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

期刊論文 (Journal Paper)

corresponding author

1. Hu, Y.G. and Ching, J. (2015). Impact of spatial variability in soil shear strength on active lateral forces, *Structural Safety*, 52, 121-131. (SCI)
2. Ching, J. and Phoon, K.K. (2015). Reducing the transformation uncertainty for the mobilized undrained shear strength of clays, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 141(2), 04014103. (SCI)
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4. Ching, J., Phoon, K.K., and Yang, J.J. (2015). Role of redundancy in simplified geotechnical reliability-based design - a quantile value method perspective, *Structural Safety*, 55, 37-48. (SCI)
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6. Ching, J., Wang, J.S., Juang, C.H., and Ku, C.S. (2015). CPT-based stratigraphic profiling using the wavelet transform modulus maxima, *Canadian Geotechnical Journal*, 52(12), 1993-2007. (SCI)
7. 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)

8. 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)
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12. 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)
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14. 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)
15. 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)
16. 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)
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20. 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)
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24. 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)
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28. 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)
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31. 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)
32. 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)

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研討會論文 (Conference Paper)

1. Phoon, K.K. and Ching, J. (2015). Is there anything better than LRFD for simplified geotechnical RBD? ISGSR 2015. (Wilson Tang Lecture)
2. Ching, J., Wu, S.H., and Phoon, K.K. (2015). Quantifying statistical uncertainty in site investigation. ISGSR 2015.
3. Hu, Y.G., Ching, J., and Phoon, K.K. (2015). Can the effect of shear strength spatial variability be summarized as the pure spatial average? 15 ARC.
4. Ching, J., Hu, Y.G., and Phoon, K.K. (2015). On the use of spatially averaged shear strength for the bearing capacity of a shallow foundation. ICASP 12.
5. Ching, J. and Pan, Y.K. (2015). First two moments of effective Young's modulus for a three-dimensional spatially variable soil mass, 2015 SRES.
6. Ching, J., Wang, J.S., and Phoon, K.K. (2016). Consistency of maximum likelihood estimates for random field parameters. APSSRA 2016.
7. 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.
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9. Ching, J. and Phoon, K.K. (2017). Characterizing unknown trend using sparse Bayesian learning. Geo-Risk 2017/6th ISGSR.

10. Ching, J., Hu, Y.G., and Tabarroki, M. (2017). Mobilization of spatially variable shear strength. ICOSSAR 2017.
11. Ching, J. (2017). Construction of site-specific probabilistic transformation model for geotechnical design. Int. Symp. on Life-cycle Engineering and Sustainability Infrastructure. (keynote)
12. Phoon, K.K. and Ching, J. (2017). Homogenization of shear strength and modulus in spatially variable soils. IACMAG 2017. (invited lecture)
13. Phoon, K.K. and Ching, J. (2017). Better correlations for geotechnical design. GeoSS 10th Anniversary Conference. (State-of-the-Practice Lecture)
14. Ching, J. and Phoon, K.K. (2018). Bayesian data mining for a generic geotechnical database. 6 ISRERM. (keynote lecture)
15. Ching, J. and Phoon, K.K. (2018). Constructing multivariate probability distribution for soil properties based on site-specific data. 6 ISRERM.
16. Ching, J. and Phoon, K.K. (2018). Mobilized Young's modulus of a footing. 6 ISRERM.
17. 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)
18. 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)天津
19. 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)台北
20. Phoon, K.K. and Ching, J. (2019). Managing uncertain ground truth using Bayesian machine learning. 29th European Safety and Reliability Conference. (keynote lecture)德國
21. 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)南韓
22. 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)台北

23. 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) 台北

專書及專書論文

1. Phoon, K.K. and Ching, J. (2015). Risk and Reliability in Geotechnical Engineering. Taylor & Francis.
2. Ching, J. and K.K. Phoon (2015). Constructing multivariate distributions for soil parameters. Chap. 1 in Risk and Reliability in Geotechnical Engineering (Eds.: K.K. Phoon and J. Ching). Taylor & Francis.
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4. 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.
5. 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.
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8. 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.