

JEANETTE C. ARKLE

Ph.D. Geology , University of Cincinnati, OH	2019
Dissertation: <i>Linking Geodynamics & Traversing Timescales: Orogenesis & Landscape Evolution in the southeast Caribbean</i>	
Advisor: Lewis A. Owen	
Preparing Future Faculty (PFF) Teaching Certificate , University of Cincinnati	2016
M.S. Geology , California State University, Fullerton, CA	2011
Thesis: <i>Focused Exhumation in the southern Alaska Syntaxis: New Insights from Apatite and Zircon Thermochronology</i>	
Advisor: Phillip A. Armstrong	
B.S. Geology , Cum Laude, California State University, Fullerton, CA	2008
Thesis: <i>Quaternary Exhumation of the Verdugo Mountains? Constraints from (U-Th)/He Ages and Geomorphology</i>	
B.A. Geography , Cum Laude, California State University, Fullerton, CA	2005
Emphasis: Environmental Analysis	
Minor: Geology	
A.A. Degree , Butte Community College, CA	2002

PUBLICATIONS:

* *Masters work*

** *PhD work*

*** *Augustana student mentee coauthor*

Peer Reviewed Manuscripts:

*****2019, Malone, J.**, Gifford, J., **Arkle, J.**, Malone, D.H., Craddock, J.P., Wolf, M.B., Geochronology of the southern margin of the Bighorn Batholith, Wyoming. *Mountain Geologist*. 56. 267-294.

2019, Enkelmann, E, Finzel, E, **Arkle, J.**, Deformation at the eastern margin of the Northern Canadian Cordillera: Potentially related to opening of the North Atlantic. *Terra Nova*; 1: 151– 158.

****2017, Arkle, J.C.**, Owen, L.A., Weber, J., Caffee, M.W., Hammer, S., Transient Quaternary erosion and tectonic inversion of the Northern Range, Trinidad: *Geomorphology*, 295, 337-353.

****2017, Arkle, J.C.**, Owen, L.A., Weber, J.C., Trinidad and Tobago, In: C.D. Allen (Ed.), *Landscapes and Landforms of the Lesser Antilles*: Springer International Publishing, Cham, pp. 267-291.

***2015**, Haeussler, P. J., Armstrong, P. A., Liberty, L. M., Ferguson, K. M., Finn, S. P., **Arkle, J. C.**, and Pratt, T. L., Focused exhumation along megathrust splay faults in Prince William Sound, Alaska: *Quaternary Science Reviews*, v. 113, p. 8-22.

***2015**, Ferguson, K. M., Armstrong, P. A., **Arkle, J. C.**, and Haeussler, P. J., Focused rock uplift above the subduction décollement at Montague and Hinchinbrook Islands, Prince William Sound, Alaska: *Geosphere*, v. 11, no. 1, p. 144-159.

***2013, Arkle, J.C.**, Armstrong, P.A., Haeussler, P.J., Prior, M.G., Hartman, S., Sendziak, K.L., and Brush, J.A., Focused exhumation in the syntaxis of the western Chugach Mountains and Prince William Sound, Alaska: Geological Society of America Bulletin, v. 125, no. 5-6, p. 776-793.

****in prep., Arkle, J.C.**, Owen, L.A., Weber, J.C., Murari, M.K., and Higgins, M., Quaternary uplift rates at the southeast Caribbean plate corner: New insights from OSL dating of marine terraces, northern Trinidad, *to be submitted to Quaternary Research*.

****in prep., Arkle, J.C.**, Owen, L.A., Weber, J.C., and Enkelmann, E., Exhumation along the southeast Caribbean plate: Thermochronology from Trinidad, *to be submitted to Tectonics*.

****in prep., Arkle, J.C.**, Owen, L.A., Weber, J., Caffee, M.W., Hammer, S., Landscape Evolution and Quaternary erosion of the Main Ridge, Tobago: *to be submitted to Geomorphology*.

in prep., Arkle, J.C. and Armstrong, P.A., Exhumation of the Verdugo Mountains, southern California: Constraints from Low-temperature Thermochronology and Geomorphic Analysis, *to be submitted to Lithosphere*.

Field Guides & Popular Magazine Articles

2017, trip leaders: Xavier M., Weber, J.C., and contributions: **Arkle, J.C.**, Giorgis, S., Hippolyte, J.C., Ringerwole, N., Exploring connections between the onshore and offshore geology and paleo- and neotectonics, *in Sixth Caribbean Geological Conference of the GSTT, Field Trip Guide, Port of Spain, Trinidad*.

2015, Weber, J.C., William, N., and **Arkle, J.C.**, A Tale of Two Beaches: Tompire Bay, NE Trinidad, *in Coastal Care, Beach of the Month, (coastalcare.org)*.

