BRADY R. COX, PH.D., P.E.

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EDUCATION

Ph.D., Civil Engineering (Geotechnical), University of Texas, Austin, Texas, May 2006

M.S., Civil Engineering (Geotechnical), Utah State University, Logan, Utah, August 2001

B.S., Civil Engineering, Utah State University, Logan, Utah, May 2000

ACADEMIC APPOINTMENTS

Associate Professor (2015-present), Department of Civil, Architectural and Environmental Engineering, University of Texas, Austin, Texas

Assistant Professor (2012-2015), Department of Civil, Architectural and Environmental Engineering, University of Texas, Austin, Texas

Assistant Professor (2006-2012), Department of Civil Engineering, University of Arkansas, Fayetteville, Arkansas

HONORS AND AWARDS

International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) Young Researcher Award (Technical Committee-203 on Earthquakes); 2017

Erskine Visiting Fellow; University of Canterbury, Christchurch, New Zealand; 2017

Shamsher Prakash International Geotechnical Engineering Research Award; 2015

Network for Earthquake Engineering Simulation (NEES) Outstanding Contributor Award – Most Influential Geotechnical Research Project; 2014

Presidential Early Career Award for Scientists and Engineers (PECASE); 2012

John L. Imhoff Award for Research, College of Engineering; University of Arkansas; 2012

National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award; 2011

Hogentogler Award for ASTM Geotechnical Testing Journal "paper of outstanding merit"; 2010

Outstanding Researcher in Civil Engineering, University of Arkansas; 2010-2011

George H. Mitchell Award for Excellence in Graduate Research, University of Texas; 2005

Earthquake Engineering Research Institute (EERI) Graduate Fellow; 2004

Eagle Scout, Boy Scouts of America; 1993

SPONSORED RESEARCH PROJECTS

- Principal Investigator, $100,000, *Developing Experimental Site Signatures and Deep Vs Profiles for Quantifying Spatial Variability and Suitability of 1D Site Response Analyses at Key U.S. Borehole Array Sites*, Pacific Gas and Electric (PG&E), September 2019 – August 2020.
- Principal Investigator, $118,978, *RAPID/Collaborative Research: Advanced Site Characterization of Key Ground Motion and Ground Failure Case Histories Resulting from*

the Mw7.8 Kaikoura, New Zealand, Earthquake, National Science Foundation (NSF), Feb 2017 – January 2019.

- Principal Investigator, $119,016, *Refining Texas Velocity Models Over the Top 500m via Deep Surface Wave Profiling,* Center for Integrated Seismic Research (CISR), January 2018 – December 2018.
- Co-Principal Investigator, $3,817,390, *Natural Hazards Engineering Research Infrastructure (NHERI): Experimental Facility with Large, Mobile Dynamic Shakers for Field Testing,* The National Science Foundation (NSF), January 2016 – December 2020.
- Co-Principal Investigator, $488,405, *Collaborative Research: Bridging the In-situ and Elemental Cyclic Response of Transitional Soils*, The National Science Foundation (NSF), July 2017 – June 2020.
- Principal Investigator, $106,413, *Dynamic Site Characterization of TxNet Ground Motion Stations,* Center for Integrated Seismic Research (CISR), Aug 2016 – December 2017.
- Co-Principal Investigator, $539,632, *Seismic Vulnerability and Post-Event Actions,* Texas Department of Transportation (TxDOT), January 2016 – December 2017.
- Principal Investigator, $38,000, *Deep Soil Test Borings to Determine Shear Wave Velocities Across South Carolina*, SCDOT through Univ. of South Carolina, Sept. 2016 – Aug. 2017.
- Principal Investigator, $43,000, *Direct-Push Crosshole Testing of RAP for Liquefaction Mitigation of Briceno Embankment*, Geopier, Sept. 2016 – Feb. 2017.
- Principal Investigator, $182,481, *RAPID/Collaborative Research: Investigation of False Positive Liquefaction Triggering Predictions from the Canterbury Earthquake Sequence*, The National Science Foundation (NSF), July 2015 – June 2017.
- Co-Principal Investigator, $563,007, *Very Deep Shear Wave Velocity Profiling by Combined Active-Source and Ambient-Wavefield Surface Wave Testing, Combined Resonant Column and Torsional Shear (RCTS) Testing, SASW Testing at Three Stages during Construction of 20-ft Thick Backfill Test Pad,* S&ME, Inc., Mar. 2016 – April 2017.
- Principal Investigator, $11,733, *Direct-Push Crosshole Testing of Pumice Soils in Waikato, New Zealand,* FBHC Alliance, Jan. 2016 – Aug. 2016.
- Co-Principal Investigator, $146,243, *Deep Shear Wave Velocity Profiling by Combined Active-Source and Ambient-Wavefield Surface Wave Testing TVA Sequoyah (SQN) Nuclear Power Plant Near Chattanooga,* Fugro, Inc., Nov. 2015 – July 2016.
- Co-Principal Investigator, $327,481, *LANL Seismic Site Characterization Active Experiments,* Los Alamos National Laboratory, June 2014 – May 2015.
- Co-Principal Investigator, $302,019, *Field Investigations of Shallow Ground Improvement Methods for Inhibiting Liquefaction Triggering; Christchurch, New Zealand*, New Zealand Earthquake Commission (EQC) via Tonkin & Taylor Ltd., June 2013 – May 2014.
- Co-Principal Investigator, $197,996, *RAPID: Field Investigations of Shallow Ground Improvement Methods for Inhibiting Liquefaction Triggering; Christchurch, New Zealand*, The National Science Foundation (NSF), June 2013 – May 2014.
- Principal Investigator, $421,600, *CAREER/PECASE: Revolutionizing Surface Wave Methods for Engineering Analyses – from Deterministic and Incoherent to Probabilistic and Standardized (DIPS),* The National Science Foundation (NSF), July 2011 – June 2017.

- Co-Principal Investigator, $1,144,593 ($211,857 to UA), *NEES-CR: Topographic Effects in Strong Ground Motion – From Physical and Numerical Modeling to Design*, The National Science Foundation (NSF), with A. Rodriguez-Marek (PI), D. Assimaki, M. Pando, W. Silva, L. Suarez, and J. Wartman. Oct 2009 – Sept 2014.
- Principal Investigator, $197,684, *RAPID: Deep Shear Wave Velocity Profiling for Seismic Characterization of Christchurch, NZ - Reliably Merging Large Active-Source and Passive-Wavefield Surface Wave Methods*, The National Science Foundation (NSF), December 2012 – November 2013.
- Principal Investigator, $120,253, *RAPID: CPT and SASW Testing at Seismograph Stations with Liquefiable Soils Affected by the Tohoku Earthquake, Japan*, The National Science Foundation (NSF), July 2011 – June 2012.
- Principal Investigator, $325,178 ($177,065 to UA), *Collaborative Research: The M8.0 Pisco Peru Earthquake – A Benchmark Ground Failure Event for Remote Sensing and Data Archiving*, The National Science Foundation (NSF), with J. Cothren, A. Rodriguez-Marek, and J. Wartman. Aug 2009 – Jan 2011.
- Principal Investigator, $88,592, *Site-Specific Seismic Ground Motion Analyses for Transportation Infrastructure in the New Madrid Seismic Zone*, USDOT Mack-Blackwell Rural Transportation Center (MBTC) and Arkansas State Highway and Transportation Department (AHTD), July 2011 – June 2012.
- Co-Principal Investigator, $40,000 ($0 to UA), *RAPID: Geotechnical-Driven Damage Patterns and Liquefaction in the January 2010 Haiti Earthquake*, The National Science Foundation (NSF), with S. Olson (PI). May 2010 – April 2011.
- Co-Principal Investigator, $50,000 ($0 to UA), *Development of a Geologic and Geotechnical Database of Port-au-Prince Metropolitan Area for use in Seismic Microzonation Studies*, United Nations Development Programme (UNDP), with E. Rathje (PI) and J. Bachhuber. November 2010 – June 2011.
- Principal Investigator, $263,459, *Evaluation of Basal Reinforcement of Flexible Pavements with Geosynthetics*, Arkansas State Highway and Transportation Department (AHTD), with J. McCartney, July 2008 – June 2011.
- Co-Principal Investigator, $225,000, *Structural Health Monitoring and Assessment of Critical Intermodal Transportation Infrastructure Elements*, U.S. Department of Homeland Security (DHS), with K. Grimmelsman (PI) and E. Heymsfield, January 2009 – June 2011.
- Principal Investigator, $79,524, *Practical Recommendations for Evaluation and Mitigation of Soil Liquefaction in Arkansas*, USDOT Mack-Blackwell Rural Transportation Center (MBTC) and Arkansas State Highway and Transportation Department (AHTD), July 2009 – December 2010.
- Co-Principal Investigator, $190,424 ($33,242 to UA), *Utilization of Screw Piles in High Seismicity Areas of Cold and Warm Permafrost*, Alaska University Transportation Center (AUTC), with K. Hazirbaba (PI), July 2009 – June 2010.
- Co-Principal Investigator, $105,817, *Resistance Factors for Pile Foundations*, Arkansas State Highway and Transportation Department (AHTD), with N. Dennis (PI) and J.S. McCartney, January 2009 – June 2010.

