

EAGE Middle East Geomechanics Workshop: Lessons Learned & New Frontiers 2022

Online
1 – 3 March 2022

ISBN: 978-1-7138-4533-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by the European Association of Geoscientists & Engineers (EAGE)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact by the European Association of Geoscientists & Engineers (EAGE)
at the address below.

European Association of Geoscientists & Engineers (EAGE)
PO Box 59
3990 DB Houten
The Netherlands

Phone: +31 88 995 5055
Fax: +31 30 634 3524

eage@eage.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

The Geomechanics Impact of Faults and Discontinuities in Field Development—A Must-Do Assessment..... <i>J. Guerra, G. Nasredin, A. Mohamad-Hussein</i>	1
Cluster Spacing Optimization: A Geomechanical Modeling Perspective	6
<i>N.A. Gonzalez, P.E. Vargas, J. Alvarellos, R.H. Lakshmikantha</i>	
Fracture Density Variation at Different Observation Scales in Carbonate Reservoir Outcrop Analogues..... <i>S. Kokkalas, I. Vakalas, R. Jones</i>	11
Paleo-To Present-Day-In-Situ Stress Discrepancies..... <i>H. Alshehhi, A. Noufal, M. Belouahchia</i>	16
Wellbore Instability Mechanism Evaluation by Computer Vision on Cavings..... <i>N. Castillo, J.R. Campos, M.A. Caja, E. Ibanez, C. Santos</i>	23
Understanding Near Wellbore Fracture Behaviour for Loss Mitigation	28
<i>K. Galbraith, R. Newman</i>	
A Parametric Study on Overburden Stress Evolution Using a Generalized Geertsma Solution	33
<i>M. Asaka</i>	
Digital Assistants for 3D Geomechanical Modeling: An Application for a Pre-Salt Carbonate Field..... <i>F. Falcao, R. Amaral</i>	38
Application of New Geomechanics Technology and Workflow for E&P in a Carbonate Field	43
<i>N. Koutsabeloulis, D. Press, C. Guerra, R. Sonwa, T. Swedan, P.E. Menon</i>	
Geomechanical Integration for Infill Wells Optimization in Fractured Condition Waterflooding Field: An Example from Sultanate of Oman	48
<i>M. Al Aamri</i>	
Geomechanical Assessment De-Risking Fault Stability and Cap Rock Integrity for Gas Injection in a Carbonate Field in Sultanate of Oman	54
<i>M. Al Aamri</i>	
How to Obtain Inexpensive Calibration of Unconfined Compressive Strength Without Destructing the Core	59
<i>M. Kępiński</i>	
Core Testing Solutions of Shale Formations Through Shale Stability Analysis for Drilling Optimization.....	64
<i>E. Muniz, R.N. Khan, J.B. Molster, M.A. Shaver, J.W. Martin, A.J. Mascarenhas, J. Guerra</i>	
Sonic Velocity in Dolostones. Examples from the Arabian Platform	70
<i>M. Salih, A. El-Husseiny, J.J.G. Reijmer, H. Eltom, A. Abdelkarim, M.A. Kaminski</i>	
Drilling Efficiency Improvement Driven by Geomechanics Study.....	74
<i>G. Xi, H. Biyanni, R. Singh, S. AlJaber, J. Alblooshi</i>	
Increasing Operational Efficiency of a Wildcat Exploration Well in Southern Asia	80
<i>S. Kumar, A. Aghazada, E. Al-Duaj, S. Al-Hajri, K. Al-Athainah, A. Al-Temimi</i>	

A Novel Approach to Evaluate the Nature and Rock Mass Quality of Near-Surface Granitic Strata 85
A.S. Akingboye, A.A. Bery

Land Surface Movement Driven by Groundwater Dynamics 90
M. Elkamali, C. Loupasakis, I. Papouptsis, A. Abuelgasim

Author Index