

Geomechanical Engineer

Expertise

Soil and Rock Mechanics, Numerical Modeling

Education

Ph D. (Geotechnical Engineering), 2008
M.Sc. (Environmental Engineering), 2004
Politecnico di Torino, Torino, Italy

Professional Experience

2011 - Present

Itasca Consultants S.A.S., Ecully, France, Geotechnical Engineer

2008 - 2010

*Itasca Consultants GmbH, Gelsenkirchen, Germany
Geotechnical Engineer*

2002 - 2007

Politecnico di Torino, Torino, Italy, Scientific Collaborator

Project Experience

Numerical modeling for civil engineering and mining projects mainly using Itasca codes.

PFC2D: Development of a Hydro-Mechanical coupling model to study the effect of proppant crushing on fracture permeability at different stress states (oil industry field). Development of a numerical model to simulate micro-tunneling excavation in the Torino partially cemented soils; study of soil-pipe interactions during pipeline installation.

PFC3D: Simulation of laboratory tests to calibrate numerical micro-parameters and reproduce mechanical behavior of geotechnical materials. Soil-geogrid interaction study: numerical modeling of pullout tests and wheel load tests on reinforced soil.

FLAC3D: Generation of three-dimensional models. Numerical modeling and stability analysis for several tunnel projects. Numerical modeling for nuclear-waste repository projects, for sequential excavation of a group of caverns, for numerical modeling of dynamic processes (explosions).

UDEC: Back-analysis of tunnel response to micro-tunneling excavation in fractured limestone.