## SEG

Next Generation Geophysical Land & Shallow Water Acquisition Workshop

23–25 Apr '24 • Muscat, Oman



# **TECHNICAL PROGRAMME**

#### **SPONSORS**

### DAY 1 - TUESDAY 23 APRIL 2024

Venue: JW Marriott Muscat Grand Ballroom A + B

DIAMOND سَتَرَكَةُ تَتَمَيْهَ تَقَطَعُ عَمَان Petroleum Development Oman	07:30 - 08:30 08:30 - 08:35 08:35 - 08:45 08:45 - 08:55 08:55 - 09:15 09:15 - 09:35	Registration Open Onsite HSE Address by Hotel Welcoming by Co-chairs Welcoming by SEG Day 1 Opening by Petroleum Development Oman Opening Address by Aiman Bakhorji - Director of Imaging, Saudi Aramco	
aramco 📉	Session 1 09:35 - 10:55	SURVEY EVALUATION AND DESIGN: PART 1 Session Chairs: Ghada Almoulani (Tatweer Petroleum), Amine Ourabah (STRYDE)	
		Compressive Sensing Testing and Ultra-Dense Survey Design David Arnold (ADNOC) Compressive Sensing and Mutual Coherence Calculation. An Alternate Approach Using Adequately Constructed Time (ACT) David Ridyard (ACTeQ) Old and New Ideas for 3D Land Seismic Acquisition Geometries Jan de Bruin (BGP) Optimizing Onshore Seismic Acquisition based on Risk, Costs, HSE and	
DOP	10:55 - 11:25	Data Quality Dave Monk (ACTeQ) Discussion - 30 min	
SILVER	11:25 - 11:35 11:35 - 11:45 11:45 - 12:00	Committee and Sponsor Recognition Group Photo Coffee Break - 15 min	
Bapco energies	Session 2 12:00 - 13:20	SURVEY EVALUATION AND DESIGN: PART 2 Session Chairs: Ghada Almoulani (Tatweer Petroleum), Amine Ourabah (STRYDE) Illumination Study, Kirchhoff Modelling and Resolution Evaluation for a	
DELEGATE GIFT		3D Onshore Seismic Survey Nabil Khadiri Yazami (Saudi Aramco) Advancing Seismic Exploration: ENAGEO's Approach for Enhanced Data Quality and Efficiency in Algerian Reservoirs Babaia Foudil (Entreprise Nationale de Geophysique - ENAGEO)	
		Bahrain Transition Zone Seismic Project - Survey Design, Planning and Procurement Workflows and Strategies Christopher Rudling (Tetratech) Efficient 3D Vibroseis Acquisition in Rough Terrain using Lightweight Nodes Jurgen Hoffmann (DNO)	
COFFEE BREAK	13:20 - 13:50	Discussion - 30 min	
	13:50 - 14:50	Lunch - 1hr	
<b>INDVA</b> ®	Session 3 14:50 - 15:50	OBN, SHALLOW WATER AND TRANSITION ZONE Session Chairs: Wathik Alaaraji (TGS), James Nicholas Shorter (Petroleum Development Oman) Impact of Timely Acquisition of High-resolution Seismic Data on a Shallow Water Field Ufuoma Akpomeyoma (Shell) An Integrated OBN Solution for TZ Project Cao Mingqiang (BGP) OBN Program Case History in Congested Fields of Southeast Asia Chotan Anand Karri (SAExploration)	

15:50 - 16:20

17:00 - 19:00

Chetan Anand Karri (SAExploration)

Discussion - 30 min Welcome Reception

07:30 - 08:30	Onsite Registration	
Session 4 08:30 - 09:50	SOURCE AND RECEIVER TECHNOLOGIES: PART 1 Session Chairs: Arjun Selvakumar (Inova Geophysical), Abdelrauof Badawi (ARGAS)	Session 7 15:10 - 16:30
	KEYNOTE: An Overview of MEMS Value for Land and OBN Single Sensor Acquisition and Inversion Nicolas Tellier (SERCEL) KEYNOTE: State of the Art Land Source Solutions for Efficient Seismic	
	Operations Gilles Ollivrin (SERCEL)	
	Evaluation of Seismic Mems-Based Digital Sensors: Field Trials in the Sultanate of Oman Alexander Muller (Petroleum Development Oman)	
	Quasi – Continuous Recording and Controlled Sweep Signals Both Increase Productivity of Standard Cabled Acquisition and Image Resolution Alexander Zhukov (GDS)	
09:50 - 10:20	Discussion - 30 min	16:30 - 17:00
10:20 - 10:35	Coffee Break - 15 min	
Session 5 10:35 - 11:55	SOURCE AND RECEIVER TECHNOLOGIES: PART 2 Session Chairs: Arjun Selvakumar (Inova Geophysical), Abdelrauof Badawi (ARGAS)	
	KEYNOTE: The Innovation Journey Continues: Nimble Seismic Source Technology Allan Châtenay (Explor)	
	Advances on Land Vibroseis Source Technology Towards Low Frequencies John Wei (INOVA Geophysical, Inc.) From Geophone Array to Point Receiver: What Impact on the Sensor?	
	Nicolas Goujon (STRYDE) Minimizing the Impact of Explosive Sources Utilizing Miniaturization of	
	Equipment and Dispersed Arrays Andrea Crook (OptiSeis Solutions Ltd)	
11:55 - 12:25	Discussion - 30 min	
12:25 - 13:25	Lunch - 1hr	
Session 6 13:25 - 14:25	ACQUISITION TECHNIQUES AND PLATFORM: PART 1 Session Chairs: David Arnold (ADNOC), Saif Messabi (ADNOC)	
	KEYNOTE: Optimizing Seismic Operations by Breaking Silos and Leveraging Data Gaëtan Mellier (SERCEL)	
	KEYNOTE: The Next Generation Land Seismic – A Simulation of a Million- Channel Crew	
	Kevin O'Connell (STRYDE) Development of 5G Electromagnetic Node and its Application in Hydraulic	
	Fracturing Monitoring Zhigang Wang (BGP)	
14:25 - 14:55	Discussion - 30 min	
14:55 - 15:10	Coffee Break - 15 min	



