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
Geotechnical risk and reliability, spatial variability, probabilistic site characterization, probabilistic soil/rock properties

期刊論文 (Journal Papers)

✉ corresponding author

1. Ching, J.✉ and Wang, J.S. (2016). Application of the transitional Markov chain Monte Carlo to probabilistic site characterization, *Engineering Geology*, 203, 151-167. (SCI)
2. Ching, J.✉, Wu, S.H., and Phoon, K.K. (2016). Statistical characterization of random field parameters using frequentist and Bayesian approaches, *Canadian Geotechnical Journal*, 53(2), 285-298. (SCI)
3. Ching, J.✉, Hu, Y.G., and Phoon, K.K. (2016). On characterizing spatially variable soil shear strength using spatial average, *Probabilistic Engineering Mechanics*, 45, 31-43. (SCI)
4. Ching, J.✉, Tong, X.W., and Hu, Y.G. (2016). Effective Young's modulus for a spatially variable elementary soil mass subjected to a simple stress state, *Georisk*, 10(1), 11-26. (SCI)
5. Ching, J.✉, Lee, S.W., and Phoon, K.K. (2016). Undrained strength for a 3D spatially variable clay column subjected to compression or shear, *Probabilistic Engineering Mechanics*, 45, 127-139. (SCI)
6. Ching, J.✉ and S.P. Sung (2016). Simulating a curve average in a stationary normal random field using Fourier series method, *Journal of GeoEngineering*, 11(1), 33-43. (EI)
7. Gong, W.✉, Juang, C.H., Martin, J.R., and Ching, J. (2016). New sampling method and procedures for estimating failure probability, *ASCE Journal of Engineering Mechanics*, 142(4), 04015107. (SCI)
8. Ching, J.✉, Phoon, K.K., and Wu, S.H. (2016). Impact of statistical uncertainty on geotechnical reliability estimation, *ASCE Journal of Engineering Mechanics*, 142(6), 04016027. (SCI)
9. Phoon, K.K.✉, Retief, J.V., Ching, J., Dithinde, M., Schweckendiek, T., Wang, Y., and Zhang, L. (2016). Some observations on ISO2394:2015 Annex D (Reliability of Geotechnical Structures), *Structural Safety*, 62, 24-33. (SCI)
10. Ching, J.✉, Phoon, K.K., and Li, D.Q. (2016). Robust estimation of correlation coefficients among soil parameters under the multivariate normal framework, *Structural Safety*, 63, 21-32. (SCI)
11. Ching, J.✉ and Hu, Y.G. (2016). Effect of element size in random field finite element simulation on effective Young's modulus, *Mathematical Problems in Engineering*, Volume 2016, Article ID 8756271. (SCI)
12. Chen, J.C.✉, Yang, J., and Ching, J. (2016). Estimating peak flow-discharge during extreme rainfall events for the Gao-Ping river, Taiwan. *International Journal of Safety and Security Engineering*, 6(3), 663-673. (EI)
13. Ching, J.✉, Wu, T.J., and Phoon, K.K. (2016). Spatial correlation for transformation uncertainty and its applications, *Georisk*, 10(4), 294-311. (SCI)
14. Ching, J.✉, Phoon, K.K., and Pan, Y.K. (2017). On characterizing spatially variable soil Young's modulus using spatial average, *Structural Safety*, 66, 106-117. (SCI)
15. Ching, J.✉, Lin, G.H., Chen, J.R., and Phoon, K.K. (2017). Transformation models for effective friction angle and relative density calibrated based on a multivariate database of coarse-grained soils, *Canadian Geotechnical Journal*, 54(4), 481-501. (SCI)

