

CURRICULUM VITAE – PETER AARON SELKIN

School of Interdisciplinary Arts and Sciences, University of Washington Tacoma
1900 Commerce Street, Box 358436
Tacoma, WA 98402
Office: Science 208
Phone: (253) 692-5819
Email: paselkin@u.washington.edu

EDUCATION

PhD, Earth Sciences (Paleomagnetism)

Scripps Institution of Oceanography, University of California, San Diego (2003)

Dissertation title: *Archean Paleointensity from Layered Intrusions*

Co-Advisors: Jeffrey S. Gee and Lisa Tauxe

BA Magna cum Laude, Geology

Amherst College, Massachusetts (1997)

CURRENT RESEARCH

- Geophysics and rock magnetism applied to environmental problems
- Mineralogy and magnetic properties of iron oxides in rocks, soils, and anthropogenic debris
- Reliability of records of Earth's magnetic field, particularly from the Archean
- Tracing magma movement in large igneous bodies using fabric and magnetic anisotropy
- Geoscience education

TEACHING AND RESEARCH EXPERIENCE

Fall 2015 – Present

Associate Professor, IAS/Environmental Science, University of Washington Tacoma

Summer 2018

Visiting Professor, Institut de Physique du Globe / Université de Paris – Diderot, Paris, France.

Winter 2017

Visiting Scientist, Laboratorio de Paleomagnetismo Daniel Valencia, Universidad de Buenos Aires, Argentina

January 2015-March 2015

Paleomagnetist, International Ocean Discovery Program Expedition 354, Bengal Fan

Fall 2008 - 2015

Assistant Professor, IAS/Environmental Science, University of Washington Tacoma

Fall 2006 - Spring 2008

Lecturer, IAS/Environmental Science, University of Washington Tacoma, WA

Fall 2004 - Spring 2006

Assistant Professor, Geography / Geology, San Diego City College, San Diego, CA

Fall 2004

Adjunct Professor, Oceanography, Palomar College (Mt. Carmel Education Center), San Diego, CA

Fall 2003 - Spring 2004
Lecturer (Part-Time), Earth Sciences
and *Postdoctoral Researcher and Visiting Scholar (Part-Time)*
Scripps Institution of Oceanography, UC San Diego, La Jolla, CA

1997 - 2003
Graduate Student Researcher, Scripps Institution of Oceanography, UC San Diego, La Jolla, CA

Fall 1998 - Fall 2002
Teaching Assistant, Earth Sciences, UC San Diego, La Jolla, CA

1996-1997
Undergraduate Researcher, Keck Geology Consortium, Amherst College, MA / University of Massachusetts, Amherst / College of Wooster, OH / Cyprus

Summer 1996
Undergraduate Researcher, *Experimental Petrology Laboratory*, California Institute of Technology, Pasadena, CA

1995-1996
Teaching Assistant, Geology, Amherst College, Amherst, MA

PUBLICATIONS

Peer-Reviewed

*: Undergraduate Student

Teasdale R., Selkin P., Goodell L. 2018. Evaluation of student learning, self-efficacy, and perception of the value of geologic monitoring from *Living on the Edge*, an InTeGrate curriculum module. *Journal of Geoscience Education*, 66(3), 186–204.
doi:[10.1080/10899995.2018.1481354](https://doi.org/10.1080/10899995.2018.1481354).

Selkin, P.A., J. Boyle, A. A. Carlini, K.S. Davies-Vollum, R. Dunn, M.J. Kohn, R.H. Madden, and C.A.E. Strömberg, 2015, Climate, dust, and fire across the Eocene-Oligocene transition, Patagonia, *Geology*, 43, 567-570.

Selkin, P.A., J.S. Gee, and W.P. Meurer. 2014. Magnetic Anisotropy as a Tracer of Crystal Accumulation and Transport, Middle Banded Series, Stillwater Complex, Montana, *Tectonophysics*, 629, 123-137.

Becker, B.J., and P.A. Selkin, 2009, Marine reserve design: Simulating stakeholder options, *Teaching Issues in Ecology and the Environment*, 6 (Experiment 3),
http://tiee.esa.org/vol/v6/experiment/marine_reserve/abstract.html [Developed maps for simulation using GIS tools. Participated in original classroom tests.]

Selkin, P.A., J.S. Gee, W.P. Meurer, and S.R. Hemming, 2008, Paleointensity Record from the 2.7 Ga Stillwater Complex, Montana, *Geochemistry, Geophysics, Geosystems*, 9 (Q12023), doi:10.1029/2008GC001950

Selkin, P.A., J.S. Gee, and L. Tauxe, 2007, Nonlinear thermoremanence acquisition and implications for paleointensity data, *Earth and Planetary Science Letters*, 256, 81-89.

