

ANDREA DONNELLAN

Education

Ph.D., Geophysics, California Institute of Technology (1991)
M.S., Computer Science, University of Southern California (2003)
M.S., Geophysics, California Institute of Technology (1988)
B.S., Geology, Ohio State University, *with honors and distinction in geology* (1986)

Professional Experience

Jet Propulsion Laboratory
Lead Scientist, InSAR (2005–present)
Deputy Manager, Science Division (2002–2006)
Deputy Manager, Exploration Systems Autonomy Section (2000–2002)
Supervisor, Data Understanding Systems Group, (1999–2001)
Research Scientist, Satellite Geodesy and Geodynamics Systems Group (1997–1999)
Research Professor, Department of Earth Sciences, University of Southern California (1999–present)
Visiting Associate, Seismological Laboratory, California Institute of Technology, (1995–1996)
National Research Council Resident Research Associate, NASA Goddard Space Flight Center (1991–1993)

Professional Activities

Participant in NASA Earth Surface and Interior strategic planning.
QuakeFinder advisory board (2004 – present)
US Rep. to the International Sci. Board, APEC Cooperation on Earthquake Simulations (2000–present)
American Geophysical Union (AGU) nonlinear geophysics committee (2000–present)
Solid Earth Science Working Group for NASA HQ (2000–2002)
Acting Deputy Director, JPL Center for Life Detection (2002–2003)
Solid Earth science chair for NASA workshop on computational technologies needs (2002)
JPL Business Management Council (2002–2004)
JPL Science and Technology Management Council (2001–2004)
Plate Boundary Observatory steering committee (1999–2002)

Awards

MUSES California Science Center Foundation, Woman of the Year (2006)
NASA Space Act awards for GeofESTv.4.3 (2004), QuakeSim, Simplex, and Disloc (2005)
Women at Work Medal of Excellence (2004)
Women in Aerospace Award for Outstanding Achievement (2003)
JPL Lew Allen Award for Excellence (2000)
Southern California Earthquake Center Outreach Award for Education (1998)
Presidential Early Career Award for Scientists and Engineers (1996)
National Research Council Postdoctoral Fellowship (1991–1993)

Selected Publications

Rundle, J.B., P.B. Rundle, **A. Donnellan**, P. Li, W. Klein, G. Morein, D.L. Turcotte, L. Grant, Stress transfer in earthquakes, hazard estimation and ensemble forecasting: Inferences from numerical simulations, *Tectonophysics*, 413, 109–125, 2006.
Donnellan, A., J. Rundle, G. Fox, D. McLeod, L. Grant, T. Tullis, M. Pierce, J. Parker, G. Lyzenga, R. Granat, M. Glasscoe, QuakeSim and the Solid Earth Research Virtual Observatory, *PAGEOPH*, in press.
Rundle, J.B., P.B. Rundle, **A. Donnellan**, D.L. Turcotte, R. Shcherbakov, P. Li, B.D. Malamud, L.B. Grant, G.C. Fox, D. McLeod, G. Yakovlev, J. Parker, W. Klein, K.F. Tiampo, A simulation-based approach to forecasting the next great San Francisco earthquake, *Proceedings of the National Academy of Sciences*, **102**, 15363–15367, 2005.
Tralli, D.M., R.G. Blom, V. Zlotnicki, **A. Donnellan**, D.L. Evans, Satellite Remote Sensing of earthquake, volcano, flood, landslide, and coastal inundation hazards, *ISPRS Journal of Photogrammetry and Remote Sensing*, **59**, 185–198, 2005.

