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EDUCATION

1998	Ph.D., Geophysics, University of Arizona, Tucson, Arizona, Advisor: Jay Melosh
1988	M.S., Applied Mechanics, Utah State University, Logan, Utah
1983	B.S., Mechanical Engineering, Cornell University, Ithaca, New York

EMPLOYMENT HISTORY

2008 – present	Associate Professor, Department of Earth & Atmospheric Sciences, Purdue University
2003 – 2008	Assistant Professor, Department of Earth & Atmospheric Sciences, Purdue University
2001 - 2002	Visiting Postdoctoral Researcher, Berkeley Seismological Laboratory, Berkeley, CA
1998 - 2001	NSF Postdoctoral Fellow, Carnegie Institution of Washington, Washington, DC
1993 - 1998	Research Assistant, Department of Geosciences, University of Arizona, Tucson, AZ
1992 - 1996	Guest Student, Department of Geology and Geophysics, WHOI
1993	Shipboard Scientist, R/V Thomas Thompson
1988 – 1992	Aerospace Engineer, Structural Dynamics Research Corporation, San Diego, CA
1983 – 1988	Aerospace Engineer, Morton Thiokol, Inc, Promontory Point, Utah

SERVICE TO THE PROFESSION

2008 – present	AGU Advisory Board for the Natural Hazard Focus Group
2008 - present	AGU Advisory Board for the Natural Hazard Focus Group
2008 - present	Computational Infrastructure for Geodynamics (CIG) Steering Committee (elected)
2008 - present	Steering Committee, CIG Short Term Crustal Dynamics
2011	Panelist, NSF Graduate Research Fellowship Program
2010	Panelist, NSF Earthscope Program
2010	Panelist, USGS review of the Southern California Earthquake Center
2009	Future of CIG Workshop organizing committee
2008	Panelist, NASA's Planetary Geology & Geophysics Program
2008	Panelist, National Defense Science & Engr. Graduate Fellowship Program
2005 - 2007	Organized/chaired special sessions for AGU
2003 - 2010	Judge of AGU Student Talks
1998 - present	Proposal evaluator, NSF, NASA, Israel Science Foundation
1998 - present	Reviewer for JGR, GRL, Tectonics, Nature, Nature Geoscience, EPSL, BSSA, Geology, GJI

GRADUATE STUDENTS AND POSTDOCTORAL SPONSORSHIPS

Current

David Blair – Ph.D. (expected graduation, 2013)
Haylee Dickinson – Ph.D. (co-advised with E. Calais, expected graduation, 2014)
Steeve Julien Symithe – M.S., (co-advise with E. Calais, expected graduation, 2012)

Past

Laura Bennati-Rassion – M.S. (co-advised with E. Calais, expected graduation, 2010)
Tabrez Ali – Ph.D. (graduated Spring, 2009)
Patrick Kennedy – M.S. (graduated Spring, 2007)
Jay Kalbas – Ph.D. (co-advised with K. Ridgway, graduated Fall, 2006)
David Manaker – Postdoctoral sponsor, 2006 – 2007.

ACTIVE GRANTS

Postseismic GPS Survey, Modeling, and Education following the M7.0 January 12, 2010 Earthquake in Haiti, Award No. EAR-1045809, Jan, 2010 to Dec, 2012, $410,687 (Co-PI, PI: Calais).

Identification of Postseismic Transients in PBO GPS Time-Series, National Science Foundation, Award No. EAR-0952234, Jan., 2010 to Dec., 2011, $151,190 (PI).

Basin Tectonics and Volcanism on Mercury, NASA, Award No. 09-PGG09-0053, Jan., 2010 to Dec., 2011, $177,300 (PI).

Contemporary Stressing of the Alaskan Crust from Coseismic, Postseismic, and Interseismic Processes, U. S. Geological Survey, Award No. 104266, Jan., 2010 to Dec., 2010, $59,525 (PI).

Intraplate strain and stress in the North American plate interior: Collaborative Research with Purdue University and University of Wisconsin, U. S. Geological Survey, Award No. XXXXXX, Jan., 2010 to Dec., 2011, $166,415 (Co-PI, PI: Calais).

Collaborative Research: Kinematic constraints on mantle-lithosphere interactions in Eastern Africa, National Science Foundation, Award No. 0538119-EAR, March, 2006 to February, 2011, $420,000, (Co-PI, PI: Calais).

EXPIRED GRANTS

Geodetic and Geologic Field Response to the January 12, 2010, Mw 7.0 Haiti Earthquake, National Science Foundation, Award No. EAS-1024990, Feb. 1, 2010 to Jan 31, 2011, $133,804 (Co-PI, PI: Calais).

