



2019

**THE WORLD'S PREMIER
MINERAL EXPLORATION
& MINING CONVENTION**



**REGISTER BY
February 8, 2019
AND SAVE!**

**REGISTER TODAY
www.pdac.ca/convention**

Metro Toronto Convention Centre, Toronto, Canada | **MARCH 3 – 6, 2019**

REGISTRATION BROCHURE

(as of November 13, 2018)

PDAC 2019

Message from the President



Every year our Registration Brochure begins with a message from the PDAC President. And every year we say something along the lines of: "How did it get to this time of year already?" I feel the same way again.

While I prepare to celebrate my 44th consecutive PDAC Convention, the event will incredibly celebrate its 87th

anniversary. To add a little perspective on how much our convention has grown in size and stature, more than a quarter of a million attendees have participated in the world's premier mineral exploration and mining convention since 2010. No small feat.

Following a hugely successful PDAC 2018 Convention, which welcomed more than 25,000 attendees from 135 countries, there are big expectations for 2019. Over the past year, we have seen confidence return to Canada's mineral exploration and mining sector with investment remaining steady year-over-year.

The PDAC Convention is a temperature gauge for the sector. It is renowned for bringing the latest trends, technologies, knowledge and information to Toronto every year, and participation measures how hot or cold the investor climate might be in the year ahead. It is also the best opportunity for junior miners and individual prospectors to showcase their latest projects and discoveries, and for students to find their big break.

After two years of sold-out exhibitor space and long waiting lists, I'm pleased to announce that Trade Show North is expanding to accommodate demand.

The 4th International Mines Ministers' Summit (IMMS), co-hosted by PDAC and the World Economic Forum, will build on the success of previous years by bringing international Mines Ministers from around the world together to discuss challenges and opportunities, and to learn from one another.

Julian Kettle, Vice Chairman of Metals and Mining at Wood Mackenzie, will discuss the possibility of metal shortages due to lack of investment in the mining industry at the Mineral Outlook Luncheon, and there will be an exceptional lineup of presenters, short courses, programs and networking opportunities.

Visit our website (www.pdac.ca/convention) for the latest news and information. I look forward to welcoming you to the PDAC 2019 Convention, my last as PDAC President!

A handwritten signature in black ink, appearing to read 'Glenn Mullan'. The signature is fluid and cursive, written on a white background.

Glenn Mullan
Prospectors & Developers Association of Canada

2019 CONVENTION PLANNING COMMITTEE

Aleksandr Mitrofanov SRK Consulting (Canada) Inc.
Antoine Schwartzmann Newmont Mining Corporation
Antoine Cate SRK Consulting (Canada) Inc.
Bill Mercer Avalon Advanced Materials Inc.
Bob Valliant Tri Origin Exploration Ltd.
Brian Prill BLP Law
Catherine Gignac CG & Associates
Charles Beaudry Consultant
David Christie Orford Mining Corp.
David Davidson Paradigm Capital Inc.
Donald Bubar Avalon Advanced Materials Inc.
James Lusby PricewaterhouseCoopers LLP
James Siddorn SRK Consulting (Canada) Inc. (Co-Chair)
Jean des Rivières BHP
Jim Chan Environmental Resources Management (ERM)
Joe Hinzer Watts Griffis and McQuat Ltd.
John Morganti Lucca Advisors Inc.
John Sullivan Mineral Exploration Consultant
Keith Spence Global Mining Capital Corp.
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Mark Ferguson S&P Global Market Intelligence
Neil Gow Independent Consultant
Patricia Sheahan Consultant
Patricia Stirbys Consultant
Patrick Chance Patrick Chance & Associates
Peter Bojtos Independent Company Director
Peter Legein Legein Consulting Inc.
Raymond Goldie Independent Analyst and Director
Reno Pressacco RPA Inc.
Resa Furey Stantec
Robert Boyd Endurance Gold Corporation (Co-Chair)
Robert Hearst Southern Geoscience Consultants
Spencer Ramshaw
Stephen Wallace Searchlight Resources Inc.
Sylvain Durocher Ressources Québec
Ted Reeve Haliburton Mineral Services Inc.
Terence Ortslan TSO & Associates
Valerie Wilson RPA Inc.

TABLE OF CONTENTS

2019 Highlights	4
Attendee and Registration Info	6
Convention Planning Committee	2
Exhibits	
Core Shack	10
Exhibit Hours	10
Investors Exchange	10
Prospectors Tent.....	10
Trade Show & Trade Show North	11
Media Partners	12
Message from the President	2
Networking Events	
Mining Matters Hockey Tournament.....	14
Opening Ceremonies	14
Luncheons	
Mineral Outlook Luncheon	15
Student-Industry Networking Luncheon	17
Receptions	
Mining for Diversity Reception	17
Opening Day Reception	15
PDAC New Members	
Networking Reception	14
Trade Show Reception.....	15
Evening Events	
Awards Gala & After Party.....	16
Grand Finale.....	17
PDAC Membership	13
Programming	
Aboriginal Program	18
Capital Markets Program	19
Corporate Presentation Forum for Investors.....	21
Exploration Insights	21
Franco-Mine.....	21
Letter Writer Presentations for Investors.....	24
PDAC One on One Meeting Program	24
Presentation Rooms.....	24
Reception Rooms	25
Short Courses	26
Student & Early Career Program.....	34
Sustainability Program	35
Technical Program.....	37
Registration Form	Centre spread
Services Onsite	42
Sponsors	22



2019

THE WORLD'S PREMIER
MINERAL EXPLORATION
& MINING CONVENTION

HIGHLIGHTS

March 3-6 Metro Toronto Convention Centre | Toronto, Canada

Register at pdac.ca/convention

CONNECT WITH

25,000

ATTENDEES
FROM

135

COUNTRIES

> Including investors, financiers, banking executives, fund managers, brokers, analysts, lawyers, mining developers, exploration managers, prospectors, geoscientists, government officials, media and more!

BUILD YOUR NETWORK
AT THESE EVENTS
BUY YOUR TICKETS EARLY



MINERAL OUTLOOK LUNCHEON | MONDAY, MARCH 4



Is the mining industry investing enough or are metal shortages inevitable?

Join us as **Julian Kettle**, Vice Chairman of Metals and Mining, Wood Mackenzie discusses the possibility of metal shortages due to lack of investment in the mining industry.

OTHER NETWORKING EVENTS

- Sunday, March 3 Opening Day Reception
- Monday, March 4 Trade Show Reception
- Tuesday, March 5 Mining for Diversity Reception
- Tuesday, March 5 Student-Industry Networking Luncheon
- Wednesday, March 6 Grand Finale



AWARDS GALA & AFTER PARTY
TUESDAY, MARCH 5

The PDAC Awards Gala celebrates industry excellence and brings together the who's who of the global mining industry. Network at the exclusive cocktail reception followed by a three-course gourmet dinner and fine wines.

Then... it's on to the AFTER PARTY!

Your opportunity to meet and mingle with the Award recipients, C-level executives, financiers, brokers and mining developers.

550+

ENGAGING PRESENTATIONS
AND INFORMATIVE COURSES
LED BY INDUSTRY EXPERTS

- Aboriginal Program
- Capital Markets Program
- Exploration Insights
- Franco-Mine
- Presentation & Reception Rooms
- Student & Early Career Program
- Sustainability Program
- Technical Program

VALUABLE INVESTING INSIGHT

FROM INDUSTRY
THOUGHT LEADERS
IN THE MINERALS
AND MINING SECTOR

> **Corporate Presentation
Forum for Investors**

The latest updates on key activities and investment potential.

> **Letter Writer Presentations
for Investors**

Learn how to select profitable investments from key industry newsletter writers.

KEYNOTE 2019: THE NEXT GENERATION

MONDAY, MARCH 4

Many companies are concerned with the aging workforce in the mining industry, along with the need to increase gender diversification. Keynote 2019 will focus on people under 40. This includes a young executive from each of the operating and financing sides of the industry to provide their views of the current issues they are facing and future trends for our industry. In addition, as a new approach for Keynote 2019, we will have a group presentation from a diverse team of prize winning university students who will share their perspectives on the future of exploration and mining.

**Profound innovation
fuelled by collaboration**



Stephen de Jong
Chief Executive Officer
VRify

**Where technology, precious metals,
jewelry and investment align**



Roy Sebag
Chief Executive Officer
Goldmoney Inc.

Panel presentation: Millennials & mining



Romy Done
University of Toronto



Char Duffet
Carleton University



Lewis Wan
British Columbia
Institute of Technology

SHORT COURSES

Register for in-depth, educational courses led by industry experts. A certificate of completion is available towards your professional development hour requirements.

Fundamentos de estimación de recursos minerales
(Instruction in Spanish only)



Visit over
1,000
EXHIBITORS

PROMOTING LEADING
PRODUCTS, SERVICES,
MINING JURISDICTIONS,
INVESTMENT AND
DEVELOPMENT
OPPORTUNITIES

- Core Shack
- Investors Exchange
- Prospectors Tent
- Trade Show & Trade Show North

ATTENDEE AND REGISTRATION INFO

Onsite Registration & Information Centre
Sponsored by



SAVE!
**REGISTER BY
February 8, 2019**

STEP 1 > Select your pass type

Passes & fees (all fees include tax)

ALL ACCESS PASS

Pass Types	Early Rate (Paid by Feb 8)	Regular Rate (Paid after Feb 8)
ALL ACCESS PASS		
Member	\$299.99	\$489.99
Non-Member	\$599.99	\$829.99
SENIOR ALL ACCESS PASS (Must be 65 years of age or older)		
Member & Non-Member	\$79.99	\$139.99
STUDENT ALL ACCESS PASS (Must be enrolled full-time in a recognized academic program)		
Member	\$49.99	\$79.99
Non-Member	\$109.99	\$139.99
ONE DAY ALL ACCESS PASS (Can be purchased for single or multiple days)		
Member	\$199.99/day	\$199.99/day
Non-Member	\$449.99/day	\$449.99/day

UPGRADE TO A VIP ALL ACCESS PASS

Pass Types	Early Rate (Paid by Feb 8)	Regular Rate (Paid after Feb 8)
Member	\$699.99	\$879.99
Non-Member	\$1,099.99	\$1,309.99

By upgrading you'll receive these additional services along with the All Access Pass inclusions:

- Exclusive access to the VIP Lounge (restricted to pass holders only) which includes daily continental breakfast and light refreshments throughout the day
- A dedicated registration desk with attendants providing scanning and photocopying services
- Complimentary, private meeting rooms for up to 10 people (non-VIP attendees are permitted access to the meeting rooms)

Space is limited. **Register Now!**

YOUR ALL ACCESS PASS INCLUDES:

PROGRAMMING

- Aboriginal Program
- Capital Markets Program
- Corporate Presentation Forum for Investors
- Exploration Insights
- Letter Writer Presentations for Investors
- Sustainability Program
- Student & Early Career Program
- Technical Program

EXHIBITS

- Core Shack
- Investors Exchange
- Prospectors Tent
- Trade Show
- Trade Show North

NETWORKING EVENTS

- Opening Day Reception (includes a drink ticket)
- Trade Show Reception (includes a drink ticket)
- Mining for Diversity Reception
- Student-Industry Networking Luncheon (RSVP when you register for convention)
- Grand Finale (includes two drink tickets at the door)

TICKETS

- Headshot
- Shoe Shine

PLUS A CONVENTION BAG

Inside you'll find a:

- Convention Program
- Notebook
- Pen
- Post-it Notepad



Sponsored by

Teck



AngloAmerican

STEP 1 > Select your pass type continued

EXHIBITS DAY PASS

Pass Types	Early Rate (Paid by Feb 8)	Regular Rate (Paid after Feb 8)
Member & Non-Member	\$24.99/day	\$24.99/day

Can be purchased for single or multiple days.
Admission is valid only for the date(s) purchased.

