18 November 2025 - Grand Hyatt Khobar									
8:00	1:00:00	9:00	Grand Ballroom Onsite Registration & Exhibition Open						
	0:15:00		Welcome by IGS Chairman, Ashraf Al-Tahini, Aramco						
9:15	0:15:00	9:30	Opening Address by Executive VP Mr. Abdulhameed Al-Dughaither from Aramco						
Executive Panel: Geomechanics at the Crossroads: Powering Exploration, Mining, and Geothermal through Digital and Al Integration Samer Ashgar, Senior Vice President, Exploration - Aramco James P. Brady, Chief Digital Officer - Baker Hughes Trygve Randen, Senior Vice President for Digital Products & Solutions - SLB Heinz Pley, Senior Advisor - Oliver Wyman Moderator: Ahmed Hakami, V Por Characterization and Field Development Geosciences - Aramco									
	0:20:00		Academic Partner, Sponsor and Exhibitor Recognition						
10:50	0:10:00	11:00	Aramco MOU signing						
11:00 0:15:00 11:15 Exhibition Opening Ceremony									
11:15 1:00:00 12:15 Lunch on 1st Floor									
			Fellows Venue: Grand Ballroom						
	1:00:00		Joseph F. Labuz - University of Minnesota	Mineral carbon storage and rock fracture experiments					
	1:00:00		John McLennan - University of Utah	An Opportunity at Any Temperature and Location					
Venue: Coffee Foyer Area			Poster Session 1: Al and Data-Driven Methods in Petroleum Geomechanics Session Chair: Basirudin Rachman, Aramco	Poster Session 2: Hydraulic Fracturing: Modeling, Lab, Monitoring, Diagnostics, Operations Session Chair: Francis Elisabeth, Aramco					
	0:10:00		Jialin Zhang (CUP Beijing) Data Mining Evaluation for Diverting Effectiveness of Hydraulic Fracturing	Zhenyu wang (China Zhenhua Oil., Ltd) Research and application of temporary plugging fracturing technology combined with distributed optical fiber monitoring in the transformation of unconventional tight conglomerate reservoirs					
	0:10:00		Ahmadreza Younessi (Baker Hughes) Compaction and Subsidence Induced by Hydrate Dissociation in Deepwater Wells in Offshore Brunei	Luyao Wang (CUP Beijing) Research on Real-Time Hydraulic Fracturing Prediction Based on Neural Networks					
14:35	0:10:00	14:45	Hongda Li (CUP Beijing) 3 FDEM-DL based prediction and analysis of mechanical properties of ultra-deep heterogeneous dolomite	Dagang Ji (China University of Petroleum) Numerical Simulation of Hydraulic Fracture Propagation Mechanism in Hydrate- Bearing Sediments: A Case of the Shenhu area in the South China Sea					
14:45	0:10:00	14:55	Aflah Alyaaaribi (Shell) 4 Al-Driven Geomechanics Sweetspotting to Derisk Tight Gas Exploration in in Complex Stress Regimes						
	0:35:00		Coffee Break - 35 min						
ciety Presid	ent Panel:								



Poster Session 3: Advances and Geomechanics Applications in Mining Session Chair: Bing Hou, CUP Beijing	Poster Session 4: Advances and Geomechanics Applications in Geothermal Resources Session Chair: Musab Modraa, Aramco		Emerging Technologies session Session Chair: Kanitthorn Adisornsupawat, PTTEP Venue: Grand Ballroom
Sanli Peng (CUP Beijing) Experimental Study on Fracture Propagation in Radial Boreholes: Insights for Longitudinal Modification of Hard-thick Sandstone Roof in Coal Seams	Hamed Soroush (Teverra LLC) Mitigating Wellbore Instability in Superhot Rock Drilling Using Millimeter Wave Technology	12	Jerome Sfeir, XGS Energy Dynamic Modeling of Closed-Loop Geothermal Systems: From Concept to Fie
Hanbing BIAN (University of Lille) Geothermal Energy in Abandoned Mine Rock Mass	Bo Zhang (University of Alberta) Geo-Resource Agent for Automated Geo-Resource Reservoir and Geomechanical Characterization Workflows integrating Large-Language Models (LLM), User Input Geological Data and Domain Specialized Toolbox	13	Applications Hamed Soroush, Teverra Beyond Well Logs: Transforming Geomechanical Analysis with Drilling Dynam Data
Mirriam Mapyapya (University of Zambia) Causes of High Geotechnical Stress Conditions at Mufulira Mine in Zambia	Bicheng Yan (KAUST) Optimization of Integrated Geothermal Reservoir and Power Plant	14	Xiaorong Li, China University of Petroleum in Beijing Well Integrity of CCUS Wells
Sayantan Ghosh (Indian School of Mines) Geomechanical evaluation of the Pliocene El Wastani clastic reservoir from a deepwater gas field, Nile Delta	Wenxin Yan (CUP East China) A mathematical model for Shale permeability with stress sensitivity and the boundary-layer effect	15	

				Anderated by Gang Han				
