

# Tamara L. Carley

Assistant Professor  
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## ACADEMIC BACKGROUND

### Vanderbilt University

Doctor of Philosophy: Environmental Engineering (Envi. Sci Option) Nashville, TN  
2014

- Dissertation: The generation and evolution of silicic magma and juvenile crust: Insight from the Icelandic zircon record
- Advisor: Dr. Calvin F. Miller

Master of Science: Earth and Environmental Sciences 2010

- Thesis: Studies of the evolution of felsic magma systems: I. Zircon in historic eruptions, Iceland; II. Modeling magma chamber evolution leading to the Peach Spring Tuff supereruption, Arizona, Nevada and California
- Advisors: Dr. Calvin F. Miller, Dr. Guilherme A.R. Gualda

### Whitman College

Bachelor of Arts: Environmental Sciences—Geology Walla Walla, WA  
2008

- *Summa cum laude*
- Honors in course of study

### University of Otago

Semester abroad New Zealand  
2007

## PROFESSIONAL APPOINTMENTS

Lafayette College Easton, PA  
Department of Geology and Environmental Geosciences 2014-present  
Assistant Professor (tenure track)

American Museum of Natural History New York City, NY  
Division of Physical Sciences 2016-present  
Research Associate

Vanderbilt University Nashville, TN  
Department of Earth and Environmental Sciences 2017-2018  
Visiting Scholar (pre-tenure research leave)

## RESEARCH

### Publications

Claiborne LL, Miller CF, Gualda GAR, **Carley TL**, Fleming MA, Covey AK, Wooden JL (2018) Zircon as a magma monitor: Robust partition coefficients from surface, rim, and glass measurements from natural systems: in Moser DE, Corfu F, Darling JR, Reddy SM and Tait K (eds): *Microstructural Geochronology; lattice to atom-scale records of planetary evolution*, (Geophysical Monograph 232), John Wiley & Sons, p. 3–34.

**Carley TL**, Miller CF, Sigmarsson O, Coble MA, Fisher CM, Hanchar JM, Schmitt AK, Economos RC (2017) Detrital zircon resolve longevity and evolution of silicic magmatism in extinct volcanic centers: A case study from the East Fjords of Iceland: *Geosphere*, vol. 13, no. 4, doi: 10.1130/GES01467.1.

Ryan MJ,\* Kney AD, **Carley TL** (2017) A study of selective precipitation techniques used to recover refined iron oxide pigments for the production of paint from a synthetic acid mine drainage solution: *Applied Geochemistry*, vol. 79, p. 27-35, doi: 10.1016/j.apgeochem.2017.01.019.

Padilla AJ, Miller CF, **Carley TL**, Economos RC, Schmitt AK, Coble MA, Wooden JL, Fisher CM, Hanchar JM (2016) Elucidating the magmatic history of the Austurhorn Silicic Intrusive Complex (SE Iceland) using zircon elemental and isotopic geochemistry and geochronology: *Contributions to Mineralogy and Petrology*, vol. 171, no. 69, doi: 10.1007/s00410-016-1279-z.

**Carley TL**, Miller CF, Wooden JL, Padilla AJ, Schmitt AK, Economos RC, Bindeman IN, and Jordan BT (2014) Iceland is not a magmatic analog for the Hadean: Evidence from the zircon record. *Earth and Planetary Science Letters*, v. 405, p. 85–97, doi:10.1016/j.epsl.2014.08.015.

*(Articles above this line were published while at Lafayette College, \* indicates LC student author)*

Pamukcu AS, **Carley TL**, Gualda GAR, Miller CF, Ferguson CA (2013) The evolution of the Peach Spring giant magma body: Evidence from accessory mineral textures and compositions, bulk pumice and glass geochemistry, and rhyolite-MELTS modeling: *Journal of Petrology*, v. 54, no. 6, p. 1109-1148, doi: 10.1093/petrology/egt007

Bindeman I, Gurenko A, **Carley T**, Miller C, Martin E, Sigmarsson O (2012) Silicic magma petrogenesis in Iceland by remelting of hydrothermally-altered crust based on oxygen isotope diversity and disequilibria between zircon and magma with implications for MORB: *Terra Nova*, v. 24, p. 227-232, doi:10.1111/j.1365-3121.2012.01058.x.

