

Guest lecture

Risk Assessment in Geotechnical Engineering

by

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Geotechnical engineering has seen a rapid growth of interest in statistical methods and risk assessment. This seems a logical evolution, since soil is among the most variable of all engineering materials, and geotechnical engineers must often make do with whatever they encounter at a particular site. A risk assessment analysis may involve a "probability of failure", as opposed to the traditional "factor of safety", representing a fundamental shift in the way engineers need to think about the suitability of their designs. The seminar will review some of the benefits and potential pitfalls of these approaches, and describe some methods of probabilistic analysis, ranging from quite simple back-of-the-envelope calculations to more advanced computational approaches.

Vaughan Griffiths's interests lie in application of finite element and risk assessment methodologies in civil engineering. He has authored over 350 research papers, including some of the most highly cited in the geotechnical engineering research literature. He is the co-author of three textbooks that have gone into multiple editions including the Chinese language on "Programming the Finite Element Method", "Risk assessment in Geotechnical Engineering" and "Numerical Methods for Engineers". He gives regular short-courses on Risk Assessment in Geotechnical engineering for practitioners, with recent offerings in China, New Zealand, Australia, Colombia, Norway, Canada and the USA. Professor Griffiths is a former ASCE Director, an editor of Computers and Geotechnics, and was on the Advisory Panel of Géotechnique from 2012-2018. In 2017, he received the H. Bolton Seed Medal from the ASCE/Geo-Institute and was named the Cross-Canada Lecturer by the Canadian Geotechnical Society.

Venue:

25th April 2019, at 16:00, room 207

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