2015, Weber, J.C., and **Arkle, J.C.**, Trinidad's Northern Range Reversal of Fortune: Bedrock Structure, Metamorphic Geology, and Tectonic Geomorphology, *in Caribbean Geological Conference of the GSTT, Field Trip Guide, Port of Spain, Trinidad*.

Abstracts:

*****2020, Sell, M., Arkle, J.C.**, Wolf, M.B., Heavy Mineralogy of Bedload Sediment in the Upper Mississippi River and the Influence of Tributaries, *GSA Abstracts with Programs, Vol. 52, No. 5*.

*****2020, Shah Bilawal, A.**, Malone, D.H., **Arkle, J.C.**, Strasser, J.C., Detrital Zircon Geochronology of the Cambrian Flathead and Deadwood Sandstone of Wyoming and South Dakota: An Analysis of Provenance and Sediment Dispersal Patterns, *GSA Abstracts with Programs, Vol. 52, No. 5*.

2020, Arkle, K.M., Wolf, M.B., **Arkle, J.C.**, Reconstructing the Paleogeography of a Mock World: A Progressive Lab Series Designed to Engage Geology 101 Students, *GSA Abstracts with Programs, Vol. 52, No. 5*.

2020, Wolf, M.B., Arkle, K.M., **Arkle, J.C.**, Using Research Projects to Engage Students in a Combined Introductory and Advanced Geology Field Program, *GSA Abstracts with Programs, Vol. 52, No. 5*.

- 2016**, Feser, K.M., Miller, A.I., and **Arkle, J.C.**, Identifying terrestrial controls on spatial variation in molluscan death assemblages, St. Croix, USVI, *GSA Abstracts with Programs*: 138 (2).
- 2015**, **Arkle, J.C.**, Owen, L.A., Weber, J., Moonan, M., and Enkelmann, E., Late Neogene-Recent Evolution of the Northern Range, Trinidad, presented at 2015 Meeting, Caribbean Geological Conference, Port of Spain, Trinidad, 17-21 May.
- 2015**, Weber, J., **Arkle, J.C.**, and Noriega, N., Northern Range, Trinidad: The guppy geomorphology connection, Caribbean Geological Conference, Port of Spain, Trinidad, 17-21 May.
- 2015**, Weber, J., Wilson, B., Koeberl, C., Donelick, R., Posener, E., **Arkle, J.C.**, and Barker, L., Barbados Oceanic Eocene provenance: pelagic, volcanic, impact, and “Sahara” dust?, presented at 2015 Meeting, Caribbean Geological Conference, Port of Spain, Trinidad, 17-21 May.
- 2015**, **Arkle, J.C.**, Owen, L.A., Enkelmann, E., and Weber, J., Linking Geodynamic Processes of Mountain Building in the southeast Caribbean, Quaternary Geoscience Conference, University of Cincinnati, Ohio, 25-26 April.
- 2014**, Armstrong, P.A., Ferguson, K.M., **Arkle, J.C.**, and Haeussler, P.J., Long-Term Focused Exhumation along Megathrust Splay Faults at Montague and Hinchinbrook Islands, Prince William Sound, Alaska, presented at Vancouver Meeting, *GSA Abstracts with Programs*.
- 2014**, Haeussler, P.J., Armstrong, P.A., Liberty, L., Ferguson, K.M., Finn, S., **Arkle, J.C.**, and Pratt, T., Focused Exhumation along Megathrust Splay Faults in Prince William Sound, Alaska, presented at Vancouver Meeting, *GSA Abstracts with Programs*.
- 2014**, **Arkle J.C.**, Weber, J., Enkelmann, E., and Owen, L.A., Exhumation in the Southeast Caribbean plate corner, Thermo2014 – the 14th International Thermochronology Conference, Chamonix, France.
- 2014**, Weber, J., **Arkle J.C.**, Giorgis S., and Jean-Claude Hippolyte, J.C., New Thermochronologic, Paleomagnetic, and Fault-Slip Constraints on Pliocene Tectonics and Provenance, North Coast Marine area, Trinidad and Tobago, presented at 2014 Meeting, AAPG Geological Conference of the Geological Society of Trinidad and Tobago, Port of Spain, Trinidad, 9-11 March.
- 2014**, **Arkle, J.C.**, Armstrong, P.A., Haeussler, P.J., and Ferguson, K.M., Exhumation of the Western Chugach orogenic wedge: A low-temperature thermochronology perspective, *GSA Abstracts with Programs*, v. 46, n. 2.
- 2013**, Schwalbach, C.E., **Arkle, J.C.**, Thomas, R., Dillingham, J., and Dietsch, C., A Geomorphic Assessment of Flood Hazards of the Rishi Valley in the Transhimalaya, Ladakh, Northern India, presented at Denver Meeting, *GSA Abstracts with Programs*, v. 45, n. 7, p. 239.
- 2012**, **Arkle, J.C.**, Owen, L.A., and Caffee, M.W., Exploring the application of ¹⁰Be terrestrial cosmogenic nuclide data and the uplift and erosion history of the Northern Range, Trinidad, presented at 2012 Meeting, 5th Geological Conference of the Geological Society of Trinidad and Tobago, Port of Spain, Trinidad, 3-5 Sept.

