

GeoConvention 2022



geoconvention

Calgary • Canada • June 20-22 **2022**

DELEGATE PLANNING GUIDE

Last edit: June 20, 2022



June 20 – 22, 2022 | Hybrid Event

Calgary TELUS Convention Centre

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Welcome to GeoConvention 2022

Dear GeoConvention Attendees,

On behalf of the organizing committee, the GeoConvention Partnership Board and partner societies, welcome to GeoConvention 2022! We would like to thank you for joining us, be it in person or virtually. After two years of virtual hosting, we are pleased that we are hosting this important event in person again.

The global pandemic and subsequent global instability has accelerated looming cultural and environmental revolutions in which our geoscience community plays a critical role in shaping a new energy landscape. Lithium extraction to support increasing battery use, geothermal project development in remote communities, and carbon capture and sequestration to reduce emissions are just a few examples of how sustainability is shaping the 2020s.

GeoConvention 2022's focused program aims to support the geoscience community in all these endeavours, including petroleum extraction, energy diversification, emerging resources, and cultural and career leadership.

During the conference, please freely share, learn and engage with fellow delegates as we aim to push our understanding of the earth science to new levels.

GeoConvention 2022 would not be possible without the generous support from its sponsors and volunteers who dedicate their time to making this event a success year after year. We thank you for the continued support of the CSPG, CSEG, and CWLS and welcome you to GeoConvention 2022!



On behalf of the GeoConvention Partnership, the partner societies CSPG, CSEG and CWLS, and the Organizing Committee, we thank you for joining us.

Devika Naidu
CSEG General Chair

Victoria Biersteker
CSPG General Chair

Gary Bugden
CWLS General Chair



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PROGRAM SUBJECT TO CHANGE
For the most up-to-date information check out the online program

Download the Convention App to your mobile device!

Available on iOS, Android, or your browser. Check your email for login credentials.



Stay Connected

Wi-Fi is available throughout the venue. Log on using SSID: **GeoConvention2022** and Password: **IkonScience**



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GeoConvention is excited to welcome Mike Rose as our Opening Keynote

MONDAY, JUNE 20, 3:30PM
EXHIBIT HALL E

Michael Rose, a geologist, has more than 44 years of experience in the oil and natural gas industry. He began his career at Shell Canada in 1979, where he was employed for 14 years in various exploration and production positions and was Manager of Exploration and Petroleum Engineering Research at the time he departed to found Berkley Petroleum Corp. in 1993.

As President and CEO of Berkley Petroleum Corp., he grew the Company from a microcap to an Intermediate Exploration and Production company with production of 42,000 boepd. Berkley, one of Canada's premier explorers in the 1990's, was sold to Anadarko Petroleum for an enterprise value of \$1.6 billion in March 2001.

In July 2001, Mr. Rose founded Duvernay Oil Corp. As President and CEO, he and his team grew the company from a private microcap to a public Intermediate Exploration and Production company with production of 27,000 boepd by 2008. Duvernay was one of Canada's most active and successful Exploration and Production companies during the 2000s and was one of the pioneers in the emerging Alberta Deep Basin and British Columbia Montney plays. The Company was sold to Shell Canada in August 2008 for an enterprise value of \$5.9 billion.



Mike Rose is President, CEO and Chairman of Tourmaline Oil Corp.

Mr. Rose founded Tourmaline Oil Corp. in September 2008 as a private oil and gas company. Tourmaline went public in November 2010 and has current production in excess of 500,000 boepd, reserves of over 3.3 billion boe at year end 2020, and is currently the largest producer of Canadian natural gas and ngl's. Mr. Rose is President, CEO and Chairman of Tourmaline.

Mr. Rose founded Topaz Energy in 2019 and is currently Chairman. The company, with market capitalization in excess of \$2.0 billion, is on the TSX index.

Mr. Rose is on the Advisory Board of the Hotchkiss Brain Institute and is involved in a wide range of volunteer and philanthropic pursuits with his wife Sue in the areas of youth education, health and sports.





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Showcase Stage

30 Minute Presentations

Telus Convention Center, Exhibit Hall

TUESDAY, June 21

- 10:00am **Cegal: Blueback AVARY - Faster, intuitive geophysical insight and analysis**, John Sayer
- 10:30am **Chinook: Large project setup and analytics in Starsteer, a Python driven workflow**, Calin Dragoie, P. Geol
- 11:00am **Katalyst: The Electronic Well File**, Sue Carr
- 11:30am **AspenTech: Direct Estimate of SAGDable Volume from geological models for development planning**, Sasan Ghanbari
- 12:00pm **Petro-Explorers Inc.: Integrated Reservoir Characterization Services**, Azer Mustaqeem
- 12:30pm **GeoSoftware: Integrating Inversion and Rock Physics**, Brian Russell
- 1:00pm **5D Integrated Inc: Why are we still cutting seismic grids?**, Michael Hons
- 2:30pm **Rogii: Together on the Cloud: Modern Drilling for the Entire Team**, ROGII Team

WEDNESDAY, June 22

- 10:00am **Cegal: PRIZM - Enabling the integration of the subsurface with data science**, John Sayer
- 11:30am **Digitcore: Core Photo Library**, Greg Hu
- 12:30pm **Canadian Discovery: Saline Aquifer CO2 Sequestration Study – Alberta**, Christa Williams
- 1:00pm **Atlas 2027**, Dave Hills
- 1:30pm **Qeye: Direct probabilistic inversion: taking reservoir characterization to a new level**, Raúl Cova
- 2:30pm **Back to Basics Session Follow Up**
- 3:00pm **Back to Basics Session Follow Up**

Core Showcase

Located on the Exhibition floor, the Core Showcase will allow delegates to view core samples and learn about the stories behind them. With unique core and presenters featured each day, you will want to be sure to stop by often!

TUESDAY, June 21

- John Gordon:** Technical Director, Spectrum Geosciences
- Zach Toews:** McDaniel & Associates Consultants Ltd.
- Carolyn Furlong:** Postdoctoral Associate, University of Calgary

WEDNESDAY, June 22

- Dilpreet Khehra:** Operations Manager, DynaCore Solutions
- David Hills:** FarrelHills Consulting, CCS Expert
- Henry Galvis Portilla:** Enverus



2022 ORGANIZING COMMITTEE

- General Co-Chair..... Devika Naidu
- General Co-Chair..... Victoria Biersteker
- General Co-Chair..... Gary Bugden
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- Finance Chair..... Spryng Kubicek
- Social Media and Advertising Marry Zhang
- Social Media and Digital Production Chris Harrison

PLEASE NO PHOTOS OR VIDEOS OF PRESENTATION MATERIALS

GeoConvention provides a means to share, publish, and collaborate on the latest developments in geoscience research and applications, however, we request that you do not take pictures of technical material due to confidentiality concerns. Presentation materials (audio and visual) are intellectual properties of the authors and should not be disseminated, in any way, by attendees.

