

Curriculum Vitae

GEOFFREY A. ABERS

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Google Scholar: <https://scholar.google.com/citations?user=a0Jg5nsAAAAJ&hl=en>

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Department of Earth and Atmospheric Sciences

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Overview Abers is an earthquake seismologist, who's primary research focuses on understanding the geodynamic, fluid and mass-transfer cycles between the Earth's surface and its interior. The highest-impact papers integrate geophysics with geodynamics, geochemistry, petrology and rock mechanics, leading to election as AGU Fellow for the work in subduction zones. He has received over \$13M in external grants, \$10M as lead PI, many of which fund large complex field programs on-land and offshore globally. He has held faculty or senior research professorships at Kansas, Boston Univ., Lamont-Doherty Earth Observatory (LDEO) of Columbia Univ., and Cornell University. Leadership roles include Chair of Cornell's Department of Earth and Atmospheric Sciences, Associate Director at LDEO, Directors of Graduate Study at BU and Cornell, Vice-chair of the IRIS Board of Directors, and Chair/Director of the NSF MARGINS program.

Education **Massachusetts Institute of Technology**, Cambridge, MA 1984-1989
Ph.D., Geophysics.

Brown University, Providence, RI 1979-1983
Sc.B. degree magna cum laude in Geology-Physics/Mathematics.

Indiana University Summer 1982
Geology Summer Field School in Cardwell, MT.

Experience **Cornell University**, Ithaca NY
Chair, Department of Earth and Atmospheric Sciences 2020-2024
William and Katherine Snee Professor in Geological Sciences 2018-
Professor of Earth and Atmospheric Sciences 2014-2018
Adjunct Professor of Earth and Atmospheric Sciences 2013-2014

University of Alaska Fairbanks, Department of Geoscience 2022
Affiliate Faculty Member

University of Tokyo, Earthquake Research Institute, Japan 2020
Visiting Research Professor, ERI

Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
Adjunct Senior Research Scientist 2015-2021
Associate Director for Division of Seismology, Geology, and Tectonophysics 2011-2013
Lamont Research Professor (on leave, 2014-15) 2010-2015
Doherty Senior Research Scientist 2008-2010
Adjunct Professor, Department of Earth & Environ. Sci., Columbia Univ. 2008-2014

Boston University, Boston, MA

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| Adjunct Professor, Department of Earth Sciences | 2008-2009 |
| Professor of Earth Sciences | 2004-2007 |
| Associate Chairman, Department of Earth Sciences | 2000-2006 |
| Associate Professor of Earth Sciences | 1999-2004 |

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| Université Joseph Fourier , Grenoble France | summer 2002 |
| Visiting Research Professor, LGIT | |

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| University of Kansas , Lawrence, KS | |
| Assistant Professor, Department of Geology | 1994-1999 |

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| Lamont-Doherty Earth Observatory of Columbia University , Palisades, NY | |
| Adjunct Associate Research Scientist | 1994-2003 |
| Associate Research Scientist | 1991-1994 |
| Post-Doctoral Research Scientist in Seismology | 1989-1991 |

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| City College, City Univ. of New York , New York, NY | 1992 |
| Adjunct Lecturer, Department of Earth and Planetary Sciences | |

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| Massachusetts Institute of Technology , Cambridge, MA | 1984-1989 |
| Graduate Research Assistant in Geophysics. | |

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| Woods Hole Oceanographic Institution , Woods Hole, MA | 1983-1984 |
| Research Assistant, gravity group. | |

Honors and Professional Service

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| Honors and Awards | |
| Tuve Fellow, Carnegie Science, Department of Terrestrial Magnetism | 2019 |
| Research Excellence Award, Cornell College of Engineering | 2017 |
| Fellow, American Geophysical Union | 2015 |
| Elected to Board of Directors, IRIS | 2013 |
| Earth Planet. Sci. Let. "Top-50 Most Cited Articles 2006-10" (Abers et al., 2006) | 2010 |
| Fellow, Geological Society of America | elected 2000 |
| National Science Foundation Graduate Fellow | 1984-1987 |
| Sigma Xi, Phi Beta Kappa | 1983 |
| William Gaston Prize in Geological Science, Brown Univ. | 1983 |
| Incorporated Research Institutions for Seismology (IRIS) / Earthscope Inc. | |
| Earthscope NGF Proposal Science Planning Committee | 2023-4 |
| Transportable Array Advisory Committee (Chair) | 2019-20 |
| Board of Directors | 2013-17 |
| Board of Directors, Vice-chair (elected to full term, 2015-17) | 2014-17 |
| Coordinating Committee (Chair, 2014-17) | 2013-17 |
| Presidential Search Committee | 2013-14 |
| Planning Committee | 2011-13 |
| PASSCAL Strategic Plan Working Group | 2005 |
| PASSCAL Standing Committee | 2000-02 |
| Working Group Chair, Rocky Mountains USArray, 14th Annual IRIS Workshop | 2002 |
| Data Management System Standing Committee | 1993-95 |

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| Institutional Member Representative (BU, LDEO) | 1999-7, 2013-14 |
| MARGINS/GeoPRISMS/SZ4D | |
| SZ4D Steering Committee member, and MDE Working Group co-chair | 2023- |
| SZ4D Magmatic Drivers of Eruption working Group member | 2022-23 |
| SZ4D Faults & Earthquake Cycles working group member | 2020-22 |
| GeoPRISMS Distinguished Lecturer | 2011-13 |
| Co-convener, GeoPRISMS-Earthscope Cascadia Workshop | 2012 |
| Chairman, MARGINS Steering Committee and MARGINS Office Director | 2006-2010 |
| U.S. representative to InterMARGINS | 2006-2010 |
| MARGINS Steering Committee | 2003-6 |
| Co-convener, "Interpreting Mantle Images" Workshop | 2006 |
| Planning Committee, Subduction Factory MARGINS Theoretical Institute | 2000 |
| Other Committee Service | |
| American Geophysical Union, Seismology Fellowship Committee (Chair) | 2019 |
| American Geophysical Union, Seismology Fellowship Committee | 2016-7 |
| Planning Committee Chair, Amphibious Array Future Workshop | 2014 |
| Program Committee, Seismological Society of America Annual Meeting | 2014 |
| Aleutians Logistics mini-workshop co-organizer | 2013 |
| Co-organizer, CIDER workshop on Upper Mantle Attenuation mechanisms | 2013 |
| Amphibious Array Steering Committee, Chair | 2012-13 |
| Amphibious Array Steering Committee, member | 2010-12 |
| Marine Geophysics Data Management System oversight committee | 2004-7 |
| Regional Advisory Committee, Advanced National Seismic System – Northeast | 2000 |
| Program Committee, AGU Chapman Conference "Active Tectonics and Seismic Potential of Alaska", May 2006 | 2004-2006 |
| Technical Program Committee, Seismological Society of America meeting | 1998 |
| Other Service | |
| CIDER (Coop. Inst. Deep Earth Res.), summer lecturer | 2011, 2017, 2019, 2023 |
| NSF review panel for Ocean-Bottom Seismology Instrument Center | 2021 |
| SIG convener, Marine Seismology Symposium | 2021 |
| Editor, <i>Seismol. Res. Lett.</i> special issue on EarthScope in Alaska | 2019-2020 |
| SAGE/GAGE (IRIS/UNAVCO) workshop, session convener | 2019 |
| GRC – Earth Interior, session convener | 2019 |
| NSF Future of Marine Seismics visiting committee | 2017 |
| PhD selection comm. external member, UiB Norway | 2012 |
| Co-Editor, G-Cubed Theme on exhumation of UHP metamorphic rocks | 2012-15 |
| ILP Task Force, The Subduction Channel | 2010-11 |
| Earth2Class lecturer | 2009 |
| Special Session Convener, Fall AGU Meeting, Deformation...Subduction... | 2008 |
| Phys. Earth Planet. Int. "Top-50 Most Cited Articles 2004-7" (Abers, 2005) | 2008 |
| Associate Editor, Journal of Geophysical Research – Solid Earth | 2003-2006 |
| Panelist, NSF/OPP funding panel Antarctic Geology and Geophysics | 2005 |
| Visiting Research Scientist, LGIT, Univ. Joseph Fourier, Grenoble France | 2002 |
| Special Session Convener, Fall AGU: Why Intermediate-Depth Earthquakes? | 2001 |
| Coordinator, Outstanding Student Paper Award (Seismology), Spring AGU | 2001 |
| Associate Editor, Journal of Geophysical Research – Solid Earth | 1995-98 |
| USGS funding panel for Earthquake Hazards Reduction Program, Central US Region | 1995, 1996 |

