

EAGE

EUROPEAN
ASSOCIATION OF
GEOLOGISTS &
ENGINEERS



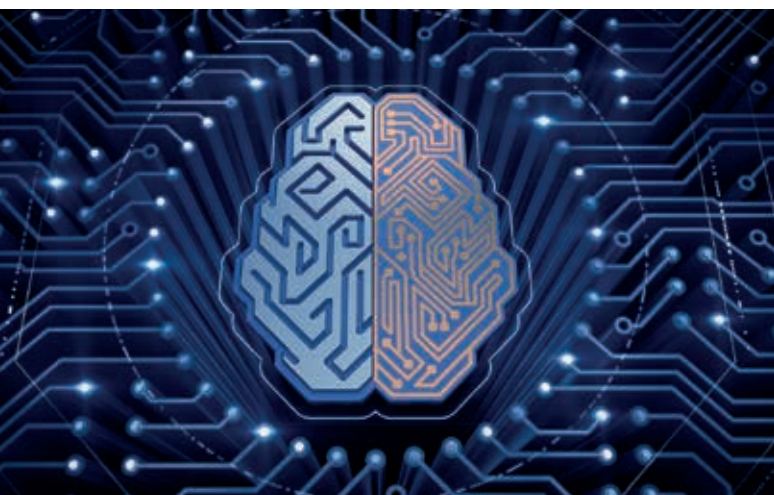
Second EAGE Subsurface Intelligence Workshop

TOOLS OF THE FUTURE... TO EXPOSE THE PAST!

28-31 OCTOBER 2022 • MANAMA, BAHRAIN

- **First Announcement & Call for Abstracts**

WWW.EAGE.ORG



TECHNICAL COMMITTEE

Abdulmohsin Al Mansor (Co-chair)	Saudi Aramco
Mohamed Abdullah (Co-chair)	Tatweer Petroleum
Abdullah Hadab	Saudi Aramco
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WORKSHOP OVERVIEW

As the wheel of time has been spinning faster since the not-so-distant past, human beings are playing catch-up with the disruptive technologies around them. We are using machines to keep up with the rapid evolution of data, machines and knowledge. In an effort to solve complex problems, the level of machine exploitation has reached unprecedented horizons. Using Subsurface Intelligence (SI), we can aim to advance towards new methods and technologies to help us achieve different realizations, answers and point of views of our current reservoir models. Higher accuracy, lower uncertainty and quantifiable outputs have always been highly demanded in our industry to achieve better decision making, in addition to minimizing hours and manpower. Coupling our latest understanding of subsurface physical processes with machine learning, we have a greater chance to meet the demand and deliver on our energy commitments.

Subsurface Intelligence strives to deliver on that objective by harnessing today's technologies and advancements in data science. The pure conventional methods utilized in the last century have been great in defining the obvious targets. However, as easy targets become scarce, we need to be equipped with unconventional and highly efficient tools to explore and develop what couldn't be found with conventional means. The integration between the different data domains in arriving at models and representations of the subsurface is key to unlocking and maximizing their potential.

The fast paced advancements in the AI realm - owing to technology advancements of cloud, HPC and software algorithms - have already penetrated the E&P industry in multiple domains. The geoscience applications utilizing these technologies are progressing and will require a workforce with an entirely new skill set, to be able to design and implement such solutions. Upgrading the conventional approaches with the new advancements and constraining solutions has become more important than ever before. Understanding uncertainty in domain data as well as the methods used will be key to ranking models and determining the level of SI reached.

The Second EAGE Subsurface Intelligence Workshop aims to bring together bright minds from E&P Companies including NOC's, ICO's and service companies together with Academia and young professionals to engage in discussions, exchange ideas and experiences to jointly discuss the state of advancements today and align plans for the future. As part of the workshop, all attendees will have a chance to take part in the EAGE GeoHack: a two-day coding, problem solving and social hackathon on 28-29 October. The deadline to submit abstracts for the workshop technical programme is **15 May**, and the technical committee welcomes submissions on a wide range of topics.

TOPICS

- **State of AI in the geosciences**
 - Advancements in workflows/processes
 - Disruptive technologies available today (cloud, HPC etc.)
- **AI in the seismic domain**
 - Advancements, applications and impacts in the reservoir characterization
 - Inversion related AI updates (post/pre stack)
- **Integration of physics and data-driven approaches in geoscience**
 - Coupling physical processes to design & refine ML solutions
- **Uncertainty in AI methods used for reservoir characterization**
 - Methods and applications of quantifying uncertainty
- **Data management for AI/ML**
 - Structured vs unstructured data utilization
 - Data governance and information management
- **Case Studies**
 - **Uses and applications of SI**
 - In the exploration phase
 - In reservoir characterization
 - In real-time operations
 - In static/dynamic model building
 - Underground storage
 - **Lessons learned**

Deadline to Submit: 15 May 2022!

GEOHACK

28-29 October

Focusing on solving big data geoscience problems in the energy industry, the GeoHack is a highly anticipated hackathon event. The aim is to bring together machine learning enthusiasts, students, geoscientists, and industry specialists to exchange ideas and develop solutions to the many complex earth imaging problems the industry is faced with.

