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DISTINGUISHED LECTURERS 2017-2018



CAMERON HARRIS

Ph.D., President,
Director, Technical
Expert - Canadian
Engineering
Associates Ltd.



GUY DESHARNAIS

Ph.D., P.Geo,
Geological
Consultant



JOHN STARKEY

BASc, P. Eng., Principal
Consulting Engineer
and President



MICHAEL SAMIS

Ph.D., P. Eng.,
Associate Partner
Ernst & Young LLP



MARTY WACKER

P. Eng., Principal
Engineer Technical
Services, Corporate,
Cameco Corporation



PETER CALDER

Ph.D., P. Eng., FCIM,
Emeritus Professor,
Department of Mining
Engineering, Queen's
University at Kingston

THE PROGRAM

The CIM Distinguished Lecturers program started in 1968 and has continuously provided a line up of individuals who have shared their knowledge with the mining community for almost five decades.

Every year, the lecturers are elected by their peers through the CIM Awards program and hold the title for a complete season (*September to June*).

CIM is privileged to count more than 260 of the industry's finest as its lecturers. Because the motto "*once a lecturer, always a lecturer*" defines our pride and dedication in ensuring that the learning curve is endless, a complete list of past lecturers is available at www.cim.org where you can benefit from the ever-growing pool of expertise that the program has to offer.

HOW IT WORKS

The Distinguished Lecturers program is offered to 41 CIM Branches, 10 Technical Societies and 12 Student Chapters.

CIM National will defray the cost of air travel while the requesting body will cover local expenses (accommodation, transportation, etc.)



**THE COMMUNITY FOR LEADING
INDUSTRY EXPERTISE**

For more information, contact:

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To book a Distinguished Lecturer visit:

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MEET OUR 2017-18 LINEUP OF EXPERTS



CAMERON
HARRIS

Dr. Cameron Harris has 30 years of experience in metallurgical plant design, construction, commissioning and company management. He is experienced in all aspects of project technical and financial feasibility determinations from process conceptualization to fundamental research and development (R&D) through detailed process design to detailed engineering, construction and start-up of small to major installations. Cameron's areas of particular expertise include base metal production; pyrometallurgy; process development and design; smelter operations, design, construction and start-up; environmental compliance; fundamental research; company management; business development and technology marketing. He is also knowledgeable about cutting edge information technology such as IT/OT integration and IoT.

CAMERON'S LECTURE

[The Mining Industry: So we've survived ... What now?](#)

The extended downturn in metals prices has presented great challenges to the mining industry, but has delivered positive outcomes, from the necessary trimming of cost to ensure survival, in the form of significantly increased productivity, and improved focus on core business. However, less apparent negative outcomes are beginning to surface that are likely to threaten recovery as the tough times depart us.

Opinions about the manner in which the industry comes out of the trough and the actions needed to be taken to best profit from the recovery will be offered. Topics such as the impact of advanced technology, efficiency vs redundancy, optimization vs complexity, loss of skills and short-term market expectations vs growth will be addressed.

GUY
DESHARNAIS



Guy Desharnais obtained his Ph.D. from the University of Manitoba, which focused on belt-scale geochemistry of mafic-ultramafic rocks and related sulphide mineralization. He worked for five years as an exploration geologist with Xstrata Nickel (Glencore). Since joining SGS in 2010, he has completed a wide range of projects internationally, from resource estimations, economic evaluations, metallurgical sample selection, geometallurgical studies and audits of resources and reserves. Guy has prepared NI 43-101 technical reports on a wide range of commodities and is considered a Qualified Person for a number of deposit types. Guy has a passion for sharing his technical knowledge and has completed several training sessions for a variety of audiences in French, English and Spanish. He led the team that won the Integra Gold Rush Challenge in 2016 (\$500,000) which applied a combination of geology, virtual reality, weight of evidence and machine learning techniques to identify the most prospective exploration targets.

