

Curriculum Vitae

ANTHONY R. LOWRY

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DEGREES

B.S. Hons, 1986, Geophysics, University of Wyoming.

M.S., 1988, Geophysics, University of Wyoming. Thesis: Numerical Modeling Approach Employing Singularity Removal Applied to the Evaluation of the Bristow Interpretive Technique for the Detection of Cavities. Advisors: Myron Allen, Leon Borgman, and Peter Shive (Chair)

Ph.D., 1994, Geophysics, University of Utah. Dissertation: Flexural Strength and Stress in the Cordillera, Western United States. Advisors: Ron Bruhn, Dave Chapman, Gerry Hohmann, John Mathews, and Robert B. Smith (Chair)

POSITIONS HELD

Aug 2006–Present: *Assistant Professor of Geophysics, Department of Geology, Utah State University, Logan, Utah.*

May 2007–Present: *Adjunct Assistant Professor of Geophysics, Department of Geology and Geophysics, University of Utah, Salt Lake City, Utah.*

Jul 2000–Aug 2006: *Research Associate, Department of Physics, University of Colorado, Boulder, Colorado.*

May 1999–Jul 2000: *Visiting Scientist, University Corporation for Atmospheric Research (UCAR), Boulder, Colorado.*

Apr 1997–Jul 2000: *Post-doctoral Research Associate, Department of Geological Sciences, Indiana University, Bloomington, Indiana (Supervisor: Michael Hamburger).*

Dec 1995–Mar 1997: *Post-doctoral Research Fellow, Research School of Earth Sciences, Victoria University of Wellington, New Zealand (Supervisor: Dick Walcott).*

May 1994–Nov 1995: *Post-doctoral Associate, Department of Geology and Geophysics, University of Utah, Salt Lake City, Utah (Supervisor: Bob Smith).*

FIELD EXPERIENCE

- Prototype 1-hertz continuous GPS installation for atmospheric sensing in San Diego, California
- Continuous GPS network installation on Taal Volcano, Philippines
- Recon, permitting and installation of a quasi-continuous GPS network in the Rio Grande Rift (CO-NM)
- GPS campaign network design, recon and installation in Wabash Valley (IN-IL-KY, midcontinent U.S.)
- GPS geodetic campaigns in southern Mexico, the Philippines, Wabash Valley, North Island New Zealand, South Island New Zealand, Wasatch fault Utah, Snake River Plain Idaho, and Yellowstone
- Precision measurement of time-variable gravity in Yellowstone

GRANTS**Funded, Principal Investigator:**

NSF Earth Sciences/Geophysics, Collaborative Research: Deformation Processes in the Andaman-Nicobar Islands, Jul 2008–Jun 2011, with John Paul (UM-CERI), \$60,000 (USU).

NSF Earth Sciences/Geophysics, Collaborative Research: Seismic and Aseismic Slip Interactions on a Subduction Megathrust, Guerrero, Mexico, Sep 2002–Aug 2005, with John Anderson (UNR), \$45,686 (CU).

Funded, Co-Principal Investigator:

NSF Earth Sciences/Tectonics, Collaborative Research: Deformation Processes in the Central Andaman Islands, Feb 2006–Jan 2008, with Roger Bilham (CU) and John Paul (UM-CERI), \$100,000 (CU).

NSF Earth Sciences/Geophysics, Collaborative Research: Crustal Deformation Measurements and a Multidisciplinary Geophysical Investigation of the Rio Grande Rift, with Anne Sheehan (CU) and Mousumi Roy (UNM), Jul 2005–Jun 2010, \$107,292 (USU).

NSF Earth Sciences/Geophysics, Hybrid measurements of crustal deformation in Guerrero, Mexico, Jan 2002–Dec 2004, with Kristine Larson, \$304,824 (CU).

NASA Mars Global Surveyor Data Analysis Program, Investigating the formation of the Tharsis Rise and crustal dichotomy by modeling the MGS data and mantle dynamics, Aug 2001–Jul 2004, with Shijie Zhong, \$150,000 (CU).

Office of Naval Research, Determination of vertical refractivity structure from ground-based GPS observations, Jul 2000–Jul 2003, with Chris Rocken, \$559,000 (UCAR).

NSF Earth Sciences/Geophysics, GPS measurement of tectonic and volcanic deformation in an active arc, Luzon, Philippines, Sep 1998–Aug 2001, with Michael Hamburger (IU) and Chuck Meertens (UNAVCO), \$189,903 (IU).