- Principal Investigator, $84,069, *Accelerated Characterization of Full-Scale Reinforced Flexible Pavement Models using a Vibroseis*, USDOT Mack-Blackwell Rural Transportation Center (MBTC) and Arkansas State Highway and Transportation Department (AHTD), with J. McCartney, July 2008 – Dec 2009.

PUBLICATIONS AND PRESENTATIONS

Refereed Journal Publications (underlined names represent either myself or supervised students)

1. Stolte, A.C., Cox, B.R. (2019). "Towards Consideration of Epistemic Uncertainty in Shear Wave Velocity Measurements Obtained via SCPT," *Canadian Geotechnical Journal*, submitted 3 October 2018, in review.
2. Passeri, F., Foti, S., Cox, B.R., Rodriguez-Marek, A. (2018). "Influence of Epistemic Uncertainty in Shear Wave Velocity on Seismic Ground Response Analyses," *Earthquake Spectra*, (https://earthquakespectra.org/doi/pdf/10.1193/011018EQS005M).
3. Cox, B.R., Stolte, A.C., Stokoe, K.H. II, Wotherspoon, L.M. (2018 submitted). "A Direct-Push Crosshole Test Method for the In-Situ Evaluation of High-Resolution P- and S-wave Velocity," *ASTM Geotechnical Testing Journal*, (https://doi.org/10.1520/GTJ20170382. ISSN 0149-6115).
4. Teague, D.P., Cox, B.R., Rathje, E.R. (2018 submitted). "Measured vs. Predicted Site Response at the Garner Valley Downhole Array Considering Shear Wave Velocity Uncertainty from Borehole and Surface Wave Methods," *Soil Dynamics and Earthquake Engineering*, 113(10), 339-355. (https://doi.org/10.1016/j.soildyn.2018.05.031).
5. Vantassel, J., Cox, B.R., Wotherspoon, L., Stolte, A. (2018). "Mapping Depth to Bedrock, Shear Stiffness, and Fundamental Site Period at CentrePort, Wellington using Surface Wave Methods: Implications for Local Seismic Site Amplification," *Bulletin of the Seismological Society of America.* (https://doi.org/10.1785/0120170287).
6. Bradley, B.A., Wotherspoon, L.M., Kaiser, A.E., Cox, B.R., Jeong, S. (2018). "Influence of Site Effects on Observed Ground Motions in the Wellington Region from the Mw7.8 Kaikōura, New Zealand Earthquake," *Bulletin of the Seismological Society of America*. (https://doi.org/10.1785/0120170286).
7. Teague, D.P., Cox, B.R., Bradley, B., Wotherspoon, L. (2018). "Development of Deep Shear Wave Velocity Profiles with Estimates of Uncertainty in the Complex Inter-Bedded Geology of Christchurch, New Zealand," *Earthquake Spectra.* (https://doi.org/10.1193/041117EQS069M).
8. Foti, S., Hollender, F., Garofalo, F., Albarello, D., Asten, M., Bard, P.-Y., Comina, C., Cornou, C., Cox, B.R., Di Giulio, G., Forbriger, T., Hayashi, K., Lunedei, E., Martin, A., Mercerat, D., Ohrnberger, M., Poggi, V., Renalier, Sicilia, D., Socco, L.V. (2017). "Guidelines for the Good Practice of Surface Wave Analysis – A Product of the InterPACIFIC Project," *Bulletin of Earthquake Engineering*, pp. 1-54. (doi:10.1007/s10518-017-0206-7).
9. Amoroso, S., Milana, G., Rollins, K.M., Comina, C., Minarelli, L., Manuel, M.R., Monaco, P., Franceschini, M., Anzidei, M., Lusvardi, C., Cantore, L., Carpena, A., Casadei S., Cinti, F.R., Civico, R., Cox, B.R., De Martini, P.M., Di Giulio, G., Di Naccio, D., Di Stefano, G., Facciorusso, J., Famiani, D., Fiorelli, F., Fontana, D., Foti, S., Madiai, C., Marangoni, V.,

Marchetti, D., Marchetti, S.L., Martelli, L., Mariotti, M., Muscolino, E., Pancaldi, D., Pantosti, D., Passeri, F., Pesci, A., Romeo, G., Sapia, V., Smedile, A., Stefani, M., Tarabusi, G., Teza, G., Vassallo, M., Villani, F. (2017). "The first Italian blast-induced liquefaction test (Mirabello, Emilia-Romagna, Italy): description of the experiment and preliminary results," Annals of Geophysics, 60(5), p.0556. (http://dx.doi.org/10.4401/ag-7415).

