

OVERVIEW:

Digital transformation has become a catalyst for progress and innovation, reshaping the energy sector with cutting-edge technologies and methodologies. By harnessing the power of digital enablers such as machine learning/artificial intelligence (ML/AI), cloud computing, automation, elastic compute, data analytics, and connectivity, geoscientists and engineers can perform tasks faster, more efficiently, and with greater accuracy, making informed decisions with reduced risk. As these teams continue to embrace digital transformation, it is crucial to share, explore and assess the potential for further advancements, foster collaboration, and expand knowledge to address challenges in the energy sector.

The “Digital Transformation in Energy” symposium serves as a premier forum, gathering industry professionals, technology innovators, and sustainability advocates to showcase and discuss the application of key digital technology enablers across geoscience and engineering workflows. The primary objective of this symposium is to facilitate knowledge sharing and collaboration among professionals exploring and implementing digital technology in geoscience and engineering. We will explore diverse perspectives, discuss advantages and limitations, compare results, and debate emerging approaches of digital enablers in these domains.

The committee invites experts to share their work on digitization in geoscience and engineering across a broad spectrum of topics, including case studies, research findings, proof of concepts, and brilliant innovative ideas. These contributions should demonstrate the impact of digital technologies on increasing efficiency, productivity, and enabling informed decision-making with reduced risk. Sharing such valuable work will provide insights and generate ideas to help researchers and professionals innovate further, tackle complex challenges, and make significant contributions toward a sustainable and resilient future for our planet.

ABSTRACT TOPICS:

- Data Acquisition & QC – Geophysics (Seismic/Non-seismic), Borehole (Logs & Images), Satellite Images & Remote sensors, Virtual Outcrops, Mechanization and Automation, AI-based data QCing
- Data Handling & Formatting – Data Architecture, Data Loading, Digitization & Conversion of unstructured to structured data, Rock Digitalization, Data Compression & Resampling
- Data Infrastructure – Data Centers, Digital labs, Cloud, Storage/HPC/Network
- Data & Knowledge Libraries – Information mining, Data Standardization, Data universe, Regional Analogies & Benchmarking, Algorithms Network Management
- 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

- Borehole Processing & Analyses – Petrophysics, Geology (Sedimentology/ Stratigraphy), Geomechanics, Geochemistry
 - Digital Rock Analyses – Rock Description & Classification, Rock Analyses, Rock Physics & Mechanics
 - Geophysical Processing – Seismic Preprocessing & Imaging, Seismic Conditioning, Non-seismic Processing, Full waveform Inversion, Velocity Model Building
 - Geophysical Interpretation and Integration – Faults & Stratigraphy, Fractures, Seismic Attributes, Inversion, Seismic Facies, Litho-Petro-Elastic Probabilities
 - 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, Wind, Underground Storage, Geothermal, Waste Management
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WHO SHOULD ATTEND:

- Geoscientists & engineers (Petrophysics, Geophysics, Geology and Modeling, Reservoir engineering, Drilling)
 - Sub-surface and operations
 - Digital transformation teams
 - Academia
 - Service companies, Cloud providers
 - Data management
 - Data scientist
 - Infrastructure engineers
 - R&D
 - Sustainability experts
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ABSTRACT FORMAT

Max 2 page abstract + 1 figure, single column

Abstracts should include sufficient details for the committee to judge the quality of the submitted work. Abstracts should be a minimum of 1 page, text plus 1 figure, with a maximum of 2 pages. Abstracts should be on 8.5 x 11 inch paper size, text in Roman font, and include both text and figures. Title should be one or two lines, at the top of the page, in bold font, and size 12 point. Authors should be listed in Roman italic font, size 10 point, and located just below the title. All text must stay 1 inch clear of the margins of the page. Submissions should be in Adobe Acrobat PDF format.

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