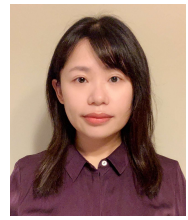




DAN DING, Ph.D., P.E.  
Project Engineer



### Professional Experience

Joined DBA 2019

Total years of experience: 5

Postdoctoral Researcher, University of Missouri, Columbia, MO (2018-2019)

Adjunct Assistant Professor, University of Missouri, Columbia, MO (2016-2018)

Geotechnical Laboratory Engineer, Geocomp, Acton, MA (2015-2016)

### Education

Ph.D., Civil and Environmental Engineering, University of Missouri, 2014

Ph.D. minor in Statistics, University of Missouri, 2014

M.S., Civil and Environmental Engineering, Chengdu University of Technology, China, 2008

B.S., Civil Engineering, Chongqing University, China, 2005

### Professional Licensure and Certifications

Licensed Professional Engineer in California

### Fields of Expertise

Geotechnical site characterization

Geotechnical laboratory testing

Uncertainty and risk analyses

Reliability-based design

Soil mechanics

### Major Projects

**US Norway Brook Dam** – Pine River, Minnesota (2019-2020) – Performed seepage and stability analyses for the existing dam. The overall project included construction of a bridge adjacent to the dam, shifting traffic from the roadway on top of the dam to the new bridge, and then removing the dam. Seepage and stability analyses were completed in consideration of the dam's current condition to assist in identifying risks. Further analysis was performed under various construction scenarios/stages which culminated with an Emergency Action Plan during construction and installation of piezometers for monitoring.

**AASHTO Specification 10.4 Revision** – (2019-2020) – Summarized design models; quantified the associated uncertainties for foundations; developed modifiers to apply on resistance factors to compensate for design parameters acquired from well site characterization.

**I-30 Crossing** – Little Rock, AR (2020) – Performed site investigation for bridge foundations, such as field tests and barge drilling and rock coring in the Arkansas River.

**US-231 Emergency Slide Repair** – Morgan County, AL (2020) – Monitored and recorded construction activities at the site, which included predrilling, excavation, and bottom cleanout, etc. for drilled shaft foundations.

**Probabilistic Approach for the Design of Drilled Shafts Socketed in Weak Rock in Oklahoma** – (2017-2019) – Selected load test sites; performed rock coring and laboratory testing; developed resistance models for axial loading from the load test results; and incorporated models into load and resistance factor design (LRFD) specifications.

**Reliability-Based Geotechnical Resistance Factors for Axially Loaded Micropiles** – (2017-2019) – Collected and synthesized load tests data; updated specifications that will include new models of micropile resistance and probabilistically calibrated resistance factors. The resistance factors will address strength and service limit states, as well as both single micropiles and micropile groups.

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**Load and Resistance Factor Design of Bridge Foundations** – (2011-2014) – Calibrated and established resistance factors considering uncertainty in soil parameters; developed a new method to account for uncertainty from insufficient site information for LRFD of foundations; and evaluated reliability of foundation designs for different design methods, at different sites and having different scales of site investigations.

**Site Characterization for LRFD of Drilled Shafts in Missouri** – (2008-2011) – Led the laboratory component of a comprehensive site characterization research project; conducted sampling and site exploration using high quality sampling techniques at four soil sites and five shale sites in Missouri; performed advanced laboratory tests on hundreds of soil and shale specimens; and compared the bias, uncertainty and variability of soil parameters acquired using different boring, sampling and testing techniques.

**Professional Memberships**

American Society of Civil Engineers (ASCE)

Geo-Institute (GI) of the ASCE

Transportation Research Board (TRB): Friend of Committee AFS30, Foundation of Bridges and Other Structures

K.B. Woods Award for best paper in design and construction, TRB (2015)

**Selected Publications and Presentations**

Ding, D. and J.E. Loehr (2019). "Variability and Bias in Undrained Shear Strength Established from Different Sampling and Testing Methods," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol 145, No. 10, pp.04019082. DOI: 10.1061/(ASCE)GT.1943-5606.0002121

Ding, D., J.E. Loehr, A.A. El-Ela, J.J. Bowders (2016). "Calibrations of Resistance Factors for Load and Resistance Factor Design to Establish Value for Site Characterization," *Procedia Engineering, Advances in Transportation Geotechnics III*, Vol 143, pp: 371-378. DOI: 10.1016/j.proeng.2016.06.047

Loehr, J.E., D. Ding, and W.J. Likos (2015). "Effect of Number of Soil Strength Measurements on Reliability of Spread Footing Designs," *Transportation Research Record: Journal of the Transportation Research Board*, TRR No. 2511, Transportation Research Board, pp. 37-44. <http://dx.doi.org/10.3141/2511-05> (2015 K.B. Woods Award)

Ding, D., Likos, W.J. and Loehr, J.E. (2014). "Variability and Uncertainty in Consolidation and Settlement Parameters from Different Sampling and Testing Methods," *Soil Behavior Fundamentals to Innovations in Geotechnical Engineering, Honoring Roy Olson*, ASCE, pp: 338-351. DOI: 10.1061/9780784413265.027

J.E. Loehr, A.Z. Boeckmann, P.L. Speckman, D. Ding (2013). Research Report to Missouri Department of Transportation: Procedures of Establishing Geotechnical Design Parameters from Two Data Sources. No. cmr14-002, 22 pp.

Maerz, N. H., Magner, K. A., Likos, W.J., Loehr, J.E., Ding, D., and Miller, A. (2010). "Evaluating Properties of Weak Shales in Missouri," *Proceedings of the 44th US Rock Mechanics Symposium and 5th US-Canada Rock Mechanics Symposium*, Salt Lake City, UT.