

Revisiting the measurement of friction, stress and strain in physical modelling of geotechnical scenarios

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Seminar overview:

The talk presents the methodologies, results and discussion from three experimental studies which were aimed at understanding the interrelationship between stresses (normal pressures and shear loads) that develop between a soil and structural boundary and the normal pressures and normal strains that develop within a soil mass. The tests were performed on geo-mechanical scenarios for which we often make assumptions, or take for granted concepts without rigorously measuring or checking their consequences.

The scenarios considered include:

- Effects of friction along the walls of a laboratory Oedometer on the development of horizontal pressures.
- Friction and its effects on shear stress and normal soil pressures at the at-rest condition in a soil pressure vessel similar in size to a centrifuge strong box.
- Radial pressures and radial strains that develop in a granular soil mass as a pile is jacked into sand.

Biography:

Mark is a faculty member in Civil and Environmental Engineering at the Technion Israel Institute of Technology in Haifa. His working time is split between experimental geomechanics and engineering for developing communities. Mark's geomechanics research focuses on measuring soil parameters that are hard to quantify, or parameters that researchers have given up on measuring. His engineering for developing communities work focuses on equipping engineering students and engineering professionals with the tools, mindset and experience to create effective impact in the complex situation of a developing community.

When and where:

Wednesday, 26th September, 13:00
Board Room, Baker Building

Queries:

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