

# 2ND EDITION MAXIMIZING ASSET VALUE

22-25 FEBRUARY 2021

INTEGRATING GEOSCIENCE WITH RESERVOIR  
MANAGEMENT & TECHNOLOGIES OPTIMIZATION  
– AN AAPG VIRTUAL EXPERIENCE –

virtual

WORKSHOP  
BROCHURE



## WHAT TO EXPECT FROM THE AAPG VIRTUAL EXPERIENCE

Due to the ongoing travel restrictions and differing guidelines from companies and organizations, the AAPG Maximizing Asset Value GTW will now be taking place virtually from 22 – 25 February 2021 and then on-demand anytime, from anywhere, and from any device for the next 2 months. The workshop will provide the best opportunity to safely connect with industry colleagues and peers while travel restrictions, social distancing, and health concerns persist. The new dynamic all-digital platform makes it simple for you to access all the great science, networking, and technology to help you stay on the cutting edge of petroleum geoscience. Our businesses and industry are experiencing difficult times, but overcoming obstacles is what explorers do – so let's do it together.

Benefits of our virtual events:

- Easily view the live presentations, ask questions and chat with other attendees
- Easily access the technical program and details of each presentation
- View the profiles of each presenter
- Participate in breakout discussion sessions
- Networking with other attendees and schedule one on one meetings
- Access to all the presentations for up to 2 months after the workshop
- Access to a dedicated sponsorship page
- Digital delegate bag and certificate of attendance

## WORKSHOP OUTLINE

The oil and gas industry supplies a market that has been volatile, more so in the last decade. Between competing suppliers, global financial troubles and a global pandemic, oversupply and erosion of demand have become mainstay. The industry needs to demonstrate that it can maintain the value creation proposition in the face of fluctuating hydrocarbon prices. Adopting new strategies to better characterize the subsurface, increase recovery, drive down development costs and maximize product value through the use of discipline integration, field optimization, as well as implementation of cutting-edge technologies is now a must for the industry. Subsurface to surface integration offers a better strategy when chasing new oil and gas resources with high cost and long development time or enhancing the performance of mature fields. Improvements in existing optimization workflows and practices in both conventional and unconventional field development will prove effective at driving down costs by utilizing multi-disciplinary approaches in the integration of processes.

The objective of the workshop to drive a further discussion of integration processes between geoscience, engineering, and technology deployment through examining the industry's case studies across multiple disciplines. The workshop also aims to highlight the improvements made in the topic over the last two years across both conventional and unconventional field development.

The workshop will attract experts from various disciplines to talk and share their experience and knowledge in topics covering:

- Field optimization lessons applied to conventional and unconventional fields
- Subsurface to surface collaborative planning and integration
- Exploring new fields versus optimizing existing fields, a cost driven discussion
- Workflow and technologies advancement

## WORKSHOP GUIDELINES

### FORMAT

The workshop will be 4 half days, consisting of oral presentations, e-poster presentations and breakout sessions where participants can discuss and investigate a specific theme that is of mutual interest. The workshop will commence each day at 12.30pm (Gulf Standard Time) and the first day will feature an inaugural keynote speech by a high-profile professional from the industry.

### ATTENDANCE

Registrations are invited from all relevant disciplines with experience and/or knowledge of the subject areas being addressed in the workshop. Registrations will be accepted on a first-come, first-served basis.

### CALL FOR E-POSTERS

You are invited to prepare an e-poster for presentation at the virtual workshop. If you are interested in participating, please send a short abstract to [cnavarro@aapg.org](mailto:cnavarro@aapg.org) by **21 January 2021**. All e-poster presenters will have a dedicated 5 minute session during the technical program to present their work. Attendees will be able to further discuss the e-posters with the presenters via the virtual chat feature throughout the event.

### REGISTRATION TYPES & FEES

Fees are inclusive of access to all the live presentations and on demand presentations for up to 2 months after the event.

- Member Fee: \$495
- Non Member Fee: \$595
- Faculty Member Fee: \$200
- Faculty Non Member Fee: \$250
- Student Member Fee: \$100
- Student Non-Member Fee: \$150

To register please visit: [middleeast.aapg.org](http://middleeast.aapg.org)

### REGISTRATION DEADLINE

To guarantee your seat, please make sure to register by **8 February 2021**.

### CANCELLATION POLICY

AAPG will refund the tuition, less a \$100 processing fee, if the request is received no later than 30 days prior to the workshop. Cancellations must be made in writing. The registrar will accept cancellation notices by telephone, but all such notices must be followed up by fax or e-mail. No refund will be made for cancellations received less than 30 days prior to a workshop being given. Nonpayment of tuition does not constitute automatic cancellation. If no cancellation notice is received by 30 days prior to a workshop, participants are liable for full tuition. AAPG reserves the right to cancel a workshop if enrollment is insufficient to ensure proper effectiveness. Substitutions for individuals can be made at any time. A paid enrollment may be transferred one time to a future workshop if the request is received prior to the 30 day cut-off date.

