

# **Second EAGE Workshop on Well Injectivity & Productivity in Carbonates 2017**

Doha, Qatar  
11 - 12 December 2017

ISBN: 978-1-5108-5718-6

**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© (2017) by the European Association of Geoscientists & Engineers (EAGE)  
All rights reserved.

Printed by Curran Associates, Inc. (2018)

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](mailto: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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## TECHNICAL KEYNOTE PRESENTATION

<b>Mineral-Dissolution Reactive Flows in Carbonate Rocks - Mathematical and Laboratory Modelling</b> .....	1
<i>P. Bedrikovetsky</i>	

## ACID STIMULATION

<b>Candidate Evaluation, Well Preparation, And Stimulation Strategy For Mature Carbonate Reservoir Restimulation</b> .....	2
<i>A. Retnanto, T. Ahmed</i>	

## BREAKOUT SESSION

<b>Novel AGR - EOR Combination for Treating Extra Natural Gas, Saving Energy, Maximizing Oil Production and CO2 Emissions Mitigation</b> .....	5
<i>A. Amhamed, A. Abotaleb</i>	

## ADVANCES IN CORE FLOODING

<b>Investigation Of The Impact Of Voxel Image Subvolume Size Upon Computed Petrophysical Properties Of Carbonate Rocks Imaged Using X-Ray Computed Microtomography</b> .....	8
<i>T.D. Seers, N. Alyafei, T. Khan</i>	
<b>Analyzing The Effect Of Wettability On Oil Recovery From A Pore-Level Perspective Using Numerical Simulation</b> .....	13
<i>A. Sayed, M. Abdul Ghani, N. Alyafei</i>	

## NUMERICAL MODELING

<b>Effects of Crushed Zone Damage on Leak-off Velocity in Perforated Carbonates</b> .....	18
<i>A. Seagraves, M. Smart, M. Ziauddin</i>	
<b>Coupling Fluid Flow Around Wells with Rock-Fluid Interactions Equations for Simulating Acid Stimulations with a Dual Mesh Approach</b> .....	23
<i>D. Guérillot, J. Bruyelle</i>	

## POSTER SESSION

<b>Application Of Ultrasonic Waves To Remove Near Wellbore Damage To Enhance Injectivity And/Or Productivity Of Wells</b> .....	37
<i>M. Amani, A. Sayed, A. Abdul Rauf</i>	
<b>Characteristics And Distribution Of Thief Zone In Mishrif Carbonate Reservoir In Iraq</b> .....	42
<i>C. Wei, J. Fan, J. Zhang, L. Xiong</i>	
<b>The Impact Of Hard Data Uncertainty In Reservoirs Modelling</b> .....	46
<i>M.M. Fadlelmula, S. Akin, H.S. Duzgun</i>	
<b>On Application Of Sector Models To The Evaluation Of Uncertainty In Phase Productivity Indices Of Wells In Carbonate Reservoirs, Middle East</b> .....	51
<i>A. Darishchev, D. Guérillot</i>	

## **WELL COMPLETION**

<b>New Intelligent Completion Well Design For High-Rate Stimulated Wells Producing From Carbonate Reservoirs</b> .....	61
<i>E. Ponce Da Motta</i>	
<b>Application Of Fiberglass Casing And Tubing In Injection Wells</b> .....	66
<i>A. Abdul Rauf, M. Amani</i>	
<b>Shape Factor Determination Of Horizontal Wells Productivity And Pressure Derivative Functions Evaluation Based On Generalized Model</b> .....	71
<i>F.A.A. Al-Kabbawi, J. Ma, M. Jin</i>	
<b>Author Index</b>	