This pass includes:

EXHIBITS

- Core Shack
- Investors Exchange
- Prospectors Tent
- Trade Show
- Trade Show North

PROGRAMMING

- Corporate Presentation
Forum for Investors
- Exploration Insights
- Letter Writer Presentations
for Investors

NETWORKING EVENTS

- Trade Show Reception
(includes a drink ticket if
purchased on Monday)
- Mining for Diversity Reception
- Grand Finale (includes two
drink tickets at the door)

TICKETS

- Headshot
- Shoe Shine

BASIC PRESENTATIONS PASS FREE

No access to Investors Exchange & Trade Show North. For exhibits access, please see All Access or Exhibits Day Pass.

This pass includes:

PROGRAMMING

- Corporate Presentation
Forum for Investors

- Exploration Insights
- Letter Writer Presentations
for Investors

The Exhibits Day Pass and the Basic Presentations Pass also include an event tote bag and a Convention Program.

STEP 2 > Purchase Tickets

Purchase tickets for the networking events and short courses online at www.pdac.ca/convention or by using the registration form located in the centre of this brochure. **Hurry! Tickets sell out quickly.**

DON'T MISS OUT
on Networking Events
and Short Courses!

Networking Events	Prices start at	Page
Mineral Outlook Luncheon	\$89.99	15
Awards Gala & After Party	\$149.99	16
Student-Industry Networking Luncheon RSVP when you register for convention	—	15
Short Courses (details and pricing vary)	Prices start at	Page
Applied structural geology of gold and base metal bearing hydrothermal mineralizing systems	\$899.99	28
Concepts and application of machine learning to mining geoscience: A practical course	\$699.99	28
Disclosure do's and don'ts: Avoiding the fatal flaws in your public reporting	\$199.99	30
Fundamentos de estimación de recursos minerales (Instruction in Spanish only)	\$599.99	30
Geology, genesis, and exploration for magmatic and magmatic-hydrothermal ore deposits	\$449.99	29
Geophysical and geochemical imaging of the continental upper mantle for mineral systems regional targeting	\$599.99	27
Health and safety in mineral exploration	\$74.99	26
Holistic exploration in covered terranes	\$219.99	32
Mining financial modeling	\$499.99	26
Recognizing the impact of political risk on mining operations, corporate strategy and investment decision-making	\$199.99	31
Reporting and benchmarking resource projects: From exploration through to development	\$199.99	31
Spectral geology: Fundamentals, recent advances and case histories	\$499.99	32
The art and science of effective community engagement	\$74.99	29

ATTENDEE AND REGISTRATION INFO

STEP 3 > Register

PDAC REGISTRATION DEPARTMENT

 www.pdac.ca/convention/register

 pdac@pdacevents.ca

 +1 866 939 6468 or +1 647 362 8442

 +1 647 362 8442

 PDAC Registration Department
800-170 University Ave
Toronto, ON M5H 3B3 Canada

Hotels

 Visit www.pdac.ca/hotels for participating hotels. Please reserve directly with the hotel and indicate you will be attending PDAC 2019.

Presentation & Reception Rooms

 You must register for the convention to have access to the Presentation & Reception rooms. Entrance requirements to individual Presentation & Reception rooms vary. For room descriptions and registration requirements, visit www.pdac.ca/convention/presentationandreceptionrooms

PDAC Membership

Join our Community—become a member of the leading mineral industry association and help strengthen our collective voice! Your membership contributes to the PDAC's efforts to support a competitive exploration and development industry that operates responsibly in Canada and around the world. With a membership of over 6,800 individual and 1,000 corporate members, PDAC undertakes advocacy, develops programs and organizes the world's largest annual mineral convention. Sign up today at events.pdac.ca or contact info@pdac.ca for more information.

Volunteer Opportunities for Students

Save money and network with industry professionals while at the convention! Volunteer your time in exchange for a complimentary Student All Access Pass, a ticket to the Student-Industry Networking Luncheon, a gift card, food vouchers and more. Sign up today at www.pdac.ca/convention/volunteers

Mobile Convention Website

Sponsored by

BHP

 Visit www.pdac.ca/convention on your smartphone or tablet to launch the mobile website.

Works like an app. Use this essential tool to plan your time and navigate the convention. Build customized schedules into a smartphone calendar by:

- Adding events and presentations
- Locating and saving exhibitors
- Viewing floorplans



TUESDAY • MARCH 5

Join us as we celebrate
industry excellence in the global mining industry.

Enjoy a hosted reception, gourmet dinner, fine wines,
then complimentary cocktails and dancing at the After Party.

See page 16 for further details.

Purchase your tickets now!

pdac.ca/convention



PROUD SPONSORS

AWARDS GALA



DINNER WINE



RECEPTION & AFTER PARTY



EXHIBITS

SHOW HOURS

Sunday, March 3 – Tuesday, March 5 10:00 am – 5:00 pm
 Wednesday, March 6 9:00 am – 12:00 pm

INVESTORS EXCHANGE

All Access Pass, Exhibits Day Pass required

Sponsored by



📍 South Building, Level 800

Interested in investing in the exploration industry? Discuss investment potential with 500 junior mining companies, mid-sized producers, major mining companies, financial institutions and prospectors.

Exhibitors include:

- Adventus Zinc Corporation
- Alamos Gold Inc.
- Barrick Gold Corporation
- BHP Billiton
- Detour Gold Corporation
- Eldorado Gold Corporation
- Endeavour Silver Corp.
- Golden Minerals Company
- Midland Exploration Inc.
- Playfair Mining Ltd.
- Rio Tinto
- RNC Minerals
- Sprott Group of Companies
- Strongbow Exploration Inc.
- Teck Resources Limited
- Telson Mining Corporation
- Vale

🌐 For a full list of Exhibitors, visit www.pdac.ca/convention/exhibits in December.

PROSPECTORS TENT

All Access Pass, Exhibits Day Pass required

📍 South Building, Level 800, Investors Exchange

Get back to the heart of the industry with a visit to the Prospectors Tent. Located in the Investors Exchange, self-employed and independent prospectors will be there to discuss their maps, samples and claim results.

🌐 For a full list of Exhibitors, visit www.pdac.ca/convention/exhibits in December.

CORE SHACK

All Access Pass, Exhibits Day Pass required

Sponsored by



📍 South Building, Level 800, Investors Exchange

Core Shack offers a venue for companies to display their core. Attendees are welcome to get up close and personal with projects that are generating exciting new drilling results. In addition to core, exhibitors will be displaying maps, charts and technical information on their drilling projects.

Core Shack is comprised of two sessions:

Session A	
Sunday, March 3	10:00 am – 5:00 pm
Monday, March 4	10:00 am – 5:00 pm
Session B	
Tuesday, March 5	10:00 am – 5:00 pm
Wednesday, March 6	9:00 am – 12:00 pm

🌐 For a full list of Exhibitors, visit www.pdac.ca/convention/exhibits in December.

TRADE SHOW & TRADE SHOW NORTH

All Access Pass, Exhibits Day Pass required

Sponsored by



📍 South Building, Level 800 and
North Building, Level 300

Trade Show North is Expanding! The Trade Show North will now encompass Halls B and C!

Visit the Trade Show & Trade Show North to come face-to-face with over 600 Exhibitors including countries, organizations and governments promoting the latest technology, products, services and mining jurisdictions to a worldwide market.

Exhibitors include:

- AGAT Laboratories Ltd.
- BLP Law Professional Corporation
- Brasil
- Colombian National Mining Agency
- ECO Technologies
- EIT RawMaterials
- European Union
- Expedition Helicopters Inc.
- Fordia
- Japosat Satellite Mapping
- Major Drilling
- Matawa First Nations
- MineAfrica Inc.
- Northern Ontario Mining Showcase
- Peru
- Prinoth
- Québec, Gouvernement du
- Sandvik Mining
- University of Toronto

🌐 For a full list of Exhibitors, visit
www.pdac.ca/convention/exhibits in December.

EXHIBIT FLOOR ATTRACTIONS

Social Scene

📍 North Building, Level 300, Trade Show North

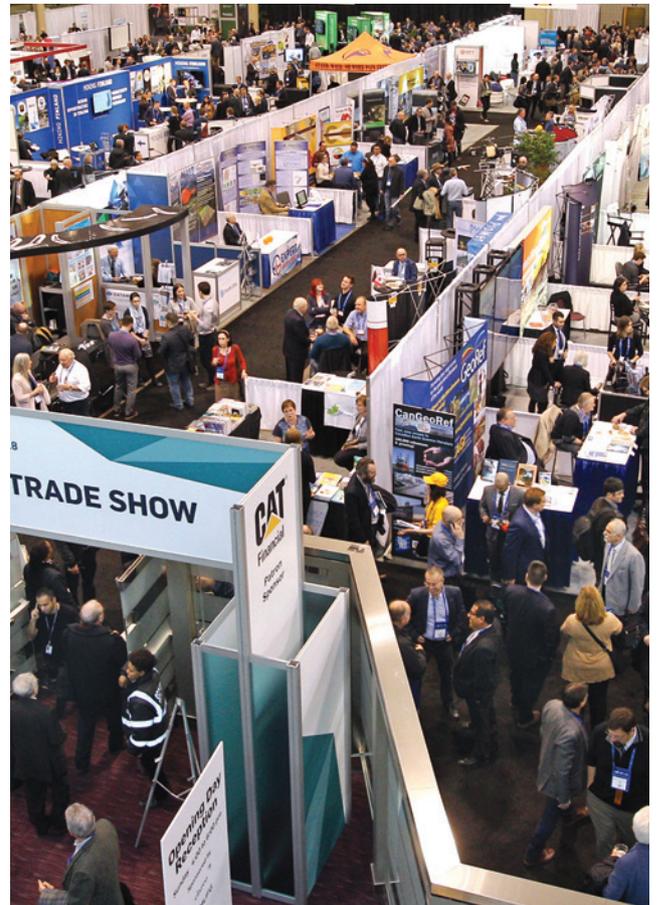
Share your PDAC experience online with your friends and colleagues. Enjoy the Social Scene where you can take team pictures and selfies with a variety of fun props in front of the PDAC backdrop. Post your pictures on social media with the hashtag #PDAC2019.

Kirwin Collection

📍 North Building, Level 300, Trade Show North

The Royal Ontario Museum's Kirwin Collection is a can't miss attraction on the Trade Show North show floor!

The Kirwin Collection was built from hundreds of deposits and localities from around the world. Select samples from the collection will be featured in this booth. It is truly a geological library!



MEDIA PARTNERS



PDAC 2019
official
national
newspaper

📍 South Building, Level 800

Free exploration and development-related publications are available to all attendees from literature bins and tabletop displays.

2019 MEDIA PARTNERS

- Brasil Mineral
- BTV-Business Television
- Bull & Bear Financial Report, The
- Business News Network
- Canadian Mining & Energy
- Canadian Mining Magazine
- Canadian National News, The
- Chile Explore Report
- CIM Magazine
- Commodity-TV
- DEL Communications
- Editec Publishing Group
- El Inversor Energético & Minero
- Engineering & Mining Journal
- Enlace Minero Magazine
- Euro Canada News
- Gest Media
- Global Business Reports
- Globe and Mail, The
- Goldletter International
- In The Mine magazine
- Industrial Minerals
- International Mining
- Investing News Network
- Investorintel.com
- Kitco News
- Magazine Ressources Mines et Industrie
- Metals News
- Mexico Mining Review
- MinerAndina
- Minergia Ecuador
- Miners News
- Minex Forum
- Mining & Quarry World
- Mining Equipment Prospector, The
- Mining Frontier
- Mining Journal
- Mining Record, The
- Mining Review Africa
- Mining Stock Education
- Mining Weekly
- Mining.com
- MundoMinero
- nafinance.com
- nai500.com
- National Post
- Natural Resources Magazine
- Northern Miner, The
- Oil & Gas Republic
- ProActivo Magazine
- Prospector Resource Investment News, The
- Report: Peru, The
- Resource Global Network
- Resource World Magazine
- Revista Minería
- Revista Minería Sustentable
- Rimbach Publishing Inc.
- Rumbo Minero
- Santiago Times, The
- smallcappower.com
- Society of Economic Geologists, Inc.
- Stockpulse.io
- Toronto Waterfront Magazine





PROSPECTORS &
DEVELOPERS
ASSOCIATION
OF CANADA

Strength in Numbers.