Gualda GAR, Ghiorso MS, Lemons RV, **Carley TL** (2012) Rhyolite-MELTS: A modified calibration of MELTS optimized for silica-rich, fluid-bearing magmatic systems: *Journal of Petrology*, v. 53, no. 5, p. 875-890, doi:10.1093/petrology/egr080.

**Carley TL**, Miller CF, Wooden JL, Bindeman IN, Barth AP (2011) Zircon from historic eruptions in Iceland: Reconstructing storage and evolution of silicic magmas. *Mineralogy and Petrology*, Special Issue Accessory Minerals. v. 103, no. 1-2, pp. 135-161, doi: 10.1007/s00710-011-0169-3.

#### **Manuscripts in Preparation**

**Carley TL**, Miller CF, Hanchar JM, Fisher CM, Vervoort JD, Wooden JL, Coble MA, Padilla AJ, Banik TJ, Schmitt AK, Economos RC, Jordan BT (in prep) Silicic petrogenesis in Iceland through space and time: Evidence from zircon and whole rock isotopes, for *Lithos*

**Carley TL**, Bell EA, Miller CF, Claiborne LL (in prep) Model melt insight into the Hadean, Archean, and modern Earth, for *Geology*

#### **Funded Research Grants**

Lafayette College Academic Resource Committee [\$4,000] Competitive internal funding in support of pilot projects: “What lies beneath: A detrital investigation of Iceland’s subglacial magmatic systems”	2017-18
Lafayette College Academic Resource Committee [\$3,000] and RK Mellon Grant [\$5,000] Competitive internal funding in support of pilot projects: “Tracing Alaskan tephra of unknown origins back to a source using Hf isotopes in zircon”	2015-16
NSF Graduate Research Fellowship [\$123,000] In support of self-designed research into the origins of Icelandic rhyolites and granites using zircon as an investigative tool	2010-13
GSA Graduate Student Research Grant [\$1,800] Self-designed research of zircon in historic rhyolites of Iceland	2009-10

#### **Submitted Research Grants**

National Geographic Polar Research Grant [no funding awarded] “What lies beneath: A detrital investigation into the volcanic systems under Iceland’s rapidly retreating glacial ice”	2017
NSF-EAR: Research Grant [no funding awarded] “What lies beneath: A detrital investigation of Iceland’s subglacial magmatic systems” [“Very Good” and “Good” reviews]	2016

### Conference Presentations

(see complete list of abstracts at the end of this document)

#### Invited Lectures and Seminars (Professional)

Memorial University of Newfoundland: “Investigating proto-continental crust construction using very young (Icelandic) and very old (Hadean) zircon”	2017
Princeton University: “What lies beneath: A detrital investigation of Iceland’s subglacial volcanoes”	2017
Lehigh University: “The generation and evolution of silicic magma and juvenile crust: Insights from elemental, isotopic, and geochronological studies of Icelandic zircon”	2016
American Museum of Natural History: “Generation and evolution of silicic magma and juvenile crust: Insights from elemental, isotopic, and geochronological studies of Icelandic zircon”	2016
Columbia University Lamont-Doherty Earth Observatory: “Iceland is not a magmatic analog for the Hadean: evidence from the zircon record.”	2015
Whitman College: “The birth of a continent? Investigating Iceland’s felsic history with implications for the early Earth”	2013