EXHIBITOR LISTINGS

EXHIBITION
HOURS

JUNE 20TH
MONDAY
4:30 PM – 6:30 PM

JUNE 21ST
TUESDAY
9:00 AM – 6:00 PM

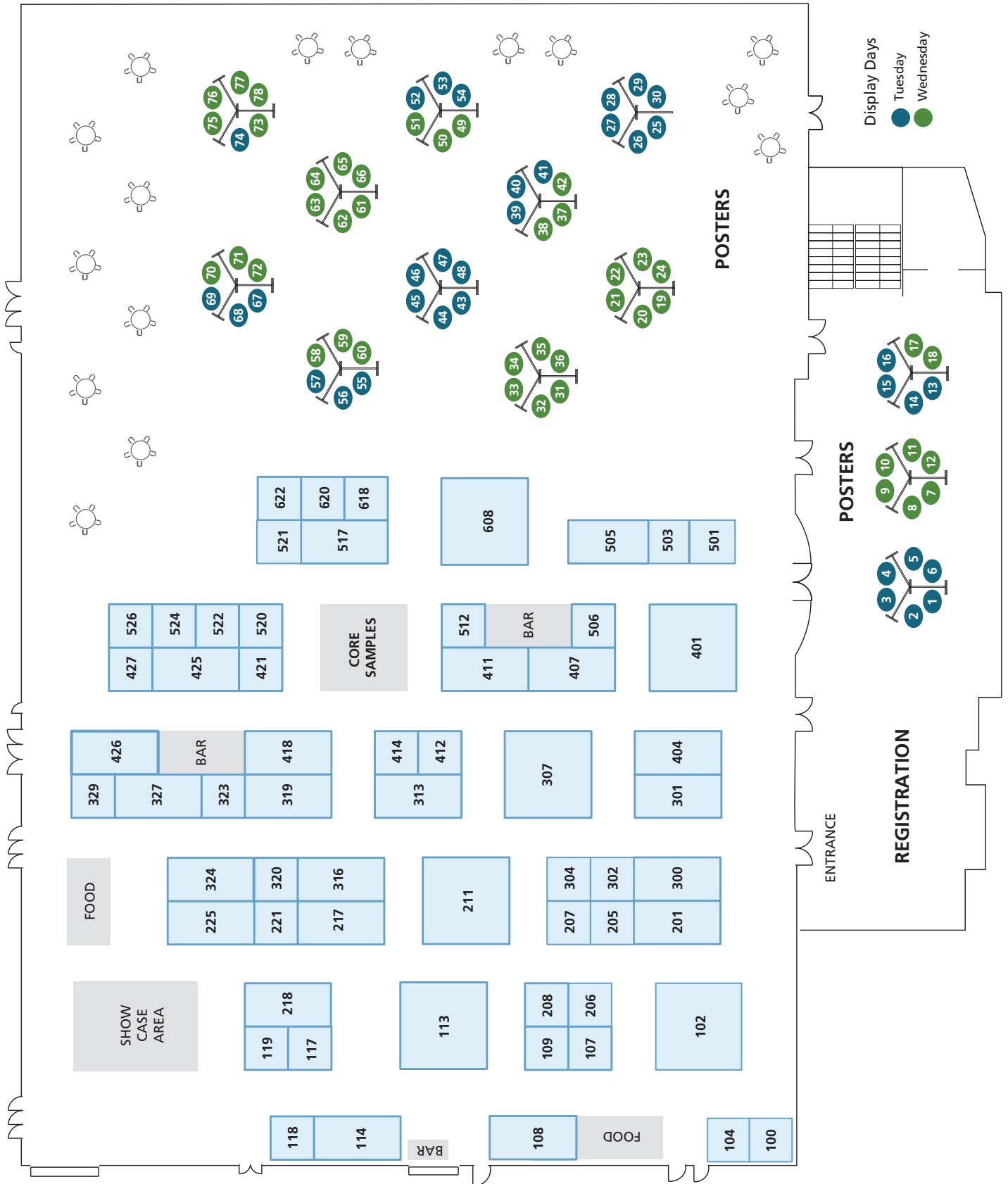
JUNE 22ND
WEDNESDAY
9:00 AM – 3:30 PM

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AGAT Laboratories	401
APEGA.....	517
AspenTech Subsurface Science & Engineering	411
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Belloy / GazServ	301
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Canadian Society of Petroleum Geology	324
Canadian Well Logging Society.....	205
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Chinook Consulting	505
Core Laboratories Canada Ltd	109
CSEGF Mentorship	302a
DigitCore	418a
Eavor Technologies Inc.....	425
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COMPANY	BOOTH
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Poster Sponsors



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		Ameer Zia		Catherine Hickson	

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<p>June 21, 10:20 AM The effect of morphogenic and geomorphic features on the identification of groundwater quality zones in Rey city, Tehran province</p> <p>29</p> <p>Seyed Sepehr Aarabi</p>	<p>June 22, 2:55 PM Towards net zero: lowering steam-to-oil ratios with thermophilic bacteria and N2 biogas</p> <p>35</p> <p>Casey Hubert</p>	

Poster Presentations

In-Person posters will be presented at specific times as indicated in the listing. Each poster will have a unique poster board for presenters to display their work.

Virtually, some posters will be presented as extended oral presentations and others will be the abbreviated, 5-minute mini-oral presentations.

We would like to thank all presenters for going above and beyond in preparing their content for our first-ever hybrid event!



Geoscientists deserve professional development events designed with their interests in mind.

We have what you need.

YOU MIGHT BE INTERESTED IN:

- JUNE 22-23** › Problem-Solving and Creativity in Engineering and Geoscience Practice

COMING SOON:

- SEPT. 7** › Well Logging
- SEPT. 15** › Interpolating O&G Geological Data: From Contouring to Geostatistics and Beyond
- SEPT. 28** › Applying Geoscience Skills in Canada's "New" Resource Industries



The Association of Professional Engineers and Geoscientists of Alberta

Empowerment in Times of Uncertainty

Kathi Szabo

Choice in Change - When it's Your Own. When It's Not.