GUY'S LECTURES

[Metallurgical Sample Selection: A Simple Step that has the Potential to Sink your Project](#)

Metallurgical programs commonly suffer from samples that are not representative of the "rock recipes" that will eventually see the inside of a processing facility. The lack of consideration given to appropriate sample selection directly impacts the forecasts for hardness/recovery, flowsheet design and ultimately profitability of mining projects.

[Mining BIG Data: the Future of Exploration Targeting](#)

The application Machine Learning enhances our capability to harness exploration data to establish vectors to ore. However, careful consideration of the inputs and outputs by human geologists is required to ensure that the model does not merely predict what is already known or produce spurious results.

[Resource Over-Estimation: Post-Mortem and a Path Forward](#)

Several high-profile mineral exploration projects have recently suffered major setbacks following significant reductions in Resource and Reserve estimates. This talk explores the root causes for these, as well as some possible solutions.



JOHN
STARKEY

John Starkey is a Mining Engineer from U of T with 15 years' experience in mines and process plants, 15 years in process design and 27 years as a Licensed Consulting Engineer.

His career included work at Kam Kotia, Kidd Creek and INCO mines and mills. He also worked at Kilborn for 12 years designing the Gays River, East Kemptville and Quintette process plants.

He invented and co-developed the SPI and SAGDesign tests that are both widely used in industry today for the measurement of ore hardness for AG and SAG mill designs.

John has presented thirty papers describing his work and progress in ore testing and is a frequent lecturer globally at universities, teaching the fundamentals of AG/SAG grinding mill operation and design.

His mission is to capture for clients the rich benefits of SAG milling technology, to help them find the most economical way to grind their ore.

JOHN'S LECTURE

Comminution circuits

Comminution circuits are historically one of the most difficult parts of a mineral processing plant to design with confidence. There is controversy in the industry as to how best to approach this subject, with many solutions requiring a level of training and expertise beyond the ability of a non-specialist engineer. This has led to a culture of experts who opine on the subject with little or no direct benefit to the design process and the plant operator. In order to change this, mineral industry owners and senior managers need to understand the fundamental challenges that a comminution circuit poses to the design process, to the operators who use the equipment and to the owners who invest in a project. This presentation is intended to summarize these challenges in a manner that is clear and unbiased, in a format that is applicable to the mining and mineral engineering community.



MICHAEL
SAMIS

Dr. Michael Samis is a leading integrated valuation and risk modelling practitioner in the natural resource industries with more than 25 years of mining experience. He has extensive professional experience valuing mining and petroleum projects with complex forms of flexibility and risk. His assignments have ranged from exploration stage to late-stage capital investments and include project financing and contingent taxes. Mike has presented more than 30 professional valuation courses at universities and mining companies worldwide and has published or presented numerous valuation papers. In 2013, CIM awarded Mike with the Robert Elver Award for his contributions to mineral economics. He holds a Ph.D from the University of British Columbia in mining engineering and finance, and he is a registered Professional Engineer in Ontario.

Dr Samis is currently an associate partner with Ernst and Young's Transaction Advisory Service in Toronto where he and his team also value derivative securities.

MICHEAL'S LECTURE

Managing capital risk exposure by design

The mining industry has been criticised for over-investing in projects by front-loading capital investment. This criticism reflects the irreversibility of capital investment that can lead to negative returns and value destruction when business conditions turn hostile. An Integrated Valuation and Risk Modelling ("IVRM") framework can help companies consider the possibility of both hostile and favourable commodity price environments in their investment decision-making. IVRM is illustrated with a case study involving design choice at a prefeasibility project. In this example, there is a choice between either a staged development or a frontloaded capital design when there is gold price uncertainty. The analysis shows how static cash flow models may lead to front-loading capital with unnecessarily high risk exposure while a dynamic IVRM analysis brings out the lower capital risk of staged development. When capital is expensive, there is a real benefit to using IVRM to better understand the value of actively managing capital risk exposure with flexible project design.



