1003-T1-1411 **Nicholas Coult*** (`coult@augsburg.edu`), Campus Box 41, Department of Mathematics, Augsburg College, Minneapolis, MN 55454. *A walk on the industry side: a mathematician takes on the seismic exploration business.*

I will talk about a representative project from my 8 years of industrial consulting in the seismic exploration industry; I'll delve into the mathematical details a bit, and also offer my observations on the types of mathematics of interest in general in this field, and on the issues and difficulties of translating good academic ideas into practical industrial solutions.

The project involved design and development of algorithms for compression of three-dimensional numerical data. The client wanted high performance, flexible computer code, and most importantly a previously-non-patented algorithm. The goals and constraints of the problem were not completely specified at the outset, and indeed were frequently modified as the project proceeded. A delicate balance was required between meeting the needs of the client, developing computer code based in sound mathematics, and delivering in a reasonable timeframe. In the end the project demonstrated the successful transition from a mathematical idea to an algorithm and finally to an industrial-strength product. (Received October 05, 2004)