

## Eric Jameson Fielding

**Office:** Mailstop 300-233  
Jet Propulsion Laboratory, Caltech  
4800 Oak Grove Drive  
Pasadena, California 91109 USA  
**office phone:** 1-818-354-9305

**mobile phone:** 1-818-203-1346  
**Office:** [Eric.J.Fielding@jpl.nasa.gov](mailto:Eric.J.Fielding@jpl.nasa.gov)

### EDUCATION:

**Ph.D.** in Geological Sciences from *Cornell University*; Thesis advisor: Bryan Isacks; Title: Neotectonics of the Central Andean Cordillera from satellite imagery, August 1989  
**A.B.** in Earth Sciences from *Dartmouth College*, June 1982

### EXPERIENCE:

#### **Jet Propulsion Laboratory, California Institute of Technology**, Pasadena, California

*Principal Scientist*, October 2010 to present;  
*Research Scientist Senior A*, October 2007 to October 2010;  
*Research Scientist* (permanent), November 1999 to September 2007—analyzed and modeled surface deformation due to earthquakes, interseismic strain, postseismic processes and non-tectonic strain in Tibet, California, Turkey, and Iran with SAR interferometry. Analyzed active tectonics in California, Turkey, Iran, and Tibet with digital topography.

*Research Scientist*, September 1994 to August 1998—interpreted active tectonics and land subsidence in northern Tibet, Mt. Everest area, San Andreas and Hayward faults, San Joaquin Valley, California, and other regions by analyzing radar interferometric measurements of topographic elevations and elevation changes, other digital topography, and Shuttle radar imagery.

#### **University of Cambridge**,

*Visiting Scientist*, November 2001 to November 2004— Analysis of surface deformation due to earthquakes, postseismic and interseismic strain in California and Iran with SAR interferometry. Fault interaction calculations with elastic Earth models. Advised post-graduate and Part III (4<sup>th</sup> year) students on various projects.

#### **University of Oxford**,

*Senior Research Scientist*, September 1998 to November 1999—studied active tectonics in Greece, Turkey, Iran, New Zealand and Tibet by generation and analysis of digital elevation models from InSAR. Analysis of co-seismic displacements due to earthquakes in Turkey and Iran with SAR interferometry. Greece field trip. Analysis of tilted surfaces in Oxfordshire with Ordnance Survey digital topography. Tutored post-graduate students analyzing tectonics with digital topography and InSAR.

#### **University of Southern California**, Los Angeles, California

*Consulting Scientist*, October 1994 to July 1997—interpreted erosional histories and uplift rates of Nanga Parbat, Pakistan and Transverse Ranges of southern California by analyzing digital topography and field observations.

#### **Cornell University**, Ithaca, New York

*Research Associate*, 1992–1994—interpreted geomorphic expression of active faults and erosion from digital topography; stereo SPOT, TM, and MSS imagery; seismicity; and developed digital geologic and geophysical data in a geographic information system for

Eurasia, Middle East and North Africa. Supervised graduate students and undergraduates working on data processing, ingestion, and interpretation.

*Postdoctoral Associate*, 1989–1992—created a morphotectonic geographic information system for Central Asia and South America with digital topography; stereo SPOT, TM, and MSS imagery; seismicity; and digitized geologic and geophysical data. Supervised graduate students and other workers on data processing and ingestion.

*Graduate Research Assistant*, 1983–1985, 1987–1989—interpreted structure of an active fold-thrust belt, distribution of volcanic deposits, and distribution of young faulting in the Altiplano-Puna plateau of the Central Andes by integrated analysis of Landsat TM, Shuttle Imaging Radar-B and -A, and field mapping.

**Dartmouth College**, Hanover, New Hampshire

*Teaching Assistant*, 1981—class titled Earth, Moon, and Planets (under Robert Jastrow)

**Goddard Institute for Space Studies**, New York, New York

*Research Assistant*, 1981—performed digital image processing of Pioneer Venus imagery to study cloud patterns

FELLOWSHIPS & AWARDS:

*NASA Exceptional Scientific Achievement Medal*, 2010

*JPL Edward Stone Award for outstanding research publication*, 2010

*Jerald Cook Award for best general session paper at the 12<sup>th</sup> International Conference on Applied Geologic Remote Sensing*, 1997

*NASA Graduate Student Researchers Program Fellowship*, Cornell University, 1985–1987—analysed tectonic and volcanic geomorphology in the Central Andes from SIR-B, Landsat TM and digital topography data.

*John McMullen Graduate Fellowship*, Cornell University, 1982–1983—analyzed subsurface structure of the blind thrust in hypocentral region of 1983 Coalinga, California earthquake by processing and analyzing seismic reflection profiles acquired by the Consortium for Continental Reflection Profiling (COCORP).

