

CURRICULUM VITA**JAMES B. GAHERTY****Lamont Research Professor**

Lamont-Doherty Earth Observatory

Rt. 9W

Palisades, NY 10964

ph. (845) 365-8450

fax. (845) 365-8150

email: Gaherty@ldeo.columbia.eduweb: <http://www.ldeo.columbia.edu/~gaherty>blogs: <http://blogs.ei.columbia.edu/tag/east-africa-rift/><http://blogs.ei.columbia.edu/tag/earths-tectonic-plates>**EDUCATION:**

Ph.D., Geophysics, Massachusetts Institute of Technology, June, 1995.

Dissertation: *Structure and Anisotropy of the Upper Mantle*

M.S., Geology, University of Michigan, December, 1990.

B.S., Geophysics, Brown University, May, 1986.

EMPLOYMENT HISTORY:

Lamont-Doherty Earth Observatory of Columbia University

Lamont Research Professor 2012-present*Lamont Associate Research Professor* 2010-2012*Doherty Research Scientist* 2006-2010*Doherty Associate Research Scientist* 2003-2006

Georgia Institute of Technology, School of Earth and Atmospheric Sciences

Assistant Professor 1998-2003

Massachusetts Institute of Technology, Dept Earth, Atmospheric, and Planetary Sciences

Post-Doctoral Associate 1995-1998*Graduate Research and Teaching Assistant* 1990-1995

University of Michigan, Department of Geological Sciences

Graduate Research and Teaching Assistant 1988-1990

ICF Technology Inc., Fairfax, VA

Environmental Geologist 1986-1988**FIELD EXPERIENCE:**Co-Chief Scientist, MGL1115 NoMelt, *R/V Marcus G. Langseth*, central Pacific, Dec 2011.Chief Scientist, CD-Papua OBS recovery, *M/V Miss Rankin*, Solomon Sea, Jan 2011.Co-Principal Investigator, *CD-Papua Seismic Experiment*, Papua New Guinea, Mar 2010.Co-Chief Scientist, CD-Papua OBS deployment, *R/V Revelle*, Solomon Sea, Feb 2010.Co-Principal Investigator, *Malawi RAMP seismic experiment*, Malawi, Jan 2010.Chief Scientist, Cruise SCOoba2NH, *R/V New Horizon*, Gulf of California, Oct 2006.Chief Scientist, Cruise SCOoba1NH, *R/V New Horizon*, Gulf of California, Oct 2005.Co-Principal Investigator, *Canadian Northwest Seismic Experiment*, May 2003-Oct 2005.

Co-Chief Scientist, Cruise EW0106, *R/V Maurice Ewing*, western Atlantic, June 2001.

PROFESSIONAL AWARDS:

Sigma Xi Outstanding Young Faculty, Georgia Institute of Technology, 2002.

RESEARCH INTERESTS:

Structure, dynamics, and composition of the Earth's crust and mantle inferred from seismic observations and geodynamical modeling. Current research is focused on:

- 1) characterizing seismic velocity and anisotropy in the upper mantle and relating them to tectonic structure and patterns of convective flow;
- 2) evaluating thermal, compositional (volatile), and partial-melt control on deformation;
- 3) characterizing the seismicity and structure of fault zones to better understand mechanisms of earthquake nucleation and triggering.

REFEREED PUBLICATIONS (*indicates student first author):

Dalton, C. and J.B. Gaherty, Seismic anisotropy in the continental crust of northwestern Canada, *Geophys. J. Int.*, 193, 338-348, doi: 10.1093/gji/ggs108, 2013.

*Wang, Y., D.W. Forsyth, C.J. Rau, N. Carriero, B. Schmandt, J.B. Gaherty, and B. Savage, Fossil Slabs Attached to Unsubducted Fragments of the Farallon Plate, *Proc. Nat. Acad. Sci.*, doi:10.1073/pnas.1214880110, 2013

*Sumy, D., J. B. Gaherty, W.-Y. Kim, T. Diehl, and J. Collins, The mechanisms of earthquakes and faulting in southern Gulf of California, *Bull. Seism. Soc. Am.*, 103, doi: 10.1785/0120120080, 2013.