Journal reviewer for (since 2010):

Ann. Rev. Earth Planet. Sci., Bull. Seismol. Soc. Amer., Earth Planets Space, Earth Planet. Sci. Lett., EOS, Geology, Geosphere, Geophys. J. Int., Geophys. Res. Lett., Geochem., Geophys., Geosys., J. Geophys. Res., Nature, Nature Comm. Nature Geosci., Proc. Nat. Acad. Sci., Science, Sci. Adv., Seismol. Res. Lett.

Proposal reviewer for (since 2010):

National Geographic, German Science Foundation (DFG; Deutsche Forschungsgemeinschaft), NASA Discovery Program, National Science Foundation Earth Sciences (Panels: Geophysics, Tectonics, Instrumentation, CSEDI, Earthscope), MacArthur Foundation, National Science Foundation Ocean Sciences (Marine Geol. Geophys, GeoPRISMS), National Science Foundation, Office of Polar Programs, NERC (UK science funding), NSERC (Canada science funding), Fulbright Commission

Member:

American Association for the Advancement of Science
 American Geophysical Union (Fellow)
 Geological Society of America (Fellow)
 Seismological Society of America

Service to Cornell University

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| Chair, Department of Earth & Atmospheric Sciences | 2020-24 |
| Director of Graduate Studies, Field of Geological Sciences | 2015-19 |
| EAS Geochemistry Search Committee | 2018-19 |
| CEE Subsurface Energy Search Committee | 2018-19 |
| Chair, EAS High-T Geochemistry Search Committee | 2016-7 |
| EAS Strategic Plan Writing Committee | 2016-7 |
| Graduate program review, EAS Advisory Board; EAS external review comm. | 2016 |
| Ad Hoc tenure review committee, College of Engineering | 2016 |
| Advisor for Snee Graduate Organization (SGO) | 2015-19 |
| EAS Committee on off-campus conduct policy | 2015 |
| College Arts & Sciences new student orientation – EAS representative | 2014,2015, 2018 |

Invited Talks and Invited Conferences, since 2015

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| SZ4D/Magmatic Drivers of Eruption mini-workshop: <i>Alaska Volcanoes</i> | 12/23 |
| Caltech, Seismolab Seminar | 2/23 |
| <i>Multi-resolution imaging the downdip extent of the subduction megathrust</i> | |
| Cornell University Borehole Observatory – Town Hall, <i>seismicity</i> | 11/22 |
| Rice University, Departmental Seminar | 10/22 |
| <i>Multi-resolution imaging the downdip extent of the subduction megathrust</i> | |
| Gordon Conference on Rock Mechanics, invited keynote | 8/22 |
| SEG/AGU Geophysics of Convergent Margins workshop, invited presentation | 7/22 |
| IRIS Webinar (www.iris.edu/hq/webinar) | 11/21 |
| <i>Megathrusts, subducting crust, volcanic arcs or their absence: insights from Alaska portable-array experiments</i> | |
| Marine Seismology Symposium, invited panelist, Amphibious experiments | 3/21 |
| American Geophysical Union, Invited Presentation | 12/20 |
| <i>Twenty years of MARGINS and GeoPRISMS</i> | |

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| University of Alaska Fairbanks, Geophysical Institute <i>Deep Decoupling in Subduction Zones</i> | 10/20 |
| Cornell University, EAS Dept, ANDES seminar <i>Deep Decoupling in Subduction Zones</i> | 10/20 |
| Seoul National Univ. Korea [canceled due to COVID19] | 2/20 |
| Tohoku Univ. Japan <i>Can seismology image mantle water in subduction zones?</i> | 2/20 |
| Earthquake Research Inst., Univ. Tokyo Japan <i>The deep roots of arc volcanoes: seismic imaging in the Washington Cascades</i> | 1/20 |
| Tokyo Institute of Technology Japan <i>The deep roots of arc volcanoes: seismic imaging in the Washington Cascades</i> | 1/20 |
| Carnegie Institution for Science <i>The deep roots of arc volcanoes: seismic imaging in the Washington Cascades</i> | 10/19 |
| Univ. Maryland <i>The deep roots of arc volcanoes: seismic imaging in the Washington Cascades</i> | 10/19 |
| Smithsonian, National Museum of Natural History <i>The deep roots of arc volcanoes: seismic imaging in the Washington Cascades</i> | 10/19 |
| SAGE/GAGE Workshop, Portland OR <i>Session organizer, multidisciplinary approaches to subduction</i> | 10/19 |
| UK Volatiles in the Lesser Antilles (VoiLa) wrapup workshop, Trinidad | 9/19 |
| Alaska-Aleutian Synthesis Workshop, LDEO, Palisades NY <i>The Wrangell Volcanism and Lithospheric Fate project</i> | 8/19 |
| CIDER (Cooperative Institute for Dynamic Earth Interior), volcanoes, Berkeley <i>Senior participant, 2 weeks</i> | 6/19 |
| Gordon Research Conference on Earths Interior, S Hadley MA <i>Session organizer, Subduction Zones – present-day conveyor belts to the mantle</i> | 6/19 |
| Mantle water workshop, LDEO, Palisades NY <i>Seismic imaging water in subduction zones</i> | 4/19 |
| GeoPRISMS synthesis TEI, San Antonio | 2/19 |
| Community Volcano Experiments Workshop, Albuquerque | 11/18 |
| Michigan State Univ. Dept. Colloquium <i>Multiscale Seismic Structure of the Megathrust</i> | 9/18 |
| NIED (Nat. Res. Inst. for Earth Sci. and Disaster Resil.), Tsukuba Japan <i>Imaging hydration and dehydration across the Cascadia subduction zone: iMUSH</i> | 9/18 |
| Science of Slow Earthquakes 2018 Workshop, Fukuoka Japan <i>Multiscale Seismic Structure of the Megathrust</i> | 9/18 |
| University of Washington Dept. Colloquium <i>Imaging Alaska and other subduction zones</i> | 3/18 |
| University of Minnesota Dept. Colloquium <i>The subduction plate interface and mantle wedge from thrust zone to subarc</i> | 1/18 |
| Fall, 2017 American Geophysical Union meeting, New Orleans | 12/17 |
| Washington University of St. Louis Brownbag Seminar <i>Imaging Alaska and other subduction zones</i> | 11/17 |
| Binghamton University <i>Imaging Alaska and other subduction zones</i> | 10/17 |
| CIDER (Cooperative Institute for Dynamic Earth Interior), Berkeley <i>Lecturer and Senior Participant, 2 weeks</i> | 6-7/17 |
| Geophysical Institute University of Alaska Fairbanks | 6/17 |

