

GE 4.0

DIGITALIZATION IN GEOSCIENCES SYMPOSIUM

Shaping Innovation for
a Sustainable Future

21-24 OCTOBER 2024
AL KHOBAR, SAUDI ARABIA

CALL FOR ABSTRACTS

HOSTED BY



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ABOUT THE SYMPOSIUM

Digital transformation has emerged as a catalyst for progress and innovation within the geosciences, reshaping the energy sector by leveraging cutting-edge technologies and methodologies. By harnessing the power of machine learning/artificial intelligence (ML/AI), geoscientists are now able to acquire, analyze and integrate vast seismic, geological and well data, conduct field simulations, and perform other complex tasks with more efficiency and accuracy. This technological revolution has not only streamlined traditional operational approaches but has also unlocked new avenues for oil and gas exploration, development and sustainability.

As the geoscience domain continues to embrace digital transformation, it is essential to assess its potential for driving further advancements, fostering collaboration, and expanding knowledge to address the challenges in the energy sector.

CALL FOR ABSTRACTS



Submission Deadline
Extended to
3rd June 2024

We invite experts to share their vision on digitization of geosciences to help researchers and professionals to tackle complex challenges and make significant contributions towards a sustainable and resilient future for our planet.

The symposium will cover a wide range of topics exploring the role of AI in geosciences including but not limited to:

THEME 1

DATA & INFRASTRUCTURE

Data Acquisition & QC

- Geophysics (Seismic/Non-Seismic)
- Borehole (Logs & Images)
- Satellite Images & Remote Sensors
- Virtual Outcrops
- Mechanization and Automation
- AI-Based Data QCing

Data Infrastructure

- Data Centers
- Digital Labs
- Cloud
- Storage/HPC/Network

Digital Management & Ecosystem

- Data Ecosystem Platforms
- GIS Portals
- Interactive Visualization
- Cloud Computing
- Data Governance
- Encryption and Cyber Security
- AI/ML Best Practices
- Augmented and Virtual Reality
- New Business Opportunities

Data Handling & Formatting

- Data Architecture
- Data Loading
- Digitization & Conversion of Unstructured to Structured Data
- Rock Digitalization
- Data Compression & Resampling

Data & Knowledge Libraries

- Information Mining
- Data Standardization
- Data Universe
- Regional Analogies & Benchmarking
- Algorithms Network Management

THEME 2

DATA PROCESSING & ANALYSES

Borehole Processing & Analyses

- Petrophysics
- Geology (Sedimentology/Stratigraphy)
- Geomechanics
- Geochemistry

Geophysical Processing

- Seismic Preprocessing & Imaging
- Seismic Conditioning
- Non-Seismic Processing
- Full Waveform Inversion
- Velocity Model Building

Digital Rock Analyses

- Rock Description & Classification
- Rock Analyses
- Rock Physics & Mechanics

Geophysical Interpretation and Integration

- Faults & Fractures
- Seismic Attributes
- Inversion
- Seismic Facies
- Litho-Petro-Elastic Probabilities

THEME 3

DATA INTEGRATION & BUSINESS APPLICATIONS

Integrated Exploration Processes

- Playfairway/CCRS Mapping
- Regional Gross Depositional Environment (GDE) Mapping
- Sequence Stratigraphy
- Petroleum System Analysis
- Prospect Generation and Risking

Integrated Earth Modeling

- Basin Modeling
- Sweet Spot Mapping
- Reservoir Modeling
- Mechanical Earth Modeling
- Coupled Properties Modeling

Robust Reservoir Management

- Field Development
- History Matching & Forecast
- Reservoir Monitoring
- Reservoir Simulation
- Resources & Reserves Assessment
- Petroleum Economics

Optimized Operations

- Well Planning & Positioning
- Geosteering
- Surveillance
- Completion & Stimulation
- Injection
- Remote Sensors

Sustainable Energy

- CCUS
- Underground Storage
- Geothermal
- Waste Management

For any questions with regards to the CALL FOR ABSTRACTS process, please contact:

 contact@geo4event.com