

MULTIPLE APPROACHES TO TIME-LAPSE MONITORING FOR CARBONATE RESERVOIRS

24-26 MAY 2022

SEG WORKSHOP

PROGRAMME

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Tuesday, 24 May 2022

Day 1

09:00 - 10:00	Onsite Registration
10:00 - 10:05	Hotel Safety Briefing
10:05 - 10:15	Welcome by the Committee Co-Chairs
10:15 - 10:30	Welcome Address by Mohamed Al Marzouqi (ADNOC)
10:30 - 10:50	Coffee Break - 20 min
Session 1	CASE STUDIES AND LESSONS LEARNT Session Chairs: Guillaume Cambois (ADNOC), Adel El-Emam (Kuwait Oil Company)
10:50 - 11:10	KEYNOTE: Brazilian Pre-Salt Carbonates Time-Lapse Experience Paulo Johann (Petrobras)
11:10 - 11:25	Walkaway VSP Monitoring of CO2 WAG EOR Pilot in Onshore Carbonate Field UAE; More Insights Moza Abdelrahman Mohamed (ADNOC)
11:25 - 11:40	4D Seismic and Complementary Technologies for Offshore Carbonate Field Monitoring Kanglin Wang (Shell)
11:40 - 12:00	KEYNOTE: Successful CO2 Seismic Monitoring Using the Permanent Seismic System with Shallowly Buried Sensors in a Desert Environment Andrey Bakulin (Saudi Aramco)
12:00 - 12:30	Moderated Discussion - 30 min
12:30 - 12:40	Group Photo (Inside Venue)
12:40 - 13:40	Lunch - 1hr
Session 2	ROCK PHYSICS OF CARBONATES AND FEASIBILITY STUDIES Session Chairs: Beth Rees (Geo Software), Olivier Kirstetter (ADNOC)
13:40 - 14:00	KEYNOTE: Carbonate Rock Physics: Challenges and Tools Mark Chapman (University of Edinburgh)
14:00 - 14:15	Challenges of 4D Seismic Modeling for Carbonate Reservoir Monitoring. Middle East Case History Didier Rappin (Total Energies)
14:15 - 14:30	Rock Physics and Time-Lapse Seismic Modelling of Carbonate Reservoirs: Review of Methods and Lessons Learnt Mehdi Paydayesh (Schlumberger)
14:30 - 14:45	Hybrid Structural-Petrophysical Joint Inversion of Different Geophysical Data Types for Improved Reservoir Monitoring Michael Jordan (SINTEF)
14:45 - 15:15	Moderated Discussion - 30 min
15:15 - 15:35	Coffee Break - 20 mins
Session 3	ALTERNATIVE AND COMPLEMENTARY METHODS - PART 1 Session Chairs: John Even Lindgård (OCTIO), Mohamed Mahgoub (ADNOC)
15:35 - 15:55	KEYNOTE: Inter-Well Saturation Mapping and Monitoring with 3D Surface-to-Borehole CSEM Daniele Colombo (Saudi Aramco)
15:55 - 16:10	An Integrated Approach to Tracking Unswept Oil Using Passive Seismic, Time-Lapse Microgravity, and InSAR Data: A Case Study From the Sultanate of Oman Saif Azri (Petroleum Development Oman)
16:10 - 16:25	Monitoring Carbon Dioxide Injection and Storage in a Carbonate Reservoirs in the Midwestern USA Neeraj Gupta (Battelle)
16:25 - 16:55	Moderated Discussion - 30 min
18:00 - 20:00	Ice Breaker Reception