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| <i>Brownbag: Imaging of subduction zones</i> | |
| 2017 JpGU/AGU meeting, Chiba Japan | 5/17 |
| <i>Systematics of intermediate-depth earthquakes: what have we learned recently?</i> | |
| 2017 Subduction Interface Process workshop, Barcelona | 4/17 |
| Fall, 2016 American Geophysical Union meeting, San Francisco | 12/16 |
| <i>Seismic signals from the slab surface within and downdip of the thrust zone: blind men and the elephant?</i> | |
| INSTOC Symposium 2016, Ithaca NY | 10/16 |
| <i>Forearc serpentization and the problem of Mount St. Helens</i> | |
| Subduction Zone Observatory planning workshop, Boise ID | 9/16 |
| <i>Lessons learned from the MARGINS program</i> | |
| GeoPRISMS Webinar (http://geoprisms.org/research/community-projects/alaska/) | 4/16 |
| <i>Potential of an Alaska Amphibious Community Seismic Experiment</i> | |
| Syracuse University | 2/16 |
| <i>Fluid and mass transfer into the cold mantle wedge of subduction zones</i> | |
| Fall, 2015 American Geophysical Union meeting, San Francisco | 12/15 |
| <i>Fluid and mass transfer into the cold mantle wedge of subduction zones: budgets and seismic constraints</i> | |
| GeoPRISMS Theoretical & Experimental Inst. for Subduction Cycles & Defm., Redondo Beach, CA | 10/15 |
| <i>Volcanism from slab to surface: The iMUSH project</i> | |
| Future Seismic and Geodetic Facility Needs in the Geosciences, Lansdowne VA | 5/15 |
| <i>Potential human-induced events and the geophysical tools needed to understand them</i> | |
| Rensselaer Polytechnic Institute | 4/15 |
| <i>What is the Amphibious Array and how are we using it?</i> | |

Response to Media Queries, 2011-present

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| CNN-International, LiveNow-Fox, on air interviews about Japan Sea earthquake (1/1/24) | |
| La Rázon, Turkey earthquakes (9/23) | |
| Watertown Daily times, earthquakes near Watertown (4/23) | |
| WENY/NY, La Rázon, earthquakes in Buffalo, Turkey (2/23) | |
| Geology Bites podcast interview on subduction cycles (7/22) | |
| Poetry in America – Panelist discussing A.R. Ammons' <i>Cascadilla Falls</i> (4/22) | |
| Cornell Chronicle – aftershock survey of Chignik M8.2 earthquake (8/21) | |
| National Graphic News – about Mount St Helens results (7/19) | |
| PNAS news– about Mount St Helens results (4/19) | |
| Physics Today – interview about Greece seismicity paper (4/19) | |
| Cornell Chronicle – interview about modernized EAS display cases (1/19) | |
| AGU Press Release – Anchorage felt earthquakes (12/18) | |
| Kodiak Daily Mirror – Interviewed about Alaska Amphibious Array (5/18) | |
| Earth Magazine – interviewed about an article on water & seismic waves in mantle (4/18) | |
| Science (J. Rosen) – Interviewed about Transportable Array and amphibious extension (10/17) | |
| Syracuse NBC/CBS; BBC-TV – interviews about central Mexico earthquakes (9/17) | |
| Cornell press release – Alaska Amphibious Experiment (9/17) | |
| AP wire (in NYTimes, Washington Post) – Chiapas Mexico M8.2 earthquake (9/17) | |
| The Canadian Press (thecanadianpress.com) – Juan de Fuca / Eilon Sci. Adv. paper (5/17) | |
| Christian Science Monitor – Induced earthquakes in Los Angeles Basin Paper (10/16) | |
| Christian Science Monitor – Texas Induced Seismicity Paper (5/16) | |

Business Week – Oklahoma Induced Seismicity (3/15)
 WFAA Dallas – Texas Earthquakes (1/15)
 Weather Channel/Secrets of Earth – great earthquakes (7/14)
 LiveScience, Guardian, USA Today, Scientific American, Canadian Broadcasting Co (TV interview), Living on Earth, many others -- Central Oklahoma Induced Earthquakes, over 300 published articles (7/14)
 KGW-TV (NBC); Portland-Fox – iMUSH Mt St Helens Media Day - 6/14)
 - WMOK Oklahoma News, NPR Science Friday, Toronto Global News, etc. – Induced earthquakes in Oklahoma (5/14)
 NY Times – Chile 4/13 earthquake vs Alaska 1964 (4/14)
 Science – Italian earthquakes and injection wells (4/14)
 Crescendo Films France – Shale-gas documentary (8/13)
 EnergyWire; Pan-Euro Networks – Remote triggering of induced earthquakes (7/13)
 NY Times (fact checker) – How old are the Palisades cliffs? 6/13
 Eos/AGU – The USArray Transportable Array (5/13)
 Multiple interviews, >50 published articles – Oklahoma earthquake is induced: Keranen et al. published (3/13)
 EnergyWire – New York Fracking-related pieces (1/13)
 EnergyWire – Oklahoma Induced Seismicity (12/1/12)
 Bergen Register – Ringwood NJ earthquake - Bergen Register, 11/6/12
 Good Morning America, World News, Christian Science Monitor, NPR/WNYC, WCBS, The Daily, Univision, many others – Tohoku earthquake and tsunami (3/11)

Field Experience

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| Tompkins County, NY: Service Cornell area seismic network | 2022-4 |
| Kodiak Alaska: Chignik M8.2 earthquake aftershock seismic deployment | 2021 |
| Gulf of Alaska: Chief scientist, AASCE OBS recovery, R/V Marcus G. Langseth | 2019 |
| Kodiak Alaska: AASCE amphibious seismic deployment | 2018 |
| Central Alaska: WVLF broadband seismic deployment | 2016, 2017 |
| Mt St Helens WA: iMUSH broadband seismic deployment | 2014-2016 |
| Western Washington: Cascadia ship-to-shore wide-angle reflection array | 2012 |
| SE Papua New Guinea: CDPapua broadband seismic deployment | 2010-2011 |
| Western Washington: Cascadia Arrays For EarthScope (CAFE) seismic deployment | 2006-8 |
| Southern Alaska: MOOS broadband PASSCAL deployment | 2006-8 |
| Costa Rica, Nicaragua: TUCAN broadband PASSCAL deployment | 2004-2006 |
| Costa Rica, Nicaragua: seismological site survey | 2003 |
| Papua New Guinea: Woodlark Rift, PASSCAL deployment | 1999,2000 |
| Alaska Range: BEAAR, PASSCAL deployment | 1999,2000 |
| Alaska Range: seismological site survey | 1998 |
| Kansas River: exploratory paleoseismology | 1997-8 |
| Central Kansas: broad-band seismograph deployments | 1996-1998 |
| Greater Caucasus, Russia: seismic network | 1993 |
| Shumagin Islands, Alaska: Strong motion array | 1993 |
| Alaska Peninsula Region: Seismic network and broad-band station maintenance | 1991 |
| Greater Caucasus, USSR: PASSCAL aftershock survey | 1991 |
| Southern California: STRC GPS experiment | 1991 |
| Alaska Peninsula Region: seismic network maintenance | 1990 |
| Papua New Guinea: microseismic and gravity survey | 1988 |

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| Central Arizona: PACE crustal refraction experiment | 1987 |
| Southeast Pacific: Marine geophysical survey, R/V Conrad | 1985 |
| Panamint Valley, California: Regional geophysical survey | 1985 |
| Southwest Montana: Field Geology Course | 1982 |

Graduate Students Supervised, and partial list of theses

Cornell: S. Nale, K. Crosbie, M. Leitner, M.E. Mann, R. Soto Castaneda, K. Abdulrahman, K. Daly, K. Agboola, S. Nolan

Nale, S.M., *Distribution of seismicity on a megathrust: characterizing the seismogenic zone in the Shumagin Gap, Alaska with precise earthquake locations*, MS thesis, Cornell Univ., 2017.