Dalton, C., J. B. Gaherty, and A.M. Courtier, Crustal VS structure in northwestern Canada: Imaging the Cordillera-craton transition with ambient-noise tomography, *J. Geophys. Res.*, doi:10.1029/2011JB008499, 2011.

*Courtier, A.M., J.B. Gaherty, J. Revenaugh, M.G. Bostock, and E.J. Garnero, Seismic anisotropy associated with continental lithosphere accretion beneath the CANOE array, northwestern Canada, *Geology*, **38**, 887–890, doi: 10.1130/G31120.1, 2010.

*Mercier, J.-P., M.G. Bostock, J.F. Cassidy, K. Dueker, J.B. Gaherty, E.J. Garnero, J. Revenaugh, and G. Zandt, Body-wave tomography of western Canada, *Tectonophys.* **475**, 480-492, doi:10.1016/j.tecto.2009.05.030, 2009.

*Hansen, S.E., J.B. Gaherty, S.Y. Schwartz, A.J. Rodgers, and A.M.S. Al-Amri, Seismic velocity structure and depth-dependence of anisotropy in the Red Sea and Arabian Shield from surface-wave analysis, *J. Geophys. Res.*, **113**, B10307, doi:10.1029/2007JB005335, 2008.

*Mercier, J.-P., M.G. Bostock, P. Audet, J.B. Gaherty, E.J. Garnero, J. Revenaugh, The teleseismic signature of fossil subduction: Northwestern Canada, *J. Geophys. Res.*, **113**, B04308, doi:10.1029/2007JB005127, 2008.

Gaherty, J.B. and R.A. Dunn, Evaluating hotspot-ridge interaction in the Atlantic from regional-scale seismic observations, *Geochem.Geophys.Geosyst.*, **8**, Q05006, doi:10.1029 / 2006GC001533,2007.

- *Delorey, A.A., R.A. Dunn, and J.B. Gaherty, Surface Wave Tomography of the Upper Mantle Beneath the Reykjanes Ridge with Implications for Ridge-Hotspot Interaction, *J. Geophys. Res.*, **112**, B08313, doi:10.1029/2006JB004785, 2007.
- Gu, Y.J., S.C. Webb, A. Lerner-Lam, and J.B. Gaherty, Upper-mantle structure beneath the eastern Pacific Ocean ridges, *J. Geophys. Res.* **110**, B06305, doi:10.1029/2004JB003381, 2005.
- Gaherty, J.B., D. Lizarralde, J. Collins, G. Hirth, and S.Kim, Mantle deformation during slow seafloor spreading constrained by observations of seismic anisotropy in the western Atlantic, *Earth Planet. Sci. Lett.*, **228**, 255-265, 2004.
- Lizarralde, D., J.B. Gaherty, J.A. Collins, G. Hirth, and S. Kim, Spreading-rate dependence of melt extraction at mid-ocean ridges from far-offset seismic data, *Nature*, **432**, 744-747, 2004.
- Gaherty, J.B., A surface-wave analysis of seismic anisotropy beneath eastern North America, *Geophys. J. Int.*, **158**, 1053-1066, 2004.
- Butler, R., Lay, T., Creager, K., Earle, P., Fischer, K., Gaherty, J., Laske, G., Leith, B., Park, J., Ritzwoller, M., Tromp, J. and Wen, L., The Global Seismographic Network Surpasses Its Design Goal, *EOS Trans. AGU*, **85**, 225, 229, 2004.
- Gaherty, J.B., Seismic evidence for hotspot-induced buoyant flow beneath the Reykjanes Ridge, *Science*, **293**, 1645-1647, 2001.
- Freybourger, M., J.B. Gaherty, and T.H. Jordan, Structure of the Kaapval craton from surface waves, *Geophys. Res. Lett.*, **28**, 2489-2492, 2001.
- *Saltzer, R., J.B. Gaherty, and T.H. Jordan, What does vertical shear-wave splitting measure when the azimuthal anisotropy varies with depth?, *Geophys. J. Int.*, **141**, 374-390, 2000.
- Gaherty, J.B., Y. Wang, T.H. Jordan, and D.J. Weidner, Testing plausible upper-mantle compositions using fine-scale models of the 410-km discontinuity, *Geophys. Res. Lett.*, **26**, 1641-1644, 1999.
- Gaherty, J.B., M. Kato, and T.H. Jordan, Seismological structure of the upper mantle: A regional comparison of seismic layering, *Phys. Earth Planet. Inter.*, **110**, 21-41, 1999.
- Lay, T., E.J. Garnero, C.J. Young, and J.B. Gaherty, Scale-lengths of shear velocity heterogeneity at the base of the mantle from *S* wave differential travel times, *J. Geophys. Res.*, **102**, 9887-9909, 1997.
- Gaherty, J.B., T.H. Jordan, and L.S. Gee, Seismic structure of the upper mantle in a central Pacific Corridor, *J. Geophys. Res.*, **101**, 22,291-22,309, 1996.
- Gaherty, J.B. and T.H. Jordan, Lehmann Discontinuity as the base of an anisotropic layer beneath continents, *Science*, **268**, 1468-1471, 1995.
- Gaherty, J.B. and B.H. Hager, Compositional vs. thermal buoyancy and the evolution of subducted lithosphere, *Geophys. Res. Lett.*, **21**, 141-144, 1994.
- Gaherty, J.B. and T. Lay, Investigation of laterally heterogeneous shear velocity structure in D" beneath Eurasia, *J. Geophys. Res.* **97**, 417-435, 1992.

