

# XPLORATION **TECH** SYMPOSIUM

BIG IDEAS, NEW TECHNOLOGIES  
+ PIONEERING PROCESSES IN  
**EXPLORATION & EVALUATION**

PROUDLY SUPPORTED BY



VANCOUVER, BC

JAN 25 2019

#xplorationtech

REGISTER NOW AT **Eventbrite**

# Interact with those at the forefront of innovation in our industry.

The IMDEX & CSA Global Xploration Technology Symposium is an inaugural forum for sharing big ideas, new technologies and pioneering new processes in mineral exploration and evaluation.

In advance of the AME Roundup 2019, the symposium provides an opportunity to hear from the leading thought leaders in exploration. Come hear about the latest in new technologies, tools and innovative approaches in advanced analytics to fast-track discovery.

Join IMDEX and CSA Global for what promises to be an exciting opportunity to liaise with some of the best technical and creative minds from across the industry.

## VENUE:

Morris J Wosk Centre for Dialogue  
580 W Hastings St,  
Vancouver, BC V6B 5K3, Canada

## TIME:

8.00am-5.00pm

# Eventbrite

REGISTER NOW

[WWW.CSAGLOBAL.COM](http://WWW.CSAGLOBAL.COM)  
[WWW.IMDEXLIMITED.COM](http://WWW.IMDEXLIMITED.COM)  
[WWW.REFLEXNOW.COM](http://WWW.REFLEXNOW.COM)  
[WWW.AMCMUD.COM](http://WWW.AMCMUD.COM)  
[WWW.EVENTBRITE.COM](http://WWW.EVENTBRITE.COM)

# XPLORATION<sup>TECH</sup> SYMPOSIUM

## WHO IS THIS SYMPOSIUM FOR?

This seminar is designed for geologists, technical staff, vice presidents, managing directors and management of exploration and mining organizations.

## WHAT'S INCLUDED?

Breakfast, morning tea, lunch and afternoon tea, as well as two complimentary drink tokens and catering for our #explorationtech Sundowner at Malone's Social Lounge & Taphouse after the event.

## OUR FACILITATORS



CSA Global  
Mining Industry Consultants

As the leader in real-time, sub-surface intelligence solutions for the global minerals industry, IMDEX and its leading brands AMC and REFLEX support industry-wide education across several platforms globally, including this symposium.

CSA Global is excited to be partnering with IMDEX. As a leading global consulting firm providing trusted advice on geology, mining and technology to the mining sector, CSA Global is always looking for opportunities to maximize potential for clients and share innovative approaches.

## PROUDLY SUPPORTED BY



CORESAFE



# SYMPOSIUM PROGRAMME

## SESSION ONE: ANALYSIS – MINERALOGY & CHEMISTRY

7:00 AM

### BREAKFAST & REGISTRATION

8:00 AM Opening remarks  
Delivering real-time visualisation for minerals drilling projects  
Gervais Perron  
Dr. Janina Elliot

8:20 AM How to upgrade resources: Concepts from selection bias to photon assay  
Lynda Bloom

8:55 AM Managing drills with real-time geological data: Targeting in the present, not the past  
Geoff Burtner

9:30 AM Oriented core success in the age of blind exploration  
Chris Brown

10:05 AM

### MORNING TEA - BROUGHT TO YOU BY SOUTHERN GEOSCIENCE SOLUTIONS

## SESSION TWO: DATA ACQUISITION & PROCESSING

10:20 AM Discovering buried mineralization with microbiology  
Peter Winterburn

10:45 AM Advanced data analysis in optimising value from geochemistry  
Matthew Bodnar /  
Dr Dennis Arne

11:10 AM Machine learning as a tool for geologists  
Dr Adrian Martinez Vargas

11:35 AM Portable XRF industry applications: Case studies  
McLean Trott

12:00 PM

### LUNCH BREAK

## SESSION THREE: DATA ANALYSIS & MODELING

1:00 PM Integrated imaging of mineral deposits combining geophysical and geological data sets  
Rob Hearst

1:25 PM Managing risk with quantitative 3D mineral system characterisation  
Warren Potma

1:50 PM Integration of IQ-LOGGER structural data and AR / ICP-MS geochemical data to facilitate 3D alteration modeling at the Gibraltar Mine, central BC  
Chris Gallagher

2:15 PM Optimizing data acquisition and analysis from oriented core  
Dr Luke Longridge /  
Jamie Wilkinson

2:40 PM

### AFTERNOON TEA - BROUGHT TO YOU BY CORESAFE

## SESSION FOUR: CASE STUDIES AND MINERAL SYSTEMS

3:00 PM Integrated geoscience and geometallurgy of Myanmar Metals' Bawdwin deposit  
Dr Pim Van Geffen

