

**Kendra E Murray**  
[kemurray@hamilton.edu](mailto:kemurray@hamilton.edu)

Geosciences Department  
Hamilton College  
198 College Hill Road  
Clinton, NY 13323  
USA

Taylor Science Center 1024  
+1 (315) 859.4039 (office)  
+1 (607) 437.1948 (cell)  
[www.kendramurray.org](http://www.kendramurray.org)  
skype: kendra.murray

---

## EDUCATION

**University of Arizona** | Tucson, Arizona

**Ph.D.** 2016 **Geosciences**  
committee: Peter Reiners, Jay Quade, George Davis, Mihai Ducea, Kelin Whipple

**M.S.** 2010 **Geosciences**  
advisors: Mihai Ducea, Peter Reiners

**Carleton College** | Northfield, Minnesota

**B.A.** 2007 **Geology**, with distinction, *magna cum laude*  
**Environmental and Technology Studies**, concentration

---

## PROFESSIONAL EXPERIENCE

**Visiting Assistant Professor** | Hamilton College Geosciences Department 2018-2019  
**Postdoctoral Research Fellow** | Univ. of Michigan Dept. of Earth and Envi. Sciences 2016-2018  
**Graduate Research/Teaching Assistant** | Univ. of Arizona Dept. of Geosciences 2008-2016  
**Graduate Research Fellow** | National Science Foundation 2009-2014  
**Geoscience Intern** | ExxonMobil Exploration Company, Houston, Texas 2013  
**Lab Manager** | Barbeau Tectonics & Sedimentation Lab, Univ. of South Carolina 2008  
**Field Geologist** | U.S. Antarctic Program & Univ. of South Carolina 2007-08  
**Alumni Teaching Assistant** | Carleton College Geology Field Seminar in Italy 2007  
**Student Assistant** | Science Education Resource Center, Carleton College 2003-2007

---

## PUBLICATIONS—articles in peer-reviewed journals

**Murray, K.E.**, Braun, J, and Reiners, P.W., 2018, Toward robust interpretation of low-temperature thermochronometers in magmatic terranes, *Geochemistry, Geophysics, Geosystems*, doi: 10.1029/2018GC007595

Bloch, E., Ibañez-Mejía, M., **Murray, K.E.**, Vervoort, J., and Müntener, O., 2017, Recent crustal foundering in the Northern Volcanic Zone of the Andean Arc: Petrological insights from the roots of a modern subduction zone, *Earth and Planetary Science Letters*, v. 476, p. 47-58.

**Murray, K.E.**, Reiners, P.W., Thomson, S.N., 2016, Rapid Pliocene-Pleistocene erosion of the central Colorado Plateau documented by apatite thermochronology from the Henry Mountains, *Geology*. v. 44, no. 6, p. 483-486, doi:10.1130/G37733.1.

Loope, D., Kettler, R., **Murray, K.E.**, Pederson, J., and Reiners, P., 2016, Sandstones and Utah's canyon country: Deposition, diagenesis, exhumation, and landscape evolution, in Keller, S.M. and Morgan, M.L., eds., *Unfolding the Geology of the West: Geological Society of America Field Guide 44*, p. 41-71, doi:10.1130/2016.0044(02).

**Murray, K.E.**, Ducea, M.N., Schoenbohm, L., 2015, Foundering-driven lithospheric melting: the source of central Andean mafic lavas on the Puna plateau (22°S - 27°S), in DeCelles, P.G., Ducea, M.N., Carrapa, B., and Kapp, P.A., eds., *Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile: Geological Society of America Memoir 212*, p. 139–166, doi:10.1130/2015.1212(08)