#### Invited Lectures and Seminars (Lafayette College and Community)

Lafayette College Information Literacy Brown Bag: “Information literacy as a framework for designing an upper level Geology course (Geology 321: Geochemistry)”	2016
Lafayette College Academic Resource Center (ARC) Works in Progress (WIP): “Geologic Sleuthing: Tracing Alaskan ash of unknown origins back to source volcano(es)”	2016
Philanthropic Education Organization (P.E.O.), Easton Chapter: “Being a woman in science and an early career geologist: My experience as P.E.O. Scholar Award recipient”	2016
Whitman College Geology Senior Seminar: “From Liberal Arts to Graduate School”	2013

#### New Research Directions

<i>Professional (Lafayette College)</i>	2014-present
<ul style="list-style-type: none"><li>• Modeling magma compositions using zircons from the early Earth</li><li>• Calculated relationships between temperature and elemental partitioning in magmas</li><li>• Mineralogical solutions to environmental engineering questions</li><li>• Investigations into Iceland’s subglacial magmatic and volcanic systems: a detrital study</li><li>• Tracing Alaskan ash of uncertain origins back to source volcanoes using isotopes in zircon</li><li>• Establishing new collaborative contacts with:<ul style="list-style-type: none"><li>○ Memorial University of Newfoundland (lab user, joint projects, 2017-present)</li><li>○ Rutgers University (lab user: electron microprobe and CL, 2016-present)</li><li>○ American Museum of Nat. History (Research Assoc., co-advising, 2015-present)</li><li>○ Minerals Technologies (thesis students using analytical facilities, 2015-2016)</li><li>○ USGS Alaska Volcano Observatory (fieldwork strategizing, 2015-2016)</li></ul></li></ul>	

#### Prior Research Experience

<i>Dissertation (Vanderbilt University, Advisor: Calvin Miller):</i>	2014
<ul style="list-style-type: none"><li>• Generation and evolution of silicic magma and juvenile crust: Insight from Icelandic zircon</li></ul>	
<i>Master’s Thesis (Vanderbilt University, Advisor: Calvin Miller)</i>	2010
<ul style="list-style-type: none"><li>• Studies of the evolution of felsic magma systems: I. Zircon in historic eruptions, Iceland; II. Modeling magma evolution leading to the Peach Spring Tuff super eruption (AZ, NV, CA)</li></ul>	

- Undergraduate Honors Thesis (Whitman College, Advisor: Kirsten Nicolaysen)* 2008
- Mineralogical provenance of Missoula Flood deposits
- NSF Research Experience for Undergraduates (Notre Dame University, Advisor: Susan Sakimoto)* 2006-07
- Interdisciplinary Studies in Tsunami Impact and Mitigation
    - Chemical analysis of minor and reworked paleo-tsunami deposits (2007)
    - The effect of tsunamis on wetlands: monitoring microbial populations (2006)
- Planetary Geology Research Assistant (Notre Dame University; Advisor: Susan Sakimoto)* 2006-07
- Characterizing the morphology of small-scale features of Tharsis Montes, Mars (2007)
  - Remote sensing and ground-truthing in Idaho to better understand Mars (2006)

### Fieldwork Highlights

- Professional (Lafayette College)*
- Iceland: week of fieldwork northwest of Vatnajökull supporting subglacial detrital investigation 2016
  - Iceland: Several days of fieldwork and sample collection, in conjunction with interim course 2015
  - Alaska: Three weeks of fieldwork, sample collection for pilot investigation 2015
- Graduate Research (Vanderbilt)*
- Iceland: Five fieldwork sessions, totaling ~sixteen weeks. Investigation of volcanic, intrusive, and sedimentary (rock and river sand) systems, spanning Iceland's history (~16 Ma to present) 2009-13
  - Peach Spring Tuff, AZ: Five fieldwork sessions totaling ~ seven weeks in the field. Field characterization and sample collection of proximal and distal supervolcano eruption products 2008-11
- Undergraduate Research*
- Walla Walla, WA: mineralogical provenance of Missoula and pre-Missoula Flood deposits (Whitman senior honors thesis) 2007-08
  - Oregon Coast: paleotsunami deposits and modern hazards (NSF-REU) 2006-07
  - Thailand: 2004 tsunami destruction and recovery (NSF-REU)
- Field Assistance*
- Mount Saint Helens: investigation of early eruptive stages and products (Vanderbilt) 2008
  - East Snake River Plain, ID: ground-truthing exercises with implications for Martian geomorphology (2006; Notre Dame and Idaho State Universities) 2006