Wednesday, 25 May 2022

Day 2

09:00 - 09:10	Recap of Day 1 by Co-Chairs - 10 min
Session 4	ADVANCES IN TIME LAPSE ACQUISITION Session Chairs: Andrey Bakulin (Saudi Aramco), David McCarthy (CGG)
09:10 - 09:25	Smart Seismic Field Monitoring in a Complex Desert Environment: an Agile Focused Monitoring Solution Habib Al Khatib (Spotlight)
09:25 - 09:40	Facing 4D Seismic Challenges in the Mero Field Diego Chagas Garcia (Petrobras)
09:40 - 09:55	Sensor Decimation Analysis for a Pre-Salt Santos Basin Brazil PRM Acquisition Diego Chagas Garcia (Petrobras)
09:55 - 10:10	Can We Use Non-Repeatable 3D Seismic Data for Time-Lapse Analysis? Anna Glushchenko (Schlumberger)
10:10 - 10:40	Moderated Discussion - 30 min
10:40 - 11:00	Coffee Break - 20 mins
Session 5	ADVANCES IN TIME LAPSE PROCESSING Session Chairs: Guillaume Cambois (ADNOC), David McCarthy (CGG)
11:00 - 11:20	KEYNOTE: The Marchenko Method and its Application to Time-Lapse Monitoring John van Ijsseldijk (Delft University of Technology)
11:20 - 11:35	Enhanced 4D Signal via 4D Least-Squares Migration When Repeatability is not Guaranteed Alireza Roodaki (CGG)
11:35 - 11:50	4D Seismic Co-Processing, Partial Versus Full: Case Studies Offshore, Abu Dhabi Mohamed Mahgoub (ADNOC)
11:50 - 12:05	Advances in Time-Lapse FWI Martin Chappell (CGG)
12:05 - 12:35	Moderated Discussion - 30 min
12:35 - 14:05	Lunch - 1.5hr
Session 6	ADVANCES IN TIME LAPSE INTERPRETATION Session Chairs: Said Busaidi (PDO), Beth Rees (GeoSoftware)
14:05 - 14:25	KEYNOTE: Improving Reservoir Characterization and Time-Lapse Seismic Through Joint PP/PS Inversion Ali Tura (Colorado School of Mines)
14:25 - 14:40	Ensemble-Based Data Assimilation of Time-Lapse Seismic in Tupi Nodes Pilot Alexandre Anoze Emerick (Petrobras)
14:40 - 14:55	Reservoir Insights Unlocked by Multi-Disciplinary Integration Shauna Oppert (Chevron)
14:55 - 15:25	Moderated Discussion - 30 min

Thursday, 26 May 2022

Day 3

09:00 - 09:10	Recap of Day 2 by Co-Chairs - 10 min
Session 7	DAS IN TIME LAPSE ACQUISITION Session Chairs: Michael Branston (Schlumberger), Pierpaolo Marchesini (Silixa)
09:10 - 09:30	KEYNOTE: Continuous Long-Term Downhole Reservoir Monitoring Using Distributed Acoustic Sensing: CO2CRC Otway Stage 3 Experience Roman Pevzner (Curtin University)
09:30 - 09:45	In-Situ Time Lapse Reservoir Analysis from DAS Seismic Andres Chavarria (OptaSense)
09:45 - 10:00	Borehole Distributed Fiber Optic Sensing for Time-Lapse Measurement Garth Naldrett (Silixa Ltd)
10:00 - 10:15	Monitoring Reservoir Production Dynamic Changes Using Time-Lapse Walk Away DAS-VSP Data Gang Yu (BGP)
10:15 - 10:45	Moderated Discussion - 30 min
10:45 - 11:05	Coffee Break - 20 min
Session 8	ALTERNATIVE AND COMPLEMENTARY METHODS - PART 2 Session Chairs: Daniele Colombo (Saudi Aramco), Hugo Ruiz (OCTIO)
11:05 - 11:25	KEYNOTE: A Multi-Physics Monitoring Approach for Carbonate Reservoirs John Even Lindgård (OCTIO)
11:25 - 11:40	Time-Lapse Gravity Deployment for Hydrocarbon Reservoir Monitoring - Examples of Integrated Applications Marcin Glegola (Shell)
11:40 - 11:55	4D Microgravity Close-the-Loop for a Carbonate Reservoir Ali Al-Lazki (Petroleum Development Oman)
11:55 - 12:10	Feasibility Analysis of Seafloor Time-Lapse Gravity for CO2 Storage in a Brazilian Presalt Reservoir André Defendi Arelaro (Petrobras)
12:10 - 12:40	Moderated Discussion - 30 min
12:40 - 13:40	Lunch - 1hr
Panel Session	THE ROAD AHEAD Moderators: Beth Rees (GeoSoftware) & Andrey Bakulin (Saudi Aramco)
13:40 - 15:10	
	Workshop Overview by Guillaume Cambois (Committee Co-Chair)
	Panelists: Daniele Colombo (Saudi Aramco) John Even Lindgård (OCTIO) John van Ijsseldijk (Delft University of Technology) Mark Chapman (University of Edinburgh) Paulo Johann (Petrobras)
15:10 - 15:25	Closing Remarks by the Committee Co-Chairs