John Grillo

The feasibility of re-purposing oil and gas wells for geothermal applications

Catherine Hickson and Emily Smejkal

Fast, implicit finite difference solver for the wave equation

Michael Lamoureux

Shear sonic log prediction with Deep Neural Networks: an example from Gulf of Mexico

Felipe Melo

Shallowing-upward nature of the Chorgali Formation, Potwar and Hazara sub-basins, N. Pakistan and the demise of the Eastern Neo-Tethys carbonate platform

Muhammad Khan

Rising, Resilience and Realignment - Blossoming through Any Challenge

David Chametzky

Analysis of unsupervised and supervised facies classification with petrophysics knowledge in a field from Gulf of Mexico

Felipe Melo

Interpreting subsurface connectivity patterns in order to better understand Induced Seismicity Controls in the BC Montney

Stephen Rogers

Seismic Fracture Characterization of Hydrocarbon Reservoirs - a Comprehensive Workflow

Debasis Chaudhuri

Traps Analysis and Petroleum Potential in Reggane Basin, Algeria

Sofiane Djezzar

Earthquake Detection and Focal Mechanism Calculation Using Artificial Intelligence

Shane Quimby

Determination of soil loss conditions and spatio changes of Hoz-e-Sultan playa based on Albedo index

Khadijeh Alinoori

The CREATE-REDEVELOP program: Supporting relationships with Indigenous communities within an interdisciplinary training environment

David Eaton

Natural and Enhanced Weathering of Basic Silicates: An Effective Process to reach Net-zero Emissions

Willem Langenberg

Cretaceous cyclostratigraphy and prominent unconformities of the Jeza-Qamar Basin, southern Oman

Osman Salad Hersi

Evaluating Geothermal Energy Production from Suspended Oil and Gas Wells by Using Artificial Intelligence

Tamer Moussa

Water Valuation: How to put a price on priceless?

Sheila Duchek

Reducing source wavelet non-repeatability for time-lapse shot gathers

Xin Fu

Sudbury, a new theory of formation

Christopher Irvine

Geoexchange to Deep Conventional Geothermal Energy Extraction Technology Comparison

Catherine Hickson

The impacts of glacial sediments on slope instability the case of Songhor. Dinevar Basin

Saeid Zarghami

Planning Projects for Direct Heat Solutions Anywhere

Rocky Mottahedeh

CO2 Fracturing Fluids Substituting N2 to Meet Net Zero Carbon Emissions

Tim Leshchyshyn

Amplitude-encoding acoustic FWI using different bases

He Liu

Dry Holes Analysis Leads To Exploration: Assessment Steps to Determine the Major Reason of Failure in Prospects

Muhammad Akram

Microfossil biostratigraphy: Main geologic-time technique for hydrocarbon exploration and fundamental research

Maria Ovechkina

Cenozoic Structural Evolution of the Enping Sag, Pearl River Mouth Basin, northern South China Sea margin

Jie Zhang

IERisk: A novel tool for induced earthquake mitigation

Thomas Eyre

Radar Satellites: new technologies, applications, and an abundance of data

Marco van der Kooij

Analyzing and Classifying Groundwater Quality in the Western Tehran Using Multi-Criteria Decision Models

Saeid Zarghami

Digitization of Raster Logs: A Deep Learning Application

Tannistha Maiti

How to Use Machine-learning and Computer Vision (LithoSearch) to Find Similar Lithology in Core-photo Library and Mapping The Results into 3D Space

Shervin Azad

Exploiting of software application to overcome complex geological conditions while geosteering in Mungi Gas Field, Eastern Australia

Vinicius Beal

Fault activation by induced aseismic slip

David Eaton and Thomas Eyre

The effect of morphogenic and geomorphic features on the identification of groundwater quality zones in Rey city, Tehran province

Seyed Sepehr Aarabi

An Overview of Measurement and Reduction of Drill String Vibrations

Darlington Etaje

Integrated Reservoir Geology, Seismic Facies, and Production Studies to Determine the Potential of Well Development Area

Arslan Zhumabekov

Geostatistical Reservoir Modeling of Fimkassar Area, Upper Indus Basin, (A Case Study From The Potwar Plateau, Indian Plateau's Northwest Corner)

Ameer Zia

Tectonic Strain Mapping Study in the Montney Formation

Tim Leshchyshyn

Building On a Strong Foundation: Progress on the 2027 Geological Atlas of the Western Canada Sedimentary Basin

Simon Haynes

Effect of External Dynamic Processes on the Quality of Aggregate resources in the Kermanshah Region

Saeid Zarghami

Simultaneous Inversion of Velocity and Reflectivity for Enhanced Seismic Imaging

Yang Yang

A SHAPLEY Approach to Williston Rock Quality

Emily Head

Learning the elastic wave equation with Fourier Neural Operators

Tianze Zhang

Prioritizing watershed basins for flood management based on morphometric features, case study: North Alborz, basins of Golandroud watershed

Saeid Zarghami

Virtual-Exclusive Presentations

The presentations listed in this section will be available through the virtual platform, many times, accompanied by an in-person poster.

Delegate passes include access to the in-person and virtual program. The virtual program will go live when the conference begins on June 21 and will run through June 22. The content will be available again starting July 1, 2022 through the end of the year (unless otherwise stated).