				Session 1: Al and Data-Driven Methods in Petroleum Geomechanics Venue: Grand Ballroom B & C	Co-Chair: Tariq Alshaikhmubarak, Aramco Co-Chair: Sultan Enezi, Aramco			
16:30	0:20:00	16:50	1	Anke Wendt (SLB)	Proxy Geomechanical Modeling for Sustainable & Efficient Well Construction			
16:50	0:20:00	17:10	2	Lingdan Xia (SLB)	Facilitating operational decision-making for CCUS operations through real-time acoustics processing supported by machine learning			
17:10	0:20:00		3	Jijun Miao (SimTech LLC)	Next-Generation Hydraulic Fracture Optimization Enabled by AI and GPU-Based Simulation			
17:30	0:20:00		4	Johannes Vossen (Baker Hughes)	Assessing Machine Learning Derived Prediction of Acoustic Logs While Drilling: Impact on geomechanics modelling in real time operations			
17:50	0:20:00	18:10	5	Thomas Finkbeiner(KAUST)	A Deep Learning Approach for the Automated Extraction of Natural Fracture Traces from Two Dimensional Orthoimages Derived from Digital Outcrop Models	10		

Session 2: Al Data-Driven Methods in Fundamental Geomechanics Venue: Ar Riyad (1st Floor)	Co-Chair: Wael El Sherbeny, Baker Hughes Co-Chair: Anas Marzoug, Aramco				
Weichang Li (Zhejiang University)	Automated Drill-Cutting Characterization Using Segmentation and Shape Analysis	11			
Peerzadi Arzeena Imtiyaz (Indian Institute of Technology Hyderabad)	Dynamic Energy Dissipation in Porous Geomaterials: High-Strain-Rate Experiments and Bio-Inspired Machine Learning Predictions	12			
Mostafa Mobasher (New York University Abu Dhabi)	I-FENN with DeepONets: accelerating simulations in coupled geomechanics processes	13			
Frans Mulders (Geoactive)	Combining Machine Learning and Scratch Test Data for Enhanced Rock Strength Prediction	14			
Yousef Golabchi (York University)	Influence of data augmentation on machine learning algorithms & predicting excavation damage zone depth	15			

Session 3: Geothermal Resource Development: Case Studies and Future Technologies Venue: Al Ahsa 1 & 2	Co-Chair: Harald Stockhausen, THREE60 Energy Co-Chair: Jerome Sfeir, XGS Energy			
Marine Deheuvels (KAUST)	On the use of Distributed Acoustic Sensing displaying amplitude polarity flips: case study in KAUST, Saudi Arabia			
Hamid Nick (DTU)	Thermal Sweep Efficiency in Fractured Reservoirs: A Coupled Process Perspective			
Marc Hettema (EBN)	Determination of Seal Stresses for Geothermal Applications in The Netherlands: Methodology and Model			
Kareem Aboayanah (University of Toronto)	Unravelling Deformation and Seismicity in Hot Dry Geothermal Reservoirs: New Insights from Real-time Full-Field Displacement Laboratory Monitoring			
Yunpeng Zhang (CUP Beijing)	The Study of The Impact of Lost Circulation On Wellbore Temperature During Drilling And The Establishment Of An Inversion Model			

19 November 2025 - Grand Hyatt Khobar									
7:30 1:00:00 8:30 Onsite Registration									
	0:15:00	8:45		Opening Speaker: Ashraf Tahini, Aramco	ning Speaker: Ashraf Tahini, Aramco				
8:45	0:10:00	8:55		Al Lab award ceremony					
8:55	1:00:00	9:55		Mining Panel: Craig Convey – President, Di-Corp Industrial Adam Donald – Technical Director, SLB Zaka Emad – Professor, KFUPM Ahmed Abou-Sayed - Advantek Jian Zhao – Professor, Monash University Moderator, Musab Modrra, Aramco					
9:55	0:15:00	10:10		Coffee Break - 15 min					
				Session 4: Well Stimulation and Completion Geomechanics Venue: Grand Ballroom B & C	Co-Chair: Tengfei Hou, CNPC Co-Chair: Moustafa Dawoud, Aramco				
10:10	0:20:00	10:30	1	Osman Hamid (Aramco)	Geomechanical Characterization and Monitoring of Thermally and Hydraulically				



8:55 1	.:00:00	9:55	Mining Panel: Craig Convey – President, Di-Corp Industrial Adam Donald – Technical Director, SLB Zaka Emad – Professor, KRUPM Ahmed Abou-Sayed - Advantek Jian Zhao – Professor, Monash University Moderator, Musab Modrra, Aramco					CONFERENCE
	:15:00	10:10	Coffee Break - 15 min					
			Session 4: Well Stimulation and Completion Geomechanics Venue: Grand Ballroom B & C	Co-Chair: Tengfei Hou, CNPC Co-Chair: Moustafa Dawoud, Aramco	Session 5: CO2 Containment Risks Venue: Grand Ballroom A	Co-Chair: Frans Mulders, GeoActive Co-Chair: Femi Olorode, LSU	Session 6: Mining and Rock Fragmentation Venue: Al Ahsa Ballroom	Co-Chair: Hossein Masoumi, Monash University Co-Chair: Muni Aldin, MetaRock Laboratory
10:10	:20:00	10:30	Osman Hamid (Aramco)	Geomechanical Characterization and Monitoring of Thermally and Hydraulically Induced Fracture Evolution during Cold Fluid Injection	Claudia Sorgi (SLB)	Integration of Quantitative Risk Assessment and Predictive Measurement Modelling for Optimized MMV in CCS Injection Projects	Muhammad Zaka Emad (KFUPM)	Advances in In-Situ Stress Measurement for Underground Engineering Applications
