**Wenping Gong**, Ph.D., Research Assistant Professor

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## EDUCATION

1. Doctor of Philosophy in Civil Engineering, December 2014
   Clemson University, Clemson, SC, USA
   Advisors: Dr. Hsein Juang and Dr. Sez Atamturktur
2. Bachelor of Science in Civil Engineering, July 2011
   Tongji University, Shanghai, China
   Advisor: Dr. Hongwei Huang

## EXPERIENCE

1. Research Assistant Professor, Clemson University, January 2015—present
2. Research Assistant, Clemson University, August 2012—December 2014
3. Teaching Assistant, Clemson University, August 2012—August 2014
4. Research Assistant, Tongji University, September 2011—August 2012

## RESEARCH AREAS

1. Uncertainty, reliability, and risk in geological and geotechnical engineering
2. Slope and landslide analysis and risk assessment
3. Ground motion, soil liquefaction and ground deformation
4. Tunneling and underground construction

## HONORS AND AWARDS

1. Excellent Paper Award, Journal of GeoEngineering, March 2015
2. Best Paper Award, GeoShanghai2014 International Conference, May 2014
3. Nomination for Best Paper Award (Wilson H. Tang Best Paper Award) by 6th Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA6)
4. Nomination for Best Paper Award (Middlebrooks Award) by ASCE Risk Assessment and Management Committee 2015
5. Nomination for Best Paper Award, Georisk, an international journal, 2015
6. Aniket Shrikhande Memorial Graduate Fellowship, Clemson University, April 2014

## RESEARCH PROJECTS

1. Robust Concept-Based Earth Slope Stability Analysis and Control (CKLGGP2013-04),

Open Fund of Chongqing Key Laboratory of Geomechanics & Geoenvironment Protection (Logistical Engineering University); Principal Investigator.

2. Transforming Robust Design Concept into a Novel Geotechnical Design Tool (CMMI-1200117), National Science Foundation; primary Research Assistant.

**REFEREED JOURNAL PUBLICATIONS** (*corresponding author)

1. **Gong, W.,** Tien, Y. M., Juang, C. H.*, Martin, J. R., and Zhang, J. (2016). "Calibration of empirical models considering model fidelity and model robustness—Focusing on predictions of liquefaction-induced settlements." Engineering Geology, 203, 168-177.
2. Xiao, J., **Gong, W.***, Martin II, J. R., Shen, M., and Luo, Z. (2016). Probabilistic seismic stability analysis of slope at a given site in a specified exposure time. Engineering Geology, 212, 53-62.
3. **Gong, W.**, Juang, C.H.*, and Martin II, J. R. (2016). A new framework for probabilistic analysis of the performance of a supported excavation in clay considering spatial variability. Géotechnique (online).
4. **Gong, W.**, Khoshnevisan, S., and Juang, C. H.* (2014). "Gradient-based design robustness measure for robust geotechnical design." Canadian Geotechnical Journal, 51(11), 1331-1342.
5. **Gong, W.**, Huang, H., Juang, C. H.*, Atamturktur, S., and Brownlow, A. (2015). "Improved shield tunnel design methodology incorporating design robustness." Canadian Geotechnical Journal, 52(10), 1575-1591.
6. **Gong, W.**, Juang, C. H.*, Huang, H., Zhang, J., and Luo, Z. (2015). "Improved analytical model for circumferential behavior of jointed shield tunnels considering the longitudinal differential settlement." Tunnelling and Underground Space Technology, 45, 153-165.
7. **Gong, W.**, Juang, C. H.*, Khoshnevisan, S., and Phoon, K. K. (2016). "R-LRFD: Load and resistance factor design considering robustness." Computers and Geotechnics, 74, 74-87.
8. **Gong, W.**, Luo, Z., Juang, C. H.*, Huang, H., Zhang, J., and Wang, L. (2014). "Optimization of site exploration program for improved prediction of tunneling-induced ground settlement in clays." Computers and Geotechnics, 56, 69-79.
9. **Gong, W.**, Wang, L., Juang, C. H.*, Zhang, J., and Huang, H. (2014). "Robust geotechnical design of shield-driven tunnels." Computers and Geotechnics, 56, 191-201.
10. **Gong, W.**, Wang, L., Khoshnevisan, S., Juang, C. H.*, Huang, H., and Zhang, J. (2015). "Robust geotechnical design of earth slopes using fuzzy sets." Journal of Geotechnical and Geoenvironmental Engineering, ASCE 141(1), 04014084.
11. **Gong, W.**, Juang, C. H.*, Martin, J. R., and Ching, J. (2016). "New sampling method and procedures for estimating failure probability." Journal of Engineering Mechanics, ASCE, 142(4), 04015107.
12. **Gong, W.,** Tien, Y. M., Juang, C. H.*, Martin, J. R., and Luo, Z. (2016). "Optimization of site investigation program for improved statistical characterization of geotechnical property based on random field theory." Bulletin of Engineering Geology and the

Environment (online).