10. Wood, C.M., Cox, B.R., Green, R.A., Wotherspoon, L., Bradley, B., Cubrinovski, M. (2017). "Vs-based Evaluation of Select Liquefaction Case Histories from the 2010-2011 Canterbury Earthquake Sequence," *Journal of Geotechnical and Geoenvironmental Engineering*, 143(9), pp-pp. (https://doi.org/10.1061/(ASCE)GT.1943-5606.0001754).
11. Stolte, A.C., Cox, B.R., Lee, R.C. (2017). "An Experimental Topographic Amplification Study at Los Alamos National Laboratory using Ambient Vibrations," *Bulletin of the Seismological Society of America*, 107(3), 1386-1401. (doi: 10.1785/0120160269).
12. Cox, B.R., Teague, D.P. (2016). "Layering Ratios: A Systematic Approach to the Inversion of Surface Wave Data in the Absence of A-priori Information," *Geophysical Journal International*, 207, 422-438. (https://doi.org/10.1093/gji/ggw282).
13. Teague, D.P., Cox, B.R. (2016). "Site Response Implications Associated with using Non-Unique Vs Profiles from Surface Wave Inversion in Comparison with Other Commonly Used Methods of Accounting for Vs Uncertainty," *Soil Dynamics and Earthquake Engineering* 91(1), 87-103. (https://doi.org/10.1016/j.soildyn.2016.07.028).
14. Griffiths, S.C., Cox, B.R., Rathje, E.M., Teague, D.P. (2016). "Surface Wave Dispersion Approach for Evaluating Statistical Models That Account for Shear-Wave Velocity Uncertainty," *Journal of Geotechnical and Geoenvironmental Engineering*, 142(11), 04016061. (http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001552).
15. Griffiths, S.C., Cox, B.R., Rathje, E.M., Teague, D.P. (2016). "Mapping Dispersion Misfit and Uncertainty in Vs Profiles to Variability in Site Response Estimates," *Journal of Geotechnical and Geoenvironmental Engineering*, 142(11), 04016062. (http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001553).
16. Wood, C.M., Cox, B.R. (2016). "Comparison of Field Data Processing Methods for Evaluation of Topographic Effects," *Earthquake Spectra*, 32(4), 2127-2147. (http://dx.doi.org/10.1193/111515EQS170M).
17. Griffiths, S.C., Cox, B.R., Rathje, E.M. (2016). "Challenges Associated with Site Response Analyses for Soft Soils Subjected to High-Intensity Input Ground Motions," *Soil Dynamics and Earthquake Engineering*, 85(1), 1-10 (http://dx.doi.org/10.1016/j.soildyn.2016.03.008).
18. Garofalo, F., Foti, S., Hollender, F., Bard, P.-Y., Cornou, C., Cox, B.R., Ohrnberger, M., Sicilia, D., Asten, M., Di Giulio, G., Forbriger, T., Guiller, B., Hayashi, K., Martin, A., Matsushima, S., Mercerat, D., Poggi, V., Yamanaka, H. (2016). "InterPACIFIC Project: Comparison of Invasive and Non-Invasive Methods for Seismic Site Characterization Part I: Intra-Comparison of Surface Wave Methods," *Soil Dynamics and Earthquake Engineering*, 82(1), 222-240 (http://dx.doi.org/10.1016/j.soildyn.2015.12.010).
19. Garofalo, F., Foti, S., Hollender, F., Bard, P.-Y., Cornou, C., Cox, B.R., Dechamp, A., Ohrnberger, M., Sicilia, D., D. Teague, Vergniault, C. (2016). "InterPACIFIC Project: Comparison of Invasive and Non-Invasive Methods for Seismic Site Characterization Part

II: Inter-Comparison Between Surface Wave and Borehole Methods," *Soil Dynamics and Earthquake Engineering*, 82(1), 241-254 (http://dx.doi.org/10.1016/j.soildyn.2015.12.009).

20. Wotherspoon, L.M., Orense, R.P., Bradley, B.A., Cox, B.R., Wood, C.M., Green, R.A. (2015). "Soil Profile Characterisation of Christchurch Central Business District Strong Motion Stations," *Bulletin of the New Zealand Society for Earthquake Engineering*, 48(3), 147-157.
21. Wood, C.M., Cox, B.R. (2015). "Experimental Dataset of Mining-Induced Seismicity for Studies of Full-scale Topographic Effects," *Earthquake Spectra*, 31(1), 541-564. (http://dx.doi.org/10.1193/020314EQS026).
22. Wotherspoon, L.M., Orense, R.P., Green, R.A., Bradley, B.A., Cox, B.R., Wood, C.M. (2015). "Assessment of Liquefaction Evaluation Procedures and Severity Index Frameworks at Christchurch Strong Motion Stations," *Soil Dynamics and Earthquake Engineering*, 79b(1), 335-346. (http://doi:10.1016/j.soildyn.2015.03.022).
23. McGann, C.R., Bradley, B.A., Wotherspoon, L.M., Cox, B.R. (2015). "Comparison of a Christchurch-Specific CPT-Vs Correlation and Vs Derived from Surface Wave Analysis for Strong Motion Station Velocity Characterisation," *Bulletin of the New Zealand Society for Earthquake Engineering*, 48(2), 81-91.
24. Wotherspoon, L., Orense R., Jacka, M., Green, R.A., Cox, B.R., Wood, C.M. (2014). "Seismic Performance of Improved Ground Sites During the 2010-2011 Canterbury Earthquake Sequence," *Earthquake Spectra*, 30(1), 111-129.
25. Green, R.A., Cubrinovski, M., Cox, B.R., Wood, C.M., Wotherspoon, L., Bradley, B., Maurer, B. (2014). "Select Liquefaction Case Histories from the 2010-2011 Canterbury Earthquake Sequence," *Earthquake Spectra*, 30(1), 131-153.
26. McCartney, J.S., Cox, B.R. (2013). "Role of Strain Magnitude on the Deformation Response of Geosynthetic-Reinforced Soil Layers," *Geosynthetics International*, 20(3), 174-190.
27. Cox, B.R., Boulanger, R.W., Tokimatsu, K., Wood, C.M., Abe, A., Ashford, S., Donahue, J., Ishihara, K., Kayen, R., Katsumata, K., Kishida, T., Kokusho, T., Mason, B., Moss, R., Stewart, J., Tohyama, K., Zekkos, D. (2013). "Liquefaction at Strong Motion Stations and in Urayasu City During the 2011 Great East Japan Earthquake," *Earthquake Spectra*, 29(S1), 55-80.
28. McCartney, J.S., Cox, B.R., Wood, C.M., El Tawati, A. (2013). "Performance Evaluation of Flexible Pavements Using a New Field Cyclic Plate Load Test," *ASTM Geotechnical Testing Journal*, 36(2), 206-215.
29. Cox, B.R., Wood, C.M. (2012). "Frozen and Unfrozen Shear Wave Velocity Seismic Microzonation of Fairbanks, Alaska," *Journal of Cold Regions Engineering*, 26(3), 118-145.
30. Wood, C.M., Cox, B.R., Wotherspoon, L.M., Green, R.A. (2011). "Dynamic Site Characterization of Christchurch Strong Motion Stations," *Bulletin of the New Zealand Society for Earthquake Engineering*, 44(4), 195-204.
31. Wong, I., Stokoe, II, K.H., Cox, B.R., Yuan, J., Knudsen, K.L., Terra, F., Okubo, P. (2011). "Shear-Wave Velocity Characterization of the USGS Hawaiian Strong Motion

Network on the Island of Hawaii and Development of a NEHRP Site Class Map," *Bulletin of the Seismological Society of America*, 101(5), 2252-2269.