- 2012**, Ferguson, K.M., Armstrong, P.A., Haeussler, P.J., and **Arkle, J.C.**, Thermochronologic constraints on megathrust splay faulting in the transition from strike-slip to convergence in the southern Prince William Sound, Alaska, *GSA Abstracts with Programs*, v. 44, n. 7, p. 634.
- 2012**, Hartman, S.M., Armstrong, P.A., and **Arkle, J.C.**, Underplating below the western Chugach Mountains in the southern Alaska block syntaxial core constrained by low-temperature thermochronology, presented at 2012 Annual Meeting, American Association of Petroleum Geologists, Long Beach, Calif., 22-25 April.
- 2011**, Armstrong, P.A., Haeussler, P.J., and **Arkle, J.C.**, Styles and Causes of Deformation and Uplift Related to Flat-Slab Subduction of the Yakutat Microplate: A Low-Temperature Thermochronometer Perspective, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- 2011**, Haeussler, P.J., Armstrong, P.A., Liberty, L., Ferguson, K.M., Finn, S., **Arkle, J.C.**, and Pratt, T., Focused exhumation along megathrust splay faults in Prince William Sound, Alaska, presented at 2011 Fall Meeting, American Geophysical Union, San Francisco, Calif., 5-9 Dec.
- 2011**, Ferguson, K.M., Armstrong, P.A., Haeussler, P.J., and **Arkle, J.C.**, Rock Uplift above the Yakutat Megathrust on Montague Island, Prince William Sound, Alaska, presented at 2011 Fall Meeting, American Geophysical Union, San Francisco, Calif., 5-9 Dec.
- 2011**, Armstrong, P.A., **Arkle, J.C.**, Haeussler, P.J., Prior, M.G., and Hartman, S., Focused Rock Uplift Related to Flat-Slab Subduction in southern Alaska: Inboard, Outboard, and In Between, *GSA Abstracts with Programs*, v. 43, n. 5, p. 553.
- 2011**, Prior, M.G., **Arkle, J.C.**, Armstrong, P.A., and Haeussler, P.J., Partitioned Deformation and Thrust Faulting in northern Prince William Sound, Alaska, Constrained by Apatite (U-Th)/He Dating, *GSA Abstracts with Programs*, v. 43, n. 4, p. 53.
- 2010**, **Arkle, J.C.**, Armstrong, P.A., and Haeussler, P.J., Focused Exhumation in the southern Alaska Syntaxis, Thermo2010 - 12th International Conference on Thermochronology, Glasgow Scotland.
- 2010**, **Arkle, J.C.**, Armstrong, P.A., and Haeussler, P.J., Focused Exhumation in the southern Alaska Syntaxis, *GSA Abstracts with Programs*, v. 42, n. 4, p. 94.
- 2010**, Prior, M.G., **Arkle, J.C.**, Armstrong, P.A., and Haeussler, P.J., Constraining the exhumation history along inferred faults in the western Chugach Mountains, Alaska, *GSA Abstracts with Programs*, v. 42, n. 4, p. 64.
- 2009**, **Arkle, J.C.**, and Armstrong, P.A., Exhumation of the Verdugo Mountains, southern California: Constraints from Low-temperature Thermochronology and Geomorphic Analysis, *GSA Abstracts with Programs*, v. 41, n. 7, p. 300.
- 2009**, **Arkle, J.C.**, Armstrong, P.A., and Haeussler, P.J., The western Chugach Mountains and northern Prince William Sound (Alaska): Locus of subduction-related exhumation? *GSA Abstracts with Programs*, v. 41, n. 7, p. 290.

2009, Vargas, W., **Arkle, J.C.**, DeVillier, K., Neely, N., Velasco, A.A., Analysis of Glacial Change in the Northern Antarctic Peninsula Region Using Photogrammetry, *Eos Trans. AGU*, 90(22), Jt. Assem. Suppl., Abstract H31C-01.

2009, Vargas, W., **Arkle, J.C.**, DeVillier, K., Neely, N., Velasco, A.A., Analysis of Glacial Change in the Northern Antarctic Peninsula Region Using Photogrammetry, 94th ESA Annual Conference, Abstract PS 43-25.

2008, Vargas, W., **Arkle, J.C.**, DeVillier, K., Neely, N., Velasco, A.A., Analysis of Glacial Change in the Northern Antarctic Peninsula Region Using Photogrammetry, SACNAS National Conference, Abstract B16-SAT, p. 208.

