geoconvention
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SESSION GUIDE

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Calgary TELUS Convention Centre

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CEGA Canadian Energy Geoscience Association

CSEG Canadian Society of Exploration Geophysicists

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OUTLINE

GeoConvention 2027 is excited to host a wide variety of content from our non-profit Earth Science partner societies. The following outline will act as a reference to the sessions that will be hosted at GeoConvention 2027. Please refer to the Call for Abstracts Reference Page for the 2027 Abstract Template and submission instructions.

2027 SESSIONS

OUTLINE 2
Advances in 4D Seismic Monitoring: Methods, Workflows, and Quantitative Reservoir Change 3
Advances in FWI: Algorithmic Innovations, Machine Learning, and Multi-Physics Applications 3
Advances in Quantitative Interpretation: FWI 3
Applications of Geomechanics in the Energy Sector: Innovations, Challenges, and Future Directions 3
Atlas of the Western Canada Sedimentary Basin 2027 4
Back to Basics – Geoscience 4
Beyond Conventional Imaging: New Directions in Seismic Inversion and Imaging 4
Bridging the Gap – Geoscience and Engineering 4
Canada's Growth Potential 4
Canadian Frontier Exploration and Production 5
Carbon Sequestration and Reservoir Characterization 5
Emerging Seismic Technologies and Workflows 5
Facies Models and Sequence Stratigraphy: In Honour of Roger G. Walker 5
Field-Reliable Near-Surface Geophysics: From Acquisition QC to Defensible Interpretation 6
From Exploration Data to Mineral Targets: Advances in AI-Driven Prospectivity Mapping 6
Geochemistry 7
Geothermal Geoscience 7
Helium and Hydrogen 8
In Situ Stress in the Western Canada Sedimentary Basin 8
Integrated Subsurface-Geosystems Modeling for Low-Carbon Energy and Strategic Resources 8
Integrated seismic inversion and quantitative reservoir characterization 9
International Exploration and Production 9
Mineral Resources for Canada's Energy Future and Economic Development 9
Monitoring and Mitigating Induced Seismicity Risk 9
Modern Subsurface Workflows: AI, Cloud Tech, and Automation 10
Montney 10
New and Novel Seismic Sources and Nodes 10
New Era of Alberta's Oil Sands 10
Petrophysics 11
Reservoir Characterization for Production Optimization 11
Salt Formations for Sustainable Economy, Energy Transition, and Strategic Reserves 11
Second Life for Subsurface Data: Using Legacy and Public Data to Solve Today's Resource Problems 11
Sedimentology, Stratigraphy and Paleontology 12
Seismic Processing and Advanced Imaging Applications for Sustainable Energy and Mineral Exploration 12
Speaker Series: Technical talks by 2026 Partner Society and GeoConvention Award Winners 13
Sustainable Energy & Carbon Management 13
The Evolution of Seismic Imaging: From Acoustic and Elastic FWI Inversion to Advanced Migration for Exploration and Production 13
The Impact of Igneous and Metamorphic Rocks on Sediment-Hosted Energy Resources 14
The Value of Combined Distributed Acoustic Sensing and Multicomponent VSP Data 14

Advances in 4D Seismic Monitoring: Methods, Workflows, and Quantitative Reservoir Change

Session Chair(s): *Anton Ziegon* • *Jinji Li*

This session highlights advances across the full spectrum of 4D seismic monitoring, from conventional repeatability-driven workflows to next-generation quantitative inversion methods. We welcome contributions on conventional time-lapse techniques — including cross-equalization strategies, 4D attribute analysis, interferometric approaches, and data-driven monitoring — as well as studies introducing novel time-lapse full-waveform inversion (FWI) methodologies.

Submissions may include synthetic benchmarks, controlled numerical experiments, and field-scale demonstrations from heavy oil operations, conventional or unconventional reservoirs, subsurface storage projects, or other subsurface operations that require monitoring. The session aims to bring together research that advances 4D seismic monitoring from established practices to emerging quantitative approaches, showcasing methods that improve repeatability, robustness, and interpretability.

