

**EAGE**

EUROPEAN  
ASSOCIATION OF  
GEOLOGISTS &  
ENGINEERS



# Fifth EAGE Workshop on Rock Physics

**ADVANCEMENTS IN ROCK PHYSICS:  
EMBRACING THE FOURTH INDUSTRY REVOLUTION**

10-12 FEBRUARY 2020 • MILAN, ITALY

- **First Announcement & Call For Abstracts**

[WWW.EAGE.ORG](http://WWW.EAGE.ORG)

## TECHNICAL COMMITTEE

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Michelle Ellis	Rock Solid Images
Kim Senger	UNIS
Simon Payne	Ikon Science
Wael Abdallah	Schlumberger
Ammar ElHusseiny	KFUPM
Reza Saberi	CGG

## WORKSHOP OVERVIEW

Following the success of the previous editions, EAGE is planning a fifth Rock Physics workshop to take place in Milan from 10-12 February 2020. The workshop will be a great opportunity to gain insight on the recent advances in rock physics modelling and its applications in exploration, development and reservoir monitoring. As rock physics becomes an ever more important part of integrated modelling and interpretation workflows, this workshop will focus on the interaction with other disciplines and geophysical domains, as well as on some key trending aspects in rock physics modelling such as anisotropy, uncertainty and modelling of tight and fractured rocks. This workshop will also look ahead at how artificial intelligence techniques will impact the current industry practices and help overcoming some of the key challenges faced by the rock physics community today.

## TOPICS & TECHNICAL SESSIONS

### Geomechanics + Pore Pressure Prediction

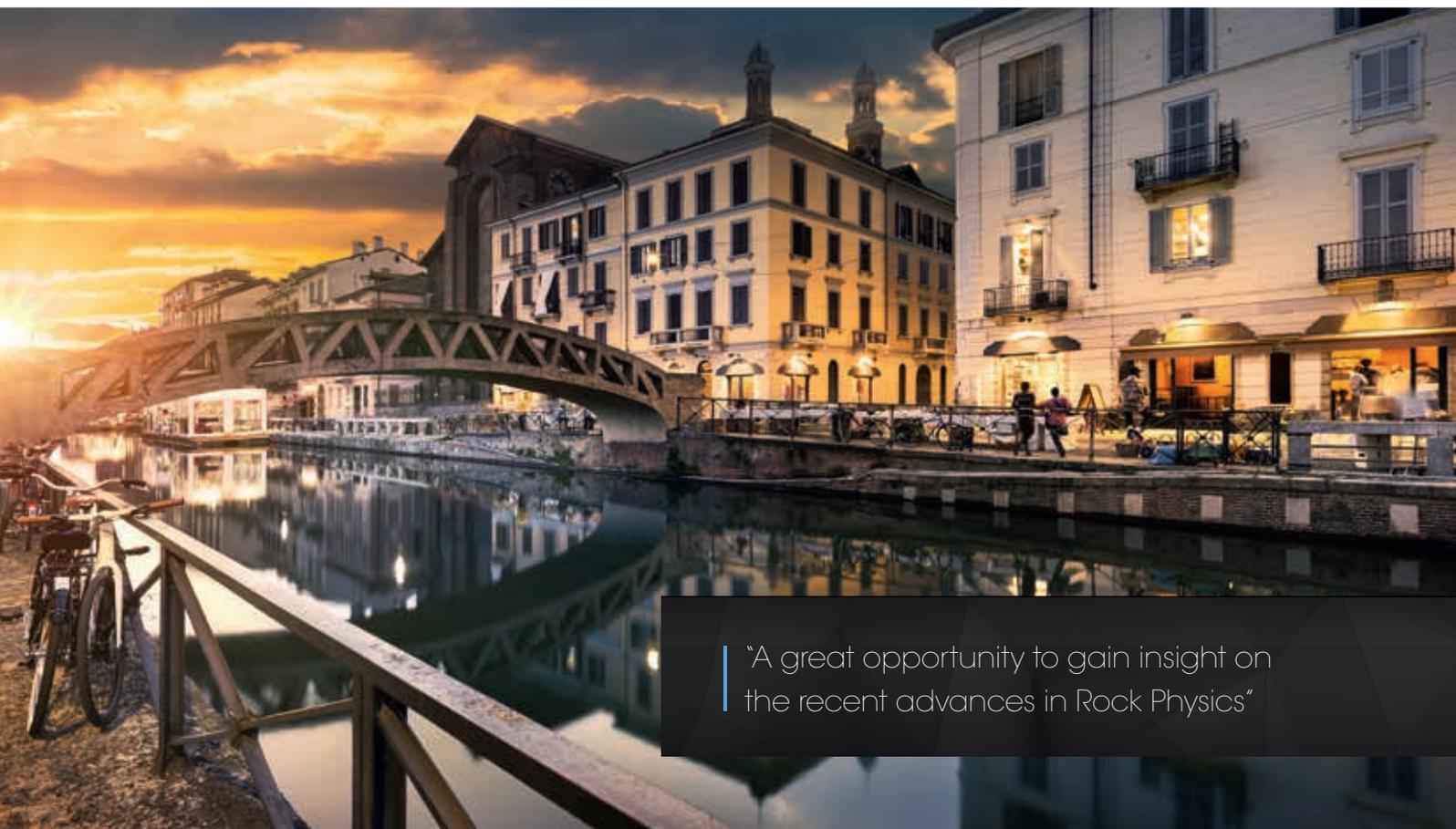
The stresses imposed on a rock have an important control on the production and depletion of a reservoir. In this section, we invite submissions that describe research or case studies to understand: (a) the influence of pressure and stress on the rock's elastic properties, or, (b) how the elastic properties can be used to characterize the stress state of the reservoir.

