**CURRICULUM VITAE**

**Joshua J. Schwartz**

Professor of Geology

Department of Geological Sciences

California State University Northridge

Northridge, CA, 91330, USA

[joshua.schwartz@csun.edu](mailto:joshua.schwartz@csun.edu)

[www.schwartzpetrology.com](http://www.schwartzpetrology.com/)

<https://www.larocs.org/>

<https://www.csunlaserlab.com/>

My research focuses on the growth of continental crust in arcs. I am particularly interested in understanding timescales of magmatism and the processes that control the evolution of the earth’s crust. My work utilizes geochemical and isotopic tools, particularly U-Pb zircon geochronology and geochemistry, in combination with structural and petrologic observations to understand the age and origin of magmatic rocks and the processes that have affected them. I currently co-supervise the California State University Northridge Laser Ablation laboratory (<https://www.csunlaserlab.com/>), which serves as one of my primary tools in understanding tempos and processes of magmatism. The facility includes a class 1000 clean lab, Thermo Element2 and iCAP inductively coupled plasma mass spectrometers, and a Photon Machines Analyte G2 193 nm excimer laser ablation system. Inclusion of undergraduate and graduate students in research projects is an integral part of my research program at CSUN. I am also the founder of the LA-ROCS program (<https://www.larocs.org/>) which aims to encourage aspiring CSUN geology undergraduate students, especially minorities and females, to pursue research projects with faculty mentors (including, but not limited to myself).

**PROFESSIONAL APPOINTMENTS**

**California State University Northridge:** Professor (2019-present)

**California State University Northridge:** Associate professor (2014-2019)

**California State University Northridge:** Assistant professor (2011-2014)

**University of Alabama:** Assistant professor(2007-2011); Adjunct professor(2011-present)

**EDUCATION**

**University of Wyoming** (2003-2007)

Ph.D. Geological Sciences, Advisors: Arthur Snoke and Barbara E. John

Dissertation Focus: Growth and tectonic modification of oceanic lithosphere: 1) Petrological evolution of a long-lived accretionary/forearc complex: Baker terrane, NE Oregon; 2) Construction and deformation of slow-spreading oceanic crust, Atlantis Bank, Southwest Indian Ridge

**Brown University** (2001-2003)

M.S. Geological Sciences, Advisor: L. Peter Gromet

M.S. Thesis: Neoproterozoic-Early Cambrian Magmatism in the Eastern Sierras Pampeanas, Argentina: U-Pb Zircon and Isotopic Constraints

**Brown University** (1996-2000)

B.A. Geological Sciences, Advisor: L. Peter Gromet. Minors in Old World Art & Archaeology and Semitic Philology

Senior Honors Thesis: Age Determinations and Provenance Studies of Detrital Zircons from Sierras de Córdoba, Argentina

**University of New Mexico** (summer 1999)

Undergraduate Field Camp with Professors Geissman, Pazzaglia and Karlstrom

1. **Teaching Effectiveness and Direct Instructional Contributions**

### TEACHING EXPERIENCE

### California State University Northridge

### Igneous and Metamorphic Petrology (GEOL 307/L) Aug. 2022 to Dec. 2022

### Advanced Igneous Petrology (GEOL 536/L) Aug. 2022 to Dec. 2022

### Volcanology (GEOL 570V) Jan. 2021 to May 2021

### Igneous and Metamorphic Petrology (GEOL 307/L) Aug. 2020 to Dec. 2020

### Igneous and Metamorphic Petrology (GEOL 307/L) Aug. 2019 to Dec. 2019

### Advanced Igneous Petrology (GEOL 536/L) Aug. 2019 to Dec. 2019

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2019 to May 2019

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2018 to May 2018

### Earth Materials (GEOL 306/L) (sabbatical replacement) Aug. 2017 to Dec. 2017

### Advanced Igneous Petrology (GEOL 536/L) Aug. 2017 to Dec. 2017

### Igneous and Metamorphic Petrology (GEOL 307/L)(redesign) Jan. 2017 to May 2017

### Sabbatical (manuscript writing & graduate supervision at CSUN) Aug. 2016 to Dec. 2016

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2015 to May 2015

### Scientific International Travel (XCSI 900) Jan. 2015

### Literature Seminar (GEOL 590) Aug. 2014 to Dec. 2015

### Research Design (GEOL 497/694) Aug. 2014 to Dec. 2015

### Physical Geology (GEOL 101) Aug. 2014 to Dec. 2015

### Scientific International Travel (XCSI 900) Jan. 2014

### Seminar in Arc Dynamics (GEOL 553) Aug. 2014 to Dec. 2014

### Analytical Geochemistry (GEOL 595D) Aug. 2014 to Dec. 2014

### Geology Goes Hollywood (GEOL 107) Jan. 2014 to May 2014

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2014 to May 2014

### Geochemistry (GEOL 552) Jan. 2014 to May 2014

### Scientific International Travel (XCSI 900) Jan. 2014

### Physical Geology (GEOL 101) Aug. 2013 to Dec. 2013

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2013 to May 2013

### Advanced Igneous Petrology (GEOL 536/L) Aug. 2012 to Dec. 2012

### Igneous and Metamorphic Petrology (GEOL 307/L) Jan. 2012 to May 2012

### Physical Geology (GEOL 101) Aug. 2011 to Dec. 2011

### University of Alabama

### Igneous and Metamorphic Petrology Jan. 2011 to May 2011

### Physical Geology Jan. 2011 to May 2011

### Regional Geology Seminar: Northern Appalachian Orogen Jan. 2011 to May 2011

### Volcanology Aug. 2010 to Dec. 2010

### Regional Geology Seminar: Southern Appalachian Orogen Aug. 2010 to Dec. 2010

### Summer Field Course June 2010

### Igneous and Metamorphic Petrology Jan. to May 2010

### Regional Geology Seminar: NW US Cordillera Jan. to May 2010

### Volcanology Aug. to Dec. 2009

### Physical Geology Aug. to Dec. 2009

### Regional Geology Seminar: NW US Cordillera Aug. to Dec. 2009

### Summer Field Course June 2009

### Igneous and Metamorphic Petrology Jan. to May 2009

Physical Geology Jan. to May 2009

### Regional Geology Seminar Jan. to May 2009

### Volcanology Aug. to Dec. 2008

### Regional Geology Seminar Aug. to Dec. 2008

### Summer Field Course June 2008

### Igneous and Metamorphic Petrology Jan. to May 2008

### Regional Geology Seminar Jan. to May 2008

### Volcanology Aug. to Dec. 2007

### Regional Geology Seminar: Salt Tectonics of La Popa Basin, Mexico Aug. to Dec. 2007

### University of Wyoming

### General Geophysics: Teaching Assistant Jan. 2007 to May 2007

### Structural Geology Teaching Assistant Sept. 2006 to Dec. 2006

### Brown University

### Harriet W. Sheridan Center Teaching Consultant Dec. 2001 to May 2003

### Geochemistry Teaching Assistant Jan. 2002 to May 2002

### Optical Mineralogy Teaching Assistant Sept. 2001 to Dec. 2001

Geochemistry Teaching Assistant Jan. 1999 to May 2000

Arabic Language Teaching Assistant Sept. 1999 to May 2000

Optical Mineralogy Teaching Assistant Sept. 1999 to Dec. 1999

Earthquakes and Natural Disasters Teaching Assistant Jan. 1999 to May 1999

**MS & PHD STUDENT COMMITTEES SERVED**

**Chair:** Karen Parker (M.S. fall 2007-fall 2008: UA); Ryan Alexander (M.S. fall 2008-2010: UA); Bryan Anderson (M.S. fall 2009-fall 2012: UA); Charles Ryan Jeffcoat (M.S., fall 2010-fall 2012: UA); Stanton Ingram (M.S., fall 2010-fall 2012: UA); Joseph Sadorski, (M.S., fall 2012-fall 2015: CSUN), John Wiesenfeld (M.S., fall 2013-spring 2016: CSUN); Brian Clements (M.S., fall 2013- spring 2016: CSUN), Meghann Decker (M.S., fall 2014-spring 2016: CSUN), Samantha Gebauer (M.S., fall 2014-spring 2016: CSUN), Solishia Andico (M.S., fall 2016-fall 2020: CSUN), Luisa Buritica (M.S., fall 2016-2018: CSUN), Kendra Carty (M.S., fall 2017-spring 2020: CSUN), Erin Wales (M.S., fall 2017-fall 2021: CSUN), Gillian Greenberg (spring 2019-fall 2021: CSUN), Brandon Page (fall, 2019-present: CSUN), Adam Brackman (fall, 2020-2022: CSUN), Francine Robles (fall, 2021 to present: CSUN), Jonathan Bixler (fall, 2021 to present: CSUN); Gillian Rhea (fall, 2022 to present: CSUN).