16. [Ching, J.](#) and Phoon, K.K. (2017). Characterizing uncertain site-specific trend function by sparse Bayesian learning, *ASCE Journal of Engineering Mechanics*, 143(7), 04017028. (SCI)
17. [Ching, J.](#), Phoon, K.K., and Sung, S.P. (2017). Worst case scale of fluctuation in basal heave analysis involving spatially variable clays, *Structural Safety*, 68, 28-42. (SCI)
18. [Ching, J.](#) and Wang, J.S. (2017). Discussion: Transitional Markov Chain Monte Carlo: Observations and Improvements, *ASCE Journal of Engineering Mechanics*, 143(9), 07017001. (SCI)
19. [Ching, J.](#), Phoon, K.K., Beck, J.L., and Huang, Y. (2017). Identifiability of geotechnical site-specific trend functions, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 3(4), 04017021. (SCI)
20. [Ching, J.](#) and Wu, T.J. (2017). Probabilistic transformation model for preconsolidation stress based on clay index properties, *Engineering Geology*, 226, 33-43. (SCI)
21. [Ching, J.](#), Lin, G.H., Phoon, K.K., and Chen, J.R. (2017). Correlations among some parameters of coarse-grained soils – the multivariate probability distribution model, *Canadian Geotechnical Journal*, 54(9), 1203-1220. (SCI)
22. [Ching, J.](#), Hu, Y.G., and Phoon, K.K. (2018). Effective Young's modulus of a spatially variable soil mass under a footing. *Structural Safety*, 73, 99-113. (SCI)
23. [Ching, J.](#) (2018). What does the soil parameter estimated from a transformation model really mean? *Journal of GeoEngineering*, 13(3), 105-113. (EI)
24. [Ching, J.](#), Wu, T.J., Stuedlein, A.W., and Bong, T. (2018). Estimating horizontal scale of fluctuation with limited CPT soundings. *Geoscience Frontiers*, 9, 1597-1608. (SCI)
25. [Ching, J.](#), Li, K.H., Phoon, K.K., and Weng, M.C. (2018). Generic transformation models for some intact rock properties. *Canadian Geotechnical Journal*, 55(12), 1702-1741. (SCI)
26. Tabarrokhi, M. and [Ching, J.](#) (2019). Discretization error in random finite element method for spatially variable undrained shear strength, *Computers and Geotechnics*, 105, 183-194. (SCI)
27. [Ching, J.](#) and Phoon, K.K. (2019). Impact of auto-correlation function model on the probability of failure. *ASCE Journal of Engineering Mechanics*, 145(1), 04018123. (SCI)
28. [Ching, J.](#) and Phoon, K.K. (2019). Constructing site-specific multivariate probabilistic distribution model by Bayesian machine learning, *ASCE Journal of Engineering Mechanics*, 145(1), 04018126. (SCI)
29. Yang, Z.Y. and [Ching, J.](#) (2019). A novel simplified geotechnical reliability analysis method, *Applied Mathematical Modelling*, 74, 337-349. (SCI)
30. [Ching, J.](#), Phoon, K.K., Stuedlein, A.W., and Jaksa, M. (2019). Identification of sample path smoothness in soil spatial variability. *Structural Safety*, 81, 101870. (SCI)
31. [Ching, J.](#), Phoon, K.K., Li, K.H., and Weng, M.C. (2019). Multivariate probability distribution for some intact rock properties, *Canadian Geotechnical Journal*, 56(8), 1080-1097. (SCI)
32. Lee, S.W. and [Ching, J.](#) (2020). Simplified risk assessment for a spatially variable undrained long slope. *Computers and Geotechnics*, 117, 103228. (SCI)
33. [Ching, J.](#), Phoon, K.K., Chen, K.F., Orr, T.L.L., and Schneider, H.R. (2020). Statistical determination of multivariate characteristic values using quantile-value method. *Structural Safety*, 82, 101893. (SCI)
34. [Ching, J.](#) and Phoon, K.K. (2020). Measuring similarity between site-specific data and records from other sites. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 6(2), 04020011. (SCI)
35. [Ching, J.](#) and Phoon, K.K. (2020). Constructing a site-specific multivariate probability distribution using sparse, incomplete, and spatially variable (MUSIC-X) data. *ASCE Journal of Engineering Mechanics*, 146(7), 04020061. (SCI)
36. [Ching, J.](#), Phoon, K.K., Khan, Z., Zhang, D.M., and Huang, H.W. (2020). Role of municipal database in constructing site-specific multivariate probability distribution. *Computers and Geotechnics*, 124, 103623. (SCI)
37. Ignatius, T., Ou, C.Y., and [Ching, J.](#) (2020). Calibration of reliability-based safety factors for sand boiling in excavations, *Canadian Geotechnical Journal*, 57(5), 742-753. (SCI)
38. Yang, Z.Y. and [Ching, J.](#) (2020). Reliability-based design method based on quantile-based first-order second-moment. *Applied Mathematical Modeling*, 88, 461-473. (SCI)

39. Cami, B., Javankhoshdel, S., Phoon, K.K. , and Ching, J. (2020). Scale of fluctuation for spatially varying soils: estimation methods and values. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 6(4), 03120002. (SCI)
40. Ching, J. , Huang, W.H., and Phoon, K.K. (2020). 3D probabilistic site characterization by sparse Bayesian learning. *ASCE Journal of Engineering Mechanics*, 146(12), 04020134. (SCI)
41. Ching, J.  (2020). Value of geotechnical BIG DATA and its application in site-specific soil property estimation. *Journal of GeoEngineering*, 15(4), 173-182. (EI)

研討會論文 (Conference Papers)