Advances in FWI: Algorithmic Innovations, Machine Learning, and Multi-Physics Applications

Session Chair(s): *Abolfazl Khan Mohammadi* • *Alison Malcolm*

This session focuses on recent advancements and emerging methodologies in Full Waveform Inversion (FWI) for high-resolution subsurface characterization. We welcome contributions that address core algorithmic and computational challenges in FWI, including multi-parameter inversion, cycle-skipping mitigation, uncertainty quantification, and large-scale 3D/4D elastic or viscoelastic deployments.

To capture the changing landscape of advanced imaging, we also strongly encourage abstracts that integrate FWI with scientific machine learning, high-performance computing, multi-sensor data (such as fiber-optic DAS), and multi-physics frameworks. Submissions demonstrating how these combined next-generation tools solve complex imaging problems — ranging from near-surface characterization to deep structural imaging and time-lapse monitoring for conventional reservoirs or sustainable energy systems (CO_2 storage and geothermal) — are highly encouraged.

Advances in Quantitative Interpretation: FWI

Session Chair(s): *Carmen Dumitrescu* • *TBD*

This session focuses on quantitative interpretation and full-waveform inversion, with applications to oil sands reservoirs.

Applications of Geomechanics in the Energy Sector: Innovations, Challenges, and Future Directions

Session Chair(s): *Bahaa Beshry* • *TBD*

The session will focus on the critical role of geomechanics in the energy sector, exploring the latest research, methodologies, and applications that enhance resource extraction, environmental safety, and operational efficiency. Geomechanical principles are fundamental to addressing challenges in oil and gas, geothermal energy, carbon sequestration, and unconventional reservoirs. The session aims to bring together academics and industry professionals to discuss innovative technologies and best practices that optimize subsurface operations while mitigating risks.

Atlas of the Western Canada Sedimentary Basin 2027

Session Chair(s): *Christa Williams • Tom Plumridge*

Atlas of the Western Canada Sedimentary Basin update and modernization into the digital world; with over 180 authors contributing new chapters spanning a broad range of current and traditional regional-scale geoscience themes.

Back to Basics – Geoscience

Session Chair(s): *Christina Trotter • Jon Noad*

We have learned many, if not all, of the basics of our discipline at one point in our careers — can you remember them? This session is intended to be both a refresher and an introduction to geoscience methods.

The talks will cover the nuts and bolts of various methodologies and their associated assumptions. We will discuss the implications of these assumptions, where they can go wrong, and how to mitigate the risk. We also aim to include subjects on where we should be doing more to add value to the development and exploitation of resources.

Beyond Conventional Imaging: New Directions in Seismic Inversion and Imaging

Session Chair(s): *Faranak Mahmoudian • Draga Talinga*

This session explores emerging approaches to seismic imaging and inversion that go beyond conventional workflows. Topics may include advances in full-waveform inversion, least-squares imaging, multiparameter inversion, elastic and anisotropic imaging, machine learning, and computational methods. The session aims to highlight innovative methodologies, practical applications, and new ideas that are improving our ability to extract increasingly detailed and reliable information about the subsurface.

Bridging the Gap – Geoscience and Engineering

Session Chair(s): *Mike Finn • Mikayla Wunsch • Kenda Said*

This session will feature a series of technical talks covering aspects of integration between geoscientists and engineers, with examples of collaborative work between the disciplines in the petroleum and renewable energy sectors. The talks will cover work done from initial exploration through field appraisal, development, production, and optimization. This session will provide well-rounded, multidisciplinary talks for a wide range of audiences with interest in subsurface energy resource industries.

Canada's Growth Potential

Session Chair(s): *Scott Norlin • TBD*

Canada holds significant untapped potential across its energy and mineral resource base, from underexplored sedimentary basins to critical mineral occurrences and emerging low-carbon opportunities. This session invites geological and geophysical perspectives on where Canada's next phase of resource growth may come from — whether through new exploration frontiers, re-evaluation of mature basins with modern data and technology, or the geoscience underpinning emerging sectors such as critical minerals, hydrogen, helium, and geothermal energy.

