

# XPLORATION TECH SYMPOSIUM

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

## 2023 SYMPOSIUM PROGRAMME

### 7:30 AM CONTINENTAL BREAKFAST

8:40 AM Welcome and opening remarks Gervais Perron

### SESSION ONE: XPLORATION VALUE & GEODATASCIENCE – BROUGHT TO YOU BY GOLDSLOT

8:45 AM How exploration creates value: A simple one-period framework Michael Samis

9:10 AM Best practices in drill core management & photography Jessica Keast

9:35 AM Can technology fix poor data quality? Sara Sulway

10:00 AM Fingerprinting structures w/integrated multi-discipline datasets, including hyperspectral & televiewer Julia Kramer Bernhard

### 10:25 AM MORNING TEA - BROUGHT TO YOU BY HYTECH DRILLING

10:45 AM Geodatascience: Advances in processing & visualization to shorten the gap between discovery & development Matthew Bodnar

### SESSION TWO: PHYSICAL ROCK PROPERTIES & GEOPHYSICS – BROUGHT TO YOU BY HISEIS

11:10 AM Seismics: Revealing geological details from 3D seismic volumes using textural signatures & machine learning Andy Dyke

11:35 Petrophysics of porphyry deposits at local & regional scales in British Columbia Dianne Mitchinson

12:00 PM Cosmic ray muon tomography Doug Schouten

### 12:25 PM LUNCH BREAK - BROUGHT TO YOU BY CORESAFE

### SESSION THREE: CASE STUDIES & WORKFLOWS – BROUGHT TO YOU BY MALVERN PANALYTICAL

1:45 PM Ore body knowledge: Beyond buzzwords to integrated data streams Gabriela Brandao

Ayesha Ahmed

2:10 PM Early-stage geotechnical domaining & design using machine learning on exploration core photographs Andrew LeRiche

2:35 PM Automating mineralization & waste rock identification: Analyzing drill core from the Los Azules (Argentina) porphyry copper deposit using the geoLOGr hyperspectral rock analyzer Michelle Tappert

3:00 PM The role of data integration & collaborative environments in the discovery of new deposits – A nickel discovery case in Brazil Pablo Mejia

### 3:25 PM AFTERNOON TEA - BROUGHT TO YOU BY EVIDENT SCIENTIFIC

### SESSION FOUR: ADVANCES IN GEOCHEMISTRY – BROUGHT TO YOU BY SGS

3:45 PM Mobile metal ion soil geochemistry the past & present Leah Treloar

4:10 PM In-field parts per billion gold results by pXRF is now a reality. How it works & exploration examples of this proven technology Simon Bolster

4:35 PM Mineralogical & geochemical vectoring techniques in advanced argillic-altered rocks of British Columbia Farhad Bouzari

5:00 PM Creating value from geochemical data in exploration: Examples of workflows & interpretations Simon Griffiths

5:25 PM Drawing and closing remarks Gervais Perron

### 5:45 PM #XPLORATIONTECH SUNDOWNER - MALONE'S SOCIAL LOUNGE & TAPHOUSE

608 W Pender St, Vancouver

#explorationtech

# OUR PRESENTERS



**MICHAEL SAMIS** PH.D., P.ENG.

How exploration creates value: A simple one-period framework

Principal / SCM Decisions

Dr. Michael Samis, P.Eng. is a leading Integrated Valuation and Risk Modeling practitioner with more than 30 years of mining industry experience. He evaluates and assesses the risk of mining projects ranging from the exploration stage to late-stage capital investments. He has also analyzed project financing and contingent taxes for mining projects. He currently assists clients in the natural resource industries with aligning capital allocation decisions to business strategy through SCM Decisions.



**JESSICA KEAST**

Best practices in drill core management and photography

CEO / Prospectors & CoreSafe  
Creator / GeoHug

From roles in warehouse management, to product management and sales, Jessica has more than 12 years of experience in helping mines around the globe optimize their core shed workflows, minimize workplace injuries and protect and catalogue their core.

Recognized globally as a Champion of Geoscience, Jessica is passionate about sharing geoscience stories & learnings. To that end she Facilitates and hosts GeoHug Webinars. Over 185 programs to date and counting.



**SARA SULWAY** M.SC.

Can technology fix poor data quality?

