

ARMA | DGS | SEG
International Geomechanics Symposium
 3–5 November 2020 | Virtual Event



PROGRAMME

CENTRAL STANDARD TIME
 (GMT - 6:00)

**PLATINUM & STUDENT
 REGISTRATION SPONSOR**



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Tuesday, 3 November 2020

All sessions are in Central Standard Time (GMT - 6:00)

06:00 - 07:00	PRE-EVENT NETWORKING & TROUBLESHOOTING
07:00 - 07:15	Welcome by Symposium Chairs
07:15 - 07:35	Opening Address by Ahmed Al Otaibi, Saudi Aramco
SESSION 1	IN-SITU STRESS AND NATURAL FRACTURES
	Session Chairs: Thomas Finkbeiner (KAUST) & Tariq Mahmood (Saudi Aramco)
07:35 - 07:55	Mitigation of Sand Production and Estimation of Insitu Stress Orientation – An Experimental Investigation Deepak Gokaraju & Munir Aldin (MetaRock Lab)
07:55 - 08:15	Mini-frac Tests in a Large-Diameter, Deep and Inclined Open Borehole Kevin Ma (BitCan, Canada), Xianxue Chen (Liaohe Oilfield)
08:15 - 08:35	Forward Modeling of Natural Fractures within Carbonate Reservoir Damage Mechanics Xinpu Shen (China University of Petroleum)
08:35 - 08:50	NETWORKING BREAK – 15 min
08:50 - 09:20	KEYNOTE: Optimizing Production from Unconventional Reservoirs: A Geomechanical Perspective Prof. Mark Zoback (Stanford University)
SESSION 2	STRESS-DEPENDENT ROCK
	Session Chairs: Munir Aldin (MetaRock) & John Cain (Rockfield)
09:20 - 09:40	Stress Dependent Permeability in Tight Gas Reservoirs Osman Hamid (Saudi Aramco)
09:40 - 10:00	Modeling Hydraulic Response of Rock Fractures Under Effective Normal Stress Marwah AISinan & Hyung Kwak (Saudi Aramco), Hussein Hoteit & Xupeng He (KAUST)
10:00 - 10:20	Mechanical Stratigraphy of Carbonate Mudrocks: Insights from Multiscale and Multidisciplinary Data Yaser Alzayer & Ahmed Alnahwi (Saudi Aramco)
10:20 - 10:40	Modeling Sonic Logging in Presence of Stress-induced Anisotropy Timur Zharnikov (Saudi Aramco)
10:40 - 11:00	DFIT Permeability Estimates and Quantitative Hydraulic Fracture Design Optimization: A Utica Case Study Garrett Fowler & Mark McClure (Resfrac), Craig Cipolla (Hess)
11:00 - 12:00	POST EVENT NETWORKING

Wednesday, 4 November 2020

All sessions are in Central Standard Time (GMT - 6:00)

06:00 - 07:00	PRE-EVENT NETWORKING & TROUBLESHOOTING
07:00 - 07:30	KEYNOTE: Drilling, Reservoir Characterization and Fracturing at the Utah FORGE Site Prof. John McLennan (University of Utah)
SESSION 3	DRILLING GEOMECHANICS
	Session Chairs: Gallyam Aidagulov (Schlumberger) & Claire Gill (CGG)
07:30 - 07:50	A Novel FEM-based Wellbore Stability Tool Rached Rached & Thomas Finkbeiner (KAUST)
07:50 - 08:10	Assessment of Wellbore Rupture Modes and Influence of Bedding Plane Slip in Deviated Wellbores and Anisotropic Formations Alexandra Tsopela & Adam Bere (Rockfield)
08:10 - 08:30	The Effect of Drilling Parameters on Wellbore Stability Khaqan Khan (Saudi Aramco)
08:30 - 08:50	Elastic or Poroelastic? Dual Approaches to Underbalanced Drilling Michal Kepinski (Polish Oil & Gas Company)
08:50 - 09:00	NETWORKING BREAK – 10 min
09:00 - 09:30	KEYNOTE: Uncertainty and Risk in Geoengineering Prof Herbert Einstein (Massachusetts Institute of Technology)
SESSION 4	HYDRAULIC FRACTURING – OBSERVATIONS AND MODELING
	Session Chairs: Jesse Hampton (University of Wisconsin-Madison) & Francis Elisabeth (Saudi Aramco)
09:30 - 09:50	Analysis of the Fracture Morphologies from a Laboratory Hydraulic Fracture Experiment on Montney Shale Earl Magsipoc & Giovanni Grasselli (University of Toronto)
09:50 - 10:10	Impact of Bedding Planes Orientation on Fracture Propagation in Carbonated Rocks during Hydrofracturing Tariq K. Al Hashmi & Rashid K. Abu Al-Rub (Khalifa University), Rita Sousa (SIT)
10:10 - 10:30	Understanding Hydraulic Fracture Propagation in Highly Heterogeneous Reservoirs Adam Bere & Glyn Richards (Rockfield)
10:30 - 10:50	Characteristics of Hydraulic Fractures in Terms of the Matrix Permeability and the Natural Fracture Density Shahrazad Roshankhah & Kami Mohammadi (Caltech), Arman K. Nejad (independent consultant)
10:50 - 11:10	Hydraulic Fracturing Propagation Prediction with Bottom Hole Pressure Diagnostic Dezhi Qiu & Rasouli Vamegh (University of North Dakota), Branko Damjanac (Itasca)
11:10 - 12:10	POST EVENT NETWORKING