Contributions are welcome on regional geology and basin evaluation, geophysical surveys and interpretation supporting new play identification, integration of legacy and modern datasets to de-risk exploration, and case studies demonstrating how geoscience is unlocking new growth opportunities across Canada. The session aims to bring together geoscientists from industry, government, and academia to discuss where Canada's competitive advantages lie and what geological and geophysical work is needed to realize that potential.

Canadian Frontier Exploration and Production

Session Chair(s): *Michael Enachescu* • *John Hogg*

Presenting recent results in exploration and production within Canadian offshore and onshore frontier basins.

Carbon Sequestration and Reservoir Characterization

Session Chair(s): *Mahbub (Bob) Alam* • *Giovanni Flautero*

This session focuses on reservoir characterization for capturing carbon dioxide from industrial sources and storing it in long-term geologic formations within deep, depleted oil and gas reservoirs.

It examines reservoir characterization in detail — the evaluation of underground rock formations to determine whether they can safely and permanently accept and retain injected CO_2. Key aspects include reservoir quality and trapping mechanisms, such as geomechanical and geochemical properties, along with data integration that includes seismic, well logs, and core samples to map the site and ensure a secure, impermeable caprock seals the reservoir from escaping gases. The session also emphasizes other potential applications of Carbon Capture, Utilization and Storage (CCUS), such as enhanced oil recovery (EOR) and global environmental incentives.

Emerging Seismic Technologies and Workflows

Session Chair(s): *Benjamin Roure* • *Marco Perez*

This session will focus on demonstrating how seismic data delivers tangible value across the exploration, development, and production lifecycle. Participants will learn how to maximize the utility of seismic surveys, from data acquisition through interpretation, to drive more confident decisions, reduce uncertainty, and optimize reservoir performance.

Key Topics:

- **Economic and Operational Impact:** Quantifying the business value of seismic studies; cost-benefit analysis of survey designs and processing techniques.
- **Enhanced Subsurface Understanding:** Integrating seismic with well logs, petrophysics, and geomechanical models; identifying high-potential areas and reducing drilling risk.
- **Workflow and Decision Support:** Seismic-informed planning for development and production; case studies demonstrating improved operational outcomes; leveraging advanced processing, inversion, and attribute analysis to optimize reservoir characterization.

Intended Outcomes:

- Provide insight into how seismic data contributes to informed decision-making
- Highlight methods for extracting maximum value from seismic investments
- Showcase examples where seismic data improved efficiency, reduced risk, and enhanced reservoir understanding
- Encourage participants to explore innovative approaches to integrate seismic insights across multidisciplinary workflows

Facies Models and Sequence Stratigraphy: In Honour of Roger G. Walker

Session Chair(s): *Janok Bhattacharya* • *Andrew Miall*

This oral session is planned in honour of Roger G. Walker, who passed away in August 2026. We will seek talks on facies models and sequence stratigraphy. Janok Bhattacharya is also co-editing a new edition of Facies Models, and we invite authors to present their new synthesis.

Field-Reliable Near-Surface Geophysics: From Acquisition QC to Defensible Interpretation

Session Chair(s): *Mingyu Zhang* • *Nam Vien*

Near-surface geophysical investigations increasingly support engineering, environmental, groundwater, infrastructure, and resource decisions, yet the reliability of the final interpretation depends on more than achieving an acceptable data fit. This session focuses on practical and quantitative approaches for linking field acquisition, quality control, processing and inversion, resolution, and geological constraints to defensible subsurface interpretation.

Contributions are invited on seismic, electrical, electromagnetic, GPR, and integrated geophysical methods, including field QC and stopping criteria, data repeatability, inversion ambiguity and non-uniqueness, sensitivity and resolution, challenging field conditions, and multi-method validation. Case histories that demonstrate both successful outcomes and important limitations of geophysical interpretation are particularly encouraged.

