POSTDOCTORAL POSITION IN
Simulation-Optimization of Mining and Processing Systems

The Department of Civil and Environmental Engineering is looking to fill a postdoctoral researcher position in the area of simulation of mining and processing systems in the School of Mining and Petroleum Engineering. The postdoctoral position is part of an NSERC Collaborative Research and Development grant.

The research program aims to develop an integrated simulation-optimization tool for open pit mine haulage and extraction plant operations as part of an engineering decision support systems. The objective of this research is to develop, implement, verify, and validate a simulation-optimization tool for a mixed-fleet truck-shovel mining operation with a direct link to the processing plant. The models need to be validated against historical operational data with high accuracy for all the major key performance indicators. The ideal candidate is also expected to assist with various research needs and also training and supervision of graduate students.

We are looking for a researcher to assist with the delivery of this research program by:

• Developing data analytics adaptors to support data-driven discrete event simulation models,
• Developing detailed discrete event and continuous simulation models of complex systems,
• Integrating discrete event simulation with optimization models for decision support systems, and
• Validating the results against historical operational data.

Applicants must meet the following minimum qualifications:

• PhD degree with a background in computing science, computer engineering, industrial engineering, or operations research,
• Must have hands-on experience through projects with software development and programming (Visual Basic .NET, MS SQL Server 2008 – 2016, MATLAB & Simulink),
• Proficient in discrete event simulation modeling using Arena Simulation Software or other platforms,
• Competent in SQL database management tools, query language, and stored procedures in SQL,
• Advanced VBA skills in Excel, Word, and Arena environment,
• Advanced MATLAB programming skills,
• Knowledge of optimization and exposure to optimizers such as CPLEX or Gurobi is a plus.

To Apply:
The successful candidate will work in the School of Mining and Petroleum Engineering with Dr. Hooman Askari. Please send a cover letter, CV, the names and contact information (address, phone number and email address) of three referees to hooman@ualberta.ca

Closing date:
Review of applications starts immediately, and applications are accepted until the position is filled.

We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.

The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.