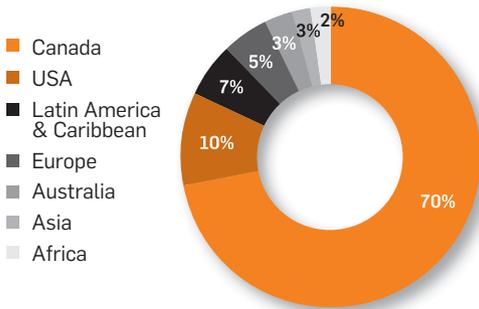
Join our Community

Become a member of the leading mineral industry association and help strengthen our global voice! Sign up today by visiting our website at pdac.ca/members/membership or by completing the **Registration Form** in the brochure. To learn more about PDAC or to discuss the membership benefits, contact us at info@pdac.ca.

8,000
PDAC Members

Prospectors
Geo-consulting Services
Junior Exploration Companies
Mid-tier/Major Mining Companies
Legal/Financial/Investment Firms
Service and Equipment Suppliers

Government Sector
Education Sector
Students
Engineering Services
Environmental Services
Industry Associations



55%

of our Canadian members reside in the province of Ontario, followed by 22% in British Columbia and 10% in Quebec



98
countries represented by members of the PDAC

NEW! EXPANDED MEMBER BENEFITS PROGRAM

- **Exclusive Webinars:** Information and insights on key topics related to the mineral sector
- **PDAC Virtual Forum:** Web-based platform for year-round dialogue, information-sharing and networking between members

INDIVIDUAL BENEFITS

Advocacy – the PDAC takes the interests and concerns of its members to governments, international institutions, communities and other stakeholders, to support a competitive and responsible mineral exploration industry

Networking – individual and corporate member representatives enjoy substantial discounts on registration to participate in the PDAC's Annual Convention, regarded worldwide as the premier event for the mineral industry community

Communications – members are kept informed of the PDAC's initiatives and advocacy work that support the minerals industry, and are provided updates on current news and information

CORPORATE BENEFITS

- Member rate on exhibit booths in the Investors Exchange or Trade Show
- Company profile featured on PDAC website
- Company showcased as a corporate member at the PDAC Convention
- 15% discount on an annual subscription to post jobs on pdacjobs.com network
- One complimentary individual membership
- Specially tailored insurance and benefits program exclusive to PDAC members: consultants package, mining/contractors package, group benefits program
- Current news and information about the industry and the Association through our communication platforms: monthly eNews, quarterly publication *CORE*, quarterly video updates, annual report

INDIVIDUAL FEES

Core	\$90.48
Regular	\$166.67
Senior	\$19.05
Student	\$19.05

CORPORATE FEES

Junior Mining	\$350
Non-Mining	\$350
Class A-E	\$12,000–\$952.38
(fees based on market cap)	

NETWORKING EVENTS *Pass or ticket required*

Don't miss out on these valuable networking opportunities!

- **Tickets sell out quickly** so buy your tickets in advance with your convention registration (online, fax, mail)
- Corporate tables, identified with company name, are available when you purchase a table of 10 for the **Mineral Outlook Luncheon** or the **Awards Gala & After Party**

MINING MATTERS HOCKEY TOURNAMENT

SATURDAY, MARCH 2

8:00 am – 5:00 pm

📍 Scotiabank Pond, Downsview Park, Toronto



Presented by



Face off with us at the annual Mining Matters Hockey Tournament as we celebrate 25 years of supporting teachers with classroom resources and training in mineral resources education.

Sixteen teams (15 skaters and one goalie) will compete to see their name engraved on the coveted Caracle Cup! All skill levels are welcome, only a desire to network and join in friendly competition are mandatory.

With team entry, each player will receive:

- Three games guaranteed
- Personalized jersey
- Hockey socks
- Complimentary food and drinks throughout the day
- Chance to win raffle and cash prizes

Don't have a team? No problem. Individuals without a team wanting to play can be placed subject to space.

About Mining Matters

The hockey tournament is an important annual fundraising event that helps support Mining Matters goal of educating students, teachers and the public about Earth Science and the importance of mineral resources.

For further information, please contact Sarah Hahn, Tournament Coordinator, at 416 863 6463 ext. 321 or tournaments@miningmatters.ca

OPENING CEREMONIES

Open to all pass types

SUNDAY, MARCH 3

10:30 am – 11:30 am

📍 South Building, Level 700

Join Glenn Mullan, PDAC President and other special guests as we mark the official opening of the 2019 Convention.

PDAC NEW MEMBERS NETWORKING RECEPTION *By invitation only*

SUNDAY, MARCH 3

3:00 pm – 5:00 pm

📍 South Building, Level 700

Presented by



PDAC is delighted to host an event exclusively for new members! Over 1,500 industry professionals are invited to network with PDAC Directors and fellow members from around the world. This is an opportunity to meet with your peers, make valuable connections and discuss key issues central to the mineral industry.

New members who RSVP will receive a complimentary drink ticket with their pass. Cash bar available.

Not a PDAC member?

Join now at www.pdac.ca/members/membership

OPENING DAY RECEPTION

All Access Pass, Exhibits Day Pass required

SUNDAY, MARCH 3

4:00 pm – 6:00 pm

North Building, Level 300, Trade Show North

Sponsored by

MUFG
PearTree Canada
RBC Capital Markets
Scotiabank
China Construction Bank

PDAC welcomes you to the largest networking event at the convention. Enjoy appetizers and a complimentary drink as you connect with attendees, exhibitors and colleagues.

All Access Pass holders receive a complimentary drink ticket with their pass. Cash bars available.

TRADE SHOW RECEPTION

All Access Pass, Exhibits Day Pass required

MONDAY, MARCH 4

3:00 pm – 5:00 pm

North Building, Level 300, Trade Show North

Sponsored by



Enjoy a glass of wine or beer as you network with Trade Show North exhibitors and attendees from international and domestic companies, including organizations promoting technology, products, services and mining jurisdictions.

All Access Pass holders and Exhibits Day Pass holders receive a complimentary drink ticket with their pass. Cash bars available.

MINERAL OUTLOOK LUNCHEON

MONDAY, MARCH 4

12:00 pm – 2:00 pm

South Building, Level 700

Sponsored by



Julian Kettle, Vice Chairman of Metals and Mining,
Wood Mackenzie, Guildford, UK

Is the mining industry investing enough or are metal shortages inevitable?

Mining investment peaked in 2012 at \$220 billion USD, then fell rapidly to a low of just \$100 billion USD by 2016. Since then, the sector has taken positive steps toward recovery in the midst of ever-growing challenges. So what lies ahead?

Join us as Julian Kettle discusses the possibility of metal shortages due to lack of investment in the mining industry.

Mr. Kettle has 30 years of experience in the analysis of metals and mining and is a recognized authority on the aluminium industry across the value chain from bauxite mining through to end-use analysis.

He frequently presents to senior industry and financial community stakeholders on Wood Mackenzie's analysis across the value chain of the metals and mining space covering copper, lead, nickel, zinc, iron ore, aluminium, steel and coal. His typical consulting assignments include: market environment assessment, expert witness, raw materials sourcing, contract pricing, portfolio optimization and strategic advisory relating to brownfield and greenfield investments. Mr. Kettle holds a degree in metallurgy and micro-structural engineering.

Admission ONLY with ticket

Ticket: \$89.99 (includes a three-course meal, tax & gratuity)

NETWORKING EVENTS

Pass or ticket required

AWARDS GALA & AFTER PARTY

TUESDAY, MARCH 5

5:30 pm – 11:00 pm **NEW START TIME**

📍 Fairmont Royal York, Concert Hall **NEW ROOM**

Sponsored by

Awards Gala

Franco Nevada
The GOLD Investment that WORKS

Dinner Wine



Reception & After Party

nexa

The PDAC Awards Gala celebrates industry excellence and brings together the who's who of the global mining industry. This is THE event where individuals and companies are acknowledged for their outstanding achievement and contributions to the Canadian mineral industry. Mix and mingle with C-level executives, financiers, brokers and mining developers at the glittering cocktail reception, followed by a three-course gourmet dinner and fine wines.

Then... it's on to the **AFTER PARTY!** This is your opportunity to rub shoulders with the 2019 Award Recipients, brokers, financiers and developers. Enjoy two complimentary drink tickets, dance and enjoy a great party atmosphere—the perfect backdrop for unlimited networking!

Get your tickets early! This event SOLD OUT in 2018.

5:30 – 7:00 pm	Reception NEW START TIME
6:15 pm	Doors Open
6:30 pm	Bars Close
7:00 – 8:00 pm	Dinner
8:00 – 9:00 pm	Awards Presentations
9:00 – 11:00 pm	After Party

Admission ONLY with ticket.

Ticket: \$149.99 (includes tax & gratuity)

Table of 10: \$1,499.90

A maximum of 3 tables/30 tickets may be purchased per individual/company.

Dress: Business Attire, Black Tie Optional



STUDENT-INDUSTRY NETWORKING LUNCHEON

TUESDAY, MARCH 5

11:30 am – 1:30 pm

📍 North Building, Level 100

This reception-style buffet luncheon provides an opportunity for students and recent graduates to connect with industry professionals in a relaxed environment.

The winners of the Mary-Claire Ward Geoscience Award and the Joan Bath and Peter Howe Bursary for Advancement in the Mineral Industry will be announced, as well as the selected 2019 Student-Industry Mineral Exploration Workshop (S-IMEW) participants. There will be a draw for the annual tuition top-up awards. Proof of student membership is required to claim the award.

RSVP when you register for the convention

MINING FOR DIVERSITY RECEPTION

Open to all pass types

TUESDAY, MARCH 5

4:00 pm – 6:30 pm

📍 North Building, Level 100

This event celebrates diversity and inclusion. Join women and men from the mining industry for the opportunity to network and hear from the inspiring awards recipients. Awards will be presented to individuals who have been instrumental in enabling the increase of a diverse workforce and an inclusive workplace within the mining industry. These include the Trailblazer Awards (woman and student); Trailblazer Indigenous Awards (woman and student); and Rick Hutson Memorial Award for mentoring.

This event is coordinated by Women in Mining Canada in partnership with PDAC, with generous support from Royal Bank of Canada and various diversity and inclusion organizations.

For more information, visit www.wimcanada.org

GRAND FINALE

Open to all pass types

WEDNESDAY, MARCH 6

8:00 pm – 12:00 am

📍 Fairmont Royal York, Concert Hall **NEW ROOM**

Sponsored by



After four exhilarating days at the world's premier mineral exploration and mining convention, it's time to **PARTY!**

Come and enjoy this must-attend **FREE** event!

Network and schmooze with the world's mining community while the **Dave Murphy Band** lights up the room with your favourite chart-topping tunes.

Get your two **FREE** drink tickets at the door, grab a bite to eat and dance, dance, dance!

IMPORTANT:

*Keep your convention pass when leaving the Metro Toronto Convention Centre. Admission **ONLY** with your convention pass.*

Dress: Casual



PROGRAMMING

Aboriginal Program *All Access Pass required*

📍 South Building, Level 700

MONDAY, MARCH 4

9:00 am – 11:30 am

The mineral industry and Indigenous communities: Canadian and international experiences

This session will focus on examining partnerships between exploration and mining companies and Indigenous communities. Specifically, panelists will examine their experiences and share key insights about operating in different political, social and cultural contexts around the world, and how companies and communities navigate different landscapes. By exploring first hand examples of engaging with Indigenous communities in Canada and internationally, this session will highlight some of the unique and common challenges, as well as the opportunities when building relationships and developing partnerships.

2:00 pm – 4:30 pm

The Aboriginal Forum

The Aboriginal Forum brings together mineral industry practitioners, Aboriginal communities and companies, as well as governments to share experiences and highlight the outcomes when working constructively together. The event is a venue for discussion on creating and sustaining mutually-beneficial relationships in order to foster a successful mineral industry in Canada and generating opportunities for Aboriginal people. Showcasing models for innovative, leading practices in community engagement and Aboriginal participation in the mineral industry, this session will feature presentations on company-community partnerships, agreements and business development.

