DEMIAN A. NELSON

demian@ucsb.edu | (805) 459-9735 | https://demiannelson.weebly.com

---

EDUCATION

2018 University of California, Santa Barbara, Advisor: Dr. John Cottle
Ph.D. Geological Science, *4.0 GPA*, and Certificate in College and University Teaching

Dissertation title: "Investigating the secular geochemical and geodynamic evolution of accretionary orogens with zircon petrochronology: A case study from West Antarctica."

2013 University of California, San Diego, Advisor: Dr. James Day
B.Sc. Earth Sciences Honors with High Distinction, *Summa Cum Laude, 3.90 GPA*

Thesis title: Platinum group element (PGE) mineralization in chromitite layers within mafic-ultramafic layered intrusions."

2010 Cuesta Community College, San Luis Obispo,
A.A. Arts and Humanities with High Honors, *3.95 GPA*

PROFESSIONAL EXPERIENCE

2013-2018 Graduate Student Researcher / Teaching Assistant / Teaching Associate, Department of Earth Science, University of California, Santa Barbara

2018 NSF GRIP Intern, United States Geological Survey, Volcano Science Center, Menlo Park, CA

2012-2013 Undergraduate Research Assistant, Scripps Isotope Geochemistry Laboratory, University of California, San Diego

RESEARCH INTERESTS/EXPERIENCE

Fields: petrochronology, tectonics, volcanology, accretionary orogens

Secular evolution of accretionary orogens: petrochronologic studies of Phanerozoic arc-related rocks in southern Gondwana and Cenozoic slab-window rocks of coastal California.

Interaction between water and volcanic glass: detailed investigations of layered glassy volcanic rocks in Antarctica and Japan.

Technical applications: LA-MC-ICP-MS, LA-Q-ICP-MS, TIMS, SEM, EPMA, SIMS, FTIR, XRF, XRD

TEACHING EXPERIENCE

Certificate of College and University Teaching (June 2018)
Summer Teaching Institute for Associates (Summer 2017)

Associate/Instructor, UCSB, 2017
Earth 10 Antarctica – The Last Place on Earth: themed introduction to physical geology and oceanography.

Assistant, UCSB, 2013 – present
Earth 6 Mountains, Boots, and Backpacks (field-based)
Earth 10 Antarctica – The Last Place on Earth
Earth 20 Geological Catastrophes
Earth 118 Summer Field Geology (field-based)
Earth 196 Senior Honors Thesis – students: Keith Chancey and Chris Strong.
Earth 199 Independent Studies

AWARDS

2017 NSF Graduate Research Internship Program Award ($13,000)
2016 GSA 35th IGC travel grant ($3000)
2016 Goldschmidt Conference NASA travel grant ($600)
2016 Global Field Travel Fund, UCSB departmental travel grant ($1800)
2015 Fugro Field Award, Fugro Company ($1500)
2015 GSA Mineralogy, Geochemistry, Petrology, and Volcanology Award ($2000)
2015 Exxon Mobil/Geological Society of America Student Research Grant ($7500)
2014 Antarctic Science Bursary Award ($8000)
2014 Earth Research Institute Fellowship ($2000)
2014 Graduate Opportunity Award, UCSB departmental research grant ($4000)
2014 Global Field Travel Fund, UCSB departmental travel grant ($1800)
2013 NSF Graduate Research Fellowship ($32k/year x3)
2013 UCSB Doctoral Scholar Fellowship ($24k/year x2)
2013 Outstanding Undergraduate of the Year, Scripps Institution of Oceanography
2012 Student Research Grant, Society of Economic Geologists - SEG ($2500)
2012 Student Field Trip Grant Cu-Porphyry Systems of Peru, SEG ($2000)
2012 McNair Pre-Doctoral Scholar, UCSD
2012 Darcy and Robert Bingham Scholarship, UCSD ($2000)
2010-2013 Provost Honors, UCSD
2010 Warren Hansen Scholar Athlete of the Year, Cuesta Community College

