Recent publications from team members

Toda, S., and R.S. Stein (2023), The role of stress changes in rupture nucleation and inhibition in the 2023 Kahramanmaras, Türkiye, sequence, and a one-year earthquake forecast, submitted to *Seismol. Res. Letts.*

Toda, S., Stein, R. S., Özbakir, A. D., Gonzalez-Huizar, H., Sevilgen, V., Lotto, G., and Sevilgen, S. (2023), Stress change calculations provide clues to aftershocks in 2023 Türkiye earthquakes, *Temblor*, http://doi.org/10.32858/temblor.295 (1**8,226 unique pageviews**)

Stein, R.S., Toda, S., Özbakir, A. D., Sevilgen, V., Gonzalez-Huizar, H., Lotto, G., Sevilgen, S. (2023), Interactions, stress changes, mysteries, and partial forecasts of the 2023 Kahramanmaraş, Türkiye, earthquakes, *Temblor*, http://doi.org/10.32858/temblor.299 (**8,548 unique pageviews**)

Toda, S., R.S. Stein (2022), Central shutdown and surrounding activation of aftershocks from megathrust earthquake stress transfer, *Nature Geoscience* **15**, 494–500. https://doi.org/10.1038/s41561-022-00954-x (**10 citations**)

Güvercin, S. E., A. Ö. Konca, A. D. Özbakır, S. Ergintav, H. Karabulut (2021), New focal mechanisms reveal fragmentation and active subduction of the Antalya slab in the Eastern Mediterranean, Tectonophysics, 805,228792, https://doi.org/10.1016/j.tecto.2021.228792. (**8 citations**)

Stein, R.S., Toda, S., 2021, Stress analysis shows slight increase in seismic hazard near Zagreb, *Temblor*, http://doi.org/10.32858/temblor.149 **(46,500 unique pageviews)**

Castro, R. R., D. D. Carciumaru, M. Collin, W. Vetel, H. Gonzalez-Huizar, A. Mendoza, A. Pérez-Vertti (2021), Seismicity in the Gulf of California, Mexico, in the period 1901–2018, *J. South Amer. Earth Sci*., *106*, 103087, https://doi.org/10.1016/j.jsames.2020.103087 **(11 citations).**

Toda, S. and R.S. Stein, (2020), Long- and short-term stress interaction of the 2019 Ridgecrest sequence and Coulomb-based earthquake forecasts, *Bull. Seismol. Soc. Am., 110*, 1765-1780, doi: 10.1785/0120200169 **(44 citations).**

Özbakır, A.D., R. Govers, A. Fichtner (2020), The Kefalonia Transform Fault: A STEP fault in the making, *Tectonophysics, 787*, 228471, https://doi.org/10.1016/j.tecto.2020.228471. (**13 citations**)

Lotto, G.C., Jeppson, T.N. and E. M. Dunham (2019), Fully Coupled Simulations of Megathrust Earthquakes and Tsunamis in the Japan Trench, Nankai Trough, and Cascadia Subduction Zone, *Pure Appl. Geophys. 176*, 4009–4041, https://doi.org/10.1007/s00024-018-1990-y (**45 citations**)

Karabulut, H. et al. including A.D. Özbakir (2019), A new crustal model of the Anatolia–Aegean domain: evidence for the dominant role of isostasy in the support of the Anatolian plateau, *Geophys. J. Int.*, 218, 57–73, https://doi.org/10.1093/gji/ggz147 (**35 citations**)

Toda, S. and R.S. Stein (2018), What controls the duration of aftershocks, and why it matters for probabilistic seismic hazard assessment, *Bull. Seismol. Soc. Am., 108*, 1414-1426, doi:10.1785/0120170270 (**21 citations**)

Lotto, G. C., E. M. Dunham, T. N. Jeppson, H. J. Tobin (2017), The effect of compliant prisms on subduction zone earthquakes and tsunamis, *Earth Planet. Sci. Letts., 458*, 213-222, https://doi.org/10.1016/j.epsl.2016.10.050 (**43 citations**)

Lotto, G.C., Nava, G., and E. M. Dunham (2017). Should tsunami simulations include a nonzero initial horizontal velocity?. *Earth Planets Space,* 69, 117, https://doi.org/10.1186/s40623-017-0701-8 (**30 citations**)

Özbakir, A. D., R. Govers, and R. Wortel (2017) Active faults in the Anatolian-Aegean plate boundary region with Nubia, *Turkish J. Earth Sciences*, *26*, https://doi.org/10.3906/yer-1603-4 Available at: https://journals.tubitak.gov.tr/earth/vol26/iss1/2 (**24 citations**)

Bird, P., D.D. Jackson, Y.Y. Kagan, C. Kreemer, and R.S. Stein (2015). GEAR1: A global earthquake activity rate model constructed from geodetic strain rates and smoothed seismicity, *Bull. Seismol. Soc. Am. 105*, 2538–2554 (**76 citations**).

