

Hongfeng Yang

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Education

Ph.D. (Seismology), Saint Louis University, 2010

M.S. (Geophysics), University of Science and Technology of China, 2004

B.S., University of Science and Technology of China, 2000

Professional Experience

- Postdoctoral Investigator

2010-present, Woods Hole Oceanographic Institution (WHOI):

Earthquake physics and rupture dynamics; Crustal deformation; Seamount subduction and megathrust earthquakes; Slow-slip events and non-volcanic tremors

- Research Assistant

2005-2010, Saint Louis University (SLU):

Earthquake detection, location, and focal mechanisms; Low velocity fault zones; Seismic waveform and travel time modeling

2000-2004, University of Science and Technology of China (USTC):

Experimental study of rock mechanics

- Teaching Assistant

2005-2009, Saint Louis University:

Seismology and nuclear explosions; Groundwater hydrology; Introduction to seismology

2000-2003, University of Science and Technology of China:

Digital signal processing; Laser sniper experiment

Publications

1. H. Yang, Y. Liu, and J. Lin, Effects of subducted seamounts on megathrust earthquakes and rupture propagation, *Geology*, under review, 2012
2. H. Yang, L. Zhu, and E. S. Cochran, Seismic structures of the Calico fault zone inferred from local earthquake travel time modeling, *Geophys. J. Int.*, 186(2), 760-770, doi: 10.1111/j.1365-246X.2011.05055.x, 2011
3. H. Yang, and L. Zhu, Shallow low-velocity zone of the San Jacinto fault from local earthquake waveform modeling, *Geophys. J. Int.*, 183(1), 421-432, doi: 10.1111/j.1365-246X.2010.04744.x, 2010
4. H. Yang, Study of earthquake fault zone structures by aftershock location and high-frequency waveform modeling, Ph.D Dissertation, Saint Louis University, 2010
5. H. Yang, L. Zhu, and R. Chu, Fault-Plane Determination of the 18 April 2008 Mt. Carmel, Illinois, Earthquake by Detecting and Relocating Aftershocks, *Bull. of Seismol. Soc. Am.*, 99(6), 3413-3420, doi: 10.1785/0120090038, 2009

6. H. Li, L. Zhu, and H. Yang, High-resolution structures of the Landers fault zone inferred from aftershock waveform data, *Geophys. J. Int.*, 171(3), 1295-1307, doi:10.1111/j.1365-246X.2007.03608.x, 2007
7. W. Xiao, J. Ren, F. Qi, Z. Song, M. Zhu, H. Yang, H. Jin, B. Wang, T. Zhou, Empirical study on clique-degree distribution of networks, *Phys. Rev. E*, 76(3), 037102 p1-4, doi:10.1103/PhysRevE.76.037102, 2007
8. H. Yang and X. Shi, Experimental research on wave velocity of sandstones under axial pressure. *Progress in Geophysics*, in Chinese, 19(2), 481–485, 2004.
9. H. Yang, Experimental study of viscoelasticity and wave velocity of rocks. Master Thesis, in Chinese, University of Science and Technology of China, 2003
10. S. Li, X. Shi, B. Wang, L. Ye, D. Sun, D. Wen, and H. Yang, Analyzing characters of formation attenuation on seismic records, *Oil Geophys. Prospecting*, in Chinese, 37(3), 248–253, 2002.

Current and Pending Grants

- Modeling rupture segmentation on the Cascadia megathrust, *H. Yang, J. McGuire, and Y. Liu*, US Geological Survey, under review
- Pilot Investigation of the Effects of Subducted Seamount on Megathrust Earthquakes, *H. Yang, Y. Liu, and J. Lin*, 9/15/2011–9/14/2012, WHOI Deep Ocean Exploration Institute award, 60,000\$

Honors and Awards

- Poster Presentation Prize: 1st place, 2010; 3rd place, 2008; 2nd place, 2007, in Graduate Research Symposium, SLU
- Travel Grant Awardee: SEG meeting, 2009 and 2008; SSA annual meeting, 2009
- Outstanding Student Fellowship, USTC, 1998–2000

Synergistic Activities and Professional Societies

- Member: AGU, SSA, SCEC
- Journal reviewer: BSSA, EPSL, GRL, JGR, PAGEO, SRL, SGEG
- Session convener and/or chair:
 - 2012, Subducted Seamount and Earthquakes, SSA annual meeting, San Diego, US
 - 2012, Evolution and Mechanics of Continental and Oceanic Lithosphere, Deep Sea and Earth System Science Meeting, Shanghai, China
 - 2007, High-Resolution Imaging of Active Fault Zone Structures, AGU Fall Meeting

Field Work and Sea Experience

- R/V Wecoma, Broad band Ocean Bottom Seismograph recovery cruise on Cascadia margin, June 2011
- Field deployment of Trillium 40 and 120, CMG 3T broad band seismometers, and Taurus and RefTek 130 data acquisition systems, China, May 2010

