

CURRICULUM VITAE

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RESEARCH INTERESTS

- Field and laboratory testing of hypotheses related to biodegradation of contaminants in the subsurface
- Application and evaluation of stable isotope fractionation as a tool to investigate contaminants in the environment
- Development of novel field scale methods and devices to enhance site characterization of groundwater systems

EDUCATION

- Ph.D. Geology, University of Tennessee – Knoxville (2017 Expected)
Advisor: Terry C. Hazen
- M.S. Hydrology, University of California – Davis (2013)
Advisor: Douglas M. Mackay
Thesis Title: Characterization of Anaerobic Natural Attenuation of Petroleum Hydrocarbons
- B.A. Geology, University of California – Berkeley (2007)

RESEARCH EXPERIENCE

2013-Current: Graduate Research Assistant, Earth and Planetary Sciences, UT Knoxville

- Beginning work on the Ecosystems and Networks Integrated with Genes and Molecular Assemblies (ENIGMA) project at Oak Ridge National Lab (ORNL) where groundwater contaminants include: uranium (U), technetium-99 (Tc), nitrate, thorium, and volatile organic compounds such as acetone, methylene chloride, toluene, and tetrachloroethylene, Oak Ridge, TN (2013-Current)

2010-2013: Graduate Student Researcher, Hydrologic Sciences, UC Davis

- Feasibility study of well pair recirculation of natural sulfate-rich groundwater to enhance anaerobic biodegradation of benzene at former service stations, Santa Clara Valley, CA (2010-2013)

- Laboratory testing of anaerobic batch microcosms with sediments and groundwater from a benzene contaminated aquifer to determine the efficacy of sulfate, nitrate, and phosphate amendments to enhance biodegradation, Santa Clara Valley, CA (2012-2013)
- Development of a down well device to assess the in-situ potential of natural sulfate addition to enhance biodegradation of petroleum hydrocarbons and fuel oxygenates (2011-2013)

PROFESSIONAL EXPERIENCE

2007-2013: Associate Geologist, Parsons, Geosciences Group

- Site characterization of natural gas dehydrating stations, Central Valley, CA (2011-2012)
- Soil vapor investigation of a former chemical manufacturing site, Oakley, CA (2010)
- Development of a vapor intrusion guidance document, Boston, MA (2010)
- Site characterization of a former manufactured gas plant, New York City, NY (2008)
- Brownfield redevelopment of a former refinery, Bayonne, NJ (2007-2010)
- Free oil recovery project of a former refinery, Bayonne, NJ (2007-2010)
- Remedial investigation of a former mercury site, Woodridge, NJ (2007-2008)

FIELD EXPERIENCE

- Acted as field team leader in small and large scale site characterization of contaminants in bedrock, soil, groundwater, soil gas, surface water and sediments at former refineries, service stations, natural gas dehydrator stations, and chemical manufacturing sites in Northern California and the northeastern United States
- Performed and supervised hollow-stem auger, mud-rotary, direct push, and roto-sonic drill rigs in conducting environmental and geotechnical soil borings, and installation of temporary and permanent monitoring and recovery wells in both soil and bedrock
- Classified bedrock and soils, installed, developed and decommissioned wells, conducted low-flow purging and sampling of groundwater, performed pump, slug, and percolation tests

LABORATORY EXPERIENCE

- Designed and performed anaerobic batch microcosm experiments with contaminated site sediment and groundwater amended with various electron donors, acceptors and micronutrients
- Operated and maintained a gas chromatograph in conjunction with experiments related to analysis of volatile organic compounds and greenhouse gases

TECHNICAL EXPERIENCE

- Competent in MODFLOW and MATLAB
- Authored work plans and technical reports for submission to research sponsors, clients, and regulators in support of site characterization with emphasis on aquifer parameters, risk assessment, and feasibility of proposed remediation methods
- Trained in traditional geologic mapping, 2-D seismic, magnetic, gravity, and electric subsurface surveying

PRESENTATIONS

- C. Paradis, D. Mackay, R. Holland, R. Schmidt, E. Mork, E. Rasa, K. Scow, and T. Buscheck. Accelerated Natural Sulfate Reduction to Enhance Biodegradation of Persistent Petroleum Hydrocarbon Plumes. Platform presentation at Battelle Conference for Chlorinated and Recalcitrant Compounds, May 21, 2012, Monterey, California
- C. Paradis, M. Felice, N. de Sieyes, R. Schmidt, and D. Mackay. Laboratory Assessment of Enhanced Anaerobic Benzene Biodegradation. Abstract accepted for oral presentation at the 8th International Association of Hydrological Sciences Groundwater Quality Conference, April 21-26, 2013, Gainesville, Florida

UNIVERSITY SERVICE

2007-Current: Guest Speaker, Alumni Student Careers Forum, UC Berkeley

- Annual guest speaker to undergraduate students with the goal of increasing awareness of career opportunities in the earth sciences outside of the research university environment with an emphasis on lessons learned as a practicing geologist in environmental consulting

2011-2012: Committee Member, Hydrologic Sciences Graduate Group Seminar Series, UC Davis

- Recruited renowned guest speakers from across the United States to hold weekly seminars for faculty, students and staff with a focus on the bioremediation and containment of the Deepwater Horizon Oil Spill, application of green technologies in environmental remediation, and novel analytical methods for quantification of petroleum hydrocarbons

2005-2007: Co-Founder and Treasurer, Geological Association at Berkeley, UC Berkeley

- Held teaching sessions for sixth grade students to help instructors satisfy the California Department of Education Earth Science content standards
- Acted as team lead in geologic field mapping training sessions for undergraduates of all disciplines at various sites of interest in Northern California
- Creator of annual Geolympics competition where requisite skills of field geology are tested for both time and accuracy during a day-long event with participants from faculty, students, and staff

SCHOLARSHIPS, GRANTS, AND FELLOWSHIPS

- UT Knoxville Chancellor's Graduate Fellowship
- UC Berkeley Earth & Planetary Science Dept. Ramsden Grant
- National SMART Grant
- Cal Bears Scholarship, UC Berkeley
- Extended Opportunity Programs and Service Scholarship

AFFILIATIONS

- American Geophysical Union Member, 2011-Current
- Groundwater Resources Association of California Member, 2011-Current
- National Ground Water Association Member, 2009-Current

CERTIFICATIONS

- 40 Hour OSHA HAZWOPER
- Transportation Worker Identification Credential, Dept. of Homeland Security