Product Manager - Structural Solutions / IMDEX

Sara is a geologist who holds an MSc in Applied Mining Geology from the University of Queensland, Australia. Sara has worked in the Mining Equipment, Technology and Services (METS) sector for some 30 years, loves technology, and working with multidisciplinary teams to identify, develop and implement technological solutions that help solve problems in exploration and mining.



**JULIA KRAMER BERNHARD** PH.D., M.SC.

Fingerprinting structures w/integrated multi-discipline datasets, including hyperspectral & televiewer

Lead Structural Geology / Anglo American

Julia Kramer Bernhard, PhD, MSc, is Anglo American's Lead Structural Geology and provides leadership and support to operations and exploration projects globally. With over 27 years of experience in the mineral exploration industry, government, and academia, and drawing from extensive field experience, Julia specializes in structural controls on mineralization, 3D structural modelling and integration with resource and geotechnical models, and the automation of data collection, analysis, and modelling with a view to accelerating the drilling-to-model workflow.



**MATTHEW BODNAR** M.SC.

Geodatascience: Advances in processing & visualization to shorten the gap between discovery & development

Senior Geologist / ALS GoldSpot Discoveries Ltd.

Matthew had been active in the mineral exploration and mining industry for 17 years from grass-roots targeting through to mature mining environments. He has an M.Sc. in applied exploration geochemistry as part of the Exploration Geochemistry Initiative at the Mineral Deposit Research Unit at UBC and a 1st Class Honours B.Sc. in geological sciences from the University of Manitoba. Matthew has previously worked with Anglo American, CSA Global Consultants and Impala Canada. His current specialties and interests include terrain analysis and landscape geochemistry, novel geochemical methods, field portable analytical technologies, open source geospatial software, drone-based photogrammetry and data science tools to enhance mineral exploration workflows.



**ANDY DYKE** PHD, PGEO

Seisomics: Revealing geological details from 3D seismic volumes using textural signatures & machine learning

Business Development Manager North America / HiSeis

Andy left Leeds University, UK in 1988. with a BSc (Hons) in Geological Sciences and an urge to travel and see the world. Andy spent 24 years with Schlumberger, enjoying postings in the UK, Libya, South Africa, USA, Venezuela, Australia and Canada. He then spent 5 years with TGS Canada in a variety of offshore and onshore multi-client roles.

Andy is currently based in Calgary, Alberta as the Business Development Manager across all of North America for Perth-based HiSeis, striving to showcase hard rock seismic technology. Seismic is an underutilized tool in the mineral exploration space and Andy is focused on helping hard rock explorationists both understand and utilize its unprecedented benefits.



**DIANNE MITCHINSON** PH.D., P.GEO.

Petrophysics of porphyry deposits at local and regional scales in British Columbia

Research Associate / Mineral Deposit Research Unit

Dr. Dianne Mitchinson is a research associate with the Mineral Deposit Research Unit at UBC. Dianne's expertise is in geological and geophysical data integration and interpretation. Prior to joining MDRU, she was a senior consultant at Mira Geoscience where she led 3D mineral targeting projects in a range of mineral deposit settings. Currently, at MDRU, she is using geophysical data to identify porphyry deposits and their host rocks undercover, and to locate favorable rocks for carbon sequestration in BC and Yukon.



**DOUG SCHOUTEN**

Cosmic ray muon tomography

CTO / Ideon Technologies, Inc.

Doug is the CTO & Co-founder of Ideon Technologies, and Adjunct Professor of Physics at SFU.

He is a global leader in muon tomography and one of the few people in the world with the expertise to turn muon research into industrial problems solved. Doug holds a BSc. (Hons) in physics and computer science from UBC, and a PhD in physics from SFU. Currently, he is leading R & D for muon tomography systems and a UAV gravimeter at Ideon Technologies, Inc.



**GABRIELA BRANDAO**

Ore body knowledge: Beyond buzzwords to integrated data streams

Manager Innovation - Ore Body Knowledge / Teck Resources Ltd.

Gabriela is a Geologist with 18 years consultancy and industry experience predominantly in base and precious metals in Brazil, Canada, Mexico and Chile. Her expertise is in project management, geological modelling, geostatistics, resource estimation and grade control. Gabi is enthusiastic about bringing people with diverse skillsets together to lead change!



**AYESHA AHMED**

Ore body knowledge: Beyond buzzwords to integrated data streams

Sr Geochemist - Ore Body Knowledge / Teck Resources Ltd.

