Vita
DOUGLAS A. WIENS

Address: Department of Earth and Planetary Sciences
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Education:

Ph.D., Geological Sciences, Northwestern University, 1985
M.A., Geological Sciences, Northwestern University, 1982
B.A., Physics, Wheaton College (Ill.), 1980

Appointments:

Professor, Dept. of Earth and Planetary Sciences, Washington University, 1996-present
Visiting Professor, Earthquake Research Institute, University of Tokyo, 2014
Tuve Senior Fellow, Dept. of Terrestrial Magnetism, Carnegie Inst. of Washington, 2013
Department Chair, Dept. of Earth and Planetary Sci., Washington University, 2008-2013
Visiting Fellow, Research School of Earth Sciences, Australian National Univ., 2005
Associate Professor, Washington University, 1991-1996
Assistant Professor, Washington University, 1984-1991

Honors:

Elected American Geophysical Union Fellow, 2007
NSF- Ridge2000 Distinguished Speaker, 2008
Robert and Bettie Cody Award in Ocean Sciences, Scripps Inst. Oceanography, 2014
IRIS/Seismological Society of America Distinguished Lectureship, 2015

Professional Service:

American Geophysical Union, Seismology Section President-Elect 2015-present
American Geophysical Union, Council Leadership Team, 2015-present
American Geophysical Union, Seismology section secretary, 2008-2009
National Academy International Polar Year Planning Committee, 2003-2006
National Science Foundation Office of Polar Programs visiting committee, 2006
Scientific Committee for Antarctic Research (SCAR), US Geosciences Rep, 2010-2015
Incorporated Research Institutions in Seismology (IRIS):
- Board of Directors (elected): 2009-2012
- Executive committee: 1990-1991, 1994-1998
- Polar Networks Science Committee chair, 2008-2011
- Data Management System standing committee, 2002-2008
- Data Management System committee chair, 2006-2008
- Global Seismic Network standing committee, 1992-1994
- Organizer, IRIS workshop, 1991, 1992, 1997
- Ocean Bottom Seismograph Pool Oversight Committee, 2011-2013
- Instrumentation Services Standing Committee Chair, 2014-present

NSF- MARGINS program steering committee, 1997-2002 (chair 2006)

Professional Service (continued):

Ocean Drilling Program:
Science Steering and Evaluation Panel (ISSEP), 1997-1998
Science Committee (SCICOM), 1998-2001
NSF- RIDGE2000 program steering committee 2001-2006
NSF- RIDGE2000 program executive committee 2004-2006
Journal of Geophysical Research, Associate Editor, 1987-1989; 1992-1993
National Science Foundation review panels, 1994, 1998, 2004, 2007-2009, 2011, 2013, 2015
Ocean Bottom Seismograph Instrumentation Pool Oversight Committee, chair, 2000-2003

University Committees:

Arts and Sciences Curriculum Committee, 1993-1995
Arts and Sciences Faculty Council, 1997-1999 (chair 1999)
Arts & Sciences Advisory Committee on Tenure and Promotion, 2006-2009

Memberships:

American Geophysical Union, Seismological Society of America, American Association for the Advancement of Science, Sigma Xi

Field Experience:

Principal Investigator, Yesterday Camp, Ross Ice Shelf Seismic Experiment, 2014
Chief Scientist, R/V Thompson, Mariana Serpentinization Experiment, 2012
Chief Scientist, Byrd Field Camp, US Antarctic Program, 2011
Chief Scientist, R/V Kilo Moana, Lau Imaging Experiment, 2010
Chief Scientist, R/V Revelle, Lau Imaging Experiment, 2009
Principal Investigator, Gamburtsev Mountains Seismic Experiment (GAMSEIS), 2007-2009
Principal Investigator, Cameroon Volcanic Line Imaging Experiment, 2005-2007
Chief Scientist, R/V Wecoma, Mariana Ocean Bottom Seismograph Survey, 2004
Principal Investigator, Trans-Antarctic Mtns Seismic Experiment (TAMSEIS), 2000-2003.
Principal Investigator, Seismic Arrays in Fiji and Tonga (SAFT), 2001-2002
Principal Investigator, R/V Gould, South Shetland Ocean Bottom Seismograph Survey, 1998
Principal Investigator, Seismic Experiment in Patagonia and Antarctica, 1997-1999
Principal Investigator, Southwest Pacific Seismic Experiment (SPASE), 1993-1995
Co-Investigator, R/V Melville, Lau Backarc Ocean Bottom Seismograph Survey, 1994

Funding:

D. A. Wiens is currently Principal Investigator on more than $2.3M in grants and contracts from the National Science Foundation and NASA.

