

JING ZHU

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EDUCATION

2016 Ph.D. (expected) Tufts University, Civil and Environmental Engineering
2011 M.S. University of Illinois at Urbana-Champaign, Civil and Environmental Engineering
2009 B.S. Huazhong University of Science and Technology, Civil Engineering and Mechanics

EMPLOYMENT

1/2013–Present Graduate Student Researcher, Civil and Env. Eng., Tufts University, Medford, MA
5/2015–9/2015 Summer Intern, Idaho National Laboratory, Idaho Falls, ID
6/2013–8/2013 Summer Intern, FM Global, Norwood, MA
9/2011–12/2012 Graduate Student Researcher/Teaching Assistant, Civil and Env. Eng., Tufts University, Medford, MA

PUBLICATIONS

Peer-Reviewed Journal Articles

1. Zhu, J., D. Daley, L. G. Baise, E. M. Thompson, D. J. Wald, and K. L. Knudsen (2015). A Geospatial Liquefaction Model for Rapid Response and Loss Estimation, *Earthquake Spectra*, Vol. 31, No. 3, pp. 1813-1837.
2. Zhu, J., L. G. Baise, E. M. Thompson (2016). Updated geospatial liquefaction model for global use, *Bulletin of the Seismological Society of America*, submitted.
3. Zhu, J., L. G. Baise, M. Koch. Mapping Earthquake Induced Liquefaction Surface Effects from the 2011 Tohoku Earthquake Using Satellite Imagery, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, in preparation.

Peer-Reviewed Conference Proceedings

1. Zhu, J., L.G. Baise, M. Koch (2016). Mapping Earthquake Induced Liquefaction Surface Effects from the 2011 Tohoku Earthquake Using Satellite Imagery, *International Geoscience and Remote Sensing Symposium (IGARSS)*, Beijing, China, July 10-15.
2. Zhu, J., L.G. Baise, E.M. Thompson, and H. Magistrale (2014). Testing National and Regional Geospatial Liquefaction Models in the United States, *10th U.S. National Conference on Earthquake Engineering*, Anchorage, Alaska, July 21-25.
3. Zhu, J., L.G. Baise, E.M. Thompson, D. J. Wald and K. Knudsen (2013). Predicting the Spatial Extent of Liquefaction from Geospatial and Earthquake Specific Parameters, *International Conference on Structural Safety and Reliability (ICOSSAR)*, New York, NY, June 16-20.

Peer-Reviewed Reports

1. Allstadt, K., E.M. Thompson, D.J. Wald, M.W. Hamburger, J.W. Godt, K.L. Knudsen, R.W. Jibson, M.A. Jessee, J. Zhu, M. Hearne, L.G. Baise, H. Tanyas, and K.D. Marano (2016). USGS approach to real-time estimation of earthquake-triggered ground failure - Results of 2015 workshop, *U.S. Geological Survey Open-File Report* 2016-1044.

Abstracts and Conference Presentations

1. Allstadt K., M. Hearne, A. Nowicki, E. M. Thompson, D. J. Wald, J. Zhu (2017). Integrating Landslide and Liquefaction Hazard and Loss Estimates with Existing USGS Real-Time Earthquake Information Products, 16th World Conference on Earthquake Engineering, Santiago, Chile.
2. Zhu, J. and L. G. Baise.(2016). Updated Geospatial Liquefaction Model For Global Use, *Seismological Research Letters*, Vol 87, No. 2B, p. 578.
3. Zhu, J., L. G. Baise, C. Bolisetti, J. L. Coleman (2015). Reassessing Site Effects in Idaho National Laboratory in Light of New Data, American Geophysical Union Fall Meeting, San Francisco, California.
4. Zhu, J., L. G. Baise, E. M. Thompson (2015). Updated Geospatial Liquefaction Model For Global Use, *Seismological Research Letters*, Vol. 86, No. 2B, p. 718.
5. Zhu, J., L.G. Baise, M. Koch, and A. Gaber (2014). Mapping Earthquake Induced Liquefaction Surface Effects from the 2011 Tohoku Earthquake Using Satellite Imagery, *Seismological Research Letters*, Vol 85, No. 2, p. 495.
6. Zhu, J., L.G. Baise, E.M. Thompson, H. Magistrale, and D.J. Wald (2014). Updated Geospatial Liquefaction Model for Global Use, *Seismological Research Letters*, Vol 85, No. 2, p. 496.
7. Zhu, J., L. G. Baise, E. M. Thompson, D. J. Wald, and K. L. Knudsen (2013). A Geospatial Liquefaction Model for Rapid Response and Loss Estimation, *Seismological Research Letters*, Vol. 84, No. 2, p. 313.
8. Wald, D. J., M. Hearne, E. M. Thompson, M. Nowicki, K. Lin, K. Johnson, J. Godt, K. L. Knudsen, J. Zhu, and L. G. Baise (2013). Incorporating Near-Real-Time Landslide and Liquefaction Estimates in ShakeCast and PAGER, *Seismological Research Letters*, Vol. 84, No. 2, p. 316.
9. Thompson, E. M., B. Berry, J. Zhu, L. G. Baise, J. Ebel, and A. J. Rodgers (2013). Developing and Validating a Community Velocity Model for Boston, *Seismological Research Letters*, Vol. 84, No. 2, p. 300.
10. Baise, L. G., D. Daley, J. Zhu, E. M. Thompson, and K. Knudsen (2012). Geospatial Liquefaction Hazard Model for Kobe, Japan and Christchurch, New Zealand, *Seismological Research Letters*, Vol. 83, No. 2, p. 458.