Crosbie, K.J., *Shear velocity structure from ambient noise and teleseismic surface wave tomography in the Cascades around Mount St. Helens*, MS Thesis, Cornell Univ., 93pp., 2018.

Soto-Castaneda, R., *Teleseismic P and S wave attenuation constraints on temperature and melt of the upper mantle in the Alaska Subduction Zone*, MS Thesis, Cornell Univ., 112pp., 2019.

Mann, M.E., *Scattered wave imaging of the crust and uppermost mantle along strike in the Alaska and Cascadia subduction zones*, Ph.D. Thesis, Cornell Univ., 207pp., 2021.

Lamont: E. Triep, X. Hu, J. Garroway, H. Janiszewski, J. Li, Z. Eilon

Triep, E., *Intracontinental seismotectonics*, PhD thesis, 193 pp., 1996

Li, J., *Seismicity and seismic imaging of the Alaska megathrust fault*, PhD thesis, 2016

Eilon, Z.E., *New constraints on extensional tectonics through analysis of teleseisms*, PhD thesis, 2016.

Janiszewski, H., *New Insights on the Structure of the Cascade Subduction Zone from Amphibious Seismic Data*, PhD thesis, 2017.

Kansas: G. Sarker, Z. Yu, B. Schlotterbeck, A. Ferris

Sarker, G., *Seismic attenuation variations at range fronts in central Eurasia*, PhD Thesis, 166 pp., 1998

Schlotterbeck, BA, *Seismic attenuation variations in southern California*, MA Thesis, 111 pp., 1999.

Boston: A. Ferris, J. Stachnik, G. Rossi, L. (Auger) MacKenzie, E. Syracuse, Z. Zhang

Ferris, A., *Moho topography beneath active metamorphic core complexes: D'Entrecasteaux Islands, Papua New Guinea*, MA Thesis, 79 pp., 2002

Stachnik, J.C., *Seismic attenuation in central Alaska*, MA Thesis, 122 pp., 2002

Rossi, G., *Measuring the Mantle Wedge Poisson's Ratio and Slab Depth: Central Alaska*, MA thesis, 2004

Ferris, A., *Seismic Imaging of Active Continental Breakup in the Woodlark Rift System of Papua New Guinea*, PhD thesis, 2007

MacKenzie, L.A., *A Receiver Function Study of the Central America and Cascadia Subduction Zone Systems*, PhD Thesis Boston Univ., 162 pp., 2008

Syracuse, E.M. *The Global Systematics of Subduction Zones*, Boston Univ., PhD thesis 304 pp., 2008

Post-Doc's and Research Associates Mentored

Cornell: D. Kim, G. Barcheck, G. Pang

Lamont: J. Calkins, YH. Kim, M. Obrebski

Graduate Student Thesis Committees (not primary advisor):

Cornell: K. Lehman, M. Furtney (MS 2016), D. Peterson, P. MacQueen, B. Wu (CEE), Y. Aglyamov (Astron), C. DeVitre, E. Eiden, K. Dayton, V. Hegelein

Lamont: V. Aharonian (MA, 1993), R. Abad (MA, 1993), Q. Chen (PhD 1994), J. Ge (PhD, 2015), S. Veitch (PhD 2016), M. Howe (PhD)

Kansas: M. Kosuch, K. Wang, V. Balzer

Boston: K. Kelley, L. Quintin, S. Johnston Whitmeyer, J. Wade, M. Zimmer, J. Tomic, K. Swanger, C. Pettijohn, G. Viegas Fernandes, L. Mehl, L. Cooper, K. Murphy

External Examiner: C. Rychert (PhD, Brown, 2008); D. Abt (PhD, Brown, 2009), H. Ford (PhD, Brown, 2013), B. Baker (PhD, Rensselaer, 2013); F. Pearce (PhD, MIT, 2014), Aakash Gupta (PhD committee, U Alaska Fairbanks, expected 2024)

Undergraduate Theses and Research Projects Supervised

Cornell: K. Shao, K. Schindler, A. Reid-McLoughlin, Z. Katz, S. Yang

Lamont: H. Janiszewski, C. Dieck

Kansas: M. Schlichting, A. Ferris

Boston: C. Rychert, S. Pozgay, G. Reyes, S. Dougherty, J. Brewer

C. Rychert: *SKS Analysis of Anisotropy in the Western Woodlark Basin, BA Thesis, Boston University (University Professors Program), unpub., 2001*

S. Pozgay: *Temperature and thickness of the lithosphere underlying Denali, BA Thesis, unpub., 2002*

PhD Advisors:

R. McCaffrey and P. Molnar

Post-Doctoral Advisor:

K. Jacob

COURSES TAUGHT

Cornell University

- EAS 4740/5740 Quantitative Data Analysis in Geosciences
 - Spring 2016: 22 students
 - Spring 2017: 11 students
 - Spring 2018: 9 students
 - Spring 2019: 5 students
 - Spring 2022: 9 students
- EAS 6920 Special Topics in EAS:
 - Subduction Zones (seminar) Fall, 2015
 - Seeing Volcanoes (seminar/projects), Fall 2017
- EAS 6677, Seismic risk in energy development (co-taught IGERT module) Spring 2015
- EAS 4040/5041 Geodynamics:
 - Spring 2015: 12 students
 - Fall 2016: 12 students
 - Fall 2018: 15 students
 - Fall 2020: 7 students
 - Spring 2023: 16 students
- EAS 4920/6920 Seismology:
 - Spring 2024, 14 students
- EAS 7800 Earthquake Record Reading
 - Fall 2014: assisted; Spring 2015: lead instructor; Fall, 2015-2022
- EAS 7930. Andes-Himalaya Seminar
 - Spring 2022: 7 students

Lamont-Doherty Earth Observatory

- EESC G9945, Topics in Global and Regional Seismology (*seminar each semester*)
 - Fall 2008 – present, every semester.
- EESC G4949, Introduction to Seismology
 - Fall 2012: 9 students
- EESC G4947, Plate Tectonics
 - 2009, 2010, 2011, 2012, 2014: 6 - 11 students

Boston University (not including ES699-Teaching Fellowship)

- ES 101, The Dynamic Earth (*fulfills distribution requirements*)
 - Spring 2000: 76 students
- ES 140, Earthquakes, Volcanoes and Natural Disasters (*fulfills distribution requirements*)
 - 2001, 2002, 2003, 2004, 2005: 95 - 225 students (incl. honors section)
- ES 303, Field Methods (*required for majors; co-taught with 7 others*)
 - Fall 1999: 15 students
- ES 360, Geodynamics I (*required for majors*)
 - 1999, 2000, 2001: 13 - 17 students
- ES505, Plate Tectonics and Kinematics
 - Fall 2000, “Extension”: 4 students (*co-taught with one other professor*)
- ES581, Solid Earth Geophysics
 - 2005, 2007, 5 - students
- ES 587, seminar in Earth Sciences