- Grant L.B., **A. Donnellan**, D. McLeod, M. Pierce, G.C. Fox, A.Y. Chen, M.M. Gould, S.S. Sung, P.B. Rundle, A Web-Service Based Universal Approach to Heterogeneous Fault Databases, *Computing in Science and Engineering Special Issue on Multi-Physics Modeling*, **7**, 51–57, 2005.
- Donnellan, A.**, P. Mora, M. Matsu'ura, X-C. Yin, eds. Computational Earthquake Science, Parts I and II, PAGEOPH, 161, 2004.
- Solomon, S. C., V. Baker, J. Bloxham, J. Booth, **A. Donnellan**, C. Elachi, D. Evans, E. Rignot, D. Burbank, B. Chao, A. Chave, A. Gillespie, T. Herring, R. Jeanloz, J. LaBrecque, B. Minster, W. C. Pitman, M. Simons, D. L. Turcotte, M. L. C. Zoback, (2003) "A Plan for Living on a Restless Planet," EOS Transactions of the American Geophysical Union, **84**, 485, 2003.
- Donnellan, A.**, and B. Luyendyk, GPS Evidence for a Coherent Plate and for Postglacial Rebound in Marie Byrd Land, West Antarctica, *Global and Planetary Change*, in press.
- Donnellan, A.**, J. Rundle, J. Ries, G. Fox, M. Pierce, J. Parker, R. Crippen, E. DeJong, B. Chao, W. Kuang, D. McLeod, M. Matsu'ura, J. Bloxham, Illuminating the Earth's Interior Through Advanced Computing, *Computing in Science and Engineering (CiSE)*, **6**, 36-44, 2004.
- Glasscoe, M. **Donnellan, A.**, L. Kellogg, and M. Glasscoe, Strain partitioning across metropolitan Los Angeles, *Pure and Appl. Geophys. (PAGEOPH)*, 161, 2004.
- Donnellan, A.**, J. Parker, and G. Peltzer, Combined GPS and InSAR models of postseismic deformation from the Northridge earthquake, *PAGEOPH*, 2261–2270, 2002.
- Granat, R., and **A. Donnellan**, Deterministic annealing hidden Markov models for geophysical data exploration, *PAGEOPH*, 2271–2284, 2002.
- Matsu-ura, M., P. Mora, **A. Donnellan**, X. Yin, eds., Earthquake Processes: Physical Modeling, Numerical Simulation and Data Analysis, Parts I and II, *PAGEOPH*, 1905–1907 and 2169–2171, 2002.
- Hurst, K.J., D. Argus, **A. Donnellan**, M.B. Heflin, D. Jefferson, G.A. Lyzenga, J.W. Parker, F.H. Webb, J.F. Zumberge, The Co- and Immediate Post-seismic geodetic signature of the 1999 Hector Mine Earthquake, *Geophys. Res. Lett.*, **27**, 2733–2736, 2000.
- Fox, G.C., Ken Hurst, Andrea Donnellan, and Jay Parker, "Introducing a New Paradigm for Computational Earth Science - A web-object-based approach to Earthquake Simulations", a chapter in AGU monograph on Physics of Earthquakes, edited by John Rundle and published by AGU in 2000.
- Lyzenga, G.A., W.R. Panero, **A. Donnellan**, The Influence of Anelastic Surface Layers on Postseismic Thrust Fault Deformation, *J. Geophys. Res.*, **105**, 3151–3157, 2000.
- Lundgren, P., M. Protti, **A. Donnellan**, M. Heflin, E. Hernandez, D. Jefferson, Seismic cycle and plate margin deformation in Costa Rica: GPS observations 1994–1997, *J. Geophys. Res.*, **104**, 28,915–28,926, 1999.
- Hager, B.H., G.A. Lyzenga, **A. Donnellan**, and D. Dong, Reconciling Rapid Strain Accumulation with Deep Seismogenic Fault Planes in the Ventura Basin, California, *J. Geophys. Res.*, **104**, 25,207–25,219, 1999.
- Argus, D., M.B. Heflin, **A. Donnellan**, F.H. Webb, D. Dong, K.J. Hurst, G.A. Lyzenga, M.M. Watkins, and J.F. Zumberge, Shortening and Thickening of Metropolitan Los Angeles Measured and Inferred Using Geodesy, *Geology*, **27**, 703–706, 1999.
- Donnellan, A.** and G. A. Lyzenga, Fault afterslip and upper crustal relaxation following the Northridge earthquake, *J. Geophys. Res.*, **103**, 21,285–21,297, 1998.
- Donnellan, A.** and F.H. Webb, Geodetic observations of the M 5.1 January 29, 1994 Northridge aftershock, *Geophys. Res. Lett.*, **25**, 667–670, 1998.
- Bawden, G., **A. Donnellan**, L. Kellogg, D. Dong, J. Rundle, Geodetic measurements of seven decades of horizontal strain near the White Wolf fault, Kern County California: I. Observations, *J. Geophys. Res.*, **102**, 4957–4976, 1997.
- Jones, L., K. Aki, M. Celebi, **A. Donnellan**, J. Hall, R. Harris, E. Hauksson, T. Heaton, S. Hough, K. Hudnut, K. Hutton, M. Johnston, W. Joyner, H. Kanamori, G. Marshall, A. Michael, J. Mori, M. Murray, D. Ponti, P. Reasenber, D. Schwartz, L. Seeber, A. Shakal, R. Simpson, H. Thio, M. Todorovska, M. Trifunic, D. Wald, and M. L. Zobak, The Magnitude 6.7 Northridge California, Earthquake of January 17, 1994, *Science*, **266**, 389–397, 1994.
- Donnellan, A.**, B. H. Hager, and R. W. King, Discrepancy between geologic and geodetic deformation rates in the Ventura basin, *Nature*, **366**, 333–336, 1993.
- Donnellan, A.**, B. H. Hager, R. W. King, and T. A. Herring, Geodetic measurement of deformation in the Ventura basin region, southern California, *J. Geophys. Res.*, **98**, 21,727–21,739, 1993.