

## **Innovation in Data Acquisition, Analytics and Automation for Contaminated Sites and Mining Environmental Applications**

Data science is a rapidly evolving field that is changing our environmental and mining practices. New technologies in data acquisition and internet of things (IoT), data analytics including approaches for big data, automation, artificial intelligence and machine learning, and virtual reality are being rapidly developed. Innovations in these areas offer the potential for more efficient and sustainable practices. This workshop will explore the latest advances in these areas by bringing together leading researchers and practitioners involved in data science. There will be both leading edge talks on emerging trends and practical tools and approaches currently in use and available to practitioners.

### **Draft Agenda and Speakers**

1. Environmental applications of machine learning models in mining – Tom Meuzelaar, Golder Associates, Denver, CO, USA – Data Analytics Practice Area Lead
2. Data Is the New Currency for Digital Transformation – Scott Irvine, Microsoft, Calgary, AB, Canada
3. Mineral Exploration and Beyond – Max Howarth, Managing Consultant, Advanced Analytics, Toronto, ON, Canada
4. Geophysical data collection to optimize reclamation/remediation – Chris Slater, Worley Parsons, Burnaby, BC, Canada
5. Open Data to Drive Environmental Performance – Ryan Strom, Worley Parsons, Calgary, AB, Canada
6. New Tools for 3D Mapping of Contaminated Sites – Dr. Dan Walker, Golder Associates, Vancouver, BC, Canada
7. Microbiome Analysis Across a Natural Copper Gradient at a Proposed Northern Canadian Mine Site – Dr. Fiona Brinkman, SFU, BC, Canada
8. Application of Enhanced Virtual Reality to Communicate Big Data – Speaker to be announced
9. Use of Machine Learning for Remediation Optimization – Speaker to be announced
10. UAV Data Collection and Integration with Existing Data Sets – Speaker to be announced
11. Best Practices for Managing Environmental Data – Speaker to be announced