- Fall 2001, "Subduction": 6 students (*co-taught with one other professor*)
- ES 588, seminar in Lithospheric Dynamics
Spring 2000: 5 graduate students
- ES 401/402 or 491/492, Undergraduate Directed Study or Indep. Work (theses)
Fall 2001 / Spring 2002 (Sara Pozgay)
Fall 2000 / Spring 2001 (Catherine Rychert)
- ES 781, Seismology (*grad-level courses*)
Spring 2004: 2 students
- ES 833, Advanced Topics in Geophysics and Seismology (*grad-level courses*)
Spring 2003: 6 students (*topic: Quantitative Data Analysis*)
- ES 831, Advanced Topics in Tectonics (*grad-level courses*)
Fall 2003: 8 students (*topic: Central American Subduction*)
Spring 2006: 6 students (*topic: Quantitative Data Analysis*)
- ES 927/928 Directed Study in Structure/Tectonics (*graduate research-based course*)
1999, 2000, 2002: 1 student
- ES 960/961 Directed Study in Geophysics (*graduate research-based course*)
Fall 2000: 1 student
- ES 962/963 Directed Study in Seismology (*graduate research-based course*)
2000 - 2003: 1 – 2 students

University of Kansas

- GEOL 101, Introduction to Geology (*fulfills distribution requirements*)
1995, 1996, 1997: 45 - 125 students
- GEOL 571: Earthquakes and Natural Disasters (*no Geology prerequisites*)
1996, 1997, 1998: 9 – 20 students
- GEOL 573: Physics of the Earth (*for Geophysics majors and senior elective*)
Fall 1994: 4 students
- GEOL 573: Geodynamics and Plate Tectonics (*Geology major requirement*)
1996, 1998: 15 - 18 students
- GEOL 773: Seismology (*Graduate/ advanced undergraduate course*)
1995, 1997, 1999: 4 - 6 students
- GEOL 771: Seminar in Advanced Geophysics, Inverse Methods (1 cr.)
Spring 1998: 3 students
- GEOL 771: Seminar in Advanced Geophysics, Convergent Margin Dynamics
Spring 1996: 6 students
- GEOL 791: Seminar in Tectonics: Fault Dynamics
Spring 1998: 9 students
- GEOL 391: Special Problems in.... (*undergraduate research project supervision*)
Spring 1998 (A. Ferris)
Spring 1995 (M. Schlichting)

City College of New York:

- Geophysics: ~15 students, Spring 1992.

EXTERNAL FUNDING

Grants Received or Pending: Cornell University

U.S. Geol. Survey Earthquake Hazards Program, “Understanding the 2021 M8.2 Chignik, Alaska aftershock sequence using machine learning, AACSE & other nearby seismic data”, \$99,803, 1/1/24, 12 mo. *Submitted 5/23*. (lead PI)

National Science Foundation/ Geophysics (EAR- 2313452), “Systematic mapping of magma bodies under Cascades volcanoes”, \$433,198, 36 months, 7/1/2023-6/30/2026 (sole PI).

National Science Foundation/Marine Geology and Geophysics (OCE-2241063), “Collaborative Research: Investigating intraplate melting processes in northwest New Zealand with seismic imaging”, \$389,300, 48 months, 7/1/2023-6/30/2027 (lead PI; with Brown Univ.)

Marsden Fund (New Zealand): Probing the depths of Auckland's Volcanic Field: An integrated geophysical investigation into the intraplate volcanism of Tāmaki Makaurau, *unfunded collaborator* (led by Univ. Auckland) 2022.

National Science Foundation/Geophysics (EAR-2147438), “Collaborative Research: RAPID: Response to the 29 July 2021 Chignik M8.2 Earthquake”, \$81,567, 12 months, 9/1/21 – 8/31/22 (lead PI; with Michigan State)

National Science Foundation/GeoPRISMS (EAR-1948834), “Collaborative Research: Synthesizing arc-scale geochemical, petrologic, and geophysical datasets to investigate causes of volcanic diversity in the Cascade Arc”, \$103,886, 36 months, 7/1/20 – 6/30/23 (lead PI; with Arizona State, Oregon State)

National Science Foundation/GeoPRISMS (OCE-1949130), “Collaborative Research: Behavior and structure on and around the megathrust revealed by the Alaska Amphibious Community Seismic Experiment”, \$279,275, 36 months, 7/1/20 – 6/30/23 (lead PI; with U. Washington, U.C. Santa Cruz)

National Science Foundation/EarthScope (EAR-1829440), “Collaborative Research: Structure and dynamics of the Alaska mantle wedge”, \$211,073, 36 months, 9/1/18 – 8/31/22 (lead Cornell PI; with U Alaska, UC Santa Barbara)

Department of Energy, “Ab initio geochemistry of hydrous phases”, \$1,799,999, 36 months, 9/1/19 – 8/31/22 (at Columbia Univ.; led PI: R. Wentzcovitch; 2 weeks/year)

National Science Foundation/GeoPRISMS (OCE-1654568), “Alaska Amphibious Community Seismic Experiment”, \$1,467,392, 36 months, 8/1/2017 – 7/31/2020. (lead PI; with Colgate, Columbia, Colorado, New Mexico, UC Santa Cruz, Washington Univ. St. Louis, Univ. Washington)

- 10/2017, *supplement to previous for Nodal deployment*, \$128,048

- 3/2019, *supplement to previous for active-source generation*, \$53,632.

- 9/2019, *supplement to previous for generating seismicity catalog*, \$95,692.

U.S. Geol. Survey Earthquake Hazards Program, “Earth structure effects on wave propagation of the damaging 2016 M7.1 Iniskin Alaska earthquake and other in-slab earthquakes”, \$70,019, 5/1/2017 – 12/31/2018.

National Science Foundation/EarthScope (EAR 1460291): “Collaborative Research: Fate and consequences of Yakutat terrane subduction beneath eastern Alaska and the Wrangell Volcanic Field”, \$290,810, 5/1/2015-4/30/2019 (with Alaska)

National Science Foundation/GeoPRISMS (EAR-1347262), “Collaborative Research: The Aleutian megathrust from trench to base of the seismogenic zone; integration and synthesis of laboratory, geophysical and geological data,” \$175,303, 1/29/14-1/31/18 (co-PI w/ Keranen; with LDEO, Penn State).

National Science Foundation/GeoPRISMS (OCE-1446970), “Collaborative Research: the role of fluids in intermediate-depth seismicity and wedge anisotropy: Case studies for Cascadia and Alaska, with a comparison to Japan”, \$129,472, 4/1/13-3/31/16 (with U Michigan, UC Santa Barbara). *Transferred from Columbia.*

National Science Foundation/MARGINS-GeoPRISMS (EAR-1444275), “Collaborative Research: Illuminating the architecture of the greater Mt. St. Helens magmatic systems from slab to surface”, \$341,241, 5/1/2012-4/30/2019 (with U Washington, Oregon St., Rice) *Transferred from Columbia.*

Grants Received: Lamont-Doherty Earth Observatory

National Science Foundation/MGG, (OCE-1536566) “Thermal and melt structure of the Juan de Fuca plate from ridge to trench to arc, inferred from seismic attenuation across the Amphibious Array,” \$80,480, 7/1/15-6/30/16.

