

Under the Patronage of  
His Royal Highness Prince Khalifa bin Salman Al Khalifa  
Prime Minister of the Kingdom of Bahrain

# GEO 2018

13<sup>th</sup> Middle East Geosciences  
Conference and Exhibition

CONFERENCE:

**5 – 8 March 2018**

EXHIBITION:

**6 – 8 March 2018**

BAHRAIN INTERNATIONAL EXHIBITION & CONVENTION CENTRE

## CALL FOR ABSTRACTS

SUBMISSION DEADLINE: **22 June 2017**

CONFERENCE THEME:

**Pushing the  
Technical Limits:  
Shaping the Energy  
Landscape**

**GEO2018.com**

CONFERENCE CHAIRED BY



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EXHIBITION ORGANISERS



CONFERENCE ORGANISERS



## INTRODUCTION

# FROM THE CHAIRMAN

ON BEHALF OF THE **GEO 2018** EXECUTIVE COMMITTEE, IT GIVES ME GREAT PLEASURE TO INVITE YOU TO JOIN US IN BAHRAIN FOR THE 13<sup>TH</sup> MIDDLE EAST GEOSCIENCES CONFERENCE AND EXHIBITION.

The GEO conference and exhibition is always considered to be an inspirational gathering that industry professionals look forward to, to enhance the Middle East's hydrocarbon resource development. The diversity of the audience background and experiences will enable a new thought horizon that will lead to a new energy generation.

We are confident that **GEO 2018** will be a conference which will provide wide opportunities to address current challenges and indicate upcoming prospects. The conference will bring together geoscientists and petroleum engineers along with the industry's senior management and government officials.

The conference will host a number of executive sessions led by technical influencers and we encourage you to take this opportunity to participate and share your valuable ideas and knowledge. The conference will focus on geological studies, reservoir challenges and the role of geoscience in the environment, safety, risk management and innovation.

We are certain that **GEO 2018** will be an extraordinary platform which will provide you with unlimited benefits and will open new frontiers for the current oil industry challenges. We look forward to seeing you all in Bahrain to exchange thoughts and ideas that will generate remarkable initiatives and contribute in driving the industry forward.



**Ahmad Al Eidan**

Deputy CEO - Drilling & Technology Directorate  
*Kuwait Oil Company*

General Chair  
**2018 GEO Conference and Exhibition**

**GEO is the Middle East's pre-eminent event for presenting and learning about new developments, applications, geology as well as geophysics and for networking with friends and industry experts.**

## FROM THE CONFERENCE ORGANISERS

Under the leadership of Conference Chairman **Ahmad Al Eidan**, *Kuwait Oil Company*, and the Executive and Technical Programme Committees, the *American Association of Petroleum Geologists (AAPG)*, the *European Association of Geoscientists and Engineers (EAGE)* and the *Society of Exploration Geophysicists (SEG)* invite you to participate in the **GEO 2018** technical conference. **GEO 2018** will provide a dynamic and relevant science and business exchange for thousands of geosciences professionals across the region and beyond.



## EXHIBITION

Parallel to the conference, an extensive exhibition will take place at the Bahrain International Exhibition and Convention Centre. A diverse collection of exploration and development products, services, technology and techniques will be on display with more than 150 stands.



# SUBMITTAL INSTRUCTIONS

All abstracts are to be submitted under a technical category. There is a character limit of 2,500 characters for the text of your submitted abstract. Please submit all abstracts, whether oral and/or poster online at **www.geo2018.com** by following the instructions. The deadline for abstract submissions is **22 June 2017**. The conference organisers wish to remind you that at least one author from each submission accepted for the **GEO 2018** technical programme is expected to register for and attend the conference at their own expense.