Workshop: Numerical Modeling of Crustal Deformation Associated with Earthquake Faulting, Southern California Earthquake Center, February 1, 2010 to January 31, 2011, $10,000 (PI).

Contemporary strain and stressing rates in central and southern Alaska through the earthquake cycle, National Science Foundation, Award No. EAR-0710937, July, 2007 to June, 2010, $151,961 (PI).

Workshop: Numerical Modeling of Crustal Deformation Associated with Earthquake Faulting, Southern California Earthquake Center, February 1, 2009 to January 31, 2010, $10,000 (PI).

Collaborative Research: GPS measurements and deformation modeling of oblique subduction and strain partitioning in the northeastern Caribbean, National Science Foundation, Award No. 0409487-EAR, July 1, 2004 to June 30, 2008, $286,291 (Co-PI).

Workshop: Numerical Modeling of Crustal Deformation Associated with Earthquake Faulting, Southern California Earthquake Center, February 1, 2008 to January 31, 2009, $10,000 (PI).

Accelerating moment release in areas of high stress? Southern California Earthquake Center, Award No. 07014 (EAR 5029922), February 1, 2007 to January 31, 2008, $9,000 (Co-PI).

Collaborative Research: Mechanisms of postseismic deformation following the 2002 Denali Fault earthquake sequence, National Science Foundation, Award No. 0309620-EAR, May 13, 2003 to Oct 31, 2007, $249,989 (Co-PI).

Inference of crustal rheology from observations of postseismic deformation following the 2004 Parkfield, California earthquake, Southern California Earthquake Center, Award No. 101574, February 1, 2005 to January 31, 2006, $15,000 (PI).

Collaborative Research: Evolution of stress along the southern San Andreas Fault system for the past two centuries, United States Geological Survey, Award No. 03HQGR0082, July 1, 2003 to June 30, 2005, $59,403 (PI).

Collaborative Research: Constraining non-linear lithospheric flow laws from post-Landers and post-

Hector Mine SCEC GPS measurements, Southern California Earthquake Center, February 1, 2002 to January 31, 2003, $15,000 (PI).

Constraining Non-Linear Lithospheric Viscous Flow Laws from Postseismic Surface Deformation Measurements, National Science Foundation, Award No. 0122868-EAR, January 1, 2002 to August 31, 2004, $71,991 (PI).

Collaborative Research Modeling of 3D viscoelastic stress transfer in the California crust: Implications for earthquake triggering and seismic hazard migration, National Science Foundation, Award No. 0122868-EAR, August 1, 2001 to December 31, 2004, $109,000 (PI)

Three-dimensional modeling of lower crustal flow following earthquakes, National Science Foundation, Earth Sciences Postdoctoral Research Fellowship, Award No. 9704677-EAR, January 1, 1998 to December 31, 2000, $72,000 (PI).

Toward and understanding of the strike-slip paradox of Lunar mascon basins, NASA graduate research fellowship, Aug. 1, 1995 to June 1, 1998 $60,000 (PI).

PUBLICATIONS (students are underlined)

(25) Calais, E., **A. M. Freed**, G. Mattioli, F. Amelung, S. Jónsson, P. Jansma, S.-H. Hong, T. Dixon, C. Prépetit, and R. Momplaisir, Transpressional rupture of an unmapped fault during the 2010 Haiti earthquake, *Nature Geoscience, 3*, 794-799, 2010.

(24) **Freed, A. M**., T. Herring, and R. Bürgmann, Steady-State Laboratory Flow Laws Alone Fail To Explain Postseismic Observations, Earth Planet. Sci. Lett., 300, 1-10, 2010.

(23) Ali, S. T. and **A. M. Freed**, Contemporary deformation and stressing rates in Southern Alaska, *Geophys. J. Inter., 183,* 557-571, 2010.

(22) Calais, E., **A.M. Freed**, R. Van Arsdale, and S. Stein, Triggering of New Madrid Seismicity by Late Pleistocene Erosion, *Nature, 466*, 608-611, 2010.

(21) **Freed, A. M**., S. C. Solomon, T, R. Watters, R. J. Phillips, M. T. Zuber, Could Pantheon Fossae be the result of the Apollodorus crater-forming impact within the Caloris Basin, Mercury? *Earth Planet. Sci. Lett*., doi:10.1016/j.epsl.2009.02.038, 2009.

