

# Curriculum Vitae

## Fan-Chi Lin

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Geology and Geophysics  
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Citizenship: Taiwan  
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### Research Interests

Ambient noise seismology; seismic surface waves; seismic tomography; crust and upper mantle structure; wave propagation; seismic anisotropy; seismic attenuation; surface wave amplification; density tomography.

### Education

2005 to 2009            Ph.D. University of Colorado at Boulder, USA.  
**Advisor:** Michael Ritzwoller

2003 – 2005            M.S. Drexel University, USA.  
**Advisor:** Guoliang Yang and Steve McMillan

1996 – 2000            B.S. National Tsing Hua University, Taiwan.

### Positions Held

2013 –            Assistant Professor, Department of Geology and Geophysics, The University of Utah.

2011 – 2013 Post Doctoral Scholar, Seismological Laboratory, California Institute of Technology.

2009 – 2011 Research Associate, Department of Physics, University of Colorado at Boulder.

2006 – 2009 Research Assistant, Department of Physics, University of Colorado at Boulder.

2005 – 2006 Teaching Assistant, Department of Physics, University of Colorado at Boulder.

2004 – 2005 Research Assistant, Department of Physics, Drexel University.

2003 – 2004 Teaching Assistant, Department of Physics, Drexel University.

2002 – 2003 Research Assistant, Institute of Molecular Biology, Academia Sinica, Taiwan.

### Honors and Awards

SSA Charles F. Richter Early Career Award, 2015.

Director's Post Doc Fellowship, Seismological Laboratory, Caltech, 2011.

AGU Fall Meeting Outstanding Student Paper Award 2009.  
*Geophysical Journal International* Student Author Award 2008.  
SEG Denver Geophysical Society Scholarship 2008-2009  
SEG GSH/Charlie & Jean Smith Scholarship 2008-2009

### **Professional Services**

Convener and Chair for Seismology Special Session, WPGM 2010.  
Liaison and Judge for AGU Outstanding Student Paper Award.  
Peer reviewer for journals (GJI, GRL, JGR, BSSA, EPSL, Geology, and Science Advances) and NSF proposals.  
Member of Transportable Array Advisory Committee (TAAC).  
SEG Student Chapter Faculty Advisor.  
Committee Member of 2015 National EarthScope Meeting.  
2015-2016 EarthScope Speaker Series.

**Publications** (PDF files and an up-to-date list available at <http://noise.earth.utah.edu/>)

34. AlTheyab, A., **F.C. Lin**, G.T. Schuster, Imaging Near-surface Heterogeneities by Natural Migration of Back-scattered Surface Waves, submitted
33. Huang, H.H., **F.C. Lin**, B. Schmandt, J. Farrell, R.B. Smith, and V.C. Tsai, The Yellowstone magmatic system from the mantle plume to the upper crust, *Science*, DOI:10.1126/science.aaa5648, 2015
32. **Lin, F.C.**, M.D. Kohler, and D.S. Weeraratne, March 11, 2011 Tohoku tsunami wavefront mapping across offshore southern California, *JGR*, 120, 3350–3362. doi: 10.1002/2014JB011524, 2015
31. Bowden, D.C., V.C. Tsai, **F.C. Lin**, Site Amplification, Attenuation and Scattering from Noise Correlation Amplitudes Across a Dense Array in Long Beach, *Geophys. Res. Lett.*, 42: 1360–1367. doi: 10.1002/2014GL062662, 2015
30. Ball, J.S., A.F. Sheehan, J.C. Stachnik, **F.C. Lin**, J.A. Collins, A Joint Monte Carlo Analysis of Seafloor Compliance, Rayleigh Wave Dispersion and Receiver Functions at Ocean Bottom Seismic Stations offshore New Zealand, *Geochem., Geophys., Geosys.*, 15, 5051–5068, doi:10.1002/2014GC005412, 2014
29. **Lin, F.C.** and B. Schmandt, Upper crustal azimuthal anisotropy across the contiguous US determined by Rayleigh wave ellipticity, *Geophys. Res. Lett.*, 41, doi:10.1002/2014GL062362, 2014
28. Schmandt, B. and **F.C. Lin**, P- and S-wave tomography of the mantle beneath the United States, *Geophys. Res. Lett.*, 41, doi:10.1002/2014GL061231, 2014
27. Yu, H., B. Guo, S. Hanafy, **F.C. Lin**, G.T. Schuster, Direct detection of near-surface faults by migration of back-scattered surface waves. SEG Technical Program Expanded Abstracts 2014: pp. 2135-2139. doi: 10.1190/segam2014-0737.1, 2014
26. **Lin, F.C.**, V.C. Tsai, and B. Schmandt, 3-D crustal structure of the western United States: application of Rayleigh-wave ellipticity extracted from noise cross-correlations, *Geophys. J. Int.*, doi: 10.1093/gji/ggu160, 2014