From Exploration Data to Mineral Targets: Advances in AI-Driven Prospectivity Mapping

Session Chair(s): *Sodiq Abiodun Alimi* • *TBD*

The rapid growth of geological, geophysical, geochemical, remote sensing, and spatial datasets is transforming the way mineral exploration targets are identified and evaluated. Artificial intelligence (AI) and machine learning provide new opportunities to integrate these diverse datasets, recognize complex spatial relationships, and improve mineral prospectivity mapping beyond conventional data-driven and knowledge-based approaches. However, challenges remain in developing robust, interpretable, and geologically meaningful AI workflows that can translate exploration data into reliable targets.

This session will bring together researchers, exploration geoscientists, industry practitioners, and data scientists to showcase advances in AI-driven mineral prospectivity mapping and related exploration workflows. Contributions are invited on machine learning and deep learning, geophysical and geochemical data integration, remote sensing and hyperspectral analysis, geological and structural modelling, fuzzy and hybrid AI approaches, 2D and 3D prospectivity modelling, explainable AI, uncertainty assessment, and emerging GeoAI applications. The session will also explore how geological knowledge can be incorporated into AI workflows and how predictive models can support exploration decision-making and target generation.

By connecting methodological advances with practical exploration applications, the session aims to highlight the opportunities, limitations, and future directions of AI-enabled mineral exploration.

Geochemistry

Session Chair(s): *Zied Ouled Ameur • TBD*

This session will highlight cutting-edge applications of molecular and isotope geochemistry to address industrial challenges and environmental concerns. Through case studies and methodological innovations, participants will see how these tools support informed decision-making in energy development, reservoir management, and environmental monitoring.

Key Themes:

- **Oil & Gas Geochemistry:** Understanding petroleum and natural gas systems; geochemical controls on fluid properties, generation, migration, and alteration; source rock and reservoir characterization, paleoenvironmental reconstruction, and basin modeling; insights from gas isotopic signatures and reservoir-fluid interactions.
- **Reservoir Monitoring, Management, and Development:** Identifying baffles, barriers, and compartmentalization; assessing connectivity and detecting oil mixing; using molecular and isotopic tracers to monitor fluid movement and optimize production.
- **Sour Gas, Vent Flows, and Gas Migration:** Diagnosing and mitigating risks from H_2S, surface casing vent flows (SCVF), and gas migration; distinguishing biogenic vs. thermogenic gases and tracing sources; supporting safe and responsible resource development strategies.
- **Geo- and Environmental Forensics:** Tracing oil spills, greenhouse gas emissions, and air pollution; supporting monitoring, remediation, and responsible resource management.
- **New Trends in Molecular and Isotope Geochemistry:** Emerging analytical methods and data integration; machine learning applications; innovations enhancing precision, efficiency, and sustainability.

Intended Outcomes:

- Share knowledge and foster dialogue on industrial and environmental applications
- Demonstrate how geochemical data reduces uncertainty and informs operational decisions
- Highlight integrated approaches for petroleum system evaluation, reservoir management, and environmental accountability
- Showcase innovations shaping the future of molecular and isotope geochemistry

Geothermal Geoscience

Session Chair(s): *Emily Smejkal • Scott Hess*

Explore the dynamic intersection of geoscience and geothermal energy in this comprehensive session. We'll delve into cutting-edge technologies and innovative methodologies that are transforming the way we harness Earth's heat for sustainable energy solutions.

Join experts as they share insights on geothermal resource mapping, project development, technological innovations, case studies, economic impacts, and future trends.

Whether you're a geoscientist, energy professional, or policy maker, this session offers a holistic view of how geoscience and geothermal energy are shaping a sustainable future.

