

CURRICULUM VITAE – PETER AARON SELKIN

Interdisciplinary Arts and Sciences University of Washington, Tacoma
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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
- Use of virtual globes in geoscience education

TEACHING AND RESEARCH EXPERIENCE

Fall 2008 - Present

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

PUBLICATIONS

Peer-Reviewed

*: Student author

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

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

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.ecoed.net/vol/v6/experiments/marine_reserve/abstract.html

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.

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.

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

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, In Testing, 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

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

Invited Research Presentations

*: Student author

"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.

Invited Non-research Presentations and Workshops

"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

Other Selected Presentations

- 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, San Francisco, CA: 2012 Fall Meeting, American Geophysical Union, Abstract GP41A-1111.
- 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, *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, *Eos Trans. AGU*, 89, Fall Meeting Suppl., Abstract ED31A-0587.

FELLOWSHIPS, AWARDS AND GRANTS

- Quantitative Fellow*, 2013, University of Washington, Tacoma
- Online Fellow*, 2012, University of Washington, Tacoma
- Visiting Fellow*, 2010, Institute for Rock Magnetism, Minneapolis, MN
- Writing Fellowship*, 2007, University of Washington, Tacoma
- Undergraduate Teaching Award*, 2004, Scripps Institution of Oceanography
- Outstanding Student Paper, Geomagnetism and Paleomagnetism*, American Geophysical Union 2003 Fall Meeting
- JOI/USSAC Fellowship*, 1999-2000, Joint Oceanographic Institutions
- Regents Fellowship*, 1997-98, University of California, San Diego
- Walter F. Pond Prize* for distinguished geology honors thesis, 1997, Amherst College
- Amherst College Fellowship* in geology, 1997, Amherst College
- Principal Investigator*, Field and Laboratory Research in Environmental Magnetism. UW Tacoma IAS Research and Teaching Improvement Fund, 2013. \$4K.
- Principal Investigator*, Magnetic and Mineralogical Characterization of Tacoma Smelter Emissions. UW Royalty Research Fund, 2010. \$33K
- 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, 2009. \$2K.
- Co-PI* with Lee West, 2009-2010 Curriculum Enhancement Grant, Center for Leadership and Social Responsibility.
- 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, but removed self from project upon moving to Washington.

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

Pending Grant Proposals

Principal Investigator, RUI: Improving magnetic proxies for paleoprecipitation via a multiple-parameter study of Palouse loess and soils, WA. National Science Foundation (Geophysics / SGP), \$217K.

SERVICE

Institutional

2013-2014. *Hiring committee for geology*. University of Washington, Tacoma.

2012-2013. *Interview committee for freshwater sciences cluster*. University of Washington.

2012-2013. *Hiring committee for international studies*. University of Washington, Tacoma.

2010-2011. *Hiring committee for applied mathematician*. University of Washington, Tacoma.

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

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

Fall 2007 – 2008. *Hiring committee for laboratory coordinator*. University of Washington, Tacoma.

Fall 2006 – Spring 2006. *Hiring committee for environmental organic chemist*. University of Washington, Tacoma.

Fall 2005 – Spring 2006. *Faculty Senator*. San Diego City College.

Fall 2005 – Spring 2006. *Hiring committee for laboratory technician*. Physical Sciences Department, San Diego City College.

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

Community

Review Editor, *Frontiers in Geomagnetism and Paleomagnetism*.

Facilitator, Engineering Club, Bryant Montessori School, Tacoma, WA, 2013-Present.

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

Reviewer, National Science Foundation, *Environmental Science and Technology*, *Geochemistry*, *Geophysics*, *Geosystems*, *Earth Planets Space*, *Earth and Planetary Science Letters*, *Geophysical Journal International*, and *On the Cutting Edge: Professional Development for Geoscience Faculty*

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