

Principal Engineer

Expertise	Rock Mechanics, Seismology, Geomechanical Numerical Modeling, Software Development, C++ Programming
Education	Ph.D. (Numerical Modeling of Acoustic Emissions and Dynamic Rock), 1998 Keele University, Keele, UK
	B.Sc. (Geological Engineering and Geophysics), 1994 Queen's University, Ontario, Canada
Registration	Registered Professional Engineer in the province of Ontario
Professional Affiliations	Member: Professional Engineers Ontario (PEO); Canadian Geotechnical Society (CGS); International Society for Rock Mechanics (ISRM); American Geophysical Union (AGU)
	Chair: CGS Rock Mechanics Division, 2011-2014; Canadian Rock Mechanics Association, 2014-2015
Professional Experience	
2014 – Present 2010 – 2014	ITASCA Minneapolis Principal Engineer Senior Engineer
2004 – 2010	Rocscience, Inc., Toronto, Canada Geomechanics Software Developer
2002 – 2004	University of Toronto, Dept. of Civil Engineering and Mining, Toronto, Canada Research Associate
1999 – 2002	University of Liverpool, Liverpool, United Kingdom Research Associate

Project Experience

Management: Current Software Manager for ITASCA Minneapolis. Oversees development, promotion, and sales of all commercially available software products.

Software Development: Current Product Manager and primary developer of *3DEC* — a three-dimensional distinctelement program for geotechnical and mining engineering. Has experience with developing finite-element software with fluid-mechanical coupling and dynamic-solution capabilities.

Consulting: Stability analysis for open-pit gold mine. Stress analysis in underground gold mine. Investigation of the effect of fluid on slope stability — Large Open-Pit project. Time-dependent deformation of rock fill — Mass Mining Technology project.



Research: Research on techniques for modeling fluid flow and hydraulic fracturing in rock and the resulting microseismicity.