Helium and Hydrogen

Session Chair(s): *Duncan MacKenzie* • *TBD*

Building on last year's session, this session will cover helium and hydrogen development both within Western Canada and around the world. Updates are welcome from the WCSB and the U.S. mid-continent, along with emerging developments in China, South Africa, and Australia — including projects such as Gold Hydrogen's helium venture at Ramsay, where produced water is processed using Canadian equipment to strip and concentrate usable helium. Federal policy and geopolitics remain highly relevant to helium in particular, and contributions addressing the regulatory and geopolitical landscape are welcome alongside technical and exploration-focused submissions.

In Situ Stress in the Western Canada Sedimentary Basin

Session Chair(s): *Patrick McLellan* • *Chris Hawkes*

Presentations on recent developments in the determination of in situ stress orientations and magnitudes in the WCSB are sought for this session. New technologies and analysis methods, field case histories, and applications of in situ stress to induced seismicity, exploration, reservoir characterization, hazard assessment, caprock integrity, well design and construction, hydraulic fracturing, geological storage of CO_2, salt cavern storage, and wastewater disposal are welcome. This session will feature content from the new in situ stress chapter prepared for the 2027 CEGA-AGS Geological Atlas of the WCSB.

Integrated Subsurface-Geosystems Modeling for Low-Carbon Energy and Strategic Resources

Session Chair(s): *Chima Justin Ezekiel* • *Wanju Yuan*

The development of subsurface energy, storage, and strategic resources increasingly requires integration across disciplines and scales — from geological characterization and applied 3D geomodeling to reservoir simulation, surface-process design, techno-economic assessment, and decision-making under uncertainty.

This session invites contributions that advance integrated subsurface geosystems modeling for resource characterization, development, optimization, and management. Particular interest is placed on studies that move beyond characterization toward development and whole-system design, demonstrating how subsurface heterogeneity, resource uncertainty, engineering constraints, infrastructure, economics, environmental performance, and risk interact to determine technical feasibility and commercial potential.

Applications may include geothermal energy, CCUS and geological CO_2 storage, hydrogen production and subsurface storage, natural hydrogen, helium, lithium and other critical minerals, thermal and subsurface energy storage, multipurpose reservoirs, and integrated energy-resource systems. Field-scale applications, integrated surface-subsurface workflows, uncertainty-aware optimization, digital and machine-learning approaches, and multidisciplinary and interdisciplinary case studies are especially encouraged.

By connecting geoscience, engineering, economics, and systems analysis, this session will highlight how next-generation geosystems models can support resource evaluation, engineering design, infrastructure planning, and investment and policy decisions for scalable low-carbon energy and strategic-resource development.

Integrated seismic inversion and quantitative reservoir characterization

Session Chair(s): *Satinder Chopra • Ritesh Sharma*

Seismic inversion and quantitative interpretation play an important role in translating seismic observations into subsurface properties relevant to reservoir characterization. A wide range of approaches are now available, from deterministic and probabilistic prestack inversion to rock-physics-guided facies prediction, geostatistical methods, and emerging data-driven and machine-learning workflows.

This technical session invites contributions that demonstrate advances in seismic inversion, elastic-property estimation, lithology and lithofacies prediction, and uncertainty quantification. Of particular interest are approaches that integrate seismic data with well information, geological constraints, rock-physics relationships, and prior knowledge to improve reservoir characterization and reduce interpretation uncertainty.

Contributions may include Bayesian and machine-learning-based methods, as well as integrated workflows that jointly or sequentially estimate elastic properties and reservoir facies. Case studies demonstrating practical applications, validation, uncertainty assessment, and the impact of inversion and facies prediction on reservoir characterization and decision-making are particularly encouraged.

International Exploration and Production

Session Chair(s): *Tako Koning • Kent Wilkinson, Jerome Biollo*

This session will be focused on international oil and gas exploration, development and production, in areas outside of Canada.

Mineral Resources for Canada's Energy Future and Economic Development

Session Chair(s): *Mike Belosevic • Mike Gadd*

This year's minerals session intends to build on the growing interest in a wide array of rock-, brine-, and industrial-waste-hosted mineral resources in western Canada. This session will emphasize mineral resources that are strategically, economically, and societally important, including critical minerals, precious metals, and other commodities that support Canada's resource economy and energy diversification.

