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## **PhD project offer**

RIME - IRME – Research Institute on Mines and the Environment - Institut de recherche en mines et en environnement

UQAT – Université du Québec en Abitibi-Témiscamingue

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RIME-UQAT is looking for a PhD student to work on mine waste management and site reclamation.

### **Duration**

Approximately 4 years (PhD in minerals engineering)

### **Location**

UQAT in Rouyn-Noranda, Quebec, with short stays at University of Alberta, Edmonton

### **Start date**

Winter 2017 semester, or as soon as possible

### **Research funding**

A 21 600 \$ per year (25 000 \$ upon completion of pre-doctoral exam) scholarship will be provided. The project is part of the TERRE-NET strategic network, which comprises researchers from across Canada. The network facilitates inter-institution interactions and provides funds for student mobility during their studies.

### **Research field**

Mining environment, geoenvironmental modeling, optimisation of mining operations

### **Research supervision**

Isabelle Demers (supervisor, RIME, UQAT)  
Nicholas Beier (co-supervisor, University of Alberta)

### **Project description**

Modelling techniques in mine waste management are process-based approaches that study single aspects of mining and waste interactions (e.g., water balance, ARD, tailings dewatering, tailings design, storage embankments). There are few approaches that look at mine waste systems over the entire life of mine while incorporating ARD and waste management strategies. There is a need for a tool that emphasizes the whole mining system and takes into account the geo-metallurgical characteristics that drive interactions, functional relationships, and feedback processes between the components of the mining system and their influence on performance. The project objective is to integrate geo-environmental aspects in the dynamic systems model TMSim to evaluate environmental management approaches for both tailings and waste rock at the planning and feasibility level. Incorporating geo-environmental concepts into TMSim will provide a novel simulation tool for integrative management of material streams throughout mining, mineral processing, and waste-disposal activities. The project involves detailed geo-environmental characterization of mine materials, to be performed in RIME-UQAT laboratories, and numerical modelling work done with the software Goldsim.



<http://www.uqat.ca/programmes/irme/>  
[www.irme.ca/en](http://www.irme.ca/en)

## Qualifications

Master's degree in mining engineering, civil engineering, chemical engineering, geological engineering or any other relevant program, obtained with a GPA of at least 3.2 / 4.3, or equivalent. Applications with a GPA under 3.2 but over 2.8 / 4.3 will be examined by the program admission committee and may be considered for admission.

Working knowledge of French and English languages is considered an asset.

## Required documents

Curriculum vitae, transcript (undergrad and grad level), motivation letter.

## FOR MORE INFORMATION

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