**Member:** Ellen Stein (M.S. completed fall, 2007: UA); Benjamin Garcia (M.S. completed spring, 2008: UA); Haylee Dickinson (M.S. fall 2007-spring 2010: UA), Matt McKay (M.S. fall 2009-spring 2011: UA); Kristin Hughes (Ph.D. fall 2007-fall 2011: UA); Matthew Gatewood (Ph.D. spring 2007-present: UA); Jennifer Rothfuss (M.S. fall 2008-2010: UA), Matthew McKay (fall 2009 to spring 2011: UA), Sarah Needy (Ph.D., fall 2009 to fall 2011: UA), John Hawkins (M.S. fall 2011-present: Auburn), Crystal Hout (M.S. fall, 2011-present: UA); Linda Doran (M.S. fall 2012- fall 2013: CSUN), Nicholas Rousseau (M.S. fall 2012-spring 2015: CSUN), Ben Moss (M.S. fall 2013-fall 2015: CSUN), Jeffery Joseph (M.S. fall 2014-spring 2016); Emily Homan (M.S. fall 2015-spring2017: CSUN); Courtney McGinn (M.S. fall 2016-2018: CSUN); Lonnie Hufford (M.S. fall 2016-2018: CSUN); Caroline Gross (M.S. fall 2016-present: CSUN); Ian Anderson (M.S. fall 2018-present: UA); Hannah Dickson (M.S. fall 2018 to present: UA); Matthew Dietel (M.S. fall 2019-2021: CSUN); Virginia Brown (M.S. fall 2020-2022: CSUN).

**UNDERGRADUATE RESEARCH SUPERVISED**

**Faculty mentor:** Lauren Perry (2008), Brittany Hollon, (2008-2009), Kayla White (2008-2009), Gwendolyn (Maeve) Yaden (2008-2009), Nathan Burtram (2008-2009), Joseph Gravlee (fall 2009), Lauren Phillippi (2008-2010), Rebecca Shields (2009-2010), Natalie Gentry (2009-2010), Alan Simonis (spring 2010), Scott Milo (Fall 2010-Summer 2011), John Morris (spring 2011). John Wiesenfeld (spring 2012-spring 2013), Carolina Zamora (spring 2012-spring 2013), Brian Clements (spring 2012-spring 2013), Stephanie Holgren (spring 2012- spring 2013), Mariana Dias Quariguasy Duarte (fall 2012- spring 2013), Teymur Husenov (spring 2013-summer 2013), Tina Zeidan (spring 2012-spring 2014), Jonathan Rivas (fall 2012-present), Samir Arous (fall 2012-spring 2014), Ray Antoine (fall 2013-spring 2014), Hannah Shamloo (spring 2014-spring 2015), Angela Linder (spring 2014-spring 2015), Kyzara Burgh (fall 2014-spring 2015), Isaac Simon (spring 2015-summer 2017), David Quezada (spring 2016-fall 2016), Thomas Macklenberg (fall 2016), Mary Ringwood (spring 2017-fall 2018), Talen Wickenden (fall 2018-spring 2019), Jennifer Bautista (fall 2018-spring 2019), Nader Tavassoli (spring 2019-fall 2019), Adam Brackman (fall 2018-spring 2020), Omid Arzili (spring 2021-fall 2021), Sarah Sengpiehl (spring 2021-spring 2022; Marton Toth (spring 2022-spring 2023), Portia Ibarra (summer 2023-present).

1. **Contributions to the Field of Study**

**PUBLICATIONS AND MEETING ABSTRACTS**

*\* Denotes student author*

**Submitted/in review/in revision/in press**

Benito, M. P., Tibaldi, A.M, Cristofolini, E.A., Barzola, M.G., **Schwartz, J.J.**, Molina, J.F., Escribano, F.A., Mafic to intermediate calc-alkaline magmatism in the Sierra de Comechingones southern tip, Córdoba, Argentina: Tracking the Famatinian arc into the Pampean belt, submitted to International Journal of Earth Sciences

Boudreau, E., Gaschnig, R., Vervoort, J., **Schwartz, J.J.**, Housen, B., and Tikoff, B., Heavy Mineral Provenance and Paleomagnetic Studies of Mesozoic Rocks in the Gold Beach Terrane, submitted to Geological Society of America

Morosini, A.F., Enriquez, E., Tibaldi, A.M., Orrillo, J.M.P., Cristofolini, E.A., Manchento, D.A., Pagano, D.S., Duran, A.O.C., **Schwartz, J.J.**, Otamendim J.E., and Suarez, A.E.O., The age of deformation and metamorphism in the Nogolí Metamorphic Complex, Sierra de San Luis, Argentina, submitted to International Journal of Earth Sciences

Xie, Y., **Schwartz, J.J.,** Li, X., Cai, K., Thomas, B., Li, H., Wang, F., Zhang, X., Mo, X., and G. Dong, Revisiting the genesis of the adakite-like granitoids in collisional zones: water-fluxed melting of intermediate to felsic rocks with dilution by low Sr/Y phases, in press at American Mineralogist

**Published peer-reviewed manuscripts**

**2023**

Miranda, E.A., \*Brown, V., **Schwartz, J.J.**, and Klepeis, K.A., 2023, Making Sense of Shear Zone Fabrics that Record Multiple Episodes of Deformation: EBSD and CVA-Enhanced Petrochronology, Geology, 51 (6): 591–596. <https://doi.org/10.1130/G50982.1>

**Schwartz, J.J.**, Lackey, J.S., Miranda, E.A., Klepeis, K.A., \*Robles, F., and J. \*Bixler, 2023, Magmatic Surge Requires Two-Stage Model for the Laramide Orogeny, Nature Communications 14, 3841. <https://doi.org/10.1038/s41467-023-39473-7>

Turnbull, R.E., **Schwartz, J.J.**, Klepeis, K.A., Miranda, E.A., Fiorentini, M.L., Evans, N., Ludwig, T., Waight, T.D., Faure, K., and McDonald, B., 2023, Mapping the 4D lithospheric architecture of Zealandia using zircon O and Hf isotopes in plutonic rocks, Gondwana Research, 121, 436-471. <https://doi.org/10.1016/j.gr.2023.05.010>

**2022**

*\**Brackman, A. and **Schwartz, J.J.,** 2022, The Formation of High Sr/Y Plutons in Cordilleran-Arc Crust by Crystal Accumulation and Melt Loss, Geosphere, 18 (2): 370–393 <https://doi.org/10.1130/GES02400.1>

Daniel, C.G., Indares, A., Medaris, L. Jr., Aronoff, R., Doe, M., Malone, D. and **Schwartz, J.J.**, 2022, Linking the Pinware, Baraboo, and Picuris orogenies: recognition of a trans-Laurentian ca. 1500-1350 orogenic belt, in Whitmeyer, S.J., Williams, M.L., Kellett, D.A., and Tikoff, B., eds., Laurentia: Turning Points in the Evolution of a Continent: Geological Society of America Memoir 220, p. 1–16, <https://doi.org/10.1130/2022.1220(11)>.