Gee, J.S., W.P. Meurer, P.A. Selkin and M.J. Cheadle, 2004, Quantifying three-dimensional silicate fabrics in cumulates using cumulative distribution functions, *Journal of Petrology*, 45,

1983-2009. [With Jeff Gee, developed data processing technique and wrote computer code to estimate three-dimensional fabric parameters from two-dimensional thin section grain tracing.]

Tauxe, L., C. Luskin*, P. Selkin, P. Gans and A. Calvert. 2004. Paleomagnetic results from the Snake River Plain: Contribution to the time-averaged field global database. *Geochemistry, Geophysics, Geosystems*, 5 (Q08H13), doi:10.1029/2003GC000661. [Led paleomagnetic field sampling team (myself, postdoc, and undergraduate) in Idaho: identified suitable sites, worked with geochronologists to determine stratigraphy, obtained permission to drill, collected oriented drill core and metadata.]

Selkin, P.A., 2003, *Archean Paleointensity from Layered Intrusions*, Ph.D. dissertation, University of California, San Diego, 323 pp.

Cronin, M.*, L. Tauxe, C. Constable, P. Selkin, and T. Pick, 2001, Noise in the Quiet Zone, *Earth and Planetary Science Letters*, 190, 13-30. [Participated in field sampling, helped advise first author (undergraduate) on statistics.]

Selkin, P.A., Gee, J.S., Tauxe, L., Meurer, W.P. and A.J. Newell, 2000, The effect of remanence anisotropy on paleointensity estimates: a case study from the Archean Stillwater Complex, *Earth and Planetary Science Letters*, 183, 403-416.

Selkin, P.A. and L. Tauxe, 2000, Long-term trends in palaeointensity, *Proceedings of the Royal Society of London A.*, 358, 1065-1088.

Field-Tested Educational Materials

Goodell, L., P.A. Selkin, and R. Teasdale, Reviewed, 2015, Living on the Edge: Building Resilient Societies on Active Plate Margins, *InTeGrate: Interdisciplinary Teaching about Earth for a Sustainable Future*, to be accessible at:

http://serc.carleton.edu/dev/integrate/teaching_materials/living_edge/index.html

[Module has undergone peer review. Released to public after classroom testing and data analysis. I proposed the module, wrote the original outline, wrote the summative assessment, wrote a unit (material for one class day) on risk at transform plate boundaries and seismic safety, and co-wrote the culminating activity – a two-day Mount Rainier eruption simulation.]

Reports, Expedition 354 Science Party

Reilly, B.T., Stoner, J.S., Selkin, P.A., Savian, J.F., Meynadier, L., 2018. Data report: paleomagnetic directions from IODP Expedition 354, Hole U1451A, Cores 23H and 24H, in: *Proceedings of the International Ocean Discovery Program*. International Ocean Discovery Program, College Station, TX.

France-Lanord, C., Speiss, V. Klaus, A., Schwenk, T. and the Expedition 354 Scientists, 2016, *Proceedings of the International Ocean Discovery Program*, 354.

France-Lanord, C., Speiss, V. Klaus, A., and the Expedition 354 Scientists, 2015, Bengal Fan: Neogene and late Paleogene record of Himalayan orogeny and climate: a transect across the Middle Bengal Fan. *International Ocean Discovery Program Preliminary Report*, 354. <http://dx.doi.org/10.14379/iodp.pr.354.2015>

Non-Peer-Reviewed

Selkin, P.A., 2006, Google Earth and Geoscience Education, *On the Cutting Edge: Professional Development for Geoscience Faculty*, accessible at:
http://serc.carleton.edu/NAGTWorkshops/visualize04/tool_examples/google_earth.html

PRESENTATIONS

*: Undergraduate Student

Invited Research Presentations

“Magnetic Fabric in Submarine Channel-Levee Deposits: Insights from the Bengal Fan”, June 29, 2018, Seminar, Institut de Physique du Globe, Paris.

“Himalaya Underwater: Environmental Magnetism and Deep Ocean Drilling on the Middle Bengal Fan”, March 6, 2017, Geology Seminar, University of Buenos Aires.

“The Himalaya Underwater: Environmental Magnetism and Deep Ocean Drilling on the Middle Bengal Fan (8° N)”, December 4, 2015, Central Washington University.

“The Himalaya Underwater,” May 20, 2015, School of Interdisciplinary Arts and Sciences Brown Bag Seminar, UW Tacoma.