10:30 0	:20:00	10:50	Kaiming Xia (Aramco)	Mitigating Challenges in Open-hole Multistage Fracturing Treatment	Tan Chee Phuat (PETRONAS)	Sensitivity of Thermal Effect Simulation to Local Grid Refinement in Coupled Thermal Geomechanical Modelling of CO2 Geological Storage	Shankar Vikram (National Institute of Rock Mechanics)	Assessing Ground Truth While Transitioning from Open Pit Mining to Underground
10:50	:20:00	11:10	Svetlana Zhigulskiy (GPN)	Hydraulic fracture design based on anisotropic stress model for a tight oil reservoir	Adam Bere (Rockfield)	Efficient 3D Field Scale Geometry Construction for Geomechanical Modelling of Fault Reactivation and Induced Seismicity	Rached Rached (SINOPEC STME)	How Small Is Too Small? Thickness Limits for Micro-Indentation Analysis of Drill Cuttings
11:10 0	:20:00	11:30	Egor Dontsov (ResFrac)	Hydraulic fracture propagation along bedding planes in shales occurs more often than we think	Abbas khaksar (Baker Hughes)	Risk Assessment of CO2 Sequestration in a Heavily Depleted North Sea Gas Field	Zhong Hou (China University of Petroleum in Beijing)	Numerical Investigation of Ice Air Jet Penetration into Coal Using a Hybrid CFD- DPM & DEM-FEM Approach
11:30	:20:00	11:50	Chiara Cavalleri (SLB)	Azimuthal Sonic Measurements for Geomechanics Modeling in Layered Formations for Horizontal Well Stimulation	0 Aflah Alyaaribi (Shell)	Al-Driven Geomechanical Risk Assessment for CO2 Sequestration in Complex Reservoirs Using Field Data and Calibrated Models		
Venue: Cof	ffee Foyer	r Area	Poster Session 5: COZ Geomechanics Based Risk Analysis Session Chair: Fatima A Ruwal, Saudi Aramco	Poster Session 6: Advances in Subsurface Energy and Environmental Geotechnics Session Chair: Ahmed Yaseri, KFUPM		Poster Session 7: In-situ Stress Characterization Session Chair: Eduardo Gramajo, SINOPEC STME	IGS Student Contest Group 1 Venue: Al Ahsa	IGS Student Contest Group 1 Venue: Grand Ballroom C
11:50	:10:00	12:00	Samantha Han (SLB) In-situ Horizontal Stress Characterization to Optimize CCS Injection Plan - Maximize Injection Rates And Minimize Containment Risk	Olufemi Olorode (Louisiana State University) Numerical and Experimental Studies of Coupled THCM Processes in Ultramafic Rocks		Michał Kępiński (Ikon Science) The Hidden Influence: TOC and Clay Content in Pore Pressure Estimation	7 Salman Alrasheed, KFUPM (Saudi Arabia) - Time-Dependent Effects of Hydraulic	Abdullateef AlKhurainej, American University of the Middle East (Kuwait) -
12:00	:10:00	12:10	Wei Lu (Institute of Geology and Geophysics, Chinese Academy of Sciences) Mechanism of Shear Failure in Sandstone Structural Planes Induced by Supercritical CO ₂ Injection	Yudnina Hanifah (Yokohama National University) Simulation of soil deformation under suffusion incorporating porosity-driven changes in hydraulic and mechanical properties		Sadegh Asadi (Baker Hughes) Influence of Minimum Horizontal Stress and Fracture Initiation Pressure on Well Design in Depleted Reservoirs: A Comparative Analysis of Deepwater and Shallow- Water Applications	Fracturing Fluid on the Geomechanical and Petrophysical Properties of Tight 8 Sandstone	Wind Turbines Supported on Monopiles
12:10 0	:10:00	12:20	Ahmadreza Younessi (Baker Hughes) Addressing uncertainties in minimum horizontal stresses for cap rock integrity	Hanbing BIAN (University of Lille) Pore Structure and Hydraulic Properties of Lateritic Soil Reinforced with Ryegrass		Samantha Han (SLB) Improving geomechanical modeling through log verticalization and stress	Orkhan Nasibov, Baku Higher Oil School (Azerbaijan) - OUTCROP DIGITALIZATION RESEARCH PROJECT	GEOMECHANICS FOR SUSTAINABLE ENERGY SYSTEMS AND RESILIENCE
0	0.00	22.20	analysis for CO2 injection in depleted reservoirs Ahmadreza Younessi (Baker Hughes)	Roots: Insights from CT Scanning		inversion	Edmund Li Tian Law, Universiti Teknologi PETRONAS (Malaysia) - Predictive Modelling of Induced Seismicity in Energy Transition	Sanchez ZunigaJosias Elionay, UNAM (Mexico) - 1D Geomechanical Modeling for HPHT Onshore Wells: A Foundational Tool for Drilling Optimization and Energy Transition Applications
