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# **CIM** DISTINGUISHED **ICM** LECTURERS 2016-2017



**HANI HENEIN**

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**DANIEL MARSHALL**

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**LAWRENCE DEVON  
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P.Eng. FCIM  
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**PATRICK  
STEPHENSON**

Director / Principal  
Geologist, AMC Mining  
Consultants (Canada) Ltd



**DIRK VAN ZYL**

Professor, Chair of Mining  
and the Environment,  
University of British  
Columbia

## 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](http://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.)



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For more information, contact:

[Dist\\_lecturer@cim.org](mailto:Dist_lecturer@cim.org) | 514.939.2710 ext: 1332

To book a Distinguished Lecturer visit:  
[www.cim.org/en/Services/Distinguished-Lecturers](http://www.cim.org/en/Services/Distinguished-Lecturers)

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Thank you to our sponsor, the CIM Foundation, whose continuous support and generosity allows the CIM Distinguished Lecturers Program to connect CIM members with leading industry expertise.

# MEET OUR 2016-17 LINEUP OF EXPERTS



## HANI HENEIN

**Hani** has been a Professor in the Department of Chemicals & Materials Engineering at the University of Alberta since 1989 teaching and doing research on pipeline steels, metal-matrix composites and rapid solidification. He now partners with industry in research and has extensive international collaborations.

### HANI'S LECTURES

#### Advanced micro alloyed steels for sustainable pipelines

This presentation will describe nearly two decades of collaboration between industry and university to advance and improve micro alloyed steels which are used for the transmission of oil and gas.

#### The evolution of the philosophy of engineering education

In this presentation Hani will discuss the need to expand the curriculum of young engineers to include GC as an important component of their undergraduate education.

#### Quantifying solidification path in rapid solidification using 3D measurements

Hani will outline some of the methodologies developed to quantify phase fractions and their solidification path as a function of processing conditions using EML and IA.

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## DANIEL MARSHALL

**Dan** is a Professor of geochemistry in the Earth Sciences Department at Simon Fraser University, specializing in economic geology and fluid-rock interaction. His ore deposit studies have focussed primarily on gold and silver deposits worldwide. His current research projects include gold, silver and gem mineralization.



### DANIEL'S LECTURE

#### Melt inclusions of native-silver and native-bismuth at Cobalt, Ontario. Model for native-metal enrichments comparing natural samples with experimental and in-situ studies

Cobalt, Ontario is renowned for the 12.6 billion grams (445 million ounces) of silver produced from the area since its discovery in 1903. Based on our studies of natural and synthetic systems we are able to formulate a new model for silver transport, deposition, and enrichment based on immiscible systems of molten precious metals and hyper-saline brines. These observations are consistent with silver inside these solid-silver inclusions melting at approximately 300 to 350 °C.



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## LAWRENCE DEVON SMITH

**Larry** is Principal Consultant at Lawrence, Devon, Smith and Associates. He is a mining engineer with over 40 years of experience in project engineering and economic evaluations for mining, metallurgical and industrial projects. He is considered an expert in mineral project evaluation, discount rates and risk assessment.

### LAWRENCE'S LECTURE

#### Discounts rates and risk in long life projects

The presentation examines industry practice regarding the development and use of discount rates for Discounted Cash Flow (DCF) evaluations. It also examines the impact that discount rates have on project evaluations and raises questions about the use of risk adjusted discount rates (RADR) to assess risk in long-life projects. A simple approach is proposed for addressing both the time value of money and risk in DCF evaluations with respect to capital costs, operating costs, schedules, ramp-up, tonnes, grade and price.

## PATRICK STEPHENSON

**Pat** is Principal Geologist and Director at AMC Consultants Pty Ltd with 45 years' experience. He is recognized internationally as an expert in mineral resource/reserve estimation, classification and reporting.

### PAT'S LECTURE

#### Mineral resources, minerals reserves or pie in the sky?

Pat's lecture discusses important and relevant issues, and includes numerous case studies drawn largely from his personal experience. Particular reference is made to NI 43-101 and the latest developments in international mineral resource/reserve reporting standards. Issues covered include: what are mineral resources and mineral reserves; the importance of good estimation, classification and reporting; Qualified/Competent Persons; and "reasonable prospects" judgement.



## DIRK VAN ZYL

**Dirk** is Professor and Chair of Mining and the Environment at the University of British Columbia. He has more than 40 years' experience in research, teaching and consulting in tailings and mine rock structures. In the past decade much of his attention has focused on mining and sustainable development.

### DIRK'S LECTURE

#### Tailings risk management

The Mount Polley and Samarco tailings failures have eroded the confidence in the mining industry's ability to protect people and the environment. This lecture will focus on risk management of tailings facilities, briefly reflecting on these two recent tailings failures. Dirk will discuss the range of risks that must be identified and managed, as well as their risk management approaches. He will demonstrate that much progress is being made in many of these areas but that there are other areas that are not fully embraced and integrated. The challenges that remain will be highlighted.

# 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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