National Science Foundation/MGG, (OCE-1334831) “Thermal structure, hydration and dehydration of the entire Juan de Fuca Plate,” \$210,531, 8/1/13-7/31/15 (co-PI w/ Gaherty).

National Science Foundation/GeoPRISMS (OCE-1249703), “Collaborative Research: the role of fluids in intermediate-depth seismicity and wedge anisotropy: Case studies for Cascadia and Alaska, with a comparison to Japan”, \$129,472, 4/1/13-3/31/16 (with U Michigan, UC Santa Barbara).

U.S. Geological Survey (G13AP00024), “The 2011 Oklahoma earthquake sequence and the role of fluid injection in triggering earthquakes: Collaborative Research with the University of Oklahoma, and Columbia University” (co-PI; H. Savage PI), \$37,225, 4/1/13-3/30/14.

National Science Foundation/Earthscope, (EAR-1147622). “Collaborative Research: Imaging the Cascadia subduction zone: a ship-to-shore opportunity”, \$209,402, 4/30/2012-4/30/2015 (with Oregon St.)
supplement to previous, 7/12: \$10,874

National Science Foundation/MARGINS-GeoPRISMS (EAR-1144351), “Collaborative Research: Illuminating the architecture of the greater Mt. St. Helens magmatic systems from slab to surface”, \$351,896, 5/1/2012-4/30/2016 (with U Washington, Oregon St., Rice)

National Science Foundation/MGG (OCE 11-32343), “Broadband recording at the site of great earthquake rupture in the Alaska megathrust”, \$85,256, 4/1/11-3/31/12 (co-PI; at U. Okla.)

Southern California Earthquake Center (SCEC), “Mapping the Crust-Mantle Transition Beneath Parkfield, Non-Volcanic Tremor and the Deep Extension of the San Andreas Fault,” \$14, 972, 2/1/2011-1/31/2012 (with U.C. Santa Cruz)

National Science Foundation/CSEDI (EAR-1067974), “Collaborative Research: Integrating Seismological, Rheological and Petrological Studies of Melt Production and Transport in Subduction Zones”, \$217,124, 9/15/2011-8/31/2013 (with Brown U, Washington U. St. Louis)

National Science Foundation/EAR-Geophysics (EAR-1015016), “Probing the roots of active volcanic systems with spectral ambient noise tomography and receiver functions”, \$126,317, 7/1/10-6/30/12 (co-PI)

National Science Foundation/MARGINS (OCE-0943445) “MARGINS Successor Planning Workshop”, \$179,544, 9/15/09 – 9/14/10

National Science Foundation/MARGINS (OCE-0849289) “MARGINS Theoretical and Experimental Institute: Volatiles in the Subduction Factory”, \$152,026, 4/1/09 – 3/31/10

National Science Foundation/MARGINS (OCE-0823714) “MARGINS Office Support (renewal)”, \$538,696, 8/1/09– 6/31/11

supplement to previous, 7/10: \$41,568

National Science Foundation/MARGINS (OCE-0841102) “MARGINS Workshop: Rupturing Continental Lithosphere: Synthesis and New Perspectives”, \$106,937, 2/1/09 – 1/31/10

National Science Foundation/MARGINS (OCE-0811176) “MARGINS-SEIZE Workshop – The next decade of the Seismogenic Zone Experiment”, \$99,977, 4/15/08 – 3/31/09

Note: several grants, identified below, were transferred 1/08 from Boston University to LDEO.

National Science Foundation/Continental Dynamics (EAR-0814236), “Collaborative Research: How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth?”, 1/1/08 – 6/30/12, \$1,063,824 (with Syracuse, UT Austin, UC Santa Barbara; \$4,015,902 total). *Transferred to LDEO 1/08*

National Science Foundation/MARGINS (OCE-0823714), MARGINS Office Support, \$686,026, 1/1/08-7/31/09 *Transferred to LDEO 2/08*

supplement to previous, 5/09: \$29,733

National Science Foundation/Earthscope (EAR- 0814237), Collaborative Research: Earthscope Integrated investigation of Cascadia subduction zone tremor, structure and process, \$196,181, 1/1/08-12/31/11 (with U Washington, MIT, Ctrl Washington U., U.C. Santa Barbara) *Transferred to LDEO 1/08*

National Science Foundation/Geophysics (EAR-0814235) Collaborative Proposal: Seismic and Geodetic Imaging of Subducting Terranes Under North America, \$208,760, 1/1/08-6/30/11 (with U Alaska Fbks) *Transferred to LDEO 1/08; with no-cost extensions*

Grants Received: Boston University

National Science Foundation/Continental Dynamics (EAR-0708360), “Collaborative Research: How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth?”, 7/15/07 – 6/30/12, \$1,063,824 (with Lamont-Doherty, Syracuse, UT Austin, UC Santa Barbara; \$4,015,902 total). *Transferred to LDEO 1/08*

National Science Foundation/MARGINS (OCE-0715231), “Workshop to Integrate Subduction Factory and IODP Studies in the IBM Arc System”, 4/5/07-3/31/08, \$129,667.

National Science Foundation/MARGINS (OCE-0646632), “Collaborative Research: Three-dimensional models of subduction zones in the Pacific”, 6/1/07-5/31/09, \$77,587 (with U. Michigan, Brown U.).

National Science Foundation/MARGINS (OCE-0646768), “Workshop to Integrate Subduction Factory and Seismogenic Zone Studies in Central America”, 3/15/07 – 2/29/08, \$136,953.

National Science Foundation (DUE-0633081, CCLI Phase I), Collaborative Project: Using MARGINS Research Data Resources in the Classroom: Developing and Testing Multidisciplinary Mini-Lessons, \$54,799, 1/1/07-12/31/09 (with Carleton, San Jose State; \$150,000 total).

National Science Foundation/MARGINS (OCE-0605682), MARGINS Office Support, \$993,644, 8/1/06-7/31/09 *Transferred to LDEO 2/08*

supplement #1 to previous, 1/07: \$73,658;

supplement #2 to previous 8/07: \$84,178

National Science Foundation/Earthscope (EAR- 0544847), Collaborative Research: Earthscope Integrated investigation of Cascadia subduction zone tremor, structure and process, \$259,798, 1/1/06-12/31/09 (with U Washington, MIT, Ctrl Washington U., U.C. Santa Barbara) *Transferred to LDEO 1/08*

National Science Foundation/Geophysics (EAR-0409064) Collaborative Proposal: Seismic and Geodetic Imaging of Subducting Terranes Under North America, \$247,989, 7/1/04-6/30/09 (with U Alaska Fbks) *Transferred to LDEO 1/08*

National Science Foundation/CSEDI (EAR-0215577) CSEDI Collaborative Proposal: Collaborative Research: Thermal, Petrological, and Seismological Study of Subduction Zones, \$121,271, 9/1/02-8/31/05, (with UC Santa Barbara, Arizona State, Michigan)

National Science Foundation/MARGINS (OCE-0203650), MARGINS Collaborative Proposal: Imaging the mantle in the Central American Subduction Factory, \$478,134, 4/15/02-5/31/07, (with Brown)

National Science Foundation/MGG (OCE-0117451), Collaborative Proposal: Natural Seismicity Investigation of Active Continental Breakup in the Western Woodlark Basin – Renewal , \$113,599, 11/1/01 – 10/31/03, (with Columbia, Hawaii)

National Science Foundation (EAR-0079588), Acquisition of near-surface geophysical and sampling equipment for earth surface processes and Quaternary stratigraphic research, \$115,874, 8/1/00-7/31/02, with 3 other PI's

National Science Foundation/MGG (OCE-9996317), Collaborative Proposal: Natural Seismicity Investigation of Active Continental Breakup in the Western Woodlark Basin (with Columbia University), \$100,384, 9/1/99- 12/31/01 (3 other institutions) *Transferred from University of Kansas*

supplement to previous: \$13,200, 2/2000.