(20) Ganguly, J., **A. M. Freed**, and S. K. Saxena, Density profiles of oceanic slabs and surrounding mantle: Integrated thermodynamic and thermal modeling, and implications for the fate of slabs at the 660 km discontinuity, *Phys. Earth Planet. Int*., 172, 257-267, 2009.

(19) Kalbas, J. L., **A. M. Freed**, and K. D. Ridgway, Contemporary fault mechanics in southern Alaska, in Active tectonics and seismic potential of Alaska, in Active Tectonics and Seismic Potential of Alaska, *Geophys. Mono. Series* 179, 321-337, doi:10.1029/179GM18, 2008.

(18) Ali, S. T., **A. M. Freed**, E. Calais, D. Manaker, and W. R. McCann, Coulomb stress evolution on the Caribbean Plate for the past 250 years from coseismic, postseismic, and interseismic deformation, *Geophys. J. Int., 174,* 904-918, 2008.

(17) Manaker[P], D. M., E. Calais, **A. M. Freed**, S. T. Ali*, P. Przybylski*, G. Mattioli, P. Jansma, C. Pr´epetit, and J. B. de Chabalier, Interseismic Plate coupling and strain partitioning in the Northeastern Caribbean, *Geophys. J. Int.,* 174, 889–903, 2008.

(16) Kennedy, P. J., **A. M. Freed**, and S. C. Solomon, Mechanics of faulting in and around Caloris Basin, Mercury, *J. Geophys. Res.*, 113, doi:10.1029/2007JE002992, 2008.

(15) Mahsas, A., K. Yelles, K. Lammali, E. Calais, **A. M. Freed**, and P. Briole, Shallow afterslip following the May 21st, 2003, Mw=6.9 Boumerdes earthquake, Algeria, *Geophys. J. Inter., 172*, 155–166, 2008.

(14) **Freed, A. M.**, R. Bürgmann, and T. Herring, Far-reaching transient motions after Mojave earthquakes require broad mantle flow beneath a strong crust, *Geophys. Res. Lett*., 34, doi: 10.1029/2007GL030959, 2007 (chosen by chief editor to be an AGU journal Highlight).

(13) **Freed, A. M.**, Afterslip (and only afterslip) following the 2004 Parkfield, California earthquake, *Geophys. Res. Lett., 34*, doi:10.1029/2006GL029155, 2007.

(12) **Freed, A. M.**, S. T. Ali, and R. Bürgmann, Evolution of stress in southern California for the past 200 years from coseismic, postseismic, and interseismic processes, *Geophys. J. Inter., 169*, 1164-1179, 2007.

(11) **Freed, A. M.**, R. Bürgmann, E. Calais, J. Freymueller, Stress-dependent power-law flow in the upper mantle following the 2002 Denali, Alaska, earthquake, *Earth Planet. Sci. Lett., 252*, 481-489, 2006.

(10) **Freed, A. M.**, R. Bürgmann, E. Calais, J. Freymueller, and S. Hreinsdóttir, Implications of deformation following the 2002 Denali, Alaska earthquake for postseismic relaxation processes and lithospheric rheology, *J. Geophys. Res., 111*, B01401, doi:10.1029/2005JB003894, 2006.

(9) **Freed, A. M.**, Earthquake triggering by static, dynamic, and postseismic stress transfer, *An. Rev. Earth Planet. Sci., 33,* 335-367, 2005.

(8) **Freed, A. M.** and Bürgmann, R., Evidence of power-law flow in the Mojave Desert mantle, *Nature, 430*, 548-551, 2004.

(7) Lin, J. and **A. M. Freed**, Time-dependent viscoelastic stress transfer and earthquake triggering, In: Environment, Natural Hazards, and Global Tectonics of the Earth, ed. Y. J. Chen, *Advances in Earth Sciences Monograph, 2*, 21 - 38, Higher Education Press, Beijing, 2004.

(6) **Freed, A. M.** and J. Lin, Accelerated stress buildup on the southern San Andreas Fault and surrounding regions caused by Mojave Desert earthquakes, *Geology*, 30, 571-574, 2002.

(5) Dombard, A. J., and **A. M. Freed**, Thermally induced lineations on the asteroid Eros: Evidence of orbital Transfer, *Geophys. Res. Lett*, 29, 1818, DOI 10.1029/2002GL015181, 2002.

(4) **Freed, A. M.** and J. Lin, Delayed triggering of the 1999 Hector Mine earthquake by viscoelastic stress transfer, *Nature, 411*, 180-183, 2001.