TUESDAY MORNING

	Telus 101-102	Telus 104-105	Telus 106	Glen 201-204
	<p>Applications of Geomechanics in Western Canada</p>  <p>Session Chairs: Amy Fox and Jason Tucker</p> <p>Petrophysics</p> <p>Session Chair: Nasir Rahim</p>	<p>Carbon Capture, Utilization and Storage</p> <p>Session Chairs: Marie Macquet and Brendan Kolkman-Quinn</p> 	<p>Seismic Processing part 1</p> <p>Session Chairs: Amsalu Anagaw and Bill Goodway</p>	<p>A symposium in honour of Gerard V. Middleton</p> <p>Session Chairs: Andrew Miall and Robert Dalrymple and Janok Bhattacharya</p> <p>Introduction by John Southard (8:25am start)</p>
8:35-9:00	<p>Instrumented micro-indentation tests for improved proppant embedment prediction in Montney formation</p> <p>Wenbo Zheng</p>	<p>Multi-Lateral Horizontal Well with Dual-Tubing System for Improving CO2 Storage Security and Reducing CCS Cost</p> <p>Min Kim</p>	<p>Experimental processing of physical modeling data from circular arrays</p> <p>David Henley</p>	<p>Gerard Middleton, fractals, and the "frozen accidents" model of stratigraphy</p> <p>Andrew Miall</p>
9:00-9:25	<p>Complete Hydraulic Fracture Modeling of the Full Montney</p> <p>Doug Bearinger</p>	<p>3D geomechanical modeling and reservoir simulation for safe CO2 storage in the Becancour area (Gentilly Block), Quebec</p> <p>Elena Konstantinovskaya</p>	<p>Estimation of helical fibre pitch angle and trace spacing from DAS data</p> <p>Kevin Hall</p>	<p>Stratigraphic Emmental - Finding the Holes</p> <p>Guy Plint</p>
9:25-9:50	<p>Weakness plane controlled breakouts: examples and analyses from a deep borehole in a tilted anisotropic formation</p> <p>Wenjing Wang</p>	<p>Reanalysis of CO2 storage resources in Alberta</p> <p>Joanna Cooper</p>	<p>Noise attenuation by 4D greedy Radon transform</p> <p>Juefu Wang</p>	<p>Searching for reservoir analogs: integrating field work and theory in paleohydrology and scaling estimates</p> <p>Janok Bhattacharya</p>
9:50-10:35	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS			
10:35-11:00	<p>Rock physics analysis of CaMI.FRS well-log data</p> <p>Qi Hu</p>	<p>Alberta Energy Regulator Directive 065 Changes for CO2 Sequestration and CO2 EOR-Storage Applications</p> <p>Faisal Khan and Vladimir Vdovin</p>	<p>Reducing the influence of remnant noises on FWI by modifying the misfit function</p> <p>Luping Qu</p>	<p>On the murky, viscous world of planar-stratified sediment - the what, and possible how</p> <p>Bill Arnott</p>
11:00-11:25	<p>A Comparison of Hydrocarbon Mobility Understanding, Approaches and Applied Workflows</p> <p>Stephanie Perry</p>	<p>Time-lapse VSP detection of a simulated shallow CO2 leak at the CaMI Field Research Station</p> <p>Brendan Kolkman-Quinn</p>	<p>Automatic SNR based rank estimator and its application for denoising.</p> <p>Alejandro Quiaro Sandoval</p>	<p>Are Tidal Bores Analogous to High-density Sandy Gravity Flows?</p> <p>Robert Dalrymple</p>
11:25-11:50	<p>Virtual Petrophysical Laboratory - Part 3 Erosion Simulation in Porous Media</p> <p>Leon Fedenczuk</p>	<p>Elastic full waveform inversion for time-lapse analysis of a CO2 injection at CaMI.FRS using synthetic VSP</p> <p>Ninoska Amundaray</p>	<p>Shaping the Vibroseis first arrival</p> <p>Stewart Trickett</p>	<p>Linking knickpoint morphodynamic processes to the stratigraphic products of modern and ancient submarine channels</p> <p>Daniel Bell</p>
11:50-12:15				<p>Flow processes and bed-scale characteristics associated with a fault-controlled intraslope fan deposit, Tres Pisos Formation, Chile</p> <p>Rebecca Englert</p>
12:15-12:40				<p>Sedimentology and Geotourism - A Tribute to Gerry Middleton</p> <p>Dale Leckie</p>

TUESDAY MORNING (CONTINUED)

	Glen 205	Glen 206	Glen 208-209	Telus 111 - The Colab
	International Case Studies and Exploration Session Chairs: Nanna Eliuk and Patricia Gavotti	Back to the Basics: Geophysics Session Chairs: Dennis Ellison and Nathan Fester	Duvernay Session Chairs: Mahbub Alam and Zied Ouled Ameur 	Managing Transition in a Changing Industry Session Chairs: Karena Brawley and Carrie Youzwishen
8:35-9:00	Mesoproterozoic Source Rock Reservoirs - Insights from the Kyalla Formation in the Northern Territory, Australia Nisael Solano	Fresnel Zones and Single Trace Seismic Michael Hons	Characterization of natural fractures of the Upper Devonian Duvernay Formation in the Kaybob Area, Alberta Guido Garcia Rodriguez	Evolving Your Career Into A Digital Future Zachary Novak
9:00-9:25	The Complete Bakken History of Refracs and Re-completes in the North Dakota: Determining Detailed Type of Refrac and Incremental Production Tim Leshchyshyn	Near Surface Resistivity Imaging: The Basics, Advantages, Pitfalls, Limitations, and Advances Mike Law	Depositional Environment and Sedimentary Facies of the Duvernay-Ireton Unconventional system: Developing a predictable mechanical facies framework Ryan Wilson	3 Things Crypto Can Teach You About Resilience and Transitions Chris Reavis
9:25-9:50	Aguas Vivas Field - A significant new gas discovery "hidden" for over 70 years of exploration history in the Lower Magdalena Valley Basin, Colombia. Patricia Gavotti	The Learning Before Machine Learning Lee Hunt	Clay composition and diagenesis in the organic-rich Upper Devonian Duvernay Shale, Western Canadian Sedimentary Basin Hui Li	The Impact of Technology on Our Culture and Our Ability to Adjust - An Applied Neuroscience Approach Andrew Way
9:50-10:35	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS			
10:35-11:00	Assessing the Viability and Footprint of Six Underappreciated Secondary Intervals in the Permian Basin Graham Bain	The Use and Abuse of AVO: Value, Analysis, Errors and Pitfalls Bill Goodway	Duvernay Best Practices Fracturing Study Including Chemical - Rock Interactions Tim Leshchyshyn	Managing Corporate Stress and Uncertainty for Leaders and Individuals Carrie Youzwishen
11:00-11:25	The Miocene Porquero Formation in the Lower Magdalena Valley basin of NW Colombia: from bypassed pay to four producing gas fields in 5 years. Luz Rodriguez	Wedge Modelling and Waveform Classification for sub-resolution thickness estimation in the Marcellus Dennis Ellison	The Role of Geoscience in Life-Cycle Management Jennifer Yeremiy	Confidence & Peace During Transition Rich McGahan
11:25-11:50	Exploring in China for Oil and Gas in Fractured and Weathered Basement Reservoirs Tako Koning	Objective Seismic Insight Gregory Partyka		How to Engage Positive Stress Kathi Szabo
11:50-12:15				Beyond "Self-Help": Psycho-Cybernetic Science for the Skeptic in Times of Change Karena Brawley