“Paleoenvironments and paleoclimate from land to sea across the Eocene-Oligocene transition, Patagonia”, June 2, 2014, Marine Geology and Geophysics Seminar Series, School of Oceanography, UW Seattle.

“Investigating Ancient Climate Change in Patagonia,” April 30, 2014, Interdisciplinary Arts and Sciences Brown Bag Seminar, UW Tacoma.

“A magnetic perspective on magmatic processes in the Stillwater Complex, Montana,” February 27, 2014, Thompson Hall Seminar Series, University of Puget Sound, Tacoma, WA.

“From footprint to fingerprint: using soil magnetism and mineralogy to trace smelter contamination in Tacoma,” February 6, 2012, Environmental Science Seminar Series, UW Tacoma, Tacoma, WA.

“From footprint to fingerprint: using soil magnetism and mineralogy to trace smelter contamination in Tacoma,” December 13, 2011, Northwest Geological Society, Seattle, WA.

“The Early Earth and its Magnetic Field,” November 17, 2008, Environmental Science Seminar Series, UW Tacoma, Tacoma, WA.

“Paleointensity Distributions and the Early Geodynamo.” (Co-Authors: J.S. Gee, W.P. Meurer, L. Tauxe and C.G. Constable) Fall 2003 American Geophysical Union Meeting, San Francisco.

“Magnetic Anisotropies and Magmatic Fabrics in the Middle Banded Series, Stillwater Complex, MT.” (Co-Authors: J.S. Gee, W.P. Meurer and B.D. Grosser*) Fall 2000 American Geophysical Union Meeting, San Francisco.

“Late Archean Paleointensity from the Stillwater Complex, MT.” (Co-Authors: J.S. Gee and W.P. Meurer) Fall 2000 American Geophysical Union Meeting, San Francisco.

“Absolute Paleointensity variations: How Restless is the Geodynamo?” (Co-Author: L. Tauxe) Fall 1999 American Geophysical Union Meeting, San Francisco.

Other Research Presentations

Selkin, P.A., F. Bergmann, M. Brainard*, P. Dekens, V.V. Galy, H. Lantzsch, M. Manzueta Jr.*, L. Meynadier, B. Reilly, V. Ruiz III*, J. Savian, M. Weber, C. France-Lanord, V. Spiess, A. Klaus, and the Expedition 354 Science Party, 2017, Magnetic fabric and channel migration in the active levee of the Bengal Fan, IODP Site U1454, Seattle: 2017 Annual Meeting, Geological Society of America, Abstract 43-8.

Meynadier, L., J.F. Savian, P.A. Selkin, B. Reilly, H. Lantzsch, H. Saur, A. Galy, V. Spiess, C. France-Lanord, and A. Klaus, 2016, Magnetic study of a recent levee in the Bengal Fan (8°N, IODP Site U1454) [Poster], San Francisco, CA: 2016 Fall Meeting, American Geophysical Union, Abstract GP43B-1243 .

Weber, M.E., P. Dekens, B. Reilly, H. Lantzsch, P.A. Selkin, S. Das, T. Williams, Y.M. Martos, R.R. Adikhari, B.R. Gyawali, Guodong Jia, L.R. Fox, Junyi Ge, M.C. Manoj, J.F. Savian, L. Meynadier, V. Spiess, C. France-Lanord, and A. Klaus, 2016. The last glacial cycle documented on the Lower Bengal Fan - chronological and paleoclimate implications [Poster], San Francisco, CA: 2016 Fall Meeting, American Geophysical Union, Abstract A23J-0355.

Selkin, P.A., L. Goodell, R. Teasdale, 2015, Changes in Student Knowledge and Views of Geohazards, Societal Risks, and Monitoring at Active Plate Boundaries Using a Data-Rich Curriculum, San Francisco, CA: 2015 Fall Meeting, American Geophysical Union, Abstract ED14B-01.

Gee, J.S., P.A. Selkin, and W.P. Meurer, 2015, Geomagnetic Intensity Record from the 1.43 Ga Laramie Anorthosite Complex, San Francisco, CA: 2015 Fall Meeting, American Geophysical Union, Abstract GP21A-02.

Dekens, P., M. Weber, H. Lantzsch, S. Das, T. Williams, R. Adikhari, G. Jia, L. Fox, J. Ge, M.C. Manoj, J. Savian, B. Reilly, P. Selkin, L. Meynadier, V. Spiess, C. France-Lanord, and B. Sharma, 2015, Paleooceanographic history of the Lower Bengal Fan during the last glacial cycle – IODP Expedition 354 [Poster], San Francisco, CA: 2015 Fall Meeting, American Geophysical Union, Abstract PP31A-2214.