MARTY
WACKER

Marty Wacker is Principal Engineer with Cameco Corporation and has over 30 years of experience. He spent over two decades developing Cigar Lake's unique underground jet-boring mining method from concept to production, leading the engineering team to freeze the ore body and remotely mine the ore using a high pressure water jet. At Cigar Lake, he managed the design, construction and testing of equipment and infrastructure and held positions of maintenance superintendent and technical superintendent. He currently specializes in ground freezing and mining studies in the corporate technical department, providing support for Cigar Lake, other operations and future projects. Marty received a Bachelor of Science in Mechanical Engineering from the University of Saskatchewan in 1984.

MARTY'S LECTURE

Development of the Cigar lake jet boring mining method

The Cigar Lake uranium deposit is one of the world's most difficult to extract due to very poor ground conditions, high pressure water and radiation from extremely high grade ore. This presentation focusses on the 20 year development of ground freezing and water jet mining (jet boring) methodologies to overcome these challenges and the highlights of the production ramp up.



PETER
CALDER

Peter Calder was born in Springhill NS and served five years in the Canadian Army prior to entering St. Francis Xavier University in 1958. In 1963 he graduated from NSTC (now Dalhousie University) with a degree in Mining Engineering, and joined the Iron Ore Company of Canada in Labrador City, becoming mine superintendent two years later.

Peter attended McGill University after being awarded a Canadian Mineral Industry Foundation Scholarship and received a Post Graduate Diploma prior to attending Queen's University where he received M.Sc. and Ph.D. degrees in Mining Engineering. He joined the faculty of the Queen's Mining Engineering Department in 1970 and was head of that department from 1980 to 1990. Upon retiring as a regular faculty member in 1997, he was honoured by being designated as a Queen's emeritus professor. At the Pontificia Universidad Catolica de Chile from 1997 to 2001, he served as the first Canadian mining chair, and full professor within the Faculty of Engineering's mining department.

PETER'S LECTURE

Investigation of a complex rock slope displacement at Brenda Mines

The history and analysis of a structurally complex open-pit rock slope displacement are described. The failure involved part of the only haulage access to a major ore zone. The ongoing movement was monitored using an electronic distance-measuring device and a continuous electronic system specifically designed for the problem. A major fault, infilled with a thick clay gouge, and intersected by other structural features, resulted in the transfer of weight to a rock mass acting as a buttress in the lower regions. Movements were affected by blasting vibrations and ground-water conditions. Remedial measures included limiting blasting levels and lowering the water table, following which mining was successfully resumed in the area.



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TESTIMONIALS



JANICE ZINCK
Natural Resources Canada

“It was an absolute honour to be selected by the CIM community as a Distinguished Lecturer in 2014-2015. The immensely rewarding experience allowed me to travel across the country to ten branches and meet a diverse group of people working and studying in our sector. I was inspired by the enthusiasm for this industry and the dedication of volunteers that organized events and activities to share knowledge as well as build and strengthen networks.”



GARTH KIRKHAM
Kirkham Geosystems Ltd.

“Being a Distinguished Lecturer is a great honour but also a huge responsibility. I think all of us DL’s have a desire to share our knowledge but also provide value and appreciate the opportunity to do so. The best part for me was travelling from coast-to-coast-to-coast, meeting wonderful people and seeing beautiful places. I thank all of my gracious hosts from the bottom of my heart.
Au plaisir de se revoir !”



GORD WINKEL
University of Alberta

“The CIM Distinguished Lecturers Program provides a real opportunity for the mining industry to share technology advancements, leading practices and innovations showcased in many operations. The program features comprehensive presentations that encourage learning and collaboration, and it spurs new thinking to the benefit of our mining industry in Canada. On a personal note, the program provided an impetus for effectively moving the safety and technology innovation agendas forward in mining.”

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