Gaherty, J.B., T. Lay, and J.E. Vidale, Investigation of deep slab structure using long-period *S* waves, *J. Geophys. Res.* **96**, 16349-16367, 1991.

SUBMITTED:

Tetreault, J., M. Roy, and J.B. Gaherty, Geodynamic models of seismic anisotropy below strike-slip plate boundaries: applications to the San Andreas Fault, *G-cubed*, submitted, in revision.

Roy, M., R. O. Orozco, B. Holtzman, and J.B. Gaherty, Melt-enhanced Rejuvenation of Lithospheric Mantle: Insights from the Colorado Plateau, *Earth Planet. Sci. Lett.*, submitted, in revision.

IN PREPARATION:

Gaherty, J.B. et al., Faulting processes during early-stage rifting: seismicity and geodetic analysis of the 2009-2010 Northern Malawi earthquake sequence, *in preparation for Geophys. J. Int.*

Jin, G. and J.B. Gaherty, Multi-channel analysis of seismic surface waves using cross correlation, *in preparation for J. Geophys. Res.*

NON-REFEREED REPORTS:

Gaherty, J.B., C. Dalton, and V. Levin, A three-dimensional model of crustal structure in the central and eastern US derived from broadband ambient-noise surface waves and receiver functions, *USGS Open File Report*, 2011.

Gaherty, J.B., G. Hirth, and G. A. Abers, Report on MARGINS Workshop: Interpreting Upper-Mantle Images, *MARGINS Newsletter*, No. 17, 1-5, Fall 2006.

Gaherty, J.B., T.-K. Hong, and L. Zhao, Regionalization of crustal and upper-mantle Q structure in eastern Eurasia using multiple regional waves, *Proceedings of the 28th Annual Seismic Research Review*, 2006.

Jordan, T.H., J.B. Gaherty, M. Kato, and O. van Genebeek, Regional upper-mantle structures and their interpretation in terms of small-scale, anisotropic heterogeneities, *Proceedings of the 18th Annual Seismic Research Symposium*, Lewkowicz, McPhetres, and Reiter, Ed., Phillips Laboratory, pp. 361-370, 1996.

Jordan, T.H. and J.B. Gaherty, Stochastic modeling of small-scale, anisotropic structures in the continental upper mantle, *Proceedings of the 17th Annual Seismic Research Symposium*, Lewkowicz, McPhetres, and Reiter, Ed., Phillips Lab., pp. 433-444, 1995.