PROFESSIONAL SOCIETIES:

American Geophysical Union  
Geological Society of America  
Sigma Xi

RECENT PROFESSIONAL ACTIVITIES:

2010 Instructor for InSAR short course at UNAVCO, Boulder, Colorado  
2010 Invited speaker Rebuilding for Resilience: How Science and Engineering can Inform Haiti's Reconstruction  
2009 Instructor for InSAR short course in Naples, Italy sponsored by IREA  
2009 Instructor for InSAR short course at UNAVCO, Boulder, Colorado  
2008–present Member of Executive Committee, WInSAR  
2008 Invited speaker and invited webcast speaker, AGU Fall meeting  
2008 Convener of Geodesy session on Sichuan earthquake, AGU Fall meeting  
2008 Program committee for USEReST Symposium, Naples, Italy  
2008 Instructor for InSAR short course at UNAVCO, Boulder, Colorado  
2008 Invited speaker Seismology Lab seminar, Caltech  
2007 Convener of session on postseismic deformation, AGU Fall meeting

- 2007 Invited speaker department seminar, University College London
- 2007 Invited talk European Geosciences Union meeting
- 2006 Invited talk department seminar, MIT
- 2006 Invited talk "Subduction, Orogeny and the Surface of the Earth" Symposium, Cornell
- 2006 Invited speaker, West Coast Petroleum Technology Transfer Council workshop "Subsidence Mitigation"
- 2006 Convener and co-chair session on postseismic deformation, AGU Fall meeting
- 2005 Convener and co-chair session on postseismic deformation, AGU Fall meeting
- 2004 Invited talk, Geophysics seminar, Oxford University
- 2003 Invited talk Bullard Labs seminar, Cambridge University
- 2003 Tectonics session co-chair ESA Fringe SAR interferometry workshop
- 2002 NASA Earth Surface and Interior review panel member

DISSERTATIONS EXAMINED:

- 2008, John H. Dawson, PhD, Australia National University
- 2007, Faramarz Nilforoushan, PhD, Uppsala University
- 2000, Gavin S. Doyle, MSc., University of Cape Town.

SELECTED RECENT PUBLICATIONS:

- Fielding, E.J., Sladen, A., Li, Z.H., Ryder, I., Bürgmann, R., and Avouac, J.-P., in preparation, Kinematic coseismic slip model for the 12 May 2008 Wenchuan-Beichuan Mw 7.9 earthquake in Sichuan, China, from joint inversion of ALOS, Envisat and teleseismic data, to be submitted soon to *Geophys. J. Int.*
- Hayes, G., Briggs, R., Sladen, A., Fielding, E., Prentice, C., Mann, P., and Taylor, F., 2010, Complex rupture during the 12 January 2010 Haiti Earthquake: *Nature Geosci.*
- Sladen, A., Tavera, H., Simons, M., Avouac, J.-P., Konca, A.O., Perfettini, H., Audin, L., Fielding, E.J., Ortega, F., and Cavagnoud, R., 2010, Source model of the 2007 Mw 8.0 Pisco, Peru earthquake--implications for seismogenic behavior or subduction megathrusts: *J. Geophys. Res.*, v. 115, p. B02405, doi:10.1029/2009JB006429.
- Fielding, E.J., Lundgren, P.L., Bürgmann, R., and Funning, G.J., 2009, Shallow fault-zone dilatancy recovery after the 2003 Bam earthquake in Iran: *Nature*, v. 458, p. 64-68.
- Lundgren, P.R., Hetland, E.A., Liu, Z., and Fielding, E.J., 2009, Southern San Andreas–San Jacinto fault system slip rates estimated from earthquake cycle models constrained by GPS and InSAR observations: *J. Geophys. Res.*, 114, B02403, doi:02410.01029/02008JB005996
- Li, Z., Fielding, E.J., and Cross, P., 2009a, Integration of InSAR Time-Series Analysis and Water-Vapor Correction for Mapping Postseismic Motion After the 2003 Bam (Iran) Earthquake: *Geoscience and Remote Sensing, IEEE Transactions on*, v. 47, p. 3220-3230.
- Li, Z., Fielding, E.J., Cross, P., and Preusker, R., 2009b, Advanced InSAR atmospheric correction: MERIS/MODIS combination and stacked water vapor models: *International Jour. Remote Sens.*, v. 30, p. 3343-3363.
- Konca, A.O., Sladen, A., Avouac, J.-P., Sieh, K.E., Galetzka, J., Genrich, J., Meltzer, A.S., Fang, P., Bock, Y., Li, Z., Fielding, E.J., Chlieh, M., Ji, C., and Helmberger, D.V., 2008, in press, Rupture kinematics of the 2007 Mw 8.4 and Mw 7.9 Earthquakes on the Sumatra Megathrust, from joint inversion of seismic and geodetic data: on the cooperation among seismic asperities: *Nature*, v. 456, p. 631-635.