13. **Gong, W.**, Huang, H., Juang, C. H.*, and Wang, L. (2016) "Simplified robust geotechnical design of soldier pile-anchor tieback shoring system for deep excavation." Marine Georesources & Geotechnology (online).
14. **Gong, W.**, Juang, C. H.*, and Martin II, J. R. (2016). "Numerical integration method for computing reliability index of a geotechnical system." Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards, 10(2), 109-120. (EI)
15. Khoshnevisan, S., Juang, C. H., Zhou, Y., and **Gong, W.*** (2015). "Probabilistic assessment of liquefaction-induced lateral spreads using CPT – Focusing on the 2010-2011 Canterbury earthquakes." Engineering Geology, 192, 113-128.
16. Huang, H., **Gong, W.**, Khoshnevisan, S., Juang, C. H.*, Zhang, D., and Wang, L. (2015). "Simplified procedure for finite element analysis of the longitudinal performance of shield tunnels considering spatial soil variability in longitudinal direction." Computers and Geotechnics, 64, 132-145.
17. Khoshnevisan, S., **Gong, W.***, Juang, C. H., and Atamturktur, S. (2015). "Efficient robust geotechnical design of drilled shafts in clay using a spreadsheet." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(2), 04014092. (Nominated for Best Paper Award (Middlebrooks Award) by ASCE Risk Assessment and Management Committee)
18. Huang, H.*, **Gong, W.**, Juang, C. H., and Zhang, J. (2014). "Robust geotechnical design of gravity retaining wall." Journal of Tongji University (natural science), 42(3), 377-385 (in Chinese).
19. Xiao, J. H., Luo, Z.*, Martin, J. R., **Gong, W.,** and Wang, L. (2016) "Probabilistic geotechnical analysis of energy piles in granular soils." Engineering Geology, 209, 119-127.
20. Sert, S., Luo, Z.*, Xiao, J., **Gong, W.**, and Juang, C. H. (2016), "Probabilistic analysis of responses of cantilever wall-supported excavations in sands considering vertical spatial variability." Computers and Geotechnics, 75, 182-191.
21. Shen, M., Chen, Q.*, Zhang, J., **Gong, W.**, and Juang, C. H. (2016). "Predicting liquefaction probability based on shear wave velocity: An update." Bulletin of Engineering Geology and the Environment (online).
22. Peng, X., Li, D. Q.*, Cao, Z. J., **Gong, W.**, and Juang, C. H. (2016). "Reliability-based robust geotechnical design using Monte Carlo simulation." Bulletin of Engineering Geology and the Environment (online).
23. Khoshnevisan, S., **Gong, W.**, Wang, L., and Juang, C. H.* (2014). "Robust design in geotechnical engineering – An update." Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards, 8(4), 217-234. (Nominated for Best Paper Award)
24. Luo, Z.*, Wang, L., **Gong, W.**, and Juang, C. H. (2015). "Probabilistic approaches for ultimate resistance of drilled shafts in sands considering spatial variability." Geotechnical Engineering Journal, Southeast Asian Geotechnical Society, 46(2), 102-110.
25. Wang, L., Juang, C. H.*, Atamturktur, S., **Gong, W.**, Khoshnevisan, S., and Hsieh, H. S.

(2014). "Optimization of design of supported excavations in multi-layer strata." Journal of GeoEngineering, 9(1), 1-12. (Excellent Paper Award)