Klepeis, K.A., **Schwartz, J.J.**, Miranda, E.A., Lindquist, P., Jongens, R., Turnbull, R., and Stowell H.H., 2022, The initiation and growth of transpressional shear zones through continental arc lithosphere, southwest New Zealand, Tectonics, <https://doi:10.1029/2021TC007097>

Medaris, L. Jr., Daniel, C.G., Doe, M.F., James, J.V III, and **Schwartz, J.J.**, 2022, Late Paleoproterozoic to Early Mesoproterozoic deposition of quartz arenites across southern Laurentia, in Whitmeyer, S.J., Williams, M.L., Kellett, D.A., and Tikoff, B., eds., Laurentia: Turning Points in the Evolution of a Continent: Geological Society of America Memoir 220, <https://doi.org/10.1130/2022.1220(12)>

Stowell, H.H., **Schwartz, J.J.,** Bollen, E., Tulloch, A.J., Ramezani, J., and Klepeis, K. A., 2022, Timescales and rates of intrusive and metamorphic processes determined from zircon and garnet in migmatitic granulite, Fiordland, New Zealand, American Mineralogist, v. 107, p. 1116-1132, DOI: <https://doi.org/10.2138/am-2022-7967>

**2021**

*\**Barzola, M.G., Tibaldi, A.M., Otamendi, J.E., Cristofolini, E.A., **Schwartz, J.J.,** Benito, M.P., and Armas, P., 2021, P-T-t Path Reconstruction in a Syn-Deformational Migmatization Event Along the North-Central Portion of the Sierra Comechingones, Cordoba, Argentina, Journal of South American Earth Sciences, v.112 <https://doi.org/10.1016/j.jsames.2021.103534>.

*\**Carty, K., **Schwartz, J.J.,** Wiesenfeld, J., Klepeis, K.A., Stowell, H.H., Tulloch, A.J., and Barnes, C.G., 2021, The Generation of Arc Andesites and Dacites in the Lower Crust of a Cordilleran arc, Fiordland, New Zealand, Journal of Petrology, v. 62, 1-41,  [https://doi.org/10.1093/petrology/egab043](%20https://doi.org/10.1093/petrology/egab043).

*\**Lilley, H. C., Scott, J. M., **Schwartz, J. J.**, Turnbull, R. E., & Tulloch, A. J., 2021, Cretaceous tungsten-tin mineralization in the Tin Range, Stewart Island, New Zealand. New Zealand Journal of Geology & Geophysics. <https://doi:10.1080/00288306.2020.1855216>

*\**Ringwood, M. **Schwartz, J.J.,** Turnbull, R.E., and Tulloch, A.J., 2021, Phanerozoic Record of mantle-dominated arc magmatic surges in the Zealandia Cordillera, Geology, 49 (10): 1230–1234, <https://doi.org/10.1130/G48916.1>.

LaMaskin, T.A., \*Rivas, J.A., Barbeau, D.L., **Schwartz, J.J.,** Russell, J.A., Chapman, A., 2021, A crucial geologic test of exotic collision versus endemic re-accretion in the Klamath Mountains province, U.S.A., with implications for the assembly of western North America, Geological Society of America Bulletin.

Medaris, L. Jr., Singer, B, Jicha, B, Malone, D., **Schwartz, J.J.**, Stewart, E., Van Lankvelt, A., Williams, M., and Reiners, P., 2021, Early Mesoproterozoic evolution of midcontinental Laurentia: Defining the geon 14 Baraboo orogeny, Geoscience Frontiers, 12, <https://doi.org/10.1016/j.gsf.2021.101174>.

**Schwartz, J.J.,** \*Andico, S., Turnbull, R., Klepeis, K.A., Tulloch, A.J., Kitajima, K., and Valley, J., 2021, Stable and Transient Isotopic Trends in the Crustal Evolution of Zealandia Cordillera, American Mineralogist, v. 106 (9), p. 1369–1387 <https://doi.org/10.2138/am-2021-7626>.

Turnbull, R.E., **Schwartz., J.J.**, Fiorentini, M.L., Jongens, R., Evans, N.J., Ludwig, T., McDonald, B.J., and Klepeis, K.A., 2021, A Hidden Rodinian Lithospheric Keel Beneath Zealandia, Earth’s Newly Recognized Continent**,** Geology, 49(8), p. 1009-1014, <https://doi.org/10.1130/G48711.1>

**2020**

*\**Blatchford, H.J., Klepeis, K.A., **Schwartz, J.J.**, Jongens, R., Turnbull, R.E., Miranda, E.A., Coble, M.A., Kylander-Clark, A.R.C., 2020, Interplay of Cretaceous transpressional deformation and continental arc magmatism in a long-lived crustal boundary, central Fiordland, Geosphere, 16, <https://doi.org/10.1130/GES02251.1>

Heermance, R.V., and **Schwartz, J.J.** (eds.), 2020, From the Islands to the Mountains: A 2020 View of Geologic Excursions in Southern California: Geological Society of America Field Guide 59, <https://doi.org/10.1130/FLD059>

Nourse, J.A., Swanson, B.J., Lusk, A., Barth, N.C., **Schwartz, J.J.**, and Vermillion, K.B., 2020, Recent advancements in geochronology, geologic mapping, and landslide characterization in basement rocks of the San Gabriel Mountains block, in Heermance, R.V., and Schwartz, J.J., eds. From the Islands to the Mountains: A 2020 View of Geologic Excursions in Southern California: Geological Society of America Field Guide 59, p. 21–93, <https://doi.org/10.1130/2020.0059(02)>.

**2019**

\*Buritica, L.F., **Schwartz, J.J.**, Klepeis, K.A., Miranda, E.A., Tulloch, A.J., Coble, M.A., and Kylander-Clark, A.R.C., 2019, Temporal and spatial variations in magmatism and transpression in a Cretaceous arc, Median Batholith, Fiordland, New Zealand: Lithosphere, 11 (5), p. 652-682. <https://doi.org/10.1130/L1073.1>

d’Alessio, M.D., Lundquist, L., **Schwartz, J.J.**, Pedone, V., Pavia, J., and Fleck, J., 2019, Social presence enhances student performance in an online geology course but depends on instructor facilitation: Journal of Geoscience Education, 67 (3), p. 222-236. https://doi.org/10.1080/10899995.2019.1580179

d’Alessio, M.D., **Schwartz, J.J.**, Pedone, V., Pavia, J., Fleck, J., and Lundquist, L., 2019, Geology Goes Hollywood: Building a Community of Inquiry in a fully online introductory geology lecture and laboratory: Journal of Geoscience Education, 67 (3), p. 211-221. <https://doi.org/10.1080/10899995.2019.1578467>

Klepeis, K. A., Webb, L. E., Blatchford, H. J., Jongens, R., Turnbull, R., **and Schwartz, J.J.,** 2019, The age and origin of Miocene‐ Pliocene fault reactivations in the upper plate of an incipient subduction zone, Puysegur Margin, New Zealand. Tectonics, 38. https://doi.org/10.1029/2019TC005674

Klepeis, K., Webb, L., *†*Blatchford, H., **Schwartz, J.J.**, Jongens, R., Turnbull, R., and Stowell, H.H., 2019, Crust-mantle interactions about the Puysegur subduction zone in Fiordland, New Zealand: GSA Today, 29 (9).