Lotto, G.C., and E. M. Dunham (2015), High-order finite difference modeling of tsunami generation in a compressible ocean from offshore earthquakes. *Comput. Geosci.,* **19**, 327–340, https://doi.org/10.1007/s10596-015-9472-0 (**32 citations**)

Highly-cited publications by team members

King, G.C.P., R.S. Stein, and J. Lin, Static stress changes and the triggering of earthquakes, *Bull. Seismol. Soc. Amer.*, 84, 935-953, 1994 (**2817 citations**)

Stein, R.S., The role of stress transfer in earthquake occurrence, *Nature*, *402*, 605-609, 1999 (**1839 citations**)

Stein, R.S., A.A. Barka, and J.H. Dieterich, Progressive failure on the North Anatolian fault since 1939 by earthquake stress triggering, *Geophys. J. Int.*, *128*, 594-604, 1996 (**1494 citations**)

Lin, J., and R.S. Stein, Stress triggering in thrust and subduction earthquakes, and stress interaction between the southern San Andreas and nearby thrust and strike-slip faults, *J. Geophys. Res*., 109, doi: 10.1029/2003JB002607*,* 2004 (**1019 citations**)

Toda, S., R.S. Stein, K. Richards-Dinger and S. Bozkurt, Forecasting the evolution of seismicity in southern California: Animations built on earthquake stress transfer*, J. Geophys. Res.,* doi:10.1029/2004JB003415, 2005 (**889 citations**)

Toda, S., R.S. Stein, P.A. Reasenberg, J.H. Dieterich, and A. Yoshida, Stress transferred by the 1995 Mw=6.9 Kobe, Japan, shock: Effect on aftershocks and future earthquake probabilities, *J. Geophys. Res.*, *103*, 24,543-24,565, 1998 (**795 citations**)

Stein, R.S., King, G.C.P., and Lin, J., 1992, Change in failure stress on the southern San Andreas fault system caused by the 1992 magnitude=7.4 Landers earthquake, *Science*, 258, 1328-1332 (**743 citations**)

Parsons, T., S. Toda, R.S. Stein, A. Barka, J.H. Dieterich, Heightened odds of large earthquakes near Istanbul: An interaction-based probability calculation, *Science*, *228*, 661-665, 2000 (**667 citations**)

Stein, R.S., G.C.P. King, and J. Lin, Stress Triggering of the 1994 M=6.7 Northridge, California, Earthquake by its Predecessors, *Science*, 265, 1432-1435, 1994 (**465 citations**)

King, G.C.P., Stein, R.S., and Rundle, J.B., 1988, The growth of geological structures by repeated earthquakes, 1: Conceptual framework: *J. Geophys. Res.*, 93, 13307-13318 (**350 citations**)

Toda, S., R.S. Stein and T. Sagiya, Evidence from the 2000 Izu Islands swarm that seismicity is governed by stressing rate, *Nature*, 419, 58-61, 2002 (**370 citations**)

Bawden, G.W., W. Thatcher, R.S. Stein, K. Hudnut, and G. Peltzer, Tectonic contraction across Los Angeles after removal of groundwater pumping effects, *Nature*, 412, pp. 812-815, 2001 (**371 citations**)

Stein, R.S., and Lisowski, M., 1983, The 1979 Homestead Valley earthquake sequence, California: Control of aftershocks and postseismic deformation: *J. Geophys. Res.*, 88, 6477-6490 (**354 citations**)

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 (**298 citations**)

Stein, R.S., King, G.C.P., and Rundle, J.B., 1988, The growth of geological structures by repeated earthquakes, 2: Field examples of continental dip-slip faults: *J. Geophys. Res.*, 93, 13319-13331 (**264 citations**)