Advising:

Postdoctoral Advising: Dapeng Zhao (1995-1997), Gideon P. Smith (1998-2003), James Conder (2000-2008), Rigobert Tibi (2000-2007), Xinlei Sun (2009-2012), Aubreya Adams (2012-2015), Garrett Euler (2013), Weisen Shen (2015- present), Martin Pratt (2016- present)

Graduate Student Thesis Advising:

David E. Petroy, M. A., 1988; Thesis: "Historical seismicity and plate kinematics of the Northeast Indian Ocean"

Aristeo M. Pelayo, Ph.D., 1990; Thesis: "Earthquake source parameter inversion using body and surface waves: Application to tsunami earthquakes and to Scotia Sea seismotectonics"

An-Ning Zhu, Ph.D., 1993; Thesis: "Determination of seismic arrival times from long-period data and application to earthquake location problems and the velocity structure of subducting slabs"

Megan Flanagan, Ph.D., 1994, Thesis: "Upper mantle attenuation structure beneath back-arc basins using differential shear wave measurements"

Keith Koper, Ph.D., 1998, Thesis: "Computational aspects of Seismology"

Erich Roth, Ph.D., 1999, Thesis: "Upper mantle seismic structure of the Tonga Subduction Zone and Lau Basin: Implications for thermal heterogeneity"

Stacey Robertson Maurice, Ph.D. 2003, Thesis: "A seismological examination of the structure and tectonics of southernmost South America and the Antarctic Peninsula region"

Jesse Fisher Lawrence, Ph.D. 2004, Thesis: "Teleseismic Localization of Velocity and Quality Factor: Application to Patagonia, Antarctica, D", and the Whole Mantle"

Sara H. Pozgay, Ph.D., 2007, Thesis: "Seismic Investigations of the Mariana Subduction System: Anisotropy, Attenuation, and Volcano Seismology"

Moira L. Pyle, PhD., 2009, Thesis: "Seismic Surface Wave Studies of the Mariana Mantle Wedge and the Transantarctic Mountains"

Mitchell Barklage, PhD., 2010, Thesis: Studies of mantle structure and seismicity in the Mariana Islands and Antarctica using temporary deployments of seismographs

Rachel Gesserman, M. A., 2011, Thesis: A dominant shear zone and other modes of deformation in the deep Tonga slab

David Heeszel, PhD., 2011, Thesis: Surface Wave Derived Shear Velocity Structure of the Gamburtsev Subglacial Mountains, Transantarctic Mountains, and West Antarctica

Heather Relyea, M.A., 2012, Project: Seismic attenuation of the Tonga-Fiji Region

Erica Emry, PhD, 2012, Thesis: Shallow Thrust and Outer Rise Earthquakes in Northwestern Pacific Subduction Zones and their Role in Subduction Zone Water Budgets with Special Focus on the Mariana Islands

Garrett Euler, PhD, 2012, Thesis: Seismic Array Analysis of Core-Diffracted Waves and Microseisms

Amanda Lough, PhD, 2014, Thesis: Studies of Seismic Sources in Antarctica Using an Extensive Deployment of Broadband Seismographs

Songqiao Wei, PhD, 2016, Thesis: Seismic studies of the Tonga Subduction Zone and Lau Backarc Basin

Martin Pratt, PhD, 2016, Thesis: Seismic array studies of Antarctica and Madagascar

Current Ph.D. Graduate Students:

Andrew Lloyd, Chen Cai, Melody Eimer

Current Undergraduate Research Advisees:

Seth Olinger

Former Undergraduate Research Advisees:

Jeffrey McGuire, Hersh Gilbert, Tom Bawden, Brian Park-Li, Mark Wuenscher, Nathan Snider, Phil Skemer, Rebecca Stiles, John Russell; Emily Park, Franklin Koch, Grace Barcheck, Natalie Accardo, Hope Jasperson

Teaching Experience:

EPSC 109A Quantitative Reasoning in Environmental Sciences
EPSC 353 Earth Forces
EPSC 361 Structural Geology
EPSC 404 Ideas and Controversies in the Geosciences
EPSC 450 Introduction to Geophysics
EPSC 452 Introduction to Seismology
EPSC 453 Interior of the Earth
EPSC 454 Exploration and Environmental Geophysics
EPSC 464 Plate Tectonics
EPSC 553 Geophysical Data Analysis
EPSC 559 Geodynamics
EPSC 561 Advanced Seismology

Publications:

D. A. Wiens has been an author or co-author of more than 130 publications in refereed journals. His publications include (indicates a student supervised by Wiens):*

Wiens, D. A. and S. Stein, Age dependence of oceanic intraplate seismicity and implications for lithospheric evolution, *J. Geophys. Res., 88,* 6455-6468, 1983.

