

Department of Civil and Environmental Engineering Seminar Announcement

“Whole-Life Design of Geotechnical Infrastructure”

Presented by Joe Tom

The University of Western Australia
Perth, Australia

ABSTRACT

The conditions governing the geotechnical performance of civil infrastructure can in many cases vary significantly over the design life. This variation may take the form of changes in the operative strength, both reducing and increasing through episodes of pore pressure generation and dissipation, or changes in the geometry of the supporting soil, for instance around subaqueous structures founded on soils susceptible to erosion. By predicting these changes and their effects on the response of geosystems, engineers can improve the reliability and cost effectiveness of a range of infrastructure systems. This seminar will first describe the breadth of situations in which changes to either the founding soil geometry or strength are critical to the performance of geosystems. Two examples of such changes – seabed trenching beneath pipeline risers and whole-life capacity changes for offshore energy anchoring systems – will be presented, which illustrate both the direct application these concepts have for industry and the critical role of understanding fluid-soil-structure interaction processes in unlocking the benefits of whole-life changes for offshore and nearshore infrastructure.

Thursday, February 21, 2019
12:00 - 1:00 PM
B02 Coordinated Science Lab (CSL)
1308 W Main St, Urbana, IL 61801