### Professional Development (Geology)

- IAVCEI Fourth International Workshop on Volcano Geology (Transylvania, Romania) 2017
- Japan-Kamchatka-Aleutian Subduction Zone Processes (Alaska) 2016
- IAVCEI Third International Workshop on Volcano Geology (Sicily) 2016
- Cordilleran GSA Fieldtrip: Geology of the Chugach-Prince William Sound Accretionary Complex and Resurrection Ophiolite (Alaska) 2015
- Cordilleran GSA Fieldtrip: Cretaceous-Paleogene geology of the Matanuska Valley (Alaska) 2015
- IAVCEI First International Workshop on Volcano Geology (Madeira) 2014
- IAVCEI Fieldtrip: Kikai caldera and southern Kyushu (Japan) 2013
- Southeastern GSA Fieldtrip: Volcanic Evolution of Montserrat (Montserrat) 2013
- FEMA-National Disaster Preparedness Training Center: Volcanic Crises Awareness Training (San Francisco, CA) 2012
- Atlantic Conference on Eyjafjallajökull and Aviation (Iceland) 2010
- Eyjafjallajökull Eruption Workshop and Field Forum (Iceland) 2010
- Penrose Conference: Low  $\delta\text{O}^{18}$  signatures, (Idaho Falls, ID, Yellowstone) 2009
- USGS fieldtrip: Caetano Caldera (Battle Mountain, NV) 2009

## TEACHING

### Lafayette College Courses

- Geology 100: From Fire to Ice—Introduction to Geology (lecture and lab; Fall: 2014, 2015, 2016)
- Geology 180: “Iceland: Geology and Natural History of a Young Island” (co-taught; 2015, 2017)
- Geology 200: Earth and Planetary Materials (lecture and lab; Fall 2015, 2016)
- Geology 307: Igneous and Metamorphic Petrology (lecture and lab; Spring 2015, 2016, 2017)
- Geology 321: Geochemistry (seminar; Spring 2016)

### Lafayette College Academic Advising

- Geology Majors:
  - Cullen Scheland '17; Costanza Davis '17; Lissie Connors '18; Wenjing (Tammy) Ma '18
- Class of 2019:
  - Caroline Bottega, Sarah Eddy, Molly Martindale, Lauren Mathisen, Morgan Maves, Kim Schubert, Elana Weinstein

### Undergraduate Research Mentor

*Honors Thesis Advisor* (Lafayette College; primary advisor unless indicated by \*)

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|---|---------|
| • Mary Elizabeth (“Lissie”) Connors: “Using apatite to understand the volatile history of Törfajökull Volcanic Center, Iceland”                       | 2017-18 |
| • Emma Sosa: “A zircon study of Öraefajökull Volcano, SE Iceland”   | 2016-17 |
| • Cullen Scheland: “Explosive silicic volcanism preceding the Peach Spring Tuff supereruption: Magmatic processes recorded by petrochemistry”         | 2016-17 |
| • *Aliza Furneaux: “Organic compost fortification using mineral precipitates from waste water treatment plants” (Civil Engineering, Art Kney student) | 2016-17 |
| • Alexandra (Allie) Nagurny: “Petrogenesis and magmatic evolution of subglacial volcanic systems, SE Iceland”   | 2015-16 |
| • Amanda Leaman: “Silicic origins in Iceland: Examining the spatial and temporal evolution of Torfajökull’s oldest rhyolites”                         | 2014-15 |

*Senior Independent Study Research* (Lafayette College)