Ayesha Ahmed has over 15 years experience, spanning both industry and academia. She is passionate about applying and integrating new technologies into mining and exploration workflows and working with site teams to generate products that contribute to discovery and improving ore body knowledge.

# #xplorationtech



# OUR PRESENTERS



**ANDREW LARICHE** M.ASC, P.ENG (BC)

Early-stage geotechnical domaining and design using machine learning on exploration core photographs

[Mining Rock Mechanics Consultant](#) / SRK Consulting

Andrew is a consultant with six years of industry experience in numerous projects in both the domestic and international mining industry. He works with the SRK rock mechanics group in Vancouver, BC. Andrew has a strong foundation in 3D geological modelling to support evaluation of geotechnical conditions as an input to mine design. He has experience developing and using automated core photograph logging workflows through machine learning, for geotechnical characterization in several deposit types. Other experience includes geotechnical slope design and analysis, geotechnical field investigations, the collection/interpretation of remote monitoring data, and terrain geohazards assessments.



**MICHELLE TAPPERT** PHD.

Automating mineralization & waste rock identification: Analyzing drill core from the Los Azules (Argentina) porphyry copper deposit using the geoLOGr hyperspectral rock analyzer

[CEO](#) / Hyperspectral Intelligence Inc.

Dr. Michelle Tappert is the CEO of Hyperspectral Intelligence Inc., the company that builds the geoLOGr hyperspectral rock analyzer. She has a PhD in geology and proven domain expertise in the field of hyperspectral data acquisition, analysis, and interpretation. Dr. Tappert's goal of bringing accurate and affordable automated rock identification systems to the global resource sector has led Hyperspectral Intelligence Inc. to build one of the fastest-growing hyperspectral rock analyzing fleets in the world.



**PABLO MEJIA** PHD., MESC.I.

The role of data integration & collaborative environments in the discovery of new deposits – A nickel discovery case in Brazil

[Consultant](#) / Ero Copper Corp.

PhD and Master in Earth Sciences, with 19 years of experience working on different exploration roles, with significant practice on copper and gold deposits in Latin and North America. In the last years, contributing with Ero Copper Corp's exploration efforts on its copper and gold assets in Brazil.



**LEAH TRELOAR** BSC. GEOLOGY, G.I.T.

Mobile metal ion soil geochemistry the past and present

[Global MMI Product Manager](#) / SGS

Leah Treloar graduated from Acadia University in 2011 with B.Sc. Honours Geology and is currently pursuing a M.Sc. in Geochemistry from Queen's University. Her focus is exploration and environmental geochemistry with particular focus on element mobility and precipitation.

She has worked as an exploration geochemist for Teck Resources Ltd. focusing on soil geochemistry programs in British Columbia and Yukon as well as with AMEC Environment and Infrastructure (now WSP) as an environmental geochemist, focusing on Acid Rock Drainage and Metal Leaching for mine sites. Since joining SGS in 2019 she works directly with companies aiding in developing soil geochemistry programs as well as developing further applications of the MMITM Technology.



**SIMON BOLSTER**

In-field parts per billion gold results by pXRF is now a reality. How it works and exploration examples of this proven technology

[Executive Director/Co Founder](#) / Portable PPB Pty. Ltd.

Simon is a geoscientist with over 30 years global gold industry experience specializing in exploration geochemistry, regolith and remote sensing. He has worked in all roles from field assistant to Head of Exploration and ASX Company Director. He is a Co-founder of Portable PPB and has lead the company through to commercial launch of the game changing detectORE™ low level gold by pXRF Technology using his deep knowledge of the gold industry to shape the product into one that is practical and fit-for-purpose.



**FARHAD BOUZARI** PHD.

Mineralogical and geochemical vectoring techniques in advanced argillic-altered rocks of British Columbia

[Research Associate](#) / MDRU – Mineral Deposit Research Unit, UBC

Farhad Bouzari is a Research Associate with MDRU with Ph.D. from Queen's University. His research interests are anatomy and evolution of the porphyry copper deposits particularly distal and deep features and their application in vectoring towards mineralization. He has also interest in developing new exploration techniques for exploring porphyry fertile plutons and copper deposits in covered terrains and understand the supergene processes and mineralogy.