2008, Armstrong, P.A., Haeussler, P.J., Sendziak, K.L., and **Arkle, J.C.**, The western Chugach core: Locus of subduction-related exhumation?, Extended Abstract, FT2008 – 11th International Conference on Thermochronology, p 8-10.

2007, **Arkle, J.C.** and Armstrong, P.A., Quaternary Exhumation of the Verdugo Mountains, Los Angeles Basin, Constrained by Low-Temperature Thermochronometry, *GSA Abstracts with Programs* v. 39, n. 6, p.83.

2007, Armstrong, P.A., Haeussler, P.J., and **Arkle, J.C.**, Rapid Quaternary Exhumation of the Eastern Alaska Range, *GSA Abstracts with programs*, v. 39, n. 4, p. 71.

2005, Kirby, M.E., Lund, S.P., and **Arkle, J.C.**, Centennial-Scale Record of Late-Quaternary Climate Dynamics from the San Bernardino Mountains: Baldwin Lake, Southern California, USGS Workshop on Late Cenozoic Drainage History of the Southwestern Great Basin and Lower Colorado River Region: Geologic and Biotic Perspectives.

2004, **Arkle, J.C.**, San Joaquin Freshwater Marsh Reserve: GIS Vegetation Map & Analysis, Association of Pacific Coast Geographers Conference: San Louis Obispo, CA.

2003, **Arkle, J.C.**, The Exploration of River Morphology in Relation with the Recreational Sport of River Running, All Points of the Compass Symposium: Fullerton, CA.

TEACHING EXPERIENCE:

Research Methods: (upper-level geology course) Augustana College, Geology Department	Present
Physical Geology Lecture/Lab: (lower-level geology course) Augustana College, Geology Department	2017-Present
Introduction to Geographic Information Systems: (lower-level geography course) Augustana College, Geography Department	2017-Present

Himalayan Geology Field Camp: (B.S.c senior capstone course) 2013

University of Cincinnati, Geology Department

I designed and taught a 3-week geology field camp located in the NW Himalaya for an undergraduate geology capstone course. The main course objective was centered on demonstrating higher-order geologic thinking gained during students' tenure as majors. Students demonstrated skills including: observation, description, making geologic measurements with traditional (compass) and digital equipment (GPS, tablet, rangefinder), and geologic mapping from topographic maps and aerial images. Course assessments included: geologic maps (2), geologic cross-sections (3), stratigraphic column (1), field notes, and a technical report (1). (8 students)(8 in-class lectures)(6 total weeks in the Himalaya, 3 weeks for field camp)

Physical Geology Lecture: (lower-level B.A.c & B.S.c) *In-class & online* 2012

University of Cincinnati, Geology Department

This introductory geology course that I co-designed fulfills a general education science requirement for undergraduates. I taught the second half of the course focused on natural hazards. Lectures were delivered to in-class students and broadcast to online students. Main course objectives were to develop foundational knowledge about Earth system processes and properties, and to demonstrate connections between course content and relevant societal issues. Formative feedback was facilitated through and based on pre-class reading questions, quizzes concurrent with lectures, and homework activities. Small group and plenary discussions were centered around in-class activities. (45 online students) (10 in-class students)(8 lectures)

Geologic Field Techniques: (upper-level B.S.c) 2010 & 2011

California State University, Fullerton

This is a field-based course with weekly in-class lectures for upper-level geology majors. I jointly taught this course as an MSc in 2010 (with Dr. P. Armstrong) and I taught the course as an adjunct lecturer in 2011. Course objectives focused on developing higher-order geologic thinking and decision making in the field, field data acquisition techniques, developing efficient and safe field strategies, and data analysis, interpretation, and communication. Foundational knowledge and practical experience with: observation, description, traditional (compass) and digital equipment (GPS), geologic mapping with topographic maps and aerial images, and digital map preparation (Illustrator). Course assessments included: pace and Brunton map (1), geologic maps (2), cross-sections (3), stratigraphic columns (2), field notes (4), technical reports (3), and written and field exam (1). (20-30 students)(~15 in-class lectures)(~10 in-class/local field activities)(~4 weekends camping)

Physical Geology Lab: (lower-level B.A.c & B.S.c) 2009-2011

California State University, Fullerton

I developed labs and lectures, and taught this introductory geology course that fulfills a general education science requirement for undergraduates. Objectives were focused on understanding and practicing the application of the scientific method with respect to Earth's properties and processes including: minerals, rocks, earthquakes, geologic and topographic maps, structure, surface processes, and natural hazards. Course assessments included: pre-lab reading, pre-lab quizzes, lab activities (~12), field trips (~2), and field report (~2), and exams (3). (6 courses since 2009)(~28 students)(~2 field trips)

Course Teaching Assistant:

Structural Geology & Tectonics: (upper-level BSc) 2016

University of Cincinnati, Geology Department: Professor, Dr. Eva Enkelmann

Designed and delivered several lectures and labs, assisted with in-class instruction and on field trips, tutored students, graded assignments and exams, and led review sessions.