RESEARCH EXPERIENCE

9/2013–Present *Location:* Tufts University, Civil and Environmental Engineering
Title: Remote sensing workflow to map post-event liquefaction surface effects in urban regions.
Responsibilities:

- Investigated techniques for mapping liquefaction surface effects for the 2011 Tohoku earthquake using optical and SAR images
 - Developed an automated workflow that combines object-based classification and change detection to map liquefaction surface effects.
- 9/2012–7/2016 *Location:* Tufts University, Civil and Environmental Engineering
Title: A geospatial liquefaction model for rapid response and loss estimation.
Sponsor: National Science Foundation
Responsibilities:
- Developed a database of geospatial parameters for liquefaction modeling
 - Developed and validated a statistical model for predicting areal extent of liquefaction
- 5/2015–12/2015 *Location:* Idaho National Laboratory, Seismic Research Group
Title: Reassessing site effects in Idaho National Laboratory in light of new data.
Responsibilities:
- Processed ground motion data and performed empirical site response analyses
 - Performed 1-D site response analyses with DEEPSOIL
 - Performed 2-D numerical simulations with ABAQUS
- 9/2012–5/2013 *Location:* Tufts University, Civil and Environmental Engineering
Title: Developing and validating a community velocity model for Boston.
Responsibilities:
- Contributed to the development of 3-D sedimentary basin model for the Boston region
 - Performed theoretical and empirical site response analysis in Boston
- 9/2012–3/2013 *Location:* Tufts University, Civil and Environmental Engineering
Title: Broadband ground motion simulation of the 23 June 2010 Val-des-Bois earthquake.
Responsibilities:
- Simulated ground motions using deterministic low-frequency and stochastic high-frequency simulations
 - Compared the results with the recorded ground motions and predictions from the ground motions attenuation models
- 6/2010–10/2010 *Location:* University of Illinois at Urbana-Champaign, Civil and Environmental Engineering
Title: Development of an integrated computational-experimental laboratory testing framework to maximize non-uniform loading.
Responsibilities:
- Prepared soil samples and performed triaxial tests

TEACHING EXPERIENCE

- Fall 2012 Teaching Assistant, Geographical Information Systems (senior/graduate level course), Tufts University.
- Spring 2012 Teaching Assistant, Introduction to Computing in Engineering (undergraduate level course), Tufts University.
- Fall 2011 Teaching Assistant, Introduction to Mechanics-Statics and Dynamics (undergraduate level course), Tufts University.

PROFESSIONAL TRAINING

- 9/2013 Summer school (two weeks): Landslide Risk Assessment and Mitigation (LARAM), University of Salerno, Salerno, Italy.

AWARDS

- Earle F. Littleton Award. Tufts University. 2016.
- Graduate Student Research Competition Winner Spring. Tufts University. 2014.
- Student Presentation Award. Seismological Society of America 2013 Annual Meeting.
- Annual First-class Scholarship (awarded to top 5% students in the department). Huazhong University of Science and Technology. 2006, 2007 & 2008.

PROFESSIONAL AFFILIATIONS

- Member, Seismological Society of America (SSA)
- Member, Earthquake Engineering Research Institute (EERI)
- Member, American Geophysical Union (AGU)
- Member, Institute of Electrical and Electronics Engineers (IEEE)

TECHNICAL SKILLS

- Programming languages: R, Python, C, Shell scripting languages (bash, awk, sed, etc.)
- Technical software: ABAQUS, DEEPSOIL, SHAKE, ArcGIS, GDAL/OGR, GMT, ENVI/IDL
- Publishing: LaTeX, Microsoft Office
- Operating systems: Linux, Mac OS X, Windows