- Quade, J., Dettinger, M.P., Carrapa, B., DeCelles, P.G., **Murray, K.E.**, Huntington, K.A., Cartwright, A., Canavan, R., Gehrels, G., Clementz, M., 2015, Growth of the central Andes, 22°S - 26°S, in DeCelles, P.G., Ducea, M.N., Carrapa, B., and Kapp, P.A., eds., *Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile*: Geological Society of America Memoir 212. doi:10.1130/2015.1212(15)
- Reiners, P.W., Thomson, S.N., Vernon, A., Willett, S.D., Zattin, M., Einhorn, J., Gehrels, G., Quade, J., Pearson, D., **Murray, K.E.**, Cavazza, W., 2015, Low-temperature thermochronologic trends across the central Andes, 21°S - 28°S, in DeCelles, P.G., Ducea, M.N., Carrapa, B., and Kapp, P.A., eds., *Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile*: Geological Society of America Memoir 212. doi:10.1130/2015.1212(12)
- Murray, K.E.**, Orme, D.A., Reiners, P.W., 2014, Effects of U-Th-rich grain boundary phases on apatite helium ages. *Chemical Geology*. v. 390, p. 135-151, doi:10.1016/j.chemgeo.2014.09.023
- Braun, J., Simon-Labric, T., **Murray, K.E.**, and Reiners, P.W., 2014, Topographic relief driven by variations in surface rock density: *Nature Geoscience*, v. 7, p. 534–540, doi: 10.1038/ngeo2171.
- Simon-Labric, T., Brocard, G.Y., Reiners, P.W., van der Beek, P.A., Teyssier, C., Shuster, D.L., **Murray, K.E.**, Whitney, D.L., 2014, Low-temperature thermochronologic signature of range-divide migration and breaching in the North Cascades: *Lithosphere*. doi:10.1130/L382.1
- Ducea, M.N., Seclaman, A.C., **Murray, K.E.**, Jianu, D., Schoenbohm, L.M., 2013, Mantle-drip magmatism beneath the Altiplano-Puna plateau, central Andes: *Geology*, v. 41, no. 8, p. 915-918, doi: 10.1130/G34509.1
- Quade, J., Reiners, P., Placzek, C., Matmon, A., Pepper, M., Ojha, L., and **Murray, K.E.**, 2012, Seismicity and the strange rubbing boulders of the Atacama Desert, northern Chile: *Geology*, v. 40, no. 9, p. 851–854, doi: 10.1130/G33162.
- Lackey, J.S., Erdmann, S., Hark, J.S., Nowak, R.M., **Murray, K.E.**, Clarke, D.B., and Valley, J.W., 2011, Tracing garnet origins in granitoid rocks by oxygen isotope analysis: Examples from the South Mountain batholith, Nova Scotia: *The Canadian Mineralogist*, v. 49, p. 417-439.
- Barbeau, D.L., Davis, J., **Murray, K.E.**, Valencia, V., Gehrels, G.E., Zahid, K.M., Gombosi, D.J., 2009, Detrital-zircon geochronology of the metasedimentary rocks of northwestern Graham Land: *Antarctic Science*, v. 22, n. 1, p. 65-78.
- Barbeau, D.L., Olivero, E.B., Swanson-Hysell, N.L., Zahid, K.M., **Murray, K.E.**, Gehrels, G.E., 2009, Detrital-zircon geochronology of the eastern Magallanes foreland basin: Implications for Eocene kinematics of the northern Scotia Arc and Drake Passage: *Earth and Planetary Science Letters*, v. 284, p. 489-503.
- in preparation & review, available upon request —
- Murray, K.E.**, Clark, M.K., Niemi, N.A., *submitted*, Rocky Mountains ride high on ancient rifted margin, *Nature Geoscience*.
- Murray, K.E.**, Reiners, P.W., Thomson, S.N., Robert, X., and Whipple, K.X., *in review*, The thermochronologic record of erosion and magmatism in the Canyonlands region of the Colorado Plateau, *American Journal of Science*.
- Karlstrom, L. **Murray, K.E.**, and Reiners, P.W., *in preparation*, Joint Bayesian inversion of thermochronologic data around two Columbia River Flood Basalt dikes, for *Bulletin of Volcanology*.

---

**PUBLICATIONS—recent conference abstracts** (\*=undergraduate student, \*\*=graduate student)

- Murray, K.E.**, Clark, M.K., Niemi, N.A., 2018, Rodinia rifting tied to the birth of the Rocky Mountain Front Range, GSA Annual Meeting, Indianapolis, IN, Nov. 4-7. (invited).
- Murray, K.E.**, Clark, M., Niemi, N., Quackenbush, P.\*\*, West, J., Medwedeff, W.\*\*, Chamlagain, D., 2018, Focused Pulse of Rapid Erosion in Central Nepal Related to Himalayan Fault Motion, AGU Fall Meeting, Washington, D.C., Dec 10-14.

