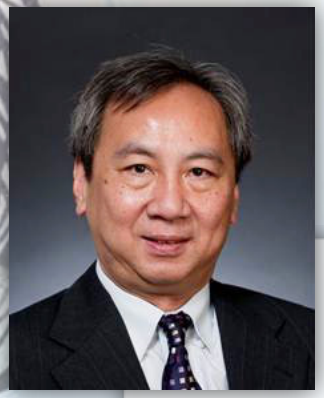
Building a Model of Coupled Elastic and Flow Properties of Porous Rock

Dr. Arthur Cheng

National University of Singapore,
Dept of Civil and Environmental Engineering



We present an approach to simultaneously model the transport properties (flow and resistivity) and elastic properties of a porous rock using a common rock physics model. The model is based on the contact asperity model of Walsh and Grosenbaugh (1979), with extension to 3D based on the Fabric Tensor formulation of Oda et al. (1982). It is proposed that the key to relate the transport and elastic properties is the stress dependent properties of the contact asperity model. We will present some initial results and comparisons with laboratory data of Han et al. (2011).

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3:00 p.m.

Conference Room, 3/F, Mong Man Wai Building

Enquires: 3943 9624 essc@cuhk.edu.hk