Petrology: (upper-level BSc) 2016
University of Cincinnati, Geology Department: Professor, Dr. Craig Dietsch
Graduate assistant: graded laboratory assignments, homework, and exams.

Igneous and Metamorphic Petrology: (upper-level BSc) 2011
California State University, Fullerton: Professor, Dr. Diane Clemens-Knott
Assisted primarily with lab microscopy (thin-sections), hand specimen analysis and interpretation, field trips, as well as tutored students, graded assignments and exams, and led review sessions.

Geologic Field Techniques: (upper-level BSc) 2006
California State University, Fullerton: Professor, Dr. Brady Rhodes
Assisted students in the field (6 weekend camping trips) with geologic mapping, technical equipment, cross-section and stratigraphic column measurement and construction, and taking effective field-notes.

TEACHING ENHANCEMENT:

Preparing Future Faculty (PFF) Teaching Certificate, University of Cincinnati 2016

Undergraduate Mentorships:

Undergraduate Research Project, University of Cincinnati 2015-2016
Advised an upper-level undergraduate (Emily Cigolle) through a research project including: project design, thermochronology lab techniques, data analysis, and communication. Deliverables were a report and poster titled, *Reconstructing Paleoenvironments and Mountain Building in the southeast Caribbean using Thermochronology*, presented at the UC “Undergraduate Conference: Research, Scholarship & Creative Works”, spring 2016.

Undergraduate Research Project, California State University, Fullerton 2011
Mentor for an undergraduate (Sean Hartman) thesis research, under the supervision of Dr. P. Armstrong. I assisted the student with: sampling processing, data analysis, technical skills (e.g. ArcGIS), interpretation, and poster presentation. Student presented, *Underplating below the western Chugach Mountains in the southern Alaska block syntaxial core constrained by low-temperature thermochronology*, at AAPG, Long Beach, Calif., 22-25 April, 2012.

Undergraduate Laboratory Assistants & Mentees

Trained, supervised, and/or mentored undergraduates in laboratories and with technical skills.

Augustana College:

- Allison Bandera: ArcGIS, 2020
- Joel Padgett: ArcGIS, 2020
- Ben Ford: ArcGIS, 2020
- Mike Sell: Geochem lab, ArcGIS, SI project 2020
- Ali Shah: Geochem lab, ArcGIS, SI project 2020
- Katherine Ludwig: Geochem lab, SI project 2019
- Lauren Judge: XRF lab, ArcGIS, 2019

- Matt Harrington: ArcGIS, 2019
- Adam Borgetti: Geochem lab, SI project 2018
- Hunter Ridely: XRF lab, ArcGIS, 2018
- Robert Burke: ArcGIS, 2018
- Sierra Kindley: XRF lab, ArcGIS, SI project 2017
- Sarah Oswald: XRF lab, ArcGIS, SI project 2017
- Joey Teresi: XRF lab, ArcGIS, SI project 2017
- Jack Malone: XRF lab, ArcGIS, SI project 2017
- Ryan Maher: XRF lab, SI project 2017

University of Cincinnati:

- Emily Cigolle, 2016: Undergrad Thesis
- Bridget Taylor: ArcGIS, 2015
- Kat Rivers: Cosmogenic Lab, 2014-2015
- Anthony Winrod: Cosmogenic Lab, 2013-2014

California State University, Fullerton:

- Sean Hartman, 2012: Undergrad Thesis
- Michael G. Prior: Thermochronology Lab, ArcGIS, Illustrator, 2011
- Jade A. Brush: Thermochronology Lab, ArcGIS, Illustrator, 2010
- Cassandra L. Sendziak: Thermochronology Lab, ArcGIS, Illustrator, 2009

Teaching Enhancement Workshops:

- **Teach Me to Teach: Pedagogical Preparation Seminar**
April 26, 2016 – University of Cincinnati
- **Capturing Your Students' Attention: Presentation and Communication Skills for GAs**
April 4, 2016 – University of Cincinnati
- **Active Learning in the Large Classroom**
November 5, 2015 – University of Cincinnati
- **Facilitating Challenging Conversations in Diverse Classrooms**
October 29, 2015 – University of Cincinnati
- **Using Formative and Summative Feedback to Refine Teaching and Learning**
October 13, 2015 – University of Cincinnati
- **Introduction to the Flipped Classroom**
October 6, 2015 – University of Cincinnati
- **Introduction to the Scholarship of Teaching and Learning (SoTL)**
September 29, 2015 – University of Cincinnati
- **Inclusive Teaching Practices**
April 10, 2015 – University of Cincinnati
- **Productive Ways to Incorporate Technology in the Classroom**
February 13, 2015 – University of Cincinnati