TUESDAY AFTERNOON

Telus 101-102		Telus 104-105		Telus 106		Glen 201-204	
	Geothermal: The Ultimate Renewable Energy Solution Session Chairs: Catherine Hickson and Phil Harms 	Carbon Sequestration - What to expect beyond 2022 Session Chairs: Francis Morin and Marcia Coueslan 	Seismic Processing part 2 Session Chairs: Amsalu Anagaw and Bill Goodway	Montney Session Chairs: Sochi Iwuoha and Bruce Palmer 			
1:25-1:50	Tu Deh-Kah Geothermal - Technical Update Jamie Capot-Blanc Evan Renaud	Western Canada - How to Become a World Leader in CCUS Chase Gilbert	Model-driven Deep Learning Nonstationary Seismic Reflectivity Inversion Method Hongling Chen	The Evolution of Montney Development Chris Podetz			
1:50-2:15	Hybrid Energy Co-production of the Hydrocarbon and Geothermal Energy by Repurposing Horizontal Wells to Open-loop System in Horn River Basin, Canada Wanju Yuan	Canadian CCUS Perspective Brendan McGowan	Convolutional neural network-based reverse time migration with multiple energy Shang Huang	Sequence Stratigraphic Architecture And Reservoir Characterization Of The Lower Triassic Montney Formation, Ne British Columbia Greg Baniak			
2:15-2:40	Temperature Mapping of Select Devonian Formations in Alberta Jordan Brinsky	Wabamun Carbon Hub - A Developers View Jeff Kler	Low tensor rank 5D seismic reconstruction via randomized parallel matrix Dawei Liu	Not the monotony: An integrated sedimentological, sequence biostratigraphic approach to full field development planning. A case study from the Montney Formation, Placid Alberta Canada. Lindsay Dunn			
2:40-3:20 COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS							
3:20-3:45	Geothermal Risk Mitigation through CO2 Storage Alireza Rangriz Shokri	Greenview Industrial Gateway Kyle Reiling		Multiple phases of diagenetic fluid flow and hydrocarbon migration in the Montney Formation: Fluid inclusion and stable isotope evidence Andrew Kingston			
3:45-4:10	Geothermal in Alberta - Creating a regulatory environment conducive to supporting the growth of a geothermal industry Catherine Hickson	Hydrogeology Perspectives on Carbon Sequestration Nelson Molina Giraldo		Investigating Fault Sealing Effects on Induced Seismicity and Pore Pressure Distribution in NEBC Zahra Esmaeilzadeh			
4:10-4:35	Geothermal Prospecting using Interactive Analytics: Ethiopian Applications Philip Harms	CO2 Geological Storage: Digital tools for Screening & Maturation of Marketable Volumes Diego Vazquez Anzola		A Heuristic Interpretation of the Elastic Model for Minimum Horizontal Stress Estimation Chris Bird			
4:35-5:00	Geothermal Canada AGM			The Power of 3D Seismic Beyond Structure Mantu Sihota			
5:00-5:25				Bayesian geostatistical approach in rock physics modeling and seismic data analysis Naimeh Riazi			
5:00-6:30	NETWORKING RECEPTION WITH EXHIBITORS						

TUESDAY AFTERNOON (CONTINUED)

	Glen 205	Glen 206	Glen 208-209	Telus 111 - The Colab
	Advances in Near-Surface Geophysics: Environmental and Engineering Applications Session Chairs: Alastair McClymont and Susanne Ouellet	Hydrocarbon Exploration in Fold and Thrust Belts, Where Style Still Matters Session Chairs: Andrew Newson, Elena Konstantinovskaya and Thomas Kubli 	Seismic Inversion for Reservoir Characterization Session Chairs: Raúl Cova and Azer Mustaqeem 	Water Disposal  Session Chairs: Krista Beavis and Sarah Schultz Hydrodynamics: From Petroleum to Carbon Storage Session Chairs: Allison Gibbs and Gavin Phinney
1:25-1:50	Investigation of Potential Brine Plumes by Reinterpreting AEM Data using ERT and Borehole Constrained Inversions Landon Woods	Snapshots of the Canadian Foothills: Gliding with Style and Detachment into a Wedge Daniel Lebel	Local optimization approaches for simultaneous AVO inversion based on re-parameterized Zoeppritz equations Mariana Lume	Waste Fluid Disposal vs. Oil and Gas Production in Western Canada - Compare and Contrast: Drilling, Completions, Regulations and Reservoirs Kim Kingsmith
1:50-2:15	Using Shallow Geophysics for Enhanced Remediation Practices and Increased Collaboration Efforts Mike Law	Multiduplex emplacement in the Cate Creek window, southern Canadian Rocky Mountains: interaction of erosion and tectonic underplating in thrust wedges with décollements based on 2D forward modeling Elena Konstantinovskaya	Merge of two seismic AVO inversions: Montney example Adriana Gordon	Time-lapse monitoring of saltwater disposal in Kansas and Oklahoma using ambient noise Lon Brown
2:15-2:40	Advances in Distributed Fiber Optic Sensing for Autonomous, Real-time Monitoring of Dam Integrity Thomas Coleman	Challenges in Seismic Imaging in Fold and Thrust Belts Rob Vestrum	Facies-Driven Modelling of Reservoir Properties John Pendrel	A "Bad Moon Rising" in Rocky Mountain House - is brine disposal responsible for induced seismicity? Kienan Marion
2:40-3:20	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS			
3:20-3:45	Converted Wave Travel Time Computation Using A Fast Marching Method And Level Set Interface Location Carlos Niño	A Fracture Analysis in the Quirk Creek "B" Sheet, S.W. Alberta, Canada Charles Berg	Modelling for interpreting the effects of thin beds on inverted elastic properties Carl Reine	Hydrodynamics and the Evaluation of CO2 Storage in Saline Aquifers Allison Gibbs
3:45-4:10	Simulated removal of near-surface scattered waves by elastic wave modeling Ivan Sanchez-Galvis	Critical role of detecting fault structures in the induced seismicity risk analysis Naimeh Riazi	Leveraging Stochastic Inversion to increase understanding of Drilling and Completion Hazards in the Midland Basin Dennis Ellison	CO2 Geological Storage Capacities: Consideration of Critical Parameters of Static and Dynamic Processes Xiaojun (Albert) Cui
4:10-4:35	Time-lapse velocity changes during an open-pit mine slope failure Tjaart de Wit	The Evolution of Structural Style in Fold and Thrust Belts, an Open Discussion Andrew Newson		A Technical - Economic Comparison of Deep Saline Aquifers vs. Depleted Gas Reservoirs Factoring in Risk for CCUS Projects Richard Baker
4:35-5:00				
4:00-6:00	NETWORKING RECEPTION WITH EXHIBITORS			