12:20	:10:00	12:30	Assessing the Impact of Rock Mechanical Properties Uncertainty on Upper Limit of Injection Pressure for a CO2 Storage in a Depleted Gas Reservoir in Gulf of	Jia Cunqi (The University of Texas at Austin) f Numerical evaluation of different physical mechanisms on geological carbon storage in saline aquifers		Koji Kashihara (JAPEX) Visualization of the Deformation Behavior of Sidewall Cores for Estimating In-situ 3D Stress Components	10	
12:30 1	:10:00	13:40	Lunch on 1st Floor					
			Session 7: Multi-Scale & Multi-Physics Geomechanics – THMC coupling, nano- to field-scale geomechanics Venue: Grand Ballroom B & C	Co-Chair: Mohammed Al-Aamri, PDO Co-Chair: John Cain, Rockfield	Session 8: Applications of Drilling Geomechanics Venue: Grand Ballroom A	Co-Chair: Satya Perumalla, Baker Hughes Co-Chair: Wei Liu, China University of Petroleum in Beijing	Session 9: Advancements in Hydraulic Fracturing Venue: Al Ahsa	Co-Chair: Mark McClure, ResFrac Co-Chair: Mao Sheng, China University of Petroleum in Beijing
13:40 0	:20:00	14:00 1	Invited Speaker: Younane Abousleiman (University of Oklahoma)	Organic Rich Shale Micro-Beams – SEM to Field: A Moment of Serendipity	7 Invited Speaker: Hussain AlBahrani (Aramco)	Taking Drilling Geomechanics to The Digital World and the Dynamic Drilling Environment	23 Invited Speaker: Ahmed Abou-Sayed (Advantek International)	A Geomechanics Look at The Morphology of Hydraulic Fracturing in Public Eye
14:00 0	:20:00	14:20 1	4 Rached Rached (STME)	Fluid-Exposure Effects on Micro-Indentation Properties of Drill Cuttings	Abdallah Ghreizy (American University of Beirut)	Influence of graphene nanoplatelets and multi-walled carbon nanotubes on the performance of oil well cement: An experimental approach	24 Gang Han (ARAMCO)	Turning of Hydraulic Fracture: Near-Wellbore Complexity
14:20 0	:20:00	14:40 1	5 Keyu Meng (Tongji University)	Thermo-Hydro-Mechanical DEM Modeling of Hydraulic Fracturing in Hot Dry Rock under High-Temperature Conditions	9 Qiuguo Li (Aramco)	Impact of Diagenesis, Pore Shapes and Heterogeneity on Wellbore Stability in Carbonate Rocks	25 Jie Bai (Research Institute of Petroleum Exploration & Development)	Rock mechanical Characteristics of deep coal-rock reservoirs in the Ordos Basin and Understanding of hydraulic fracturing
14:40 0	:20:00	15:00 1	6 Hector Gonzalez (Aramco)	Numerical Modelling of Stress-Dependent Permeability in Reservoir Rocks Using COMSOL Multiphysics	O Christian Bikong (KAUST)	Sensitivity analysis of fixed cutter PDC drill bit design on drill string lateral vibrations and induced wellbore instability using a 3D finite element model	26 Daniel Wamriew (KAUST)	Fiber-Optic Distributed Acoustic Sensing in Laboratory-Scale Hydraulic Fracture Experiments: Implications for Monitoring
15:00 0	:20:00	15:20	Olufemi Olorode (Louisiana State University)	Geomechanical Studies of Using Biologically Induced Mineral Precipitation for Safe Geo-Energy Storage	1 Mingfei Yan (CUP Beijing)	Influence of drill string vibration on wellbore stability in conglomerate formation based on CFD-DEM	27 Carlos Rodriguez-Hernandez (Sinopec Tech Middle East LLC)	Discrete Element Method Simulations of Stress–Fabric Coupling during Hydraul Fracture Propagation in Pre-Structured Rocks
15:20	:20:00	15:40			2 Beiyu Han (CUP Beijing)	Geomechanical Analysis of Wellbore Instability in Smectite-Rich Interbedded Formations: Addressing Drilling Challenges in the East China Sea	28 Harald Stockhausen (Three60energy)	Thermochemical fracturing as an alternative of the conventional hydraulic fracture treatment, initial experimental phase
15:40 0	:15:00	15:55	Coffee Break - 15 min					
Venue: Cof	ffee Foyer	r Area	Poster Session 8: CO2 Processes Session Chair: Aly Abdelaziz, Petronas Canada	Poster Session 9: Hydraulic Fracturing: Modeling, Lab, Monitoring, Diagnostics, Operations Session Chair: Michał Kępiński, Ikon Science		Poster Session 10: Fracture Mechanics & Crack Propagation – Experimental and numerical investigations into rock and material failure Session Chair: Adam Bere, Rockfield	Best of C Session Chair: Fengshou Z Venue: Grand	hang, Tongji University
15:55 0	:10:00	16:05 1	Yunpeng Zhang (CUP Beijing) 1 Phase Field Modelling of CO2 Energized Fracturing and Sequestration in Naturally Fractured Shale Reservoirs: Effect of Multiphase Fluid-Loss	Ashok Shinde (Baker Hughes) Hydraulic Fracturing Candidate Selection and Success Using Novel Integrated Workflow		Vysotin Nikolay (NUST MISIS) Coupling of the Nonlinear Static Hysteretic Parameter and the Growth of the "generalized" Density of Microcracks in Rock Samples	venue, ci anu	osiitooii o