Toda, S., R.S. Stein, V. Sevilgen, J. Lin, Coulomb 3.3, graphic-rich deformation and stress change software, application and 40 p. User Guide, *U.S. Geol. Surv. Open File Rep.* 2011-1060, 2011 (**332 citations**)

Stein, R.S., and King, G.C.P., 1984, Seismic potential revealed by surface folding: The 1983 Coalinga, California, earthquake: *Science*, 224, 869-872 (**268 citations**)

Stein, R.S., and Yeats, R.S., 1989, Hidden earthquakes: *Scientific American*, 260 (6), 48-59 (**238 citations**)

Parsons, T., R.S. Stein, R.W. Simpson, and P.A. Reasenberg, Stress sensitivity of fault seismicity: a comparison between limited-offset thrust and major strike-slip faults, *J. Geophys. Res.*, 104, 20,183-20,202, 1999 (**268 citations**)

Toda, S., and R.S. Stein, Response of the San Andreas fault to the 1983 Coalinga-Nuñez Earthquakes: An application of interaction-based probabilities for Parkfield, *J. Geophys. Res*., *107*, 10.1029/2001JB000172, 2002 (**220 citations**)

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Toda, S., R.S. Stein, Toggling of seismicity by the 1997 Kagoshima earthquake couplet: A demonstration of time-dependent stress transfer, *J. Geophys. Res*., 108, doi: 10.1029/2003JB002527, 2003 (**180 citations**)

Nostro, C., R.S. Stein, M. Cocco, and M.E. Belardinelli, Two-way coupling between Vesuvius eruptions and southern Apennine earthquakes (Italy) by elastic stress transfer, *J. Geophys. Res.*, *103*, 24,487-24,504, 1998 (**194 citations**)

Pollitz, F.F., R.S. Stein, V. Sevilgen, R. Bürgmann, 2012, The 11 April 2012 M=8.6 East Indian Ocean earthquake triggered large aftershocks worldwide, *Nature*, doi: 10.1038/nature11504 (**174 citations**)

Toda, S., R.S. Stein, and J. Lin, Widespread seismicity excitation throughout central Japan following the 2011 M=9.0 Tohoku earthquake, and its interpretation in terms of Coulomb stress transfer, *Geophys. Res. Letts.*, *38*, doi:10.1029/2011GL047834, 2011 (**173 citations**)

Stein, R.S., and Ekström, G., 1992, Seismicity and geometry of a 110-km-long blind thrust fault, 2, Synthesis of the 1982-1985 California earthquake sequence, *J. Geophys. Res.*, 97, 4865-4883 (**163 citations**)

Gonzalez-Huizar, H., Velasco, A. A., Peng, Z., and Castro, R. R. (2012), Remote triggered seismicity caused by the 2011, M9.0 Tohoku-Oki, Japan earthquake, *Geophys. Res. Lett.*, 39, L10302, doi:10.1029/2012GL051015. **(113 citations)**

Chao, K., Z. Peng, H. Gonzalez-Huizar, C. Aiken, B. Enescu, H. Kao, A. A. Velasco, K. Obara, T. Matsuzawa (2013), A Global Search for Triggered Tremor Following the 2011 M_w 9.0 Tohoku

Earthquake, *Bull. Seismol. Soc. Amer.*, *103*, 1551–1571. doi: https://doi.org/10.1785/0120120171 **(90 citations)**

Gonzalez-Huizar, H., and Velasco, A. A. (2011), Dynamic triggering: Stress modeling and a case study, *J. Geophys. Res.*, 116, B02304, doi:10.1029/2009JB007000. **(64 citations)**

Sevilgen, V., R. S. Stein, and F. F. Pollitz (2012), Stress imparted by the great 2004 Sumatra earthquake shut down transforms and activated rifts up to 400 km away in the Andaman Sea, *Proc. Nat. Acad. Sci., 109*, 15152-15156, https://doi.org/10.1073/pnas.120879910 (**35 citations**)

Peng, Z., H. Gonzalez-Huizar, K. Chao, C. Aiken, B. Moreno, G. Armstrong (2013), Tectonic tremor beneath Cuba triggered by the M_w 8.8 Maule and M_w 9.0 Tohoku-Oki earthquakes, *Bull. Seismol. Soc. Amer.*, 103, 595–600, https://doi.org/10.1785/0120120253 **(31 citations)**