32. Green, R.A., Wood, C.M., Cox, B.R., Cubrinovski, M., Wotherspoon, L., Bradley, B., Algie, T., Allen, J., Bradshaw, A., and Rix, G. (2011). "Use of DCP and SASW Tests to Evaluate Liquefaction Potential: Predictions vs. Observations During the Recent New Zealand Earthquakes," *Seismological Research Letters*, 82(6), 927-938.
33. Green, R.A., Allen, J., Wotherspoon, L., Cubrinovski, M., Bradley, B., Bradshaw, A., Cox, B.R., and Algie, T. (2011). "Performance of Levees (Stopbanks) During the 4 September 2010, Mw7.1 Darfield and 22 February 2011, Mw6.2 Christchurch, New Zealand Earthquakes", *Seismological Research Letters*, 82(6), 939-949.
34. Cox, B.R., Bachhuber, J., Rathje, E., Wood, C.M., Dulberg, R., Kottke, A., Green, R.A., Olson, S. (2011). "Shear Wave Velocity- and Geology-based Seismic Microzonation of Port-au-Prince, Haiti," *Earthquake Spectra*, 27(S1), S67-S92.
35. Rathje, E.M., Bachhuber, J., Dulberg, R., Cox, B.R., Kottke, A., Wood, C.M., Green, R.A., Olson, S., Wells, D., Rix, G. (2011). "Damage Patterns in Port-au-Prince from the 2010 Haiti Earthquake and their Relationship to Geologic Conditions," *Earthquake Spectra*, 27(S1), S117-S136.
36. Green, R.A., Olson, S.M., Cox, B.R., Rix, G., Rathje, E., Bachhuber, J., French, J., Lasley, S., and Martin, N. (2011). "Geotechnical Aspects of Failures at Port-au-Prince Seaport during the January 12, 2010 Haiti Earthquake," *Earthquake Spectra*, 27(S1), S43-S65.
37. Olson, S.M., Green, R.A., Lasley, S., Martin, N., Cox, B.R., Rathje, E., Bachhuber, J., and French, J. (2011). "Documenting Liquefaction and Lateral Spreading Triggered by the 12 January 2010 Haiti Earthquake, *Earthquake Spectra*, 27(S1), S93-S116.
38. Yong, A., Hough, S.E., Cox, B.R., Rathje, E.M., Bachhuber, J., Dulberg, R., Hulslander, D., Christiansen, L., Abrams, M.J. (2011). "Seismic Zonation of Port-au-Prince Using Pixel- and Object-based Imaging Analysis Methods on ASTER gDEM," *Journal of Photogrammetry and Remote Sensing*, 77(9), pp. 909-922.
39. Cox, B.R., Beekman, A.N. (2011). "Intra-Method Variability in ReMi Dispersion and Vs Estimates at Shallow Bedrock Sites," *Journal of Geotechnical and Geoenvironmental Engineering*, 137(4), pp. 354-362.
40. Wong, I., Stokoe, II, K.H., Cox, B.R., Lin, Y-C., Menq, F-Y. (2011). "Shear-Wave Velocity Profiling of Strong Motion Sites that Recorded the 2001 Nisqually, Washington Earthquake," *Earthquake Spectra*, 27(1), pp. 183-212.
41. Cubrinovski, M., Green, R.A., Allen, J., Ashford, S., Bowman, E., Bradley, B., Cox, B.R., Hutchinson, T., Kavazanjian, E., Orense, R., O'Rourke, T., Pender, M., Quigley, M., Wotherspoon, L. (2010). "Geotechnical Reconnaissance of the 2010 Darfield (New Zealand) Earthqauke," *Bulletin of the New Zealand Society for Earthquake Engineering*, 43(4), pp. 243-320.
42. Cox, B.R., Stokoe II, K.H., Rathje, E.M. (2009). "An In-Situ Test Method for Evaluating the Coupled Pore Pressure Generation and Nonlinear Shear Modulus Behavior of Liquefiable Soils," *ASTM Geotechnical Testing Journal*, 32(1), pp. 11-21.
43. Rodriguez-Marek, A., Alva Hurtado, J., Cox, B.R., Meneses, J., Montalva, G., Moreno, V., Olcese, M., Sancio, R., Wartman, J., (2007). "Geotechnical Aspects of the August 15, 2007

Pisco, Peru Earthquake," *Revista Internacional de Desastres Naturales, Accidentes e Infraestructura Civil (International Journal of Natural Disasters, Accidents, and Civil Infrastructure*, 7 (2-3), pp. 239-258.

44. Chang, W-J., Rathje, E.M., Stokoe II, K.H., and Cox, B.R. (2004). "Direct Evaluation of Effectiveness of Prefabricated Vertical Drains in Liquefiable Sand," *Soil Dynamics and Earthquake Engineering*, 24(9-10), pp. 723-731.
45. Terrell, R.G., Cox, B.R., Stokoe II, K.H., Allen, J.J., and Lewis, D. (2003). "Field Evaluation of the Stiffness of Unbound Aggregate Base Layers in Inverted Flexible Pavements," *Transportation Research Record, Journal of the Transportation Research Board* 1837, pp. 50-60.

Peer Reviewed Conference Publications and Invited Papers (underlined names represent either myself or supervised students)

1. Boulanger, R.W., Khosravi, M., Cox, B.R., DeJong, J.T. (2018). "Liquefaction Evaluation for an Interbedded Soil Deposit: St. Teresa's School, Christchurch, New Zealand," IACGE 2018 Geotechnical and Seismic Research and Practices for Sustainability, Chongquing, China, 21-22 October 2018.
2. Yust, M.B., Cox, B.R., Cheng, T. (2018). "Epistemic Uncertainty in Vs Profiles and Vs30 Values Derived from Joint Consideration of Surface Wave and H/V Data at the FW07 TexNet Station," Geotechnical Earthquake Engineering and Soil Dynamics V, Austin, Texas, 10-13 June 2018.
3. Savvaidis, A., Rathje, E.R., Cox, B.R., Zalachoris, G., Tiwari, A., Yust, M., Young, B. (2018). "Site Characterization of TexNet Seismic Stations Using Different Geophysical Approaches," Geotechnical Earthquake Engineering and Soil Dynamics V, Austin, Texas, 10-13 June 2018.
4. Bastin, S., Stringer, M.E., Green, R.A., Wotherspoon. L., van Ballegooy, S., Cox, B.R., Osuchowski, A. (2018). "Geomorphological Controls on the Distribution of Liquefaction in Blenheim, New Zealand, during the 2016 Mw7.8 Kaikoura Earthquake," Geotechnical Earthquake Engineering and Soil Dynamics V, Austin, Texas, 10-13 June 2018.
5. Green, R.A., Upadhyaya, S., Wood, C.M., Maurer, B.W., Cox, B.R., Wotherspoon, L., Bradley, B.A., Cubrinovski, M. (2017). "Relative Efficacy of CPT- versus Vs-based Simplified Liquefaction Evaluation Procedures," 19th International Conference on Soil Mechanics and Geotechnical Engineering, Seoul, South Korea, 17-22 Sept., 2017.
6. Hwang, S., Roberts, J.N., Stokoe II, K.H., Cox, B.R., van Ballegooy, S., Soutar, C. (2017). "Utilizing Direct-Push Crosshole Seismic Testing to Verify the Effectiveness of Shallow Ground Improvements: A Case Study Involving Low-Mobility Grout Columns in Christchurch, New Zealand," Grouting 2017, Honolulu, Hawaii, 9–12 July, 2017.
7. Cox, B.R., McLaughlin, K.A., van Ballegooy, S., Cubrinovski, M., Boulanger, R., Wotherspoon, L. (2017). "In-Situ Investigation of False-Positive Liquefaction Sites in Christchurch, New Zealand: St. Teresa's School Case History," 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering, Vancouver, Canada, 16-19 July 2017.