National Science Foundation (EAR/Geophysics) EAR 9996451, Collaborative Research: Subduction, Collision, and Mountain Building, A Broadband Seismic Experiment Across the Alaska Range (BEAR), \$97,380, 9/1/99-11/30/03 (collaborative with University of Alaska Fairbanks) *Transferred from University of Kansas*

supplement to previous: Research Experience for Undergraduates, \$4,945, 2/2000.

National Science Foundation (EAR/CSEDI), EAR-0096028, Collaborative Research: The Thermal, Petrological, and Seismological Structure of Subducting Oceanic Lithosphere (with UC Santa Barbara, Arizona State) \$15,717, 9/1/99 - 6/30/02 *Transferred from University of Kansas*

National Science Foundation (EAR/Geophysics), EAR-0096027, Structure of Subducting Slabs at Intermediate Depths, \$59,065, 9/1/99-3/31/02 *Transferred from University of Kansas*

Grants Received: University of Kansas

Incorporated Research Institutions for Seismology, Undergraduate Summer Internship, \$2650, 5/99-12/99.

National Science Foundation (OCE-9730567), Collaborative Proposal: Natural Seismicity Investigation of Active Continental Breakup in the Western Woodlark Basin (with Columbia University), \$189,377, 1/1/99- 12/31/00 (3 other institutions)

National Science Foundation (EAR-9727183), Collaborative Research: Subduction, Collision, and Mountain Building, A Broadband Seismic Experiment Across the Alaska Range (BEAR), \$117,152, 12/15/98-11/30/01 (collaborative with University of Alaska Fairbanks)

National Science Foundation EAR-9809832, Collaborative Research: The Thermal, Petrological, and Seismological Structure of Subducting Oceanic Lithosphere (with UC Santa Barbara, Arizona State) \$17,329, 7/15/98 - 6/30/01

National Science Foundation EAR-9725601, Structure of Subducting Slabs at Intermediate Depths, \$80,172, 5/1/98-3/31/00

US Geological Survey, # 98-HQ-GR-1003, Three Dimensional Attenuation Variations in Southern California, \$30,000, 2/1/98-1/31/99

U.S. Geological Survey, subcontract from U Missouri Kansas City, Paleoseismic Investigation of the Nemaha Ridge and Humboldt Fault, Eastern Kansas, \$2,292, 7/1/97-6/30/98

Ocean Drilling Program Leg 180 (proposal # 447 - Rev3), Active Continental Extension in the Western Woodlark Basin, Proposal Proponent (funds for drilling only; no KS budget) *drilled 6/98 - 8/98*

US Geological Survey#1434-HQ-96-GR-02728, Collaborative Research (Cornell and Kansas): Constraining the Regional Stress Tensor Directly from Seismic First Motion Observations, \$29,347, 4/1/96-3/31/98

Air Force Geophysics Lab F49620-95-1-0002, Seismic Sources and Structure in Iran from Joint Seismic Program Data, \$63,981, 10/1/94 - 2/28/97.

Incorporated Research Institutions for Seismology (IRIS) subaward# 0217, Development and Implementation of Routine Processing of Converted Phases and Receiver Functions from Three-Component Array Data, \$19,999, 7/1/95-12/31/96.

University of Kansas New Faculty Fund, Deep Seismic Sampling of the Midcontinent: Pilot Project, \$9936, 4/1/96-6/30/97.

Grants Received: Lamont-Doherty Earth Observatory of Columbia University (1990-1994)

US Geological Survey (USGS) # 1434-94-G-2439, Collaborative Research (Cornell and LDEO): Constraining the Regional Stress Tensor Directly from Seismic First-Motion Observations, \$30,391, 1/1/94-12/31/95. (lead PI)

IRIS # 0174, Operation and Maintenance of Caucasus Regional Network (with 4 co-PI's), \$1,472,233, 1/1/92 - 6/30/95. (co-PI; 4 PI's total)

NSF # OCE 90-12730, 3rd Increment: Woodlark-D'Entrecasteaux Project: A Deep Seismic Imaging and Seismotectonics Study of Extensional Processes in a Province of Active Rifting, \$1,027,235, 4/15/92-3/31/95. (co-PI; 5 PI's total)

USGS # 1434-92-G-2200, Determination of earthquake source parameters from regional waveforms: analysis of sparse network data in the Aleutians, \$51,280, 2/15/92-2/14/94. (lead PI; 2 PI's total)

NSF # EAR 91-18038, Analysis of PASSSCAL aftershock data for the April 29, 1991 Caucasus earthquake, \$55,000, 3/1/92-2/28/93. (co-PI, 2 PI's total)

USGS # 1408-0001-G1981, Analysis of seismic data from the Shumagin gap, Alaska, \$82,167, 3/1/91-2/29/92. (lead PI, 2 PIs total)

USGS # 1408-0001-A0616, Seismic monitoring of the Shumagin seismic gap, Alaska, \$108,297, 4/1/89-3/31/92. (lead PI for last 2 years)

DOE # DE-FG02-84ER13221F, Seismology and tectonics of the Eastern Aleutian arc, \$203,072, 8/1/90-1/31/92. (co-PI, 2 PIs total)

USGS # 1408-0001-G1388, Analysis of seismic data from the Shumagin seismic gap, Alaska,
\$260,648, 2/15/87-2/14/91 (PI for last year only)

PUBLICATIONS

Manuscripts in Preparation

Janiszewski, H., G.A. Abers, A. Bécel, H. Carton, A. Tréhu, Seismic heterogeneity along the plate interface in Cascadia's seismogenic zone, *for Seismica*, 2023.

Z. Katz, G. A. Abers, A. Ferris, T. E. Jordan, M. Pritchard, P. Fulton, and S. Yang, Seismic Monitoring Near Ithaca, New York Reveals Nonuniform Distribution of Microseismicity in Intraplate Region, *for Bull. Seismol. Soc. Amer.*, 2024.

Submitted Papers

Pang, G., G.A. Abers, S.C. Moran and W.A. Thelan, Prevalent magma beneath Cascade volcanoes, *Sci. Adv.*, subm., 2024.

Portner, D.E., J. R. Delph, E. Kiser, G.A. Abers, A. Levander and G. Pang, Validation of Ps-P tomography for obtaining 3D crustal V_p/V_s with small-N datasets: an application to the Mount St. Helens magmatic system, *G-Cubed, Subm.*, 2024.

Mann, M.E., G.A. Abers, P. Fulton, Insights into the environment surrounding the subduction megathrust using teleseismic P-to-S and P-to-P scattered phases, *Earth Planet. Sci. Lett.*, in review. 2023.

Daly, K., and G.A. Abers, High-resolution imaging of the Alaska-Aleutian megathrust using P-to-S mode conversions from local in-slab earthquakes, *J. Geophys. Res.*, in review, 2023.

Nakajima, J. and G.A. Abers, Subduction Zone: seismicity and arc magmatism, *Encyclopedia of Complexity and Systems Science*, subm., 2014 (intended publication date 2020).