3:25 PM What the hell is a junior exploration company doing a full-on hyperspectral core imaging program for?  
The exploration and business case for doing so!  
Dr Kevin Heather

3:50 PM Machine learning and big data, the future of exploration targeting and new discovery  
Marc-Antoine Laporte

4:15 PM Practical minerals systems application to enhance exploration success  
Dr Neal Reynolds /  
Marcus Willson

4:40 PM Closing remarks  
Stan Wholley

5:00 PM

### #XPLORATIONTECH SUNDOWNER MALONE'S SOCIAL LOUNGE & TAPHOUSE

608 W Pender St, Vancouver



## LYNDA BLOOM

How to upgrade resources: Concepts from selection bias to photon assay

[President](#) / Analytical Solutions Ltd

After earning a M.Sc. at Queen's University in Geological Sciences in 1980, she gained experience as an exploration geochemist planning and interpreting geochemical surveys internationally. She is recognized as a world-expert on assay methods and has traveled extensively to review sampling and analytical procedures. Lynda was awarded the 2013 Queen's Jubilee Medal award for her dedicated volunteer work in the mining industry. She has served as a director of the Prospectors and Developers Association of Canada and as a committee member for the CIM, AEG, GAC as well as numerous advisory boards.



## CHRIS BROWN

Oriented core success in the age of blind exploration

[Business Development Manager](#) / Oriented Targeting Solutions

Chris Brown began his career 22 years ago bush-whacking and soil sampling all over Alaska. Initially brainwashed by grizzly old-school exploration geologists, the focus has always been on making discoveries. After working with oriented structural data for 7 years, Oriented Targeting Solutions was created out of a passion for making new discoveries by targeting structural controls on mineralization with new oriented core methods.



## MATTHEW BODNAR M.SC.

Advanced data analysis in optimising value from geochemistry

[Senior Geologist](#) / CSA Global

Matthew is a geologist with 13 years' experience in mineral exploration. Matthew specializes in the integration of diverse geoscientific datasets with the goal of developing more robust geological and exploration target models. He has been an integral part of many grassroots, brownfields and active minisite exploration programs across North America with junior through major miners.



## GEOFF BURTNER

Managing drills with real-time geological data: Targeting in the present, not the past

[Senior Structural Geologist/Geochemist](#) / Oriented Targeting Solutions

Geoff has been working in exploration since getting his MSc at the University of Nevada in 2012. Since then, much of his experience has been in project generative field work, integrated structural and geochemical modelling and training geologists in the arcane science of oriented core. Currently, he acts as Chris Brown's dextral hand at Oriented Targeting Solutions and can be found managing projects and working with stereonet across the western hemisphere.



## DR. JANINA ELLIOTT, PHD, MSCI GEOL

Delivering real-time visualisation for minerals drilling projects.

[Central Technical Lead](#) / Seequent

Janina is a geoscientist and holds a Ph.D. in Geology from the University of British Columbia. During her research in Canada and the SW Pacific region she specialised in the geochemical exploration of Au-Cu deposits. Janina has been working for Seequent for over 5 years and begun her career as a Technical Service Representative in Vancouver providing Leapfrog software training, support and project assistance to North America. In the last year Janina has moved into the role of Technical Leader for Central. She is actively involved in the global distribution of Central and provides workflow solutions for the mining industry as well as the civil and energy sectors.



## CHRIS GALLAGHER B.SC, M.SC. (GEOLOGY)

Integration of IQ-LOGGER structural data and AR / ICP-MS geochemical data to facilitate 3D alteration modelling at the Gibraltar Mine, central BC

[Manager - Exploration Technology](#) / TerraLogic

Chris joined TerraLogic Exploration in 2003 after completing his Masters in structural geology and tectonics at Carleton University. Since then he has been instrumental in continually developing TerraLogic's exploration methodology and geologic data management systems.



**DR. PIM VAN GEFFEN** PHD, PGEO

Integrated geoscience and metallurgy of Myanmar Metals' Bawdwin deposit

[Principal Geochemist](#) / Van Geochem

Pim is a professional geoscientist and consultant based in Vancouver. He has an MSc degree from Utrecht University in the Netherlands and a PhD from Queen's University, Kingston, Ontario. Over the past 15 years he has worked on a wide variety of projects in applied geochemistry and exploratory data analysis, ranging from soil and stream-sediment surveys to litho-geochemistry and geochemical assessments.