DAY 2 - WEDNESDAY 24 APRIL 2024 Venue: JW Marriott Muscat Grand Ballroom A + B

> ACQUISITION TECHNIQUES AND PLATFORM: PART 2 Session Chairs: Majid Mohammed Al Battashi (SLB), Shotaro Nakayama (INPEX) KEYNOTE: Revisiting the Single Sensor vs Array Debate in the Light of New

Nodal Technology Amine Ourabah (STRYDE)

Enhancing Local Stacking for Processing of High-Channel-Count and Single-Sensor Data in Scattering-Prone Seismic Areas

Ilya Silvestrov (Saudi Aramco)

Development and Application of Smartpoint 5G Seismic Data Acquisition System

Qingfu Lin (SINOPEC Geophysical Research Institute)

Targeted Subsurface Exploration using Swarm of Autonomous Seismic Drones

Pavel Golikov (Saudi Aramco)

Discussion - 30 min



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SPONSORS	DAY 3 - THURSDAY 25 APRIL 2024 Venue: JW Marriott Muscat Grand Ballroom A + B	
DIAMOND	Session 8 08:30 - 09:50	DISTRIBUTED ACOUSTIC SENSING (DAS) AND SEISMIC SURVEYS FOR ENERGY TRANSITION Session Chairs: Antonio DiMatteo (Shell), Hussain Ghanim (Saudi Aramco)
GOLD		Productivity Enhancement of Multi-Well Walk-Away DAS-VSP Survey for a CCUS Demonstration Project Onshore Japan Yuji Yamada (Inpex Corporation) Advancements In Seismic Exploration, A Key Enabler For The Energy Transition Abdelrauof Badawi (ARGAS) The Acquisition and Processing Of Simultaneous Dual-Well DAS VSP in a Desert Environment Ali Aldawood (Saudi Aramco) 3C Passive Seismic With Autonomous Nodes for Natural Hydrogen
CNOPC	09:50 - 10:20	Exploration Amine Ourabah (STRYDE)
BGP	10:20 - 10:35	Coffee Break - 15 min
SILVER	Session 9 10:35 - 11:55	ADVANCES IN DATA PROCESSING RELATED TO LAND AND SHALLOW WATER ACQUISITION Session Chairs: Ibrahim Hinai (CGG), Alexander Muller (Petroleum Development Oman)
Bapco energies		KEYNOTE: Full Waveform Inversion on a Sparse Nodal Survey at Sleipner Fons Ten Kroode (TGS) Combining Low Rank Approximation and SALSA-L1 Interpolation for Irregular Spatial Sampled Data David Le Meur (CGG) A Case Study of Transition-Zone 3D Seismic Processing in Abu Dhabi, UAE Zaibing Ye (BGP)
DELEGATE GIFT		Utilization of Continuous Recording in Near-surface Modeling: A Case Study from the Sultanate of Oman Issa Al-Suwaidi (CGG)
	11:55 - 12:25 12:25 - 13:25	Discussion - 30 min Lunch - 1hr
COFFEE BREAK STRY DE	Session 10 13:25 - 14:45	OPERATIONAL EXCELLENCE (HSE, ACQUISITION, LOGISTICS, EFFICIENCY) Session Chairs: Mohammed Al-Hosni (Petroleum Development Oman), David Le Meur (CGG) PDO Nodal Sand Dunes Seismic Acquisition in Sultanate of Oman Ahmed Al-Raqmi (Petroleum Development Oman) Developments in land and transition zone nodal data acquisition utilising their inherent capabilities to improve operations Andrew Clark (INOVA Geophysical, Inc.) Demystifying Novel Technologies in Seismic Acquisition – Sultanate of Oman Case Study Uche Aigbokhai (Petroleum Development Oman) HSE in Land Seismic Acquisition Adapting to New Technologies and Beyond
	14:45 - 15:15	Taimur Al-Wadahi (Petroleum Development Oman) Discussion - 30 min
	15:15 - 15:30 	Closing by Co-chairs - 15 min