8. Wood, C.M., McGann, C.R., Cox, B.R., Green, R.A., Wotherspoon, L., Bradley, B.A., Cubrinovski, M. (2017). "A comparison of CPT-VS correlations using a liquefaction case history database from the 2010-2011 Canterbury Earthquake Sequence," 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering, Vancouver, Canada, 16-19 July 2017.
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10. Teague, D.P., Cox, B.R., El-Afifi, T.S. (2017). "Site Response Implications of Using Shear Wave Velocity Profiles Derived from "Blind" and Geologically-Guided Surface Wave Inversions," 16th World Conference on Earthquake Engineering, Santiago, Chile, 9-13 January 2017.
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***Technical Presentations:** National/International Meetings or Conferences*

1. Cox, B.R. "Accounting for Vs Uncertainty in Seismic Site Response Analyses using the Experimental Site Signature: A Case Study of the Garner Valley Downhole Array," presented at the Seismological Society of America (SSA) 2018 Annual Meeting, Miami, FL, USA, May 15, 2018.
2. Cox, B.R. (Invited) "Realistically Accounting for Vs Uncertainty in Seismic Site Response Analyses using the Experimental Site Signature: A Case Study of the Garner Valley Downhole Array," presented at the 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering, Vancouver, BC, Canada, July 19, 2017.
3. Cox, B.R. (Invited) "Realistically Accounting for Vs Uncertainty in Seismic Site Response Analyses using the Experimental Site Signature: A Case Study of the Garner Valley Downhole Array," presented at the Institute des Sciences de la Terre (ISTerre), Grenoble, France, June 30, 2017.
4. Cox, B.R. (Invited) "Puzzling Patterns of Liquefaction Manifestation (or lack thereof) Following the 2011 Christchurch Earthquake," presented at the U.S.-New Zealand-Japan International Workshop on Liquefaction-Induced Ground Movements Effects, Berkeley, California, November 2-4, 2016.
5. Cox, B.R. (Invited) "Session Report: Geophysical Methods," presented at the 5th International Conference on Geotechnical and Geophysical Site Characterization, Gold Coast, Australia, September 5-8, 2016.
6. Cox, B.R. (Invited) "The InterPacific Project: Significant Findings," presented at the COSMOS Surface Wave Guidelines Project Meeting, Reno, Nevada, April 23, 2016.
7. Cox, B.R. "Site Response Implications Associated with Common Methods used to Account for Vs Profile Uncertainty," presented at the 2016 Seismological Society of America (SSA) Annual Meeting, Reno, Nevada, April 20-23, 2016.
8. Cox, B.R. "Utilizing Direct-Push Crosshole Testing to Assess the Effectiveness of Soil Stiffening Caused by Installation of Shallow Ground Improvements," presented at the ASCE 2016 Geotechnical and Structural Engineering Congress, Phoenix, AZ, Feb. 14-17, 2016.
9. Cox, B.R. (Invited) "Shear Wave Velocity Uncertainty and its Relation to Variability in Site Response Using a Dispersion Misfit Approach," presented at the 6th International Conference on Earthquake Geotechnical Engineering, Christchurch, New Zealand, 1-4 November 2015.

10. Cox, B.R. (Invited) "Variability in Active- and Passive-Source Dispersion Data Obtained using Various Processing Methods," presented at the 2nd INTERPACIFIC Workshop, Torino, Italy, July 2-3, 2015.
11. Cox, B.R. (Invited) "Stacking and Signal-to-Noise Ratio Assessment in Active-Source Surface Wave Measurements," presented at the 2nd INTERPACIFIC Workshop, Torino, Italy, July 2-3, 2015.
12. Cox, B.R. (Invited) "A Systematic Approach to the Inversion of Surface Wave Data Using Limited A-priori Information: Effects of Layering Parameterization," presented at the 2nd INTERPACIFIC Workshop, Torino, Italy, July 2-3, 2015.
13. Cox, B.R. (Invited) "A Surface Wave Dispersion Approach for Evaluating Statistical Models that Account for Vs Uncertainty in Site Response," presented at the USGS Forum on the Use of Non-invasive Surface Wave Techniques for Characterizing Site Conditions," Caltech Campus, Pasadena, CA, April 24, 2015.
14. Cox, B.R. "A Systematic Approach to the Inversion of Surface Wave Data Using Limited A-priori Information: Effects of Layering Parameterization," presented at the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) Annual Meeting, Austin, TX, March 23, 2015.
15. Cox, B.R. (Invited) "Evaluation of Shallow Ground Improvement for Liquefaction Mitigation in Christchurch, New Zealand," presented at the International Foundation Congress and Equipment Expo (IFCEE), San Antonio, TX, March 20, 2015.
16. Cox, B.R. (Invited) "NEES Helping to Build a Resilient Christchurch: Towards Deep Basin Characterization and Liquefaction Mitigation," presented at the 10th U.S. National Conference on Earthquake Engineering NEES Luncheon, Anchorage, AK, 21-25 July, 2014.
17. Cox, B.R. "Developing Reliable Deep Vs Profiles Beneath Christchurch by Merging Large Active-Source and Ambient-Wavefield Surface Wave Methods," presented at the 10th U.S. National Conference on Earthquake Engineering, Anchorage, AK, 21-25 July, 2014.
18. Cox, B.R. (Invited) "Analysis of the InterPacific Surface Wave Datasets: Significant Results and Conclusions," presented at the 1st INTERPACIFIC Workshop, Torino, Italy, 22-23 May, 2014.
19. Cox, B.R. (Invited) "Analysis of the InterPacific Borehole Methods Datasets: Relevant Results and Conclusions," presented at the 1st INTERPACIFIC Workshop, Torino, Italy, 22-23 May, 2014.
20. Cox, B.R. "Synthesis of the UTexas1 Surface Wave Dataset Blind-Analysis Study: Inter-Analyst Dispersion and Shear Wave Velocity Uncertainty," presented at ASCE Geo-Congress 2014: Geo-Characterization and Modeling for Sustainability, Atlanta, GA, February 23-26, 2014.
21. Cox, B.R. "Deep Vs Profiling for Dynamic Characterization of Christchurch, New Zealand: Towards Reliably Merging Large Active-Source and Ambient-Wavefield Surface Wave Methods," presented at Quake Summit 2013 – NEES Annual Meeting, Reno, NV, August 8, 2013.
22. Cox, B.R. "Deep Vs Profiling for Dynamic Characterization of Christchurch, New Zealand: Towards Reliably Merging Large Active-Source and Ambient-Wavefield Surface

Wave Methods," presented at the International Conference on Earthquake Geotechnical Engineering: From Case History to Practice - in honour of Professor Kenji Ishihara, Istanbul, Turkey, June 17-19, 2013.

23. Cox, B.R. (Invited) "Liquefaction at Strong Motion Stations and in Urayasu City During the 2011 Great East Japan Earthquake," presented at the Pacific Earthquake Engineering Research Center (PEER) TSRP Liquefaction Workshop, Berkeley, CA, April 24, 2013.
24. Cox, B.R. "Topographic Effects from Longwall Coal Mining Seismicity: Phase I Experimental Setup and Results" presented at the Second International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28-30, 2012.
25. Cox, B.R. (Invited) "Liquefaction Lessons Learned from Recent Post-Earthquake Reconnaissance" presented at the Liquefaction State-of-the-Art Forum: Consequences & Mitigation, St. Louis, MO, April 19, 2012.
26. Cox, B.R. (Invited) "Geotechnical Lessons Learned from the M7.0 2010 Haiti Earthquake: Why the Palace Fell" presented at the Earthquake Engineering Research Institute Annual Meeting and National Earthquake Conference, Memphis, TN, April 11, 2012.
27. Cox, B.R. "A comparison of SPT-Based Empirical Liquefaction Triggering Procedures for Soils at Significant Depths (+20 m)" presented at the ASCE GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, Oakland, CA, March 27, 2012.
28. Cox, B.R. "In-Situ Measurements of Pore Pressure Generation and Nonlinear Shear Modulus Behavior at the Wildlife Liquefaction Array" presented at the 24th Symposium on the Application of Geophysics to Engineering and Environmental Problems, Charleston, South Carolina, April 10-14, 2011.
29. Cox, B.R. (Invited) "Structural Health Monitoring: Ideas for China-U.S. Collaboration" presented at the NSF-sponsored Workshop on China-US Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment, Purdue University, West Lafayette, Indiana, August 23-24, 2010.
30. Cox, B.R. "Towards Quantifying Movement of a Massive Lateral Spread Using High-Resolution Satellite Image Processing" presented at 9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders, Toronto, Canada, July 27, 2010.
31. Cox, B.R. (Invited) "The M8.0 Pisco, Peru Earthquake of August 15, 2007" presented at Fifth International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, San Diego, CA, May 28, 2010.
32. Cox, B.R. "A Comparison of Linear-Array Surface Wave Methods at a Soft Soil Site in the Mississippi Embayment" presented at ASCE Geo Florida, West Palm Beach, FL, February 22, 2010
33. Cox, B.R. (Invited) "Turning Disaster into Knowledge: The M8.0 Pisco Peru Earthquake of August 15, 2007" presented at the NSF-Sponsored Geo-engineering Extreme Events Reconnaissance (GEER) Workshop, Berkeley, CA, May 18, 2009.
34. Cox, B.R. (Invited) "Surface Wave Site Characterization" presented at the Pile Driving Contractors Association (PDCA) Professors' Driven Pile Institute, Logan, UT, June 17, 2009.