### Unconventional Resources

The exploration and development of unconventional resources, such as shale and tight sands, encounter several challenges including: reservoir characterization, fractures initiation and monitoring, well bore integrity and anisotropy. We seek contributions that focus on the role of rock physics in tackling the above challenges and aim to improve our understanding of the transport and elastic properties of shale/tight sand. Theoretical, experimental and digital rock physics investigation as well as field-scale studies are all welcomed.

### Artificial Intelligence / Machine Learning

With the rise of the 4th industrial revolution, there has been a tremendous development in AI science and new ML technique being introduced periodically. Therefore, it is inevitable for these techniques to be utilized in rock physics due to the vast amounts of data acquired and the increased reservoir complexity with number of the rock physics models and their applications. We seek contributions that showcase the utilization of AI techniques that can optimize and improve the results of the rock physics analysis, increase interpretational efficiency, as well as reduce the risk associated with prospect generation.



“A great opportunity to gain insight on the recent advances in Rock Physics”

### Integration of Multi-Physical Data

Rock physics provides an important link between multi-physical data sets, both in the context of joint inversion and joint interpretation. We solicit contributions that integrate various data sets, including seismic, EM, gravity and magnetics, to reduce the interpretation uncertainty and exploit the synergies that the complementary data sets offer.

### Quantitative Seismic Interpretation & Uncertainty

Quantitative Seismic Interpretation (QSI) methods utilizes rock physics to link the reservoir properties to the seismic data and also aims in quantifying the associated reservoir uncertainties (i.e., rock type, fluid content, etc.) by utilizing probabilistic or statistical methods. These methods allow us to integrate different data types and model scenarios not necessarily encountered in the wells, which in turn, will help in reducing the risk associated with the uncertainties prior to drilling new wells. In this section, we invite submissions showcasing the quantification of uncertainties and its impact on exploration decisions.

### Experimental Rock Physics

This session seeks abstracts that discuss the use of experimental geophysical techniques such as velocity and conductivity measurements for the characterization of the petrophysical and the geomechanically properties of rocks and their effect on formation stress and rock-fluid interactions. We also encourage abstract submittals that combines laboratory measurements for building inversion models and upscaling scheme.

### EOR and Time-Lapse Rock Physics

One critical aspect of reservoir management is understanding the formation behavior during production. When enhanced oil recovery techniques such surfactant or gas injection or even steam in the case of heavy oil are used, the changes in saturation and pore fluid pressure for example affects fluid properties and the fluid-rock interactions. Tracking such changes using time-lapse geophysical methods have shown promising aspects in monitoring the reservoir performance. In this session, we seek contribution from the technical communities to present successful cases using conventional and advanced geophysical techniques in addition how machine learning can help maximizing the value of time-lapse data interpretation.

Contributors are welcome to submit an abstract of 2-4 pages in length. Submission for posters & oral presentations is welcome on all topics mentioned. Students and Academia professionals are also invited to submit abstracts. All abstracts should be submitted via the EAGE website using the downloadable template. The deadline for abstract submission is 30 September 2019.



### IMPORTANT DATES

Call for Abstracts Open	1 March 2019
Call for Abstracts Close	30 September 2019
Registration Open	1 September 2019
Registration Close	3 February 2020

### SPONSORSHIP OPPORTUNITIES

With an array of unique promotional opportunities, we can help you design the perfect programme to enhance your company's experience at the **Fifth EAGE Workshop on Rock Physics**. The sponsor opportunities include a variety of options to suit all budgets. When you're a corporate sponsor of EAGE workshops you get high visibility in a qualitative and uncluttered environment that makes your message stand out. EAGE are synonymous with quality and proven track records in the past. Contact our Middle East office for more information on how to support this workshop.

### CONTACT US!

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