Ma, C., VanDervoot, D.S., Steltenpohl, M.G., and **Schwartz, J.J.**, 2019, Formation, docking, and orogen- parallel transport of a Taconian arc and back-arc basin: The Dadeville Complex in the southernmost Appalachian orogen: American Journal of Science, 319 (7), p. 582-630.

Stowell, H.H., **Schwartz, J.J.**, Ingram, S., Madden, J., Jernigan, C., Steltenpohl, M., and Mueller, P., 2019, Linking metamorphism, magma generation, and synorogenic sedimentation to crustal thickening during Southern Appalachian mountain building, USA: Lithosphere, 11 (5), p.722-749. https://doi.org/10.1130/L1053.1.

**2018**

*\**Dwight, T., Scott, J.M., and **Schwartz, J.J.**, 2018, Emplacement and Paleozoic and Cretaceous recrystallisation of the Broughton Arm Peridotite in Western Fiordland, New Zealand: New Zealand Journal of Geology and Geophysics, <https://doi.org/10.1080/00288306.2018.1528989>

Huntington, K.W. and Klepeis, K.A., with 66 community contributors, 2018, Challenges and opportunities for research in tectonics: Understanding deformation and the processes that link Earth systems, from geologic time to human time. A community vision document submitted to the U.S. National Science Foundation. University of Washington, 84 pp., <https://doi.org/10.6069/H52R3PQ5>.

**2017**

\*Decker, M., **Schwartz, J.J.**, Stowell, H.H., Klepeis, K.A., Tulloch, A., Kouki, K., Valley, J., and Kylander-Clark, 2017, Slab-Triggered Arc Flare-up in the Cretaceous Median Batholith and the Growth of Lower Arc Crust, Fiordland, New Zealand: Journal of Petrology, v.58, No. 6, p. 1145-1172; doi: 10.1093/petrology/egx049.

McKay, M.P., Bollen, M., Gray, K.D., Stowell, H.H., and **Schwartz, J.J.**, 2017, Prolonged metamorphism during long-lived terrane accretion: Sm-Nd garnet and U-Pb zircon geochronology and P-T paths from the Salmon River suture zone, west-central Idaho: Lithosphere, doi: https://doi.org/10.1130/L642.1.

Paterson, S., Clausen, B., Memeti, V., and **Schwartz, J.J.**, 2017, Arc magmatism, tectonism and tempos in Mesozoic arc crustal sections of the Peninsular and Transverse Ranges, Southern California, USA, in Kraatz, B., Lackey, J.S., and Fryxell, J.E., eds., Field Excursions in Southern California: Field Guides to the 2016 GSA Cordilleran Section Meeting: Geological Society of America Field Guide 45, p. 1–104, doi:10.1130/2017.0045(04).

**Schwartz, J.J.**, Klepeis, K.A., \*Sadorski, J.F., Stowell, H.H., Tulloch, A.J., and Coble, M., 2017, The Tempo of Continental Arc Construction in the Mesozoic Median Batholith, Fiordland, New Zealand: Lithosphere, 9 (3): 343-365; doi:10.1130/L610.1.

Stowell, H.H., **Schwartz, J.J.**, Klepeis, K.A., Hout, C., Tulloch, A.J., and Koenig, A., 2017, Sm-Nd garnet ages for granulite and eclogite in the Breaksea Orthogneiss and widespread granulite facies metamorphism of the lower crust, Fiordland magmatic arc, New Zealand: Lithosphere 9 (6): 953-975.

**2016**

Klepeis, K.A., **Schwartz, J.J.**, Stowell, H.H., and Tulloch, A., 2016, Gneiss domes, vertical and horizontal mass transfer, and the initiation of extension in the hot lower crustal root of a continental arc, Fiordland, New Zealand: Lithosphere, 8 (2): 116-140; doi:10.1130/L490.1

**Schwartz, J.J.**, Stowell, H.H., Klepeis, K.A., Tulloch, A., Kylander-Clark, A., Hacker, B.R., and Coble, M., 2016, Thermochronology of Extensional Orogenic Collapse in the deep Crust, Fiordland, New Zealand: Geosphere (2016), doi:10.1130/GS1232.1.

Žák J, Verner K, Tomek F, Johnson K, **Schwartz, J.J.**, 2016, Magnetic fabrics of arc plutons reveal a significant Late Jurassic to Early Cretaceous change in the relative plate motions of the Pacific Ocean basin and North America: Geosphere, v. 12, no. 6, p. 1–11, doi:10.1130/GES01357.1

**2015**

Johnson, K., **Schwartz, J.J.**, Žák, J., Verner, K., Barnes, C.G., Walton, C., Wooden, J.L., Wright, J.E., and Kistler, R.W., 2015, Composite Sunrise Butte pluton: Insights into Jurassic–Cretaceous collisional tectonics and magmatism in the Blue Mountains Province, northeastern Oregon, in Anderson, T.H., Didenko, A.N., Johnson, C.L., Khanchuk, A.I., and MacDonald, J.H., Jr., eds., Late Jurassic Margin of Laurasia—A Record of Faulting Accommodating Plate Rotation: Geological Society of America Special Paper 513, p. 1–22, doi:10.1130/2015.2513(10).

Žák J, Verner K, Tomek F, Holub, F., V., Johnson K, and **Schwartz, J.J.**, 2015, Simultaneous batholith emplacement, terrane/continent collision, and oroclinal bending in the Blue Mountains Province, North American Cordillera: Tectonics, v. 34, p. 1107-1128, doi:10.1002/2015TC003859.

**2014**

**Schwartz, J.J.**, Johnson, K., Mueller, P., Valley, J., Strickland, A., Wooden, J., 2014, Timescales and Processes of Cordilleran Batholith Construction and High-Sr/Y Magmatic Pulses: Evidence from the Bald Mountain Batholith, NE Oregon, Geosphere, 10 (6): 1456-1481; doi:10.1130/GES01033.1

**2013**

Steltenpohl, M.G., **Schwartz, J.J.,** and Miller, B.V., 2013, Late-to-post Appalachian strain partitioning and extension in the Blue Ridge of Alabama and Georgia: Geosphere, no. 3, p. 1–20; doi:10.1130/GES00738.1.

**2012**

Zak, J, Verner, K., Johnson, K. **Schwartz, J.J.**, 2012, Magnetic fabric of Late Jurassic arc plutons and kinematics of terrane accretion in the Blue Mountains, northeastern Oregon, Gondwana Research, v. 22, p. 341-352 doi:10.1016/j.gr.2011.09.013.

Zak, J, Verner, K., Johnson, K. **Schwartz, J.J.**, 2012, Magma emplacement process zone preserved in the roof of a large Cordilleran batholith, Wallowa Mountains, northeastern Oregon, Journal of Volcanology and Geothermal Research, v. 227-228, p. 61-75.

**2011**

**Schwartz, J.J.,** Johnson, K. Miranda, E.A., Wooden, J.W., 2011, The Generation of high Sr/Y plutons following Late Jurassic arc-arc collision, Blue Mountains, NE Oregon, Lithos, v. 126, p. 22-41, [doi:10.1016/j.lithos.2011.05.005](http://doilink).

**Schwartz, J.J.**, Snoke, A.W., Frost, C.D., Johnson, K., Barnes, C., Wooden, J., 2011, Late Jurassic magmatism, deformation and metamorphism in the Blue Mountains province, NE Oregon, Geological Society of America Bulletin, v. 123, p. 2083-2111, DOI: 10.1130/B30327.1.

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**Schwartz, J. J.**, John, B.E., Cheadle, M. J., Wooden, J.L., Mazdab, F., Swapp, S., Grimes, C.B., 2010, Dissolution-reprecipitation of igneous zircon in Mid-Ocean Ridge Gabbro, Atlantis Bank, Southwest Indian Ridge, Chemical Geology, v. 274, p. 68-81.