35. Cox, B.R. (Invited) "Development of a Direct Test Method for Dynamically Assessing the Liquefaction Resistance of Soils In-Situ" presented at the Earthquake Engineering Research Institute Annual Meeting, Los Angeles, CA, February 10, 2007.

***Technical Presentations:** Regional/State/Local Meetings or Conferences*

1. Cox, B.R. "NEES Helping to Build a Resilient Christchurch: Towards Deep Basin Characterization and Liquefaction Mitigation," presented at the University of Texas Earthquake Engineering Research Institute Student Chapter Meeting, Austin, TX, October 22, 2014.
2. Cox, B.R. "Deep Vs Profiling for Dynamic Characterization of Christchurch, New Zealand: Towards Reliably Merging Large Active-Source and Ambient-Wavefield Surface Wave Methods," presented at the University of Texas Institute for Geophysics Seminar, Austin, TX, March 28, 2014.
3. Cox, B.R. "My Experiences as an Earthquake Engineer," presented at Elsa England Elementary School, Round Rock, TX, March 21, 2014.
4. Cox, B.R. "Why the Palace Fell - The 2010 Haiti Earthquake: from Reconnaissance to Reconstruction" presented at St. Stephen's Episcopal School, Austin, TX, February 13, 2014.
5. Cox, B.R. "Topographic Effects in Earthquake Ground Motions: Insights Gained from Field Studies of Frequent and Predictable Mining Seismicity" presented at the UT Austin Acoustics Seminar, Austin, TX, November 9, 2012.
6. Cox, B.R. "Lessons Learned from Recent Geotechnical Earthquake Reconnaissance" presented at the UT Austin CAEE External Advisory Committee Meeting, Austin, TX, November 2, 2012.
7. Cox, B.R. "Liquefaction Lessons Learned from Recent Post-Earthquake Reconnaissance" presented at the UT Austin EERI Student Chapter Seminar, Austin, TX, October 24, 2012.
8. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at St. Joseph Catholic School, Fayetteville, AR, January 27, 2012.
9. Cox, B.R. "Lessons Learned from Recent Global Earthquakes" presented at the Arkansas Governor's Earthquake Advisory Council, Jonesboro, AR, January 19, 2012.
10. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at Central Jr. High School, Springdale, AR, December 9, 2011.
11. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at the ATC-20 Post earthquake Safety Evaluation of Buildings seminar, Fayetteville, AR, December 2, 2011.
12. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at Oakdale Middle School, Rogers, AR, November 18, 2011.
13. Cox, B.R. "Earthquake Engineering Reconnaissance: Turning Disaster into Knowledge" presented at the College of Engineering Alumni and Friends Luncheon, Clinton Library, Little Rock, AR, November 8, 2011.

14. Cox, B.R. "Why the Palace Fell - The 2010 Haiti Earthquake: from Reconnaissance to Reconstruction" presented at the Freshman Engineering Program, The University of Arkansas, Fayetteville, AR, September 20, 2011.
15. Cox, B.R. "Evaluation of Basal Reinforcement of Flexible Pavements (the Marked Tree project)" presented at the Arkansas State Highway and Transportation Department (AHTD), Transportation Research Committee, Little Rock, AR, April 26, 2011.
16. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at Lynch Middle School, Farmington, AR, January 27, 2011.
17. Cox, B.R. "Geotechnical Earthquake Engineering Reconnaissance" presented at the University of Arkansas Board of Advisors Meeting, Fayetteville, AR, September 24, 2010.
18. Cox, B.R. "2010 Haiti Earthquake: from Reconnaissance to Rebuilding" presented at the University of Arkansas Geosciences Colloquium, Fayetteville, AR, September 3, 2010.
19. Cox, B.R. "2010 Haiti Earthquake from Reconnaissance to Rebuilding" presented at the Arkansas State Highway and Transportation Department (AHTD), Transportation Research Committee, Little Rock, AR, May 12, 2010.
20. Cox, B.R. "Geotechnical Earthquake Engineering Reconnaissance" presented at the University of Arkansas College of Engineering Spring 2010 Advisory Council, Fayetteville, AR, April 9, 2010.
21. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at Central Jr. High School, Springdale, AR, December 4, 2009.
22. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at the ATC-20 Post earthquake Safety Evaluation of Buildings seminar, Fayetteville, AR, November 20, 2009.
23. Cox, B.R. "Accelerated Characterization of Full-Scale Reinforced Flexible Pavement Models Using a Vibroseis" presented at the Arkansas State Highway and Transportation Department (AHTD), Transportation Research Committee, Little Rock, AR, November 17, 2009.
24. Cox, B.R. "Evaluation of Basal Reinforcement of Flexible Pavements II" presented at the Arkansas State Highway and Transportation Department (AHTD), Transportation Research Committee, Little Rock, AR, November 17, 2009.
25. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at the University of Arkansas Engineering and Science Partnership mini-workshop, Fayetteville, AR, October 24, 2009.
26. Cox, B.R. "Accelerated Characterization of Full-Scale Reinforced Flexible Pavement Models Using a Vibroseis" presented at the Mack Blackwell Rural Transportation Center (MBTC) Annual Advisory Board meeting, Fayetteville, AR, October 20, 2009.
27. Cox, B.R. "Earthquakes and Their Engineering Effects" presented at Oakdale Middle School, Rogers, AR, October 9, 2009.
28. Cox, B.R. "Soil Liquefaction and Its Engineering Effects" presented at the Arkansas Governor's Earthquake Advisory Council (AGEAC) meeting, Blytheville, AR, July 23, 2009.

29. Cox, B.R. "Transportation Infrastructure Damage from Recent Earthquakes" Arkansas State Highway and Transportation Department, Transportation Research Committee, Little Rock, AR, May 5, 2009.
30. Cox, B.R. "Evaluation of Basal Reinforcement of Flexible Pavements" Arkansas State Highway and Transportation Department, Transportation Research Committee, Little Rock, AR, May 5, 2009.
31. Cox, B.R. "Earthquake Issues of Special Interest in Arkansas" presented at the ATC-20 Post earthquake Safety Evaluation of Buildings seminar, Fayetteville, AR, November 7, 2008.
32. Cox, B.R. "Geotechnical Failures Observed in the Recent Pisco, Peru and Iwate-Miyagi Earthquakes" presented at the ASCE Arkansas State Section Annual Meeting and Conference, Little Rock, AR, September 5, 2008.
33. Cox, B.R. "Geotechnical Failures Observed in the Recent Pisco, Peru and Iwate-Miyagi Earthquakes" presented at the Arkansas Division of Emergency Management (ADEM) Fall Conference, Fort Smith, AR, August 29, 2008.
34. Cox, B.R. "Practical Lessons Learned from Recent Large Earthquakes and How They Apply to Arkansas" presented at the Arkansas Governor's Earthquake Advisory Council (AGEAC) meeting, Jonesboro, AR, July 25, 2008.
35. Cox, B.R. "Development of a Direct Test Method for Dynamically Assessing the Liquefaction Resistance of Soils In Situ" presented at the Arkansas Academy of Civil Engineers meeting, Fayetteville, AR, April 11, 2008.
36. Cox, B.R. "Earthquake Issues of Special Interest in Arkansas: Soil Liquefaction and Deep/Soft Soil Amplification of Earthquake Ground Motions" presented at the ATC-20 Post earthquake Safety Evaluation of Buildings seminar, Fayetteville, AR, October 19, 2007.
37. Cox, B.R. "Geotechnical Earthquake Engineering: What it is and Why Arkansas Should Care" presented at the Arkansas Academy of Civil Engineers meeting, Fayetteville, AR, April 13, 2007.
38. Cox, B.R. "What Will Happen in Northwest Arkansas When the 'Big One' Hits New Madrid" presented at the Northwest Arkansas Section Meeting of ASCE, Fayetteville, AR, November 1, 2006.

