

**Mining Engineer**

***Expertise***

Applied and Theoretical Rock Mechanics

***Education***

Ph.D. in Engineering Geology, 2010  
Royal Institute of Technology (KTH), Stockholm, Sweden.

Technology Licentiate in Engineering Geology, 2004  
Royal Institute of Technology (KTH), Stockholm, Sweden

M.Sc., Mining Engineering with Honors 2000  
Polytechnic University of Madrid, Spain

***Honors***

ENRESA Award, 2001

***Specialization Courses***

12th Course of Management and Disposal of Nuclear Waste, organized by ENRESA, CIEMAT, UPM, the Ministry of Science and Technology and the Institute J.A. Artigas (ETSII) (54 hours), February - June 2000.

***Professional Experience***

2011 – Present

*Itasca Consultants AB, Luleå, Sweden  
Senior Geomechanical Engineer*

2010

*Itasca Consultants S.A.S., Lyon, France  
Geomechanical Engineer*

2002 – 2009

*Itasca Geomekanik AB, Stockholm, Sweden  
Geomechanical Engineer*

2001 – 2002

*Gridpoint OY, Finland, Geomechanical Engineer*

2001

*BESEL S.A., Madrid, Spain, Financial Engineer*

2000

*International Geophysical Technology, Madrid, Spain  
Geophysical Operator*

1999

*ANTAS MINERA S.A., Spain, Trainee*

***Project Experience***

Project management for the prediction of subsidence associated with underground caving activity in Kiruna mine for LKAB.

Technical reviewer for the University of Alberta for the NEXEN project, coal-bed methane reservoir storage.

Development of a robust methodology for improving the capability to predict the deformability, yield and failure of jointed rock masses (main focus is prediction of cave mining). The approach is based on the DEM modeling technique, which can incorporate all the main factors influencing these processes. Client: MMT, Rio Tinto (Northparkes mine, Palabora mine, Bingham Canyon mine), BHP Billiton Nickel West (Mt. Kieth Open Pit mine).

Studying the effect of tunnel shape, blasting round face shape and in situ jointing in the excavation damaged zone (EDZ for SKB (Swedish Nuclear Waste Disposal Management Company)).

Discontinuum numerical modeling for core-disking study at the APSE site for SKB.

For DECOVALEX and SKB, characterization of coupled hydro-mechanical behavior of jointed hard rock masses, with special emphasis on inflow into excavations in fractured rock (large-scale experiments, laboratory tests, analytical and numerical analysis).

Evaluation of the risk of spalling in KBS-3V deposition holes applied to the candidate sites for nuclear waste disposal in Sweden (Monte Carlo simulation) for SKB.

Numerical study on the effect of large-scale geological features on the stress field in the Forsmark area, Sweden for SKB.

*Other experience:* Applied seismic and electrical geophysics to soil studies; exploration, controlled explosions, prospecting.