The Aboriginal Forum will be followed by a networking reception from 4:30 pm - 5:30 pm.

TUESDAY, MARCH 5

9:00 am – 12:00 pm

Aboriginal law, Indigenous frameworks and regulatory regimes: Navigating new developments

Jurisprudence related to Aboriginal rights in Canada and regulatory initiatives continue to evolve over time, providing clarity in some areas while at the same time raising new questions and complexities. This ultimately contributes to

shaping and reshaping the landscape of the mineral sector. Increasing dialogue related to various frameworks and court decisions also contribute to the way in which companies and communities perceive and understand their roles in the sector. This session will examine some of the recent legal decisions, frameworks and regulatory initiatives, as well as key challenges and opportunities that arise for mineral companies and Aboriginal communities in relation to the mineral exploration and mining landscape.

2:00 pm – 4:30 pm

Key issues in company-community engagement and Aboriginal participation in the mineral industry

The mineral exploration and mining industry and Aboriginal communities continue to explore ways to develop positive relationships that translate into mutually-beneficial outcomes—successful mineral projects and long-term economic development opportunities for communities. Throughout the project cycle, from mineral exploration to mine development and operations, companies and communities have identified a number of challenges impacting the process, as well as opportunities to generate successful partnerships. Some of the ongoing challenges include consultation, capacity deficits, agreement negotiation and implementation, and socioeconomic conditions and impacts. This session will feature speakers who will share their experiences related to some of these key areas, as well as various strategies to address issues.

6:00 pm – 10:00 pm

Skookum Jim Award Presentation: Awards Gala & After Party

📍 Fairmont Royal York

The Skookum Jim Award recognizes and honours Aboriginal individuals and businesses demonstrating exceptional achievement and/or service in an Aboriginal-run service business for the Canadian minerals industry or a Canadian Aboriginal exploration or mining company, or have made a significant individual contribution to the industry.

Admission with ticket

Capital Markets Program *All Access Pass required*

Canada's capital markets play a critical role in supporting the financing of mineral exploration in Canada and around the world. PDAC's Capital Markets Program (CMP) is intended to create a forum for learning and dialogue on a range of topics related to the financing of mineral exploration.

📍 South Building, Level 700

MONDAY, MARCH 4

9:00 am – 9:30 am

Opening remarks and PDAC state of mineral finance outlook

Attendees will be welcomed to the CMP with an overview of current financing trends within the mineral industry based on PDAC analysis of a variety of sector-focused data sources. The review will set the stage for a series of discussions that will map the landscape of mineral exploration and mine development financing.

9:45 am – 11:00 am

Reaching the 'next generation' investor

New and creative approaches to information disclosure and investor relations that aim to connect with the next generation of investors will be presented by financial services and mineral exploration professionals. Panel participants will discuss how recent technological developments and analysis can be integrated into best practices to expand potential investor pools and recognition in the market place.

11:15 am – 12:15 pm

The value of human capital

With increasing weight being placed on corporate disclosure, sustainability and stakeholder engagement in today's marketplace, particular for mineral industry companies, the "soft" component of human capital is becoming increasingly important to investors. In this session, a panel of industry experts from both sides of the investment process will share perspectives on the importance of having the right people in place, what direct and indirect tools are employed in human capital risk assessment and how to navigate team-building.

TUESDAY, MARCH 5

9:00 am – 10:15 am

Financing the mineral industry: Investment banker perspectives

Back by popular demand, PDAC is pleased to host a panel discussion by a cohort of investment bankers that focus exclusively on the resource sector. This hallmark session will provide a global perspective on mineral industry financing from the major Canadian banks. Recent capital flows, commodity outlooks, liquidity and other investment criteria, as well as market access will be central topics covered by the panel.

10:30 am - 11:30 am

Dollars & sense: Portfolio manager insights

This session will bring together a panel of experienced money managers from well-known institutions who represent nearly \$1 billion in investments and play an influential role in funding the mineral industry. Panel members will discuss tactics and criteria that impact decision making in the investment process for exploration and mining companies. The discussion will also cover current trends influencing investment in the mineral industry and the broader markets, including the impact of growth in other Canadian risk capital sectors such as the cannabis industry.

11:45 am – 12:30 pm

Flow-through financing: Practical tips for the deal and beyond

This compact session will focus on flow-through shares (FTS) and provide practical insight into the array of considerations senior managers should have through the design of the FTS offering with this 'made-in-Canada' financing mechanism. The session will cover basic FTS principles from both an issuer and an investor perspective including tips on how to avoid pitfalls in planning and reporting on exploration spending, as well as more sophisticated opportunities to get the most out of a FTS financing. The session will also briefly review recent changes by Canada Revenue Agency (CRA) to expand the scope of Canadian Exploration Expense (CEE) eligibility.

PROGRAMMING

Capital Markets Program *All Access Pass required*

TUESDAY, MARCH 5

2:00 pm – 3:00 pm

Electrification revolution: EVs, energy storage and commodity inputs

An electrification revolution has reignited interest in a number of commodities with cobalt and lithium leading the way. Adding nickel, vanadium and manganese to the list forms a foundation for energy storage solutions that power the current generation of electric vehicles (EVs). A panel of experts will discuss how close we are to the next generation of EV battery technologies, and how this evolution will impact economics of input metals.

3:30 pm – 4:30 pm

Metal streams and royalties: Funding projects and repaying debt

Panel participants will discuss differentiating factors of metal streams and royalties and outline their use in funding exploration, project development, and debt repayment. Royalties and streams will be balanced against other forms of financing commonly available to the mineral industry. A particular focus will be put on their potential benefits and incremental value creation relative to equity and debt mechanisms. Case study review of one or more notable mineral industry transactions will provide context for the discussion.

WEDNESDAY, MARCH 6

9:00 am – 10:15 am

M&A and consolidation in the mineral industry

M&A activity is fundamental to the exploration/development lifecycle, the long-term health of the industry and consolidation can act as a tool to improve capital structures and enhance the ability to develop projects. In this session, experts will discuss a spectrum of topics including drivers behind recent activity, valuation fundamentals, how to identify potential M&A candidates and processes that promote better decision making. Defensive tactics, shareholder activism, regulatory issues and a 2019 outlook will round out the discussion.

10:45 am – 12:00 pm

Capitalizing on the boom and bust cycle

The mineral industry has a long history of boom and bust cycles. High leverage during upcycles attracts investors but this motive often leads to material balance sheet impairments and destruction of shareholder value during cycle downturns. The cycle can be equally harsh for an operator, bringing about downsizing and talent loss. Is there a business model that allows investors and operators to benefit rather than be victims of the cycle? A panel of industry executives will explore issues, ideas and debate how best to manage priorities through cycles of boom and bust.



Corporate Presentation Forum for Investors

Open to all pass types

**MONDAY, MARCH 4
& TUESDAY, MARCH 5**

10:00 am – 5:00 pm

📍 South Building, Level 800

Sponsored by



Hear exploration and development companies present up-to-the-minute information on their current activities and investment potential.

Themed sessions include:

- Copper
- Diamonds
- Energy materials and specialty products
- Gold: Americas
- Gold: Africa, Eurasia and Pacific
- Gold: Development
- Gold: Exploration
- Nickel and PGM
- Polymetallic exploration
- Royalty companies, prospect generators and global financing
- Silver
- Uranium
- Zinc

🌐 For a complete schedule, visit www.pdac.ca/convention/corporatepresentationforum in January 2019.

Exploration Insights

Open to all pass types

TUESDAY, MARCH 5

9:00 am – 12:00 pm

📍 South Building, Level 700

Sponsored by

IBK Capital Corp.

Selected from a call for abstracts, these technical, policy and academic presentations offer insights into current and topical subjects.

🌐 For a complete schedule, visit www.pdac.ca/convention/explorationinsights in January 2019.

Franco-Mine

Open to all pass types

SUNDAY, MARCH 3

2:30 pm – 5:00 pm

📍 North Building, Level 200

Cette rencontre prestigieuse menée entièrement en français et à laquelle participent de nombreux décideurs de l'industrie comprend des présentations et une discussion entre des chefs de délégation provenant de certains pays francophones de l'Afrique. À titre d'événement exclusivement francophone ayant lieu pendant la conférence de l'ACPE de 2019, Franco-Mine procure une excellente plateforme pour découvrir de nouvelles occasions dans ces pays.

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PROGRAMMING

Letter Writer Presentations for Investors *Open to all pass types*

SUNDAY, MARCH 3

9:00 am – 5:00 pm

📍 South Building, Level 800

Sponsored by

**Sprott Inc.
Peter Bojtos**

Listen to 19 industry commentators present their market research and ideas on how to select good investments in the resource sector.

Speakers include:

- Jayant Bhandari, Anarcho Capital Inc.
- Brent Cook, Exploration Insights
- Adrian Day, Global Analyst
- Mickey Fulp, Mercenary Geologist
- Joe Mazundar, Banyan Hill Publishing
- Gwen Preston, Resource Maven
- Rick Rule, Sprotts Thoughts

🌐 For a complete schedule, visit www.pdac.ca/convention/letterwriterpresentations in January 2019.



PDAC One on One Meeting Program

By invitation only

TUESDAY, MARCH 5

WEDNESDAY, MARCH 6

Sponsored by



TURKISH AIRLINES

📍 South Building, Level 700

PDAC has partnered with Precious Metals Summit Conferences, LLC to offer professionally organized one-on-one meeting services to bring qualified investors together with senior management. Meetings are 25 minutes in duration and take place in private meeting rooms, providing investors the opportunity to efficiently conduct meetings and derive maximum value from their time spent at the convention. This exclusive program is available only to a select group of PDAC 2019 Investors Exchange Exhibitors, carefully screened, qualified investors and portfolio managers from around the world.

Advance registration is required. For more information, please visit www.precioussummit.com/event/2019-pdac-one-on-one-meeting-program

Presentation Rooms

Entrance requirements to individual Presentation & Reception rooms vary.

For room description and registration requirements, visit www.pdac.ca/convention/presentationandreceptionrooms starting in mid-December.

📍 North Building, Level 200

Attend a Presentation Room to interact with countries and companies as they provide up-to-date information on their mining jurisdictions, products and services.

Confirmed presentations

- Agency for Technological Development of the Brazilian Mining Industry (ADIMB)
- Australia Minerals
- Battery Mineral Resources Limited
- BMC Minerals
- Camara Argentina de Empresarios Mineros



2019 MINING COUNTRY SPONSORS



PERU DAY

Monday, March 4
Room 206D
Booth 1423



BRASIL DAY

Monday, March 4
Room 205D
Booth 1303

Learn more about their on-site programming
pdac.ca/convention/miningcountrysponsors

- CAMINC
- Canada Eurasia Russia Business Association (CERBA)
- Canada-Peru Chamber of Commerce
- Canadian German Chamber of Industry and Commerce & German Mineral Resources Agency (DERA) in the Federal Institute for Geosciences and Natural Resources (BGR)
- Canadian Northern Economic Development Agency (CanNor), Northern Projects Management Office (NPMO)
- Chile, Trade Commission of and the Ministry of Mining
- Colombia, Government of and National Mining Industry
- EIT RawMaterials
- ERM
- Euromax Resources Ltd. & Mundoro Capital Inc.
- European Union
- India, Government of, Ministry of Mines
- Invest Barbados
- Ireland, Geological Survey
- Lundin Gold
- McCarthy Tétrault
- McKinsey & Company
- Ministry of Natural Resources
- Mongolia, Ministry of Mining and Heavy Industry
- Montt Group SpA
- Newfoundland, Mining Industry of

- Northwest Territories, Government of
- Royal Danish Consulate General
- South African Government
- Turkey, Republic of

Reception Rooms

📍 North Building, Level 200

The following groups have confirmed:

- Alberta, Government of
- EIT RawMaterials
- Fomicruz
- Ministry of Natural Resources
- Mongolia, Ministry of Mining and Heavy Industry
- Norton Rose Fulbright
- Thompson Investment Partners of Raymond James
- Whittle Consulting

For Presentation & Reception Room rental availability, contact Jessica Provencher at jprovencher@pdac.ca or 416 362 1969 ext. 228.

