

新加坡国立大学方国光教授学术报告



题目：ISO2394:2015 Annex D - Reliability of Geotechnical Structures

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地点：浙江大学（紫金港校区）安中大楼 A 326

报告简介：

ISO2394:2015 contains a new informative Annex D on “Reliability of Geotechnical Structures”. The emphasis in Annex D is to identify and characterize critical elements of the geotechnical reliability-based design (RBD) process, while respecting the diversity of geotechnical engineering practice. The most important element is the characterization of geotechnical variability and the next in line is arguably the characterization of model uncertainty. The key features of the first element are: (1) coefficient of variation (COV) of a geotechnical design parameter does not take a unique value, (2) multivariate nature of geotechnical data can be exploited to reduce the COV, and (3) spatial variability affects the limit state beyond reduction in COV due to spatial averaging. The second element is commonly carried out by taking the ratio of the measured result to the calculated result (called a model factor). This approach is entirely empirical, but it is practical. Because of its empirical basis, it is not surprising that there are limitations to this approach. The notable ones are lack of applicability to the serviceability limit state and correlation between the model factor and the input parameters in the prediction model.

报告人简介：

Kok-Kwang Phoon is Distinguished Professor and Vice Provost (Academic Personnel), National University of Singapore. He is a Professional Engineer in Singapore and past President of the Geotechnical Society of Singapore. His main research interests include statistical characterization of geotechnical parameters and reliability-based design in geotechnical engineering. He is the recipient of numerous research awards, including the highest and most prestigious technical paper award bestowed by the American Society of Civil Engineers (ASCE), the Norman Medal in 2005 and the highest research award bestowed by the National University of Singapore, the Outstanding Researcher Award in 2010. He is the Founding Editor of Georisk and Chair of TC304 (Engineering practice of risk assessment and management) in the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). He is a Fellow of the Academy of Engineering Singapore (elected 2012).

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