TYLER QUICK, P.E.

PHD CANDIDATE
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EDUCATION

PhD Student, Civil and Environmental Engineering (Expected Graduation: May 2021)
Virginia Polytechnic Institute and State University, 2016-Present, 4.00 GPA
Focus: Geotechnical Earthquake Engineering
Dissertation: A Framework for Evaluating Liquefaction Triggering Potential due to Induced Seismicity
Advisors: Professors Russell A. Green and James K. Mitchell

Master of Science, Civil and Environmental Engineering
Brigham Young University, 2011, 4.00 GPA
Thesis: Temporal and Spatial Variability of Base Materials Treated with Asphalt Emulsion
Advisor: Professor W. Spencer Guthrie

Bachelor of Science, Civil and Environmental Engineering, Minor in Mathematics
Brigham Young University, 2010, 3.90 GPA, Cum Laude

EXPERIENCE

Graduate Research Assistant, Virginia Tech, August 2016 - Present

- Primary Research Topic: Evaluation of liquefaction triggering potential due to induced seismicity. Efforts include field investigations, laboratory testing, processing and manipulation of ground motions, site response analysis, and statistical regression.
- Additional Research Areas: Evaluation of pavement subgrades using geophysical methods and other non-destructive surface tests. Dewatering, in-situ improvement, and stability of coal ash.

Graduate Teaching Assistant, Virginia Tech, Jan 2020 – May 2020

- Instructor of Record for CEE3514: Introduction to Geotechnical Engineering
- Prepared and gave lectures, homework, and exams in both in-person and remote learning formats

Geotechnical Engineer, US Army Corps of Engineers - Seattle District, Jun 2011 - Aug 2016

- Conducted field investigations for and designed military and civilian projects including airfields, hangars, slope stabilization, cultural resource protection, and environmental restoration projects.
- Performed levee design and construction, levee inspections, risk assessments, sponsor coordination, and public outreach in support of the Seattle District levee safety mission.
- Performed risk assessments and issue evaluation studies for high risk dams and levees as part of the Northwest Division Risk Cadre.
- Oversaw construction and supported bid and contract negotiations for military and civil works projects.

Professional Engineering (P.E.) Licensure, Washington State, Dec 2014

Research Assistant, Brigham Young University, February 2009 - June 2011

- Primary Research Topic: Spatial variability and early strength-gain behavior of asphalt emulsion-treated road base used in reclaimed pavement systems.
- Additional Research Areas: Cement-stabilization of road base, micro-cracking of cement-treated base, frost-heave in high-fines subgrades, bridge deck testing, moisture and vapor transmission in pavement subgrades during freeze-thaw cycling.

Teaching Assistant, Brigham Young University, August 2009 - April 2010

- Teaching assistant for CEEN 321, Structural Analysis.
- Worked as a TA lab instructor, grader, and substitute instructor for class.

Tyler Quick **Virginia Tech**

Relevant Skills and Coursework

- Slide, RS2, SLOPE/W, SEEP/W, Python, R, MATLAB, AutoCAD/Civil3D, MicroStation, gINT, ArcGIS, ProjectWise, Java, VBA, Microsoft Office
- Graduate Courses Taken: earthquake engineering, seepage and slope stability, structural dynamics, foundations, geologic engineering, shear strength, risk analysis, numerical modelling, machine learning, coastal engineering, instrumentation and signal processing, statistics, pavement design, Portland cement design, and channel design

Scholarships and Grants

- Charles Via Ph.D. Fellowship, Virginia Polytechnic Institute and State University, 2016
- Science, Mathematics, and Research for Transformation Scholarship, DoD, 2010 - 2011
- National Merit Scholarship, Brigham Young University, 2005 - 2010

Awards and Recognitions

- Innovation of the Year Award, US Army Corps of Engineers, Seattle District - 2014
- Seattle Federal Executive Board Service Recognition - 2012
- Civil Engineering Outstanding Graduate, BYU Civil and Environmental Engineering Department - 2010
- Tau Beta Pi Engineering Honor Society - 2008

Professional Affiliations

- American Society of Civil Engineers, 2007 - present
- Seismological Society of America, 2017 - present
- Earthquake Engineering Research Institute, 2018 - present
- American Concrete Institute, 2010 - present

Peer-Reviewed Papers

1. **Quick, T. J.**, Green, R. A., Rathje, E., and Mitchell, J. K. (2020). "Evaluating Liquefaction Triggering Potential at Sites Impacted by the 2016 Mw5.8 Pawnee, Oklahoma, Induced Earthquake." *Proceedings of GeoCongress 2020*, Minneapolis, MN.
2. Ebnet, A., Hess-Brittelle, S., **Quick**, **T.,** and Schulz, S. (2016). "Remedial Drilling and Grouting at Abiquiu Dam, NM and Fluid Losses in the Embankment, a Case History." *Proc. of the International Conference on Deep Foundations, Seepage Control and Remediation (41st Annual), 2016, New York, NY*, Deep Foundations Institute, Hawthorne, NJ.
3. **Quick, T.** and Guthrie, W.S. (2011). "Early-Age Structural Properties of Base Material Treated with Asphalt Emulsion." *Transportation Research Record: Journal of the Transportation Research Board*, No. 2253, Transportation Research Board of the National Academies, Washington, D.C., pp. 40-50.

Other Research Publications

1. **Quick, T. J.**, Green, R. A., Rathje, E. M., and Mitchel, J, K. (2021). *Evaluating Liquefaction Triggering Potential from Induced Seismicity*. U.S. Geological Survey Grant G18AP00094, U.S. Geologic Survey, Reston, VA.
2. Gurney, L.R., **Quick**, **T.J.,** Guthrie, W.S., and Eggett, D.L. (2013). *Compositional and Structural Properties of Emulsion-Treated Base Material: 7800 South in West Jordan, Utah*. Report UT-13.07. Utah Department of Transportation, Salt Lake City, UT.
3. **Quick, T.J.** (2011). *Temporal and Spatial Variability of Base Materials Treated with Asphalt Emulsion*. M.S. Thesis, Brigham Young University, Civil and Environmental Engineering, Provo, UT.
4. Guthrie, W.S., and **Quick, T.J.** (2011). *Temporal and Spatial Variability of Base Materials Treated with Asphalt Emulsion*. Report UT-13.06. Utah Department of Transportation, Salt Lake City, UT, October 2011.

Professional and Community Service

- Directed and participated in engineering outreach activities for elementary, middle, and high school students and community members in several cities in Virginia and at Virginia Tech, Sep 2016 - Present
- Faculty Liaison and Treasurer, Virginia Tech Geotechnical Student Organization, Nov 2016 - Present
- Recreational league coach for U6-U13 soccer teams, Aug 2018 - Present
- Eagle Scout, Boy Scouts of America - 2001