Wiens, D. A. and S. Stein, Intraplate seismicity and stresses in young oceanic lithosphere, *J. Geophys. Res., 89,* 11442-11464, 1984.

Wiens, D. A. and S. Stein, Implications of oceanic intraplate seismicity for plate stresses, driving forces and rheology, *Tectonophysics, 116,* 143-162, 1985.

Wiens, D. A., C. Demets, R. Gordon, S. Stein, D. Argus, J. Engeln, P. Lundgren, D. Quible, C. Stein, S. Weinstein, and D. Woods, A diffuse plate boundary model for Indian Ocean tectonics, *Geophys. Res. Lett., 12,* 429-432, 1985.

Wiens, D. A., Historical Seismicity near Chagos: A complex deformation zone in the equatorial Indian Ocean, *Earth Planet. Sci. Lett., 76,* 350-360, 1986.

Wiens, D. A., S. Stein, C. Demets, R. G. Gordon, and C. Stein, Plate tectonic models for Indian Ocean "intraplate" deformation, *Tectonophysics, 132,* 37-48, 1986.

Wiens, D. A., Effects of near source bathymetry on teleseismic P waveforms, *Geophys. Res. Lett., 14,* 761-764, 1987.

Wiens, D. A., Bathymetric effects on body waveforms from shallow subduction earthquakes and application to seismic processes in the Kurile trench, *J. Geophys. Res., 94,* 2955-2972, 1989.

Pelayo, A. M.*, and D. A. Wiens, Seismotectonics and relative plate motions in the Scotia region, *J. Geophys. Res., 94,* 7293-7320, 1989.

Pelayo, A. M.*, and D. A. Wiens, Tsunami earthquakes: Slow thrust faulting events in the accretionary wedge, *J. Geophys. Res., 97,* 15321-15337, 1992.

Wetzel, R. L.*, D. A. Wiens, and M. C. Kleinrock, Evidence from earthquakes for bookshelf faulting at large non-transform ridge offsets, *Nature, 362,* 235-237, 1993.

Wiens, D. A., J. J. McGuire*, and P. J. Shore, Evidence for transformational faulting from a deep double seismic zone in Tonga, *Nature, 364,* 790-793, 1993.

Wiens, D. A., J. J. McGuire*, P. J. Shore, M. G. Bevis, K. Draunidalo, G. Prasad, S. P. Helu, A deep earthquake aftershock sequence and implications for the rupture mechanism of deep earthquakes, *Nature, 372,* 540-543, 1994.

Flanagan, M. P.*, and D. A. Wiens, Radial upper mantle attenuation structure of inactive back-arc basins from differential shear wave measurements, *J. Geophys. Res., 99,* 15469-15485, 1994.

Wiens, D. A., and J. J. McGuire*, The 1994 Bolivia and Tonga events: Fundamentally different types of deep earthquakes?, *Geophys. Res. Lett., 22*, 2245-2248, 1995.

Wiens, D. A., and H. J. Gilbert*, Slab temperature effects on deep earthquake aftershock productivity and magnitude-frequency relations, *Nature, 384*, 153-156, 1996.

McGuire, J. J.*, D. A. Wiens, P. J. Shore, M. G. Bevis, The March 9, 1994 deep Tonga earthquake: Rupture outside the seismically active slab, *J. Geophys. Res., 102,* 15163-15182, 1997.

Zhao, D., Y. Xu*, D. A. Wiens, L. Dorman, J. Hildebrand, S. Webb, Depth extent of the Lau back-arc spreading center and its relationship to subduction processes, *Science,* 278, 254-257, 1997.

Xu, Y.*, and D. A. Wiens, Upper mantle structure of the southwest Pacific from regional waveform inversion, *J. Geophys. Res.,* 102, 27439-27451, 1997.

Koper, K. D.*, D. A. Wiens, L. M. Dorman, J. A. Hildebrand, and S. C. Webb, Modeling the Tonga slab: Can traveltime data resolve a metastable olivine wedge? *J. Geophys. Res.,103,*30079-30100, 1998.