COURSES TAUGHT

Introduction to Geotechnical Engineering (undergraduate, CE 357, U. Texas)

Introduction to Computer Methods (undergraduate, CE 311K, U. Texas)

In-Situ Site Characterization (graduate, CE 397, U. Texas)

Geotechnical Earthquake Engineering (graduate, CE 387R5, U. Texas)

Design and Construction of Underground Openings (graduate, CE 397, U. Texas)

Soil and Rock Dynamics (graduate, CE 387R, U. Texas)

Soil Mechanics (undergraduate, CVEG 3133, U. Arkansas)

Foundation Engineering (undergraduate, CVEG 4143, U. Arkansas)

Geotechnical Design Project (undergraduate, CVEG 4821, U. Arkansas)

Earth Retaining Structures (graduate, CVEG 5153, U. Arkansas)

Geotechnical Earthquake Engineering (graduate, CVEG 5193, U. Arkansas)

Soil Dynamics (graduate, CVEG 5113, U. Arkansas)

In-Situ Site Characterization (graduate, ENEQ 682, University of Canterbury, New Zealand)

STUDENT ADVISEES

Ph.D. Advisees (4 completed)

- Andrew C. Stolte, "Advancements in Direct-Push Seismic Testing", Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, May 2018 (dissertation). Post-doc at the University of Canterbury QuakeCore Center.
- David P. Teague, "Addressing Surface Wave Inversion Non-Uniqueness and the Implications for Seismic Site Response Analyses", Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, August 2017 (dissertation). Consulting engineer at ENGEO Incorporated.
- Shawn C. Griffiths, "Issues Related to Site Property Variability and Shear Strength in Site Response Analysis", Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, August 2015 (dissertation). Assistant Professor at the University of Wyoming.
- Clinton M. Wood, "Field Investigation of Topographic Effects using Mine Seismicity," Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, August 2013 (dissertation). Assistant Professor, University of Arkansas.

M.S. Advisees (10 completed)

- Michael B. Yust, "Dynamic Site Characterization of TxNet Ground Motion Stations," Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, May 2018 (thesis).
- Joseph Vantassel, "Mapping Depth to Bedrock, Shear Stiffness, and Fundamental Site Period at CentrePort, Wellington using Surface Wave Methods: Implications for Local Seismic Site Amplification," Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, May 2018 (departmental report/journal publication).
- Kaleigh A. McLaughlin, Investigation of False-Positive Liquefaction Case Histories in Christchurch, New Zealand, Funded by the U.S. National Science Foundation, May 2017 (thesis).
- David P. Teague, *Reliably Merging Large Active-Source and Passive-Wavefield Surface Wave Methods,* Funded by the U.S. National Science Foundation, May 2014.
- Taylor Goldman, *The Marked Tree Site: Evaluation of Basal Reinforcement of Flexible Pavements with Geosynthetics*, Funded by Arkansas State Highway and Transportation Department, Dec. 2011 (thesis).
- Shawn C. Griffiths, Practical Recommendations for Evaluation and Mitigation of Deep Soil Liquefaction, Funded by the USDOT Mack-Blackwell Rural Transportation Center, May 2011 (thesis).

- Christina N. Trowler, *Accelerated Characterization of Full-scale Reinforced Flexible Pavement Models Using a Vibroseis*, Funded by the USDOT Mack-Blackwell Rural Transportation Center, May 2010 (thesis).
- Jeremy A. Brooks, *Strain Gage Installation and Survivability on Geosynthetics Used in Flexible Pavements*, Funded by Arkansas State Highway and Transportation Department, Dec. 2009 (thesis).
- Clinton M. Wood, *The Impact of Source Type, Source Offset and Receiver Spacing on Experimental MASW Data at Soft-over-Stiff Sites*, Funded by University of Arkansas Department of Civil Engineering Startup Funds, May 2009 (thesis).
- Andrew N. Beekman, *A Comparison of Experimental ReMi Measurements with Various Source, Array and Site Conditions*, Funded by University of Arkansas Department of Civil Engineering Startup Funds, Aug. 2008 (thesis).

Doctoral Thesis Advisees (4 in progress)

- Tianjian Cheng, *Quantifying Uncertainty in Horizontal-to-Vertical Spectral Ratio (HVSR) Measurements for Engineering Analyses*. (expected graduation May 2019).
- Zachary McClellan, Characterization of Dynamic Ground Response for High-Speed Rail Design. (expected graduation December 2019).
- Joseph Vantassel, *Advanced 2D/3D Subsurface Imaging for Engineering Analyses*. (expected graduation May 2021).
- Michael Yust, *High-resolution stress wave measurements for in-situ evaluation of void ratio*. (expected graduation May 2021).

Master's Thesis Advisees (1 in progress)

- Mohamad Hallal, *Refining Texas Velocity Models Over the Top 500m via Deep Surface Wave Profiling*

PROFESSIONAL CONTRIBUTIONS

Professional Registration

Registered Professional Engineer, State of Arkansas, PE Serial Number 14249

Professional Activities

- *NSF-GEER Earthquake Reconnaissance Teams*: Documented geotechnical failures immediately following the August 15, 2007 **Pisco Peru Earthquake** (Mw = 8.0), the June 14, 2008 **Iwate-Miyagi Japan Earthquake** (Mw = 6.9), the January 12, 2010 **Haiti Earthquake** (Mw = 7.0), and the September 4, 2010 **Darfield New Zealand Earthquake** (Mw = 7.1) as part of GEER (Geo-engineering Extreme Events Reconnaissance). Funded by the National Science Foundation.
- *Post-earthquake Shear Wave Velocity Profiling*: Conducted post-earthquake shear wave profiling at strong motion stations and liquefaction sites using surface wave methods following the 1999 **Kocaeli Turkey Earthquake** (Mw = 7.4), the 2001 **Nisqually (Seattle) Earthquake** (Mw 6.8), the 2006 **Kiholo Bay (Big Island) Hawaii Earthquake**, the 2011 **Christchurch New Zealand Earthquake** (M_L = 6.3), the 2011 **Tohoku Japan Earthquake**

(Mw = 9.0), the 2016 **Ecuador Earthquake** (Mw = 7.8), and the 2016 **Kaikoura New Zealand Earthquake** (Mw = 7.8).