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| • William DeBarba: “Geothermobarometry of Glacial Outwash Sediment, Öraefajökull, Iceland” | 2016-17 |
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*EXCEL Scholars Research Program* (Lafayette College)

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| • Cullen Scheland (class of 2017): Alaskan Ash Beds of Unknown Origin (Spring EXCEL) | 2016 |
| • Emma Sosa (class of 2017): Alaskan Ash Beds of Unknown Origin (Summer-Fall EXCEL)  | 2015 |
| • William DeBarba (class of 2017): Iceland and Continental Nucleation (Summer EXCEL) | 2015 |

*Research Group Mentoring* (Lafayette College)

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|---|---------|
| • RUMBLE: “Research Unit on Magma, Bedrock, Lava, and Eruptions” (Academic Year) <ul style="list-style-type: none"> <li>○ A weekly meeting of thesis and independent research students, open to participation by underclassmen interested in future research opportunities</li> </ul> | 2016-17 |
| • EnERGY: “Environment, Earth, Research Group, Yay” (Summer) <ul style="list-style-type: none"> <li>○ A bi-weekly meeting of summer research students (primarily EXCEL) and faculty in Geology, Envi. Engineering, Engineering Studies, Envi. Studies, and Chemistry</li> </ul>       | 2015-16 |
| • Geology Department summer student research group (Summer) <ul style="list-style-type: none"> <li>○ A bi-weekly meeting of summer research students in Geology</li> </ul>  | 2015    |

*Other Individualized Research Experiences* (Lafayette College)

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|--|---------|
| • Digital museum of Van Wickle rock and mineral collections and teaching specimens <ul style="list-style-type: none"> <li>○ Participation by students wishing to build toward potential research opportunities; scaled to match experience and abilities of students (Fall 2016: Martindale, '19, Owens, '20, Spring 2017: Perrotti '19 and Ma '18, Summer 2017: Golub '19)</li> </ul> | 2016-17 |
|--|---------|

- Iceland Interim research sample collection 2015
  - Interested students (Scheland '17, Connors '18) participated in collection of glacial sand samples for a new research direction, grant proposal, and honors thesis projects
- Civil and Environmental Engineering Research—Analytical Assistance 2016-17
  - Guiding the geological and analytical (XRD, SEM) aspects of CEE research projects conducted by students working with Art Kney (Weyland '16; Ye '17; Furneaux '17)
- Post-graduation research opportunities 2016-17
  - Recent Graduate Leslie Tintle ('16) volunteers as a research assistant, participates in RUMBLE, and is conducting a thesis-like project as she prepares for graduate school

*Graduate Student Mentor for Undergraduate Honors Thesis Projects (Vanderbilt University)*

- Daniel Birmingham: “Magmatic provenance of quartz: CL zoning signatures” 2012-13
- Kathleen Russell: “Krafla zircon: Generation of silicic magma at an Icelandic central volcano” 2010-11
- Addy Petrilla: research experience, Icelandic fieldwork (not thesis) 2009

**Outreach Education**

- Southern Environmental Law Center: Led a 6 mile educational nature/geologic hike for lawyers and summer interns (10 people) at Window Cliffs State Natural Area, TN 2017
- Lafayette College (Geology): Participation in hosting students from the Richard R. Green High School of Teaching, NYC (students of Peter Cocheo, Lafayette Class of 1991) 2016
- Vanderbilt Programs for Talented Youth: Developed and taught multiple sessions of a week-long course titled “Geologic detectives: Investigating Volcanoes” for 2<sup>nd</sup> and 3<sup>rd</sup> grade 2014
- University School of Nashville: “Meet a Scientist: what does a geologist do?” Question and answer sessions and hands-on activities; ninety 5<sup>th</sup> graders 2013
- Philanthropic Education Organization: “Volcanic Hazards: Not Science Fiction.” Presentation to a social group dedicated to the education of women; 60 women in attendance 2013
- Oak Hill Elementary School “Introduction to rocks, minerals and volcanoes.” Presentation, hands-on activities; fifteen 5<sup>th</sup> graders 2010
- Nashville State Community College, Introduction to Geology: “Icelandic volcanoes, living with hazards (four lectures total) 2010-11

