

## NSF Biographical Sketch of John N. Louie

Seismological Laboratory 0174, Mackay School of Earth Sciences and Engineering  
College of Science, University of Nevada, Reno, NV 89557-0174  
Office: (775) 784-4219; Fax: (775) 784-4165; Cell: (775) 229-3835  
louie@seismo.unr.edu; <http://crack.seismo.unr.edu/louie>

### (a) Professional Preparation

Occidental College, Los Angeles, Calif.	Geophysics	B.A. 1982
California Institute of Technology, Pasadena, Calif.	Geophysics	M.S. 1983
California Institute of Technology, Pasadena, Calif.	Geophysics	Ph.D. 1987

### (b) Appointments

**Professor of Geophysics**, Nevada Seismological Lab. and Dept. Geological Sciences and Engineering, University of Nevada, Reno; 6/2006 to present. Responsibilities: undergraduate and graduate instruction; supervision of graduate degree candidates; conduct geophysical research.

**Associate Director**, Nevada Seismological Laboratory, University of Nevada, Reno; 1/2007-6/2008. Responsibilities: facilitate research and service at the Laboratory; day-to-day personnel and fiscal management; annual performance review of all faculty and staff; strategic planning.

**Fulbright Senior Scholar**, Fulbright New Zealand with the Victoria Univ. of Wellington and GNS Science; 2/2006-7/2006. Responsibilities: facilitate international collaboration in earthquake-scenario modeling and crustal imaging.

**Associate Professor of Geophysics**, Nevada Seismological Lab. and Dept. Geological Sciences and Engineering, University of Nevada, Reno; 1/1992-6/2006.

**Assistant Professor of Geosciences**, Dept. of Geosciences, The Pennsylvania State University, University Park, Penna.; 9/1987 to 1/1992.

**Assistant Scientist**, Seismological Lab., California Institute of Technology; 5/1987-8/1987.

Louie students advised for the works below marked with “\*”.

### (c.i) Closely Related Publications

A. Pancha, S. Pullammanappallil, J. N. **Louie**, and P. H. Cashman, J. H. Trexler, 2017b *in press*, Determination of 3D basin shear-wave velocity structure using ambient noise in an urban environment: A case study from Reno, Nevada: *Bulletin of the Seismological Society of America*, **107**, 19 pp. (7.3 Mb preprint at: [crack.seismo.unr.edu/ftp/pub/louie/papers/Pancha-WReno-DeepReMi-Final\\_Manuscript.pdf](http://crack.seismo.unr.edu/ftp/pub/louie/papers/Pancha-WReno-DeepReMi-Final_Manuscript.pdf))

A. Pancha, S. K. Pullammanappallil, L. T. West\*, J. N. **Louie**, and W. K. Hellmer, 2017a, Large scale earthquake hazard class mapping by parcel in Las Vegas Valley, Nevada: *Bulletin of the Seismological Society of America*, **107**, no. 2 (April), 741-749, doi: 10.1785/0120160300.

- J. **Louie**, G. Schmauder\*, G. Kent, K. Smith, K. McBean\*, A. McBean\*, K. Gray\*, and K. Hall\*, 2016, Chapter 45: Simulation of scenario-earthquake shaking in the Lake Tahoe basin - a comparison between ShakeMap and Nevada ShakeZoning: *in* R. Anderson and H. Ferriz, Eds., *Applied Geology in California*, Assoc. of Engineering and Environmental Geologists Special Publication **26**, Star Publishing Company, Belmont, Calif., 897-925, ISBN 978-0-89863-399-3. (20 Mb preprint with high-res figures at: [crack.seismo.unr.edu/ma/Tahoe/Louie-TahoeShaking-rev-highres-figs.pdf](http://crack.seismo.unr.edu/ma/Tahoe/Louie-TahoeShaking-rev-highres-figs.pdf))
- K. Basler-Reeder\*, J. **Louie**, S. Pullammanappallil, and G. M. Kent, 2016, Joint optimization of vertical component gravity and P-wave first arrivals by simulated annealing: *Geophysics*, **81**, ID59-ID71, DOI: 10.1190/geo20150643.1.
- R. E. Abbott\*, J. N. **Louie**, S. J. Caskey, and S. Pullammanappallil, 2001, Geophysical confirmation of low-angle normal slip on the historically active Dixie Valley fault, Nevada: *Jour. Geophys. Res.*, **106**, 4169-4181.

#### (c.ii) Other Significant Publications

- T. A. Stern, S. H. Henrys, D. A. Okaya, J. **Louie**, M. K. Savage, S. H. Lamb, H. Sato, R. Sutherland, and T. Iwasaki, 2015, A seismic reflection image for the base of a tectonic plate: *Nature*, **518** (5 Feb.), 85-88, doi:10.1038/nature14146.
- B. A. Flinchum\*, J. N. **Louie**, K. D. Smith, W. H. Savran\*, S. K. Pullammanappallil, and A. Pancha, 2014, Validating Nevada ShakeZoning predictions of Las Vegas basin response against 1992 Little Skull Mtn. earthquake records: *Bull. Seismol. Soc. Amer.*, **104**, 439-450; doi: 10.1785/0120130059. (12.4 Mb preprint with color figures at [crack.seismo.unr.edu/NSZ/validation/Flinchum-et-al-BSSA-preprint-color.pdf](http://crack.seismo.unr.edu/NSZ/validation/Flinchum-et-al-BSSA-preprint-color.pdf))
- W. J. Stephenson, R. N. Frary\*, J. N. **Louie**, and J. K. Odum, 2013, Quaternary extensional growth folding beneath Reno, Nevada, imaged by urban seismic profiling: *Bull. Seismol. Soc. Amer.*, **103**, doi: 10.1785/0120120311, 2921-2927.
- S. Shani-Kadmiel\*, M. Tsesarsky, J. N. **Louie**, and Z. Gvirtzman, 2012, Simulation of seismic-wave propagation through geometrically complex basins: The Dead Sea basin: *Bull. Seismol. Soc. Amer.*, **102**, 1729-1739, doi: 10.1785/0120110254.
- J. N. **Louie**, S. Chavez-Perez\*, S. Henrys, and S. Bannister, 2002, Multimode migration of scattered and converted waves for the structure of the Hikurangi slab interface, New Zealand: *Tectonophysics*, **355** (1-4), 227-246.

#### (d) Synergistic Activities

1. Maintaining the *JRG* software, an open-source seismic processing package: [crack.seismo.unr.edu/jrg](http://crack.seismo.unr.edu/jrg)
2. Maintaining the *Nevada ShakeZoning* software, open-source community seismic modeling environment: [crack.seismo.unr.edu/NSZ](http://crack.seismo.unr.edu/NSZ)
3. *Standing Committee Chair, Education and Public Outreach*, Incorporated Research Institutions for Seismology (IRIS), since 2017, committee member since 2015.
4. *Associate Editor* for the Electronic Seismologist column, *Seismological Research Letters*, 2010-2013.
5. *General Chair* for the 2012 Society of Exploration Geophysicists Annual Meeting, Las Vegas, Nevada, 2011-2012.