Reilly, B., P. Selkin, L. Meynadier, J. Savian, M. Weber, T. Schwenk, V. Spiess, J. Stoner, C. France-Lanord, and A. Klaus, 2015, Paleomagnetic and Environmental Magnetic Insights into the Middle to Late Pleistocene Stratigraphy of the 8° North Bengal Fan Transect, IODP Expedition 354 [Poster], San Francisco, CA: 2015 Fall Meeting, American Geophysical Union, Abstract T33D-2964.

Teasdale, R., L. Goodell, P. Selkin, and S. Riggins, 2015, Living on the Edge: Engaging students in evaluating hazards and societal risks at active plate boundary, Boulder, CO: Earth Educators Rendezvous 2015 [Abstract available at http://serc.carleton.edu/earth_rendezvous/2015/program_table/abstracts/100711.html]

Selkin, P.A., K.S. Davies-Vollum, C.A.E. Strömberg, R.E. Dunn, R. Madden, and G.H. Re, 2012, Sedimentology and Magnetic Properties of the Late Eocene - Early Oligocene Vera Member, Sarmiento Formation at Gran Barranca, Argentina [Poster], San Francisco, CA: 2012 Fall Meeting, American Geophysical Union, Abstract GP41A-1111.

Selkin, P.A. 2012. Google Earth Tutorials for Introductory Geoscience Courses [Poster], Seattle, WA: 2012 UW Teaching and Learning Symposium. [Abstract available at <http://depts.washington.edu/sotl/symposium/2012/>]

Selkin, P.A., J.D. Story*, and M.P. Cole*. 2011. Magnetic properties as a proxy for airborne smelter dust contamination, Tacoma, WA [Poster]. *Geol. Soc. Am. Abstracts with Programs*, 43 (5): 284.

Selkin, P.A., D.G. De Paor, J. Gobert, K.B. Kirk, S. Kluge, G.A. Richard, S.J. Whitmeyer, 2009, Emerging Digital Technologies for Geoscience Education and Outreach, *Geological Society of America Abstracts with Programs*, 41(7): 165.

Selkin, P.A. L. Wetzstein, and J.E. Masura, 2009, Thinking Globally, Teaching Locally: Resources for Looking at Local Landscape Change and Human Population in Google Earth [Poster], *Geological Society of America Abstracts with Programs*, 41(7): 501.

Selkin, P.A., E.T. Cline, and A. Beaufort, 2008, Integrating Writing into an Introductory Environmental Science Curriculum: Perspectives from Biology and Physics [Poster], *Eos Trans. AGU*, 89, Fall Meeting Suppl., Abstract ED31A-0587.

Tauxe, L., J.A. Bowles, J.S. Gee, A. Genevey, P.A. Selkin, and Y. Yu. 2006. Absolute paleointensity: theory, experimental design and the current database, *Eos Trans. AGU*, 87, Fall Meeting Suppl., Abstract GP13A-03.

Selkin, P.A., J.S. Gee, and W.P. Meurer. 2003. How Variable Was the Late Archaean Field?: Paleointensity and Paleomagnetism of the Stillwater Complex, MT, *AGU Chapman Conference on Timescales of the Geomagnetic Field, University of Florida*.

Gee, J.S., W.P. Meurer, P.A. Selkin, and M. Cheadle. 2003. Quantifying Three-Dimensional Silicate Fabrics in Cumulates Using Cumulative Distribution Functions, *Eos Trans. AGU*, 84, Fall Meeting Suppl., Abstract V12A-0567.

Meurer, W.P., J.S. Gee, P.A. Selkin, and M. Cheadle. 2003. Contrasting fabrics produced during magmatic slumping and compaction of gabbroic cumulates from the Stillwater Complex [Poster], Montana, *Eos Trans. AGU*, 84, Fall Meeting Suppl., Abstract V12A-0568.

Selkin, P.A., J.S. Gee, W.P. Meurer, and L. Tauxe. 2002. Magnetic anisotropies at the mineral scale: Building magnetic fabrics from the ground up, *Quaderni di Geofisica*, 26, 157-158. [Extended abstract for the International Symposium on Fundamental Rock Magnetism and Environmental Applications, Erice, Italy, June 2002.]

Selkin, P.A., J.S. Gee, and W.P. Meurer. 2001. Contributions of Igneous Rock-Forming Minerals to Magnetic Fabrics [Poster], *Eos Trans. AGU*, 82, Fall Meeting Suppl., Abstract GP41A-0251.