**Schwartz, J.J.,** Snoke, A.W., Frost, C.D, Barnes, C.G., Gromet, L.P., and Johnson, K., 2010, Analysis of the Wallowa-Baker terrane boundary: Implications for tectonic accretion in the Blue Mountains province, northeastern Oregon, Geological Society of America Bulletin, v. 122, p. 517-536, doi: 10.1130/B26493.1.

**2009**

Baines, A.G., Cheadle, M.J., John, B.E., Grimes, C.G., **Schwartz, J.J.**, and Wooden, J.L, 2009, SHRIMP Pb/U zircon ages constrain gabbroic crustal accretion at Atlantis Bank on the ultraslow-spreading Southwest Indian Ridge, Earth and Planetary Science Letters, v. 287, p. 540-550.

Garlick, S.R., Medaris, L.G., Jr., Snoke, A.W., **Schwartz, J.J.**, and Swapp, S.M., 2009, Granulite- to amphibolite-facies metamorphism  and penetrative deformation in a disrupted ophiolite, Klamath Mountains, California: A deep view into the basement of an accreted oceanic arc, in Miller, R.B., and Snoke, A.W., eds., Crustal cross sections from the western North American Cordillera and elsewhere: Implications for tectonic and petrologic processes: Geological Society of America Special Paper 456, p. 151–186, doi: 10.1130/2009.2456(06).

Grimes, C.B., John, B.E., Cheadle, M.J., Mazdab, F.K., Wooden, J.L., Swapp, S.M., and **Schwartz, J.J.**, 2009, On the occurrence, trace element geochemistry, and crystallization history of zircon from in situ ocean lithosphere, Contributions to Mineralogy and Petrology, v. 158, p. 757-783, doi 10.1007/s00410-009-0409-2.

LaMaskin, T.A., **Schwartz, J.J.**, Dorsey, R.J., Snoke, A.W., Johnson, K., and Vervoort, J.D., 2009, Mesozoic sedimentation, magmatism, and tectonics in the Blue Mountains Province, northeastern Oregon, in O’Connor, J.E., Dorsey, R.J., and Madin, I.P., eds., Volcanoes to Vineyards: Geologic Field Trips through the Dynamic Landscape of the Pacific Northwest: Geological Society of America Field Guide 15, p. 187–202, doi: 10.1130/2009. fl d015(09).

**Schwartz, J. J.**, John, B.E., Cheadle, M. J., Reiners, P. W., and A. G. Baines, 2009, Cooling history of Atlantis Bank oceanic core complex: Evidence for hydrothermal activity 2.6 Ma off axis, Geochem. Geophys. Geosyst., 10, Q08020, doi:10.1029/2009GC002466.

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Baines, A.G., Cheadle, M.J., John, B.E., and **Schwartz, J.J.**, 2008, The rate of oceanic detachment faulting at Atlantis Bank, SW Indian Ridge, Earth and Planetary Science Letters, 273(1-2), 105-114, doi:10.1016/j.epsl.2008.06.013.

**Schwartz, J.J.**, Gromet, L.P., and Miró, R., 2008, Timing and duration of the calc-alkaline arc of the Pampean Orogeny: implications for the Late Neoproterozoic to Cambrian evolution of Western Gondwana, The Journal of Geology, v. 116, p. 39-61.

**2007**

Grimes, C.B., John, B.E., Kelemen, P.B., Mazdab, F., Wooden J.L., Cheadle, M.J., Hanghoj, K., and **Schwartz, J.J.**, 2007, The trace element chemistry of zircons from oceanic crust: A method for distinguishing detrital zircon provenance: Geology, v. 35, p. 643-646.

**2005**

**Schwartz, J.J.**, John, B.E., Cheadle, M.J., Miranda, E.A., Grimes, C., Wooden, J.L., and Dick, H.J.B., 2005, Dating the Growth of Oceanic Crust at Slow-Spreading Ridges, Science, v. 310, p. 654-657.

**2004**

**Schwartz, J.J.**, Gromet, L.P., 2004, Provenance of a late Proterozoic-Early Cambrian basin, Sierras de Córdoba, Argentina, Precambrian Research, v. 129, p. 1-21.

**Peer-reviewed book sections**

Miró, R.C., **Schwartz, J.J.** and Gromet, P., 2004. Magmatismo calcoalcalino en la Sierra Norte de Córdoba. Su extensión temporal. In Aceñolaza et al. (Eds.), INSUGEO, Serie Correlación Geológica 16. Instituto Superior de Correlación Geológica, Tucumán, pp. 199-210.

**Schwartz, J.J.**, 2004, A Web-Based History of Modern Hapkido, *in* UC Berkeley Martial Arts Monograph, *ed.* Vogel, R., Berkeley, Ca. p. 1-22.

**GRANTS, CONTRACTS & FELLOWSHIPS**

**Funded**

External

NSF-EAR Tectonics: Collaborative Research: Resolving Conflicting Models for the Laramide Orogeny and the Flat-Slab Paradigm in the Southern California Batholith, 2022-2024 (PI): $393,948.

California Department of Conservation (with California Geological Survey): Geochemistry and Geochronology Analyses in Southern California, 2022-2024 (PI): $37,200.

NSF-MRI Acquisition of a Field Emission Gun Scanning Electron Microscope for Cal State Northridge Scanning Electron Microscopy Lab, 2021, (co-PI with Dr. Elena Miranda and Robinson Cecil): $800,000.

Southern California Earthquake Center: Investigating the exhumed ductile roots of fault zones: can the rheology of shear zones tell us about fabric inheritance in brittle faults of the San Andreas Fault system?, 2021, (co-PI with Dr. Elena Miranda: $ 34,687.44.

Department of Defense Research and Education Program for Historically Black Colleges and Universities and

Minority-Serving Institutions (HBCU/MI): Development of a CSUN GeoAnalytical Center for Research, Teaching and Outreach in Earth Systems Science, 2018 (co-PI): $600,000.

NSF-EAR-Petrology/Geochemistry: Evaluating the Role of MASH Processes and the Growth of Continental Crust, 2019-2022 (PI): $297,489.

Southern California Earthquake Center: Building the Community Rheology Model (CRM): geologic investigation of ductile shear zone rheology, 2019 (co-PI with Dr. Elena Miranda): $39,742.

California Department of Conservation (with California Geological Survey): Geochemistry and Geochronology Analyses in Southern California, 2019-2022 (PI): $30,000.

NSF Instrumentation and Facilities Program: Early Career: Acquisition of New Excimer Laser Ablation System for a High Resolution ICPMS Facility, 2017-2019 (Co-PI with Robinson Cecil, PI): $299,134.

Royal Society of New Zealand Marsden Fast Start Program: Probing the crust with zircon; a new pathfinder for mineral deposition? 2018-2020, (Associate Investigator, project led by Dr. Rose Turnbull at the New Zealand GNS Science): $345,000 (New Zealand dollars).

NSF-EAR Tectonics: Collaborative Research: Strain Localization, Shear Zone Connectivity and Magma-Deformation Interactions by Depth within a 65 km thick transpressional continental arc: 2017-2019, (named non-PI investigator, project led by CSUN faculty Elena Miranda and University of Vermont professor Keith Klepeis): $341,421.

California Geological Survey: Geochemistry and Geochronology of the Lebec Quadrangle, 2017-2018 (PI): $3,800.

California Geological Survey: Geochemistry and Geochronology of the Frazier Mountain Quadrangle, 2016-2017 (PI): $4,400.

NSF Research Experiences for Undergraduates Supplement for Investigating Controls on Arc Flare-Ups and the Growth of Lower Continental Crust, 2016 (PI): $14,216.

NSF-EAR Tectonics and Petrology/Geochemistry: CAREER: Investigating Controls on Arc Flare-Ups and the Growth of Lower Continental Crust, 2014-2019 (PI): $467,402.00.

