2023 Howard Street Robinson Medalist

Mr. Garth Kirkham, P.Geo., FGC, SEGF, FCIM (Principal, Kirkham Geosystems Ltd.)

Mr. Garth Kirkham has had over 30 years of experience supplying 3D geoscience modelling, geological and geophysical consulting services to the mining, environmental and oil & gas industries. During this time Mr. Kirkham has worked on both underground and open pit projects in a wide range of commodities from precious metals to base metals, strategic metals, industrial minerals, oil sands, potash, phosphate, and coal deposits throughout the world. Mr. Kirkham has also been fortunate to have been an integral part with leading edge organizations, such as Geoscience BC along with being allowed to contribute to community and professional organizations as a volunteer.

Mr. Kirkham is the co-Chair of the CIM Mineral Resources and Mineral Reserves Committee, the Chair of the Geoscientists Canada, Securities Committee, and the Past-President of the Canadian Institute of Mining (CIM). He is also currently a representative for Canada and the Deputy Chairperson for CRIRSCO (Committee for Mineral Reserves International Reporting Standards), CIM Distinguished Lecturer presenting NI43-101 and the International Regulatory Framework, and CIM Best Practices.

Mr. Kirkham was awarded the CJ Westerman Memorial Award, the highest honor bestowed upon a Geoscientist from Engineers Geoscientists of British Columbia (EGBC) in 2015 and also was recognized as Distinguished Lecturer for 2013-2014. In addition, Garth was awarded the Julian Boldy Award in 2012 and the JC Sproule Memorial Plaque from CIM in 2010. Also, Garth and other members of the EXTECH III team were awarded the 2006 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Barlow Medal and the Award of Merit presented by NAPEGG.

Garth obtained a Bachelor of Sciences Degree from the University of Alberta in 1983. He became a Registered Professional Geoscientist in Alberta (APEGGA) in 1987, in Northwest Territories and Nunavut Association (NAPEGG) and BC (EGBC) in 2005, in Ontario (PGO) in 2011, in Manitoba (APEGM) in 2012. Now after more than 30 years of providing professional geoscientific services, Mr. Kirkham is currently heading Kirkham Geosystems Ltd. (established in 1997), which provides consulting services to the exploration, mining, and environmental industries.

Title: "Fundamentals of Mineral Resource Estimation"

Abstract: The significant components of resource estimation pertains to data management, data analysis, geological interpretation and modelling, geostatistics, quality assurance/quality control, change of support, block model interpolation, resource estimation and reporting. This lecture will focus on data compilation and integration, data analysis, creation of ore body models and estimating methodologies along with software systems for mineral resources. In addition, a review of common pitfalls, do's and don'ts along with examples of good and bad practice will be discussed. The following are some of the outcomes that will be touched upon:

- Develop an understanding of the terminology, concepts and methodologies related to mineral resource estimation.
- Assess datasets such as drillhole collars, surveys, assays, lithologies, topography, specific gravities, and the importance as the basis for reliability and confidence.
- Basic statistical analysis and understand the implications of analytical results.
- What are geologically realistic models used to constrain mineral resource estimations and develop an understanding of limitations.
- Assess data quality and certainty based on factors including drill hole spacing, data vintages, lithological control and variability.
- Discuss the merits of resource estimation methodologies and techniques.