Published or In Press in Peer-Reviewed Literature

(my students, postdocs and mentees underlined)

128. Wieser, P., A. Kent, C. Till & G.A. Abers (2023), Geophysical and geochemical constraints on magma storage depths along the Cascade Arc: Knowns and unknowns, *Geochem. Geophys. Geosys.*, 24, GGGE23185. doi: 10.1029/2023GC011025.

127. Pang, G., and G.A. Abers (2023), Focusing effects of teleseismic wavefields by the Cascadia slab, *J. Geophys. Res.*, 128, e2022JB025486; doi: 10.1029/2022JB025486.

126. Jiang, C., B. Schmandt, G.A. Abers, E. Kiser and M.S. Miller (2023), Segmentation and radial anisotropy of the deep crustal magmatic system beneath the Cascades arc, *Geochem. Geophys. Geosys.*, 24, e2022GC010738. doi: 10.1029/2022GC010738.

125. Ruppert, N.A., G. Barcheck and G.A. Abers (2023), Enhanced regional earthquake catalog with Alaska Amphibious Community Seismic Experiment data, *Seismol. Res. Lett.*, 94, 522-530, doi: 10.1785/0220220226.

124. Deng, X., C. Luo, R.M. Wentzcovitch, G.A. Abers & Z. Wu (2022), Elasticity of lizardite at subduction zone conditions, *Geophys. Res. Lett.*, 49, e2022GL099712, <https://doi.org/10.1029/2022GL099712>.

123. Onyango, E.A., L.L. Worthington, B. Schmandt and G.A. Abers, (2022), Subduction zone interface structure within the southern M_w 9.2 1964 Great Alaska Earthquake asperity: constraints from receiver functions across a spatially dense node array, *Geophys. Res. Lett.*, 49, e2022GL098334. <https://doi.org/10.1029/2022GL098334>

122. Mann, M.E., G.A. Abers, K. Daly and D.H. Christensen (2022), Subduction of an oceanic plateau across southcentral Alaska: scattered-wave imaging, *J. Geophys. Res. – Solid Earth*, 127, e2021JB022697. <https://doi.org/10.1029/2021JB022697>
121. Daly, K., G.A. Abers, M.E. Mann, S.R. Roecker, and D.H. Christensen (2021), Subduction of an oceanic plateau across southcentral Alaska: High-resolution seismicity, *J. Geophys. Res. – Solid Earth*, 126, e2021JB022809. doi: 10.1029/2021JB022809.
120. Miller, P.K., D.M. Saffer, G.A. Abers, D.J. Shillington, A. Bécel J. Li, & C. Bate (2021), P- and S-wave velocities of exhumed metasediments from the Alaskan subduction zone: Implications for the in situ conditions along the megathrust, *Geophys. Res. Lett.*, 48, e2021GL094511, doi: 10.1029/2021GL094511.
119. Baba, S., K. Obara, S. Takemura, A. Takeo and G.A. Abers (2021), Shallow slow earthquake episodes near the trench axis off northern Costa Rica, *J. Geophys. Res.*, 9, e2021JB021706, doi:10.1029/2021JB021706.
118. Soto Castaneda, R.A., G.A. Abers, Z. Eilon, and D. H. Christensen (2021), Teleseismic attenuation, temperature, and melt of the upper mantle in the Alaska subduction zone, *J. Geophys. Res. – Solid Earth*, 124, e2021JB021653, doi: 10.1029/2021JB021653.
117. Richards, C., C. Tape, Z. Ross & G.A. Abers (2021), Anisotropy in the Alaska subduction zone based on shear-wave splitting from intraslab earthquakes, *Geochem. Geophys. Geosys.*, 22, e2020GC009558, doi:10.1029/2020GC009558.
116. Abers, G.A. (2020), Subduction Zones, in H. Gupta (ed.), *Encyclopedia of Solid Earth Geophysics*, 2nd ed., Springer, p. 1395-1405, doi: 10.1007/978-90-481-8702-7.
115. Miller, M.S., G.A. Abers & N. Ruppert (2020), Introduction to the Special Section on EarthScope Alaska and Canada, *Seismol. Res. Lett.*, 91, doi: 10.1785/0220200307.
114. Nayak, A., D. Eberhart-Phillips, N.A. Ruppert, H. Fang, M.M. Moore, C. Tape, C., D.H. Christensen, G.A. Abers & C.H. Thurber (2020). 3D seismic velocity models for Alaska from joint tomographic inversion of body-wave and surface-wave data, *Seismol. Res. Lett.*, 91, doi: 10.1785/0220200214.
113. Abers, G.A., P.E. van Keken & C.R. Wilson (2020), Deep decoupling in subduction zones: observations and temperature limits, *Geosphere*, v. 16, 1408-1424. doi: 10.1130/GES02278.1.
112. Barcheck, C.G., G.A. Abers, A.N. Adams, A. Bécel, J. Collins, J.B. Gaherty, P.J. Haeussler, Z. Li, G. Moore, E. Onyango, E. Roland, D.E. Sampson, S.Y. Schwartz, A.F. Sheehan, D.J. Shillington, P.J. Shore, S. Webb, D.A. Wiens, & L.L. Worthington (2020), The Alaska Amphibious Community Seismic Experiment (Data Mine), *Seism. Res. Lett.*, 91, doi: 10.1785/022020018.
111. McPherson, A.M., D.H. Christensen, G.A. Abers and C. Tape (2020). Shear wave splitting and mantle flow in Alaska, *J. Geophys. Res.*, 123, e2019JB018329, doi:10.1029/2019JB018329.
110. Ulberg, C.W., K.C. Creager, S.C. Moran, G.A. Abers, A. Levander, E. Kiser, B. Schmandt, S. Hansen and R. Crosson (2020), Local source V_p and V_s tomography in the Mount St Helens region with the iMUSH broadband array, *Geochem. Geophys. Geosys.*, 21, e2019GC008888. doi: 10.1029/2019GC008888.
109. Mann, M.E. and G.A. Abers (2020), First-order mantle subduction zone structure effects on ground motion: the 2016 Mw 7.1 Iniskin and 2018 Mw 7.1 Anchorage earthquakes, *Seismol. Res. Lett.*, 91, 85-93, doi: 10.1785/0220190197.

108. Eakin, C.M., E.A. Wirth, A. Wallace, C.W. Ulberg, K.C. Creager and G.A. Abers (2019), SKS Splitting beneath Mount St. Helens: Constraints on Sub-Slab Mantle Entrainment, *Geochem. Geophys. Geosys.*, *20*, 4203-4217.
107. Crosbie, K.J., G.A. Abers, M.E. Mann, H.A. Janiszewski, K.C. Creager, C. Ulberg, and S. Moran (2019), Shear velocity structure from ambient noise and teleseismic surface wave tomography in the Cascades around Mount St. Helens, *J. Geophys. Res. – Solid Earth*, *124*, 8358-8375. doi: 10.1029/2019JB017836
106. van Keken, P.E., I. Wada, N. Sime and G.A. Abers (2019), Thermal structure of the forearc in subduction zones: a comparison of methodologies, *Geochem. Geophys. Geosys.*, *20*, 3268-3288 doi: 10.1029/2019GC008334
105. Mann, M.E., G.A. Abers K.J. Crosbie, K. Creager, C. Ulberg, S. Moran and S. Rondenay (2019), Imaging subduction beneath Mount St. Helens: implications for slab dehydration and magma transport, *Geophys. Res. Lett.*, *46*, 3163-3171, doi: 10.1029/2018GL081471.
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