

Weekly Research Seminar Series

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Flow characterisation in the vicinity of the underground caverns in fractured rock masses

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Abstract

Groundwater inflow into the caverns constructed in fractured bedrock was simulated by numerical methods. The study area was 3km x 5km and located in the coastal region of the northern Yeosu peninsula in Jeon-Nam province, Korea. The rock types in this area consist mainly of volcanic rocks with granites intruded to its' surroundings. The input parameters for flow characterization are based on surface fracture survey, core logging and single borehole hydraulic test data. In order to predict the groundwater inflow as accurately as possible, the anisotropic hydraulic conductivity was considered. The hydraulic conductivities were estimated from the fracture network properties and the in-situ data. With minor adjustment during calibration, the numerical mode is able to reproduce groundwater inflows into the cavern as well as the travel lengths and the surface arrival times through the flow paths.

WHEN: 12 October 2005, 4:00-4:30 PM

WHERE: Room 4.07

About the Speaker

William is a lecturer in the School of Engineering at Swinburne University of Technology, Sarawak campus. He obtained his Baccalaureus and Doctoral degrees from University of Wales Swansea, United Kingdom.