- Murray, K.E.** and Niemi, N.A., 2018, Rapid stepped-heating experimental method for routine monazite (U-Th-Sm)/He thermochronology, GSA Annual Meeting, Indianapolis, IN, Nov. 4-7.
- Portenga, E.W., **Murray, K.E.**, Bhattarai, S.\*\*, Bird, M.I., Corbett, L.B., Bierman, P.R., Caffee, M.C., Thomson, S.N., Fu, X., Li, B., 2018, Investigating landscape response to human arrival to Australia and anthropogenic fire using cosmogenic isotopes and low-temperature thermochronometers, GSA Annual Meeting, Indianapolis, IN, Nov. 4-7.
- Clark, M., **Murray, K.E.**, Quackenbush, P.\*\*, West, J., Medwedeff, W.\*\*, Zekkos, D., Niemi, N., Chamlagain, D., 2018, Landscape response to transient extreme erosion rates, AGU Fall Meeting, Washington, D.C., Dec 10-14.
- Murray, K.E.**, Reiners, P.W., Braun, J., Karlstrom, L., Morriss, M.\*\*, 2017, Beating the Heat: Magmatism in the Low-Temperature Thermochronologic Record, Abstract 258788, AGU Fall Meeting, New Orleans, La, Dec 11-15 (invited talk).
- Morriss, M.\*\*, Karlstrom, L., Nasholds, M., **Murray, K.**, 2017, Constraints on the structural and thermal conditions of Columbia River Basalt feeder dikes from a comprehensive regional dataset, Abstract ME23C-073, presented at the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Portland, OR, 14-18 August.
- Ibanez-Mejia, M., Block, E., **Murray, K.E.**, Vervoort, J.D., Müntener, O., 2017, A Quaternary xenolith record of lower-crustal pyroxenite formation and foundering in the Andean arc, Goldschmidt, Paris, France, Aug 13-18.
- Murray, K.E.**, Reiners, P.W., Thomson, S.N., 2016, Oligocene rock cooling of the north-central Colorado Plateau region: Erosion or a variable geothermal gradient?, GSA Abstracts with Programs, v. 48, n. 7, doi: 10.1130/abs/2016AM-286613 (talk).
- Murray, K.E.**, Reiners, P.W., Thomson, S.N., 2016, Rapid Plio-Pleistocene erosion of the central Colorado Plateau documented by apatite thermochronology from the Henry Mountains, presented at the 15th International Conference on Thermochronology, Sao Paulo, Brazil, 18-23 Sept. (talk)

## TEACHING

<b>Visiting Assistant Professor</b>   Hamilton College Geosciences Department	2018-2019
<b>Principles of Geoscience: Geologic Hazards</b>   Fall 2018	
<b>MATLAB® for the Earth and Environmental Sciences</b>   Spring 2019	
<b>Sedimentology and Stratigraphy</b>   Spring 2019	
<b>Graduate Teaching Assistant</b>   UA Department of Geosciences	2008-2015
<i>Taught and graded weekly labs, including classroom lecture and field exercises</i>	
<b>Structural Geology</b>   (2013) instructor: George Davis	
<b>Sedimentology and Stratigraphy</b>   (2008, 2009, 2015) instructor: Andy Cohen or George Gehrels	
<b>Alumni Teaching Assistant</b>   Carleton College & Osservatorio Geologico di Coldigioco	2007
<i>Updated curriculum, taught field methods, graded, and provided logistical support for 10-week Geology Field Seminar in Italy.</i>	
<b>Laboratory Teaching Assistant</b>   Carleton College Geology Department	2006-2007
<b>Petrology, Structural Geology, Introduction to Geology</b>	

## RESEARCH FELLOWSHIPS, SCHOLARSHIPS, & GRANTS

<b>Graduate Research Fellowship Program</b>   National Science Foundation (\$92,000)	2009-14
<b>P.E.O. Scholar Award</b>   International Chapter of the P.E.O. Sisterhood (\$15,000)	2013-14
<b>Chevron-Texaco geology grant</b>   UA Department of Geosciences ( \$1,600)	2012

**Prentice Scholar** | Achievement Rewards for College Scientists, Phoenix Chapter (\$21,000) 2009-12  
**Graduate Student Research Grant** | Geological Society of America (\$1,938) 2011

### **SERVICE—professional**

**NSF ad-hoc Reviewer** | Tectonics, Antarctic Earth Sciences since 2017  
**Reviewer** | *Tectonics, Geology, G-cubed, Chemical Geology, JGR-Earth Surface, Gondwana Research, Terra Nova* since 2016  
**Geosciences Department Representative** | UA College of Science Graduate Council 2009-2014  
**EarthWeek Conference Committee** | UA School of Earth & Environmental Science 2011-2013  
*Chair, EarthWeek 2013*  
*Geosciences representative & program editor, EarthWeek 2012*  
**GeoDaze Symposium** | UA Department of Geosciences 2008-2012  
*Co-chair, 40th Annual GeoDaze (2012)*  
*Treasurer, 38th Annual GeoDaze (2010)*  
*Publications co-chair, 37th Annual GeoDaze (2009)*  
**organizer**, weekly “brown bag” seminar | UA Department of Geosciences 2010-2011  
**organizer**, weekly geochemistry reading group | UA Department of Geosciences 2008-2010  
**coordinator**, new Geosciences graduate student field trip | UA Dept. of Geosciences 2009