- Motagh, M., Wang, R., Walter, T.R., Bürgmann, R., Fielding, E.J., Anderssohn, J., and Zschau, J., 2008, 2008, Coseismic slip model of the August 2007 Pisco earthquake (Peru) as constrained by Wide Swath radar observations: *Geophys. J. Int.*, p. 842-848.
- Pritchard, M.E., and Fielding, E.J., 2008, A study of the 2006 and 2007 earthquake sequence of Pisco, Peru, with InSAR and teleseismic data: *Geophys. Res. Lett.*, p. L09308, doi:10.1029/2008GL033374.
- Motagh, M., Walter, T.R., Sharifi, M.A., Fielding, E.J., Schenk, A., Anderssohn, J., and Zschau, J., 2008, 2008, Land subsidence in Iran caused by widespread water-reservoir overexploitation: *Geophys. Res. Lett.*, p. L16403.
- Tralli, D.M., Blom, R.G., Fielding, E.J., Donnellan, A., and Evans, D.L., 2007, Conceptual case for assimilating synthetic aperture radar interferometry data into the HAZUS-MH earthquake module: *IEEE Transactions on Geoscience and Remote Sensing*, v.45, p.1595-1604.
- Pathier, E., Fielding, E.J., Wright, T.J., Walker, R., Parsons, B.E., and Hensley, S., 2006, Displacement field and slip distribution of the 2005 Kashmir earthquake from SAR imagery: *Geophysical Research Letters*, v. 33, p. L20310, doi:10.1029/2006GL027193.
- Li, Z., Fielding, E.J., Cross, P., and Muller, J.-P., 2006, InSAR atmospheric correction GPS Topography-dependent Turbulence Model (GTTM): *Journal of Geophysical Research*, v. 111, p. B02404, doi:10.1029/2005JB003711.
- Johanson, I.A., Fielding, E.J., Rolandone, F., and Bürgmann, R., 2006, Coseismic and postseismic slip of the 2004 Parkfield earthquake from space-geodetic data: *Bulletin of the Seismological Society of America*, v. 96, p. 5269-5282.
- Jackson, J.A., Bouchon, M., Fielding, E.J., Funning, G.J., Ghorashi, M., Hatzfeld, D., Nazari, H., Parsons, B., Priestley, K., Talebian, M., Tatar, M., Walker, R., and Wright, T.J., 2006, Seismotectonic, rupture-process, and earthquake-hazard aspects of the 26 December 2003 Bam, Iran, earthquake: *Geophys J Int*, v. 166, p. 1270-1292.
- Li, Z., Fielding, E.J., Cross, P., and Muller, J.P., 2006, Interferometric synthetic aperture radar atmospheric correction: Medium Resolution Imaging Spectrometer and Advanced Synthetic Aperture Radar integration: *Geophysical Research Letters*, v. 33, p. L06816, doi:10.1029/2005GL025299.
- Fielding, E.J., Talebian, M., Rosen, P.A., Nazari, H., Jackson, J.A., Ghorashi, M., and Berberian, M., 2005, Surface ruptures and building damage of the 2003 Bam, Iran earthquake mapped by satellite synthetic aperture radar interferometric correlation: *Journal of Geophysical Research*, v. 110, no. B3, p. B03302, doi:10.1029/2004JB003299.
- Bennett, E.R., Youngson, J.H., Jackson, J.A., Norris, R.J., Raisbeck, G.M., Yiou, F., and Fielding, E.J., 2005, Growth of South Rough Ridge, central Otago, New Zealand: Using in situ cosmogenic isotopes and geomorphology to study an active, blind reverse fault: *Journal of Geophysical Research*, p. B02404, doi:10.1029/2004JB003184.
- Li, Z., Muller, J.P., Cross, P., and Fielding, E.J., 2005, InSAR atmospheric correction: GPS, MODIS and InSAR integration: *Journal of Geophysical Research*, v. 110, p. B03410, doi:10.1029/2004JB003446.
- Funning, G.J., Parsons, B.E., Wright, T.J., Jackson, J.A., and Fielding, E.J., 2005, Surface displacements and source parameters of the 2003 Bam (Iran) earthquake from Envisat advanced synthetic aperture radar imagery: *Journal of Geophysical Research*, v. 110, p. B09406, doi:10.1029/2004JB003338.

- Wright, T.J., Parsons, B., England, P.C., and Fielding, E.J., 2004, InSAR observations of low slip rates on the major faults of western Tibet: *Science*, v. 305, no. 5681, p. 236-239.
- Fielding, E.J., Wright, T.J., Muller, J., Parsons, B.E., and Walker, R., 2004, Aseismic deformation of a fold-and-thrust belt imaged by synthetic aperture radar interferometry near Shahdad, southeast Iran: *Geology*, v. 32, no. 7, p. 577-580.

***Among earlier papers (see also full publication list):***

- Bürgmann, R., Schmidt, D., Nadeau, R.M., d'Alessio, M., Fielding, E.J., Manaker, D., McEvelly, T.V., and Murray, M.H., 2000, Earthquake Potential Along the Northern Hayward Fault, California: *Science*, v. 289, p. 1178-1182.
- Burbank, D.W., Leland, J., Fielding, E.J., Anderson, R.S., Brozovic, N., Reid, M. and Duncan, C.C., 1996, Fluvial incision, rock uplift, and threshold hillslopes in the northwestern Himalaya, *Nature*, v. 379, p. 505–510.
- Fielding, E. J., Isacks, B. L., Barazangi, M., and Duncan, C.C., 1994, How flat is Tibet?, *Geology*, v. 22, no. 2, p. 163–167.

PERSONAL DATA:

Married, no children.

Date of birth: 12 April 1960