### NSF Research Experiences for Undergraduates Supplement for Collaborative Research: Time scales and dimensions of rheological heterogeneity and fabric evolution in the lower continental crust during extensional orogenic collapse, 2014 (PI):$7500. REU supplement written by Schwartz to support CSUN undergraduate student Carol Zamora. Awarded to University of Alabama where grant resided.

### Oregon Department of Geology and Mineral Industries Contract: U-Pb zircon geochronology of Oligocene-Miocene tuffs and Cretaceous sedimentary rocks with Jason McClaughry. Start date 8/2013 (PI): $20,300.

NSF-EAR Tectonics Collaborative Research: Time scales and dimensions of rheological heterogeneity and fabric evolution in the lower continental crust during extensional orogenic collapse—NSF Tectonics (2011-2014) (Co-PI): $336,668.00. Awarded while Schwartz was faculty at The University of Alabama. Funds remained at University of Alabama.

NSF-EAR Tectonics Collaborative Research: Investigation of a Late Jurassic Paired Magmatic Belt (Blue Mountains, NE Oregon): Evaluation of Magmatic Growth During Contractional Orogeny—NSF Tectonics (2009-2012) (PI): $359,371.00.

NASA Space Grant Consortium Graduate Fellowship (2004-2005): $20,000.

Geological Society of America Research Grant (2004): $2,000.

Fulbright Fellowship (awarded in 2000, but declined to accept the Brown University Samuel T. Arnold Fellowship).

Explorers Club Grant: Field Archaeology in Petra, Jordan (1998): $1,000.

Internal

Judge Julian Beck Learning-Centered Instructional Grant: Integrating the Scanning Electron Microscope into Igneous and Metamorphic Petrology Redesign (GEOL 307/L) (2015-2016): $6,000.

CSUN Competition for Research, Scholarship and Creative Activity Awards: The Klamath-Blue Mountains Fault: An Unrecognized Large-Magnitude Fault in Oregon (2013-2014): $5,000.

CSUN Grant Application Support Program: Investigating Deep Crustal Magmatic Fluxes and the Thermal Evolution of a Continental Margin Magmatic Arc (2013-2014): 3 units release.

CSUN Promising Practices Proposal: GEOL 107. Geology Goes Hollywood (2013-2014): 6 units release.

CSUN College of Science and Math Bridge Funds (2012): 5,000.000

CSUN Competition for Research, Scholarship and Creative Activity Awards: The Generation and Cooling of mid-ocean ridge crust (2012-2013): $5,000.

Judge Julian Beck Learning-Centered Instructional Grant: Integrating cutting-edge instrumentation into the geoscience classroom laboratory via learning-centered workshops (2011-2012): $6,000.

University of Alabama Research Grants Committee: Timescales of magmatism and cooling of lower oceanic crust, Macquarie Island (2010-2012): $5,000.

University of Alabama Research Grants Committee: Magmatic Plumbing System of an Ancient Island Arc: Canyon Mountain Complex, Northeastern Oregon (2008-2010): $5,000.

Samuel T. Arnold Fellowship (Brown University): Geology and Folklore in Egypt and Brazil (2000-2001): $16,000

Undergraduate Teaching and Research Assistantship at Brown University (1999): $3,000.

Research at Brown Grants (2): Field work and stable isotopic studies of Nabataean marble, Petra, Jordan (1998 and 1999): $500 (each).

**Declined**

External

NSF-MRI Acquisition of a Field Emission Gun Scanning Electron Microscope for Cal State Northridge Scanning Electron Microscopy Lab (submitted, 2019) (Co-PI): $1,486,568.00

Early Career: Acquisition of New Excimer Laser Ablation System and Technical Support for a High Resolution ICPMS Facility—NSF Instrumentation and Facilities Program, 2016, (PI): $612,259.00.

Collaborative Research: Investigating the Construction of Paired High and Low Sr/Y Magmatic Belts in the Southern Appalachian Mountains—submitted to NSF Tectonics, January 2013 (PI): $310,317.00.

Collaborative Research: Evaluating the relationship between partial melting and crustal flow during contractional orogeny in the eastern Blue Ridge, Southern Appalachian Mountains—submitted to NSF Tectonics, January 2012 (PI): $297,593.00.

Collaborative Research: Linking timescales of magmatism and deformation in slow-spreading lower oceanic crust, Macquarie Island—submitted to NSF Marine Geology and Geophysics, August, 2010 (PI): $891,807.00.

Collaborative Research: The Final Days of a Mid-Ocean Ridge, From Spreading to Transpression: Temporal, Compositional and Tectonic Evolution of Macquarie Island, Southern Ocean—submitted to NSF Polar Programs, June, 2009 (PI): $245,271.00.

Collaborative Research: Assessing the Role of Partial Melting in Extension of Mid- to Lower-arc Crust, Fiordland New Zealand—submitted to NSF Tectonics, June 2009 (co-PI): $379,960.00.

Building enriched lower oceanic crust—timescales, trace elements and tectonics at Macquarie Island, submitted to Australian Antarctic Division in June, 2008 (co-PI): $880,000 (AUD).

Internal

CSUN Probationary Faculty Release Time: Investigating Magmatic Construction and Extensional Collapse of a Continental-Margin Magmatic-Arc Complex, Fiordland, New Zealand (2012)

Research Stimulation Program post-doctoral fellow proposal: High-temperature structural petrologist, submitted to Office of Research at The University of Alabama in Jan. 2010 (PI).

Toward a Better Understanding of Magma Generation and Evolution in Magmatic Arcs: Testing Models for the Origin of High Sr/Y Magma, New Zealand, (co-PI), submitted to The University of Alabama Internal Academy of Research and Scholarly Activity, Feb. 2009.

**PROFESSIONAL DEVELOPMENT**

Participant in the Geological Society of America Penrose Field Forum field trip: “Architecture and Evolution of the Crust During Continental Arc Magamatism” led by G. Woodsworth, M. Rushmore, H. Stowell, L. Hollister, August, 2018.

Participant in the Geological Society of America field trip: “Incorporation of Sedimentary Rocks into the Deep Levels of Continental Magmatic Arcs: Links between the North Cascades Arc and Surrounding Sedimentary Terranes” led by S. Gordon, K. Sauer, and B. Miller, October, 2017.

Participant in Iolite Workshop at Goldschmidt Geochemical Conference, Sacramento, 2014

Participant in the 2013 ExTerra workshop at Goldschmidt Geochemical Conference, Florence, Italy, 2013

Participant at “Using Google Earth in Undergraduate Geoscience Education” at GSA Annual Meeting, October, 2010.

Participant in the Geological Society of America Field Forum: “Tectonic significance of vertical boundaries in the Cordillera”, July-August, 2006.

Participant in the Geological Society of America Field Forum along the western Idaho Shear Zone investigating the role of transpression in the Cretaceous history of the Cordillera, Summer 2006

Participant in “Low Temperature Thermochronology” Short Course, October 2005.

Participant in the Mineralogical Society of America short course at Snowbird, UT that focused on the application of low-temperature thermochronometers, 2004

**RESEARCH/INDUSTRY EXPERIENCE**

**CSUN Laser Ablation Inductively Coupled Plasma Mass Spectrometer Lab** Aug. 2011 to Present

Co-director with Robinson Cecil. We developed methods for U-Pb isotope geochronology, trace element geochemical analysis of minerals, natural water and whole-rock samples using the CSUN ThermoScientific Element2 LA-SF-ICPMS.

**CSUN Mineral Separation and Rock Fusion Lab**  Aug. 2011 to Present

I developed techniques for mineral separation involving use of a Wilfley water table, Frantz isodynamic magnetic separator, and heavy liquids. I also developed methods for fusing whole rock powders for geochemical analysis by X-ray florescence spectrometry at Pomona College and inductively-coupled plasma mass spectrometry at CSUN.