**Professional Development (Teaching)**

- Information Literacy Grant (Lafayette) for the development of Geology 321: Geochemistry 2016
- Digital Humanities Grant (Lafayette) awarded for project “Creation of an interactive digital database of the petrologic teaching collection in Van Wickle Hall” 2015
- “Teaching, Research, and Managing Your Career, Workshop for Early Career Geoscience Faculty” organized by the National Association for Geoscience Teachers; 5 day workshop 2015
- Evidence Based Teaching Practices Fellowship: assisted with Coursera MOOC development for future STEM faculty (Vanderbilt Center for Teaching, Center for the Integration of Research, Teaching and Learning, NSF-WIDER grant) 2014
- Visual Learning: Transforming the Liberal Arts (Carleton Colleg2), 2 day workshop 2012
- Inquiry-based and Problem-based Learning in the College Classroom (CIRTL Network: Center for the Integration of Research, Teaching and Learning); semester-long course 2011
- Teaching as Research Fellowship: “Constructing multi-scale, iterative, concept maps for management of geologic subject matter” 2010
- Preparation for Careers in Academia (Vanderbilt); semester-long course 2009

**SERVICE**

**Professional Service (Lafayette College)**

*Elected Committee Service*

- Faculty Academic Policy Committee (FAP): three years of elected service 2015-present
  - FAP Budget Subcommittee (2016-17)
  - FAP Facilities Committee (2015-16)

- FAP representative on FCC healthcare committee (2015-2016)
- Participation on Staffing Advisory (other members recused, 2015)

*Supporting Environmental Initiatives*

- Volunteer judge for the Annual Environmental Poster Session (11<sup>th</sup>, 12<sup>th</sup>, and 13<sup>th</sup> annual) 2014-2016
- Invited Lehigh University sustainability coordinators for Earth Week lecture 2015

*Cross-campus Analytical Education*

- XRD and SEM assistance for Dr. Kney's research students (Weyland '16; Ye '17) 2016
- XRD demonstration and analytical session for Chip Nataro's Inorganic Chemistry class (three hour lab section, will teach for the third time this spring) 2015-present

**Professional Service (Lafayette Geology Department)**

*Seminar series (inviting and hosting guest speakers)*

- Ingrid Ukstins Peate (University of Iowa: Planetary Geology) 2017
- Ayla Pamukcu (Princeton/Brown: Supervolcanoes) 2016
- Karen Smit (Gemological Institute of America: Diamonds) 2015
- Lowell Miyagi (University of Utah: COMPRES visiting lecturer) 2015
- Richard Ramalho (Lamont-Doherty: Megatsunamis) 2014

*Outreach education and social media engagement*

- Participation in hosting students from the Richard R. Green High School of Teaching, NYC (students of Peter Cocheo, Lafayette Class of 1991) 2016
- Frequent contributions of photos and status updates to departmental Facebook page 2016-present

**Professional Service (Geologic Community)**

*Invited co-chair for a discipline session at the Cordilleran Section Meeting of the Geological Society of America*

- "Petrology, Mineralogy and Geochemistry" (Session 16, Honolulu) 2017

*Co-organizer of topical sessions at national meetings of the Geological Society of America*

- "A Matter of Perspective: Integrating Macro- and Micro-Scale Evidence in Investigations of Magmatic Origins and Histories" (Session T163, Baltimore) 2015
- "Illuminating felsic origins: Using novel multiple-method approaches to investigate the birth of silicic magmas" (Session T218, Denver) 2013

*Reviewing manuscripts for academic journals*

- Proceedings of the National Academy of Sciences (x1) 2017
- Geosphere (x1) 2016
- Contributions to Mineralogy and Petrology (x1) 2015

