

# Dr. Harrison Lisabeth

[hlisabeth@lbl.gov](mailto:hlisabeth@lbl.gov) | 1 Cyclotron Rd. Berkeley, CA 94720 | Cell: 516-994-3973

## Education:

- Ph.D, University of Maryland, 2011-August 2016
  - Dissertation Title: Evolution of strength and physical properties of ultramafic and carbonate rocks under hydrothermal conditions
- A.B. (honors) Geological Sciences, Brown University, 2006-2010
  - Thesis Title: Volatile and halogen abundances in basaltic glass from the southern East Pacific Rise
- A.B. Literary Arts, Brown University, 2006-2010

## Employment:

- Postdoctoral Employee, Energy Geoscience Division, Lawrence Berkeley National Laboratory (2018-present)
- Postdoctoral Fellow, Stanford Center for Carbon Storage, Stanford University (2016-2018)
  - Lab and Safety manager of Stanford Stress and Crustal Mechanics Lab while conducting geomechanical research on the effect of pore fluid chemistry on the evolution of permeability in shales during fault slip
- Research Assistant, Rock Physics Laboratory, University of Maryland (2011-2016)
  - Acted as Lab and Safety manager of UMD Rock Physics Lab while conducting geomechanical research on hydrothermal alteration of carbonate and ultramafic rocks
- Teaching Assistant, Petrology, University of Maryland (2015)
- Research Assistant, Columbia University (2010-2011)
  - Conducted geomechanical tests on natural and synthetic olivine aggregates saturated with high pCO<sub>2</sub> fluids, coordinated research between labs at Brown, Columbia, MIT and UMD
- Teaching Assistant, Introduction to Physical Systems, Brown University (2009-2010)

## Skills:

- Laboratory equipment: triaxial deformation apparatus (in-situ permeability, ultrasonic velocity, acoustic emission, electrical resistivity measurement), helium porosimeter, nitrogen permeameter, gas-mixing tube furnace, gas sorption analyzer
- Analytical equipment: FIB-SEM, Electron microprobe, XRD, LA-ICPMS, Petrological microscope, Synchrotron and benchtop x-ray computed tomography, neutron tomography
- Software: Matlab, ImageJ, Avizo, Word, Excel, Power Point, Illustrator, Photoshop
- Language: Spanish (basic)

## Fellowships and Awards:

- American Geophysical Union, Mineral and Rock Physics Graduate Research Award (2017)
- Anne Wylie Dissertation Fellowship, University of Maryland (2016)
- Green Fellowship for Climate Change Research, University of Maryland (2015)
- ESSIC Travel Award, University of Maryland (2014-2015)
- 1<sup>st</sup> prize at American Association of Petroleum Geologists 2012 Annual Convention & Exhibition, **Lisabeth, H.**, Watter, K., Zhu, W., Effect of Temperature and Fluid Saturation on the Yielding Behavior of Carbonate Rocks (2012)
- Deans Fellowship, University of Maryland (2011)
- Undergraduate Teaching and Research Award, Brown University (2009-2010)

### Service and Mentorship Activities:

- Demonstration and activity designer for hands on learning at Excelsior Science Workshop, San Francisco (August 2017-current)
- Organizer of roundtable discussion on new technologies in oil and gas recovery at Friends Committee on National Legislation, Washington, DC (July 2015)
- Organizer and leader of UMD Geology Department Field Trip (August 2014)
- Participant in Career Day at DC Public Schools (2014-2016)
- Reviewer for Journal of Geophysical Research (2013-present)
- Co-adviser of senior thesis students Thomas Braga (2013-2014) and Shayna Quidas (2015-2016)
- Co-ordinator of Geophysics Table for Maryland Day (2011-2016)

### Professional Organizations:

- American Geophysical Union (2010-present)
- Geological Society of America (2010-present)
- American Association of Petroleum Geologists, University of Maryland Student Chapter Treasurer (2014-2016)

### Select Publications:

- Xing, T., W. Zhu, F. Fousseis, **H. Lisabeth** (2018) Generating porosity during olivine carbonation via dissolution channels and expansion cracks. *Solid Earth*. doi:10.5194
- **H. Lisabeth**, Zhu, W., Kelemen, P.B., Ilgen, A. (2017), Experimental evidence for chemo-mechanical coupling during carbonation of ultramafic rocks, *Ear. and Plan. Sci. Lett.*, *474*, 355–367.
- **H. Lisabeth**, Zhu, W., Xing, T., De Andrade, V. (2017), Dissolution assisted pattern formation during olivine carbonation, *Geophys. Res. Lett.*, *44*, 9622-9631.
- Zhu, W., F. Fousseis, **H. Lisabeth**, T. Xing, X. Xiao, V. De Andrade, and S.-i. Karato (2016), Experimental evidence of reaction-induced fracturing during olivine carbonation, *Geophys. Res. Lett.*, *43*, 9535–9543.
- **Lisabeth, H.**, and W. Zhu (2015), Effect of temperature and pore fluid on the strength of porous limestone, *J. Geophys. Res. Solid Earth*, *120*. doi:10.1002/2015JB012152.
- **Lisabeth, H.**, Zhu, W. (2014) Water weakening in porous carbonates: equilibrium and disequilibrium pore fluid effects. *Abstract MR23A-4338, 2014 Fall Meeting AGU, San Francisco, CA.*
- **Lisabeth, H.**, Zhu, W., Kelemen, P.B. (2013) Effect of CO<sub>2</sub>-saturated brine on the mechanical and hydraulic behavior of dunite. *Abstract MR33B-08, 2013 Fall Meeting, AGU, San Francisco, CA.*
- Zhu, W., Fousseis, F., **Lisabeth, H.**, and Xiao, X. (2014) Real time pore structure evolution during olivine mineral carbonation. *Abstract V52A-2328, 2013 Fall Meeting, AGU, San Francisco, CA.*
- Zhu, W., Fousseis, F., **Lisabeth, H.**, and Xiao, X. (2013) In-situ X-ray Synchrotron Microtomography: Real Time Pore Structure Evolution during Olivine Carbonation. *Abstract MR31A-2293, 2013 Fall Meeting, AGU, San Francisco, CA.*
- **Lisabeth, H.**, Watter, K., Zhu, W. (2012) Effect of Temperature on Yielding Behavior of Carbonate Rocks. *Proceedings of the 46<sup>th</sup> US Rock Mechanics / Geomechanics Symposium*, ARMA 12-427.
- **Lisabeth, H.**, Zhu, W., Kelemen, P. (2012) Effects of Aqueous Mineral Carbonation on Deformation and Transport Properties in Dunite. *Abstract H23E-1435, 2012 Fall Meeting, AGU, San Francisco, CA.*
- Zhu, W., Ougier-Simonin, A., Banker, J., and **Lisabeth, H.** (2012) Developing a Virtual Rock Deformation Laboratory. *Abstract ED51A-0870, 2012 Fall Meeting, AGU, San Francisco, CA.*