The GeoHack will facilitate a suitable atmosphere where software developers, engineers and geoscientists will spend intensive hours to hack, test and experiment with the latest advancements in machine learning algorithms against subsurface data such as seismic, logs, cores, to solve data mining, geological interpretation and quantitative reservoir characterization problems. It is a great opportunity for companies to benchmark machine learning algorithms performance, expose the most promising technologies, and understand successes and pitfalls in machine learning.

The driving force behind the GeoHack:

- We want to build the machine learning community focused on solving geoscience problems
- We want to think out-of-the-box! Solutions may be inspired by processes from outside of the oil & gas industry.
- We encourage diversity in teams! Mentors, experts, novices, geoscientists, students are very welcome to offer and test new ideas.
- We love open source software and open source data!
- We encourage industry collaboration, entrepreneurship and innovative startups

GeoHack participation is included for all workshop attendees. If you are interested in attending only the GeoHack, please get in touch via middle_east@eage.org.



IMPORTANT DATES

Call for Abstracts Close	15 May 2022
Technical Programme Available	1 July 2022
Registration Open	1 August 2022
Early Registration Deadline	28 September 2022
EAGE GeoHack	28-29 October 2022
Workshop	30-31 October 2022

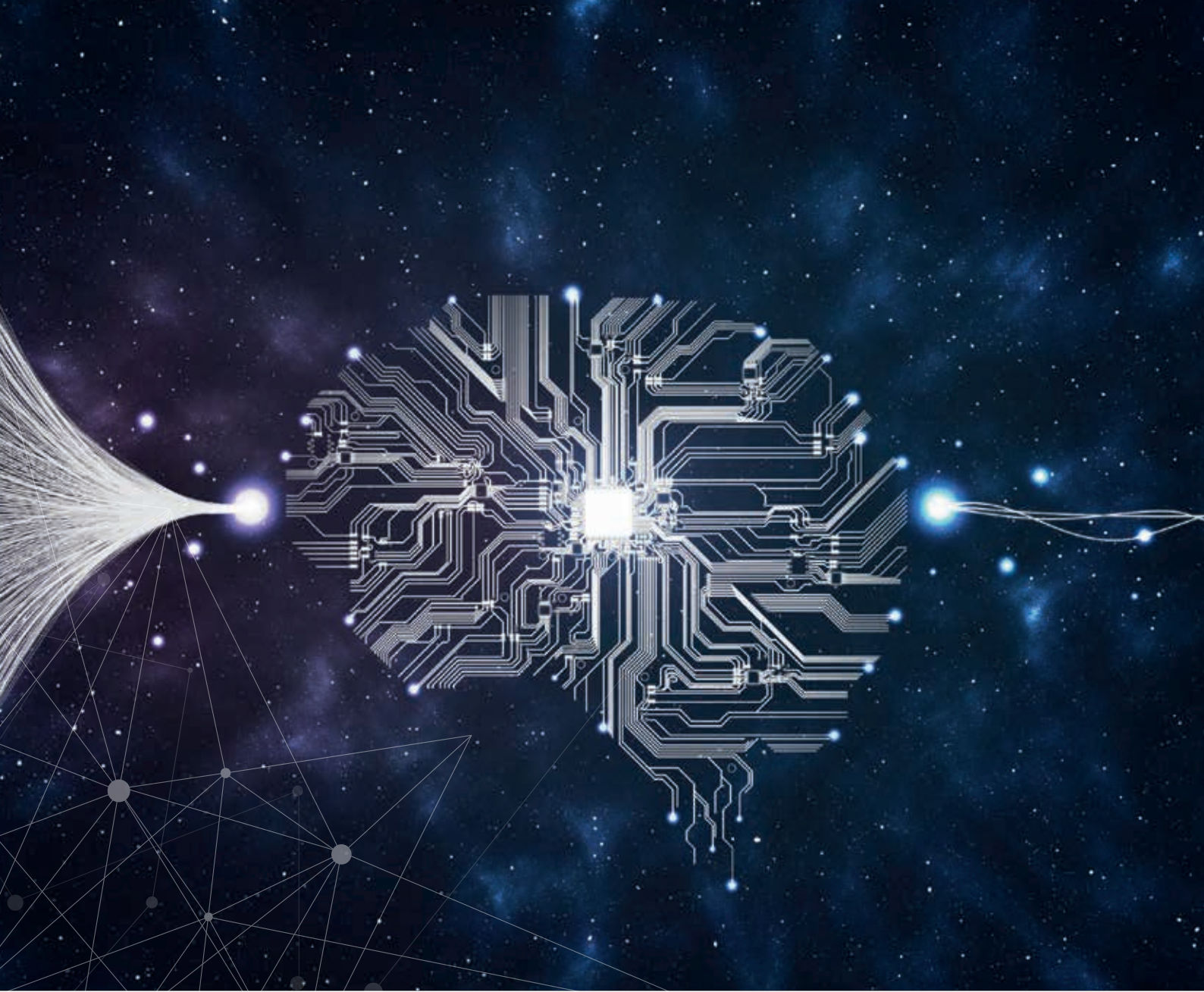
SPONSORSHIP

With an array of unique promotional opportunities available, we can help you design the perfect programme to enhance your company's experience at the Second EAGE Subsurface Intelligence Workshop. EAGE strives to realize recognition, long term exposure, benefits and publicity for companies that sponsor EAGE workshops. Visit the workshop website for a full range of opportunities available.

CONTACT US

For more details on this workshop, reach out to the EAGE MEA team via middle_east@eage.org or at +971 4 369 3897.





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