**Stanford/USGS Sensitive High-Resolution Ion Microprobe Lab (SHRIMP-RG)** Aug. 2011 to Present

I have conducted analyses and supervised student projects related to U-Pb zircon geochronology and trace element analyses with Dr. Matt Coble. I travel bi-annually to the SHRIMP lab with CSUN students.

**Pomona College X-ray Fluorescence Lab** Aug. 2011 to Present

I conducted whole-rock geochemical analyses with collaborator Professor Jade Star Lackey at Pomona College related to various projects.

**University of Wisconsin-Madison Ion Microprobe Lab (Cameca 1280)**  April 2011 to present

I conducted oxygen isotope analyses of igneous zircon with Dr. John Valley to investigate the petrogenesis of igneous rocks in arc and mid-ocean ridge settings.

**Stanford/USGS Sensitive High-Resolution Ion Microprobe Lab (SHRIMP-RG)** May 2008 to 2011

I conducted U-Pb analyses of zircon, monazite and titanite with various students related to Jurassic magmatism in the Blue Mountains, NE Oregon and slow-spreading mid-ocean ridge magmatism at the Miocene Macquarie Island spreading center.

**University of Alabama X-Ray Fluorescence Laboratory** Aug. 2007 to 2011

I managed and ran the University of Alabama X-ray fluorescence laboratory. Major and select trace elements were analyzed on a Phillips PW2400 X-ray fluorescence detector.

**University of Alabama Inductively Coupled Plasma Mass Spectrometer Lab** Aug. 2007 to 2011

I developed methods for trace element geochemical analysis of whole rock samples at the University of Alabama.

**University of Florida Laser Ablation Multicollector ICPMS Lab**  October 2010

I conducted Lu-Hf isotopic work in zircon to investigate the petrogenesis of Late Jurassic to Early Cretaceous plutons in the Blue Mountains province, NE Oregon.

**University of Arizona LaserChron Lab**  Jan. 2009 & August 2010

I supervised two graduate student geochronology projects using the University of Arizona laser ablation multicollector inductively coupled plasma mass spectrometer (LA-MC-ICPMS). Projects involve U-Pb detrital zircon dating of Permian-Triassic metasedimentary rocks and Lu-Hf isotopic analyses of Late Jurassic-Early Cretaceous plutonic rocks from the Blue Mountains Province, NE Oregon.

### University of Wyoming Sept. 2003 to 2007

U-Pb zircon dating and (U-Th)/He thermochronology with Professors John and Cheadle to characterize the timing of crustal growth and faulting in slow-spreading oceanic crust

Field mapping, Rb-Sr, Sm-Nd isotope geochemistry, major and trace element geochemistry and U-Pb geochronology with Professors Snoke and Frost to understand the tectonic evolution of the Baker terrane, Blue Mountains, northeast Oregon

### Brown University December 2006 to January 2007

### Guest researcher with Professor Peter Gromet: U-Pb zircon and sphene geochronology to determine the timing of igneous and metamorphic activity in the Blue Mountains and Klamath Mountains (with Professor Snoke and students)

### ExxonMobil April 2006 to June 2006

Summer internship at the Upstream Research Company (mentor: Ian Norton). Internship title: Basement influences on rift architecture and reservoir distribution in the North Sea and mid-Norwegian margin

**Stanford/USGS Sensitive High-Resolution Ion Microprobe Lab** May 2004 & May 2005

U-Pb zircon and trace element analyses with Dr. Joseph Wooden to characterize emplacement age and zircon chemistry of lower oceanic crust, Atlantis Bank, Southwest Indian Ridge

**Yale University** April 2005

Guest researcher with Professor Peter Reiners using (U-Th)/He zircon and apatite thermochronology to determine cooling history of lower oceanic crustal rocks from Atlantis Bank, Southwest Indian Ridge

**Shipboard Scientific Party, *KN180-2 with Jason II and ABE*** Nov. 2004 to Dec. 2004

Research leg to Kane Oceanic Core Complex (Mid-Atlantic Ocean): structural geologist, characterized degrees of deformation in oceanic crustal and mantle rocks

**Brown University**  Sept. 2001 to May 2003

U-Pb zircon dating and Rb-Sr, Sm-Nd isotope geochemistry research with Professor L. Peter Gromet to better understand the tectonic evolution of the Eastern Sierras Pampeanas, Argentina

**University of New Mexico** June-July 2000

Field Assistant for Professor Karl Karlstrom examining structural geometry of Proterozoic suture zones in high-grade island arc terranes, northern Colorado

**Brown University** Dec. 1998 to May 2000

Detrital zircon dating (Pb-Pb Kober method) with Professor L. Peter Gromet to understand timing of basin development and provenance of sediments in the Eastern Sierras Pampeanas, Argentina

**RESEARCH FIELD EXPERIENCE**

Fiordland, New Zealand: field work and sample collection (January, 2012-present)

Santa Rosa Mylonite Zone: field work and sample collection (November, 2019)

Cucamonga terrane, CA: field mapping and sampling (2012-2019)

South Mountains, Arizona: field work and sample collection (Feb. 2012-March 2016)

Blue Mountains province, northeastern Oregon: field mapping and sample collection (2005-2012)

Alabama Eastern Blue Ridge: sampling (Fall 2009-2011)

Macquarie Island (sample collection in Adelaide and Hobart, Australia; June 2009)

Magnet Cove, Arkansas: Annual undergraduate Igneous Petrology field trips and sampling of Cretaceous alkaline rocks (Spring 2008-2011)

La Popa, Basin, Mexico: Field trip with the University of Alabama (Geo 534/634) to examine salt diapir structures in Creatceous and Tertiary sedimentary rocks (Fall, 2007)

Colorado Extensional Corridor: process and products of extensional tectonics in the southern Basin and Range, led by Barbara John and Michael Cheadle (March, 2006)

Kane oceanic core complex (Mid-Atlantic Ocean): petrologist/structural geologist and member of the Scientific Party (November to December 2004).

North Cascades, Washington: field mapping (August 2004)

Swiss Alps:comparative study of marine and terrestrial peridotite; a field investigation of denuded mantle in the Swiss Alps, led by Barbara John and Michael Cheadle (July to August 2004)

South Pass, Wind Rivers, Wyoming: field mapping with Professor Arthur Snoke (August 2003)

New England Field Geology & Tectonics: course offered by Professor L. Peter Gromet examining Precambrian and Paleozoic regional geology of New England (September-December 2002)

Eastern Sierras Pampeanas, Argentina: sampling for geochronology and geochemistry project with Professor L. Peter Gromet (July to August, 2002)

Lester Mountain Shear Zone, northern Colorado: field assistant and structural field mapping with Professor Karl Karlstrom and graduate students (June and July 2000)

Colorado Plateau: undergraduate departmental field trip lead by Professor Jan Tullis (March, 2000)

**III. Contributions to the University and Community**

I serve as a reviewer for an average of 2-3 NSF proposals per year, and an average of 5-10 manuscripts per year for Nature Geoscience, Science Advances, Geology, Geosphere, Lithosphere, Earth and Planetary Science Letters, Geological Society of America Bulletin, Lithos, Gondwana Research, Tectonics, Journal of Petrology, and Canadian Journal of Earth Sciences.