WEDNESDAY MORNING

	Telus 101-102	Telus 104-105	Telus 106	Glen 201-204
	<p>Canadian Lithium Brines part 1</p> <p>Session Chairs: Mark Caplan and Courtney Reimert and Eric Pelletier</p>	<p>Enhanced Oil Recovery</p> <p>Session Chairs: Andy Williams and Draga Talinga</p>	<p>The Role of Geosciences in Nuclear and Alternative Energy</p> <p>Session Chairs: Stephen Longfield and Brent Nassichuk</p>	<p>Machine Learning and AI</p> <p>Session Chairs: Akshay Gulati and Dennis Ellison</p>
8:35-9:00	<p>Lithium Exploration Tools from Source to Sink</p> <p>Edward Bunker</p>	<p>Keynote address EOR - Multi-disciplinary Reservoir Characterization</p> <p>Brian Schulte</p>	<p>The Critical Role of Natural Gas in the Global Energy Transition</p> <p>Tako Koning</p>	<p>Calgary's municipal buildings energy consumption analysis and forecast</p> <p>Marcelo Guarido</p>
9:00-9:25	<p>An integrated approach to optimize decision-making in lithium exploration: play-based exploration, chance of success and value of information</p> <p>Graham Banks Stevfen Fehr</p>		<p>Alternative Energy Industry Commodity Options for Western Canada</p> <p>Melissa Greig</p>	<p>Predicting Unconventional Shale Reservoir Properties from Seismic and Well Data Using Convolutional Neural Networks</p> <p>Jonathan Downton</p>
9:25-9:50	<p>Regulating the Impending Lithium Boom: lithium-rich brine extraction's place in the subsurface</p> <p>Brady Chapman</p>	<p>The use of several base boundaries to improve the ability of Duplex Wave Migration to delineate zero throw, sub vertical fractures and their permeability</p> <p>Brian Link</p>	<p>Taking CO2 sequestration projects from the concept stage through to the permitting stage</p> <p>Ken Glover</p>	<p>Shiny web applications for optimization of diagnostic fracture injection test (DFIT) event detection with unsupervised learning</p> <p>Lukas Sadownyk</p>
9:50-10:35	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS			
10:35-11:00	<p>Lithium Production Using Wisdom Grounded in Economic Decision Analysis and Cradle-to-Grave Sustainability Standards</p> <p>Amanda Hall</p>	<p>Low Salinity Water Impact on the Calcite-Water Interface: A Molecular Dynamic Study</p> <p>Sajjad Ahmadigoltapeh</p>	<p>Introduction to Nuclear Fusion</p> <p>Owen Lewis</p>	<p>Machine Learnings, lesson learned on improvements to Castagna (1985) mud rock, Gardner (1974) density, and Faust (1951) velocity estimation.</p> <p>David Emery</p>
11:00-11:25	<p>Drilling Deeper into the Leduc: From hydrocarbons to lithium, an evolutionary resource</p> <p>Joanie Kennedy</p>	<p>Experimental Investigation of Natural Gas Huff-n-Puff on Organic Shale Samples</p> <p>Amin Alinejad</p>	<p>An Enhanced Sealing Method for Geological Nuclear Waste Disposal</p> <p>Sam Voegeli</p>	<p>Interactive training for AI based seismic interpretation, workflows and examples</p> <p>Renjun Wen</p>
11:25-11:50		<p>Detecting and characterizing a high permeability, thin micro-layer at the bottom of a heavy oil formation</p> <p>Alexandru Turta</p>	<p>Unsupervised AI workflow to evaluate the transition of a 50-year giant gas field quickly and thoroughly to potential multiple CO2 storage and geothermal viable projects.</p> <p>Bernard Laugier</p>	<p>Cost effective characterization of a geothermal carbonate reservoir by application of deep neural networks to legacy seismic data</p> <p>Fabien Allo</p>
11:50-12:15		<p>Beyond EOR - Evaluating the Geothermal Potential of Historic Gas and Oil Fields</p> <p>John Hirschmiller</p>	<p>Planning Projects for Direct Heat Solutions Anywhere</p> <p>Rocky Mottahedeh</p>	

WEDNESDAY MORNING (CONTINUED)

Glen 205		Glen 206		Glen 208-209		Telus 111 - The Colab		Telus 103	
	<p>Seismic Imaging – Full Waveform Inversion</p> <p>Session Chairs: Raúl Cova and Azer Mustaqeem</p>	<p>Microseismic and Strain</p> <p>Session Chairs: Barry Fish and Henry Bland</p> 	<p>Clastic Sedimentology</p> <p>Session Chairs: Jon Noad, Mark Caplan and Jesse Schoengut</p> 	<p>Indigenous Partnerships in Science</p> <p>Session Chairs: Jordan Phillips, Thalia Aspeslet and David Eaton</p>	<p>Seismic Acquisition</p> <p>Session Chairs: Andrea Crook and Ivan Iantsevitch</p>				
8:35-9:00	<p>GPU applications for modelling, imaging, inversion and machine learning</p> <p>Daniel Trad</p>	<p>Application of a fuzzy c-means and AIC based workflow for P/S arrival-time picking on microseismic data</p> <p>Jubran Akram</p>	<p>Basinal and sedimentological controls on organic matter preservation and distribution in distal mudrocks of the Upper Cretaceous Colorado Group</p> <p>Jessica Flynn</p>	<p>A study of the economic and technical viability of a salt cavern Compressed Air Energy Storage facility in Alberta</p> <p>Jesus Parra</p>	<p>Fresnel zone binning analysis for determining 3D seismic infill stations</p> <p>Mostafa Naghizadeh</p>				
9:00-9:25	<p>Application of amplitude-encoding strategy to elastic full waveform inversion</p> <p>He Liu</p>	<p>Dense array monitoring in the Kiskatinaw Area of British Columbia reveals both expected, and unexpected, patterns of induced seismicity</p> <p>Rebecca O. Salvage</p>	<p>The perfect storm: Stacking patterns and depositional processes of turbidites in a shallow-water basin, Upper Middle Montney Formation, Alberta.</p> <p>Daniel Bell</p>	<p>Characteristics of surface casing vent flow methane emissions in Red Deer, Alberta</p> <p>Zachary Cunningham Negar Nazari</p>	<p>Novel coverage assessment and decimation of a high-resolution 3D dataset</p> <p>Michael Hons</p>				
9:25-9:50	<p>An implicit neural representation for full waveform inversion</p> <p>Tianze Zhang</p>	<p>Hypocenter locations: Semblance-weighted stacking versus travelttime inversion</p> <p>Jubran Akram</p>	<p>A Process Sedimentology Approach to Understanding the Deposition of Fine-Grained Mixed Siliciclastic-Carbonate Systems: A Case Study from the Altares Member within the Lower Triassic Montney Formation, Western Canada Sedimentary Basin</p> <p>Carolyn Furlong</p>	<p>In Love with Seaweed? Kelp Farming for CO2 Sequestration</p> <p>Joelle French</p>	<p>Turn your seismic program into a lean, green, resolution machine</p> <p>Peter Vermeulen</p>				
9:50-10:35 COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS									
10:35-11:00	<p>Deep decomposition learning for thin-bed reflectivity inversion</p> <p>Kristian Torres</p>	<p>Anisotropy in DAS data and AVA for CO2 monitoring</p> <p>Scott Leaney</p>	<p>Chasing Waterfalls: interpreting Cardium Formation reservoir properties from falls geomorphology</p> <p>Jonathan Noad</p>	<p>The Techno-Economic Feasibility of a Geothermal District Heating System in Chateh, Alberta</p> <p>Ekaterina Ossetchkina Hasmik Asmaryan</p>	<p>Ultra-High Density Seismic Survey at Carbon Management Canada's Field Research Station</p> <p>Greg Maidment</p>				
11:00-11:25	<p>Bypassing the near surface in full-waveform inversion of VSP data at the containment and monitoring institute field site</p> <p>Scott Keating</p>	<p>Hydraulic fracture monitoring: Integrated analysis of DAS, pumping information, and microseismicity.</p> <p>Ana Ortega Perez</p>	<p>The Hoadley Glauconitic Trend: Poised for a Renaissance, New Insights into an Old Field</p> <p>Daniel Tersmette</p>	<p>Tu Deh-Kah Geothermal: Lessons Learned and Next Steps</p> <p>Taylor Behn-Tsakoza</p>	<p>Seismic reconstruction for compressive irregular-grid acquisition with I-FMSSA and EPOCS: A comparative study</p> <p>Rongzhi Lin</p>				
11:25-11:50		<p>An encoder-decoder CNN for DAS-to-geophone transformation</p> <p>Jorge Monsegny</p>	<p>Structural and Sequence Stratigraphic Analyses of Fuzzal Field, Niger Delta</p> <p>Taofeek Ogunfolabo</p>	<p>Nipiih (Water) quality study of the Lesser Slave Lake: Working together in science, engagement and youth outreach</p> <p>Evangeline Eldridge</p>	<p>Application Of Full-Wave Forward Modeling For Seismic Exploration Feasibility Studies</p> <p>Mario A. Rivillas Ivan Tessler</p>				
11:50-12:15				<p>Industry Study Collaborating with Our Aboriginal Partners for Economic Development</p> <p>Tim Leshchyshyn</p>					