Technical Skills

- Computer Languages: C, Fortran, Perl, Matlab, HTML, and Shell scripts
- Numerical modeling: Finite Element Tool, Pylith; Mesher, Cubit; Boundary Integral Code of Rate and State Friction
- Seismic Data Processing: SAC/GSAC, Antelope, Matlab
- Others: Latex, Office, Generic Mapping Tools, Origin

Recent Invited Talks

- Effects of subducted seamounts on megathrust earthquakes and rupture propagation, Scripps, UCSD, April 2012
- Effects of subducted seamounts on megathrust earthquakes, Geochemistry and Geophysics seminar, WHOI; EAPS FISH seminar, MIT, October 2011
- Cascadia subduction zone earthquake modeling, Geology and Geophysics Department meeting seminar, WHOI, March 2011
- Seismic structures of crustal fault zones inferred from aftershock waveform data, Geology and Geophysics Department seminar, WHOI; Geology and Geophysics Department seminar, University of Utah, June 2010
- Determination of crustal fault zone structures from aftershock waveform data, Seismo-Lab seminar, Caltech, March 2010
- Fault-plane determination of the 2008 Mt. Carmel, Illinois earthquake, Geophysics seminar, Lawrence Livermore National Laboratory, February 2010

Selected Conference Presentations

1. H. Yang, Y. Liu, and J. Lin, Effects of subducted seamount on megathrust earthquakes and rupture propagation, *SRL* 83, San Diego, CA, 2012
2. H. Yang, Y. Liu, and J. Lin, Effects of subducted seamount on megathrust earthquakes and rupture propagation, poster presentation at *Cascadia Workshop*, Portland, OR, 2012
3. H. Yang, Y. Liu, and J. Lin, Effects of subducted seamount on interplate coupling and earthquakes, *Eos Trans. AGU*, 92(52):Fall Meeting Suppl., Abstract T23C-2402, 2011
4. H. Yang and L. Zhu, Depth extent of low-velocity fault zones, *Eos Trans. AGU*, 91(52):Fall Meeting Suppl., Abstract T33B-2250, 2010
5. H. Yang, L. Zhu, E. S. Cochran, Calico fault zone structures inferred from local earthquake travel time modeling, poster presentation at *IRIS* workshop, Snowbird, UT, 2010
6. H. Yang, L. Zhu, E. S. Cochran, Calico fault zone structures inferred from local earthquake travel time and waveform modeling, *Eos Trans. AGU*, 90(52):Fall Meeting Suppl., Abstract T53B-1579, 2009
7. H. Yang, L. Zhu, and R. Chu, Determination of the fault plane of the April 18, 2008 Illinois earthquake by detecting and relocating aftershocks, *SRL* 80(2), 302, Oral presentation at SSA annual meeting, Monterey, CA, 2009

8. H. Yang, R. Chu, and L. Zhu, Determination of fault plane and rupture direction of the April 18 2008 earthquake, Mt. Carmel, Illinois, *Eos Trans. AGU*, 89(53):Fall Meeting Suppl., Abstract S42A-01, 2008
9. L. Zhu and H. Yang, San Jacinto fault zone structures from earthquake relocation and waveform modeling, *Eos Trans. AGU*, 89(53):Fall Meeting Suppl., Abstract S23C-07, 2008
10. J. Li, B. Chen, V. Cormier, L. Gao, D. Gubbins, S. Kharlamova, K. He, and H. Yang, “Snowing” Core in Earth? *Eos Trans. AGU*, 89(53):Fall Meeting Suppl., Abstract GP34A-01, 2008. Invited talk.
11. H. Yang, B. Chen, V. Cormier, S. Dou, G. Euler, L. Gao, D. Gubbins, K. He, S. Kharlamova., J. Li, Lowermost outer core and the Inner core boundary, *CIDER Workshop*, Santa Barbara, CA. Oral presentation, 2008
12. H. Yang, R. Chu, and L. Zhu, Determination of fault plane and rupture directivity of the April 2008 M5.2 Mt. Carmel earthquake, Illinois, using double difference relocation and source time function estimation techniques, poster presentation at *IRIS* workshop, Stevenson, WA, 2008
13. H. Yang and L. Zhu, San Jacinto fault zone structure from body waveforms of local earthquakes, *Eos Trans. AGU*, 88(52):Fall Meeting Suppl., Abstract T51C-0685, 2007
14. H. Yang and L. Zhu, High resolution earthquake relocation using teleseismic waveforms in Izmir, western Turkey. *Eos Trans. AGU*, 87(52):Fall Meeting Suppl., Abstract S41C-1346, 2006
15. S. Li, X. Shi, L. Ye, D. Sun, H. Yang, and D. Wen, Effects of pore fluid exchange on rock physical properties, P641.136, *China Geophysics Annual Meeting*, 2002