Flanagan, M. P.*, and D. A. Wiens, Attenuation of broadband P and S waves in Tonga: Observations of frequency dependent Q, *Pure appl. Geophys., 153,* 345-375, 1998.

Roth, E.*, D. A. Wiens, L. M. Dorman, J. Hildebrand, and S. C. Webb, Seismic attenuation tomography of the Tonga back-arc region using phase pair methods, *J Geophys. Res., 104*, 4795-4809, 1999.

Koper, K. D.*, D. A. Wiens, L. M. Dorman, J. A. Hildebrand, and S. C. Webb, Constraints on the origin of slab and mantle wedge anomalies in Tonga from the ratio of S to P anomalies, *J. Geophys. Res.*, *104*, 15089-15104, 1999

Koper, K. D.*, M. E. Wysession, and D. A. Wiens, Multimodal function optimization with a niching genetic algorithm: A seismological example, *Bull. Seism. Soc. Am., 89*, 978-988, 1999.

Koper, K. D.*, and D. A. Wiens, The waveguide effect of metastable olivine in subducting slabs, *Geophys. Res. Lett.*, 27, 573-576, 2000.

Wiens, D. A., and J. J. McGuire*, Aftershocks of the March, 9, 1994 Tonga earthquake: The strongest known deep aftershock sequence, *J. Geophys. Res., 105*, 19067-19083, 2000

Roth, E. G.*, D. A. Wiens, and D. Zhao, An empirical relationship betweeen seismic attenuation and velocity anomalies in the upper mantle, *Geophys. Res. Lett*., *27*, 601-604, 2000.

Wiens, D. A., and N. O. Snider*, Repeating deep earthquakes: Evidence for fault reactivation at great depth, *Science, 293*, 1463-1466, 2001.

Smith, G. P., D. A. Wiens, K. M. Fischer, L. M. Dorman, S. C. Webb, and J. A. Hildebrand, A complex pattern of mantle flow in the Lau backarc, *Science, 292*, 713-716, 2001.

Wiens, D. A., Seismological constraints on the mechanism of deep earthquakes: temperature dependence of deep earthquake source properties, *Phys. Earth Planet. Int., 127,* 145-163, 2001.

Conder, J. A., D. A. Wiens, and J. Morris, On the decompression melting structure at volcanic arcs and back-arc spreading centers, *Geophys. Res. Lett., 29,* 10.1029/2002GL015390, 2002.

Maurice, S. D.*, D. A. Wiens, K. Koper, and E. Vera. Crustal and upper mantle structure of southernmost South America inferred from regional waveform inversion, *J. Geophys. Res., 108,* doi:10.1029/2002JB001828, 2003.

Tibi, R., D. A. Wiens, and H. Inoue, Remote triggering of deep earthquakes in the 2002 Tonga sequences, *Nature, 424,* 921-925, 2003.

Wiens, D. A., and G. P. Smith, Seismological constraints on structure and flow patterns within the mantle wedge, in *Inside the subduction factory*, J. Eiler, editor, *AGU Monograph, 138,* 59-82, 2003.

Maurice, S. D.*, D. A. Wiens, L. M. Dorman, and E. Vera, Seismicity and tectonics of the South Shetland Islands and Bransfield Strait from a regional broadband seismograph deployment, *J Geophys. Res., 108.,* B10, doi:10.1029/2003JB002416, 2003.

Lawrence, J. F.*, and D. A. Wiens, Combined receiver function and surface wave phase velocity inversion using a niching genetic algorithm: Application to Patagonia, *Bull, Seism. Soc. Am., 94,* 977-987, 2004.

Pozgay, S. H.*, R. A. White, D. A. Wiens, P. J. Shore, A. W. Sauter, and J. L. Kaipat, Seismicity and tilt associated with the 2003 Anatahan eruption sequence, *J. Vol. Geotherm. Res.,* 146, 60-76, 2005.

Tibi, R., and D. A. Wiens, Detailed structure and sharpness of upper mantle discontinuities in the Tonga subduction zone from regional broadband arrays, *J. Geophys. Res., 110,* B06313, doi: 10.1029/2004JB003433, 2005.

Wiens, D. A., P. J. Shore, S. H. Pozgay*, A. W. Sauter, and R. A. White, Tilt Recorded by a Portable Broadband Seismograph: The 2003 Eruption of Anatahan Volcano, Mariana Islands, *Geophys. Res. Lett., 32,* L18305, doi:10.1029/2005GL023369, 2005.