**CSUN ‘ROCs’ Outreach Program (**[**https://www.larocs.org/**](https://www.larocs.org/)**):** I started an outreach program at CSUN in 2012 that aims to 1) encourage aspiring CSUN geology undergraduate students, especially minorities and females, to pursue research projects with faculty mentors (including, but not limited to myself) and 2) broaden students’ understanding of career and graduate school opportunities in the geosciences. I have held weekly to biweekly meetings over the past year with CSUN undergraduates to discuss strategies for successfully navigating research, including: 1) identifying a research problem with a faculty mentor, 2) developing a systematic research approach to achieve the goals of the project, 3) giving successful oral presentations, and 4) creating a resumé, and 5) balancing research and course work. The program is funded by my NSF CAREER award and involves colloquium talks from invite speakers from around the country who meet with CSUN undergraduate students to discuss career and research opportunities in the geosciences. The ‘ROCs’ program also supports students to attend regional and national meetings to present their research and meet prospective faculty advisors.

**K-12 Outreach in the South Island, New Zealand:** I started an outreach program with collaborators Drs. H.H. Stowell (University of Alabama) and K.A. Klepeis (University of Vermont) with the Deep Cove Outdoor Educational Trust (DCOET) in 2012 that seeks to develop hands-on activities and other geoscience educational activities with K-12 students in the South Island, New Zealand. The DCOET is a non-profit organization established in 1971 that provides K-12 students from across the South Island with an opportunity to experience the flora, fauna and geology of Fiordland National Park. Rotating groups of students and educators spend 3-4 nights at the Deep Cove Hostel where they learn about Fiordland through a series of hands-on activities. Through a partnership with DCOET trustees, I have created a Fiordland rock library which contains world-class examples of local rocks and accompanying text written for the general audience so that students and educators can ‘see what a geologist sees’. I have also initiated a web-based geology video series entitled ‘Fire, Ice and Tremors: the Geology of Fiordland National Park.’ The videos were produced through a partnership with Vertex Media, CA using footage from my field work in Fiordland and interviews with geologic experts from around the world. Videos can be accessed here: <https://youtu.be/5H9JRxUvGWE>.

**Guest Associate Editor for Geosphere Themed Volume in Honor of Arthur Snoke:** Since 2015, I have served as editor for 9 articles that have been published in Geosphere.

**Geoscience (Volcanology) expert in Visiting Episodes 1 and 6:** I worked with VertexMedia Group to produce a pilot episode of the series ‘Visiting’. Visiting is an episodic documentary series that explores Earth through new and unbiased eyes. The first episode, “Inferno” is a hour-long episode that explores the importance of volcanos on Earth. I have also worked with VertexMedia on Episode 6, “Earth.”

**Geology advisor to Envicom/Conrad Hilton Foundation:** I collaborate as geology advisor on an archaeological investigation led by the Conrad Hilton Foundation in Calabasas, CA.

**NSF Early Career Panelist:** I traveled to NSF in April 2014 to serve as a panelist for the NSF Tectonics program. I reviewed ~40-50 proposals and made funding recommendations to Program Directors in Tectonics and Petrology/Geochemistry.

**NSF Tectonics Panelist:** I participated in virtual NSF Tectonics panels in spring 2021 and spring 2022.

**HONORS AND SCHOLARSHIPS**

W.C. Hayes Scholarship awarded through University of Wyoming (2003-2004; 2005-2006)

Harriet W. Sheridan Center Certificate for Teaching: Brown University (2002)

Geological Society of America Best Student Presentation in Tectonics (2001)

Rose Writing Fellow at Brown University (1998-2000)

Rhetoric Fellow at Brown University (1999-2000)

**INVITED TALKS**

Coast Geological Society, 2022

University of California Santa Barbara, 2022

California State University Long Beach, 2020

Green River Pottery Studio, Santa Fe, New Mexico, 2019

CSUN College of Science and Math Emeritus Luncheon, 2018

California State University Fullerton, 2018

Geological Society of America Thompson Field Forum, Prince Rupert, British Columbia, 2018

Pomona College, 2017

University of Southern California, 2017

University of Alabama, 2017

UCLA, 2016

University of Southern California, 2012

University of Georgia, 2009.

University of Adelaide, 2009.

University of Houston Downtown, 2008.

Corporate Headquarters: Mountain View Campus, 2007.

Geological Society of America Field Forum, McCall, Idaho, 2006.

ExxonMobil, Houston, TX., 2006.

Brown University, 2005.

**PROFESSIONAL MEMBERSHIPS**

Sigma Xi, Geological Society of America, American Geophysical Union, Mineralogical Society of America, Geochemical Society, National Association of Geoscience Teachers

**DEPARTMENTAL, COLLEGE & UNIVERSITY SERVICE**

**California State University Northridge**

1. Departmental Committees
   1. Departmental Program Review Committee member (2011-2012)
   2. Departmental Curriculum Committee member (2012-2016; 2017-present): The curriculum redesign involves creation of new courses and modification of existing courses into a tiered course structure whereby students are exposed to key geology concepts and skills at multiple points through their CSUN education.
   3. Departmental Curriculum Committee co-chair (2018-present)
   4. Departmental GeoClub Advisor (2013-2016): As a GeoClub advisor, I have given annual lectures to the GeoClub entitled ‘Demystifying the Graduate School Experience’. Goals of these lectures are to provide CSUN students with a faculty perspective on the graduate application process including information about studying for the GREs, identifying and contacting prospective graduate advisors, and crafting a personal letter of application. The lectures have been attended by 30-40 CSUN students per year.
   5. Departmental Curriculum Re-design Committee member (2013-2016): Reorganization of B.S. and new B.A. degree program.
   6. Departmental Paleo New Faculty Search Committee member (2014-2015)
   7. Departmental Speaker Coordinator (2014-2015)
   8. Departmental Instrument Technician Search Committee Chair (2015)
   9. Departmental Hydrogeology New Faculty Search Committee Chair (2015-2016)
   10. Departmental Instrument Technician Search Committee member (2016)
2. College Committees
   1. College Curriculum Committee (2012-2016; 2017 to present): I have reviewed and commented on 5-10 proposals/year.
   2. Department International Liaison for International Education for the College of Science and Mathematics (2017 to present)
3. University Committees and service
   1. Faculty Senate (2014-2015)
   2. Faculty Scholars Academy Lecturer and Mentor (summers 2014; 2016; 2017)
   3. Co-led Geoscience workshops for preschool students at CSUN Childhood Development Center (Preschool) (2017)

**Collaborators (last 48 months)**:

K. Klepeis (University of Vermont), H. Stowell (University of Alabama), Elena Miranda (CSUN), Robinson Cecil (CSUN), Andy Tulloch (GNS Sciences, New Zealand), Rose Turnbull (GNS Sciences, New Zealand).

**LANGUAGE SKILLS**

Portuguese (Conversational: independent project in Brazilian Amazon)

Arabic (Modern Standard & Egyptian dialect: moderate reading, speaking & writing; 6 semesters of academic study at Brown University; tutored Arabic speakers in English; archaeological field work in Jordan, independent project in Jordan, and Sinai, Egypt)

French (Moderate speaking, reading & writing: 5 years of academic study in high school)

Spanish (Basic speaking, reading & writing: 1 semester of academic study at Brown University; geology field work in Argentina)

Biblical Hebrew (Moderate reading: 3 semesters of academic study at Brown University)

Classical Latin (Moderate reading: 4 years of academic study in high school)

**EXTRACURRICULAR ACTIVITIES**

Rose Bowl Aquatic Club Masters Swim Team (2018-present); Top 10 US Masters Swimmer 2018; 2021. National Champion 100- and 200-meter butterfly, summer 2019; National Champion 100 freestyle and 200-meter butterfly, fall 2021.

Muay Thai (2011-2014)

Jeet Kune Do (2010-2011)

Laramie Bujinkan: (2006-2007)

University of Wyoming Seiyo Shorin-ryu Club (2003-2005)

Brown University Hapkido Club: Instructor (1997-1999; 2001-2003)

Brown University Brazilian Jiu jitsu (2003)

Brown University Aikido Club (1996-2001)

Brown University Men’s Varsity Swimming Team (1996-1997)