**ROBERT HEARST** MSC, P.GEO., P.GEOPH.

Integrated imaging of mineral deposits combining geophysical and geological data sets

[Chief Geophysicist - Americas](#) / Southern Geoscience Consultants

Robert is a registered professional geoscientist and geophysicist based in Toronto. Over the past 35 years he has worked in all phases of geophysics from program design, data acquisition and interpretation, as a consultant, contractor and end user. His experience spans all exploration environments and commodities delivering high-quality outcomes.



**DR. KEVIN HEATHER**

What the hell is a junior exploration company doing a full-on hyperspectral core imaging program for? The exploration and business case for doing so!

[Chief Geological Officer](#) / Regulus Resources Inc

Dr. Heather is a practical, field-based exploration geologist with 40 years of field experience in North and South America specializing in South American porphyry Cu-Au-Mo and epithermal Au-Ag exploration, as well as Archean geology and gold deposit experience. Dr. Heather has a demonstrated track record of delivering high-quality technical work that has led to value-wealth creation in the junior exploration sector.



**MARC-ANTOINE LAPORTE**

Machine learning and big data, the future of exploration targeting and new discovery

[Global Project Geologist](#) / SGS Geostat

Marc-Antoine Laporte graduated from Laval University with M.Sc. in Igneous Petrology and Geochemistry and his specializes in ore deposit geology, geochemistry, exploration targeting using classical and AI approaches. He worked as a geologist for Falconbridge with the Raglan Mine exploration team and Anglo American Exploration as project geologist on multiple commodities (Ni-Cu-PGE, Porphyry Cu-Au-Mo, Iron ore, coal and VMS). Since then Marc-Antoine started working with SGS Canada as a global project geologist, specializing in exploration models and targeting and the AI application to mining industry.



**DR. LUKE LONGRIDGE** PR.SCI.NAT., FGSL

Optimizing data acquisition and analysis from oriented core

[Senior Structural Geologist](#) / CSA Global

Luke is a structural and economic geologist who has worked in on a range of commodities across several African countries and Canadian provinces. From understanding regional-scale tectonics to deposit-scale geometries, he enjoys integrating geological information to solve problems.



**GERVAIS PERRON**

Delivering real-time visualisation for minerals drilling projects

[Principle Geoscientist - Americas](#) / IMDEX

Gervais has over 20 years of experience in the mining industry focused on the application of new software technologies and 3D multidisciplinary data integration for mineral exploration. Deep understanding of the development, strategic positioning and sales of software platforms as well as their applications to real exploration challenges. He is a strong believer in the integration of exploration data sets as a process to enhance our understanding of complex ore deposit systems.



**DR. ADRIAN MARTINEZ VARGAS** P.GEO (APGO, APEGBC), CFSG

Machine learning as a tool for geologists

[Senior Geostatistician](#) / CSA Global

Adrian is both a geologist and a geostatistician. He has worked as a consultant since 2002 covering many commodities including gold, copper, nickel, chromium, and raw material for cement industry. He has experience with non-linear geostatistics and conditional simulations for resource estimation and model validation. Adrian has worked as an Assistant Professor in Cuba and Ethiopia, teaching geology and geostatistics. Adrian also produces open source software for geostatistics and mineral resources in Python, Fortran, and Cython.

---



**WARREN POTMA** MSc, MAIG, MAUSIMM

Managing risk with quantitative 3D mineral system characterisation

[Principal Geologist](#) / CSA Global

Warren is a geologist with over 20 years' experience in exploration and mining geology, management and technical R&D. He is a Principal Geologist with CSA Global in Perth specialising in structural geology, integrated mineral system analysis, geometallurgy and technical mentoring.

---



**MCLEAN TROTT**

Portable XRF industry applications: Case studies

[Regional Geoscientist - Latin America](#) / First Quantum Minerals Ltd.

At present McLean is the Regional Geoscientist for First Quantum Minerals Ltd in Latin America, based in Santiago, Chile. Amongst other things, he has been exploring for porphyry copper deposits around the American margin of the Pacific Rim for about 15 years, in Chile, Peru, Ecuador, Panama, Argentina, and Mexico. His current primary focus is on best practice exploration techniques/systems and R&D of new techniques for porphyry copper exploration. He first used handheld XRF technology in 2007 in a project in northern Ontario, and has been a sporadic but enthusiastic user since then.

---



**DR. NEAL REYNOLDS** PHD FAUSIMM MAIG FSEG

Practical minerals systems application to enhance exploration success

[Director](#) / CSA Global

Neal completed a PhD on skarn systems in 1987 and has worked as a consultant with CSA Global since 1993. Neal has worked on many base-metal and gold projects globally, from exploration to mine stage and from targeting studies to project evaluation and due diligence. He has specialised in integrated geoscience studies for targeting at province to deposit scale, in basinal and magmatic-hydrothermal mineral systems.