Conder, J. A., and D. A. Wiens, Seismic structure beneath the Tonga arc and Lau back-arc basin determined from joint Vp. Vp/Vs tomography, Geochem., Geophys. Geosyst, 7 Q03018, doi:10.1029/2005GC001113, 2006.

Lawrence, J. F.*, D. A. Wiens, A. A. Nyblade, S. Anandakrishnan, P. J. Shore, and D. Voigt, Upper mantle thermal variations beneath the Trans-Antarctic Mountains from teleseismic S-wave attenuation, *Geophys. Res. Lett.*, 33, L03303, doi:10.1029/2005GL024516, 2006.

Wiens, D.A., K. Kelley, and T. Plank, Mantle temperature variations beneath active back-arc spreading centers inferred from seismology, petrology, and bathymetry, *Earth Planet. Sci. Lett., 248,* 30-42, 2006.

Lawrence, J. F.*, D. A. Wiens, A. A. Nyblade, S. Anandakrishnan, P. J. Shore, and D. Voigt, Rayleigh wave phase velocity analysis of the Ross Sea, Transantarctic Mountains, and East

Antarctica from a temporary seismograph array, *J. Geophys. Res., 111,* B06302, doi:10.1029/2005JB003812, 2006.

Tibi, R., D. A. Wiens, H. Shiobara, and P. J. Shore, Depths of the 660-km discontinuity near the Mariana slab from a regional array of ocean bottom seismographs, *Geophys. Res. Lett., 33,* L02313, doi:10.1029/2005GL024523, 2006

Wiens, D. A., N. Seama, and J. A. Conder, Mantle structure and flow patterns beneath active back-arc basins inferred from passive seismic and electromagnetic methods, *in Back-arc Spreading Systems: Interactions among Physical, Chemical, Bioloigcal , and Geological Processes,* D. M. Christie, C.R. Fisher, S.-M. Lee, and S. Givens, editors, *AGU Monograph, 166,* 43-62, 2006.

Lawrence, J. F,* D. A. Wiens, A. A. Nyblade, S. Anandakrishnan, P. J. Shore, and D. Voigt, Crust and upper mantle structure of the Transantarctic Mountains and surrounding regions from receiver functions, surface waves, and gravity: Implications for uplift models, *Geochem. Geophys. Geosystems, 7,* Q10011, doi: 10.1029/2006GC001282, 2006.

Pozgay, S. H.*, D. A. Wiens, J. A. Conder, H. Shiobara, and H. Sugioka, Complex mantle flow in the Mariana subduction system: Evidence from shear wave splitting, *Geophys. J. Int.,* doi: 10.1111/j.1365-246x.2007.03433.x, 2007.

Tibi, R., D. A. Wiens, H. Shiobara, H. Sugioka, and X. Yuan, Double seismic discontinuities at the base of the mantle transition zone near the Mariana slab, *Geophys. Res. Lett., 34,* L16316, doi:10.1029/2007GL030527, 2007.

Conder, J. A., and D. A. Wiens, Rapid mantle flow beneath the Tonga volcanic arc, *Earth Planet. Sci. Lett., 264,* 299-307, 2007.

Wiens, D. A., J. A. Conder, and U. Faul, The seismic structure and dynamics of the mantle wedge, *Ann. Rev. Earth Planet. Sci., 36,* 421-455, 2008.

Wiens, D. A., S. Anandakrishnan, J. P. Winberry, and M. A. King, Simultaneous teleseismic and geodetic observations of the stick-slip motion of an Antarctic ice stream, *Nature, 453,* 770-774, 2008.

Tibi, R., D.A. Wiens, and X. Yuan, Seismic evidence for widespread serpentinized forearc along the Mariana convergent margin, *Geophys. Res. Lett.,* 35, L13303, doi:10.1029/ 2008GL034163, 2008.

Heeszel, D. S.*, D. A. Wiens, P. J. Shore, H. Shiobara, and H. Sugioka, Earthquake evidence for along-arc extension in the Mariana Islands, *Geochem. Geophys. Geosystems, 9,* Q12X03, doi:10.1029/2008GC002186, 2008.

Barklage, M.*, D. A. Wiens, A. Nyblade, S. Anandakrishnan, Upper mantle seismic anisotropy of South Victoria Land and the Ross Sea Coast, Antarctica, from SKS and SKKS splitting analysis, *Geophys. J. Int., 178,* 729-741, 2009.