- *Crosshole, Downhole, and Surface Wave Seismic Testing at Critical Facilities*: Conducted deep (1000-3000 ft) downhole testing (VSP) for seismic site characterization of the **DOE Hanford Site** and **Yucca Mountain Project**, 2006-2007. Performed spectral analysis of surface waves (SASW) testing at the **Device Assembly Facility** (DAF; Nevada Test Site), the Yucca Mountain Project, the Hanford Site, the **Y-12 National Security Complex**, **Los Alamos National Laboratory**, and the **Duke-Lee and Grand Gulf nuclear power plants**. Shear wave velocity profiles were developed to record depths at both Yucca Mountain (1500 ft) and Hanford (2000 ft) using NEES@UTexas servo hydraulic shakers, 2004-2007. Performed Crosshole seismic testing at the Y-12 National Security Complex, **Oak Ridge National Laboratory**, Los Alamos National Laboratory, and Duke-Lee nuclear power plant, 2003-2008. Performed Downhole seismic testing at Oak Ridge National Lab, 2010. Performed topographic amplification study at Los Alamos National Lab, 2014. Performed deep shear wave velocity profiling at **TVA Sequoyah nuclear power plant** via combined active-source (MASW) and ambient-wavefield (MAM) surface wave methods, 2016.
- *Blast Monitoring*: Installed temporary and permanent blast monitoring equipment for Zero Mountain, Inc. in Johnson, Arkansas, 2007.
- *City Life Project*: Used spectral analysis of surface waves (SASW) to develop shear wave velocity profiles used in the design of three high-rise buildings associated with the City Life project in Milan, Italy, April 2008.
- *Void Detection*: Used multi-channel analysis of surface waves (MASW) to develop continuous 2D velocity profiles for void/soft-spot detection at Little Rock National Airport, Little Rock, Arkansas, July 2009.
- *Vibroseis Operation for Exploration Geophysics*: Operated a mini-vibe Vibroseis truck for exploration geophysics work for Denbury Resources Inc. (Delhi, LA source study; July 2009) and Apex HiPoint LLC (Denton, TX; November 2009).
- *Seismic Microzonation*: Conducted SASW surface wave testing with a Vibroseis truck at over 30 sites in Fairbanks, Alaska in August 2009 for microzonation of the city via V_{s30} seismic site classification. Conducted MASW surface wave testing at 36 sites in Port-au-Prince, Haiti in April 2010 for microzonation of the city via V_{s30} seismic site classification.
- *International Geosynthetics Society Educate the Educator Short Course*, Selected Participant, Austin, TX, July 28-29, 2015.
- *NSF-sponsored Workshop on China-US Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment*, Invited Participant, Purdue University, West Lafayette, Indiana, August 23-24, 2010.
- *PDCA Professor's Driven Pile Institute*, Selected Participant, Utah State University, Logan, UT, June 14-19, 2009.
- *NSF-sponsored Workshop for the Geo-engineering Extreme Events Reconnaissance Association*, Invited Participant, University of California at Berkeley, Berkeley, CA, May 18-19, 2009.
- *ADSC Foundation Engineering Faculty Workshop*, Selected Participant, Chattanooga, TN, June 8-14, 2008.

- *ASCE Excellence in Civil Engineering Education (ExCEEd) Teaching Workshop*, Selected Participant, Northern Arizona University, Flagstaff, AZ, July 15-20, 2007.

Professional Affiliations and Service

- Graduate Program Advisor, Geotechnical Faculty Group, CAEE Department, The University of Texas. 2017-pres.
- Faculty Advisor, Genesis Program (http://genesisprogram.org/), Founded by the Longhorn Engineering Advisory Delegation (LEAD), The Genesis Program provides UT Austin students with mentors, investment experience, and early stage funding for start-ups. 2016 – pres.
- Corresponding Member, International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) Technical Committee: Earthquake Geotechnical Engineering (TC203), 2016-pres.
- Member, University of Texas CAEE Department, Geotechnical Faculty Search Committee, 2018
- Member, University of Texas CAEE Graduate Studies and Fellowship Committee, 2017-pres.
- Member, University of Texas CAEE IT Committee, 2016-pres.
- Member, ASTM Committee D18 on Soil and Rock, 2010-pres.
- Member, ASCE Geo-Institute Engineering Geology and Site Characterization Committee, 2016-pres.
- Member, ASCE Geo-Institute Earthquake Engineering and Soil Dynamics Committee, 2008-pres.
- Member, American Society of Civil Engineers (ASCE), 2006-pres.
- Member, Geotechnical Extreme Events Reconnaissance (GEER), 2006-pres.
- Member, Earthquake Engineering Research Institute (EERI), 2004-pres.
- Member, University of Texas CAEE Curriculum Committee, 2012-2017
- Member, ASCE Geo-Institute Geophysical Engineering Committee, 2008-2016.
- Member, University of Texas CAEE Distinguished Lecture Series Committee, 2012-2016
- Member, INTERPACIFIC Project Committee (Intercomparison of methods for site parameter and velocity profile characterization), 2012-2016.
- Associate Editor, *Journal of Geotechnical and Geoenvironmental Engineering*, 2012-2015.
- Member, NEES Data and Curation Subcommittee, 2011-2015.
- Member, University of Texas CAEE Department Chair Search Committee, 2013
- Member, University of Arkansas Scholarship Committee, 2009-2012
- Member, Arkansas Governor's Earthquake Advisory Council (AGEAC), 2007-2012.
- Member, University of Arkansas, Dept. of Civil Eng., Grad. Student Committee, 2006-2012.
- Reviewer, ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, EERI *Earthquake Spectra, Soil Dynamics and Earthquake Engineering,* ASTM *Geotechnical Testing Journal, Canadian Geotechnical Journal, Bulletin of the Seismological Society of America, Geophysics Journal International, Soil and Foundations*

Media Articles/Interviews

- "NHERI@UTexas Microtremor Stations: Revolutionary Work in Garner Valley", Spring 2017 NHERI Quarterly Publication, April 7, 2017, https://www.designsafe-ci.org/community/news/2017/nheriutexas-microtremor-stations/
- "Earthquake simulation in Longview helps scientists understand "the Big One"", The Daily News, June 24, 2016, (http://tdn.com/news/local/earthquake-simulation-in-longview-helps-scientists-understand-the-big-one/article_6fdb2b99-dc9b-5b7c-9ce9-cff5a638726c.html).
- "Using T-Rex to Test for The Big One", KOIN6 News (CBS affiliate), June 24, 2016, (http://koin.com/2016/06/24/using-t-rex-to-test-for-the-big-one/).
- "This Truck Shakes the Ground So Hard it can Simulate Earthquakes", Gizmodo, August 28, 2014, (http://gizmodo.com/this-truck-shakes-the-ground-so-hard-it-can-simulate-ea-1627679288).
- "Lessons from a Portable Earthquake Machine", The Boston Globe, August 27, 2014, (http://www.bostonglobe.com/ideas/2014/08/27/meet-rex-portable-earthquake-machine/QtEf9Z9wzxNYCE7k6K9J1J/story.html).
- "UT Engineers Shake Up Earthquake Research in New Zealand", Alcalde: The Official Publication of the Texas Exes, August 6, 2013, (http://alcalde.texasexes.org/2013/08/ut-engineers-shake-up-earthquake-research-in-new-zealand/).
- "Hacking the Planet – Earthquakes", The Weather Channel, airdate Thursday, March 21st, 2013, 30 minute feature (http://www.weather.com/video/hacking-an-earthquake-35747).
- "T-Rex Takes on Shaky Christchurch", University of Texas Cockrell School of Engineering, February 4, 2013, (http://www.engr.utexas.edu/features/7536-brady-cox-trex-shaker-truck).
- "Quake-making Truck Heads to Christchurch", The New Zealand Herald, January 31, 2013, http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10862613
- "Earthquake Truck Shakes to Test the Ground", The Weather Channel, January 30, 2013, http://www.weather.com/news/trex-earthquake-truck-20130130
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