Jordan, T.H. and J.B. Gaherty, Polarization anisotropy and the small-scale structure of the continental upper mantle, *Proceedings of the 16th Annual Seismic Research Symposium*, Cipar, Lewkowicz, and McPhetres, Ed., Phillips Lab., pp. 189-195, 1994.

ABSTRACTS AND PRESENTATIONS:

Over 100 contributed and invited presentations. Recent selections:

108. 2011 Huerta-Lopez, C., et al., Gulf of California Sea-floor Marine Sediments Characterization, *Abstract S51-2237 presented at 2011 Fall Meeting, AGU.*
109. 2011 Raymond, E.K., C.A. Dalton, and J.B. Gaherty, Investigating the Seismic Structure of the Atlantic Upper Mantle with Surface Waves, *Abstract S51-2237 presented at 2011 Fall Meeting, AGU.*
110. 2011 Gaherty, J.B. and G. Jin, Interference between fundamental-mode surface waves and scattered higher modes near geological boundaries, *Abstract S32A-04 presented at 2011 Fall Meeting, AGU.*
111. 2011 Evans, R.L. et al., Electromagnetic Constraints on the Structure of the Oceanic Upper-Mantle: Consistencies and Inconsistencies with Other Observations (Invited), *Abstract DI34B-03 presented at 2011 Fall Meeting, AGU.*
112. 2011 Abers, G.A. et al., The 2010-2011 CDPapua seismic experiment (Invited), *Abstract T24-A01 presented at 2011 Fall Meeting, AGU.*
113. 2012 Lizarralde, D. et al., Structure of Pacific-plate upper mantle from active-source seismic measurements of the NoMelt experiment, *Abstract T33C-2732 presented at 2012 Fall Meeting, AGU.*
114. 2012 Abers, G.A. et al., Imaging to understand exhumation of UHP rocks during rifting: the 2010-2011 CDPapua seismic experiment (Invited), *Abstract T42C-06 presented at 2012 Fall Meeting, AGU.*
115. 2012 Eilon, Z. et al., Anisotropy and Mantle Structure Beneath the D'Entrecasteaux Islands, Papua New Guinea, *Abstract T42C-07 presented at 2012 Fall Meeting, AGU.*
116. 2012 Jin, G. et al., Imaging Crust and Mantle Structure beneath the D'Entrecasteaux Islands, Papua New Guinea, from Rayleigh Wave Tomography, *Abstract T43E-2719 presented at 2012 Fall Meeting, AGU.*
117. 2012 Lin, P.P. et al., Body-wave Attenuation Imaging Across the Northwestern Margin of the Colorado Plateau, *Abstract T51C-2592 presented at 2012 Fall Meeting, AGU.*
118. 2012 Gaherty, J.B. et al., Faulting processes during early-stage rifting: seismic and geodetic analysis of the 2009-2010 Northern Malawi earthquake sequence, *Abstract T52B-04 presented at 2012 Fall Meeting, AGU.*
119. 2012 Roy, M. et al., Feedbacks between plate structure, deformation, and magmatism: Insights from magma migration and modification of the LAB around the Colorado Plateau, western US (Invited), *Abstract T53D-06 presented at 2012 Fall Meeting, AGU.*
120. 2012 Gaherty, J.B. et al., Faulting processes during early-stage rifting: seismic and geodetic analysis of the 2009-2010 Northern Malawi earthquake sequence, *GeoPRISMS East Africa Rift Implementation Workshop, Morristown, NJ.*
121. 2012 Gaherty, J.B. et al., The role of US academic institutions in building sustainable technical capacity in developing countries to characterize and mitigate hazards, *Abstract NH-14 presented at 2012 AGU Science Policy Conference, Washington, DC*

SEMINARS AND LECTURES (ALL INVITED):