**Submit your  
abstract online at  
[www.geo2018.com](http://www.geo2018.com)  
before 22 June 2017.**



## NEED MORE INFO?

For further information or assistance with submitting your abstract, please contact:

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### THEME 1:

#### RESERVOIR CHARACTERISATION: SILICICLASTIC, CARBONATE AND MIXED

Comprehensive understanding of the subsurface reservoir is key to optimise the reservoir production, extend its lifetime and maximise its ultimate hydrocarbon recovery. The aim of this theme is to attract presentations, both oral and poster, related to reservoir characterisation in carbonate and siliciclastic reservoirs. Industry and academia experts are invited to share their latest ideas, project results and insights on a wide range of disciplines linked to reservoir characterisation. Submitted abstracts are expected to cover but not limited to the following topics:

- Innovations and Technology Applications in Reservoir Characterisation
- New Trends in Reservoir Characterisation
- Role of Enhanced Reservoir Characterisation in Well Placement and Geosteering
- Advances in 3D Numerical Reservoir Modelling
- Integration of Outcrop and Subsurface Characterisation
- Lithofacies, Diagenesis and Reservoir Quality Prediction
- Faults and Fractures Characterisation and Modelling
- Reservoir Compartmentalisation
- Reservoir Geomechanics
- Reservoir Characterisation and Modelling
- Reservoir Monitoring
- Improved Recovery and Productivity from Reservoirs
- Case Studies

### THEME 2:

#### ADVANCES IN SEISMIC ACQUISITION AND PROCESSING

With the on-going improvements in industry related technologies, seismic has its share of advancements and progressive applications spanning exploration, production, geotechnical and environmental. This theme aims to draw attention to various subjects related to advanced seismic acquisition and processing techniques that can help in overcoming some of the most common challenges in this field. Experts from both academia and industry sectors are invited to showcase their relevant work in this subject. The submitted abstracts are expected to cover but not limited to the following topics:

- Advances in Seismic Acquisition and Processing
- Near Surface Challenges
- Deep Imaging
- Depth Imaging
- Broadband Seismic
- Multicomponent Seismic
- Simultaneous Seismic Data Acquisition
- Passive Seismic Monitoring
- Automation in Seismic Acquisition and Processing
- Passive Seismic Imaging
- Case Studies



### THEME 3:

#### ADVANCES IN SEISMIC INTERPRETATION

Seismic interpretation is the foundation to any exploration programme. In recent years, there have been significant advancements in seismic technology, interpretation and visualisation techniques and advanced attribute analyses. This theme aims to track development and advancement and practical application in the industry and academia. The range of topics in this theme is expected to cover applications from frontier to 4D. Seismic interpretation experts from both academia and industry are invited to share their knowledge and expertise on this subject. All submitted abstracts are expected to cover but not limited to the below topics:

- Quantitative Interpretation
- Seismic Inversion, Full Waveform, Multi-Physics and Beyond
- Seismic Characterisation of Reservoirs, Source and Seals.
- AVO, Seismic Attributes and Spectral Decomposition
- Thin Reservoir Detection
- Automation in Seismic Interpretation
- Visualisation
- Fracture Prediction Using Geophysics
- Advanced Geophysical Methods for Reservoir Characterisation
- Velocity modelling
- Fluid and Pore Pressure Prediction Using Geophysics
- 4D Seismic/Time Lapse
- Big Data Handling, Manipulation and Mining
- Case Studies

### THEME 4:

#### ADVANCES IN BOREHOLE SEISMIC

Borehole seismic is the link between geology (from wells) and seismic data. In recent years, several advancements have been made to develop and optimise borehole seismic technology to maximise its application and value. The goal of this theme is to demonstrate some of these advancements in VSPs and passive seismic applications. Industry and academia experts are invited to share their knowledge on the following topics:

- VSP & Well Bore Seismic
- Link between Geology and Seismic
- Borehole Geophysics and Modelling
- VSP Impact on Seismic Processing
- Passive and Microseismic
- Case Studies

### THEME 5:

#### ADVANCES IN NON-SEISMIC TECHNOLOGIES

Over the past years, there have been several advancements on non-seismic and remote sensing technologies. Some of these technologies have proven beneficial in understanding surface and subsurface geology, with various applications on potential field methods. Academia and industry experts are encouraged to share their knowledge, experience, and insights on this subject through the submission of abstracts covering the below topics:

- New Trends and Uses of Gravity and Magnetism in Exploration and Development
- Advances in Electromagnetics
- Advances in Potential Field Methods
- Remote Sensing
- Case Studies

### THEME 6:

#### DATA MANAGEMENT AND INFORMATION TECHNOLOGY

Data is considered the most important pillar of any project or study. With recent technology advancements in IT solutions, networking, and overall connectivity, managing data and maintaining its integrity and security has become a critical mandate of any organisation. This theme aims to address some of the challenges and discuss the opportunities concerning data management in today's high-tech world. Experts from the industry and academia are encouraged to share their knowledge, experience, and insights on all topics related to data management and information technology. The submitted abstracts are expected to cover but not limited to the below subjects.