---



**PETER WINTERBURN**

Discovering buried mineralization with microbiology

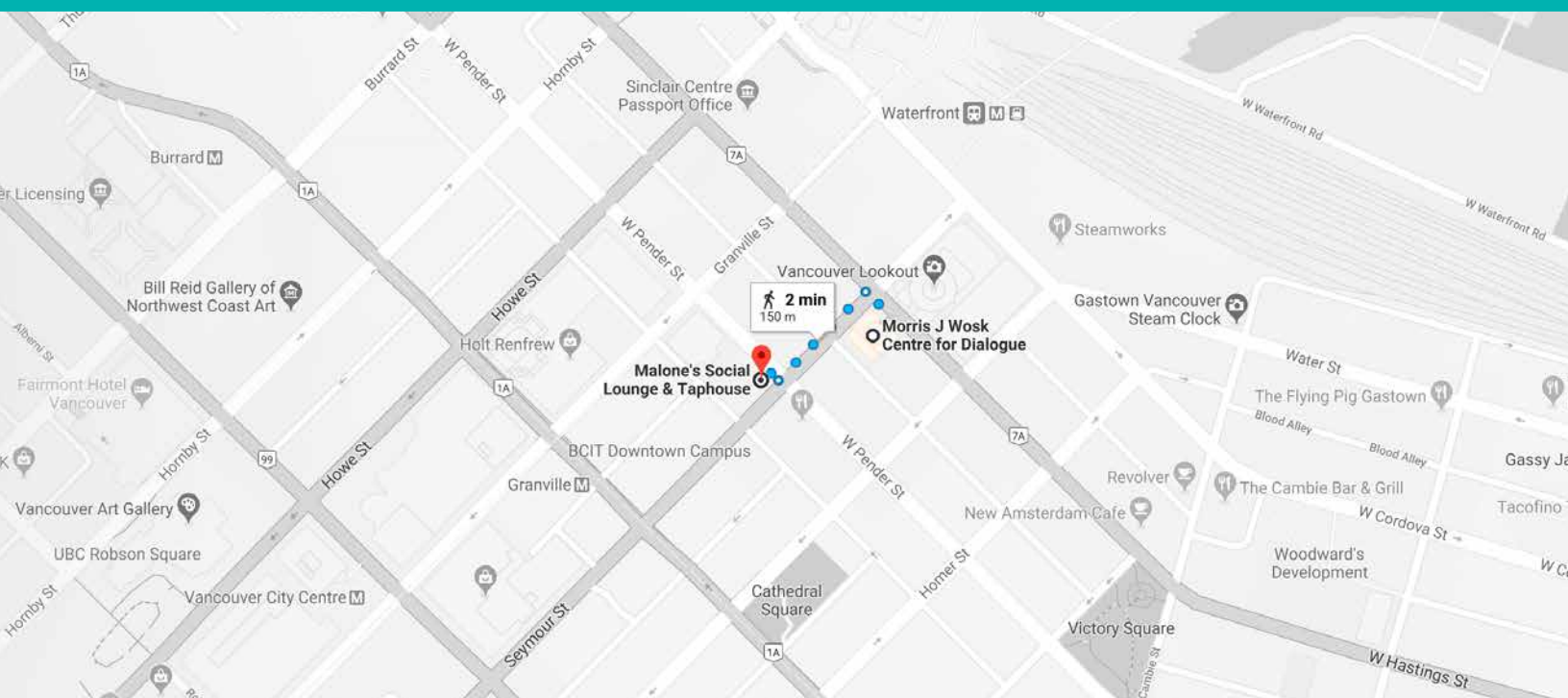
[Executive Industrial Research Chair in Exploration Geochemistry](#) / Mineral Deposit Research Unit, EOAS, UBC

Peter is an exploration geochemist with over 25 years of experience in industry prior to joining the Mineral Deposit Research Unit (MDRU) as a professor of exploration geochemistry at the University of British Columbia, Canada, in 2014. Peter was previously employed by Anglo American PLC as their regional geochemist in Africa and subsequently in South America, based out of Santiago, Chile, following which he held the post of chief geochemist for global exploration with Vale, based out of Toronto, Canada.

MEET THE #XPLORATIONTECH PARTNERS AND SPONSORS

# SUNDOWNER / 5PM

**MALONE'S SOCIAL LOUNGE & TAPHOUSE**  
608 W PENDER ST, VANCOUVER



SPECIAL THANKS TO OUR SPONSORS



**CORESAFE**



#xplorationtech

REGISTER NOW AT **Eventbrite**