*Reviewing research grant proposals*

- National Science Foundation: Earth Sciences (Postdoctoral Fellowship, x1) 2017
- Natural Sciences and Engineering Research Council of Canada (Discovery Award, x1) 2017

**OTHER RELEVANT CONSIDERATIONS**

**Professional Memberships**

Geological Society of America	2006-present
American Geophysical Union	2009-present
Mineralogical Society of America	2011-present
Sigma Xi Scientific Research Society	2012-present
International Association of Volcanology and Chemistry of the Earth's Interior.	2013-present
National Association of Geoscience Teachers	2015-present

### Academic Honors and Awards

Philanthropic Education Organization (P.E.O.) Endowed Scholar Award [\$15,000]	2013-2014
Mensa Foundation Scholarship [\$1,000]	2007-2008
Washington State Legislature: Washington Scholar [\$22,780]	2004-2008
Vanderbilt University	
IBM Graduate Fellowship [\$20,000]	2010-2014
Teaching as Research Fellowship [\$3,000]	2011
Harold Stirling Vanderbilt Graduate Scholarship [\$12,000]	2008-2010
Whitman College	
Dr. Albert Ripley Leeds Prize in Geology	2008
Order of Waialapu Honor Society	2007-present
Abshire Research Scholar Award [\$800]	2007-2008
Alexander J. Anderson Scholarship [\$24,000]	2004-2008

### Conference Abstracts

(Reverse chronological order; ^ indicates invited talk, \* indicates student under Carley's direct mentorship)

Claiborne LL, Miller CF, Gualda GAR, **Carley TL** (2017) New zircon-melt partition coefficients from natural zircon-glass pairs elucidate magmatic storage and interactions beneath Mount St. Helens volcano. *Fall Meeting, American Geophysical Union*, oral (New Orleans, LA)

^**Carley TL**, Miller CF, Claiborne LL (2017) Estimating Hadaen magma compositions using improved zircon/melt Kds: Cool petrogenesis, Archean connections? *Geological Society of America Abstracts with Programs*. Vol. 49, No. 6, paper 48-1, oral (Seattle, WA) doi: 10.1130/abs/2017AM-307444

Neundorff JA, Banik TJ, **Carley TL** (2017) Evaluating the source: Using detrital zircon to investigate petrogenesis in subglacial magmas from Vatnajökull, Iceland. *Geological Society of America Abstracts with Programs*. Vol. 49, No. 6, paper 153-40, poster (Seattle, WA) doi: 10.1130/abs/2017AM-306934

Banik TJ, **Carley TL**, Coble MA (2017) Temporal and geochemical evolution of subglacially derived detrital zircon along the Öraefi Volcanic Belt, Iceland. *Geological Society of America Abstracts with Programs*. Vol. 49, No. 6, paper 337-1, oral (Seattle, WA) doi: 10.1130/abs/2017AM-306844

**Carley TL**, Banik TJ, \*Sosa ES, Coble MA (2017) Altered, eroded, obscured by ice: A detrital zircon perspective into Iceland's rhyolitic history. *IAVCEI Commission on Volcano Geology 4<sup>th</sup> International Workshop, Romanian Journal of Earth Sciences*. Vol. 91, Special Issue, p. 62-63, poster (Transylvania, Romania) ISSN: 2248-2563

**Carley TL**, \*Sosa ES, Banik TJ, Coble MA, Fisher CM, Miller CF (2017) Combined insight from tephra and glacially-derived sediments: A zircon-based study of Örafajökull, SE Iceland. *Cordilleran Geological Society of America Abstracts with Programs*. Vol. 49, No. 4, paper 16-4, oral (Honolulu, HI) doi: 10.1130/abs/2017CD-292860

Claiborne LL, Miller CF, Gualda GAR, **Carley TL** (2017) New zircon-melt partition coefficients from natural zircon-glass pairs applied to Mount St. Helens, WA: Understanding MSH melt compositions through time. *Cordilleran Geological Society of America Abstracts with Programs*. Vol. 49, No. 4, paper 2-8, oral (Honolulu, HI) doi: 10.1130/abs/2017CD-292732