1995, Phillips Laboratory, Division of Earth Sciences, Seismology group.
 1996, California Institute of Technology, Division of Geological Sciences.
 1996, University of California, Los Angeles, Seismology Group.
 1996, University of Michigan, Department of Geological Sciences.
 1996, Carnegie Institute of Washington, Department of Terrestrial Magnetism.
 1997, University of Southern California, Department of Geological Sciences.
 1997, Georgia Institute of Technology, School of Earth and Atmospheric Sciences.
 1997, Kyoto University, Department of Geophysics.
 1998, Georgia Institute of Technology, School of Earth and Atmospheric Sciences.
 1998, Georgia State University, Department of Geology.
 1998, St. Louis University, Department of Earth and Atmospheric Sciences.
 2001, Woods Hole Oceanographic Institution, Marine Seismology Group.
 2001, Boston University, Department of Earth Sciences.
 2001, Yale University, Department of Geology and Geophysics.
 2002, Lamont-Doherty Earth Observatory, Geophysics-Tectonics-Seismology Group.
 2002, Carnegie Institute of Washington, Department of Terrestrial Magnetism.
 2002, Ocean Mantle Dynamics Symposium (Keynote Lecture), Snowbird, UT
 2003, Lamont-Doherty Earth Observatory, Geophysics-Tectonics-Seismology Group.
 2003, Brown University, Geophysics Group.
 2003, Princeton University, Geophysics Group.
 2004, Massachusetts Institute of Technology, Geophysics Group.
 2004, Lamont-Doherty Earth Observatory, Geophysics-Tectonics-Seismology Group.
 2004, SUNY – Stony Brook, Department of Geosciences Colloquium.
 2006, Lamont-Doherty Earth Observatory, Geophysics-Tectonics-Seismology Group.
 2006, University of New Mexico, Dept. of Earth Sciences Colloquium.
 2007, Brown University, Dept. of Geological Sciences Colloquium
 2007, Gordon Research Conference, “Interior of the Earth”, S. Hadley, MA
 2007, Columbia University, Dept. of Applied Physics / Applied Math, IGERT colloq.
 2008, IRIS Workshop, Keynote presentation, Stevenson, WA
 2008, Washington Univ. in St. Louis, Geophysics seminar
 2008, Lamont-Doherty Earth Observatory, Geodynamics Seminar
 2008, Cornell University, Dept. of Geological Sciences Colloquium
 2009, Utrecht University, Geophysics Seminar
 2009, University of Oregon, Dept. of Geological Sciences seminar
 2009, ExxonMobil Upstream Research, Houston, TX.
 2010, Lamont-Doherty Earth Observatory, Geodynamics Seminar
 2011, Columbia University, Dept. Of Earth and Environmental Sciences, Noon Balloon.
 2011, World Economic Forum Leadership Institute, Palisades, NY.
 2011, EarthScope Institute, Lithosphere-Asthenosphere Boundary, Portland, OR.
 2011, GeoPRISMS/EarthScope Workshop, Eastern NA, Bethlehem, PA
 2012, IRIS OBS New Users Short Course, Boise, ID
 2012, World Economic Forum Leadership Institute, Palisades, NY
 2013, Brown University, Dept. of Geological Sciences Colloquium

RESEARCH GRANTS:

