

PRACTICAL PROBABILITY METHODS IN CIVIL ENGINEERING

Speaker

Dr. Low Bak Kong

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Abstract

This talk presents examples of efficient first- and second-order reliability methods (FORM and SORM) across the broad spectrum of civil and environmental engineering. It will be shown that system reliability, importance sampling, and Monte Carlo simulations can be done as lucid extensions of FORM. The aim is to overcome conceptual and implementation hurdles of probability methods for engineers, advanced undergraduates, and master and PhD students. Instead of lengthy mathematics in the traditional approach, the same solutions are obtained quickly and clearly by automatic cell-based constrained optimization in a ubiquitous platform. The talk will focus on insights, alternative perspectives and comparisons with other methods. The valuable complementary role of reliability methods to the Eurocode 7 and LRFD will be discussed.

Biography

Dr. Bak Kong Low is a senior professor at the Universiti Tunku Abdul Rahman (UTAR) main campus of Kampar, Malaysia. Dr. Low earned a PhD at the University of California, Berkeley, and a BS and an MS at the Massachusetts Institute of Technology. He has taught at Nanyang Technological University (Singapore) for 35 years and is a Fellow of the American Society of Civil Engineers. He also remains a registered professional engineer of Malaysia. In 2019, Dr. Low received the prestigious Thomas A. Middlebrooks Award from the American Society of Civil Engineers.



15 April 2026
Wednesday



4:00pm - 5:30pm



**Room 3584A (Lift 27/28),
Academic Building,
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