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*It's the Cracks that Matter: DFN Modeling of Everything Rock*

*Understanding fractures is understanding rock. From the network of natural fractures, we learn about the intact rock strength and deformability, the in-situ stress, rock connectivity, kinematics, and comminution. Natural fractures play key roles in groundwater flow and transport, oil and gas production, mining, tunneling, dams, rock slopes, and the environment. This talk illustrates how rock is characterized from its fractures, and how rock mass behavior is controlled by its fractures. We will explore the wide range of applications of discrete fracture network (DFN) approaches, and will address the future of rock mechanics with ever more realistic synthetic rock mass models and better empirical methods*