## TECHNICAL PROGRAM COMMITTEE

**Mohammad Mohanna**  
(Chair) Saudi Aramco

**Ehab Negm**  
Halliburton

**Mark Bentley**  
Heriot-Watt University

**Khalid Al-Ramadan**  
KFUPM

**Talal Al Aulqi**  
OXY Oman

**Clay Kurison**  
Saudi Aramco

**Pan Luo**  
Saudi Aramco

**Adrian Crawford**  
Shell

**Ke Ke**  
SINOPEC

**Abdulkarim Al Ali**  
Tatweer Petroleum

## SESSIONS DESCRIPTIONS

### DAY 1 MONDAY 22 FEBRUARY

#### SESSION 1: SUBSURFACE TO SURFACE COLLABORATIVE PLANNING AND INTEGRATION

One of the major challenges oil and gas operators face during field development is achieving sustainability which can be constrained by failure of engagement between two key expert constituencies: planners/designers and subsurface engineers. The subsurface uncertainties impact production system design which may lead to losing opportunities or being controlled by risks and ultimately impact asset net present value (NPV) for the operator and partners. For that, it is indispensably necessary to introduce collaborative planning and integration workflows to allow better production maximization plans and optimize designed surface system with accommodating capacity without trading off the asset economics. To achieve this, the requirements can be broadly summarized in three aspects. The first involves minimizing uncertainties in reservoir insight using new technologies and/or techniques. The second calls for integrating subsurface activities with multi-disciplinary production or injection system technologies, production process de-bottlenecking, backpressure reduction and other associated processes. The third considers digital oilfield approaches which integrate reservoir and production systems for continuous monitoring of asset performance and production optimization, control of wells and fields and assists in planning for short- and long-term production optimization actions.

This session will focus on sharing new ideas and/or best practices which highlight:

- The subsurface uncertainties challenges and mitigating solutions.
- The impact on surface design and production capacity.
- How the collaboration between both parties can help maximize asset NPV.

### DAY 2 TUESDAY 23 FEBRUARY

#### SESSION 2: FIELD OPTIMIZATION LESSONS APPLIED TO CONVENTIONAL AND UNCONVENTIONAL FIELDS

More and more oil and gas organizations are looking into ways to better optimize their conventional and unconventional fields with the use of advanced technologies and workflows. Motivation has come from a multitude of industry examples with one of these being the success in improving recovery in unconventional fields and driving down extraction costs. Thus, the widespread interest in feasibility assessments of unconventional fields across the world. Field optimization lessons learned in the oil and gas industry come from the multi-process nature of the sector and highlight the value to drive operations efficiency, optimize production, and maximize hydrocarbon recovery, and expedite decision making. Other optimization opportunities come from mitigation of health, environmental and safety risks in all aspects of field development. In conventional field development, reservoir characterization through integrated approaches allows both geoscientist and engineers to apply their combined knowledge, collaborative efforts, and methodology integration to better optimize the development pathway. In unconventional fields, multidisciplinary teams of geoscientist and engineers tackle challenges related to both shale and tight sand plays development. The lessons learned from such integration in existing fields serve as an example to strive towards continued improvement. The second workshop session will discuss the various optimal development strategies applied in both conventional and unconventional fields. The session will discuss:

- Case studies where geoscience and engineering integration aided reservoir characterization and optimization of field production
- Lessons learned from unconventional field development in conventional fields
- Optimization workflows across both conventional and unconventional in mature fields

### DAY 3 WEDNESDAY 24 FEBRUARY

#### SESSION 3: EXPLORING NEW FIELDS VERSUS OPTIMIZING EXISTING FIELDS - A COST DRIVEN DISCUSSION

The search for new resources is a crucial component of oil and gas companies. To investors and petro-field employees, the resource base of any entity defines its existential outlook and the stability of occupational opportunities. To highlight the significance of these efforts, a review of company disclosure reports is likely to encounter metrics such as reserve replacement ratios and prospective resources. The need to replenish resources has driven global exploration into harsher environments or where bringing products to the market is likely to take years if factors such as transportation costs and long periods of pre-production construction are considered. For years, financial firms and investors have also rewarded the petroleum industry for finding additional resources no matter the timeline of necessary assessments, production, and capital required. However, product volatility and concerns about the potential of stranded resources have of recent changed the valuation philosophy towards short term metrics such as cash flow, profitability, and resource accessibility. Thus, exploration in new areas is more justified if the risk-reward aligns with the aforementioned considerations. To ensure sustainable resource base growth, an opportunity also lies in existing fields where embarking on re-evaluation of bypassed pay with less costly techniques and deployment of technology to increase recovery are some of the options. Given that fossil fuels are likely to remain a considerable component of the global energy supply pie chart, there is need to consider all available opportunities for increasing resource bases, in new and existing fields, while adhering to the arising challenges and concerns.

In this session, the following will be covered:

- Cases where exploration of new fields is pursued in light of current industry conditions.
- Special cases in which cost-effective techniques have been applied to assess by-passed pay.
- Case studies on increasing the value of existing fields through recovery enhancement and other means.

### DAY 4 THURSDAY 25 FEBRUARY

#### SESSION 4: WORKFLOW AND TECHNOLOGIES ADVANCEMENT

Geophysics, geology, geochemistry, geomechanics, petrophysics and the family of engineering offer concepts that aid in reducing subsurface uncertainties and preparation of maps and reservoir models. Associated static and dynamic geo-data becomes crucial for reservoir management and field development. Integrating multidisciplinary teams and technologies facilitates the updating of workflows, thus, bridging geoscience and engineering, and enhancing inter-team communication and collaboration. Innovative technologies and strategies, in hardware and software forms, have historically come from oriented research and development (R&D) in the operator and technical vendor or been adopted from other industries. The new or improved approaches have enabled petro-technical professionals to make accurate reserve estimation, improve imaging of the subsurface and pores, enhance well performance and recovery, reduce operational footprints, and mitigate environmental, health and safety risks. The aforementioned have contributed towards the upstream industry's synergy and resilience in a volatile market with more environmental concerns.

This session will be a platform for demonstrating and discussing:

- Workflows and strategies that integrate multidisciplinary geoscience for reservoir and production engineering optimization.
- Geo-technology innovations and deployment in reservoir and fluid characterization, reservoir management, field development, and near-field discovery.
- Geostatistics, geological models, reservoir modelling and simulation
- Digital transformation and sustainability in oil and gas fields