FIELDWORK

(Ongoing) Coast Ranges, California, sample collection of Coast Range Volcanics
2016 Central Transantarctic Mountains, Antarctica, NSF Award: #1443296
2016 Orange River, South Africa, field reconnaissance
2016 Rebun Island, Japan, sample collection of the Momo-Iwa Cryptodome

2015 Dry Valleys, Antarctica, NSF Award: #1443296
2014 Central Andes, Chile, field assistant mapping volcanic deposits
2014 Advanced Field Methods, UCSB, Iron Mountain, CA, Instructor: Phil Gans
2014 Iceland summer field course, University of Iceland
2014 6-week summer field course: New Mexico and North Lake Tahoe
2012 Isle of Rum, Scotland, sample collection of the Eastern Layered Intrusion
2012 Stillwater, Montana, sample collection of the Stillwater Igneous Complex
2012 SEG Student Dedicated Field Course, Cu-Porphyry systems of Southern Peru

JOURNAL PUBLICATIONS

Nelson, D. A., & Cottle, J. M. (in review). Tracking voluminous Permian volcanism of the Choiyoi Province into central Antarctica. *Lithosphere.*

Nelson, D. A., & Cottle, J. M. (2018). The secular evolution of accretionary orogens: linking the Gondwana arc record of West Antarctica, Australia, and South America. *Gondwana Research.* doi.org/10.1016/j.gr.2018.06.002

Nelson, D. A., & Cottle, J. M. (2017). Long-term geochemical and geodynamic segmentation of the paleo-Pacific margin of Gondwana: Insight from the Antarctic and adjacent sectors. *Tectonics*, 36. doi.org/10.1002/2017TC004611

CONFERENCE ABSTRACTS

Nicole, F., Kimbrough, D., Behl, R., and Nelson, D. A. (2017). Laser ablation ICP-MS zircon U-Pb dating of Monterey Formation tuff in the Los Angeles and Santa Barbara basins. *Geological Society of America Abstracts with Programs (Vol. 49, No. 6).*

Browne, N., Cottle, J., and Nelson, D. A. (2017). Petrogenesis of late-stage, high-K magmas within a continental arc: an example from the Ross Orogen, Antarctica. *Geological Society of America Abstracts with Programs (Vol. 49, No. 6).*

Nelson, D. A., and Cottle, J. M. (2016). Formation of layering in a hypabyssal intrusion by shear-induced fracture, exsolution, and rapid devitrification. *Goldschmidt Abstracts* (2262).

Nelson, D.A., and Cottle, J.M. (2016). Origin of the Hanson Formation, Antarctica– unlocking the pre-breakup history of the paleo-Pacific margin of Gondwana. *35th IGC,* Cape Town, South Africa.

Nelson, D.A., and Cottle, J.M. (2015). Petrogenesis of the Butcher Ridge Igneous Complex, a unique layered glassy silicic intrusion within the Ferrar Large Igneous Complex, Antarctica. XII *International Symposium on Antarctic Earth Science*, Goa, India.

Nelson, D. A., Cottle, J. M., Barboni, M., & Schoene, B. (2014). Petrologic significance of silicic magmatism in the Ferrar Large Igneous Province: geochemistry and geochronology of the Butcher Ridge Igneous Complex, Antarctica. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 4831).

INVITED TALKS

February 2018. Evolution of the paleo-Pacific margin of Gondwana in the Antarctic sector. Lithosphere Dynamics Lecture Series, University of Southern California

October 2017. The Metamorphic and Magmatic History of the Ross Orogen in Southern Victoria Land, Antarctica. 3rd Interdisciplinary Antarctic Earth Sciences meeting, Washington

December 2016. The Metamorphic and Magmatic History of the Ross Orogen in Southern Victoria Land, Antarctica. McMurdo Station Science Lecture Series