16:05 0	:10:00	16:15 1	Ying Xin (Tongji University) Inverse modeling of coupled thermo-poro-mechanical responses in CO2 sequestration using a CNN-Transformer surrogate model	Kejun Tian (China University of Petroleum , Beijing) Data Mining on Water Hammer Diagnostic for Enhancing Cluster Efficiency of Multistage Completion		Ravindra Burnwal (Indian Institute of Technology Roorkee) FAILURE MECHANISMS OF CYLINDRICAL CAVITY IN ROCK MASS UNDER POLYAXIAL STRESS CONDITION	22	
16:15 0	:10:00	16:25 1	Ashok Shinde (Baker Hughes) Integrated Risk Assessment in Carbon Capture & Storage (CCS) Operations: Two-way Coupling with Reservoir & Geomechanical Modeling	Zhengpel Yu (CUP Beijing) Productivity Enhancement in Unconventional Reservoirs by Supercritical CO2 Shock Fracturing		Arunkumar SUBRAMANIAN and Abdelhakim AISSAOUI (Dassault Systemes) Machine Learning based Surrogate Modeling for Real-time Hydraulic Fracture Propagation Prediction	Manchao He, China University of Mining and Technology, Beijing - Deformation Mechanics Analysis Jie Zhou, Tongji University -	
16:25 0	:10:00	16:35 1	Nicola Castelletto (Lawrence Livermore National Laboratory) 4 Massively Parallel Multiphysics Simulation of Subsurface Energy and Storage Systems Using GEOS	Shaohua You (CUP Beljing) How Does Hydraulic Fracture Propagation Affect LF-DAS Signals: A Comprehensive 19 Analysis and Interpretation Workflow		Pranjal Srivastava (Rajiv Gandhi Institute of Petroleum Technology) Mathematical Modelling and Statistical Validation of Specimen Geometry Effect on Axial Point Load Index of Anisotropic Rock	Geothermal solutions for energy sustainability and resilience in China's infrastructure of the control of the c	onstruction
16:35 0	:10:00	16:45 1	Xuehang Song (Chinese Academy of Sciences) Supercritical CO ₂ distribution mechanisms in sandstones: joint acoustic-electrical responses under reservoir conditions	Elhadj (Marwane) Diallo (KAUST) Liquid Nitrogen Preconditioning Strategy for Breakdown Pressure Reduction for Hydraulic Fracturing on Ultra-Dense Marble – A Laboratory Study				
			Session 10:EOR, Water Flooding and Induced Seismicity Venue: Grand Ballroom B & C	Co-Chair: Thomas Finkbeiner, KAUST Co-Chair: Ahmadreza Younessi, Baker Hughes	Session 11: Al and Data-Driven Methods for CO2 Sequestration and Utilization Venue: Grand Ballroom A	Co-Chair: Hamid Nick, DTU Co-Chair: Menhal Ismael, Aramco	Session 12: CO2 Reservoir Characterization and Modeling Venue: Al Ahsa 1 & 2	Co-Chair: Johannes Vossen, Baker Hughes Co-Chair: Zhaoqin Huang, China University of Petroleum (East China)
16:45	:20:00	17:05 2	9 Sadegh Asadi (Baker Hughes)	Assessing Stress Path Uncertainty in Fault Stability during Reservoir Depletion	3 Ziyou Liu (KAUST)*	Accelerating Uncertainty Quantification in Geological Carbon Sequestration Through Deep Learning	37 Rayan Yehya (American University of Beirut)	Assessing the Interplay of Impurities and Thermal Effects on CO2 Sequestration Saline Aquifers
17:05 0	:20:00	17:25 3	0 Manoj Sarfare (Petroleum Development Oman)	Insights from Multi-Disciplinary Approach to Optimize Waterflood Operating Envelope in Highly Depleted Sandstone Reservoirs: An Integrated Study from Marginal Fields of South Oman	Maria Sierra Hernandez (KAUST) 4	Mechanical characterization of Upper Jurassic anhydrite-carbonate sequences in Saudi Arabia and its implications for seal integrity	38 Xinhao Wang (CUP)	A Study on EOR Mechanisms and Multi-Objective Optimization of Deoxygenated Air Injection in Fault-Controlled Reservoirs
17:25 0	:20:00	17:45	Weiwei Zhu (Institute of Geology and Geophysics, Chinese Academy of Sciences)	Advances in Hydraulic Fracturing Simulation with Consideration of Complex Natural Fracture Networks	So Zhang (University of Alberta)	Deep Reinforcement Learning Optimizing for Geological CO2 Storage Considering Geomechanical and Leakage Risks	39 Hamid Nick (DTU)	Coupled Geomechanical Analysis of Cold CO2 Injection in the Harald East Chalk
17:45 0	:20:00	18:05	Sadegh Asadi (Baker Hughes)	Safe Operating Envelope for Injector Wells – A Geomechanical Risk Assessment	Vincenzo De Gennaro (SLB)	Artificially Intelligent Performance Management of Carbon Storage Sites	Lei Hou (Shanghai Jiao Tong University)	Feasibility and key issues of CO2 storage in depleted shale reservoirs



										CONTENTACE
					20 Nov	November 2025 - Grand Hyatt Khobar				CUNFERENCE
8	30 0:15:00	8:45	Opening Speaker: Ali Alyousef, KFUPM							