Thursday, 5 November 2020

All sessions are in Central Standard Time (GMT - 6:00)

06:00 - 07:00	PRE-EVENT NETWORKING & TROUBLESHOOTING
SESSION 5	COUPLED RESERVOIR GEOMECHANICS
	Session Chairs: Osman Hamid (Saudi Aramco) & Juan Florez (Petroleum Development Oman)
07:00 - 07:20	Application of the DFN-FEM Approach to Multistage Hydraulic Fracturing and Reservoir Production of a Bedding Influenced Naturally Fractured Shale Mark Cottrell (Golder), Hamid Pourpak (Total)
07:20 - 07:40	Stimulation Sequencing to Improve Production from Stacked Well Development – A Delaware Basin Example Raj Malpani (Schlumberger)
07:40 - 08:00	Modeling the Full Life Cycle of Unconventional Wells Using Reservoir Simulation: An Application Example Anuj Gupta, Mustafa Basri, R. Mesdour & C. Temizel (Saudi Aramco), K. Patel & Kiran Venepalli (CMG)
08:00 - 08:30	KEYNOTE: Integrated Fracturing, Geomechanics and Reservoir Simulation: Using a Fit-for-Purpose Tool Prof. Mukul Sharma (University of Texas at Austin)
08:30 - 08:40	NETWORKING BREAK – 10 min
SESSION 6	FIELD CASE STUDIES: VALUE OF GEOMECHANICS
	Session Chairs: Abdelwahab Noufal (ADNOC) & Xiaodong Ma (ETH Zürich)
08:40 - 09:00	Deployment Strategies for Effective Hydraulic Fracturing Vertical, Highly Deviated and Horizontal Wells across Challenging Differential Depleted Tight Gas Formations in Oman Juan Chavez (Petroleum Development Oman)
09:00 - 09:20	Role of GeoMechanics in Successful Pilot Evaluation of Unconventional Play in Kuwait Satya Perumalla (Baker Hughes), Taher Mohd. Gezeeri (Kuwait Oil Company)
09:20 - 09:40	Geomechanical Effects Associated with PWRI Fracturing Mohammad Nassir & Dale Walters (CGG)
09:40 - 10:00	Using Advanced Geomechanical Simulations for Exploration Risk Assessment and Development in Frontier Basins Rajesh Goteti (Saudi Aramco)
SESSION 7	NEW TECHNOLOGIES AND AI
	Session Chairs: Mark Ma (SPWLA SAC) & Rashid Abualrub (Khalifa University)
10:00 - 10:20	Geomechanical Analysis of Pressuremeter Testing in Oil and Gas Wells Khalid Alruwaili (Saudi Aramco), Andrea Lisjak (Geomechanica Inc.)
10:20 - 10:40	New Empirical Correlations to Estimate the Mineralogical Compositions Based on X-ray Fluorescence Data Using Machine Learning Techniques Amjed Hassan & Abdulazeez Abdulraheem (KFUPM)
10:40 - 11:00	Intelligent Sensor Selection under Uncertainty for the Detection of Fractures and Flow Patterns in Carbonate Reservoirs Klemens Katterbauer (Saudi Aramco)
11:00 - 11:15	Closing Remarks by Symposium Chairs – 15 min
11:15 - 12:15	POST EVENT NETWORKING