Pozgay, S. H.*, D. A. Wiens, J. A. Conder, H. Shiobara, H. Sugioka, Seismic attenuation tomography of the Mariana Subduction System: Implications for thermal structure, volatile distribution, and slow-spreading dynamics, *Geochem. Geophys. Geosystems, 10,* Q04X05, doi:10.1029/2008GC002313, 2009.

Pyle, M. L.*, D. A. Wiens, D. Weeraratne, P. J. Shore, H. Shiobara, and H. Sugioka, Shear velocity structure of the Mariana mantle wedge from Rayleigh wave phase velocities, *J. Geophys. Res., 115.* B11304, doi:10.1029/2009JB006976, 2010.

Pyle, M. L.*, D. A. Wiens, A. A. Nyblade, and S. Anandakrishnan, Crustal structure of the Transantarctic Mountains near the Ross Sea from ambient seismic noise tomography, J. Geophys. Res., 115, B11310, doi:10.1029/2009JB007081, 2010.

Hansen, S. E., A. A. Nyblade, D. S. Heeszel*, D. A. Wiens, P. Shore, M. Kanao, Crustal structure of the Gamburtsev Mountains, East Antarctica, from S-wave receiver functions and Rayleigh wave phase velocities, *Earth Planet. Sci. Lett., 300*, 395-401, 2010.

Conder, J. A., and D. A. Wiens, Shallow seismicity and tectonics of the central and northern Lau Basin, *Earth Planet. Sci. Lett., 304,* 538-546, 2011.

Emry, E. L.*, D. A. Wiens, H. Shiobara, and H. Sugioka, Seismogenic characteristics of the Northern Mariana shallow thrust zone from local array data, *Geochem. Geophys. Geosystems, 12,* Q12008, doi:10.1029/2011GC003853, 2011.

Koch, F. W.*, D. A. Wiens, A. A. Nyblade, P. J. Shore, R. Tibi, B. Ateba, C. T. Tabod, and J. M. Nnange, Upper-mantle anisotropy beneath the Cameroon Volcanic Line and Congo Craton from shear wave splitting measurements, *Geophys. J. Int, 190,* 75-86, 2012.

Barcheck, C. G.*, D. A. Wiens, P. E. van Keken, and B. R. Hacker, The relationship of intermediate- and deep-focus seismicity to the hydration and dehydration of subducting slabs, *Earth Planet. Sci. Lett., 349,* 153-160, 2012.

Zoet, L. K., S. Anandakrishnan, R. B. Alley, A. A. Nyblade, and D. A. Wiens, Motion of an Antarctic glacier by repeated tidally modulated earthquakes, *Nature Geoscience, 5*, 623-626, 2012.

Heeszel, D. S.*, D. A. Wiens, A. A. Nyblade, S. E. Hansen, M. Kanao, M. An, and Y. Zhao, Rayleigh wave constraints on the structure and tectonic history of the Gamburtsev Subglacial Mountains, East Antarctica, *J. Geophys. Res., 118,* doi:10.1002/jgrb.50171, 2013.

Lloyd, A. J.*, A. A. Nyblade, D. A. Wiens, S. E. Hansen, M. Kanao, P. J. Shore, and D. Zhao, Upper mantle seismic structure beneath central East Antarctica from body wave tomography: Implications for the origin of the Gamburtsev Subglacial Mountains, *Geochem. Geophys. Geosyst., 14,* 10.1002/ggge.20098, 2013.

Winberry, J. P., S. Anandakrishnan, D.A. Wiens, R. B. Alley, Nucleation and Seismic Tremor Associated with the Glacial Earthquakes of Whillans Ice Stream, Antarctica, *Geophys. Res. Lett., 40,* doi:10.1029/2012GL053955, 2013.

Lough, A. C.*, D. A. Wiens, C. G. Barcheck, S. Anandakrishnan, R. C. Aster, D. D. Blankenship, A. D. Huerta, A. Nyblade, D. A. Young, and T. J. Wilson, Seismic detection of an active subglacial magmatic complex in Marie Byrd Land, Antarctica, *Nature Geoscience, 6,* 1031-1035, 2013.

Pratt, M. J.*, J. P. Winberry, D. A. Wiens, S. Anandakrishnan, and R. B. Alley, Seismic and geodetic evidence for grounding-line control of Whillans Ice Stream stick-slip events, J. *Geophys. Res., Earth Surf.,* 119, 333–348, doi:10.1002/ 2013JF002842, 2014.