PROGRAMMING

Short Courses *Admission with ticket*



The Association of Professional Geoscientists of Ontario (APGO) considers participation by its members in these courses as an acceptable Continuing Professional Development activity. This program may be eligible toward the Law Society of Upper Canada's CPD Requirement as Substantive Hours. Please note that this program is not accredited.

Space is limited for Short Courses. Register early to avoid disappointment. All Short Courses take place in the MTCC, South Building.

PDAC reserves the right to cancel Short Courses that do not meet minimum attendance requirements. To qualify for student rates, you must be a PDAC student member and enrolled full time in a recognized academic program. Student spaces are limited.

Unless otherwise noted, all full-day Short Courses include continental breakfast, three-course lunch and refreshments.

FRIDAY, MARCH 1

8:30 am – 4:30 pm

Health and safety in mineral exploration

ORGANIZER: Bill Mercer, Avalon Advanced Materials Inc.

The field-oriented health and safety (H&S) course has now run successfully for seven years and has constantly adjusted to participant comments to address key concerns of people running exploration field programs. These adjustments to the course material will continue as ideas in H&S evolve over time.

The objective of the course is to give participants sufficient training that they can understand the typical risks are in mineral exploration: how to run a simple risk assessment, an introduction to accident root cause analysis, the gathering and use of H&S statistics, and some emphasis on the special higher risks associated with drilling (accidents) and helicopters (fatalities). The participants will have enough information to start an H&S program, and given one existing at their company they will understand better what a H&S program is attempting to achieve. Speakers include seasoned experts in H&S from exploration, management, drill company and aviation (helicopters).

PRESENTERS:

- Brian Maeck, Boart Longyear Drilling
- Bill Mercer, Avalon Advanced Materials Inc.
- Corey Taylor, Universal Helicopters
- Mark Wiseman, Avalon Advanced Materials Inc.

LEVEL OF COMPREHENSION: ALL LEVELS

COURSE FEE:

Includes course material, continental breakfast and lunch

Rates			
Member	\$74.99	Non-Member	\$169.99
Student	\$37.99		

PDAC is pleased to offer this course at a special rate as part of the association's ongoing leadership in Health & Safety and its commitment to improving responsible exploration.

8:30 am – 5:00 pm

Mining financial modeling

ORGANIZER: The Marquee Group

This is an interactive, hands-on course focused on the skills required to create a best-in-class financial model of a mining project. The course is case-based and uses an example of a company operating a mine producing precious metals.

Topics covered include:

- Design and structure a financial model
- Design and layout a financial model clearly and logically
- Discuss the need for a model to serve as a marketing tool
- Create clearly defined inputs and assumptions sections

Build powerful scenarios and cash flow projections

- Use switches to create effective scenarios and value drivers
- Forecast and build-up the project's revenues and expenses
- Construct all necessary schedules, including:
 - Commodity pricing (primary and secondary minerals)
 - Production profile (includes mining and processing profiles)
 - Variable and fixed operating costs (includes mining, milling and by-product credits)
 - Development and maintenance capital costs
 - Reclamation and closure costs

- Resource tax (includes regional resource tax rules)
- Develop a cash flow projection for the mining project

Evaluate the mining project

- Incorporate a schedule to evaluate the project's value:
- Unlevered Free Cash Flow (UFCF)
- Net Present Value (NPV)
- Build a detailed summary page to display the results
- Use various sensitivity tools to sensitize the project's returns
- Conditionally format output tables to highlight specified results

The Marquee Group is the leading provider of financial modeling and valuation training programs to all the major Canadian banks. They also provide training seminars to pension funds, commercial banks, corporations, professional organizations and universities.

PRESENTER:

Duncan McKeen, The Marquee Group

LEVEL OF COMPREHENSION: INTERMEDIATE

Participants should have basic knowledge in mining, accounting, finance and Excel. **Participants are required to bring a laptop (PC preferred) equipped with MS Excel to the course.**

COURSE FEE:

Early Rate			
Member	\$499.99	Non-Member	\$599.99
Regular Rate			
Member	\$699.99	Non-Member	\$799.99
Student	\$269.99		



8:30 am – 6:00 pm

Geophysical and geochemical imaging of the continental upper mantle for mineral systems regional targeting

ORGANIZERS: Complete MT Solutions

Integration of geological, geophysical and geochemical information across a range of scales has been a massive enabler over the last 20 years contributing to a more holistic understanding of mineral systems and their attendant ore deposits. In terms of continental evolution, we now recognize the critical role of the interaction between the global geodynamic system (including plate tectonics) and the Sub-Continental Lithospheric Mantle (SCLM). Partitioning of deformation, and the development of trans-lithospheric structures, provide a focus for heat, magma and volatile transfer from the convecting mantle to the upper crustal environment. These processes leave geophysical and geochemical signatures in the SCLM that can be imaged using surface techniques, and all world-class deposits, and many other deposits are known to have anomalous mantle beneath them. Thus, broad scale geophysical and geochemical methods can be used for regional scale targeting of prospective areas, especially in regions of thick cover. Understanding the role of prior "fertilizing" processes coupled with an ability to recognize key geodynamic triggers, means that mineral systems concepts can be systematically applied to maps of lithospheric architecture to generate opportunities for a breakthrough capability in mineral deposit discovery.

This course will be presented by six of the top experts in their fields of geophysics, geochemistry and tectonics.

PRESENTERS:

Alan Jones, Complete MT Solutions Inc.
 Christopher Lawley, Geological Survey of Canada
 David Snyder, Laurentian University
 Juan Carlos Afonso, Macquarie University
 Herman Grutter, SRK Consulting (Canada) Inc.
 Graham Begg, Minerals Targeting International

LEVEL OF COMPREHENSION: ENTRY -LEVEL

Participants should have some knowledge of mineral systems and mineral exploration.

COURSE FEE:

Early Rate			
Member	\$599.99	Non-Member	\$699.99
Regular Rate			
Member	\$799.99	Non-Member	\$899.99
Student	\$229.99		

PROGRAMMING

Short Courses *Admission with ticket*

Friday, March 1 8:30 am – 4:30 pm

Saturday, March 2 8:30 am – 4:30 pm

Concepts and application of machine learning to mining geoscience: A practical course

ORGANIZER: Mira Geoscience

Over the last five years machine learning (ML) has been a growing subject of conversation in the mining industry. From targeting of mineral deposits to connected mining environment, there is no doubt that artificial intelligence will play a key role in our industry in the near future. However, the subject can seem obscure and is often hard to grasp, which creates apprehensions from geoscientists.

This workshop will introduce the participants to the applications and evaluation of machine learning in mining geoscience. The main concepts and best practices for applied machine learning to exploration and mining will be reviewed. The course will be set in a practical framework, with a focus on the understanding and usage of different algorithms without detailing the mathematics behind each algorithm. Through a series of case studies, examples and hands-on exercises the attendees will learn how to best apply machine learning to different datasets and most importantly, evaluate the results produced by the algorithms.

PRESENTERS:

Jean-Philippe Paiement, Mira Geoscience
 Guy Desharnais, Osisko Gold Royalties
 Martin Blouin, Geolearn
 Antoine Cate, SRK Consulting (Canada) Inc.
 Erwan Gloaguen, INRS-ETE Quebec

LEVEL OF COMPREHENSION: ENTRY-LEVEL

Participants should have a strong interest in either statistics, modelling or data analysis. No prior coding or data science knowledge is required. Exercises will be completed using a user-friendly and intuitive interface for data mining and machine learning. **Participants are required to bring their own laptop.**

COURSE FEE:

Early Rate			
Member	\$699.99	Non-Member	\$799.99
Regular Rate			
Member	\$899.99	Non-Member	\$999.99
Student	\$399.99		

Friday, March 1 8:30 am – 5:30 pm

Saturday, March 2 8:30 am – 5:30 pm

Applied structural geology of gold and base metal bearing hydrothermal mineralizing systems

ORGANIZER: Society of Economic Geologists (SEG)

This short course will provide a series of lectures which will address the structural styles and controls on Au and selected base metal deposit types, as well as methodologies for their assessment in exploration and mining environments. Presentations will review the structural characteristics of orogenic gold deposits, epithermal deposits, and VMS deposits, and examine how the location and morphology of orebodies are controlled by fluid pressure regimes, deformation process, stress states, structural settings, and the effects of post-ore deformation. In addition, field relationships and workflows for data acquisition and interpretation at core-, deposit- and district-scale will be reviewed, illustrating the variety of structural features that may be used to constrain deposit-scale geological models. On completion of this course, participants will have received a grounding in the principles of structural control on mineralization and examples of good practice in data acquisition and analysis. Although Au and VMS deposit types will be specifically discussed, the information presented here also may be of benefit to workers in other structurally-controlled, or modified mineral deposits.

PRESENTERS:

David Rhys, Panterra Geoservices
 Stephen Cox, Australian National University
 Bruno Lafrance, Laurentian University
 James Siddorn, SRK Consulting (Canada) Inc.
 Wayne Barnett, SRK Consulting (Canada) Inc.

LEVEL OF COMPREHENSION: INTERMEDIATE, ADVANCED

Participants should have a basic understanding or interest in the structural geology of ore deposits.

COURSE FEE:

Early Rate			
Member	\$899.99	Non-Member	\$999.99
Regular Rate			
Member	\$1099.99	Non-Member	\$1199.99
Student	\$399.99		

SATURDAY, MARCH 2

8:30 am – 5:00 pm

The art and science of effective community engagement

ORGANIZER: Ian Thomson, Shinglespit Consultants Inc.

This course will provide personnel involved with exploration and early development projects with a comprehensive understanding of good practice for successful engagement with host communities. It will build on guidance provided by e3Plus and incorporate the collective knowledge of some of the most experienced practitioners working in the mining sector. The day will be built around three elements for constructive engagement:

- Knowledge: basic concepts and tools that can be used for engagement purposes
- Skills: practical engagement skills including listening and asking questions
- Behaviour: desired outcomes when approaching the public, the media, NGOs or local community leaders.

The course will be designed to appeal to both Canadian and international participants and reflect the reality that junior and mid-tier companies are not only the organizations that most often engage with communities and other stakeholders on the ground but also have limited resources. It will emphasize practical approaches, use case histories to show application (and limitations) and will be of value to both operational personnel and managers, and also relevant to the concerns of company board members.

PRESENTERS:

Ian Thomson, Shinglespit Consultants Inc.
 Luc Zandvliet, Triple R Alliance
 Ed O'Keefe, Synergy Global Consulting

LEVEL OF COMPREHENSION: ENTRY-LEVEL, INTERMEDIATE

Participants should have basic familiarity with the operation of mineral exploration and early development projects.

COURSE FEE:

Includes course material, continental breakfast and lunch

Regular Rate			
Member	\$74.99	Non-Member	\$169.99
Student	\$37.99		

PDAC is pleased to offer this course at a special rate as part of the association's ongoing leadership in Sustainability and its commitment to improving responsible exploration.

9:00 am – 5:00 pm

Geology, genesis, and exploration for magmatic and magmatic-hydrothermal ore deposits

ORGANIZER: Laurentian University, Mineral Exploration Research Centre (MERC)

The mining industry continually needs new ideas and models to focus scarce exploration funds to the most prospective areas containing the next generation of ore deposits. This course will provide a state-of-the-art update on the geology, genesis, and exploration for magmatic and magmatic-hydrothermal ore deposits, including Ultramafic and mafic associated Ni-Cu-(PGE), PGE-(Cu)-(Ni), Cr, and Fe-Ti-V systems, and intermediate-felsic associated porphyry Cu-Mo-Au, Sn-W, IOCG, pegmatitic/REE, and intrusion-related Au systems. Each topic will include theory (magma fertility, magma emplacement, metal transport, deposition) and world-class case studies. Emphasis will be placed on updated/expanded interpretations of relatively new deposit types (e.g., conduit-hosted Ni-Cu-PGE and Cr systems, post-subduction porphyry Cu-Au) and variations to models that may open new exploration opportunities.