McGillivray KM, Banik TJ, **Carley TL**, Coble MA, Claiborne LL, Miller CF (2017) Using detrital zircon to explore subglacial magmatism: A case study from northeastern Vatnajökull, Iceland. *Cordilleran Geological Society of America Abstracts with Programs*. Vol. 49, No. 4, paper 47-3, poster (Honolulu, HI) doi: 10.1130/abs/2017CD-292797



\*DeBarba WP, **Carley TL**, Pamukcu AS, Banik TJ, \*Sosa ES, \*Tintle LR (2017) Geothermobarometry of glacial outwash sediment from Öræfajökull, Iceland. *Northeastern Geological Society of America Abstracts with Programs*. Vol. 49, No. 2, paper 26-15, poster (Pittsburgh, PA) doi: 10.1130/abs/2017NE-291486

\*Scheland CL, Miller CF, **Carley TL**, Foley ML, Claiborne LL, Cribb JW, Wood EM (2017) Constraining eruptive events preceding the Peach Spring Tuff supereruption (Miocene, AZ): Petrology and petrogenesis of ash fall tuffs; *Northeastern Geological Society of America Abstracts with Programs*. Vol. 49, No. 2, paper 26-5, poster (Pittsburgh, PA)

\*Sosa ES, **Carley TL**, Banik TJ, Claiborne LL, Miller CF (2017) A detrital zircon investigation into the magmatic history of the Öræfajökull volcano in Southeastern Iceland. *Northeastern Geological Society of America Abstracts with Programs*. Vol. 49, No. 2, paper 26-11, poster (Pittsburgh, PA).

\*Scheland CL, Wood EM, Miller CF, Claiborne LL, Foley ML, Cribb JW, **Carley TL** (2016) Explosive silicic volcanism preceding the Peach Spring Tuff supereruption, Part 2: Magmatic processes recorded by petrochemistry; *National Geological Society of America Abstracts with Programs*. Vol. 48 No. 7, paper 175-7, poster (Denver, CO), doi: 10.1130/abs/2016AM-286012

\*Sosa ES, **Carley TL**, Jensen B JL, Coble MA (2016) A zircon-based investigation into the tephra of uncertain origins: A case study with the Old Crow Tephra in Central Alaska; *National Geological Society of America Abstracts with Programs*. Vol. 48 No. 7, paper 164-7, poster (Denver, CO): doi: 10.1130/abs/2016AM-286070

**Carley T**, Banik T, \*Nagurney A, \*Tintle L, Catino J (2016) A detrital investigation of enigmatic subglacial magmatic systems: Vatnajökull, SE Iceland; *IAVCEI Commission on Volcano Geology 3<sup>rd</sup> International Workshop*, poster (Etna, Italy)

Campa H, Brufff D, Goldberg BB, Barnicle K, Greenler R, Mathieu RD, Campbell L, Green N, Mack T, **Carley T** (2016) Beyond the campus: Using massive open online courses for advancing the use of evidence-based teaching practices; *The Wildlife Society 23<sup>rd</sup> Annual Conference* (Raleigh, NC)

Claiborne LL, Miller CF, Gualda GAR, Fleming MA, Covey AK, Wooden JL, **Carley TL** (2016) Zircon as a magma monitor: Robust partition coefficients from surface, rim, and glass measurements from natural systems. *VM Goldschmidt Conference Program with Abstracts* (Yokohama, Japan)

Asefa SR, Claiborne LL, **Carley TL**, Banik TJ, Miller CF (2016) Elemental chemistry of silicic glasses from Iceland and Mount St. Helens volcanic centers reveals distinct tectonomagmatic signatures and confirms an anomalous Icelandic subduction-like volcano; *Cordilleran Geological Society of America Abstracts with Programs*. Vol. 48, No. 4, p.47, paper 25-4, poster (Fresno, CA)

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