Accardo, N. J.*, D. A. Wiens, S. Hernandez*, R. C. Aster, A. Nyblade, A. Huerta, S. Anandakrishnan, T. Wilson, D. S. Heeszel* and I. W. D. Dalziel, Upper mantle seismic anisotropy beneath the West Antarctic Rift System and surrounding region from shear wave splitting analysis, *Geophys. J. Int.*, **198,** 414–429 , doi: 10.1093/gji/ggu117, 2014

Emry, E. L.*, D. A. Wiens, and D. Garcia- Castellanos, Faulting within the Pacific plate at the Mariana Trench: Implications for plate interface coupling and subduction of hydrous

minerals, *J. Geophys. Res. Solid Earth, 119,* 3076–3095, doi:10.1002/2013JB010718. 2014.

Euler, G. G.*, D. A. Wiens, and A. A. Nyblade, Evidence for bathymetric control on the distribution of body wave microseism sources from temporary seismic arrays in Africa, *Geophys. J. Int*, **197,** 1869–1883, 2014.

Abers, G. A., K. M. Fischer, G. Hirth, D. A. Wiens, T. Plank, B. K. Holtzman, C. McCarthy, and E. Gazel, Reconciling mantle attenuation-temperature relationships from seismology, petrology, and laboratory measurements, *Geochem. Geophys. Geosyst., 15,* doi:10.1002/2014GC005444, 2014.

Peng, Z., J. I. Walter, R. C. Aster, A. Nyblade, D. A. Wiens and S. Anandakrishnan, Antarctic icequakes triggered by the 2010 Maule earthquake in Chile, *Nature Geoscience, 7*, 677–681, 2014.

Winberry, J. P., S. Anandakrishnan, R. B. Alley, D. A. Wiens, and M. J. Pratt, Tidal pacing, skipped slips, and slowdown of Whillans Ice Stream, Antarctica, *J. Glaciology, 60,* No. 222, doi: 10.3189/2014JoG14J038, 2014.

Zha, Y., S. C. Webb, S. S. Wei*, D. A. Wiens, D. K. Blackman, W. Menke, and J. A. Conder, Seismological imaging of ridge–arc interaction beneath the Eastern Lau Spreading Center from OBS ambient noise tomography, *Earth Planet. Sci. Lett., 408,* 194-206, 2014.

Hansen, S. E., J. H. Graw, L. M. Kenyon, A. A. Nyblade, D. A. Wiens, R. C. Aster, A. D. Huerta, S. Anandakrishnan, T. Wilson, Imaging the Antarctic mantle using adaptively parameterized P-wave tomography: Evidence for heterogeneous structure beneath West Antarctica, *Earth Planet. Sci. Lett., 408,* 66–78, 2014.

Embley, R.W., Y. Tamura, S.G. Merle, T. Sato, O. Ishizuka, W.W. Chadwick Jr., D.A. Wiens, P. Shore, and R.J. Stern. Eruption of South Sarigan Seamount, Northern Mariana Islands: Insights into hazards from submarine volcanic eruptions. *Oceanography* 27(2):24–31, http://dx.doi.org/10.5670/oceanog.2014.37, 2014.

Chaput, J., R. C. Aster, A. Huerta, X. Sun, A. Lloyd, D. Wiens, A. Nyblade, S. Anandakrishnan, J. P. Winberry, and T. Wilson, The crustal thickness of West Antarctica, *J. Geophys. Res. Solid Earth, 119,* doi:10.1002/2013JB010642, 2014.

An, M, D. Wiens, C. An, G. Shi, Y. Zhao, Y. Li, Antarctic ice velocities from GPS locations logged by seismic stations, *Antarctic Science, 27,* 210-222, 2015.

Anthony, R. E., R. C. Aster, D. A. Wiens, A. Nyblade, S. Anandakrishnan, A. Huerta, J. P. Winberry, T. Wilson, C. Rowe, The seismic noise environment of Antarctica, Seism. Res. Lett., 86, 89-100, 2015.

Wei, S. S.*, D. A. Wiens, Y. Zha, T. Plank, S. C. Webb, D. K. Blackman, R. A. Dunn, and J. A. Conder, Seismic evidence of effects of water on melt transport in the Lau back-arc mantle, *Nature, 518,* 395-398, 2015.

Barklage, M.*, D. A. Wiens, J. A. Conder, S. Pozgay, H. Shiobara, and H. Sugioka, P and S velocity tomography of the Mariana subduction system from a combined land-sea seismic deployment, *Geochem. Geophys. Geosyst., 16,* 681–704, doi:10.1002/ 2014GC005627, 2015.

