

ROSS S. STEIN  
ross@temblor.net  
1-650-464-0285



119 Scenic Dr, Redwood City, CA 94062

## CURRENT

**CEO & Co-founder, *Temblor, Inc.***, a tech company providing a personal, immediate and credible source of seismic risk understanding and solutions for everyone on earth, through a mobile app and daily blog. Temblor is funded by the NSF.

**Scientist Emeritus, *U.S. Geological Survey***, Menlo Park, CA. Conducts research on earthquake interaction, static and dynamic triggering, and seismic hazards.

**Adjunct Professor of Geophysics, *Stanford University***. Teaching a graduate course to Ph.D. students in the Earth Sciences during the Fall quarter.

**President, *Tectonophysics section of the American Geophysical Union***. AGU is the world's largest geophysical scientific society, with 60,000 members.

**Speaker, 2016 Season, *MPSF Speaker Series***. The largest community lecture series in the United States, with 9,000 subscribers in three S.F. Bay area venues.

## EXPERIENCE

**Geophysicist, *U.S. Geological Survey***, Earthquake Science Center, 1981-2014. Research on earthquake stress-triggering, blind thrust faulting, earthquake deformation, seismic hazard assessment. Funding from *USGS, NASA, FEMA, SCEC, USAID, PG&E, Swiss Re*, and *Zurich Insurance*.

**Co-Founder of the Global Earthquake Model (GEM Foundation)**, a non-profit foundation building an online seismic risk model in five years; 22M€ has been raised from companies and countries; chaired the Science Board during 2009-2014. [www.globalquakemodel.org](http://www.globalquakemodel.org)

**Co-Founder, *Stanford-USGS Graduate Fellowship in the Earth Sciences***. 30 Fellows have been named since 1987, supported by alumni gifts; the endowment is now \$1.5M.

**Visiting Professor, *Institut de Physique du Globe* and *Ecole Normale Supérieure***, Autumn 1989; Spring 1993; and Spring-Summer 1999, and May 2008.

**Editor, *Journal of Geophysical Research—Solid Earth & Planets***, for Geodesy and Tectonophysics, 1986-1989; 250 manuscripts and 12 Associate Editors.

**Chair, Board of Journal Editors, *American Geophysical Union (AGU)***, 2004-2006. Addressed issues common to all AGU journals and adjudicated author-editor disputes.

**Member, Committee on Geodesy (1988-90), Committee on Seismology & Geodynamics (1998-2000), *U.S. National Research Council***; Publications Committee (2002-2006), *AGU*.

**Member, Natural Catastrophe Advisory Council, Zurich Insurance Group**, 2007-present.

## EDUCATION

Columbia University, Lamont Doherty, *Observatory Post-Doctoral Fellow*, 1980/81

Stanford University, *Ph.D.*, Geology, 1980

Brown University, Geology, *Sc.B. Magna Cum Laude* and with Honors, 1975

## HONORS

- Natural Hazards Gilbert F. White Distinguished Lecture Award winner, AGU, 2012.
- TEDx Bermuda talk on 'Defeating Earthquakes', 2012.
- Keynote speaker for Insurance- and Risk-Lined Securities Conference of the Securities Industry and Financial Markets Association (sifma), New York City, 2012
- Keynote speaker for the Presidential Awards for Excellence in Mathematics and Science Teaching, Smithsonian National Museum of Natural History, Washington, 2005
- Delivered the Andrew C. Lawson Public Lecture of U.C. Berkeley, 2004
- Invited articles in *Scientific American*, 'Earthquake Conversations,' 'Hidden Earthquakes'
- Delivered the Frontiers of Geophysics Lecture of the AGU, Fall Meeting, 2001
- Received the Eugene M. Shoemaker Distinguished Achievement Award, USGS, 2000
- Received the Excellence in Outreach Award of the *Southern Calif. Earthquake Center*, 1999
- Received the Superior Service Award of the *U.S. Department of the Interior*, 1999
- Elected Fellow of the *American Geophysical Union*, 1998
- Delivered the Francis Birch Tectonophysics Lecture of the Amer. Geophys. Union, 1996
- Received the NOAA Award for Outstanding Contributions in Geoscience, NGS, 1991
- Elected Fellow of the *Geological Society of America*, 1991
- Centennial Medallion Recipient (for alumni fundraising), *Stanford University*, 1991

## PUBLICATION RECORD

In 2003, the *Science Citation Index* compiled a decade-long earthquake science database, which contains 6,000 papers by 9,000 authors from 750 journals in 100 countries (<http://www.esi-topics.com/earthquakes/index.html>): Stein is the second most cited author in earthquake science, and Stein's papers have the highest average citation rate among all authors. He was tenth most cited during the period, 1900-2010. [<http://www.esi-topics.com/earthquakes/index.html>; Liu et al, A bibliometric study of earthquake research: 1900-2010, *Scientometrics* (2012), doi: 10.1007/s11192-011-0599-z]

## MOST RECENT PUBLICATIONS

Stein, R.S., and M.W. Stirling, Probabilistic seismic hazard assessment in the wake of world disasters: Honing the debate and testing the models, in press, *EOS, Trans. Amer. Geophys. Union*, 2015.