NASA NAG5-7619, Lithospheric rheology and geodynamic processes from integration of geodetic, gravity and topography data, Sep 1998–Aug 2000, with Michael Hamburger, \$100,000 (IU).

Pending, Principal Investigator:

NSF Earth Sciences/CAREER, CAREER: Earth rheology and deformation processes, Jan 2010–Dec 2014, \$500,047 (USU).

NSF Earth Sciences/EarthScope Science, Collaborative Research: Lithospheric temperature, composition and density structure, top to bottom, with Derek Schutt (CSU) and Dhananjay Ravat (UK), Jan 2010–Dec 2014, \$168,308 (USU).

Funded, Internal:

USU CoS New Faculty Research Grant, Estimating Lithospheric Rheology from Isostatic Analysis of Geophysical Data, May 2007–Jun 2008, \$14,968.

PATENTS**U.S. Patent Office:**

Belen'kii, M.S., E.J. Holder, S.F. Dugas, C. Rocken, and **A.R. Lowry**, Method of Compensating for Atmospheric Effects While Using Near Horizon Radar Utilizing a Doppler Signal, Patent No. US 6,853,331 B1, Feb. 8, 2005.

PUBLICATIONS

Papers in Refereed Journals

- [25] Pérez-Gussinyé, M., M. Metois, M. Fernández, J. Vergés, J. Fullea, and **A.R. Lowry**, Effective elastic thickness of Africa and its relationship to other proxies for lithospheric structure and surface tectonics, *Earth Planet. Sci. Lett.*, 287(1–2), 152–167, 2009.
- [24] Pérez-Gussinyé, M., J.F. Kirby, C.J. Swain, and **A.R. Lowry**, Resolution of the spatial variations of the effective elastic thickness, T_e , using multitaper spectral estimation and wavelet methods: Examples from synthetic data and application to South America, *Geochem. Geophys. Geosys.*, 10, Q04005, doi:10.1029/2008GC022229, 2009.
- [23] Pérez-Gussinyé, M., **A.R. Lowry**, J. Phipps Morgan, and Andrés Tassara, Effective elastic thickness variations along the Andean margin and their relationship to subduction geometry, *Geochem. Geophys. Geosys.*, 9, Q02003, doi:10.1029/2007GC001786, 2008.
- [22] Paul, J., **A.R. Lowry**, R. Bilham, S. Sen and R. Smalley, Postseismic deformation of the Andaman Islands following the 26 December, 2004 Great Sumatra-Andaman Earthquake, *Geophys. Res. Lett.*, 34, L19309, doi:10.1029/2007GL031024, 2007.
- [21] Pérez-Gussinyé, M., **Lowry, A.R.**, and A.B. Watts, The effective elastic thickness of South America and its implications for intracontinental deformation, *Geochem. Geophys. Geosys.*, 8, Q05009, doi:10.1029/2006GC001511, 2007.
- [20] **Lowry, A.R.**, Resonant slow fault slip in subduction zones forced by climatic load stress, *Nature*, 442(7104), doi:10.1038/nature05055, 2006.
- [19] Pérez-Gussinyé, M., **A.R. Lowry**, A.B. Watts, and I. Velicogna, On the recovery of effective elastic thickness using spectral methods: examples from synthetic data and from the Fennoscandian Shield, *J. Geophys. Res.*, 109(B10), 10.1029/2003JB002788, #B10409, 2004.
- [18] Yoshioka, Y., T. Mikumo, V. Kostoglodov, K.M. Larson, **A.R. Lowry**, and S. K. Singh, Interplate coupling and a recent aseismic slow slip event in the Guerrero seismic gap of the Mexican subduction zone, as deduced from GPS data inversion using a Bayesian Information Criterion, *Phys. Earth Planet. Int.*, 146, 513–530, 2004.
- [17] Iglesias, A., S.K. Singh, **A.R. Lowry**, M. Santoyo, V. Kostoglodov, K.M. Larson, S.I. Franco-Sanchez and T. Mikumo, The silent earthquake of 2002 in the Guerrero seismic gap, Mexico ($M_w=7.4$): inversion of slip on the plate interface and some implications, *Geofísica Internacional*, 43(3), 309–317, 2004.
- [16] Larson, K.M., **A.R. Lowry**, V. Kostoglodov, W. Hutton, O. Sánchez, and K. Hudnut, Crustal deformation measurements in Guerrero, Mexico, *J. Geophys. Res.*, 109(B4), doi:10.1029/2003JB002843, #B04409, 2004.
- [15] **Lowry, A.R.**, and S. Zhong, Surface versus internal loading of the Tharsis rise, Mars, *J. Geophys. Res.*, 108(E9), doi:10.1029/2003JE002111, #5099, 2003.
- [14] Bartel, B.A., M.W. Hamburger, C.M. Meertens, **A.R. Lowry**, and E. Corpuz, Dynamics of active magmatic and hydrothermal systems at Taal Volcano, Philippines, from continuous GPS measurements, *J. Geophys. Res.*, 108(B10), doi:10.1029/2002JB002194, #2475, 2003.
- [13] Kostoglodov, V., S.K. Singh, J.A. Santiago, S.I. Franco, K.M. Larson, **A.R. Lowry**, and R. Bilham, A large silent earthquake in the Guerrero seismic gap, Mexico, *Geophys. Res. Lett.*, 30(15), doi:10.1029/2003GL017219, 2003.
- [12] **Lowry, A.R.**, C. Rocken, S.V. Sokolovskiy, and K.D. Anderson, Vertical profiling of atmospheric refractivity from ground-based GPS observations, *Radio Sci.*, 37(3), doi:10.1029/2000RS002565, 2002.
- [11] Hamburger, M.W., V. Rybakov, **A. Lowry**, B. Shen-Tu, and J.A. Rupp, Preliminary results from a GPS geodetic network in the southern Illinois basin, *Seismol. Res. Lett.*, 73, 762–775, 2002.