The program will delve into a diverse assortment of minerals-related topics, including mineral systems, exploration geology, geophysics, mineral processing, prospectivity analysis, and unconventional resources. Although the session will focus on western Canada, we welcome submissions from elsewhere in Canada and international locales, from industry, academia, government, and independent geoscience researchers.

Monitoring and Mitigating Induced Seismicity Risk

Session Chair(s): *Amanda Greig • Sepi Karimi • Devika Naidu • Paige Snelling*

Induced seismicity remains a critical consideration for safe and sustainable subsurface operations across oil and gas, mining, geothermal energy, and CCUS. With major advances in monitoring, modeling, and understanding injection-related seismicity—particularly around hydraulic fracturing and wastewater disposal—this session brings together researchers, regulators, industry, and service providers to share the latest insights and best practices. Contributions are encouraged on seismic detection technologies, hazard and risk assessment, operational protocols, regulatory frameworks, and mitigation strategies. Case studies, policy perspectives, and technical analyses will highlight emerging knowledge on the mechanisms that induce seismicity, evolving monitoring networks, and approaches that strengthen public confidence in responsible resource development.

Modern Subsurface Workflows: AI, Cloud Tech, and Automation

Session Chair(s): *Rafael Sanguinetti* • *Bernard Laugier*

This session explores how modern digital tools such as AI and cloud computing are transforming subsurface workflows. We are looking for real-world case studies that show how automation and smart data integration speed up project timelines and reduce risk. Submissions are welcome across all sectors — from traditional WCSB oil and gas to emerging fields like CCUS, geothermal, and critical minerals. We especially encourage presentations that demonstrate how geology, geophysics, and petrophysics can seamlessly collaborate using these new technologies.

Montney

Session Chair(s): *Zied Ouled Ameur* • *TBD*

We shall be running with three sub-themes: “the entity,” “the legend,” and “the myth,” with “the entity” being the Montney Formation, our world-class play of focus in this session. Under “the entity,” we set our sights on multidisciplinary regional and basin-wide assessments. For “the legend,” we continue our focus on near-field exploration, reservoir characterization, geomodeling, reservoir engineering, field development, and completions practices. Finally, under “the myth,” we are interested in formation-specific workflow applications of artificial intelligence and machine learning, geomechanics, geochemical and production allocation methods, as well as case studies on subsurface analyses grounded in capital and cost-optimization efforts.

New and Novel Seismic Sources and Nodes

Session Chair(s): *Rob Kendall* • *Marie Macquet*

This session will showcase new and novel active seismic sources and receivers (nodes). Recent advances in seismic imaging and subsurface monitoring have been developed in response to changing needs, with examples including urban seismic, CCS imaging and monitoring, and geotechnical applications.

New Era of Alberta’s Oil Sands

Session Chair(s): *Wen Lin* • *TBD*

Oil sand in Alberta has been produced in ever-growing volumes for more than 20 years. The in-situ segment has shown increasing potential with the aid of advanced technology such as steam-assisted gravity drainage (SAGD) and emerging technology such as ES-SAGD. As the best of these resources have already been discovered and produced over decades, most Alberta oil sand producers are relying on squeezing existing reserves without much replacement of the production gap for future sustainability. Deeper interrogation of existing assets and new project development have become urgent, and this requires regional and local studies of the basin.

Although regional studies of the oil sand reservoir strata (the Cretaceous McMurray Formation) have been conducted over the past 20 years, the complexity of the geology at both the regional and asset scale hampers a thorough understanding of the reservoirs and has impeded the optimization of production. Looking back at the evolution of in-situ oil sand production, many production issues can be solved with better insight into reservoir geology. Deeper insights and new concepts, coupled with new data from annual delineation and appraisal programs — including new well logs, cores, 3D and 4D seismic surveys, and engineering data — are urgently needed for in-situ oil sand production in more challenging areas and reservoirs.

