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McGill University mines top mineral expert

July 13, 2005

Renowned scholar Roussos Dimitrakopoulos adds to Canada's reputation as global mining powerhouse

Mining is something that this country does best. It's no surprise, then, that a world leader in the field of mining engineering has chosen Canada as a place to pursue his scholarship. Professor Roussos Dimitrakopoulos has come to McGill University, where he will be using over \$3.5 million in grant funding to further his research.

"The key reason is that Canada and McGill are doing very well academically," says Dimitrakopoulos, explaining why he chose to relocate here from the University of Queensland. "McGill and North America offer the next level of development in what I do. In particular, McGill's reputation has made it possible for me to attract a number of global mining firms who are interested in collaborative research efforts."

What he does is develop and apply techniques that help manage the risks involved in planning and managing ore deposits. Such work is crucial since the process of mining is fraught with a level of uncertainty unknown to most industries. Not only does mining involve the application of complex technologies in rugged terrain, it also requires companies to search for veins of ore that they cannot see. This high level of uncertainty is a primary reason why 73 percent of mines in North America fail.

Professor Dimitrakopoulos has developed techniques to mitigate the risks inherent in the process of mining. He uses stochastic processes (mathematical expressions of uncertainty) both as a means to model bodies of ore, and as a way of optimizing the process of mine planning. The latter technique helps companies account for uncertainties related to technology, price fluctuations and other factors.

Dimitrakopoulos's research has drawn high-flown praise from university colleagues and from the mining industry, where his methods are expected to have a direct impact on exploration and production. "We believe that the work will shift the paradigm in the mining and geological fields using new methods, concepts and applied technology," said Peter Ravenscroft, an executive with Rio Tinto.

At McGill, Dimitrakopoulos presently occupies a prestigious Canada Research Chair, and has received financial awards from major government granting agencies. In addition, the

Australian mining giant BHP Billiton acknowledged his work at a ceremony on June 10, presenting Dimitrakopoulos with a further \$800,000 to continue his research.