- [10] **Lowry, A.R.**, K.M. Larson, V. Kostoglodov, and R. Billam, Transient fault slip in Guerrero, southern Mexico, *Geophys. Res. Lett.*, *28*, 3753–3756, 2001.
- [9] **Lowry, A.R.**, M.W. Hamburger, C.M. Meertens, and E.G. Ramos, GPS monitoring of crustal deformation at Taal volcano, Philippines, *J. Volc. Geotherm. Res.*, *105*, 35–47, 2001.
- [8] Sokolovskiy, S.V., C. Rocken, and **A.R. Lowry**, The use of GPS for estimation of bending angles of radio waves at low elevations, *Radio Science*, *36*, 473–482, 2001.
- [7] Wannamaker, P.E., J.M. Bartley, A.F. Sheehan, C.M. Jones, **A.R. Lowry**, T.A. Dumitru, T.A. Ehlers, W.S. Holbrook, G.L. Farmer, M.J. Unsworth, D.A. Okaya, B.E. John, and J.A. Wolfe, The Great Basin–Colorado Plateau transition in central Utah: An interface between active extension and stable interior, in *The Geological Transition: Colorado Plateau to Basin and Range*, Erskine, M.C., J.E. Faulds, J.M. Bartley, and P. Rowley (Eds.), *UGA/AAPG Guideb. 30/GB78*, 1–38, 2001.
- [6] **Lowry, A.R.**, N.M. Ribe, and R.B. Smith, Dynamic elevation of the Cordillera, western United States, *J. Geophys. Res.*, *105*, 23,371–23,390, 2000.
- [5] **Lowry, A.R.**, and R.B. Smith, Strength and rheology of the western U.S. Cordillera, *J. Geophys. Res.*, *100*, 17,947–17,963, 1995.
- [4] **Lowry, A.R.**, and R.B. Smith, Flexural rigidity of the Basin and Range–Colorado Plateau–Rocky Mountain transition from coherence analysis of gravity and topography, *J. Geophys. Res.*, *99*, 20,123–20,140, 1994.
- [3] **Lowry, T.**, and P.N. Shive, An evaluation of Bristow’s method for the detection of subsurface cavities, *Geophysics*, *55*, 514–520, 1990.
- [2] Shive, P.N., **T. Lowry**, D.H. Easley and L.E. Borgman, Geostatistical simulation for geophysical applications– Part II: Geophysical modeling, *Geophysics*, *55*, 1441–1446, 1990.
- [1] **Lowry, T.**, M.B. Allen, and P.N. Shive, Singularity removal: A refinement of resistivity modeling techniques, *Geophysics*, *54*, 766–774, 1989.