WEDNESDAY AFTERNOON

	Telus 101-102	Telus 104-105	Telus 106	Glen 201-204
	<p>Canadian Lithium Brines part 2</p> <p>Session Chairs: Mark Caplan, Courtney Reimert and Eric Pelletier</p> <p>Offshore Atlantic Canada Resource Exploration & Economics Session Chairs: Michael Wamsteeker and Thomas Greig</p>	<p>Reservoir Optimization</p> <p>Session Chairs: Chris Bird</p>	<p>Methane Emission Reductions: Success Stories and Trends</p> <p>Session Chairs: Travis Brookson and Maren Blair</p> 	<p>The Value of Integrated Geosciences</p> <p>Session Chairs: John Duhault and Julia McElgunn</p>
1:25-1:50	<p>Lithium Exploration in Saskatchewan: New data from the 2021 sampling season.</p> <p>Gavin Jensen</p>	<p>Methane migration in unconventional reservoirs and the origin of anomalous fluid distribution</p> <p>Victoria Chevrot</p>	<p>Methane Emissions from Abandoned and Suspended Oil and Gas Wells in Alberta and Saskatchewan</p> <p>Lauren Bowman</p>	<p>Moderator: Bill Whitelaw, Managing Director of Sustainability and Strategy at geoLOGIC Systems and JWN Energy</p> <p>Our sector is just emerging from the worst pandemic in recent history. The addition of a challenging economy and geopolitics has led to additional uncertainty in the Canadian energy industry, especially if you are a geoscientist. Where do we go from here? What are the solutions to our energy problems?</p> <p>Session Part 1: 1:15 PM – 2:40 PM</p> <p>Dr. Hong Yang: Geothermal Business Development Manager, Shell Canada</p>
1:50-2:15	<p>Water, Water Everywhere But Not A Drop To Drink! Lithium-Rich Brine Potential in Southeastern Saskatchewan</p> <p>Mark Caplan</p>	<p>Maximizing Liquids Rich Cuts in the Montney through GOR Control from Optimized Frac Design</p> <p>Tim Leshchyshyn</p>	<p>Technology Solutions to Achieve a 45% Reduction in Methane Emissions in the Oil and Gas sector</p> <p>Allan Fogwill</p>	<p>Mike Belenkie: President and CEO, Advantage Energy Ltd.</p> <p>Myles Bosman: Executive Vice President Exploration, Birchcliff Energy</p>
2:15-2:40	<p>Approaches to Subsurface Lithium Production - Benefits and Risks of Water Injection</p> <p>Gordon MacMillan</p>	<p>Clustering of Geological Models for Reservoir Simulation</p> <p>Hojjat Khani</p>	<p>Isotopic fingerprinting of atmospheric methane in Western Canada compared to oil and gas well emissions</p> <p>Gabriela Gonzalez Arismendi</p>	<p>Mike Belenkie: President and CEO, Advantage Energy Ltd.</p> <p>Myles Bosman: Executive Vice President Exploration, Birchcliff Energy</p>
2:40-3:20	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS			
3:20-3:45	<p>Reconstructing the southern North Atlantic Ocean back through time</p> <p>Michael King</p>	<p>A Case Study on InSAR as a High Frequency Decision Making Tool for SAGD Operations</p> <p>Courtney Lucente</p>	<p>A comprehensive summary of methane quantification using Telops' airborne hyperspectral instrument</p> <p>Jean-Philippe Gagnon</p>	<p>VIG Session Part 2: 3:20 PM – 5:00 PM</p> <p>Dr. Tom Moslow: Adjunct Professor, University of Calgary</p> <p>Juli Rohl: Director, Impact Studio and Lead Animator, Energy Futures Lab</p>
3:45-4:10	<p>Renewal of the crustal architectural map and plate kinematic model of the Flemish Cap, offshore Newfoundland margin</p> <p>Pei Yang</p>	<p>Well deformation: Simulation and reconstruction of multi- finger caliper observations</p> <p>Mark Mlella</p>	<p>Methane Reduction Funding Opportunities for Upstream Producers</p> <p>Kyle Dreher</p>	<p>Geoff Clark: CEO, Acceleware</p>
4:10-4:35	<p>The role of re-imaging in the re-imagining of the Proven Hydrocarbon Basins Offshore Nova Scotia</p> <p>Karyna Rodriguez</p>	<p>Radar Satellites: new technologies, applications, and an abundance of data</p> <p>Marco van der Kooij</p>	<p>Incentivizing Continuous Improvement of ESG Practices Through Independent Certification</p> <p>Heather Jones</p>	
4:35-5:00	<p>Chasing Mass Transport Deposits with Deep Neural Networks; The Good, the Bad, and the Ugly</p> <p>Masoud Aali</p>			