			Session 13:Rock Fragmentation and Mining Techniques Venue: Grand Ballroom B & C	Co-Chair: Andrea Lisjak, Geomechanica Co-Chair: Cunqi Jia, KAUST		Session 14: Fracture Mechanics & Crack Propagation – Experimental and numerical investigations Venue: Al Ahsa 1 & 2	Co-Chair: Haiyan Zhu, Chendu University of Technology Co-Chair: Viktor Morev, Kuwait Oil Company		Session 15: Advances in Subsurface Energy Storage Venue: Al Ahsa 1 & 2	Co-Chair: Yaser Zayer, Aramco Co-Chair: Marwah Alsinan, Stanford University
8	45 0:20:00	9:05	1 Invited Speaker: Manchao He (China University of Mining and Technology)	The Future of Energy in China		Invited Speakers: Kan wu (Texas A&M)	State-of-the-Art Applications of Distributed Strain Sensing in Fracture Characterization and Well Integrity Monitoring	10	Invited Speaker: Adam Donald (SLB)	Essential Measurements for Geomechanical Characterization of Carbon Capture and Sequestration Projects
9	05 0:20:00	9:25	2 Johnson Ha (Geomechanica)	Reducing Uncertainty in Mining Applications Through Advanced Numerical Modelling		Tameem Almani (Aramco, KFUPM)	A Partially Parallel in Time Undrained Split Iterative Coupling Scheme for Modelling Hydraulic Fracture Propagation	11	Meitao Zou (Tongji University)	Investigation of Soil Behavior Evolution Surrounding Underground LNG Storage Tanks During Leakage Scenarios
9	25 0:20:00	9:45	3 LI Xinlong (CUP Beijing)	Experimental Study on Rotational Cutting Characteristics of Conglomerate by PDC Cutters		Gary Couples (Heriot-Watt University)	La Mort du 'Stress Function'? Challenging the Kirsch and Inglis Models	11	Ahmed Fatah (KFUPM)	Evaluating Cement Integrity and Capillary Pressure Behavior for Subsurface
9	45 0:20:00	10:05	4 Ahmadreza Younessi, Baker Hughes	Geomechanical Analysis of CO2 Storage in a Multi-Layered Depleted Field in		Keita Yoshioka (Montanuniversität Leoben)	Nucleation of remote hydraulic fracturing	12	Marwah Alsinan (Stanford University/Aramco)	Hydrogen Storage Applications Cyclic Deformation in Underground Hydrogen Storage: A Global Sensitivity Study
10	:05 0:20:00	10:25		Offshore Malaysia		Xiaodong Ma, University of Science and Technology of China	In situ stress characteristics and hydraulic fracturing performance – insights from key unconventional reservoirs in China and the US	14	Zhi Fang (Petro-Geomechanics LTD)	An advanced geomechanics study to minimize the drilling risks and optimise the new wells placement for a hydrogen storage project in a Southern North Sea depleted gas reservoir
10	:25 0:20:00	10:45						15	Amer Alanazi (KAUST)	Microfluidic study of gas mixing effects on wettability for CO ₂ and H ₂ geological storage
10	:45 0:15:00	11:00	Coffee Break - 15 min							
			Session 16: Advances in Subsurface Energy Storage - 2 Venue: Grand Ballroom 8 & C	Co-Chair: Murtadha Tammar, Aramco Co-Chair: Amer Anazi, Aramco		Session 17: Numerical and Computational Methods in Petroleum Geomechanics Venue: Grand Ballroom A	Co-Chair: Osman Hamid, Aramco Co-Chair: Abbas Khaksar, Baker Hughes		Session 18: Landslide, Engineering Slopes, and Geo-environmental Disaster Reduction Venue: Al Ahsa 1 & 2	Co-Chair: Rita Sousa, NYU Abu Dhabi Co-Chair: Waleed El-Sekelly, NYU Abu Dhabi
11	:00 0:20:00	11:20	16 Pramod Dilshan (The University of Melbourne)	Impacts of Acetogenesis Reaction on Shale Caprock Integrity during Underground Hydrogen Storage	20	Wu Bangchen (Institute of Geomechanics, Chinese Academy of Geological Sciences)	Numerical Simulation Study on the Long-Term Sealing Integrity of Fault-Block Oil- Reservoir-Based Underground Gas-Storage Cluster	23	Invited Speaker: Waleed El-Sekelly (New York University Abu Dhabi)	Recent Advances in Centrifuge Physical Modeling in Geotechnics
11	:20 0:20:00	11:40	17 Aisha Al Hashmi (Waseda University)	Numerical Simulation Study of Underground Hydrogen Storage for Uncertainty Evaluation in Salt Domes in Oman	21	Ugur Goktug Gunal (Turkish Petroleum Corporation)	Combine Core Data with Geomechanics to Investigate Drilling Problems in SE Turkey Carbonates	24	Mostafa Mobasher (New York University Abu Dhabi)	Thermodynamic framework of non-local continuum damage-plasticity model for geomaterials and its practical applications