Papers in Press

Settles, K.R., R.B. Smith, and **A.R. Lowry**, Density and lithospheric strength models of the Yellowstone-Snake River Plain volcanic system from gravity and heat flow data, *J. Volc. Geotherm. Res.*, *in press*, 2009.

Submitted Papers

Paul, J., C.P. Rajendran, **A.R. Lowry**, V. Andrade and K. Rajendran, Andaman post-seismic deformation observations: An update, *J. Earth Sys. Sci.*, *submitted*, 2009.

Conference Abstracts (past five years)

H. Berglund, A. Sheehan, R.S. Nerem, J. Choe, A.R. Lowry, M. Roy, F. Blume, and M. Murray, Rio Grande Rift GPS Measurements 2006–2009, *Eos Trans. AGU*, *90(53)*, Fall Mtg. Suppl., Abstract G33B–0653, San Francisco, CA, 14–18 December 2009.

A.R. Lowry, A Pair of Puzzles in EarthScope TA-Derived Crustal Structure, *Eos Trans. AGU*, *90(53)*, Fall Mtg. Suppl., Abstract S11C–02, San Francisco, CA, 14–18 December 2009.

M. Pérez-Gussinyé, M. Metois, M. Fernandez, J. Verges, J. Fulla, and A.R. Lowry, Effective elastic thickness of Africa and its relationship to other proxies for lithospheric structure and surface tectonics, *Eos Trans. AGU*, *90(53)*, Fall Mtg. Suppl., Abstract T31B–1797, San Francisco, CA, 14–18 December 2009.

J. Puchakayala, C.P. Rajendran, and A.R. Lowry, Andaman post-seismic deformation observations: An update, *Eos Trans. AGU*, *90(53)*, Fall Mtg. Suppl., Abstract G33B–0637, San Francisco, CA, 14–18 December 2009.

- D. Schutt, S. Hier-Majumder, A.R. Lowry, and Y. Yang, Investigating the Physical State of the Western U.S. Upper Mantle Using a Multi-Disciplinary Approach, *Eos Trans. AGU*, 90(53), Fall Mtg. Suppl., Abstract V53A-03, San Francisco, CA, 14-18 December 2009.
- A.R. Lowry, Squeezing Mass Structure from EarthScope TA Data, *2009 EarthScope Workshop*, Boise, ID, 13-15 May, 2009.
- Berglund, H., A. Sheehan, A.R. Lowry, R.S. Nerem, J. Choe, M. Roy, W. Szeliga, and F. Blume, Rio Grande Rift GPS Measurements 2006-2008, *2009 EarthScope Science Workshop*, Boise, ID, 13-15 May, 2009.
- Bradbury, K.K., J.P. Evans, A.R. Lowry and T. Jeppson, Integration of geology and borehole geophysics to characterize rock properties at the San Andreas Fault Observatory at Depth (SAFOD) site near Parkfield, CA, *Geol. Soc. Am.-Rocky Mtn. Sec. Ann. Mtg.*, Orem, UT 11-13 May, 2009.
- Jeppson, T.N., and A.R. Lowry, Is there slow slip on the Wasatch fault? *Utah Conf. Undergrad. Res.*, Salt Lake City, UT 20 February 2009.
- Lowry, A.R., Something old, something new: EarthScope, heat flow and gravity too, *EOS Trans. AGU*, 89(53), Fall Mtg. Suppl., Abstract U51B-0026, San Francisco, CA 15-19 December 2008.
- Paul, J., C.P. Rajendran, A.R. Lowry, R. Smalley and P.M. Mohan, Continued post seismic deformation of Andaman Islands, *EOS Trans. AGU*, 89(53), Fall Mtg. Suppl., Abstract T53E-2012, San Francisco, CA 15-19 December 2008.
- Lowry, A.R., EARS: Requirements for crustal studies research, *Workshop on EARS (EarthScope Automated Receiver Survey) Data Product INVITED*, Columbia SC, 6-7 November 2008.
- Sheehan, A., H. Berglund, M. Roy, A.R. Lowry, R.S. Nerem, F. Blume, and W. Szeliga, The EarthScope Rio Grande Rift experiment: Measuring active tectonics in Colorado and New Mexico, *Joint Mtg. Geol. Soc. Am.*, Abstract 263-2 **INVITED**, Houston TX, 5-9 October 2008.
- Lowry, A.R., Improved receiver function estimates of Moho using spatial statistics and gravity, *EOS Trans. AGU*, 89(23), Joint Assembly Suppl., Abstract GP54A-05 **INVITED**, Ft. Lauderdale FL, 27-30 May 2008.
- Afonso, J.C., M. Pérez-Gussinyé, J. Fullea, S. Zlotnik, M. Fernández, and A.R. Lowry, The nature of the lithospheric and sub-lithospheric upper mantle: Recent views from interdisciplinary studies and their limitations, *European Geophysical Union General Assembly*, Abstract EGU2008-A-12008 **INVITED**, Vienna Austria, 13-18 April 2008.
- Berglund, H., A. Sheehan, W. Szeliga, M. Roy, R.S. Nerem, A.R. Lowry, and F. Blume, Extensional Seismotectonics of the Rio Grande Rift and its margins, *Seismol. Soc. Am. Mtg.*, Santa Fe NM, 16-18 April 2008.
- Berglund, H., A. Sheehan, W. Szeliga, M. Roy, R.S. Nerem, A.R. Lowry, and F. Blume, Rio Grande Rift GPS measurements 2006-2008, *UNAVCO Science Workshop*, Boulder CO, 11-13 March 2008.
- Lowry, A.R., Toward a Next Generation of Isostatic Analysis, *Eos Trans. AGU*, 88(52), Fall Mtg. Suppl., Abstract T21C-02, 2007.
- Pérez-Gussinyé, M., A.R. Lowry, J. Phipps Morgan, A. Tassara, Effective Elastic Thickness Variations Along the Andean Margin and Their Relationship to Subduction Geometry, *Eos Trans. AGU*, 88(52), Fall Mtg. Suppl., Abstract T31A-0286, 2007.
- Paul, J., A.R. Lowry, R. Bilham, S. Sen, Three Years of Post Seismic Deformation in Central Andaman Islands, *Eos Trans. AGU*, 88(52), Fall Mtg. Suppl., Abstract G13A-0909, 2007.
- Settles, K.R., R.B. Smith, C. Puskas, A. Lowry, D. Blackwell, Crustal Structure and Tectono-Magmatic Processes of the Yellowstone-Snake River Plain System From Gravity-Density Measurements and Strength Models Employing Seismic Constraints, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract V51F-05, 2007.