## REFEREED CONFERENCE PUBLICATIONS

26. Juang, C. H., Zhang, J., and **Gong, W.** (2015). "Reliability-based assessment of stability of slopes." In IOP Conference Series: Earth and Environmental Science and International Symposium on Geohazards and Geomechanics 2015 (ISGG 2015) (Vol. 26, No. 1, p. 012006). IOP Publishing. (keynote paper)
27. Juang, C. H., **Gong, W.**, Khoshnevisan, S., and Wang, L. (2016). "Some considerations and examples for robust geotechnical design." 6th Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA6). (keynote paper)
28. **Gong, W.**, Luo, Z., Wang, L., Huang, H., and Juang, C. H. (2014). "Optimization of site exploration effort to improve the accuracy of tunneling-induced ground settlement prediction in soft clays." Geo-Congress 2014 Technical Papers, GSP 234 © ASCE 2014 (pp: 505-514).
29. **Gong, W.**, Khoshnevisan, S., Huang, H., Juang, C. H., and Zhang, J. (2015). "R-LRFD: robust load and resistance factor design." IFCEE2015, © ASCE 2015 (pp: 299-308).
30. **Gong, W**., Juang, C. H., Martin, II, J. R., and Zhang, J. (2015). "An efficient method to compute the failure probability." 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12).
31. **Gong, W.**, Juang, C. H., Martin, II, J. R., and Huang, W. (2016). "Numerical integration method for estimating failure probability." 6th Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA6). (Nominated for Best Paper Award - Wilson H. Tang Best Paper Award)
32. **Gong, W.**, Juang, C. H., and Martin, II, J. R., (2016). "New approach for evaluating serviceability failure probability of earth-retaining system for deep excavation in spatially random field" Geotechnical and Structural Engineering Congress 2016. (abstract paper)
33. Huang, H., **Gong, W.**, Khoshnevisan, S., and Juang, C. H. (2014). "Robust geotechnical design of shield-driven tunnels using fuzzy sets." Tunneling and Underground Construction**,** GSP 242 © ASCE 2014 (pp: 184-194).
34. Wang, L., Luo, Z., **Gong, W.**, Khoshnevisan, S., and Juang, C. H. (2014). "Moment methods for assessing the probability of serviceability failure in braced excavations." Geo-Congress 2014 Technical Papers, GSP 234 © ASCE 2014 (pp: 3293-3302).
35. Wang, L., **Gong, W.**, Luo, Z., and Juang, C. H. (2015). "Reliability-based robust geotechnical design of rock bolts for slope stabilization." IFCEE 2015 © ASCE 2015 (pp: 1926-1935).
36. Khoshnevisan, S., Wang, L., **Gong, W.**, and Juang, C. H. (2015). "Robust design optimization applied to braced excavations." IFCEE 2015, © ASCE 2015 (pp: 1380-1388).
37. Huang, H., **Gong, W.**, Zhang, D., Zhang, J., and Juang, C. H. (2015). "Robust design of shield tunnels" XVI European Conference on Soil Mechanics and Geotechnical

Engineering (ECSMGE 2015), Geotechnical Engineering for Infrastructure and Development - Proceedings of the XVI European Conference on Soil Mechanics and Geotechnical Engineering, 2(7), 279-284.

38. Luo, Z., Sert, S., **Gong, W.**, and Juang, C. H. (2015). "Finite element analysis of supported excavations considering spatial variability." GeoEquebe 2015, Canada.

## Book Chapter

1. Reliability of Geotechnical Structures in ISO2394. By Phoon, K.K. and Retief. (co-author in one chapter).

## PATENTS AS CO-INVENTOR

1. Formation Resistance Action Characteristic Simulation Test Part (China Patent 2011103014341, issued on April 10, 2013).
2. Test Device of Vertical Structure Model of Shield Tunnel (China Patent 2011103014322, issued on April 10, 2013).

## Technical Presentation

1. 03/24/2014: "Optimization of the level of site exploration effort for improving accuracy of tunneling-induced ground settlement prediction in soft clays." Geo-Congress Conference, Atlanta.
2. 05/27/2014: "Robust design in geotechnical engineering." GeoShanghai2014 International Conference (Tongji-Cambridge-Rub-ACTUE Joint Seminar), Shanghai.
3. 05/28/2014: "Robust geotechnical design of shield-driven tunnel using fuzzy sets." GeoShanghai2014 International Conference (GSP7-Tunneling and Underground Construction), Shanghai.
4. 03/19/2015: "R-LRFD: Robust load and resistance factor design method." IFCEE2015 International Conference (Analysis and Design), San Antonio, Texas.
5. 07/14/2015: "An efficient method to compute the failure probability" 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12), Vancouver, Canada.
6. 02/16/2016: "New approach for evaluating serviceability failure probability of earth-retaining system for deep excavation in spatially random field" Geotechnical and Structural Engineering Congress 2016.
7. 05/29/2016: "Numerical integration method for estimating failure probability." 6th Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA 6).

## PROFESSIONAL MEMBERSHIPS/REGISTRATION

1. American Society of Civil Engineers (ASCE), Associate Member
2. ASCE/G-I Risk Assessment and Management Committee, Member
3. Risk and Insurance Research Branch of China Civil Engineering Society, Member

## Editorial Boards of International Journals

1. Engineering Geology (IF=2.196)
2. Bulletin of Engineering Geology and the Environment (IF=1.252)
3. International Journal of Geotechnical Engineering
4. Marine Georesources & Geotechnology (IF=0.761)

## TECHNICAL JOURNAL REVIEWER

1. Engineering Geology
2. Engineering Structures
3. Canadian Geotechnical Journal
4. International Journal for Numerical and Analytical Methods in Geomechanics
5. Tunnelling and Underground Space Technology
6. Computers and Geotechnics
7. ASCE Journal of Geotechnical and Geoenvironmental Engineering
8. ASCE Journal of Engineering Mechanics
9. Bulletin of Engineering Geology and the Environment
10. Marine Georesources & Geotechnology
11. Mathematical Problems in Engineering
12. Journal of GeoEngineering
13. Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards

## Others

1. Geo-Risk 2017/ISGSR 2017 Scientific Committee
2. 6th Asian-Pacific Symposium on Structural Reliability and its Applications, Session Chair