This session is proposed to encourage the sharing of knowledge regarding Alberta in-situ oil sands. Topics can include, but are not limited to, technical challenge reviews, case studies, new technology applications, production optimization, and experiences and lessons learned from project development. Regional evaluation of the McMurray and Wabiskaw formations in the Athabasca area that sheds light on in-situ oil sand resource exploration will be shared in the session.

Petrophysics

Session Chair(s): *Kelly Skuce* • *TBD*

Use of petrophysical analysis to evaluate reservoirs, advance subsurface understanding, and reduce uncertainty in reserve evaluation.

Reservoir Characterization for Production Optimization

Session Chair(s): *Alexey Romanov* • *TBD*

The continuous efforts of geoscientists and engineers with reservoir characterization is always a key interest for production optimization. This is also an interdisciplinary collaboration. It involves the challenges of subsurface complexities with geological, geophysical, petrophysical, and geomechanical information. The data is always limited, scale-variant, inherent non-uniqueness of reservoir models and difficulties in integrating diverse datasets. This session will present all the latest research developments in resolving these issues that can greatly contribute to production optimization in oil and gas industries.

Salt Formations for Sustainable Economy, Energy Transition, and Strategic Reserves

Session Chair(s): *Pavel Kabanov* • *Alex Reed*

This session welcomes talks and posters on all aspects of rock salt science and industrial use: evaporite sedimentology and stratigraphy, geochemistry, and the geomechanical properties of major salt formations, as well as case studies of conventional and novel use — caprock properties when used for CCS, clean energy storage (hydrogen, ammonia, CAES), potash and table salt extraction, and industrial waste disposal. Salt caverns are also among the best and safest containers for strategic reserves of petroleum and petrochemical products, an application that currently features on the national agenda in response to today's politico-economic challenges.

Second Life for Subsurface Data: Using Legacy and Public Data to Solve Today's Resource Problems

Session Chair(s): *Michelle Lund* • *TBD*

New subsurface opportunities require answers before extensive new data can be acquired. How can existing wells, cores, seismic, production records, geochemistry, and regional datasets be repurposed reliably? This session welcomes case studies and methodologies demonstrating the practical reuse of legacy and public subsurface data to address today's resource challenges.

Sedimentology, Stratigraphy and Paleontology

Session Chair(s): *Sean Fletcher* • *Erin Pemberton*

This session explores the dynamic interplay between sedimentary processes, stratigraphic architecture, and the fossil record. Presentations will showcase advancements in understanding depositional systems, basin evolution, and the application of paleontological data to refine chronostratigraphy and paleoenvironmental reconstructions.

Key topics include:

- Modern and ancient sedimentary processes and environments
- Sequence stratigraphy and basin analysis for resource exploration
- Integration of sedimentological, stratigraphic, and paleontological approaches for geoscientific insights

Join us to discuss cutting-edge research and methodologies bridging academic knowledge with practical industry applications in Earth's sedimentary systems.

Seismic Processing and Advanced Imaging Applications for Sustainable Energy and Mineral Exploration

Session Chair(s): *Svetlana Bidikhova* • *TBD*

As the energy industry expands beyond conventional oil and gas exploration, advanced seismic processing and imaging technologies are becoming increasingly important for characterizing the complex subsurface environments associated with sustainable energy and critical resource development.

This session will focus specifically on the application of seismic processing, imaging, and interpretation technologies to non-traditional energy and resource challenges, including geothermal energy, carbon capture and storage (CCS), natural hydrogen, helium exploration, nuclear energy applications, and mineral and mining exploration. It will highlight how modern seismic workflows are being adapted to address the unique subsurface imaging challenges in these emerging sectors.

Topics may include:

- Advanced seismic imaging for geothermal reservoir characterization and fracture detection
- Seismic monitoring and imaging workflows for CO_2 storage site characterization and containment assessment
- Velocity model building and imaging challenges in complex geological environments
- Seismic applications for natural hydrogen and helium exploration
- High-resolution seismic processing for mineral and mining exploration
- Advanced imaging techniques for deep targets, complex structures, and challenging near-surface conditions

This session aims to demonstrate how state-of-the-art seismic processing and imaging technologies developed for exploration and production are being leveraged to support the transition toward sustainable energy systems and responsible resource development.