### **SERVICE—promoting science outreach & diversity**

**Postdoctoral Mentor** | Univ. Michigan American Women in Science (AWIS) spring 2017  
**Graduate Student Rep.** | Community Connections Committee, UA College of Science 2011-2014  
**Outreach Chair** | UA College of Science Graduate Council 2011-2014  
**panelist, Geoscience Outreach Program** | UA American Indian Sci. & Eng. Society 10/27/2012  
**Science Ambassador** | National Geographic BioBlitz, Saguaro National Park Oct. 2011  
**co-founder/organizer, Earth Science Saturday Academy** 2009, 2010  
*Developed and ran a one-day UA program for >100 underrepresented middle and high school students, with Mathematics Engineering Science Achievement (MESA) & Southern Arizona Geosciences Union for Academics, Research and Outreach (SAGUARO). It remains an annual department outreach event.*  
**geoscience lecturer** | UA SkyTour, Steward Observatory & Mt. Lemmon SkyCenter 2010  
*Geology lecturer for public astronomy/ecology/geology program*

### **INVITED TALKS**

**Geological Society of American Annual Meeting** (2018), **University of Rochester** (2018), **Helmholtz Center GFZ, Potsdam, Germany** (2018), **Johns Hopkins University** (2018), **Colorado College** (2018), **American Geophysical Union Fall Meeting** (2017), **Skidmore College** (2016), **Juniata College** (2015), **Macalester College** (2014)

### **HONORS & AWARDS**

**Best Overall Oral Presentation** | 42nd GeoDaze, UA Department of Geosciences 4/11/2014  
**College of Science Award for Excellence in Service** | University of Arizona 4/2011  
**Galileo Circle Scholar Award** | College of Science, University of Arizona 2010  
**Duncan Stewart Fellowship** | Carleton College Geology Department 2006-2007  
**Phi Beta Kappa & Sigma Xi** | Carleton College 2007  
**Annual Dean’s List** | Carleton College 2004, 2006

## **PROFESSIONAL AFFILIATIONS**

---

Geological Society of America, American Geophysical Union, Association of Women Geoscientists

## **THESES**

---

- Ph.D. Dissertation:** *Interpreting low-temperature thermochronology in magmatic terranes: Modeling and case studies from the Colorado Plateau* 2016
- Masters Thesis:** *Mafic lavas on the Puna plateau sample the diverse lithospheric architecture of the long-lived central Andean orogen* 2010
- Undergraduate Senior Integrative Exercise,** with distinction: *Using oxygen isotopes of zircon to determine the magmatic evolution and degrees of contamination in Peggy's Cove monzogranite, Halifax pluton, Nova Scotia* 2007

## REFERENCES

---

### **Dr. Nathan Niemi**

Associate Professor

Earth and Environmental Sciences, University of Michigan—Ann Arbor

*email:* [naniemi@umich.edu](mailto:naniemi@umich.edu)

*phone:* 734.764.6377

*relationship:* Postdoc mentor

### **Dr. Peter Reiners**

Professor

Geosciences, University of Arizona, Tucson, AZ

*email:* [reiners@email.arizona.edu](mailto:reiners@email.arizona.edu)

*phone:* (520) 621-6000

*relationship:* Ph.D. advisor and mentor

### **Dr. Jean Braun**

Section Head, GFZ & Professor, University of Potsdam

Helmholtz Centre Potsdam, GFZ German Research Center for Geosciences, Potsdam

*email:* [jbrown@gfz-potsdam.de](mailto:jbrown@gfz-potsdam.de)

*phone:* +49 331 288-27520

*relationship:* Ph.D. advisor and mentor

### **Additional professional references:**

#### **Dr. Marin Clark**

Associate Professor, Department Chair

Earth and Environmental Sciences

University of Michigan—Ann Arbor

*email:* [marinkc@umich.edu](mailto:marinkc@umich.edu)

*phone:* 734.615.0484

*relationship:* Postdoc mentor

#### **Dr. David Bailey, on behalf of the Hamilton College Geosciences Department**

Professor, Department Chair

Geosciences

Hamilton College, Clinton, NY

*email:* [dbailey@hamilton.edu](mailto:dbailey@hamilton.edu)

*phone:* 315-859-4142

*relationship:* faculty colleague

#### **Dr. Jay Quade**

Professor

Geosciences

University of Arizona, Tucson, AZ

*email:* [quadej@email.arizona.edu](mailto:quadej@email.arizona.edu)

*phone:* (520) 626-1847

*relationship:* mentor, Ph.D. committee member, and research colleague

#### **Dr. George Davis**

Regents Professor Emeritus

Geosciences

University of Arizona, Tucson, AZ

*email:* [gdavis@email.arizona.edu](mailto:gdavis@email.arizona.edu)

*phone:* 520-349-2622

*relationship:* teaching mentor and colleague, Ph.D. committee member