

# Lecture

## Underground Mine Stope Backfilling A Sustainable Development Solution for Mining Industry and its Challenge

**Time:** 14:00, April 24, 2017

**Room:** A420, Anzhong Building



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**Abstract:** Every day mines produce a lot of wastes in terms of waste rock and tailings that are usually disposed of on the ground surface. The long-term management of these mine wastes is challenging as they can be the sources of serious geotechnical and/or geochemical problems. On the other hand, a part of these mine wastes can be returned to underground mine openings (stopes, drifts, etc.) to provide a safer working platform or working space, improve ground stability, increase ore recovery, and improve the efficiency of ventilation. Nowadays in many modern underground mines, stope backfilling has been commonly used as a mean to migrate the environmental impact from mining industry through the reduction of mine wastes disposed of on the ground surface.

Despite these divers advantages, the design of underground mine stope backfilling is commonly done in an empirical way, mostly based on a trial-and-error approach. In this presentation, some challenges of underground mine stope backfilling will be exposed. A part of our R&D results will be presented and discussed.

### Biography of Prof. Li Li

Dr. Li is a registered engineer in Ordre des ingénieurs du Québec (OIQ). He obtained a bachelor degree, a master degree both in mining engineering in China, and a doctorate degree in rock mechanics in France. Dr. Li passed about 4 years as postdoctoral researcher in geomechanics and 7 years as Research Associate in geotechnical engineering (rock mechanics, soils mechanics and backfill mechanics) at Polytechnique Montréal. He worked two years as consulting engineer in geomechanics. From 2010 to 2012, Dr. Li was an Associate Professor at École de technologie supérieure, Quebec, Canada. Since 2012, he is an Associate Professor of mining engineering at Polytechnique Montréal.

Dr Li is interested in several fields in geotechnical engineering (rock and soil mechanics). Over the recent years, he is particularly active in studying the hydro-geomechanical interaction between the backfill and confining structures (silos, trenches, mine stopes).