MN SEMINAR: DR. PHILIPP HARTLIEB
MINING ENGINEERING DEPARTMENT

BROWN HALL 125 • AUGUST 21ST • 4:00—5:00 PM

Environmental side effects of blasting and innovative ways of mitigation. Examples from the European Union project Sustainable Low Impact Mining (SLIM).

The main economic, technological and environmental challenges of mining include reducing high investment costs, reducing generation of waste and large tailings, addressing environmental impacts, and improving flexibility, automation and safety of operations. Considering that the present mining technology is based on rock blasting and mobile mining equipment for loading and transportation, the major challenge is to generate a new sustainable systemic solution.

The European Union funded SLIM-project aims to develop a cost-effective and sustainable selective low impact mining solution based on non-linear rock mass fragmentation by blasting models, airborne particulate matter, vibrations, and nitrate leaching mitigation actions through a new generation of explosives and advanced blast design algorithms based on improved rock mass characterization and fragmentation models for optimum fragmentation and minimum rock damage as well as far-field vibrations.

This talk will provide an overview of the project and provide insights into the different aspects of this very challenging endeavor.

About Dr. Hartlieb:

Dr. Hartlieb is a senior researcher at Montanuniversitaet Leoben, Austria. He holds a MSc in Applied Geosciences and a PhD in Mining Engineering. He received the Hugh E. McKinstry Fund student research grant from the Society of Economic Geologists in 2007 and was ranked 1st at Young Researchers Competition, Saint Petersburg State Mining University (RUS) in 2010.

His current research focusses on rock all aspects of rock fragmentation. This includes, both drill & blast and mechanical rock fragmentation as well as alternative concepts like microwave irradiation of rocks and ores, with the goal of increasing the economic and ecologic performance of mining and mine development.