PRESENTERS:

Michael Leshner, Laurentian University
 Jeremy P. Richards, Laurentian University
 Daniel J. Kontak, Laurentian University
 Michel Houle, Geological Survey of Canada

LEVEL OF COMPREHENSION: INTERMEDIATE

Participants should have a BSc in Geology.

COURSE FEE:

Early Rate			
Member	\$449.99	Non-Member	\$549.99
Regular Rate			
Member	\$649.99	Non-Member	\$749.99
Student	\$249.99		

PROGRAMMING

Short Courses *Admission with ticket*

Saturday, March 2 9:00 am – 4:00 pm
Sunday, March 3 8:00 am – 12:00 pm

Fundamentos de estimación de recursos minerales

ORGANIZER: RPA

RPA and the PDAC will present the popular "Fundamentals of Mineral Resource Estimation" course in Spanish.

Este curso, presentado por un equipo de expertos profesionales de RPA, introduce los fundamentos de estimación de recursos minerales. El contenido se ha preparado para una audiencia de geólogos de exploración y mina ya que estos son los principales responsables en el descubrimiento, definición y producción de depósitos minerales. El propósito de este curso es delinear los componentes clave y las consideraciones de importancia en la estimación de recursos minerales para que la audiencia puede incorporar lo aprendido a su trabajo.

El curso comienza con bases de datos de perforación y avanza cubriendo dominios de recursos, análisis de tendencias, análisis exploratorio de datos, técnicas de estimación, cálculo de leyes de corte y criterios de clasificación. Se explorarán consideraciones específicas para el modelo de recursos minerales, incluyendo aspectos prácticos como el método de minado propuesto y el equipo, así como aspectos geoestadísticos tales como criterios en la selección adecuada de dominios. RPA explicará los fundamentos y la importancia de cada paso, y mencionará riesgos y errores comunes.

Los ejercicios que complementan el contenido del curso pueden incluir: interpretación geológica, verificación de base de datos, tratamiento de valores extremos, cálculo de leyes de corte, análisis exploratorio de datos, estimación de ley de bloques, estrategias para elipses de búsqueda, clasificación y verificación de modelos de bloques.

PRESENTERS:

Sean Horan, RPA
Jose Texidor Carlsson, RPA
Rosmery Cardenas, RPA
Hugo Miranda, RPA

NIVEL DE COMPRENSIÓN: PRINCIPIANTE A INTERMEDIO

Los participantes deberían tener un entendimiento de depósitos minerales y un nivel básico de exploración minera, incluyendo perforación.



PRECIO DEL CURSO:

Incluye material del curso, desayuno continental el Sábado y el Domingo, almuerzo de tres platos el Sábado y café ambos días.

Early Rate			
Member	\$599.99	Non-Member	\$699.99
Regular Rate			
Member	\$799.99	Non-Member	\$899.99
Student	\$399.99		

SUNDAY, MARCH 3

8:00 am – 12:00 pm

Disclosure do's and don'ts: Avoiding the fatal flaws in your public reporting

ORGANIZER: Ontario Securities Commission

Although NI 43-101 Standards of Disclosure for Mineral Projects has been in place for over 17 years, regulatory staff at the Ontario Securities Commission (OSC) and Toronto Stock Exchange (TSX) continue to observe common public reporting problems that trip up exploration and mining companies.

This course, presented by technical staff from the OSC and the TSX, will pull back the curtain and discuss how disclosure reviews are conducted by securities commissions, exchanges, and IIROC. Presenters will cover both good and bad examples of public reporting by companies at various stages in the development of a mineral project from exploration to production.

The course is designed to provide qualified persons, management, and investor relations personnel with tips and advice on how to avoid the disclosure snags that may require the company to retract or issue a clarifying news release and potentially amend and refile documents.

Presenters will cover disclosure challenges with required public filings posted on SEDAR, such as material news releases, as well as voluntary reporting, such as company websites and corporate presentations. Technical report disclosure issues will focus on common problems that may cause the technical report to be amended and re-filed. New SEC rules for mining disclosure adopted in late 2018 will also be covered.

The popular question and answer session will also be hosted at the end of the course.

PRESENTERS:

Luc Arsenault, Toronto Stock Exchange
Craig Waldie, Ontario Securities Commission
James Whyte, Ontario Securities Commission

LEVEL OF COMPREHENSION: INTERMEDIATE

Participants should have a basic understanding of NI 43-101.

COURSE FEE:

Includes course material, continental breakfast and refreshments

Rate			
Member	\$199.99	Non-Member	\$239.99
Student	\$129.99		

8:30 am – 12:30 pm**Reporting and benchmarking resource projects: From exploration through to development**

ORGANIZER: SRK Consulting (Australasia)

Develop a simple framework for the balanced assessment and presentation of a resource project's development status relative to similar projects.

This course discusses the risks and errors inherent in resource project information from exploration through to development. Presenters will examine the confidence in exploration results, resource and reserve estimations, and reporting; the interdependence of resource-to-reserve conversion assumptions and modifying factors; and the considerations associated with different technical-economic study types. Case studies will show attendees how to develop and use a simple framework to assess and summarize available project information and provide transparent and balanced reporting to stakeholders relying on technical reports and other company announcements. The course will include an interactive workshop session in which attendees can apply the framework concept.

This course will benefit technical and non-technical people involved in the reporting, interpretation, assessment, or valuation of mineral assets for developing projects.

PRESENTERS:

Mark Noppe, SRK Consulting (Australasia)
 Mark Campodonic, SRK Consulting (UK)
 Erik Ronald, SRK Consulting (Denver)
 Cliff Revering, SRK Consulting (Vancouver)

LEVEL OF COMPREHENSION: ALL LEVELS**COURSE FEE:**

Includes course material, continental breakfast and refreshments

Rate			
Member	\$199.99	Non-Member	\$239.99
Student	\$129.99		

9:00 am – 12:30 pm**Recognizing the impact of political risk on mining operations, corporate strategy and investment decision-making**

ORGANIZER: SCM Decisions

Mining companies often make substantial investments in foreign countries as part of the process of finding, developing and operating mining projects. In addition to financial and technical mining uncertainties, these investments are exposed to political risk or the possibility that an investment's performance is adversely affected by the unexpected actions of the host country and other actors such as the local community or transnational organizations. Recent examples of political risk events include mining royalty and tax changes, punitive environmental or tax penalties, restrictive downstream processing or concentrate export requirements, and local community protests. Traditionally, mining companies have recognized political risk by attaching an additional risk premium on the discount rate they use to assess an investment. However, forward-thinking mining companies have begun to manage political risk through a formal program that:

- 1) Explicitly recognizes political risk as a cash flow effect when assessing possible investments,
- 2) Actively monitors and responds to political risk events affecting operating mines and development projects, and
- 3) Assesses the combined effect of multiple political risk exposures on a company's project portfolio and long-term corporate strategy.

This course provides an overview of political risk in the mining industry and the strategies that companies can use to manage this exposure. We discuss how political risk can be measured, describe a framework that a company can use to assess prospective investments, manage existing investment exposure, and aggregate political risk at a corporate level. The course will also introduce a quantitative model to explicitly recognize the investment impact of political risk and a case study involving a fictitious company developing and operating a number of mines globally.

PRESENTERS:

Michael Samis, SCM Decisions
 John Seddon, Control Risks
 Iain Donald, Control Risks

LEVEL OF COMPREHENSION: ENTRY-LEVEL**COURSE FEE:**

Includes course material, continental breakfast and refreshments

Rate			
Member	\$199.99	Non-Member	\$239.99
Student	\$129.99		

PROGRAMMING

Short Courses *Admission with ticket*

WEDNESDAY, MARCH 6

9:00 am – 12:30 pm

Holistic exploration in covered terranes: An example applied to the Cu-Mo porphyry prospectivity of Quesnel, eastern British Columbia

ORGANIZER: Laurentian University

Modern mineral exploration requires discovering deposits that are increasingly difficult to detect. This is challenging the geoscience community to develop new methods and technologies to locate deposits in under-explored localities. In an effort to stimulate the development of new approaches to exploration, and to inspire collaboration across the geosciences, the Frank Arnott Award Challenge was created. This short course showcases the winning submission from Challenge's 2017 "Experienced" category and will highlight collaborative exploration for copper porphyry targets in the Quesnel Terrane in British Columbia, Canada.

This session aims to provide an overview of the methodology and implementation of integrating diverse, publically available geoscientific datasets (structural, geological, geochemical, geophysical, and surficial) applied to the search for undercover deposits. Innovative exploration tools within in each geoscientific discipline will be demonstrated to highlight key mineralization signatures for various geoscientific datasets. Tools include:

- Post-processing and transformations of geophysical datasets for 3D lithological interpretation and structural delineation
- Principal Component Analysis (PCA) for lake and stream sediments
- Conditional probability (CP) for lake and stream sediments
- Geological interpretation of porphyry systems under cover

These signatures will then be integrated using a simple, knowledge-based prospectivity analysis technique to identify prospective regions in an area covered by glacial till. The construction of a regionally-extensive 3D model will also be demonstrated by combining geological and geophysical data. The session aims to facilitate knowledge sharing, as well as to promote discussion of multidisciplinary interpretation and modeling to improve exploration techniques in challenging settings.

PRESENTERS:

Rebecca Montsion, Laurentian University
Vicki Tschirhart, Targeted Geoscience Initiative
Benoit Saumur, Université du Québec à Montréal
Pedro Acosta-Gongora, Geological Survey of Canada
Michael Gadd, Geological Survey of Canada
Peter Tschirhart, Paterson, Grant & Watson Ltd.

LEVEL OF COMPREHENSION: ENTRY-LEVEL, INTERMEDIATE

COURSE FEE:

Includes course material, hot buffet breakfast and refreshments

Rate			
Member	\$219.99	Non-Member	\$279.99
Student	\$149.99		

9:00 am – 5:00 pm

Spectral geology: Fundamentals, recent advances and case histories

ORGANIZER: Spectral Geology and Remote Sensing Consulting

Over the past decade, spectral geology has seen increased application in all stages of mineral exploration, and in geometallurgy and geotechnical engineering. This course will bring subject matter experts to review the fundamental capabilities and limitations of infrared spectral technologies for core logging, outcrop and pit high wall mapping; practical considerations such as sampling, field workflow and QAQC; as well as recent advances and case histories of field applications. It is intended for exploration geologists, geochemists, metallurgists, mining engineers, exploration managers as well as students and researchers.

PRESENTERS:

Xiaodong Zhou, Spectral Geology and Remote Sensing Consulting
Phil Harris, TerraCore Geospectral Imaging
Cassady Harraden, Corescan Pty Ltd
Sasha Pontual, AusSpec International
David Coulter, Spectral Xplorer

LEVEL OF COMPREHENSION: ENTRY-LEVEL, INTERMEDIATE

COURSE FEE:

Includes course material, hot buffet breakfast, 3 course lunch and refreshments

Early Rate			
Member	\$499.99	Non-Member	\$599.99
Regular Rate			
Member	\$699.99	Non-Member	\$799.99
Student	\$229.99		

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PROGRAMMING

Student & Early Career Program

Student All Access Pass required (unless otherwise noted)

CONVENTION TRAVEL FUNDING

 The PDAC has established a travel fund to help student groups cover some of the costs associated with travelling to Toronto to attend the convention. Funding is allocated on a first-come, first-served basis and available to PDAC student members in good standing. The application is available at www.pdac.ca/students/pdac-convention-2019

VOLUNTEER OPPORTUNITIES

 Save money and network with industry professionals while at the convention! Volunteer your time in exchange for a complimentary Student All Access Pass, a ticket to the Student-Industry Networking Luncheon, a gift card, food vouchers and more. Sign up today at www.pdac.ca/convention/volunteers

STUDENT HUB

The Student Hub will be located on Level 800 across from the Trade Show entrance. The hub will host Resumé Review sessions, registration for the guided tours of the Trade Show, Investors Exchange and other student engagement opportunities.

RESUMÉ REVIEW

Sign up onsite at the Student Hub for a consultation with a geoscience professional who will review your resumé and discuss personalized networking techniques. Students are encouraged to bring a copy of their resumé to the session. Sessions will run from March 3-6.