**SIMON GRIFFITHS** MSC., DIC., FGS.

Creating value from geochemical data in exploration: Examples of workflows & interpretations

[Director](#) / Third Planet Exploration Services

A consulting economic geologist with 30+ years` experience in mineral exploration, starting in Mexico, then the USA and Canada for Kennecott; Australia, SE Asia, Africa, USA for Barrick (Global Chief Geochemist), then South America (Chief Geologist).

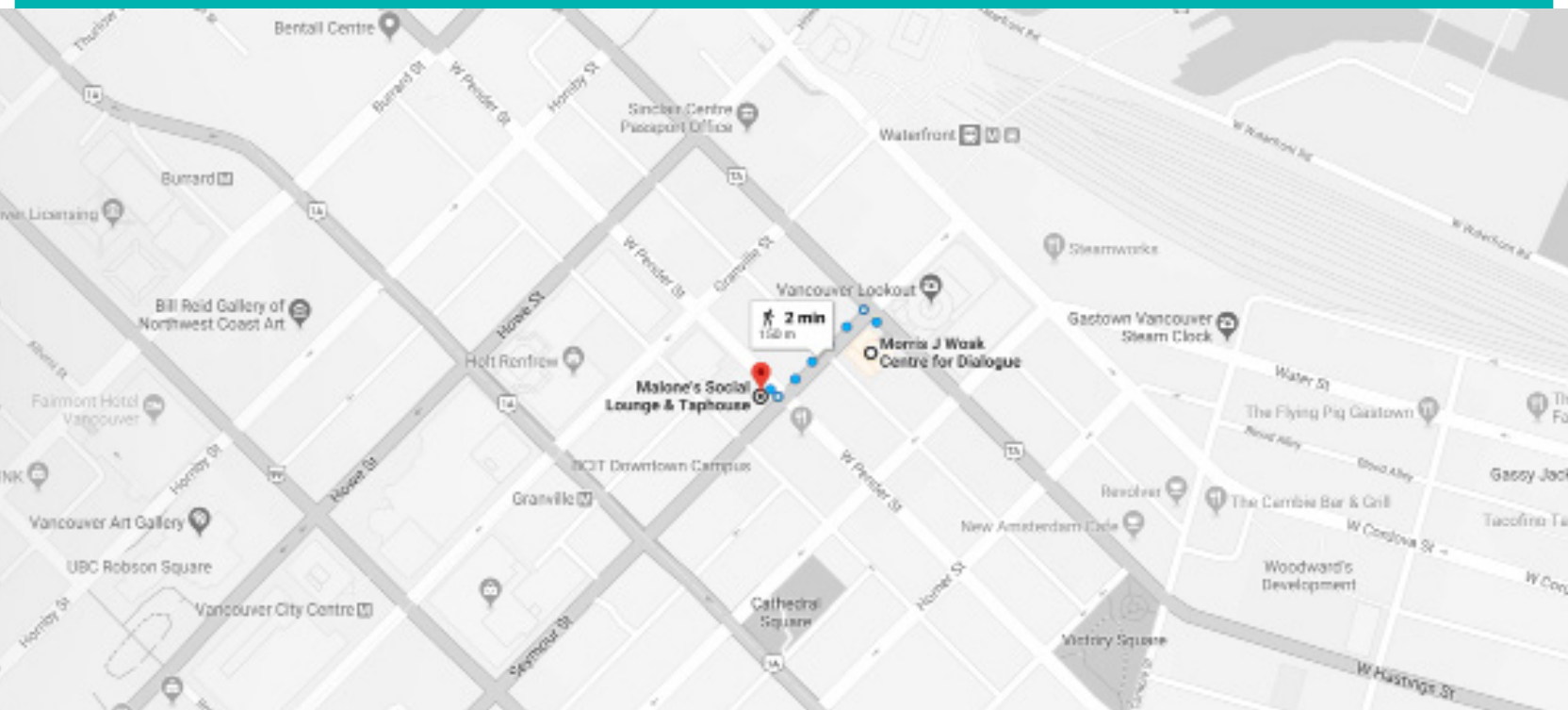
Simon is currently a non-executive director/technical advisor to several junior/mid-tier companies. He also provides geochemical consulting to 20 clients in Africa, Europe and North America.

Simon holds a degree in geology (University of Liverpool) and a Masters' in Mineral Exploration (Royal School of Mines).

MEET THE #XPLORATIONTECH PARTNERS AND SPONSORS

# SUNDOWNER / 5:45 – 8:30 PM

**MALONE'S SOCIAL LOUNGE & TAPHOUSE**  
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