SEMINAR SERIES

The Engineer in Society

"Size dependent behaviour of intact rocks: recent findings and future direction"

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Thursday, 8th of February 2023, 16:30, Building 07, Room A010

https://ucy.zoom.us/meeting/register/u5wkf-6qrDosGdTwHrD23YPnxbckQaLsXfrj

Summary

The design of structures on or within rock masses requires an estimate of the strength of the intact rock blocks within the mass. These blocks of rock can be many orders of magnitude greater in size than laboratory samples typically tested. The properties obtained from these samples must therefore be 'scaled' to equivalent field values. This presentation talks about current methods for scaling strength and other rock properties and, in lieu of noted limitations, presents a constitutive model for intact rock that incorporates size effect. It also includes recent findings and works published regarding size or scale effects in intact rocks under various loading conditions.

Short Bio

Prof. Masoumi graduated from Tehran University, Iran with Bachelor of Science degree in Mining Engineering in 2007 and completed the level of Master of Mining Engineering, major in Mine Geomechanics and Mine Management in 2009 at the School of Mining Engineering, UNSW. He received his PhD degree in Geotechnical Engineering from the School of Civil and Environmental Engineering, UNSW in 2013. He had been an Associate Lecturer at the School of Mining Engineering from 2012 till 2016. He promoted to Lecturer in 2016 at UNSW and then moved to Monash University in Jan 2018 as a Senior Lecturer followed by his promotion in July 2022 to Associate Professor position. Currently, he is the Leader of Resources Engineering and Head of Resources Group at Monash University. He also holds the role of Director of Education at the Department of Civil Engineering, Monash University. His main research lies in the field of rock mechanics with particular interest in size/scale and shape effects on intact rocks. Constitutive modelling of intact rock exhibiting size/scale dependent behaviour under uniaxial and triaxial conditions is the key aspect of his research interest.

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