Meurer, W.P., J.S. Gee, and P.A. Selkin. 2001. A Quantitative Evaluation of the Relationship Between Magnetic and Silicate Fabrics in Cumulates with no Discrete Magnetite [Poster], *Eos Trans. AGU*, 82, Fall Meeting Suppl., Abstract V51B-1003.

Cronin*, M. L. Tauxe, C. Constable, and P.A. Selkin. 2000. Noise in the Quiet Zone, *Eos Trans. AGU*, 81, Fall Meeting Suppl., Abstract GP12B-06.

Luskin*, C.R., L. Tauxe, P.A. Selkin, P. Gans, A. Newell, and M. Cronin*. 2000. Paleomagnetic Results from the Snake River Plain: Contribution to the Time Averaged Field Initiative, *Eos Trans. AGU*, 81, Fall Meeting Suppl., Abstract GP71A-16.

Selkin, P.A., R.J. Varga, and P.D. Crowley. 1997. Petrologic and structural constraints on the origin of foliated gabbro near Khandria, Troodos Ophiolite, Cyprus [Poster], *Abstracts with Programs, Geological Society of America*, 29, 78, 1997. [Undergraduate research presented at Northeast Section GSA Meeting.]

Undergraduate Research Presentations

Hess, R. *, and P.A. Selkin. 2018. Scanning Electron Analysis of Particles from Bengal Turbidite Strata. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Voelker, B. *, Hess, R. *, Brainard, M. *, P.A. Selkin, and Wynkoop, J. 2018. Measuring Magnetic Susceptibility in Chlorinated Soil to Determine Remediation Strategies. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Brainard, M. *, and P.A. Selkin. 2017. Recording Submarine Channel Migration on the Bengal Fan through Magnetic Anisotropy. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Manzueta Jr., M. *, and P.A. Selkin. 2017. Refining the Magnetic Polarity Stratigraphy of IODP Expedition 354 Cores. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Ruiz III, V.F. *, and P.A. Selkin. 2017. Differences in Magnetic Properties within Turbidites of the Bengal Fan. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Moore, J.* M. Friedman*, P.A. Selkin, R.E. Dunn, and C.A.E. Strömberg. 2014. Clay minerals and weathering of the Vera Member, Sarmiento Formation, Patagonia, Argentina. *Geological Society of America Abstracts with Programs*. 46 (5), 12. [Poster at the 2014 Rocky Mountain / Cordilleran Geological Society of America Joint Meeting; Moore cancelled due to emergency, but poster was displayed.]

Brown, C.* , R. Holtz*, and P.A. Selkin. 2014. Reconstructing Streamflow in the Olympia Nonglacial Deposits, Puget Sound Region, Washington: A Study using Mineralogy and Magnetic Susceptibility. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Degenstein, T.* , P. Davis, and P.A. Selkin. 2013. Strain Analysis of the Indian Creek Shear Zone, Rimrock Lake, WA. *Second Annual Undergraduate Geosciences Research Conference*, University of Puget Sound, Tacoma, WA.

Moore, J.* , and P.A. Selkin. 2013. Determination of Clay Fraction Minerals from the Vera Member (Sarmiento Formation) in Patagonia Argentina. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Schwartz, R.* , C. Sharp*, B. Brand, and P.A. Selkin. 2013. Effects of Topography on Erosional Capacity of Pyroclastic Density Currents: A Case Study from Mt. St. Helens. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Wells, R.* , and P.A. Selkin. 2012. Tracking Heavy Metal Contamination using Magnetism and Mineralogy in Tacoma. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Friedman, M.* , P.A. Selkin and K.S. Davies-Vollum. 2012. Sedimentary Analysis of Gran Barranca, Argentina. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Mousseau, M.* , P.A. Selkin and J.M. Feinberg. 2010. Crystallographic Constraints on Magnetite Formation in Plagioclase. *University of Washington Undergraduate Research Symposium*, Seattle, WA.

Invited Public Presentations and Workshops

"Tales of Geology on the High Seas", March 13, 2018, Grit City Think and Drink, Swiss Pub, Tacoma, WA.

"Geosciences at Sea with the International Ocean Discovery Program", November 16, 2017, Global Lightning Talks, UW Tacoma, Tacoma, WA.

"Science on a Ship in the Indian Ocean", October 10, 2016, World Affairs Council Tacoma Travel Talk Series, Annie Wright School.

Art+Science Salon presentation on physics, 2013, Hosted by the University of Puget Sound at the Tacoma Art Museum.