Completed

- An analysis of upper mantle heterogeneity and anisotropy in western North America using recordings of broadband permanent and temporary (PASSCAL) seismic stations, *National Science Foundation, Geophysics Program*, 1999-2000, \$80,848.
- Collaborative Research: Oceanic Upper-Mantle structure from very large offset seismic refraction measurements, *National Science Foundation, Marine Geology and Geophysics program*, 2001-2003, \$107,500 (w/ D. Lizarralde, J. Collins, G. Hirth)
- Collaborative Research: Seismic analyses of upper-mantle dynamics: Slow-seafloor spreading and hotspot-ridge interaction in the Atlantic, *National Science Foundation, Marine Geology and Geophysics program*, 2003-2006, \$114,435 (w/ R. Dunn)
- Regionalization of crustal and upper mantle Q structure in eastern Eurasia using multiple regional waves, *Air Force Research Lab*, 2006, \$77,000 (w/ Lerner-Lam—PI transfer from J. Xie).
- What is the relationship between mineral fabric, seismic anisotropy, and mantle flow in partially molten regions? The Ethiopian rift as a testing ground, *National Science Foundation, Geophysics Program*, 2006-2007, \$50,000 (pilot study, w/ B. Holtzman)
- Collaborative Research: Northwestern Canada Seismic Experiment, *National Science Foundation, Geophysics program*, 2002-2007, \$209,170 (w/ E. Garnero, J. Revenaugh, M. Bostock)
- Three-dimensional models of crustal structure in eastern North America, *USGS NEHRP, Central and Eastern Region*, 2006, \$77,954 (w/ T.-K. Hong, V. Levin).
- The Lamont Rapid Deployment Ocean-bottom System, *Observatory Technical Innovation Center Development Proposal*, 2006, \$12,828 (w/ A. Barclay, P. Jonke, S. Webb)
- Full 3D waveform tomography and near-real-time finite source parameter inversion in Southern California based on the scattering-integral method, *SCEC*, \$40,000 (w/ P. Chen)
- Collaborative Research: Upper-mantle structure beneath the Gulf of California, *National Science Foundation, MARGINS program*, 2003-2007, \$178,150 (w/ J. Collins, C. Rebolgar)
- Collaborative Research: Mapping upper-mantle anisotropy in the western U.S.: Constraints on crust-mantle coupling, *National Science Foundation, EarthScope program*, 2006-2010, \$337,311 (w/ A. Lerner-Lam, M. Roy, L. Zhao).
- US-Malawi Planning Visit: Developing a multidisciplinary, multinational study of continental rifting, seismicity and volcanism around northern Lake Malawi, *National Science Foundation, OISE*, 2009-2010, \$23,400. PI: Shillington co-PIs: Gaherty, Nooner.
- Constraining early-stage rifting through rapid response to the Lake Malawi Earthquake sequence of December 2009. *National Science Foundation, Geophysics program (RAPID)*, 2010, \$13,000. PI: Gaherty, co-PIs: Shillington, Nooner.

Active

- Operation and management of the LDEO instrument center of the national ocean-bottom seismometer pool – Baseline, *National Science Foundation, Marine Geology and Geophysics program*, \$1,283,130 + supplements (w/ M. Tolstoy, A. Barclay).
- Operation and management of the LDEO instrument center of the national ocean-bottom seismometer pool – Cascadia Instrument design and Build, *National Science Foundation -- ARRA, Marine Geology and Geophysics program*, \$2,619,915 (w/ M. Tolstoy, A. Barclay).
- How Are Rifting and Lithospheric Rupture Exhuming the Youngest HP/UHP Rocks on Earth?, *National Science Foundation, Continental Dynamics Program*, 2007-2013, \$605,000 (S. Baldwin and G. Abers, PIs; J. Gaherty, R. Buck, and others, co-PIs)
- Collaborative Research: Variations in Upper-Mantle Temperature, Deformation, and Melting Inferred from the Seismic Structure of the Atlantic Basin, *National Science Foundation, Geophysics program*, 2009-2013, \$120,000 (w/ C. Dalton)
- Collaborative Research: Structure and Composition of Oceanic Lithosphere and the Lithosphere/Asthenosphere Boundary, *National Science Foundation, Marine Geology and Geophysics program*, 2010-2014, \$353,255 (w/ D. Lizarralde, G. Hirth, J. Collins, R. Evans)
- Collaborative Research: Evaluating the Roles of Melt Migration and Mantle Flow in Lithospheric Evolution: The Colorado Plateau as a Geodynamic Laboratory for EarthScope, *National Science Foundation, EarthScope program*, 2010-2013, \$132,000. PI: B. Holtzman, co-PI: Gaherty. Collab with M. Roy (UNM).
- Collaborative Research: Faulting processes during early-stage rifting: analysis of an unusual earthquake sequence in northern Malawi, *National Science Foundation, MARGINS program*, 2011-2013, \$103,000. PI: Gaherty, co-PIs Shillington, Nooner. Collab. with M. Pritchard (Cornell).
- Collaborative Research: Tectonic and Magmatic Processes during Early-Stage Rifting: an Integrated Study of Northern Lake Malawi, Africa, *National Science Foundation, Continental Dynamics Program*, 2011-2015, \$2,630,000. PI: Shillington, co-PIs: Gaherty, Nooner, Class. Collab with: Ebinger (Rochester), Scholz (Syracuse), Nyblade (PSU), Pritchard (Cornell), Bedrosian (USGS).
- Operation of the LDEO Ocean-Bottom Seismometer Institutional Instrument Center, *Incorporated Research Institutions in Seismology (IRIS)*, 2012-2017, \$1,650,000 thru Jan 2014 (w/ M. Tolstoy, A. Barclay)