- Data Management & Integration
- High Performance Computing
- Big Data Handling, Manipulation and Mining
- Advanced Real Time Visualisation
- Clouds for Geoscience
- Reservoir Management Software
- GIS Systems
- Case Studies

### THEME 7:

#### PETROPHYSICS

Accurate petrophysical measurement and analyses are fundamental for understanding the reservoir and its detailed characteristics. Therefore, the objective of this theme is to discuss all topics related to petrophysics and the important role it plays in reservoir characterisation, advanced analysis and applications, and reserves calculations. Experts from the industry and academia are invited to share their ideas, results, and technical insights on various topics related to petrophysics. The submitted abstracts for this theme, should cover but not limited to any of the below topics.

- Advances in Well Logging
- Logging While Drilling (LWD)

- Comparison between LWD and Wireline Logging
- Borehole Imaging
- Advances in Hydrocarbon Saturation Measurement
- Use of Saturation Height in Prediction of Trap Fill for Exploration
- Core Measurement for Unconventional Reservoirs
- Core Measurement for Conventional Reservoirs
- Reserves Calculations and Resource Assessment
- Core to Log Calibration
- Fracture Identification and Analysis
- Low Resistivity Pay
- Normalisation
- Special Core Analysis (SCAL)
- Digital Rock Physics
- Carbonates and Clastics Rock Physics
- Unconventional Rock Physics
- Case Studies

### THEME 8:

#### BASIN MODELLING AND PETROLEUM SYSTEMS

Various and diverse disciplines of geosciences can all be integrated through basin modelling. Recent modelling techniques and advancements in technology have promoted the integration of specialised data types to understanding complex petroleum systems. Basin modelling and petroleum system experts from both academia and industry are invited to share their ideas, case studies, and insights on the subject through submitting abstracts covering but not limited to the following topics:

- Advances in Basin Modelling
- Advances in Geochemistry
- Source Rock Geochemistry
- Basin Evolution and Fill History
- Burial History and Diagenesis
- Generation and Migration History
- Lacustrine and Marine Source Rocks
- Salt-Related Petroleum Systems
- Uncertainty in Petroleum Systems Analysis
- Paleogeographies and GDE Mapping
- Play Fairway Analysis
- Regional Geology
- Risk and Resource Assessment
- Depositional Systems
- Sequence Stratigraphy
- Case Studies

THEME 9:

EXPLORATION DRILLING

Drilling is a vital component for the success of any exploration campaign. With all the challenges associated in drilling frontier basins and wildcat wells, industry leaders have been utilising both past best practices in exploration drilling, as well as employing advanced technologies to convert these challenges to opportunities while attempting to optimise cost. You are invited to share ideas, case studies and experience in respect to exploration drilling. The submitted abstracts are expected to cover but not limited to the below topics.

- Best Practice in Exploration Drilling
- Pre-drill Planning
- Formation Testing
- Optimum Logging and Testing Programmes to Achieve Desired Results in Cost Effective Manner
- Sub-surface Risk (Analysis and Mitigation)
- Managing HP/ HT Reservoirs
- H2S
- Pore Pressure Prediction
- Feedback of Lessons Learned from Past on New Drilling
- Drilling Operational Issues
- Protecting Aquifers
- Case Studies

THEME 10:

HYDROCARBON EXPLORATION

With the continued increase in global demand for energy, oil and gas industry leaders are continuing their exploration journey to discover and deliver more hydrocarbons. In recent years, the horizon for hydrocarbon exploration has been extended beyond the norms by exploiting and developing innovative exploration techniques. Additionally, technology advancements have facilitated pursuing sub-economic play concepts resulting in a number of new discoveries around the globe. Energy leaders, academics and hydrocarbon explorationists are all invited to share their knowledge, creative ideas, and past experiences in this theme. Submitted abstracts are expected to cover the following:

- Risk and Portfolio Management in Exploration
- New Plays in Mature Basins
- New Exploration Concepts
- New Exploration Technologies
- Rejuvenation of Sub-Economic Plays
- New Discoveries
- Offshore Exploration
- Stratigraphy and Sedimentation
- Depositional Systems
- Outcrop Analogues
- Case Studies