Keywords

Seismic imaging, seismic processing, energy transition, geothermal, carbon capture and storage (CCS), hydrogen, helium, mineral exploration, mining geophysics, FWI, seismic inversion, time-lapse seismic, subsurface characterization.

Target Audience

Geoscientists, seismic processors, energy transition specialists, mining geophysicists, researchers, operators, and professionals applying advanced seismic technologies to sustainable resource challenges.

Speaker Series: Technical talks by 2026 Partner Society and GeoConvention Award Winners

Session Chair(s): *Alison Essery* • *Michelle Lund*

Winners of the 2026 CEGA, CSEG and GeoConvention Awards will be invited to speak on current topics over a wide range of leading-edge technical studies. This session is by invitation only.

Sustainable Energy & Carbon Management

Session Chair(s): *Anowar Hossen* • *TBD*

This session invites contributions across the key themes shaping sustainable energy and carbon management:

- **Carbon Capture, Utilization, and Storage (CCUS):** Site selection, monitoring, and geomechanical risks.
- **Hydrogen Exploration and Storage:** Subsurface behavior, storage in aquifers and salt caverns, and natural hydrogen discovery.
- **Geothermal Energy Systems:** Deep geothermal reservoir characterization, enhanced geothermal systems (EGS), and co-production.
- **Critical Minerals for the Energy Transition:** Geoscience methodologies for finding lithium, helium, nickel, and copper deposits.

The Evolution of Seismic Imaging: From Acoustic and Elastic FWI Inversion to Advanced Migration for Exploration and Production

Session Chair(s): *Svetlana Bidikhova* • *Ivan Pasechnik*

Advances in seismic processing and imaging technologies continue to improve subsurface understanding by enabling more accurate velocity model building, higher-resolution imaging, and enhanced reservoir characterization. This session will highlight recent developments and case studies demonstrating the application of advanced seismic imaging workflows across exploration and production environments.

The session will include contributions on Full Waveform Inversion (FWI) for velocity model building, including diving-wave FWI, reflection FWI, and emerging multi-parameter FWI (MP-FWI) approaches for elastic property estimation and improved geological interpretation. Additional topics will include Least-Squares Migration (LSM), Reverse Time Least-Squares Migration (RT-LSM), Reverse Time Migration (RTM), diffraction imaging, and advanced PSDM workflows.

Presentations are encouraged that demonstrate how innovative seismic imaging technologies are being applied to:

- Improve velocity model accuracy and overcome complex geological challenges
- Enhance subsurface illumination and resolution
- Support structural interpretation and stratigraphic delineation
- Improve exploration success and development decisions
- Generate additional reservoir insights through advanced seismic imaging

The session welcomes both theoretical developments and practical case studies showcasing the value of modern seismic processing and imaging techniques in exploration and production workflows.

The Impact of Igneous and Metamorphic Rocks on Sediment-Hosted Energy Resources

Session Chair(s): *Henry Williams* • *TBD*

Many developed and potential economic resources in sedimentary reservoirs — including oil and gas, helium, hydrogen, and geothermal energy, to name a few — are either related directly to igneous or metamorphic basement, or preserved in structures influenced by basement or igneous activity. This session is intended to highlight examples, particularly where their understanding has been achieved through the integration of multiple approaches such as reservoir geology, structural and seismic interpretation, igneous petrology, potential field studies, and geochemistry.

The Value of Combined Distributed Acoustic Sensing and Multicomponent VSP Data

Session Chair(s): *Sebastien Soulas* • *TBD*

This session will focus on the value of recording and processing multicomponent VSP data for reservoir characterization and 4D monitoring in oil and gas fields, as well as periodic and continuous monitoring in energy transition projects.