Edward Dzik

ITASCA

Geological/Software Engineering

Expertise

Numerical modeling, computer graphics, computational geometry, data visualization, user interfaces.

Education

Ph.D. (Philosophy in Civil and Geological Engineering), 1997
University of Manitoba (Canada)

M.S. (Mathematics), 1991, University of Waterloo (Canada)

B.S. (Computer Science), 1986
B.S. (Applied Science in Geological Engineering), 1984
University of Windsor (Canada)

Professional Experience

2003 - Present	*Itasca Consulting Group, Inc., Minneapolis, Minnesota* *Geological/Software Engineer*
1998 - 2003	*GEO-SLOPE International, Calgary, Alberta, Canada* *Senior Mathematician*
1997 - 1998	*Red River College, Winnipeg, Manitoba, Canada, Instructor*
1985 - 1997	*Atomic Energy of Canada Limited, Pinawa, Manitoba, Canada* *Geomechanical Engineer (1988 - 1997)* *Geotechnical Research Assistant (1985 - 1988)*

Project Experience

Software Development: Created high-speed simulator to model 3D wave propagation in elastic media containing discontinuities. Added chemical tracking capabilities to FLAC3D (Itasca). Design and implementation of a graphical user interface (OpenGL-based) and mesh generator components for a Windows component-based commercial 3D finite-element system (GEO-SLOPE). Curriculum Developer and Lecturer at Red River College (C, C++, Visual Basic, Windows programming). Creation of graphical user interfaces, data visualizers, 2D and 3D automatic mesh generators, statistical analysis codes, custom plotting packages; Support of CAD and database systems; creation and testing of computer programs for data reduction and plotting results; Creation and maintenance of rock mechanics SQL-based database (AECL).

Rock Mechanics/Geological Engineering: Numerical model development, analysis of experimental data, design of underground excavations (finite and boundary element codes for modeling underground excavations and fracture behavior); management and analysis of data from underground instrumentation; modification and testing of computer codes to simulate the migration of radioactive nuclides through soil (AECL).