"Earth's Magnetic Field," April 9, 2013, Science Café presentation, KCTS-9 and Pacific Science Center, Swiss Pub, Tacoma, WA, available at <http://kcts9.org/education/science-cafe/earths-magnetic-field>.

"Google Earth and Maps," workshop at 2012 Curriculum for the Bioregion Geoscience Faculty Learning Community Meeting, Skagit Valley College.

"Teaching with Google Earth," workshop at 2011 Geological Society of America Meeting (with Declan De Paor, Old Dominion University).

"Google Earth and Maps," workshop at 2011 Curriculum for the Bioregion Geoscience Faculty Learning Community Meeting, Bothell, WA.

"Landscape Change and Human Population Growth," activity presented at 2010 Bay Watershed Education and Training workshop, Foss Waterway Seaport, Tacoma, WA

“Designing Educational Material for Use in Google Earth,” workshop at 2010 Cyberinfrastructure Summer Institute for Geoscientists, San Diego Supercomputer Center, CA

“Exploring Google Earth and Virtual Globes.” November 30, 2006, Quantitative Reasoning University workshop, Carleton College, MN

“Faults, Earthquakes, the Bay and the Point.” October 15, 2005 Tidepool Volunteer Training Conference, Cabrillo National Monument

Tidepool Geology. Fall, 2004 Tidepool Volunteer Training Conference, Cabrillo National Monument

American Geophysical Union Press Conference on Paleointensity of Earth’s Magnetic Field. December 2000. With Jeremy Bloxham (Harvard) and John Tarduno (U. Rochester).

FELLOWSHIPS AND AWARDS

2018 *Visiting Scholar*, Institut de Physique du Globe, Paris

2016 *COIL Fellowship*, University of Washington

2013 *Quantitative Fellowship*, University of Washington Tacoma

2012 *Online Teaching Fellowship*, University of Washington Tacoma

2010 *Visiting Fellow*, Institute for Rock Magnetism, Minneapolis, MN

2007 *Writing Fellowship*, University of Washington Tacoma

2004 *Undergraduate Teaching Award*, Scripps Institution of Oceanography

2003 *Outstanding Student Paper, Geomagnetism and Paleomagnetism*, American Geophysical Union Fall Meeting

1999 *JOI/USSAC Fellowship*, Joint Oceanographic Institutions

1997 *Regents Fellowship*, University of California, San Diego

1997 *Walter F. Pond Prize* for distinguished geology honors thesis, Amherst College

1997 *Amherst College Fellowship* in geology, Amherst College

GRANTS FUNDED

2016 *Principal Investigator*, Mineral characterization of Bengal fan sediment. UW Tacoma IAS Research and Teaching Improvement Fund. \$1959.

2015 *Principal Investigator*, Rock magnetism of Quaternary clastic deposits from the Bengal Fan, IODP Expedition 354. US Science Support Program / Ocean Leadership, Inc. \$14,994.

2013 *Principal Investigator*, Field and Laboratory Research in Environmental Magnetism. UW Tacoma IAS Research and Teaching Improvement Fund. \$4000.

2012 *Principal Investigator*, Funds for Startup of an Environmental Earth Materials Course. UW Tacoma IAS Research and Teaching Improvement Fund. \$5000.

2010 *Principal Investigator*, Magnetic and Mineralogical Characterization of Tacoma Smelter Emissions. UW Royalty Research Fund. \$33000.

2009 *Principal Investigator*, Testing the Fidelity of Geological Magnetic Records: Origin of Magnetic Iron Oxides in Plagioclase. UW Tacoma Chancellor’s Fund for Research and Scholarship. \$2000.

2009 *Co-PI* with Lee West, Curriculum Enhancement Grant for developing computer labs (including Google Earth-based) to engage students in sustainability analysis, UW Tacoma Center for Leadership and Social Responsibility. \$1000.

2006 *Associate Co-Principal Investigator*, Collaborative Research: An Integrated Geomagnetic and Petrologic Study of the Dufek Complex (Antarctica). Funded by NSF, 2006-2009. Principal Investigator: Jeffrey S. Gee, Scripps Institution of Oceanography. [Co-authored successful grant proposal as a postdoctoral researcher, but removed self from project upon moving to Washington.]

2005 *Collaborator* (with Teresa Bolaños) on Hewlett-Packard grant proposal for classroom computing resources at San Diego City College.