TEACHING:

Columbia University

- Fall, 2003 – Spring, 2004: Seismology-Geology-Tectonophysics Seminar
- Spring, 2006: Guest Lecture, Inverse Theory
- Spring, 2008: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles)
Guest Lecture, Inverse Theory
- Fall, 2008: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Spring, 2009: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Fall, 2009: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Spring, 2010: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Fall, 2010: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)

- Spring, 2011: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
 Guest Lecture, Solid Earth System
- Fall, 2011: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
 Guest Lecture, Oceanography
 Guest Lecture, Marine Seismology (GSI short course)
- Spring, 2012: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Fall, 2012: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)
- Spring, 2013: EESC G9945: Seismology Seminar: Topics (w/ Ekstrom, Nettles, Abers)

Georgia Institute of Technology

- Spring, 1998: EAS 3513: Physics of the Earth's Interior, 19 students.
- Fall, 1998: EAS 8012b: Geophysics Research Seminar
 EAS 8011: EAS Seminar (50% with Froelich)
- Winter, 1999: EAS 8133b Geodynamics, 5 students
 EAS 8011: EAS Seminar (50% with Froelich)
- Spring, 1999: EAS 3513: Physics of the Earth's Interior, 8 students
 EAS 8011: EAS Seminar (50% with Froelich)
- Fall, 1999: EAS 6311: Physics of the Solid Earth, 3 students
- Spring, 2000: EAS 3602: Earth System Physics (50% with Fu), 7 students
- Fall, 2000: EAS 6311: Physics of the Solid Earth, 3 students
- Spring, 2001: EAS 3602: Earth System Physics (50% with Fu), 7 students
- Fall, 2001: EAS 6312: Geodynamics, 10 students
- Spring, 2002: EAS 2601: Earth Processes, 27 students

STUDENTS, POST-DOCS, AND SCIENTISTS SUPERVISED:

2003-present (Columbia University)

- | | |
|-------------------------------------|--|
| A. Barclay (RS, Project supervisor) | R. Moulik (PhD committee) |
| P. Chen (PDRS supervisor) | A. Shuler (PhD committee) |
| C. Dalton (PDRF mentor) | S. Veitch (PhD committee) |
| P. Lin (PDRS supervisor) | K. Newman (MA Committee) |
| C. Wilson (PDRS supervisor) | S. Hansen (PhD, UCSC, mentor) |
| T.-K. Hong (PDRS co-supervisor) | A. Courtier (PhD, U. Minn., mentor) |
| B. Holtzman (PDRF co-mentor) | D. Weeraratne (Brown Univ. PhD
Committee) |
| E. Lev (PDRF co-mentor) | X. Zhang (Utrecht Univ. PhD Committee) |
| G. Jin (PhD, advisor) | S. Kim (Georgia Tech PhD Committee) |
| N. Accardo (PhD, co-advisor) | K. Kirsh (Summer Intern) |
| D. Sumy (PhD, co-advisor) | A. Markee (Summer Intern) |
| C. Bendersky (PhD committee) | J. Demoise (Summer Intern) |
| C. Eddy (PhD committee) | N. Carriero (Summer Intern) |
| Z. Eilon (PhD committee) | N. Lindsey (Undergrad. Intern) |
| A. Foster (PhD committee) | |