Toda, S. and R.S. Stein, What controls the duration of aftershocks, and why it matters for probabilistic seismic hazard assessment, submitted to *J. Geophys. Res.*, 2015.

Bird, P., D.D. Jackson, Y.Y. Kagan, C. Kreemer, and R.S. Stein, GEAR<sub>1</sub>: a global earthquake activity rate model constructed from geodetic strain rates and smoothed seismicity, submitted to *Bull. Seismol. Soc. Amer.*, 2015.

- Toda, S. and R.S. Stein, 2014 M=6.0 South Napa earthquake triggered widespread aftershocks and stressed several major faults and exotic fault clusters, submitted to *Seismol. Res. Letts.*, 2015.
- Pollitz, F.F., R. Bürgmann, R.S. Stein, and V. Sevilgen, The profound reach of the 11 April 2012 M 8.6 Indian Ocean earthquake: Short-term global triggering followed by a longer-term global shadow, *Bull. Seismol. Soc. Amer.*, 104, doi:10.1785/0120130078, 2014.
- Toda, S., and R.S. Stein, The 2011 M=9.0 Tohoku oki earthquake more than doubled the probability of large shocks beneath Tokyo, *Geophys. Res. Letts.*, 40, 1–5, doi:10.1002/grl.50524, 2013.
- Pollitz, F.F., R.S. Stein, and R. Bürgmann, The 11 April 2012 M=8.6 Indian Ocean earthquake triggered large aftershocks worldwide, *Nature*, Nature, doi: 10.1038/nature11504, 2012.
- Sevilgen, V., R.S. Stein, and F.F. Pollitz, Stress imparted by the great 2004 Sumatra earthquake shut down transforms and activated rifts up to 400 km away in the Andaman Sea, submitted to *Proc Natl Acad Sci USA*, (with animation) 2012.
- Linton, K., and R.S. Stein, QuakeCaster, an earthquake physics demonstration and exploration tool, *Seismol. Res. Letts.*, 83,150-156, doi: 10.1785/gssrl.83.1.150, (with two videos), 2012.
- Toda, S., R.S. Stein, G.C. Beroza, and D. Marsan, Aftershocks halted by static stress shadows, *Nature Geoscience*, 5, doi: 10.1038/ngeo1465, 410-413, 2012. (Subject of a *News & Views* article about the paper, 'Casting stress shadows,' by Andy Freed.)
- Stein, R.S., Comment on “A model of earthquake triggering probabilities and application to dynamic deformations constrained by ground motion observations” by J. Gomberg and K. Felzer, *J. Geophys. Res.*, doi:10.1029/2010JB007990, 2011.
- Richards-Dinger, K., R.S. Stein and S. Toda, Decay of aftershock density with distance does not indicate triggering by dynamic stress, *Nature*, doi: 10.1038/nature09402, 2010.
- Lin, J., R.S. Stein, M. Meghraoui, S. Toda, A. Ayadi, C. Dorbath, A. Belabbes, Stress transfer among en echelon and opposing thrusts and tear faults: Triggering caused by the 2003  $M_w=6.9$  Zemmouri, Algeria, earthquake, *J. Geophys. Res.*, 116, doi:10.1029/2010JB007654, 2011.
- Rollins, J.C., and R.S. Stein, Coulomb stress interactions between the Gorda deformation zone, northern San Andreas Fault, Mendocino Fracture Zone, and Cascadia megathrust, *J. Geophys. Res.*, 115, doi:10.1029/2009JB007117, 2010.
- Lin, J, R.S. Stein, V. Sevilgen, and S. Toda, USGS–WHOI–DPRI Coulomb Stress-Transfer Model for the January 12, 2010,  $M_w=7.0$  Haiti Earthquake, *U.S. Geol. Surv. Open-File Rep. 2010-1019*, 8 pp., 2010.
- Chan, C.-H., and R.S. Stein, Stress evolution following the 1999 Chi-Chi, Taiwan, earthquake: Consequences for afterslip, relaxation, aftershocks, and departures from Omori decay, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2008.04069.x, 2009.
- Toda, S, J. Lin, M. Meghraoui, and R.S. Stein, 12 May 2008 M=7.9 Wenchuan, China, earthquake calculated to increase failure stress and seismicity rate on three major fault systems, *Geophys. Res. Lett.*, 35, L17305, doi: 10.1029/2008GL034903, 2008. The paper is cited in ‘The Sleeping Dragon,’ a 14 May 2009 News Feature article about the earthquake in *Nature*, 459, 153-157). It also is reprinted in Chinese in *Translated World Seismology*, 1, 8-16, 2009.
- Toda, S., R.S. Stein, S.H. Kirby, and S.B. Bozkurt, A slab fragment wedged under Tokyo and its tectonic and seismic implications, *Nature Geoscience*, doi: 10.1038/ngeo318, 2008. Includes a 5-min narrated animation, an online Japanese language summary. Subject of a News and Views article, ‘Seismology: Breaking the Slab,’ by Meghan S. Miller.