GRANTS & SCHOLARSHIPS:

* Denotes mentee award

- **Augustana College, Pedagogy Technology Grant**, 2019, Arkle, K.M., and Arkle, J.C., Using Technology in the Field to Enhance Student Learning, \$4,710.
- **American Association of Petroleum Geologists, Graduate Research Grant**, 2015, Arkle, J.C., “Constraining uplift and sea level change in the southeast Caribbean”, Trinidad, \$2,000.
- ***UC Geology, Undergrad Research Grant**, 2015, Emily Cigolle, “Thermochronology constraints on sediment sources in the Tobago Basin, southeast Caribbean”, \$750.
- * **GSA, Undergrad Research Grant North-Central Section**, 2015, Emily Cigolle, “Thermochronology constraints on sediment sources in the Tobago Basin, southeast Caribbean”, \$165.
- **GSA Research Grant, Geological Society of America**, 2015, **Arkle, J.C.**, “Tectonic deformation associated with lithospheric tear faults”, \$1,875.
- **UC Graduate Student Governance Association, Conference Grant**, 2015, **Arkle, J.C.**, and Feser, K.M., “Quaternary Geoscience Conference”, April 25th-26th, 2015 (conference & workshops for graduate students in the Midwest), \$625.
- **National Geographic Society, Research Grant**, 2014, Enkelmann, E., **Arkle, J.C.**, Mackenzie Mountains Expedition, \$20,000.
- **University of Cincinnati Research Council, Graduate Student Research Fellowship**, 2014, **Arkle, J.C.**, “Linking Tectonics, Climate, and Erosion of Mountain Belts: Controls on Erosion of the Northern Range, Trinidad”, \$3,000.
- **Centrica Energy, Research Grant**, 2013, Weber, J.C., **Arkle, J.C.**, Snoke, A.W., Owen, L., “Timing and rates of Northern Range and Tobago bedrock exhumation: Linkages to the Deposition of the Pliocene Rockley Bay Formation”, \$62,020.
- **UC International, Study Abroad Grant**, 2013, **Arkle, J.C.**, “Natural Hazards in the Himalaya: Outburst Flood Events & Social Impacts”, \$500.
- **Student Bursary**, 2010, Thermo2010 Committee, Graduate Conference Grant: 12th International Conference on Thermochronology, Glasgow, Scotland, \$150.
- **CSUF ICC, Associated Students Grant**, 2009, Cal State Fullerton, ICC Graduate Conference Grant: GSA Annual Meeting, Portland, Oregon, \$500.
- **CSUF NSM, Boeing Scholarship for Geological Sciences**, 2008, Cal State Fullerton, College of Natural Science and Mathematics: Outstanding academic achievement, \$1000.

- **CSUF NSM, Dr. Margaret Skillman Woyski Scholarship**, 2008, Cal State Fullerton, College of Natural Science and Mathematics: Outstanding service to the department and academic achievement, \$500.
- **CSUF ICC, Associated Students Grant**, 2008, Cal State Fullerton, ICC Graduate Conference Grant: 11th International Conference on Thermochronometry, Anchorage, Alaska, \$1000.
- **CSUF ICC, Associated Students Grant**, 2008, Cal State Fullerton, ICC Undergraduate Conference Grant: GSA Annual Cordilleran Meeting, Las Vegas, Nevada, \$500.
- **Victor Valley Gem & Mineral Club, Undergraduate Earth Science Scholarship**, 2007, Academic achievement, Earth science career objective, and research involvement, \$1000.
- **CSUF ICC, Associated Students Grant**, 2007, Cal State Fullerton, ICC Undergraduate Conference Grant: GSA Annual Meeting, Denver, Colorado, \$593.
- **CSUF, Undergraduate Support Initiative**, 2007, Faculty-Student Research/Creative Activity Grants, Cal State Fullerton, Faculty Development Center: “Exhumation history of the Vergudo Mountains, southern California”, \$500.

SERVICE:

- **Search Committee**, Tenure track ENVR, Augustana College 2019
- **Search Committee**, Visiting Assistant Professor, Augustana College 2019
- **Conference Chair**, *Quaternary Geoscience Conference*, University of Cincinnati 2015
- **Co-Lead CGC Conference Field Trip**: “Trinidad’s Northern Range, Reversal of Fortune”: Bedrock Structure and Metamorphic Geology, and Tectonic Geomorphology”. 2015
- **Meeting Convener**, Quaternary & Anthropocene Research Group (QARG), University of Cincinnati 2014-2015
- **Class Field Trip**, Univ. of the West Indies, Trinidad, assisted on geology field trip 2013
- **Session Chair**, *Structural Geology/Tectonics*, GSA, Anaheim, CA 2010
- **Undergraduate Mentor**, Undergraduate Student Theses, Cal. State University, Fullerton, CA 2009-2011
- **Journal Editor**, *Dimensions*, College Journal for CSUF Natural Sciences & Math 2007
- **Tutor**, Learning Center, Cal. State University, Fullerton, CA 2006-2007
- **Activity Coordinator**, Geology Club, Cal. State University, Fullerton, CA 2007
- **President**, Geography Club, Cal. State University, Fullerton, CA 2003-2004
- **Activity Coordinator**, Geography Club, Cal. State University, Fullerton, CA 2002-2003
- **Session Chair**, *Environmental Hazards and Management*, Association of Pacific Coast Geographers Conference 67th Annual Meeting, San Louis Obispo, CA 2004
- **Undergraduate Coordinator**, *All Points of the Compass Conference*, Cal. State University, Fullerton, Titan Student Union, Fullerton, CA 2003
- **Bolsa Chica Habitat Restoration**, Cal. State University, Fullerton, CA 2002-2004
- **Reading Program**, Oroville Elementary School, Butte Community College, CA 1999-2002

LABORATORY EXPERIENCE:

Laboratory Research Assistant:

X-ray Fluorescence (XRF) Lab: Augustana College 2017-present

Director: Dr. Michael B. Wolf

Physical and chemical preparation of rock, sediment, and soil samples for XRF geochemical analysis. Work with: Rigaku Supermini200 XRF, Mixer/Mill, Katanax fusion fluxer, and Carver 25 ton press.

Cosmogenic Nuclide Lab: University of Cincinnati 2012-2016

Director: Dr. Lewis A. Owen

Physical and chemical preparation of rock and sediment samples for ^{10}Be cosmogenic dating. Work with: rock crusher, heavy liquid separations, Franz magnet, strong acids (e.g. HF, perchloric), and ion exchange columns.

Optically Stimulated Luminescence (OSL) Lab: University of Cincinnati 2012-2016

Director: Dr. Lewis A. Owen

Physical and chemical preparation and OSL dating of sediment samples. Work with: sieving equipment, heavy liquid separations, strong acids (e.g. HF) and Riso automated OSL Dating System.

Thermochronology Lab: University of Cincinnati 2012-2016

Director: Dr. Eva Enkelmann

Physical and chemical preparation for fission-track and U-Th/He dating of apatite and zircon. Work with: rock crusher, water table, Franz magnet, heavy liquid separations, motorized Zeiss microscope with an Autoscan stage system, and stereomicroscope.

Thermochronology Lab: California State University, Fullerton 2006-2011

Director: Phillip A. Armstrong

Physical and chemical preparation for fission-track and U-Th/He dating of apatite and zircon. Work with: rock crusher, pulverizing mill, water table, Franz magnet, heavy liquid separations, Olympus BX50 optical microscope with FTStage software and modified picking microscope.

Paleoclimatology Lab: California State University, Fullerton 2004-2006

Director: Dr. Matthew Kirby

Sample preparation, measurements, and sedimentological analysis on lake-core sediment. Work with: magnetic susceptibility, total organic matter and lamination analysis and guided interpretation.

Hydrology Lab: California State University, Fullerton 2003-2004

Director: Dr. Richard W. Laton

Office and GIS assistant on various Hydrology projects. Work with: GIS, map digitizing, and computer database compilation and management of digital well log inventory and bibliographic search for Mojave Desert Area.

FIELD EXPERIENCE:

*Field experience below **excludes** field research that is related to my B.S., M.S., or Ph.D. projects.