- Pérez-Gussinyé, M., A.R. Lowry, and A.B. Watts, The effective elastic thickness of South America and its implications for intracontinental deformation, *Eos Trans. AGU*, 88(23), Jt. Assem. Suppl., S44A-02 **INVITED**, 2007.
- Pérez-Gussinyé, M., A.R. Lowry, J. Phipps Morgan, Spatial variations in the effective elastic thickness, T_e , along the Andes: implications for subduction geometry, *EGU Gen Assemb*, Vienna, Austria, 15-20 April 2007.
- Luther, A.L., M. Roy, A.R. Lowry, A. Sheehan, S. Nerem, Measurement of Rio Grande rift extension in New Mexico and Colorado using a GPS network, *NM Geol Soc Spr Mtg*, Socorro NM, April 13, 2007.
- Lowry, A.R., A.F. Sheehan, M. Roy, R.S. Nerem, M. Guerra, and A. Luther, A multidisciplinary investigation of Rio Grande rift deformation, *EarthScope Natl Mtg*, Monterey CA, March 27-30, 2007.
- Lowry, A.R., R.B. Smith, and M.E. Tamisiea, Gleaning rheology from lithospheric flexural strength, *Eos Trans. AGU*, 87(52), Fall Mtg. Suppl., T54B-05 **INVITED**, 2006.
- Pérez-Gussinyé, M., A.R. Lowry, A.B. Watts, and J. Phipps Morgan, Tracing Lithospheric Structure Using Flexural Rigidity in South America: Implications for Intra-Continental Deformation and Subduction Geometry, *Eos Trans. AGU*, 87(52), T51A-1518, 2006.
- Klemperer, S.L., R.L. Bruhn, E.L. Miller, A.R. Lowry, R.B. Smith, D. Lerch, E. Gashawbeza, J. Colgan, and K. Keranen, The Basin-and-Range Province (BRP): A key GeoFrame transect in progress, *Eos Trans. AGU*, 87(52), T43C-1650, 2006.
- Paul, J., T. Lowry, R. Bilham, S. Sen, T. Sharma, and R. Smalley, Post-seismic deformation of Andaman Islands since the 2004 earthquake, *Eos Trans. AGU*, 87(52), U53A-0037, 2006.
- Yang, X., S.R. Taylor, A.L. Levshin, A.R. Lowry, and H.J. Patton, Rayleigh-Wave Attenuation Tomography for Central and Southeastern Asia, *Eos Trans. AGU*, 87(36), West. Pac. Geophys. Meet. Suppl., Abstract T32A-05, 2006.
- Lowry, A.R., Resonant slow fault slip in response to climatic load stress, UNAVCO Science Workshop **INVITED**, Denver, Colorado, March 14-16 2006.
- Lowry, A.R., A.F. Sheehan, M. Roy, E. Jones, and S. Nerem, A multidisciplinary investigation of Rio Grande Rift deformation, *Eos Trans. AGU*, 86(52), T53E-02, 2005.
- Paul, J.P., R. Smalley, R. Bilham, A. Lowry, and A. Batacharjee, Postseismic deformation in the central Andaman Islands, *Eos Trans. AGU*, 86(52), U11B-0838, 2005.
- Yang, X., A.R. Lowry, A.L. Levshin, and M.H. Ritzwoller, Toward a Rayleigh wave attenuation model for Eurasia and calibrating a new M_S formula, 27th Seismic Research Review, Palm Springs CA, 20-22 September, 2005.
- Lowry, A.R., A.F. Sheehan, M. Roy, and S. Nerem, Toward a geophysical investigation of Rio Grande Rift extension, EarthScope National Meeting, Santa Ana Pueblo, NM, 29-31 March, 2005.

