EAGE

EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS

# 2nd EAGE Workshop on Fiber Optic Sensing for Energy Applications

5-7 DECEMBER 2022 • KUALA LUMPUR, MALAYSIA

- **First Announcement**

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## ABOUT THE WORKSHOP

Energy Transition is calling for an accelerated uptake of digital solutions to improve operational efficiency, to boost profit margins and to create sustainable value propositions in new and existing energy value chains. One key initiative underpinning these objectives is to instrument industrial assets with advanced sensor systems. These sensors produce high-fidelity data which can be transformed digitally to insights improving asset performance and reducing operational risk and cost.

Distributed fiber-optic sensing (DFOS) technology has a huge disruptive potential as it can provide a range of measurements from a single fiber-optic cable. DFOS measures physical parameters along the fiber length by sending laser pulses into it and analysing the returning scattered light at various frequencies. Range of measurements which can be derived includes acoustics, temperature, static and dynamic strain, vibration, components of electromagnetic field and even chemical composition of the medium.

Optical fibers packaged in different cables can be deployed in deep wells, conduits, directly buried in the ground, laid on the sea floor or attached to different objects. Relatively low cost, minimal space requirements, easily deployable and ability to withstand harsh conditions make optical fiber a very versatile sensor with multiple different applications, like seismic imaging and monitoring, hydrocarbon production and hydraulic stimulation monitoring, surface platform and plant facilities, pipeline and railway surveillance, and many others.

The EAGE Workshop on Fiber Optic Sensing for Energy Applications in Asia Pacific will focus on recent developments in the area, including high-value use cases and technology drivers. We aim to bring together current and prospective technology end-users and problem owners, sensor hardware researchers tools, fibers, cables, interrogators and application experts for seismic imaging, downhole monitoring, etc. The workshop is designed to cater for professionals engaged in Energy Transition, this being from oil and gas, coal industry, CCUS and other linked areas, including geoscientists, geophysicists, reservoir engineers, well completion, data scientists and civil engineers.

## SUBMISSION TOPICS

### Topic 1: Advances in Fiber Optic Sensing

- Nature of Acoustics, Temperature, Strain and Pressure Measurements: Pushing the limits
- Conventional Standards vs Dedicated Specialty Cables / Fibers
- The Art of Making Successful FO Cables- Fiber: How We can Deploy it?
- Progress in Hardware and Software/Signal Processing
- Data Analytics, IOT and New Energy
- Advances of Rayleigh, Brillouin and Raman Backscattering
- Dosimetry and Interferometric Sensors
- Electromagnetic and Nano Coated Sensors
- Forward Modeling i.e. Acoustic, Elastic, Fracture-Advances on Laser Technology
- Advances in Signal to Noise and Resolution

### Topic 2: Emerging Applications for Energy Transition, CCS, Hydrogen and Geothermal

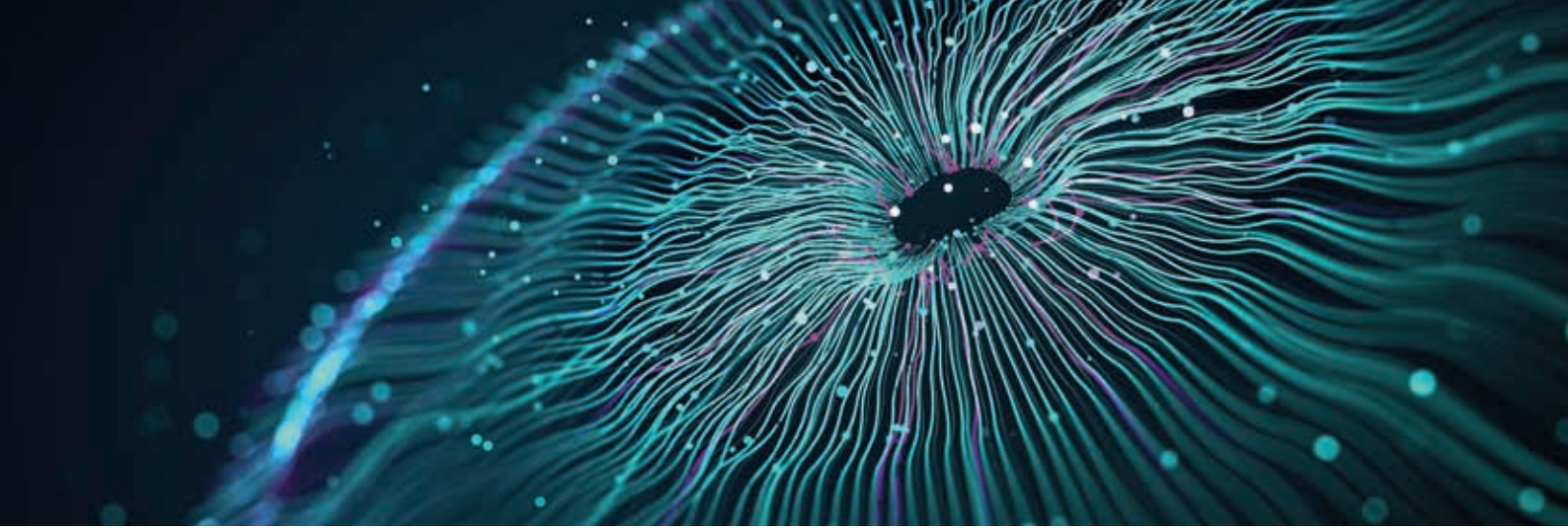
### Topic 3: Imaging and Monitoring

- Land and Marine Applications
- Borehole Seismic- Microseismic and Fluid Induced Seismicity, Hydrofracking Monitoring
- Passive Seismic
- Permanent Monitoring
- Unconventional Play
- Flow Profiling
- Real Time Reservoir Monitoring, Surveillance and Optimization
- Velocity Model Building and Seismic Imaging
- Acoustical, Thermal and Pressure Imaging

### Topic 4: Downstream, Construction, Civil Engineering

- Applications for E&P Surface Plants and Platforms Facilities
- Pipelines Monitoring
- Security and Surveillance
- Roads, Railroads and Conveyors

### Topic 5: Field Applications and Field Studies



## TECHNICAL PROGRAMME COMMITTEE

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| Dr. Ahmad Riza Ghazali (Chairman) | PETRONAS GR&T |
| Prof. Roman Pevzner (Co-Chairman) | Curtin University |
| Dr. Timur Zharnikov | Aramco Research Center Moscow |
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| Paul Phythian | Chevron |
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| Dr. Nader Issa | Terra15 |
| Michel Verliac | TotalEnergies |
| Dr. Muhammad Imran Mustafa Abdul Khudus | Universiti Malaya (UM) |

## KEY DATES

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| Call for Abstracts Deadline | 30 June 2022 |
| Registration Open | 8 July 2022 |
| Earlybird Registration Deadline | 24 October 2022 |
| Registration Deadline | 2 December 2022 |


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