11	:40 0:20:00	12:00	18 Chinemerem Okezie (New Jersey Institute of Technology)	Stimulated Serpentinization: Effect of Microbial Activities on Geomechanical Response of Hydrogen-Generating Ultramafic Rocks	22	Mohammed AL-Aamri (PDO)	Multi-Scale Validation of Reservoir Compaction in a Shallow Gas Carbonate Reservoir: Integrating CMI and InSAR with 3D Modelling in Oman's North Field	25	Rita Sousa (New York University Abu Dhabi)	3D Random large-deformation modelling on submarine landslide runout in spatially variable soils considering fluid-solid coupling
12	:00 0:20:00	12:20	19 Ahmed Fatah (KFUPM)	Displacement Behavior and Gas Saturations during Drainage Displacement in Sandstone Reservoirs: Application to Subsurface Hydrogen Storage						
	Venue: Coffee Fo	yer Area	Poster Session 11: Geomechanics for Tight Reservoirs and Unconventionals Session Chair: Koji Kashihara, Japex	Poster Session 12: Well Integrity Session Chair: Jijun Miao, Simtech		Poster Session 13: Regional Case Studies in Petroleum Geomechanics Session Chair: Hany Gamal, Weatherford	Poster Session 14: Rock Measurements and Characterization Session Chair: Weiwei Zhu, Chinese Academy of Sciences		Best of CSRME Session Chair: Fengshou Zhang, Tongji University Venue: Grand Ballroom B	11:45 - 12:35 IGS Student Contest Venue: AI Ahsa
12	:20 0:10:00	12:30	Mohammed Al-Aamri (PDO) No-Go to Go: A Geomechanical Workflow to Unlock One of Deepest Horizontal Tight Gas well in Sultanate of Oman	Abbas Khaksar (Baker Hughes) Geomechanical Assessment of Oriented Perforation in FracPack Sand Control Technique		Siqueira Eudes (SLB) Comprehensive Laboratory Study to Determine Compaction Behaviour, Porcelasticity and the Effects of Multi-stage Triaxial Testing on Elastic Properties of Carbonate Oil Field in UAE	Mohammed Alameer (Aramco) Data-Driven Prediction of Sand-Free Flow-Test Outcomes from Near-Wellbore Geomechanical Parameters	12		Muhammad Shehryar, KFUPM (Saudi Arabia) - Assessment of Fracture Pressure in Tight Cores using Carbonated Water Injection. Yousef Golabchi, York University, Canada - Influence of Data Augmentation on
12	:30 0:10:00	12:40	Yuxuan Deng (CUP East China) Multi-scale Mechanical Characterization of Shale Reservoirs with High-density Bedding Fractures Using FE ² Framework	Hongmo Zhu (CUP East China) Simulation of Micro-Annulus Evolution at the Casing-Cement Interface in High- Temperature and High-Pressure Gas Wells		Satya Perumalla (Baker Hughes) A Novel Multi-Disciplinary Approach in Selection and Optimization of Sand Control Techniques: Case Study from Egypt	Hector Gonzalez (Aramco) Comparative Evaluation of Scratch Test and Micro-Rebound Hardness Techniques for Assessing Rock Mechanical Strength Profile	13	Lei Hou, Shanghai Jiao Tong University - Al-Powered Pressure Intelligence in Hydraulic Fracturing	ML & Predicting EDZ Depth. Peerzadi Arzeena Imtiyaz, Indian Institute of Technology Hyderabad, India - Dynamic Energy Dissipation in Porous Geomaterials: SHPB + Bio-Inspired ML.
12	:40 0:10:00	12:50	Khaqan Khan (Aramco) Formation Breakdown Prediction for Penetrating and Non-Penetrating Fluid during Hydraulic Fracturing			Skaow Kusolsong (PTT Exploration and Production) Standardizing Sand Risk Evaluation Across the Gulf of Thailand Through Python Automation and 1D Mechanical Earth Modelling	Mohammed AL-Aamri (PDO) Sonic Deception in Deep Gas Reservoirs: How Gas Affects Poisson's Ratio, Stress Modelling, and Fracture Containment- A Northern Oman Example	14	Tengfei Hou (CNPC Engineering Technology R&D Company Ltd) Innovative Hydraulic Fracturing Practices and Technical Insights in Ultra-High Temperature	11:45 - 12:35 IGS Student Contest Venue: Grand Ballroom C
12	:50 0:10:00	13:00	Mohammed Al Ahmad (Aramco) 4 A Comparative Geomechanical Assessment of the Deep Tight Sandstones of Arabia: Qualitative Implications for Hydraulic Fracturing Simulation		10	Abbas khaksar (Baker Hughes) Validation of Geomechanical Sanding Evaluation, Examples from Australian Gas Fields	Mahmoud Jumaa (KFUPM) Real-Time Prediction of Basic Sediment and Water (BS&W) Content from Surface Data Using Ensemble Machine Learning	15	and Ultra-Deep Reservoirs: A Case Study from Qaidam Basin, Western China	Kareem Aboayanah, University of Toronto, Canada - Deformation in Hot-Dry Geothermal Reservoirs: DIC, AE & FDEM Insights. Amir Youssef, KFUPM (Saudi Arabia) - Systematic Investigation of Secondary
13	:00 0:10:00	13:10				Tapan Kidambi (Baker Hughes) Combination of 3D Geomechanical Modeling and DFN Modeling to Identify Sweet Spots for Well Planning in Fractured Reservoirs				Formation Damage during Filter-Cake Removal. ARSHAD KHAN, KFUPM (Saudi Arabia) - Enforced Carbon Mineralization: Implications for Saline Aquifers.