TEACHING

Courses Lectured:

Undergraduate

Earthquakes and Volcanoes (UU, 1992-94)

Honors 1360: Planet Earth (USU, 2006-08)

Geo 5660/6660: Applied Geophysics (IU, 1998; USU, 2008)

Graduate

Geo 7600: Geodynamics (IU, 1999; USU, 2007)

Geo 7600: Inverse Theory (USU, 2008)

Geo 6600/7600: Geodesy and Crustal Deformation (USU, 2009)

Graduate Students Supervised:

- Joel Rackham, *TBD*, M.S., Utah State University, continuing.
- Dan Munger, *TBD*, M.S., Utah State University, continuing.

HONORS

Outstanding Ph.D. Student, University of Utah, 1994.

Amoco Fellowship, University of Utah, 1989-90.

Chevron Fellowship, University of Wyoming, 1987-88.

Outstanding Undergraduate Student, University of Wyoming, 1986.

PROFESSIONAL ACTIVITIES

- Developer and maintainer of the MECAIR fortran codes for Maximum Entropy Coherence Analysis of Isostatic Response, used by more than 20 researchers in 11 countries, and which has figured prominently in the theses/dissertations of at least 10 young scientists
- Invited lecturer at Arizona University, CICESE (Ensenada, Mexico), Colorado State University, OGS (Trieste, Italy), Southern Illinois University, University of Colorado, University of Florida, University of Leeds (UK), University of Michigan, University of Nevada–Las Vegas, University of Nevada–Reno, University of New Mexico, University of Oregon, University of Utah, USGS–Menlo Park, and Utah State University
- Invited keynote speaker at the *UNAVCO Science Workshop* (2006) and *Workshop on EARS (EarthScope Automated Receiver Survey) Data Product* (2008)
- Reviewer of proposals for the National Science Foundation, NASA, the National Nuclear Security Administration and New Zealand’s Earthquake Commission
- Referee of articles for *AGU Monographs*; *Earth and Planetary Science Letters*; *Earth, Planets and Space*; *Encyclopedia of Complexity and System Science*; *Geochemistry Geophysics Geosystems*, *Geological Society of America Bulletin*; *Geology*; *Geophysical Journal International*; *Geophysical Research Letters*; *Journal of Antarctic Science*; *Journal of Geophysical Research*; *Journal of Volcanology and Geothermal Research*; *Nature*; *Nature Geoscience*, *Physics of the Earth and Planetary Interiors*; *Tectonics*; and *Tectonophysics*
- Member of *American Geophysical Union*, *Seismological Society of America* and *Geological Society of America*