



Lindsay LINZER

Home Country
South Africa

Degree
Post-Doctorate in
Geophysics

Expertise
Geophysics

Research Focus
How Rock Fractures
Around
Underground
Excavations

Host University
University of the
Witwatersrand,
South Africa

Fellowship Awarded
2006

Lindsay Linzer was born in Windhoek, Namibia as the eldest of four children. Her father worked as an exploration geologist and for the first eight years of her life she and her family moved from one small mining town to another. Her mother trained as a nurse but left that profession to raise children. Lindsay is married to an Austrian from South Africa who she thanks for her rhyming name.

A geophysicist with 12 years of experience in both theoretical and applied aspects of mining seismology specializing in rock mechanics, particularly intermediate to deep hard-rock mining, Lindsay is a proficient Delphi programmer with well-developed English-language technical reporting and research project management skills. She is also a guest lecturer in mining seismology in the School of Geosciences at the University of the Witwatersrand in Johannesburg, South Africa.

Lindsay's doctoral research was focused on developing a robust method to calculate from wave recordings how rock fractures around underground excavations. To achieve this, she wrote a computer program to compute a quantity called the seismic moment tensor. The program analyzes recordings of vibrations (seismic waves) generated when rock rips or tears apart as a result of mining-induced stresses. The main aim of this work was to gain insight into the source mechanisms of seismic events recorded underground, thus enabling mining engineers to design safer excavations.

The computer program has been used to complete research projects at CSIR as well as overseas in non-destructive testing of concrete. It is also being used as a teaching tool. In 2003 her PhD thesis was awarded the Rocha Medal for outstanding doctoral thesis worldwide by the International Society for Rock Mechanics (ISRM). As well, a paper written about this technique was awarded the Salamon Award for the best rock engineering paper authored by a member of the South African Institute of Rock Engineering (SANIRE).