- Structure & Geomorphology, Research Project: *Mackenzie Mountains, Canada*** 2014
PI, Dr. Eva Enkelmann: University of Cincinnati
Assisted with geologic research design and logistics for an ~300 km sampling transect along the Mountain River in the Mackenzie Mountains. Lead-boat person during (2 week) fieldwork. Designed and constructed raft logistics for transport of ~600 kg of rock via river raft, and conducted rock and sediment sampling for thermochronology and cosmogenic (^{10}Be & ^{36}Cl) dating.
- Paleoecology, Field Assistant: *St. Croix, US Virgin Islands*** 2014
Colleague, PhDc Kelsey M. Feser: University of Cincinnati
Field assistant (2 weeks) for research on “Examining Terrigenous Sources of Trace Metals in Marine Sediments”. Designed sampling strategy, constructed maps, and collected stream sediment samples.
- Paleoecology, Field Assistant: *Discovery Bay, Jamaica*** 2013 & 2014
Director, Dr. David L. Meyer: University of Cincinnati
Field assistant on two (~2.5 weeks) trips to Jamaica to assess “Population stability of crinoid echinoderms (Feather stars) in the tropical Western Atlantic”. Duties included multiple daily SCUBA dives (up to ~75 ft.), constructing underwater transects, identification and counts of crinoid species, and operate film (GoPro).
- Tectonic Geomorphology, Field Assistant: *Mecca Hills, California*** 2012
Colleague, MSc Harrison J. Gray: University of Cincinnati
Field assistant on two (~2 week) for research on “Quaternary landscape development, Mecca Hills, CA”. Assisted with geologic mapping, logistics, and sample collection for ^{10}Be cosmogenic and OSL dating.
- Paleoclimatology, Research Project: *Antarctic Peninsula*** 2007-2008
Directors, Vanessa Lougheed and Craig Tweedie: University of Texas at El Paso
Nationally selected for the IPY-ROAM “International Polar Year-Research and Educational Opportunities in Antarctica for Minorities” funded by NSF. I was the team-lead for an undergraduate group project “Late Holocene Glacial Change on the Antarctic Peninsula”. Project involved a semester-long online course, a trip to NSF headquarters, and ~3 weeks (Dec-Jan 08’) of field work in Argentina and the Antarctic Peninsula. Data acquisition included theodolite and photogrammetric analysis.
- Paleoecology, Field Assistant: *Arrow Canyon, Nevada*** 2007
Director, Dr. Nicole Bonuso: California State University, Fullerton
Field assistant (~2 weeks) for “Evolutionary Abundance and Diversity Patterns in Arrow Canyon, NV”. Assisted with field reconnaissance, field logistics, and sample collection.
- Hydrogeology, Field & Research Assistant: *Chiang Mai, Thailand*** 2007
Director, Dr. Brady Rhodes: California State University, Fullerton
Field assistant (~2 weeks) for “Mapping Migration of Leachate Flow from the Mai Hia Landfill, Thailand”. Assisted with open and observation well sample collection, conductivity and resistivity measurements, contour mapping, and interpretation to assess flow to surrounding sensitive regions.

AWARDS:

Academic Awards:

- **Graduate Student Teaching Award**, Univ. of Cincinnati, Himalaya Field Camp 2014
- **Outstanding Graduate Oral Presentation**, GSA Cordilleran Section Meeting, Anaheim 2010
- **Field Camp Award - John D. Cooper**, Dept. of Geology, Cal. State Univ., Fullerton 2009
- **Outstanding Major**, Dept. of Geology, Cal. State Univ., Fullerton 2008
- **Outstanding Academic Achievement**, Boeing Scholarship, Cal. State Univ., Fullerton 2008
- **Department Service & Involvement**, Woyski Scholarship, Cal. State Univ., Fullerton 2008
- **Outstanding Undergraduate Poster**, AAPG-SEG West Coast Student Expo, Northridge 2008
- **Outstanding Undergraduate**, Dept. of Geography, Cal. State Univ., Fullerton 2004
- **Contributions**, *All Points of the Compass Conference*, Cal. State Univ., Fullerton 2003

Athletic Awards:

- **Citizens Crew Race: QUAD** cities YMCA, Mississippi River, Moline, Illinois 2017
- **Citizens Kayak Races: Downriver, Wildwater, & Slalom** (placed in >20 races) 1998-2016
 - CA, IA, AZ, CO
- **Rock Climbing Competitions** (2, 1st Place awards) 2012-2014
- **US Women's Raft Team** (National champions & 2nd Place international) 2000-2001
- **Most Inspirational Player**, Women's Basketball, Butte Community College 2002
- **Scholar Athlete**, Women's Basketball, Butte Community College 1999-2002

CERTIFICATIONS & LICENSES:

- **GIS, Geographical Information Systems**, many workshops/short courses 2004-2015
- **Short Course, Tectonics, basin formation and hydrocarbons in the Caribbean and Trinidad Area**, GSTT 5th Geology Conference, Trinidad 2012
- **Short Course, FT Digital Imaging**, Thermo10 Conference, Glasgow Scotland 2010
- **Short Course, Hydrogeology**, Chiang Mai University, Thailand 2007
- **WFR, Wilderness First Responder**, Wilderness Medical Associates 2005
Advanced CPR, epinephrine & medical oxygen admin, wilderness evacuation
- **Backcountry Food Handlers License**, Coconino County Dept. of Health 2005
- **Grand Canyon River Guide License**, Oar & Kayak, National Park Service 2004
- **SWR, Swiftwater Rescue Technician**, Rescue 3 International 2002
- **SCUBA, Open Water Diver**, PADI 1998

Non-academic Jobs!:

- Professional Whitewater Raft Guide:** (Seasonal)
- Kern River: *Kern River Outfitters*, Wolford Heights, CA 2005-2011
 - Grand Canyon, Colorado River: *Outdoors Unlimited*, Flagstaff, AZ 2004-2010
 - Kings River: *Zephyr Whitewater Expeditions*, Columbia, CA 2003-2010
 - Buller River: *Ultimate Descents*, Murchison, New Zealand 2005
 - Clear Creek & Arkansas River: *Clear Creek Rafting Co.*, Idaho Springs, CO 2000-2005