Education

M.S., Environmental Geochemistry. Colorado School of Mines, December 2015
B.A., Geology. University of Colorado Boulder, May 2012 (Magna Cum Laude)

Employment

Research Scientist - Battelle Ecology, Inc. (2016-Present)

- Leading the Terrestrial Instrument System Commissioning effort for the National Ecological Observatory Network (NEON) project.
- Writing validation and testing code in the R programming language to access the NEON database and perform quality checks in a reproducible workflow.
- Overseeing the work of NEON staff and field technicians in troubleshooting and fixing areas of failure located in commissioning.
- Summarizing findings and recommendations in technical reports using R Markdown.
- Conducting field work for the NEON project, including site reviews and vegetation, water, and soil sampling.
- Lead scientist for four data products: 1) Wet deposition chemistry, 2) Stable isotopes in wet deposition, 3) Particulate mass sampling, and 4) Summary weather statistics.

Temporary researcher - Institute of Arctic and Alpine Research (INSTAAR), University of Colorado Boulder (2018-Present)

- Developing code to support the work of graduate researchers seeking to characterize organic matter in soils.
- Porting the PARAFAC (parallel factor analysis) modeling technique from Matlab to R.

Graduate Teacher and Researcher - Colorado School of Mines Geochemistry Department (2013 - 2015)

- Examined the effects trivalent manganese may have on natural water chemistry, with a focus on the interaction between trivalent manganese and natural organic matter (NOM).
- Colorimetric techniques coupled with modeling chemical reaction kinetics in Mathematica.
- Additionally led an average of three sections of Introduction to General Chemistry Lab.
- Awarded the Chemistry Department's Outstanding Graduate Teaching award in 2014, in part for developing extra credit exercises in environmental chemistry for my students.

Head Brewer - Deep Draft Brewing Co. (2012-2015)

- Led a two-year recipe development phase and designed the recipes and system used to produce 10 barrel (310 gallon) batches.
- Conducted the initial system installation and brewing at the production taproom.
- Instituted cleaning and sanitation protocols, managed yeast cultures (washing yeast, performing viability counts, etc.)
- Oversaw the front-of-house operations, materials purchasing, and employee training.

Scientific Researcher - The University of Tübingen, Germany (2012-2013)

- Worked with cell cultures, synthesizing minerals, and reacting materials in high pressure and temperature autoclaves.
- Examined the role biomass may have played in the formation of the mineral assemblages found in banded iron formations during diagenesis and metamorphism.

Laboratory Technician/Student Researcher - INSTAAR (2010-2012)

- Performed field work collecting soil samples, laboratory work preparing samples.
- Conducted research investigating the effects acid mine drainage has on dissolved organic matter (DOM).
- Conducted honors thesis research into the presence and evolution of DOM in snow pack through the winter.

Skills

R · Python · SQL · Minteq · Field Sampling · ArcMap · LaTeX · Adobe Software Suite · Version control (GitHub)

Selected Projects

Robert Lee and Josh Roberti, (2017). RNRCS: Download NRCS Data. R package version 0.2.5. (https://rhlee12.github.io/RNRCS/)

SanClements MD, IJ. Fernandez, MB. Adams, JA. Roberti, **R. Lee**, GA. Rue, and DM. McKnight (2018). ***Long-term experimental acidification drives watershed scale shift in dissolved organic matter composition and flux***. Environmental Science and Technology.

Joshua A. Roberti, E. Ayres , H. Loescher, J. Tang, G. Starr, D. Durden, D. Smith, E. de la Reguera, K. Morkeski, M. McKlveen, H. Benstead, M. SanClements, **R. Lee**, M. Gebremedhin, and R. Zulueta (2018) ***A Robust Calibration Method for Continental-Scale Soil Water Content Measurements***. Vadose Zone Journal

Josh Roberti, Cody Flagg, **Robert Lee** Lee Stanish, Sam Weintraub, and Derek Smith (2017). metScanR: Find, Map, and Gather Environmental Data and Metadata. R package version 1.2.0.(https://CRAN.R-project.org/package=metScanR)