

34 Dr. Lanbo Liu



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Education

PhD Stanford University, 1993

Research Interests

Near-surface and Subsurface imaging through geophysical (seismic, acoustic, electric, and radar) surveys for engineering and environmental purposes

Modeling wave propagation through finite difference and finite element methods

Battlefield environment and unattended ground sensor network

Geophysical detection of fluid flow in fractured rocks

Major Publications

Lanbo, L., Shengli, Z., Jun - Hong, C. (2008). Prospects and problems of wireless communication for underwater sensor networks. *Wireless Communications & Mobile Computing*, 8(8), 977-994.

Liu, L., Zoback, M. D. (1992). The effect of topography on the state of stress in the crust-application to the site of the cajon pass scientific drilling project. *Applied Catalysis A*, 97(B4), 5095-5108.

Liu, L., Zoback, M. D. (1997). Lithospheric strength and intraplate seismicity in the new madrid seismic zone. *Tectonics*, 16(4), 585-595.

Liu, L., Segall, P. (1992). Rapid intraplate strain accumulation in the new madrid seismic zone. *Science*, 257(5077), 1666-9.

Liu, L., Lane, J. W., Quan, Y. (1998). Radar attenuation tomography using the centroid frequency downshift method. *Journal of Applied Geophysics*, 40(1), 105-116.

Liu, L., Liu, Z., Barrowes, B. E. (2011). Through-wall bio-radiolocation with uwb impulse radar: observation, simulation and signal extraction. *IEEE Journal of Selected Topics in Applied Earth Observations & Remote Sensing*, 4(4), 791-798.

Liu, L., Li, Y. (2001). Identification of liquefaction and deformation features using ground penetrating radar in the new madrid seismic zone, usa. *Journal of Applied Geophysics*, 47(3-4), 199-215.

Li, J., Liu, L., Zeng, Z., Liu, F. (2014). Advanced signal processing for vital sign extraction with applications in uwb radar detection of trapped victims in complex environments. *IEEE Journal of Selected Topics in Applied Earth Observations & Remote Sensing*, 7(3), 783-791.

Liu, L., Guo, T. (2005). Seismic non-destructive testing on a reinforced concrete bridge column using tomographic imaging techniques. *Journal of Geophysics & Engineering*, 2(1), 23-31.

Liu, L., He, K., Xie, X., Du, J. (2007). Image enhancement with wave-equation redatuming: application to gpr data collected at public transportation sites. *Journal of Geophysics &*

- Engineering*, 4(2), 139-147.
- Liu, L., Arcone, S. A. (2004). Propagation of radar pulses from a horizontal dipole in variable dielectric ground: a numerical approach. *Subsurface Sensing Technologies & Applications*, 6(1), 5-24.
- Liu, L., Liu, Z., Xie, H., Barrowes, B., Bagtzoglou, A. C. (2014). Numerical simulation of uwb impulse radar vital sign detection at an earthquake disaster site. *Ad Hoc Networks*, 13(1), 34-41.
- Liu, L., He, K. (2007). Wave interferometry applied to borehole radar: virtual multioffset reflection profiling. *Geoscience & Remote Sensing IEEE Transactions on*, 45(8), 2554-2559.
- Liu, L., Albert, D. G., Wilson, D. K. (2007). The effect of changing scatterer positions on acoustic time-reversal refocusing in a 2d urban environment at low frequencies. *Journal of Geophysics & Engineering*, 4(3), 276-284.
- Lanbo Liu, Hao Xie, Donald G. Albert, Paul r. Eller, Jingru C. Cheng. (2012). A scenario study for improving cost-effectiveness in acoustic time-reversal source relocation in an urban environment. *Journal of Computational Acoustics*, 20(2), 100-107.
- Liu, L., Zhu, L. (2004). GPR signal analysis: can we get deep-penetration and high-resolution simultaneously?. *Tenth International Conference on Ground Penetrating Radar* (Vol.46, pp.263-265). IEEE.
- Liu, L., He, K., Wang, L. V. (2007). Transcranial ultrasonic wave propagation simulation: skull insertion loss and recovery. *Proc Spie*, 64370X-64370X-6.
- Liu, L., Chen, Q. F., Wang, W., Rohrbach, E. (2014). Ambient noise as the new source for urban engineering seismology and earthquake engineering: a case study from beijing metropolitan area. *Earthquake Science*, 27(1), 89-100.
- Li, C., Dosso, S. E., Dong, H., Liu, L., Yu, D. (2011). Bayesian inversion of seabed interface-wave dispersion from ambient noise. *Journal of the Acoustical Society of America*, 130(4), 2390-2390.