(3) **Freed, A. M.**, H. J. Melosh and S. C. Solomon, Tectonics of mascon loading: Resolution of the strike-slip faulting paradox, *J. Geophys. Res*., *106*, 20603-20620, 2001.

(2) **Freed, A. M.** and J. Lin, Time-dependent changes in failure stresses following thrust earthquakes, *J. Geophys. Res., 103*, 24393-24409, 1998.

(1) **Freed, A. M.**, J. Lin, P. R. Shaw, and H. J. Melosh, Long-term survival of the axial valley morphology at abandoned slow-spreading centers, *Geology, 23*, 971-974, 1995.

INVITED TALKS/SEMINARS

(19) **Freed, A. M.** An Overview of Models to Explain New Madrid Seismic Activity, New Madrid Seismic Zone Geodesy Workshop, Norwood, MA, 2011.

(18) **Freed, A. M.**, The January 12, 2010 Haiti Earthquake: Causes, consequences, and the future, Indiana Council on World Affairs, Indianapolis, 2011.

(17) **Freed, A. M.**, Validation of a constitutive relationship for transient power-law flow in the upper mantle, Geology and Geophysics Dept. Seminar, Woods Hole Oceanographic Institution, 2010.

(16) **Freed, A. M.**, The January 12, 2010 Haiti Earthquake: An overview, Computational Infrastructure for Geodynamics, Short-Term Crustal Dynamics Workshop, Golden, CO, 2010.

(15) **Freed, A. M.,** Viscous Flow in the Upper Mantle: A Process for Earthquake Triggering, Research Center for the Prediction of Earthquakes and Volcanoes, Tohoku University, Sendai, Japan, 2010.

(14) **Freed, A. M.,** Detecting Viscous Flow in the Upper Mantle: Implications for Earthquake Triggering, Department of Terrestrial Magnetism, Carnegie Institution of Washington, DC, 2009.

(13) **Freed, A. M.,** Could Pantheon Fossae be the result of the Apollodorus crater-forming impact within the Caloris Basin, Mercury?, Department of Terrestrial Magnetism, Carnegie Institution of Washington, DC, 2009.

(12) **Freed, A. M.**, S. C. Solomon, and P. J. Kennedy, Mechanics of faulting in and around Caloris Basin, Mercury, 39th Lunar and Planetary Science Conference, 1189, 2008.

(11) **Freed, A. M.**, Using earthquakes to infer crustal and mantle rheology, Lunar & Planetary Institute, Houston, TX, 2006.

(10) **Freed, A. M.**, Using an earthquake as a large rock deformation experiments, Department of Geosciences, University of Arizona, Tucson, AZ, 2006.

(9) **Freed, A. M.**, T. Ali, R. Bürgmann, Evolution of stress in southern California for the past 200 years from coseismic, postseismic, and interseismic processes, EOS Trans. AGU, 87(36), Fall Meeting, 2006.

(8) **Freed, A. M.**, Challenges to inferring the mechanisms and nature of postseismic processes following strike-slip earthquakes, computational infrastructure for geodynamics, Community Finite Element Models for Fault Systems and Tectonic Modeling workshop, Golden, CO, 2006.

(7) **Freed, A. M.**, Using NX MasterFEM in large scale geophysical studies, Pace Conference, West Lafayette, IN, 2006.

(6) **Freed, A. M.**, Inferring lithospheric rheology from postseismic deformation following the 2002 Denali, Alaska earthquake, Dept. of Earth & Environmental Sciences seminar series, University of Illinois, Chicago, 2005.

(5) **Freed, A. M**., R. Bürgmann, E. Calais, J. T. Freymueller, S. Hreinsdóttir, Deep Lithospheric Mantle and Heterogeneous Crustal Flow Following the 2002 Denali, Alaska Earthquake, EOS Trans. AGU, 85(47), Fall Meeting, San Francisco, CA, 2004.

(4) **Freed, A. M.** and R. Bürgmann, Combined study of the 1992 Landers, 1999 Hector Mine, and 2002 Denali postseismic deformations: In search of a common lithospheric rheology, EOS Trans. AGU, 85(47), Fall Meeting, San Francisco, CA, 2004.

(3) **Freed, A. M.**, Evidence of power-law flow in the Mojave Desert mantle, Department of Earth and Atmospheric Sciences seminar series, Purdue University, 2003.

(2) **Freed, A. M.**, Evidence of power-law flow in the Mojave Desert mantle, Department of Geology Seminar, University of Illinois, Urbana, 2003.

(1) **Freed, A. M.**, Earthquakes as large rock deformation experiments, Earth & Space Sciences seminar series, University of Washington, Seattle, 2002.