COURSES TAUGHT

(* with lab, † TA led labs, developed or substantially redeveloped course at institution)

University of Washington Tacoma

TESC 310 – Environmental Research Seminar (2015, 2018)
TGEOS/TESC 347* – Environmental Earth Materials (2013, 2017)
TESC 417 – Field Geology (2011, 2012, 2014)
TGEOS/TESC 117* – Physical Geology (2010, 2011, 2012, 2013, 2016, 2017, 2018)
TESC 227 – Earth History (2010, 2013, 2016, 2018)
TESC 200 – Environmental Seminar (2010, 2012, 2016)
TESC 123* – Physics 3: Waves, Optics, and Thermodynamics (2008, 2009, 2010, 2011)
TESC 122* – Physics 2: Electromagnetism and Oscillatory Motion (2008, 2010, 2011, 2012, 2013, 2014, 2016)
TPHYS/TESC 121* – Physics 1: Mechanics (2007, 2008, 2010, 2018, 2019)
TCORE 121/122 – Introduction to Science (121: 2007, 122: 2008)
TESC 243 – Geography of the Physical Environment (2007, 2012, 2015)
TESC 107 – Geohazards and Natural Disasters (2007)
TESC 239 – Energy and the Environment (2007)
TESC 241 – Oceanography (2006)
TESC 100 – Introduction to Environmental Science (2006, 2007, 2008)
TESC 410 – Environmental Science Senior Seminar (2017)

San Diego City College

GEOG 101 – Physical Geography (2004, 2005, 2006)
GEOG 101L – Physical Geography Laboratory (2004, 2005, 2006)
GEOL 100 – General Geology (2004, 2005, 2006)
GEOL 100L – General Geology Laboratory (2004, 2005, 2006)

Palomar College (San Marcos, CA)

OCN 100 – Introduction to Oceanography (2004)

University of California, San Diego

ERTH 110* – Introduction to GIS for Earth and Environmental Scientists (2004)
SIO 250* – Earth History (2004, Co-Taught with Richard Norris)
ERTH 120+ – Mineralogy (2003)

As Teaching Assistant or Guest Lecturer

TESC 120 – Biology 1: Guest Lecturer, UW Tacoma (2009)
TESC 227 – Earth History: Guest Lecturer, UW Tacoma (2006)
SIO 229 – Marine Geophysics: Guest Lecturer, UC San Diego (2003)
ERTH 160 – Field and Structural Geology: Teaching Assistant and Guest Lecturer, UC San Diego (1999)
SIO Graduate Student Seminar Series: Developed as a graduate student (with Kim Cobb and others) and led, UC San Diego (2000)
ERTH 101 – Introductory Geology: Teaching Assistant, UC San Diego (1998, 1999)
Geology 11 – Introductory Geology, Amherst College (1995, 1996 as lead TA)

UNDERGRADUATE RESEARCH STUDENTS ADVISED

(by graduation date)

2019: Thomas Melot, Eric De Sart
2018: Risa Hess (2018-19), Brandon Voelker
2016: Michael Benjamin, Melissa Brainard, Aaron Burr, Miguel Manzueta Jr., Khatryll Maranon, April O'Donnell, Victor Ruiz
2015: Christopher Brown, Davenick Harris, Tia Harris-Dalton, James Moore, Julieann Palumbo, Norm Peterson (with Tanyalee Erwin, WA Stormwater Center, Puyallup)
2014 Tiffany Degenstein (with Peter Davis, Pacific Lutheran University), Ryan Holtz

2013 Mark Friedman (with Sian Davies-Vollum, UWT), Richard Schwartz (with Sian Davies-Vollum, UWT and Brittany Brand, UW Seattle), Chad Sharp (with Sian Davies-Vollum, UWT and Brittany Brand, UW Seattle), Jill Wetzel (with Sian Davies-Vollum, UWT)
2012 Aaron Beckner (with Sian Davies-Vollum, UWT), Scott Hopson (with Sian Davies-Vollum, UWT)
2011 Michael Cole, Daniel Marlowe (Global Honors), Jason Story, Rodgerick Wells, Kelsey Fahey (St. Olaf)
2009 Max Mousseau
2007 James Foreman (with Rich Sheibley, USGS)

SERVICE

Institutional

2019-2020 *Member, Faculty Advancement Task Force, School of Interdisciplinary Arts and Sciences, UW Tacoma.*

2018-2019 *Chair, School of Interdisciplinary Arts and Sciences Faculty Council, UW Tacoma.*

2018-Present *Review Committee, UW Royalty Research Fund, University of Washington.*

2019 *Member, TESC 200/310 Redesign Committee, Science and Mathematics, University of Washington Tacoma.*

2018 *Member, Reappointment Committee (Tou), University of Washington Tacoma.*

2018 *Member, Reappointment Committee (Cowgill), University of Washington Tacoma.*

