

ISRM RSRE commission seminar #1 given by Dr. Yingxin Zhou

Title: Use of rock caverns for sustainable development and urban resilience

Date & time: Oct. 26, 2026, start at 12:00 UTC

Zoom Link: <https://kth-se.zoom.us/j/69877764206>

Synopsis

This presentation explores the use of rock caverns to enhance urban sustainability and resilience with a diverse range of applications. Drawing from international examples and experiences from Singapore, it demonstrates how the strategic use of underground space and rock caverns can pivotal roles in addressing critical urban sustainability and resilience issues such as land scarcity, energy efficiency, environmental protection, climate change, defence and protection of critical infrastructure. It will also be demonstrated that cavern facilities, when planned and engineered properly, can be cost-effective. The talk concludes by advocating a strategic shift in mindset: underground rock space should be regarded as a valuable asset and actively planned for long-term urban sustainability and resilience.

Biography



Dr Zhou is a mining engineer with more than 30 years of experience in research, engineering, and teaching in rock engineering and underground space technology. He has been involved in several major rock engineering and underground space initiatives in Singapore and providing technical advice to the Singapore government agencies on underground space planning. Dr Zhou is a Fellow of the Academy of Engineering Singapore, Fellow of the International Society for Rock Mechanics and Engineering (ISRM) and a Board Member of the Associated research Centers for the Urban Underground Space (ACUUS), member of the Advisory Board for the TUST Journal. He is past Vice President of ACUUS and past Vice President (Asia) of ISRM. He received the Defence Technology Prize 2018 Individual (Engineering) Award in Singapore and was twice featured in the Institute of Engineers Singapore (IES) Who's Who in Engineering in Singapore in 2013 and 2020.