25. Kao, H., Y. Behr, C. Currie, R. Hyndman, J. Townend, **F.-C. Lin**, M.H. Ritzwoller, S.-J. Shan, and J. He, Ambient seismic noise tomography of Canada and adjacent regions: Part I Crustal structures, *J. Geophys. Res.*, 118, 5865-5887, doi:10.1002/2013JB010535, 2013
24. **Lin, F.C.** and V.C. Tsai, Seismic Interferometry with Antipodal Station Pairs, *Geophys. Res. Letts*, 40, doi:10.1002/grl.50907, 2013.
23. **Lin, F.C.**, D. Li, R. W. Clayton, and D. Hollis, High-resolution 3D shallow crustal structure in Long Beach, California: Application of ambient noise tomography on a dense seismic array, *Geophysics*, 78(4), Q45-Q56, doi:10.1190/geo2012-0453.1, 2013.
22. Savage, M.K., **F.C. Lin**, and J. Townend, Ambient noise cross-correlation observations of fundamental and higher-mode Rayleigh wave propagation governed by basement resonance, *Geophys. Res. Letts.*, 40, doi:10.1002/grl.50678, 2013.
21. **Lin, F.**, V.C. Tsai, B. Schmandt, Z. Duputel, and Z. Zhan, Extracting Seismic Core Phases with Array Interferometry, *Geophys. Res. Letts.*, 40, doi:10.1002/grl.50237, 2013.
20. Shen, W., M.H. Ritzwoller, V. Schulte-Pelkum, and **F. Lin**, Joint inversion of surface wave dispersion and receiver functions: A Bayesian Monte-Carlo approach, *Geophys. J. Int.*, 192(2), 807-836, doi: 10.1093/gji/ggs050, 2013.
19. **Lin, F.**, D. Li, R. W. Clayton, and D. Hollis, Interferometry with a dense 3D dataset, SEG 2012 Extended Abstract, 2012.
18. **Lin, F.**, B. Schmandt, and V.C. Tsai, Joint inversion of Rayleigh wave phase velocity and ellipticity using USArray: constraining velocity and density structure in the upper crust, *Geophys. Res. Letts.*, 39, L12303, doi:10.1029/2012GL052196, 2012.
17. **Lin, F.**, V. Tsai, and M.H. Ritzwoller, The local amplification of surface waves: A new observable to constrain elastic velocities, density, and anelastic attenuation, *J. Geophys. Res.*, 117, B06302, doi:10.1029/2012JB009208, 2012.
16. **Lin, F.** and M.H. Ritzwoller, Apparent anisotropy in inhomogeneous isotropic media, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2011.05100.x, 2011.
15. Ritzwoller, M.H., **F. Lin**, and W. Shen, Ambient noise tomography with a large continental seismic array, *Compte Rendus Geoscience*, doi:10.1016/j.crte.2011.03.007, 2011.
14. **Lin, F.** and M.H. Ritzwoller, Helmholtz surface wave tomography for isotropic and azimuthally anisotropic structure, *Geophys. J. Int.*, 186, doi: 10.1111/j.1365-246X.2011.05070.x, 2011.
13. **Lin, F.**, M.H. Ritzwoller, and W. Shen, On the reliability of attenuation measurements from ambient noise crosscorrelations, *Geophys. Res. Letts.*, 38, L11303, doi:10.1029/2011GL047366, 2011.
12. **Lin, F.**, M.H. Ritzwoller, Y. Yang, M.P. Moschetti, and M.J. Fouch, Complex and variable crustal and uppermost mantle seismic anisotropy in the western United States, *Nature Geoscience*, 4, 55-61, doi:10.1038/ngeo1036, 2011.

11. Moschetti, M. P., M. H. Ritzwoller, **F. Lin**, and Y. Yang, Crustal shear wave velocity structure of the western United States inferred from ambient seismic noise and earthquake data, *J. Geophys. Res.*, 115, B10306, doi:10.1029/2010JB007448, 2010.
10. **Lin, F.** and M.H. Ritzwoller, Empirically determined finite frequency sensitivity kernels for surface waves, *Geophys. J. Int.*, 182, 923-932, doi: 10.1111/j.1365-246X.2010.04643.x, 2010.
9. Moschetti, M.P., M.H. Ritzwoller, **F. Lin**, and Y. Yang, Seismic evidence for widespread crustal deformation caused by extension in the western USA, *Nature*, 464, Number 7290, 885-889, 8 April 2010.
8. **Lin, F.**, M.H. Ritzwoller, and R. Snieder, Eikonal Tomography: Surface wave tomography by phase-front tracking across a regional broad-band seismic array, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2009.04105.x, 2009.
7. Yang, Y., M. H. Ritzwoller, **F. Lin**, M. P. Moschetti, and N. M. Shapiro, Structure of the crust and uppermost mantle beneath the western United States revealed by ambient noise and earthquake tomography, *J. Geophys. Res.*, 113, B12310, doi:10.1029/2008JB005833, 2008.
6. **Lin, F.**, M.P. Moschetti, and M.H. Ritzwoller, Surface wave tomography of the western United States from ambient seismic noise: Rayleigh and Love wave phase velocity maps, *Geophys. J. Int.*, doi:10.1111/j1365-246X.2008.03720.x, 2008.
5. **Lin, F.**, M.H. Ritzwoller, J. Townend, M. Savage, S. Bannister, Ambient noise Rayleigh wave tomography of New Zealand, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2007.03414.x, 2007.
4. Bensen, G.D., M.H. Ritzwoller, M.P. Barmin, A.L. Levshin, **F. Lin**, M.P. Moschetti, N.M. Shapiro, and Y. Yang, Processing seismic ambient noise data to obtain reliable broad-band surface wave dispersion measurements, *Geophys. J. Int.*, 169, 1239-1260, doi: 10.1111/j.1365-246X.2007.03374.x, 2007.
3. **Lin, F.**, M. H. Ritzwoller, and N. M. Shapiro, Is ambient noise tomography across ocean basins possible?, *Geophys. Res. Lett.*, 33, L14304, doi:10.1029/2006GL026610, 2006.
2. Yang, Y., **F. Lin** and G. Yang, A temperature control device for single molecule measurements using the AFM, *Rev. Sci. Instrum.*, 77, 063701(1-5), 2006.
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