 South Building, Level 800

PDAC-CIM Toronto Branch Guided Tours

Meet some of the 1,000+ companies that exhibit in the Trade Show and Investors Exchange by taking a guided tour of the exhibits. Each tour stop will allow you to learn about the focus of the organization's projects and potential career opportunities.

Sunday, March 3 1:00 pm

Monday, March 4 10:00 am and 1:00 pm

Tuesday, March 5 10:00 am and 2:30 pm

Sign up onsite at the Student Hub

 South Building, Level 700

SUNDAY, MARCH 3

9:30 am – 11:30 am

Impress for success

Impress for success is a user-friendly road map and guide to help students and graduates effectively and confidently navigate their way around the convention. Attendees will learn techniques to effectively market themselves as unique difference makers at networking opportunities including luncheons, receptions and throughout the convention. The presentation is suitable for students, graduates and professionals.

2:00 pm – 4:00 pm

Flash mentoring

This is an opportunity to meet mentors and mentees in the PDAC's Mentoring program, expand your network and speak with industry professionals. Flash mentoring is a one-time meeting and discussion with industry mentors. This event is open to 3rd and 4th year undergraduates, final year college students, graduate students and students who have graduated within the last three years. Registration for this event will open in January.

MONDAY, MARCH 4

2:00 pm – 4:00 pm

Deal or no deal: The art and science of project strategy

An interactive exercise targeted towards students and early career professionals, who are interested in how strategic decisions are made to advance an exploration project.

TUESDAY, MARCH 5

11:30 am – 1:30 pm

📍 North Building, Level 100

Student-Industry Networking Luncheon

This reception-style buffet luncheon provides an opportunity for students and recent graduates to connect with industry professionals in a relaxed environment.

The winner of the Mary-Claire Ward Geoscience Award and the Joan Bath and Peter Howe Bursary for Advancement in the Mineral Industry will be announced, as well as the selected 2019 Student-Industry Mineral Exploration Workshop (S-IMEW) participants. Proof of student membership is required to claim the award.

RSVP when you register for convention

10:00 am – 6:00 pm

📍 South Building, Level 700 **NEW LOCATION**

PDAC-SEG Student Minerals Colloquium

PDAC is pleased to partner with the Mineral Exploration Research Centre, the Goodman School of Mines, the Metal Earth, and the Society of Economic Geologists Canada Foundation in sponsoring the 10th Annual Student Minerals Colloquium. This event is hosted by the SEG Student Chapters at Laurentian University and the Ottawa-Carleton Geoscience Centre. One hundred poster presentations, highlighting current research on mineral deposits and related studies by students from across North America, will be featured.

Open to all pass types

Sustainability Program *All Access Pass required*

The Sustainability Program (formerly known as the Corporate Social Responsibility Program or CSR Event Series) aims to facilitate multi-stakeholder dialogue and peer-learning on key issues related to responsible exploration and mining.

SUNDAY, MARCH 3

📍 South Building, Level 800

8:30 am – 9:50am

Biodiversity and the future of the mining industry

Organizer: Katie Leach, UN Environment World Conservation Monitoring Centre

10:00 am – 10:50 am

Small modular reactors: Powering the future of mining

ORGANIZER: Darroch Harrop, Natural Resources Canada

11:00 am – 12:00 pm

Mining and climate change: Exploring drivers, trade-offs, and specific tools for understanding climate change risks and opportunities

ORGANIZER: Aaron Steeghs, Yamana Gold Inc.

1:30 pm – 2:50 pm

What is the next level for business and government in promoting responsible enterprise? The role of the Canadian Ombudsperson for Responsible Enterprise (CORE)

ORGANIZER: Errol Mendes, International Commission of Jurists Canada

3:00 pm – 4:30 pm

Guidance on developing sound security management plans to implement international security standards and the Voluntary Principles

ORGANIZER: Charles Dumbrille, 3i Partners Inc.

PROGRAMMING

Sustainability Program *All Access Pass required*

TUESDAY, MARCH 5

📍 South Building, Level 700

8:30 am – 9:50 am

Social licence: A data-driven strategy

ORGANIZER: Kieren Moffat, CSIRO

10:00 am – 10:50 am

Are we fit for purpose? Outsider insight on sustainability governance for the mining industry

ORGANIZER: Simon Jiminez, Barrick Gold Corporation

11:00 am – 12:00 pm

Data disclosure and responsible mining: Leading practices & learnings from the Responsible Mining Index

ORGANIZER: Hélène De Villiers-Piaget, Responsible Mining Foundation

1:00 pm – 2:30 pm

Gender diverse and inclusive workplaces

ORGANIZER: Valerie Pascale, Goldcorp Inc.

2:30 pm – 4:00 pm

Gender diversity and inclusion in a community setting

ORGANIZER: Valerie Pascale, Goldcorp Inc.

WEDNESDAY, MARCH 6

📍 South Building, Level 800

8:30 am – 9:20 am

Zombie transparency: Breaking the natural resource curse through data innovation

ORGANIZER: Alla Morrison & Michelle Jacome, International Finance Corporation

9:30 am – 10:30 am

Designing sustainable prosperity

ORGANIZER: Doris Hiam-Galvez, Hatch

10:40 am – 12:30 pm

Sustainability spotlight NEW FOR PDAC 2019

This session will feature a series of brief presentations on various topics related to sustainability.

Historic mining activities: Their impact on the BC landscape and how to “fix” them, Tyler Rice, Margaux Resource Ltd.

IRS CAAT: Challenging conventional health and safety approaches, Angele Poitras, Workplace Safety North

Dialogue and participation approach for sustainable and inclusive territorial governance of a mining region, Elizabeth Cabrera, Lundin Gold Inc.

How can early warning tools help reduce costs of conflict?, Nick Copeland, Above Ground Risk Solutions (AG-RS)

Innovation and clean technology required for mining to keep up with society, Valerie Pascale, Goldcorp Inc.

Lessons learned: Transforming company-community relations through technology and innovation, Arisa Goldstone, Ulula

Efficient, cost-effective water treatment, sludge removal, recycling and logistics, Burt Fraser, Auric Systems LLC.

Using cutting edge technologies to ensure sustainable community relations in Nunavut, Sarah Busque, Boréal

Technical Program *All Access Pass required*

Need professional development hours to maintain your designation? Upon request, PDAC will provide a Technical Session certificate of attendance to help you meet your professional development requirements.



Sponsored by



SUNDAY, MARCH 3

📍 South Building, Level 700

OPENING CEREMONIES

Open to all pass types

10:30 am – 11:30 am

Join Glenn Mullan, PDAC President and other special guests as we mark the official opening of the 2019 Convention.

SUNDAY, MARCH 3

1:00 pm – 5:00 pm

Commodities: Metals & industry outlook

Sponsored by

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PearTree Canada
RBC Capital Markets
Scotiabank
China Construction Bank

CHAIRS: Terence Ortslan, TSO & Associates, Montreal & Mark Selby, RNC Minerals, Toronto, Canada

Keynote, Marcia Smith, Teck Resources Limited, Vancouver, Canada

Strategic outlook, Paul Robinson, CRU Group, London, England

World exploration activity, Mark Ferguson, S&P Global Market Intelligence, Halifax, Canada

Gold and precious metals sector outlook, Sean Boyd, Agnico Eagle Mines Limited, Toronto, Canada

Uranium outlook, Nick Carter, Ux Consulting, Roswell, USA

Zinc outlook, Rory Townsend, Wood Mackenzie, Bath, England

Analysis of industry costs and pricing trends, Ryan Cochrane, CRU Group, London, England

Nickel outlook, Alex Laugharne, CRU Group, New York, USA

Copper outlook, Michael Schwartz, Teck Resources Limited, Toronto, Canada

1:00 pm – 4:00 pm

Exploration undercover

CHAIRS: Neil Gow, Independent Consultant, Burlington, Canada & Jean des Rivières, BHP Exploration, Santiago, Chile

Exploration challenges of the future: Undercover predict, detect, discriminate, Cam McCuaig, Geoscience Centre of Excellence - BHP (Perth), Perth, Australia

Upper crustal architecture of ancestral fault systems and relationship to gold mineralization in the Abitibi, Ross Sherlock, Laurentian University, Sudbury, Canada

Drilling for water: Systematically incorporating hydro geochemistry at multiple scales to explore and advance targets in covered terranes, James Buskard, Nevada Exploration Inc, Vancouver, Canada

Inti northern Chile: Exploration below deep post-mineral cover, Dave Bertuch, BHP Exploration, Tucson, USA

Unveiling the architecture of ore systems at depth through 3D integrated seismic imaging and geological modeling, Ernst Schetselaar, Geological Survey of Canada, Ottawa, Canada

Opening up the covered search space in Australia: New data, new technology, new ideas, Richard Blewett, Geoscience Australia, Canberra, Australia

PROGRAMMING

Technical Program *All Access Pass required*

1:00 pm – 4:00 pm

Financial reporting and taxation: Hot topics for the mining industry

CHAIRS: Ben-Schoeman, Geldenhuys, Deloitte LLP, Toronto & Julie Robertson, Barrick Gold Corporation, Vancouver, Canada

Panel presentation: The impact of recently adopted standards: International Financial Reporting Standards (IFRS) 15 Revenue from Contracts with Customers and IFRS 9 Financial Instruments

Panel presentation: Applying IFRS 16: Leases in the mining sector

Panel presentation: Financial reporting hot topics: Non Generally Accepted Accounting Principles (GAAP) financial measures and climate change reporting

Panelists: Members of the Chartered Professional Accountants (CPA)/PDAC Mining IFRS Task Force, including chair Julie Robertson, Barrick Gold Corporation and partners of public accounting firms

1:00 pm – 4:00 pm

New exploration technologies

CHAIRS: Reno Pressacco, RPA Inc. & Antoine Cate, SRK Consulting (Canada) Inc., Toronto, Canada

Hyperspectral imaging, photogrammetry, LIDAR and magnetometer RPAS multi-sensor integration for innovative exploration, Richard Gloaguen, Helmholtz-Institute Ulm, Freiberg, Germany

Better resource characterization across BHP mines through infrared spectroscopy, Dorothee Mithrup, BHP, Perth, Australia

Mapping temperature gradients in hydrothermal vein systems with Raman spectroscopy, Stephen Redak, Hecla Mining Company, Durango, Mexico

Applications for portable XRF analysers: Under a sampling & QA/QC perspective, Oscar Dominguez, BHP, Perth, Australia

LIBS: Universal core digitization, Francois Doucet, Elemision Inc., Montreal, Canada

Machine learning applied to regional exploration: A case study, Steve Busuttill, BHP Exploration, Adelaide, Australia

MONDAY MARCH 4

9:35 am – 11:35 am

KEYNOTE SESSION: The next generation

CHAIRS: James Siddorn, SRK Consulting (Canada) Inc. & James Lusby, PricewaterhouseCoopers LLP, Toronto, Canada

Profound innovation fuelled by collaboration, Stephen de Jong, Vrify, Vancouver, Canada

Where technology, precious metals, jewelry and investment align, Roy Sebag, Goldmoney Inc., Toronto, Canada

Panel presentation: Millennials & mining, Romy Done, University of Toronto; Char Duffett, Carleton University & Lewis Wan, British Columbia Institute of Technology, Canada

2:00 pm – 5:00 pm

Diamond exploration and mining: Optimizing outcomes through increased understanding of technology

CHAIRS: Patricia Sheahan, Consultant, Toronto & Jennifer Pell, Independent Consultant, Vancouver, Canada

Exploration of buried diamond deposits: Applied technologies and results, Victor Ustinov, Central Research Institute of Geological Prospecting for Base and Precious Metals, Saint-Petersburg, Russia

Finding the next generation of diamond mines, Nicole Januszczak, De Beers Group of Companies, Toronto, Canada

New insights into volcanic processes and diamond grades from deep mining at Argyle, Murray Rayner, Rio Tinto Group, Perth, Australia

Benchmarked diamond grade forecasts from microdiamond data, Herman Grutter, Independent Consultant, Vancouver, Canada