WEDNESDAY AFTERNOON

Glen 205		Glen 206		Glen 208-209		Telus 111 - The Colab		Telus 103	
	<p>Induced seismicity and risk mitigation</p> <p>Session Chairs: Sepideh Karimi, William Parrales and Neil Taylor</p>	<p>Microseismic Integration</p> <p>Session Chairs: Adam Baig and Rebecca Salvage</p>	<p>Sedimentology, Stratigraphy and Paleontology</p> <p>Session Chairs: Sean Fletcher and Erin Pemberton</p> 	<p>Using organic matter in your reservoir</p> <p>Session Chairs: Stan Stancliffe and Michael Webb</p>	<p>Mining Geophysics</p> <p>Session Chairs: Robert Hearst and Andy Dyke</p>				
1:25-1:50	<p>Numerical Modeling of Hydraulic Fracturing Effectiveness, Fault Activation and Reservoir Drainage in The Presence of a Strong Lateral Pore-Pressure Gradient</p> <p>Zahra Esmaeilzadeh</p>	<p>Quantitative Prediction of Microseismic Density Volumes and SRV from Surface Seismic Attributes and Completion Data</p> <p>Renjun Wen</p>	<p>The Sedimentology of Palaeontology: how to accumulate highly fossiliferous deposits</p> <p>Jon Noad</p>	<p>Trends in organic matter distribution and characteristics among rock formations in Peninsular Malaysia: Implications on hydrocarbon generation potential</p> <p>Alidu Rashid</p>	<p>The Pan-Canadian Geoscience Strategy: Integration and Cooperation for Critical Minerals Exploration and Energy Transformation</p> <p>Daniel Lebel</p>				
1:50-2:15	<p>Hybrid Foreshock Patterns of Injection-Induced Earthquakes in Western Canada</p> <p>Honn Kao</p>	<p>Passive source location by diffraction scanning</p> <p>Jorge Monsegny</p>	<p>The coastal plain to Clearwater stratigraphy of central Alberta: differentiating the Mannville Group.</p> <p>Bob Lee</p>	<p>Petroleum from Source Rock to Reservoir; Using two offshore eastern Canada basins as examples</p> <p>Martin Fowler</p>	<p>An Investigation of a Salt Dome Interior using In-Mine Seismic Reflection</p> <p>Patrick Mah</p>				
2:15-2:40	<p>Quantifying detection thresholds and their variabilities for earthquakes catalogued in Alberta, Canada</p> <p>Javad Yusifbayov</p>	<p>Do Moment Tensors Flip During Hydraulic Fractures?</p> <p>Adam Baig</p>	<p>Sedimentology and Ichnology of a tide-influenced river delta: An example from the Lower Permian of North Pakistan</p> <p>Waqar Ahmad</p>	<p>An Overview of Palynofacies/Kerogen Analysis and it's Assistance in Paleoenvironmental and Geochemical Interpretations</p> <p>Thomas Demchuk</p>	<p>Airborne EM MobileMTm – technical details and applications</p> <p>Aamna Sirohey</p>				
2:40-3:20	COFFEE BREAK WITH EXHIBITORS AND POSTER PRESENTATIONS								
3:20-3:45	<p>No Surprise! Mineralogy influences Induced Seismicity in the Duvernay East Shale Basin</p> <p>Terry Zwicker</p>	<p>3D Geomechanics Model Integration With Microseismic Surveys Using Fluid-Induced Seismicity Constraints</p> <p>Randall Hickman</p>	<p>Facies and stratigraphic analysis of three scales of clinothems in an exhumed basin margin succession, southern Chile</p> <p>Thomas Peploe</p>	<p>Towards net zero: lowering steam-to-oil ratios with thermophilic bacteria and N2 biogas</p> <p>Casey Hubert</p>	<p>Understanding the Effects of Mineralizing Fluids on Petrophysical Properties: A study of Magnetic Susceptibility and Spectral Gamma in a Cu-Au System at Upper Beaver, Canada</p> <p>Brandon Hume</p>				
3:45-4:10	<p>Enhancement of Risk Mitigation Strategies for Induced Seismicity by Utilizing Hazard Scenarios</p> <p>Mark Novakovic</p>	<p>Multidisciplinary data integration: A case study from a heavy oil reservoir</p> <p>Amna Feroz</p>	<p>The Search for the World's Fastest Sand Dunes</p> <p>Jonathan Schueth</p>	<p>Bacterial anomalies indicative of deep-sea sediment hydrocarbon seeps</p> <p>Carmen Li</p>	<p>Open seismic hardware: a step towards accessibility in mineral exploration</p> <p>Arnaud Mercier</p>				
4:10-4:35			<p>Sedimentology from Low Earth Orbit - How Time-lapse Earth Motion from Remote Sensing Imagery Aids Reservoir Characterization and Challenges Static Depositional Paradigms</p> <p>Sean Fletcher</p>		<p>Cosmic-ray muon tomography: Current developments in how Canadian innovation is helping industry drill less and discover more</p> <p>Douglas Schouten</p>				
4:35-5:00					<p>Advancements in Ground Penetrating Radar Technology for Mineral Exploration</p> <p>Jan Francke</p>				



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SCHEDULE AT A GLANCE

MONDAY, June 20

9:00-5:00 | Exhibition Foyer
Registration

3:30-4:30 | Exhibit Hall E
Opening Remarks and Keynote

4:30-6:30 | Exhibit Floor
Ice Breaker Reception

TUESDAY, June 21

7:00-5:00 | Exhibition Foyer
Registration

9:00-6:00
Exhibit Floor Open

9:00-5:00
Showcase Stage

8:25-11:50 | Glen and Telus Rooms
Morning Technical Sessions

9:50-10:35 | Exhibit Floor
Coffee with Exhibitors and
Poster Presentations

11:30-2:00
CSEG Networking Luncheon &
Volunteer Appreciation Event

1:15-4:35 | Glen and Telus Rooms
Afternoon Technical Sessions

2:40-3:20 | Exhibit Floor
Coffee with Exhibitors &
Poster Presentations

4:00-6:00 | Exhibit Floor
Networking Reception

5:00-7:00 | Glen Room Foyer
McMaster University
Alumni Reception

WEDNESDAY, June 22

7:00-5:00 | Exhibition Foyer
Registration

9:00-3:30
Exhibit Floor Open

9:00-3:30
Showcase Stage

8:25-11:50 | Glen and Telus Rooms
Morning Technical Sessions

9:50-10:35 | Exhibit Floor
Coffee with Exhibitors and
Poster Presentations

1:15-4:35 | Glen and Telus Rooms
Afternoon Technical Sessions

2:40-3:20 | Exhibit Floor
Coffee with Exhibitors &
Poster Presentations

3:30 – 5:15 | Exhibition Foyer
Industry Mixer

5:15 – 7:45 | Glen 201-204
Challenge Bowl

THANK YOU FOR ATTENDING



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