Sudoku and Geotechnical Solutions;
Lessons from a Parallel Universe of Limited Data
By Burt Look, DIC, PhD, FIEAust, DGE

Geotechnical engineering relies on data to reduce risk. We infer, interpolate and extrapolate often based on data limits with time and cost constraints also at work. Similarly, solving a Sudoku puzzle relies on seeing data relationships, but without time and cost constraints. So what has Sudoku got to do with risk in geotechnical engineering?

Sudoku may be entertaining, but the game can also teach us many lessons. For example, incomplete data increases the likely error. The same is true in geotechnical engineering. This is a metaphor journey to reveal the underlying relationship and lessons as Geotechnical engineering is also data-based, and we often solve problems using incomplete and conflicting data. Some parallel learning from this presentation include;

- The use of statistics in engineering
- Incorrect inferences
- The effect of time constraints on quality
- Different strategies for GE1 (normal geotechnical issues) to GE3 (difficult geotechnical issues)
- Seeing solutions with more data
- Updating knowledge

Within this framework parallel engineering case studies will be presented.
About the Presenter

Dr Burt Look is a Principal at the Foundations Specialists Group based in Brisbane. His early years in structural designs and civil works showed him there was a gap in understanding ground related issues. That led him to search for this knowledge at Imperial College, London where he completed his Master’s degree. He completed his PhD at The University of Queensland while also working at Queensland Main Roads.

He was formerly the Practice Leader at SKM (now Jacobs) and also a Principal and Geotechnical Leader at Aurecon. He was the past Chairman of the Queensland Chapter of the Australian Geomechanics Society and Chairman of the organising committee for the 10th Australia New Zealand Conference held in Brisbane in 2007. He was the 2014 Queensland Professional Engineer of the year. Burt is a strong advocate in learning and development and sharing of experiences. He has published over 60 technical papers and 3 books.

Please join us for this valuable insight in the speciality of Geotechnical Engineering.