The characteristics of diamond breakage, Tom McCandless, MCC Geosciences Inc., Vancouver, Canada

Microdiamond grade as a regionalized variable: Some basic requirements for successful local microdiamond resource estimation of kimberlites, Johann Stiefenhofer, De Beers Group of Companies, Johannesburg, South Africa

A geological overview of large, high quality diamonds, Evan Smith, Independent Contractor, Vancouver, Canada

MONDAY MARCH 4

2:00 pm – 5:30 pm

Mining valuation: International convergence & market viewpoints

CHAIRS: Keith Spence, Global Mining Capital Corp. & William Roscoe, RPA Inc., Toronto, Canada

Overview of mining valuation: Release of the new Canadian Mining Valuation Standards and Guidelines (CIMVAL) and International Developments in Mining Valuation (IMVAL), Keith Spence, Global Mining Capital Corp., Toronto, Canada

What is the value of "Gold ounces in the ground?," William Roscoe, RPA Canada, Toronto, Canada

Valuation of country risk for mining projects, Michael Samis, SCM Decisions, Toronto, Canada

Valuation of damages in international arbitration cases, Howard Rosen, FTI Consulting Canada ULC, Toronto, Canada

The large mining project discount: A valuation paradox, Peyvand Bayzae, Global Mining Capital Corp., Coquitlam, Canada

Metal prices and cycles and their input into a project valuation, Bereket Berhe, Consultant, Toronto, Canada

Valuation differentials between gold and base metals projects, Jeffrey Christian, CPM Group, New York, USA

Choosing the correct discount rates in project valuations, Larry Smith, Wood Group, Reno, USA

2:00 pm – 4:30 pm

Responsibly sourced minerals

CHAIRS: Joe Hinzer, Watts, Griffis and McQuat Limited & Catherine White, IBK Capital Corp., Toronto, Canada

General overview of current systems in place for 3T mineral source identification and mineral sourcing and tracking practices, Lance Hooper, Cobalt Blockchain Inc., Toronto, Canada

Verification and tracking procedures with Blockchain technologies, Loudon Owen, DLT Labs, Toronto, Canada

Proposed Geological Passport System (GPS): Geochemical tracing of minerals for source verification, Bill Millman, Metal, Minerals, Mines and Markets Ltd. (4M), Paignton, England

Successful local engagement methodologies for responsible mineral production in high-risk areas, Joanne Lebert, IMPACT, Ottawa, Canada

SustainBlock: Blockchain based supply chain traceability, Sebastian Galindo, I Point, Reutlingen, Germany

2:00 pm – 4:30 pm

Technology metals

CHAIRS: Don Bubar, Avalon Advanced Materials Inc. & Don Hains, Hains Engineering Co. Ltd., Toronto, Canada

Strategic metals demand and the financial market disconnect, Luisa Moreno, Tahuti Global, Toronto, Canada

Developing the Thacker Pass lithium project, Rene LeBlanc & Tom Bensen, Lithium Americas Corp., Vancouver, Canada

Electric vehicles, nickel & the Dumont project, Mark Selby, RNC Minerals, Toronto, Canada

Reviving the cobalt camp, Trent Mell, First Cobalt Company, Toronto, Canada

Growing markets for scandium and the Crater Lake scandium project: Québec, Peter Cashin, Imperial Mining Group, Montreal, Canada

TUESDAY, MARCH 5

9:00 am – 11:30 am

Advances in mineral systems modeling of Ni-Cu-PGE and gold

CHAIRS: Mike Villeneuve, Geological Survey of Canada, Ottawa & Valerie Wilson, RPA Inc., Toronto, Canada

Banded iron formation-hosted and associated gold deposits of Nunavut: Diversity of styles, settings and timing, Patrick Mercier-Langevin, Geological Survey of Canada, Ottawa, Canada

Gold and PGE mobility during serpentinization, Christopher Lawley, Geological Survey of Canada, Ottawa, Canada

Polymetallic magmatic Cr and Ni-Cu-PGE systems in the Ring of Fire, Michel Houlié, Geological Survey of Canada, Ottawa, Canada

Ore controls on Ni-Cu-PGE mineralization of the ca. 1882 Ma circum-superior large igneous province, Wouter Bleeker, Geological Survey of Canada, Ottawa, Canada

Mineralized intrusions of the ca. 1.1 Ga midcontinent rift, Jennifer Smith, Geological Survey of Canada, Ottawa, Canada

Gold in granite-greenstone terranes: Comparing Abitibi and central Newfoundland, Ian Honsberger, Geological Survey of Canada, Ottawa, Canada

PROGRAMMING

Technical Program *All Access Pass required*

TUESDAY, MARCH 5

9:00 am – 11:30 am

Western USA mineral deposits: A return to known districts

CHAIRS: John Morganti, Lucca Advisors Inc., Vancouver & Ted Reeve, Haliburton Mineral Services Inc., Haliburton, Canada

Geological evolution and metallogeny of western north America, Richard Goldfarb, China University of Geosciences, Boulder, USA

Yerrington copper district and the Pumpkin Hollow IOCG Skarn deposit, Gregory French, Nevada Copper Corporation, Vancouver, Canada

Geology of the Resolution Cu-Mo deposit, Superior, Arizona, Hamish Martin, Resolution Copper, Superior, USA

Cortez district: Geology and development of a world class mining camp, Kevin Crell, Barrick Gold Corporation, Toronto, Canada

Geology and developments of the world famous Coeur d'Alene mining district, Steve Petroni, Hecla Mining Company, Coeur d'Alene, USA

Reopening the Idaho cobalt belt: Mineralogy matters, Floyd Varley, eCobalt Solutions Inc., Vancouver, Canada

2:00 pm – 4:30 pm

Geometallurgy

CHAIRS: Charles Beaudry, Consultant, Toronto & Giovanni Di Prisco, Terra Mineralogical Services Inc., Peterborough, Canada

Geometallurgy of the Olympic Dam: Australia, Kathy Ehrig, BHP Olympic Dam, Adelaide, Australia

Geometallurgy at the East Kemptville deposit: Canada, Cliff Stanley, Acadia University, Wolfville, Canada

Highland Valley project, Andrew Davies, Teck Resources Limited, Vancouver, Canada

Hyperspectral scanning: Making it work in geometallurgy programs, Nichola McKay, Goldcorp Inc., Toronto, Canada

Geometallurgy of a titanium deposit in Quebec, Réjean Girard, IOS Services Geoscientifiques, Saguenay, Canada

2:00 pm – 5:00 pm

Geophysics

CHAIRS: Robert Hearst, Southern Geoscience Consultants & Brian Bengert, B-Field Geophysics, Toronto, Canada

3D modeling of IP and resistivity, Robert Ellis, Geosoft Inc., Toronto, Canada

3D inversion of Magnetotelluric data with topography, Philip Wannamaker, University of Utah, Salt Lake City, USA

Data integration and geophysical modeling, Clare O'Dowd, Cameco Corp., Saskatoon, Canada

Detection and modeling of buried deep paleochannels from gravity gradiometer data, Alan Morgan, Bell Geospace, Houston, USA

Development of a novel, portable TEM system and the inherent signal processing challenges, Andrew Duncan, EMIT, Midland, Australia

Maximising the value of drilling for resource definition using wireline geophysics, Phil Hawke, Wireline Services Group, Perth, Australia

Integration of geophysical data sets, Luca Masnaghetti, Schlumberger, Milan, Italy

2:00 pm – 4:30 pm

New destinations in mineral exploration

CHAIRS: Mark Fellows, Skarn Associates Ltd., Worcester & Howard Bills, Toro Gold Ltd., London, England

Crustal architecture and mineral deposits of northeast Africa, Mark Parker, Equator Gold, Sway, England

What lies beneath: Secrets of Myanmar's tethyan margin, Laurence Robb, University of Oxford, Oxford, England

Prospectivity versus security: Worth the risk?, James Hopkinson, Assaye Risk, Bath, England

Africa's untouched exploration potential, Howard Bills, Toro Gold Ltd., Wye, England

Risk vs reward: The mineral prospectivity of Afghanistan, James Gilbertson, SRK Exploration Services, Cardiff, Wales

WEDNESDAY, MARCH 6

9:00 am – 12:00 pm

Building the mine we want to see: Advancing feasibility to construction

CHAIRS: Jim Chan, ERM & Aleksandr Mitrofanov, SRK Consulting (Canada) Inc., Toronto, Canada

Mine start-up: Lessons learned from the last ten years, Patrick Smith, AMC Consultants, Brisbane, Australia

Unlocking community consent: Making or breaking project feasibility, Emily Nunn, Environmental Resources Management (ERM), Dakar, Senegal

So you want to fast track your project?, Neal Rigby, SRK Consulting (US) Inc., Denver, USA

El Gallo project: Perspectives from exploration and mining in Mexico, Eurídice González, McEwen Mining Inc., Sinaloa, Mexico

Araguaia nickel project: Moving from feasibility towards construction in Brazil, Jeremy Martin, Horizonte Minerals plc., London, England

Krumovgrad project: Planning and persistence pay off, Irena Tsakova, Dundee Precious Metals, Sofia, Bulgaria

9:00 am – 11:30 am

Coarse gold: The good, the bad, and the risky

CHAIRS: David Ross & Valerie Wilson, Roscoe Postle Associates Inc., Toronto, Canada

How preparation and assaying methods steal ounces from resource estimates, Lynda Bloom, Analytical Solutions Inc., Mulmur, Canada

Identifying and managing the nugget effect in your resource estimate, Sean Horan, Roscoe Postle Associates Inc., Toronto, Canada

Island gold mine: Resource modeling methods by zone based on reconciliations, Raynald Vincent, Alamos Gold Inc., Rouyn-Noranda, Canada

De-risking the Castelo de Sonhos paleo-placer gold deposit, Mohan Srivastava, Tristar Gold Inc., Toronto, Canada

Exploration and development of the Karratha gold project, Australia, Quinton Hennigh, Novo Resources Corp., Toronto, Canada

Approaches to sampling coarse gold-bearing quartz-reef mineralization in the Central Victorian Goldfields of Australia, Simon Dominy, University of Exeter, Exeter, England

9:00 am – 11:30 am

New discoveries and developments

CHAIRS: Charles Beaudry, Consultant & Bill Mercer, Avalon Advanced Materials Inc., Toronto, Canada

Ayawilca zinc deposit: Peru, Graham Carman, Tinka Resources Ltd., Vancouver, Canada

Hod Maden gold/copper deposit: Turkey, Firuz Alizade, Lidya Mining, Ankara, Turkey

Whabouchi lithium mine: Canada, Patrick Laforest, Nemaska Lithium Inc., Montreal, Canada

Jadar lithium deposit: Serbia, Ken Tainton, Rio Tinto Exploration, Reading, England

9:00 am – 11:30 am

Seafloor mining

CHAIRS: Robert Hearst, Southern Geoscience Consultants, Toronto, Canada & Stephen Hallinan, CGG-Multiphysics, Milan, Italy

Metallogeny of modern back-arc basins from regional to local scales, Melissa Anderson, University of Toronto, Toronto, Canada

Clean metals from the seafloor: One of the biggest disruptions facing the base-metals industry, Anthony O'Sullivan, DeepGreen Resources, Vancouver, Canada

Chatham Rise phosphorites: 7 million years old but now a present day strategic asset for New Zealand, Chris Castle, Chatham Rock Phosphate Limited, Wellington, New Zealand

Seafloor mineral resource estimation, Rene Sterk, RSC Mining & Mineral Exploration, Perth, Australia

Seafloor mining: Exploration technology and methods, Peter Kowalczyk, Ocean Floor Geophysics, Burnaby, Canada

Seafloor mining: Operations, Sebastien Holz, GEOMAR Helmholtz-Zentrum für Ozeanforschung, Kiel, Germany



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- Fairmont Royal York (Front St. entrance)
- Hilton Toronto (Hilton guests walk to the Sheraton Centre)
- Hyatt Regency Toronto (Widmer St. entrance)
- One King West Hotel (Melinda St.)
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