



Machine Learning *Applications in Mineral Exploration* Seminar Program – 28 October 2019

SESSION 1: Machine Learning – What is it and what is it good for?

Chair: Rod Carlson

8:25 – 8:30	Introduction	Rod Carlson
8:30 – 9:00	Introduction to Machine Learning for Mining Professionals	Lauren Maxwell (Global Ore Discovery) & Kane Maxwell (Peabody Energy)
9:00 – 9:30	Realising the Value of Your Geological Images	Federico Arboleda (Imago)
9:30 – 10:00	Applications of Deep Learning to Extract Geological Information from Imagery	Brenton Crawford (Solve Geosolutions)
10:00 – 10:30	XploreIQ: Successfully Using Machine Learning in Exploration	Marc-Antoine Laporte (SGS)

10:30 – 10:55 Morning Tea

SESSION 2: Practical Applications in Exploration & Mining.

Chair: Tony Hampton

10:55 – 11:25	Automated Geological Drill Core Logging Based on XRF Data Using Unsupervised Machine Learning Methods	Prof. Rick Valenta (UQ SMI)
11:25 – 11:55	Building Geology Using Machine Learning - A Practical Guide	Steve Sullivan (Maptek)
11:55 – 12:25	ML for Exploration Targeting - Challenges and Opportunities	Vladimir Lisitsin (DNRM)
12:25 – 12:55	Machine Learning in Exploration Target Generation	Ross Corben (Geowiz Consulting) & Gavin Daneel (Gavin Daneel & Associates)

12:55 – 1:35 Lunch

SESSION 3: Even More Practical Applications in Exploration & Mining. Chair: Patrick Maher

1:35 – 2:05	Applications of Machine Learning in Advanced Process Prediction and Control	Assoc. Prof. Mohsen Yahyaei (UQ JKMRC)
2:05 – 2:35	The Mining AI Imperative and Why a Duck is Not a Floating Chicken	Andrew Dasys (Objectivity)
2:35 – 3:05	Data-Driven Approaches to Mineral Exploration and Geological Mapping	Dr Dave Cole (CSIRO)
3:05 – 3:35	Regional Applications of Machine Learning And Pre-Competitive Data	Matthew Greenwood (DNRM)

3:35 – 4:00 Afternoon Tea

SESSION 4: The Wisdom of the Crowd

Chair: Rod Carlson

4:00 – 4:30	Lessons from the Explorer Challenge: Journey to Discovery with Data	Andrew McCulloch & Richard Scott (Oz Minerals)
4:30 – 5:00	Utilization of Deep Learning for Exploration in the Prominent Hill/Mt Woods terrain	Warwick Anderson (Orefox)
5:00 – 5:30	First Encounter of the ML Kind: An Explorer's View	John Anderson (Austrike Resources)