 students)
Geocomputing, (Spring/Fall ~25 students)
Planetology, (Fall/Spring ~20 students)
Intro. to Environmental Sci. (2014-2016, 80 students)

UNIVERSITY OF ARIZONA (2012-2014)

Environmental Soil and Water Chemistry (35 students)

Quantitative X-ray diffraction (10 students)

UNIVERSITY OF STRASBOURG (FRANCE)

External Geodynamic (60 students)
Mineralogy & Petrography (80 students)
Crystal-chemistry and reactivity of fine particles
Soil science (10 students)
Orogen of the Alps (20 students)
Fundamentals of Geochemistry (20 students)
Introduction to Geosciences (15 students)
Mapping Camp (35 students)

Organizer of the UVM Geology Seminar series on Equity and Diversity in the Geoscience.
Teaching of environmental racism and racial justice to local high school students.
Pledge to the building of an Anti-Racist lab.
Pledge to equity and diversity in student selection and hiring.
Member of the White Fragility UVM Geology book club.

University of Vermont, Sustainability Fellow (2014-2015)
Member, American Chemical Society (2021-present)
Member, Geological Society of America (2018-present)
Member, Clay Mineral Society of America (2007-present)
Member, Critical Zone Exploration Network (2009-present)
Member, European Geochemical Association (2010-present)
Member, American Geophysical Union (2011-present)

1. , Vázquez-Ortega A., E. Reinoso-Maset, P. A. O'Day, and J. Chorover (2022). Effects of flow on uranium speciation in soils impacted bt9 Tm0 G(specia)-8q00 wbil .

10. Kamali-Asl A.*, Ghazanfari E., , and Cladouhos T. (2020) - Effects of circulating fluid type on response of fractured rock in geothermal reservoir: An experimental study. *Geothermics*. 87: 101832
11. Reinoso-Maset E., , Steefel C.I., Um W., Chorover J., and O'Day P.A. (2020) - Dissolved carbonate and pH control the dissolution of uranyl phosphate minerals under flow conditions. *Environmental Science & Technology*, 6031-6042.
12. Singer D., Herndon E., Cole K., Koval J., (2020) - Formation of secondary mineral coatings results in the persistence of reduced metal-bearing phases in soils developing on historic coal mine spoil. *Applied Geochemistry*, , 104711.
13. Bailey S., Ross D.S., , Jercinovic M., Webber J., and Bourgault R. (2019) - Determination of primary mineral content and calcium sources in forest soils using electron probe microanalysis mapping and cluster analysis. *Soil Science Society of America J.*, 83, 1830-1841.

32. Perdrial J.N., , Harpold A., Gao X., Gabor R., LaSharr K. and Chorover J. (2012) – Impact of sampling dissolved organic matter with passive capillary wicks versus aqueous soil extraction. *Soil Science Society of America Journal*, 76, 2019-2030.
33. , Rivera N., Thompson A., O'Day P.A. and Chorover J. (2011) – Trace contaminant concentration affects mineral transformation and pollutant fate in hydroxide-weathered Hanford sediments. *Journal of Hazardous Materials*, , 119-127.
34. Rivera N., Choi S., Strepka C., Mueller K., , Chorover J. and O'Day P.A. (2011) – Cesium and strontium incorporation into zeolite-type phases during homogeneous nucleation from caustic solutions. *American Mineralogist*, , 1809-1820.
35. Chang H.-S., Um W., Rod K., Serne R.J., Thompson A., , Steefel C.I. and Chorover J. (2011) – Strontium and caesium release mechanisms during unsaturated flow through waste-weathered Hanford sediments. *Environmental Science and Technology*, , 8313-8320.
36. Perdrial J.N., Delphin J.-E., Elsass F., Liewig N. (2010) – Temporal and spatial monitoring of mobile nanoparticles in a vineyard soil: evidence of nanoaggregate formation. *European Journal of Soil Science*, , 456-468.
37. Thompson A., Steefel C.I., . and Chorover J. (2010) – Contaminant desorption during long-term leaching of hydroxide-weathered sediments. *Environmental Science and Technology*, , 1992-1997.
38. Perdrial J.N., Warr L.N., , Lett M.-C. and Elsass F. (2009) – Interaction between smectite and bacteria: Implications for bentonite as backfill material in the disposal of nuclear waste. *Chemical Geology*, , 281-294.
39. Liewig N., Delphin J.-E. and Elsass F. (2008) – TEM evidence for intracellular accumulation of lead by bacteria in subsurface environments. *Chemical Geology*, , 196-204 .
40. Elsass F. and Liewig N. (2008) – New technique for in-situ sampling of particulate matter and pan AMC1T/F3 9 Tf1

Elsass F., Liewig N., Delphin J.-E. and Morvan G. (2004) – Caractérisation physico-chimique des matières en suspension dans les eaux d'infiltration des sols. Proc. 20th RST, sept. 20-25 2004, Strasbourg, France.

Bossiere G. and Frere D. (2002) – Analyses comparatives de céramiques archaïques, du 6ème siècle BC, de Gaule du sud et d'Etrurie. Proc. 19th RST, apr. 09-12 2002, Nantes, France.

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- National Science Foundation – Ad Hoc reviewer.
 - Agence National de la Recherche (French National Research Agency) – Ad Hoc reviewer.
 - Fundacao para a Ciencia e a Tecnologia (Portuguese Foundation for Science) – Ad Hoc reviewer.
 - Fonds de Recherche du Quebec (Quebecian Foundation for Science) – Ad Hoc reviewer.
 - Canadian Lightsources – Beamtime proposal external reviewer

American Mineralogist, Applied Geochemistry, Chemical Geology, Chemosphere, Clays and Clay Minerals, European Journal of Soil Science, Environmental Chemistry, Environmental Research, Environmental Science & Technology, Geochimica et Cosmochimica Acta, Geoderma, Geology, International Geology Review, Journal of Hazardous Materials, Journal of Nuclear Materials, Plos One, Radiochimica Acta, Rock Mechanics and Rock Engineering, Science of the Total Environment, Soil Biology and Biochemistry, Soil Science, Soil Science Society of America Journal