THEME 11:

EMERGING UNCONVENTIONAL RESOURCES

Emerging unconventional resources (e.g. tight gas sandstone reservoirs, shale gas, shale oil, heavy oil, coal bed methane, basin centred gas, fractured shale, tar sands, gas hydrates, etc.) are currently targeted for unconventional oil and gas exploration and development in many places around the world including the Middle East. The objective of this theme is to attract the industry and academia to share knowledge related to emerging and developed unconventional plays. The desired abstracts should cover but not limited to:

- Mapping Unconventional Reservoir (Tight Sand, Shale, Carbonate, etc.)
- Sequence Stratigraphy of Unconventional Resource Play (Tight Sand, Shale, or Carbonate)
- Unconventional Reservoirs Characterisation (Tight Sand, Shale, or Carbonate)
- Geomechanics for Unconventional Reservoir
- Unconventional Well Construction and Pad Drilling Practices
- Unconventional Well Completion and Stimulation Practices
- Reservoir Simulation for Unconventional Reservoir
- Production Performance and Resources Estimate
- Economics for Unconventional Resources
- Surface Facilities for Unconventional
- Unconventional Data Statistics and Analysis
- Case Studies

THEME 12:

RIFT BASIN EXPLORATION

With all the advancements in subsalt/basalt imaging and deep sea drilling technologies, rift basin exploration is becoming more of an opportunity than a challenge. This theme aims to shed some light on the various technology applications and advanced exploration techniques that facilitated the pursuit of resources in such a complex geological setting. Academics and industry experts are all invited to participate in this theme by sharing their innovative ideas and experience on the subject. The submitted abstracts should cover but not limited to the below topics:

- Subsalt/Basalt Imaging
- Rift Basin Hydrocarbon Plays
- Pore Pressure Prediction
- Managing HP/ HT Reservoirs
- Deep Sea Drilling
- Structural Controls on Rift Basin Formation/ Evolution
- Rift Basin Analogues
- Understanding Reservoir Quality in Rift Basins
- The Role of Volcanics During Rifting
- Case Studies

THEME 13:

HYDROCARBON TRAPS AND SEALS

In any petroleum system, trap and structural components are critical to the overall geological understanding. The objective of this theme is to shed light on the different structural styles and their implications on traps and faults, anywhere from basement plays to conventional structural reliefs. Participants of this theme are encouraged to share their experience, knowledge, and insights on this subject. The submitted abstracts should cover but not limited to the following topics:

- Traps, Seals, Fault and Fracture Networks
- Fault Seals and Risk Assessment
- Folded Belts
- Fractured Reservoirs
- Fractured Basement Plays
- Inversion-Related Traps
- Salt Tectonics and Related Traps
- Sub-Basalt Traps
- Stratigraphic Traps
- Technology to Unravel Stratigraphic Traps
- Stratigraphic Traps Closure Definition
- Hydrodynamic Traps

THEME 14:

INTEGRATED CASE STUDIES

The integrated case studies theme will give the opportunity for experts to share their latest ideas and project results on work that combine different themes.

THEME 15:

GEOSCIENCES FOR OTHER APPLICATIONS

In today's economy, academia and industry experts are redefining geosciences through different applications. Beyond the oil and gas world, geosciences are being used for social projects, mining, geo hazards, and renewable energy. The aim of this theme is to show application of geosciences technologies in non-oil and gas industries. The submitted abstracts should cover but not limited to the below topics:

- Social Responsibility
- Mining Industry
- Risk Assessment
- Geo Hazards
- Geothermal
- Waste Management
- Renewable Energy
- Carbon Sequestration
- Case Studies



## EXECUTIVE COMMITTEE

### Conference Chairman

Ahmad Al Eidan KOC

### Members

Ahmed Al Riyami	ADMA-OPCO
Mahmoud Abdul Baqi	ARGAS
Peter Bartlett	BAPCO
Shaoqing Sun	C&C RESERVOIRS
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Mohammed Badri	SCHLUMBERGER
Hisham Zubari	TATWEER PETROLEUM

## TECHNICAL PROGRAMME COMMITTEE

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Ahmed Hakarni	SAUDI ARAMCO

### Members

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Yahya Al Ansari	BAPCO
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Najla Nedham	TATWEER PETROLEUM
Friso Veenstra	TNO

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