Emry, E. L.*, A. A. Nyblade, J. Julia, S. Anandakrishnan, R. C. Aster, D. A. Wiens, A. D. Huerta, and T. J. Wilson, The mantle transition zone beneath West Antarctica: Seismic

evidence for hydration and thermal upwellings, *Geochem. Geophys. Geosyst., 16,* 40–58, doi:10.1002/ 2014GC005588, 2015.

Adams, A. N., D. A. Wiens, A. A. Nyblade, G. G. Euler*, P. J. Shore, and R. Tibi, Lithospheric instability and the source of the Cameroon Volcanic Line: Evidence from Rayleigh wave phase velocity tomography, *J. Geophys. Res. Solid Earth, 120,* doi:10.1002/ 2014JB011580, 2015.

Emry, E. L.*, and D. A. Wiens, Incoming plate faulting in the Northern and Western Pacific and implications for subduction zone water budgets, *Earth Planet. Sci. Lett., 414,* 176-186, 2015.

An, M., D. A. Wiens, Y. Zhao, M. Feng, A. A. Nyblade, M. Kanao, Y. Li, A. Maggi, and J.-J. Lévêque, S-velocity model and inferred Moho topography beneath the Antarctic Plate from Rayleigh waves, *J. Geophys. Res. Solid Earth, 120,* 359–383, doi:10.1002/ 2014JB011332, 2015.

Meng, Q., D. S. Heeszel*, L. Ye, T. Lay, D. A. Wiens, M. Jia, and P. R. Cummins, The 3 May 2006 (Mw 8.0) and 19 March 2009 (Mw 7.6) Tonga earthquakes: Intraslab compressional faulting below the megathrust, *J. Geophys. Res. Solid Earth, 120,* 6297–6316, doi:10.1002/2015JB012242, 2015.

Lough, A. C.*, C. G. Barcheck, D. A. Wiens, A. A. Nyblade, S. Anandakrishnan, A Previously Unreported Type of Seismic Source in the Firn Layer of the East Antarctic Ice Sheet, *J. Geophys. Res. Earth Surface*, 120, 2237–2252, doi:10.1002/ 2015JF003658, 2015.

Bromirski, P. D., A. Diez, P. Gerstoft, R. A. Stephen, T. Bolmer, D. A. Wiens, R. C. Aster, and A. Nyblade, Ross ice shelf vibrations, *Geophys. Res. Lett., 42,* 7589–7597, doi:10.1002/2015GL065284, 2015.

Lloyd, A. J.*, D. A. Wiens, A. A. Nyblade, S. Anandakrishnan, R. C. Aster, A. D. Huerta, T. J. Wilson, I. W. D. Dalziel, P. J. Shore, and D. Zhao, A seismic transect across West Antarctica: Evidence for mantle thermal anomalies beneath the Bentley Subglacial Trench and the Marie Byrd Land Dome, *J. Geophys. Res. Solid Earth, 120,* 8439–8460, doi:10.1002/ 2015JB012455, 2015.

An, M., D. A. Wiens, Y. Zhao, M. Feng, A. Nyblade, M. Kanao, Y. Li, A. Maggi, and J.-J. Lévêque, Temperature, lithosphere-asthenosphere boundary, and heat flux beneath the Antarctic Plate inferred from seismic velocities, *J. Geophys. Res. Solid Earth, 120,* 8720–8742, doi:10.1002/2015JB011917, 2015.

Ramirez, C, A. Nyblade, S.E. Hansen, D.A. Wiens, S. Anandakrishnan, R.C. Aster, A.D. Huerta, P. Shore and T. Wilson, Crustal and upper-mantle structure beneath ice-covered regions in Antarctica from *S*-wave receiver functions and implications for heat flow, *Geophys. J. Int., 204,* 1636–1648, 2016.

Diez, A., P. D. Bromirski, P. Gerstoft, R. A. Stephen, R. E. Anthony, R. C. Aster, C. Cai*, A. Nyblade and D. A. Wiens, Ice shelf structure derived from dispersion curve analysis of ambient seismic noise, Ross Ice Shelf, Antarctica, *Geophys. J. Int., 205,* 785-795, 2016.

Heeszel, D. S.* , D.A.Wiens, S. Anandakrishnan, R. C. Aster, I. W. D. Dalziel, A. D. Huerta, A. A. Nyblade, T. J. Wilson, and J. P. Winberry, Upper mantle structure of central and West Antarctica from array analysis of Rayleigh wave phase velocities, *J. Geophys. Res. Solid Earth, 121,* doi:10.1002/2015JB012616.