1. Ching, J., Wang, J.S., and Phoon, K.K. (2016). Consistency of maximum likelihood estimates for random field parameters. APSSRA 2016.
2. Ching, J., Pan, Y.K., and Phoon, K.K. (2016). A unified spatial averaging model for effective Young's modulus of a three-dimensional spatially variable elementary soil mass. APSSRA 2016.
3. Phoon, K.K. and Ching, J. (2016). Mobilized shear strength in spatially variable soils. ISSRI 2016. **(keynote paper)**
4. Ching, J. and Hu, Y.G. (2017). Effective Young's modulus for a footing on a spatially variable soil mass. Geo-Risk 2017/6th ISGSR.
5. Ching, J. and Phoon, K.K. (2017). Characterizing unknown trend using sparse Bayesian learning. Geo-Risk 2017/6th ISGSR.
6. Ching, J., Hu, Y.G., and Tabarrok, M. (2017). Mobilization of spatially variable shear strength. ICOSSAR 2017.
7. Ching, J. (2017). Construction of site-specific probabilistic transformation model for geotechnical design. Int. Symp. on Life-cycle Engineering and Sustainability Infrastructure. **(keynote lecture)**
8. Phoon, K.K. and Ching, J. (2017). Homogenization of shear strength and modulus in spatially variable soils. IACMAG 2017. **(invited lecture)**
9. Phoon, K.K. and Ching, J. (2017). Better correlations for geotechnical design. GeoSS 10th Anniversary Conference. **(State-of-the-Practice Lecture)**
10. Ching, J. and Phoon, K.K. (2018). Bayesian data mining for a generic geotechnical database. 6 ISRERM. **(keynote lecture)**
11. Ching, J. and Phoon, K.K. (2018). Constructing multivariate probability distribution for soil properties based on site-specific data. 6 ISRERM.
12. Ching, J. and Phoon, K.K. (2018). Mobilized Young's modulus of a footing. 6 ISRERM.
13. Ching, J. and Phoon, K.K. (2018). Impact of sample path smoothness of random field on geotechnical reliability. 5th National Symposium on Engineering Risk & Insurance Research. **(keynote lecture)**
14. Ching, J. and Phoon, K.K. (2019). Making use of a generic geotechnical database for site-specific purposes. 13th Chinese National Conference on Soil Mechanics and Geotechnical Engineering. **(invited lecture)**
15. Ching, J. and Phoon, K.K. (2019). Role of generic soil database in site-specific soil property estimation. 16th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering. **(keynote lecture)**

16. Phoon, K.K. and Ching, J. (2019). Managing uncertain ground truth using Bayesian machine learning. 29th European Safety and Reliability Conference. (**keynote lecture**)
17. Phoon, K.K. and Ching, J. (2019). The “site challenge” in geotechnical engineering. 13th International Conference on Applications of Statistics and Probability in Civil Engineering. (**keynote lecture**)
18. Phoon, K.K., Ching, J., and Wang, Y. (2019). Managing risk in geotechnical engineering – from data to digitalization. 7th International Symposium on Geotechnical Safety and Risk. (**Suzanne Lacasse lecture**)
19. Ching, J. (2019). Constructing site-specific multivariate probability distribution model: Hybridization versus hierarchical Bayesian analysis. International Symposium on Reliability of Multi-disciplinary Engineering Systems under Uncertainty. (**keynote lecture**)
20. Ching, J. and Phoon, K.K. (2020). Learning about a site using sparse site-specific data - recent advancements. 7th Asian-Pacific Symposium on Structural Reliability and Its Applications. (**keynote lecture**)
21. Ching, J. (2020). Value of geotechnical BIG DATA – Soil/rock property estimation & geotechnical structure performance prediction. (大地工程講座, Taiwan Geotechnical Society)

專書及專書論文(Monographs and Monograph Papers)

1. Hu, Y.G., Ching, J.[✉], and K.K. Phoon (2016). Can a spatially variable field be converted into a homogeneous spatial average over an influence zone? GSP in memory of the late Professor Wilson H. Tang.
2. Phoon, K.K., Prakoso, W.A., Wang, Y., and Ching, J. (2016). Uncertainty representation of geotechnical design parameters. Chap 3 in Reliability of Geotechnical Structures in ISO2394, Eds. KK Phoon & JV Retief, CRC Press/Balkema.
3. Ching, J., Li, D.Q., and Phoon, K.K. (2016). Statistical characterization of multivariate geotechnical data. Chap 4 in Reliability of Geotechnical Structures in ISO2394, Eds. KK Phoon & JV Retief, CRC Press/Balkema.
4. Dithinde, M., Phoon, K.K., Ching, J., Zhang, L.M., and Retief, J.V. (2016). Statistical Characterisation of Model Uncertainty. Chap 5 in Reliability of Geotechnical Structures in ISO2394, Eds. KK Phoon & JV Retief, CRC Press/Balkema.
5. Phoon, K.K. and Ching, J. (2016). Semi-probabilistic reliability-based design. Chap 6 in Reliability of Geotechnical Structures in ISO2394, Eds. KK Phoon & JV Retief, CRC Press/Balkema.
6. Ching, J., Li, D. Q. & Zhang, J. (Eds) (2019). Proceedings, 7th International Symposium on Geotechnical Safety and Risk, Research Publishing, 11-13 December 2019, Taipei, Taiwan, 899pp.