13	:10 1:00:00	14:10	Lunch on 1st Floor							
	Venue: Coffee Fo	yer Area	Poster Session 15: Sanding and Solid Production Geomechanics Session Chair: Marc Hettema, EBN	Poster Session 16: Special Applications of Well Integrity Session Chair: Zhi Fang, Petro Geomechanics LTD		Poster Session 17: Structural Geomechanics, Tectonics, aand Pore Pressure Session Chair: Khaqan Khan, Aramco	Poster Session 18: CO2 Regional Field and Case Studies Session Chair: Tan Chee Phuat, Petronas/EJ Geomechanics			
14	:10 0:10:00	14:20	Osman Hamid (Aramco) 16 Impact of Drilling Fluids on Sanding Potential and Mechanical Integrity in Clastic Sandstone Reservoirs	Mikhail Charupa (SIb) Innovative Approaches to Enhance Micro-Frac Tests for Geomechanical Modeling	21 26	Jakub Fedorik (Aramco) Structural characterization of interference structures in the Arabian Platform	Olufemi Olorode (Louisiana State University) Molecular Investigation of Pore Pressure Effects on Geomechanics During Combined CO ₂ and Surfactant Enhanced Oil Recovery	29		
14	0:10:00	14:30	Anusarn Sangnimnuan (PTTEP) Production Optimization in Sand-Prone Wells Using Sand Transport Model 17	Satya Perumalla (Baker Hughes) Completion Evaluation and Optimization for Repurposing of Wells into Gas Storage Candidates in a Brown Field: A Case Study from Nile Delta	22 27	Olga Lykhachova (Math2Market GmbH) Improved modeling of elastic properties in rock formations for seismic analysis	Siqueira Eudes (SLB) Geomechanical Characterization of Turbidite Deposits in the Montney Formation in Western Canada as a Potential for Carbon Capture and Storage Site	30		
14	:30 0:10:00	14:40	Eakasit Leelachutipong (PTTEP) 18 Integrated Experimental and Numerical Study of Water Saturation-Induced Rock Weakening Effects on Sand Production	M Faizzudin Mat Piah (PETRONAS) Fracture Propagation during Water-Alternate-Gas Injection: A Practical Workflow Based on Wellbore Storage Analysis	23 28	Chin Tee Ang (PETRONAS) Leveraging Spatio-Temporal Attention Neural Network for Seismic Interpretation	Xing Yu (CUP Beijing) Multicomponent CO2 Displacement Efficiency in Tight Sandstone Reservoirs: A Case Study of the Chang 8 Member, Ordos Basin	31		
14	:40 0:10:00	14:50	Sadegh Asadi (Baker Hughes) 19 Geomechanical Assessment of Sanding Risks in Injectivity Tests	Pengcheng Ji (Chengdu University Of Technology) Research on Classification Optimization of Fracturing Parameters for Shale Oil Based on Geological-engineering double Sweet Spot Evaluation	24		Thomas Finkbeiner (KAUST) Stress Constraints and Critically-Stressed Fractures in the Basaltic Jizan Group, Saudi Arabia	32		
14	:50 0:10:00	15:00	Mohammed AL-Aamri (PDO) Breaking Point: When Shale Volume Triggers Sand Failure in Clastic Plays		25					
			Session 19: Constitutive Modeling & Failure Criteria – Advances in stress-strain behavior, plasticity, and damage mechanics	Co-Chair: Omar Dajani, Aramco Co-Chair: Rached Rached, SINOPEC STME		Session 20: AI Methods and Advances in Drilling Geomechanics Venue: Grand Ballroom A	Co-Chair: Xiaorong Li, China University of Petroleum in Beijing Co-Chair: Bashir Aman, Aramco			
15	:00 0:20:00	15:20	Ong Leak Wah (Petronas)	To Fluid Substitute or Not in Geomechanical Workflows: Experimental Evidence	31	Tapan Kidambi (Baker Hughes)	Implications of critically stressed fractures in drilling risk management and production enhancement – Case study from fractured Cretaceous carbonates	35		
15	:20 0:20:00	15:40	Jerry Koo (Rockfield)	A Comparative Study of Mohr Coulomb and Critical State Material Models for Predicting Wellbore Stability and Sand Production Volume Prediction	32	Jijun Miao (SimTech LLC)	Al-Driven Real-Time Hydraulic Fracturing Platform: Development and Field Validation in Complex Shale Reservoirs	36		
15	:40 0:20:00	16:00	28 Alex(Abolfazl) Hashemi (University of New South Wales)	Diametrical Core Deformation Analysis (DCDA) versus Acoustic Emission Analysis (AEA) to determine the in-situ stress state: a comparative study	33	Guifen XI (ADNOC) & Prajit Chakrabarti (Baker Hughes)	Getting the minimum horizontal stress right to troubleshoot drilling problems encountered in overburden formations– Results from the successful Microfrac			
16	:00 0:20:00	16:20	29 M Noor Fajarimi Bin Che Mat (PETRONAS)	Rock Strength and Elasticity Characterization Using Geophysical Logs, Machine	34	Tianshou Ma (Southwest Petroleum University)	tests in the Cretaceous located in Umm Shaif field, offshore UAE A stacking ensemble machine learning approach for pore pressure prediction in			
	:20 0:20:00	16:40	30 Xianjie Xue (CUP Beijing)	Learning, and Core Data Research on Modeling of Subcritical Crack Propagation Incorporating Mesoscopic		, 	real-time during drilling based on mud log data			
16	:40 0:30:00	17:10	Closing by Gang Han: Award Ceremony and Announcement for 2026 IGS	Constituents in Conglomerate						