2018 *Member, Tinkerspace Committee, University of Washington Tacoma.*

2017-2018 *Member, SIAS Academic Program Review Response Task Force, UW Tacoma.*

2018 *Review Committee, UW Royalty Research Fund, University of Washington.*

2017-2018 *Chair-Elect, School of Interdisciplinary Arts and Sciences Faculty Council, UW Tacoma.*

2017-2018 *Chair, Search Committee, Physics (Lecturer). UW Tacoma.*

2017-Present *Member, Science and Mathematics Quantitative Literacy Workgroup. University of Washington Tacoma.*

2016 *Member, Science and Mathematics Curriculum Assessment Workgroup. University of Washington Tacoma.*

2015 *Chair, Science and Mathematics Quantitative Literacy Workgroup. University of Washington Tacoma.*

2015-2016 *Science and Mathematics Representative, School of Interdisciplinary Arts and Sciences Faculty Council. University of Washington Tacoma.*

2015 *Search committee, geoscience (lecturer). University of Washington Tacoma.*

2015 *Interview committee, mathematics (lecturer). University of Washington Tacoma.*

2013 *Search committee, geoscience. University of Washington Tacoma.*

2012 *Interview committee, freshwater sciences cluster. University of Washington Tacoma and Seattle.*

2012 *Search committee, international studies. University of Washington Tacoma.*

2010 *Search committee, applied mathematics. University of Washington Tacoma.*

2009-2012 *IAS Representative, Executive Council of the Faculty Assembly. University of Washington Tacoma.*

2009 *Interview committee, applied mathematics*. University of Washington Tacoma.

2007 *Organizer, introductory science instructors' meetings*. University of Washington Tacoma.

2007 *Search committee, laboratory coordinator*. University of Washington Tacoma.

2007 *Interview committee, Port of Tacoma Chair*. University of Washington Tacoma.

2006 *Search committee, environmental organic chemistry*. University of Washington Tacoma.

2005-2006 *Faculty Senator*. San Diego City College.

2005 *Search committee, laboratory technician*. Physical Sciences Department, San Diego City College.

2005 *Proposition S – physical science building redesign committee*. San Diego City College.

Professional

2017-2018 *Observed Classroom, Reformed Teaching Observation Program, Multiple Institutions* (through National Association of Geoscience Teachers).

2017 *Chair, Contributions of Rock- and Paleo-magnetism to Understanding Orogenic Processes, Session T257, Geological Society of America 2017 Annual Meeting, Seattle, WA*.

November 2017 *External Reviewer, Tenure and Promotion Case, University of Wisconsin Milwaukee*.

October 2016 *Presenter, Developing Students' Data Skills, InTeGrate Project / National Association of Geoscience Teachers Webinar* (with Kim Kastens, LDEO, and Cynthia Fadem, Earlham College).

2015 *Local Host, (Re-)Designing Your Earth-Related Course for Improved Student Learning, National Association for Geoscience Teachers Workshop, UW Tacoma*.

2015 *Editorial Team Member, Expedition 354 Preliminary Report*.

2013 (ongoing) *Review Editor, Frontiers in Geomagnetism and Paleomagnetism*.

2010 *Resource Faculty, Curriculum for the Bioregion Geoscience Faculty Learning Community*

2009 *Co-Chair, technical session on technology in geoscience education and Pardee Keynote Symposium, Geological Society of America conference*.

Ongoing: *Reviewer, National Science Foundation, American Geophysical Union (Geophysical Monograph 145: Timescales of the Geomagnetic Field), Geophysical Research Letters, Environmental Science and Technology, Frontiers in Geomagnetism and Paleomagnetism, Geological Society of America (Special Paper 492: Google Earth & Virtual Visualizations in Geoscience), Geochemistry, Geophysics, Geosystems, Earth Planets Space, Earth and Planetary Science Letters, Geophysical Journal International, Journal of Geoscience Education, and On the Cutting Edge: Professional Development for Geoscience Faculty*

Community

2018-Present *Member, Graduate Tacoma STEAM Learning Network*.

2019-Present *Co-Leader, Lincoln High School Drone Research Project*.

2019-Present *Leader, 4-H Rocketry Project, AMOCAT 4-H Club*.

2017-2019 *Scientist Participant, Skype-a-Scientist, web chats and associated materials development with seven K-12 classrooms in the US and Canada, in English and French*.

2017 *Participant, UW Tacoma Science and Mathematics Outreach Night, Multicultural Child and Family Hope Center*.

2013 *Facilitator*, Engineering Club, Bryant Montessori School, Tacoma, WA (with Brian Brandt, WSU, and David Muller, PLU).