1998-2003 (Georgia Institute of Technology)

- | | |
|---------------------------|----------------|
| X. Chen (PhD Committee) | A. Hutko (BS) |
| J. Martin (PhD Committee) | F. Raheem (BS) |
| C. George (MS advisor) | S. Sharf (BS) |
| P. Gupta (MS advisor) | |

Faculty advisor to *Gamma Alpha Tau*, Environmental Honor Society, 1998-2002.

MEDIA AND PUBLIC OUTREACH

Guest commentator on earthquakes and related disasters: CBS Early Show, CNN Anderson Cooper 360, WNYC Brian Lehrer Show

Scientific Blogs: <http://blogs.ei.columbia.edu/tag/east-africa-rift/>
<http://blogs.ei.columbia.edu/tag/earths-tectonic-plates>

PROFESSIONAL COMMITTEES AND SERVICE:

Incorporated Research Institutions in Seismology (IRIS):

Vice Chairman, Board of Directors, 2008-2011.

Board of Directors, 2006-2008.

PASSCAL Strategic Planning Workshop, 2005.

Global Seismic Network Standing Committee, 2001-2004.

Associate Editor, *G-cubed*, 2003-2009; LAB theme 2011-present

Co-Chair, “Fluids and Magma” Thematic Working Group, EarthScope Program, 2008-present.

Co-Convener, Experiments with Portable Ocean Bottom Seismographs (EPBOBS) Workshop, Snowbird, UT, Sept. 2010.

Co-Convener, MARGINS Theoretical Workshop “Interpreting Mantle Images”, Woods Hole, May 2006.

NSF Proposal Review Panel, Marine Geology and Geophysics Program (2002);

Geophysics program (2003); Margins program (2005)

Science Foundation of Ireland Proposal Review Panel, Geosciences, 2009, 2010

American Geophysical Union:

Co-convener, “New Views on the Lithosphere-Asthenosphere Boundary”, 2010 Fall Meeting

Co-convener, “Seismology From Crust to Core: The Science of the Global Seismographic Network”, 2004 Joint Assembly.

Co-convener, “Structure and Dynamics of the Oceanic Upper Mantle”, 2003 Fall Meeting.

Co-convener, “Hotspots and Dynamics of the Oceanic Mantle”, 2002 Spring Meeting.

Co-convener, “Shear-wave Splitting -- a search for consensus”, 1998 Spring Meeting.

Selection committee, Student Paper Award, Seismology Section, 1997 Fall Meeting, 1999 Spring Meeting.

Referee, National Science Foundation, *Nature*, *Science*, *Geophys. Res. Lett.*, *J. Geophys. Res.*, *Earth Planet. Sci. Lett.*, *Pageoph*, *Phys. Earth Planet. Int.*, *Geophys. J. Int.*

LAMONT COMMITTEES AND SERVICE:

Executive Committee, SGT representative, 2006-present.

Strategic Planning Committee, 2012-present.

LDEO Post-Doctoral Fellowship Selection Committee, 2012-present.

Chair, Web Advisory Committee, 2006-present.

SGT 50th Anniversary Symposium Committee, 2012-present.

LDEO Director Search Committee, 2011-2012.

Steering Committee, Observatory Technical Innovation Center (OTIC), 2006-2011.
Marie Tharp Fellowship Committee, 2010.
Chair, DARS/DRS Search Committee, Solid Earth Dynamics, 2007-2009.
Geodynamics Working Group, 2006-2008.
Acting Associate Director, SGT, November 2008.
Web Advisory Committee, 2003-2006.
MGG Seismology DARS/PDRS Search Committee, 2006.
PGI Search Committee, 2003-2004.
Seismology/MGG PDRS Search Committees, 2004, 2006, 2007, 2008, 2012, 2013

MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES:

American Geophysical Union, Seismological Society of America