SPE International Conference and Exhibition on

FORMATION DAMAGE CONTROL

7–9 February
Lafayette, Louisiana, USA
DoubleTree by Hilton Lafayette
www.spe.org/go/2018FD

CONFERENCE PROGRAM
Welcome From the Chairperson

Welcome to the 2018 edition of the SPE International Conference and Exhibition on Formation Damage Control.

It is great to have you participating in this acclaimed international event representing the latest technologies in preventing, diagnosing, and remediating formation damage.

Over the next couple of days, you can expect to:

- Learn from technical presentations covering a wide range of topics
- Gain new insights into well productivity and longevity
- Network with leading experts in completion, workover, and remediation technologies
- Meet with colleagues from around the world
- Hear viewpoints from industry, public, and financial officials who influence the E&P industry

You’ll find that the technical program substantiates the conference’s reputation as the oil and gas industry’s premier event devoted to formation damage, production, and completion technologies. Not only will you learn about the latest technologies, you’ll also gain a deeper understanding of the impact of completion, reservoir engineering, formation evaluation, drilling, and production on the financial health of your company.

In your downtime, local events and attractions along with the mild winter climate of south Louisiana promise a memorable experience. Enjoy Lafayette’s southern hospitality and world-renowned cuisine by participating in the social functions that we have planned for you as part of this event.

Have a great conference! Hope you’ll make the most of all it has to offer.

Ali Ghalambor
Oil Center Research International
Program Chairperson

Syed Ali
Program Chairperson
Consultant
Committees
(as of 18 January 2018)

Steering Committee

General Chairperson
Ali Ghalambor
Oil Center Research International

Exhibits
Glynn Williams
Consultant

Social Functions
Gregory Stutes
Completion Specialists, Inc.

Program
Ali Ghalambor
Oil Center Research International

Finance
Saeed Salehi
University of Oklahoma

Registration
Steve St. Amand
Shell

Sponsorship
Ali Ghalambor
Oil Center Research International

Training Courses
Toddy Guidry
Core Laboratories

Syed Ali
Consultant

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Thank You to Our Sponsors
(as of 18 January 2018)

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In case you missed the pre-conference training courses, SPE offers a multitude of learning opportunities in convenient locations around the world. Courses are held in conjunction with SPE conferences, workshops, local sections, and at SPE training centers.

Learn more about and register for SPE training courses at www.spe.org/go/learn.

Here is a glimpse of the courses which were offered in conjunction with this year’s SPE International Conference and Exhibition on Formation Damage Control.

- Formation Damage in Waterflooding, Produced Water Re-Injection and EOR
- Fracpacking for Sand Control
- Multistage Completions, Fracturing, and Refracturing in Shales
## Schedule of Events
(as of 18 January 2018)

### Tuesday, 6 February

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850-2030</td>
<td>Cajun Ice Breaker Reception (Salons D-E)</td>
<td></td>
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</tbody>
</table>

### Wednesday, 7 February

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>0800-1700</td>
<td>Exhibits (Mezzanine Level - 4th floor)</td>
<td></td>
</tr>
<tr>
<td>0900-1200</td>
<td><strong>Session 1</strong> - Sand Control Practices</td>
<td>Salons B</td>
</tr>
<tr>
<td></td>
<td><strong>Session 2</strong> - Well Stimulation-</td>
<td>Salons A</td>
</tr>
<tr>
<td></td>
<td>Carbonates</td>
<td>ASHLAND</td>
</tr>
<tr>
<td>1200-1400</td>
<td><strong>Keynote Luncheon</strong>, with speaker Rustom</td>
<td>Salons E-F-D</td>
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<tr>
<td></td>
<td>Mody (VP–Technical Excellence at Baker</td>
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<tr>
<td></td>
<td>Hughes, a GE Company)</td>
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<tr>
<td>1400-1700</td>
<td><strong>Session 4</strong> - Well Stimulation Fracturing</td>
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<td></td>
<td><strong>Session 5</strong> - Damage Removal Aspects of</td>
<td></td>
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<td></td>
<td>Wellbore Fluids</td>
<td></td>
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<tr>
<td>1600-1830</td>
<td><strong>Knowledge Sharing ePosters I</strong> (Oaklawn</td>
<td></td>
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<tr>
<td></td>
<td>&amp; Rosedown)</td>
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<tr>
<td>1830-2030</td>
<td>Welcome Reception (River Oaks Event Center-</td>
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<td></td>
<td>offsite)</td>
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### Thursday, 8 February

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>0800-1700</td>
<td>Exhibits (Mezzanine Level - 4th floor)</td>
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<tr>
<td>0830-1130</td>
<td><strong>Session 8</strong> - Well Stimulation Tools and</td>
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<tr>
<td></td>
<td>Treatments</td>
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<td></td>
<td><strong>Session 9</strong> - Injection Wells and</td>
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<tr>
<td></td>
<td>Injectivity</td>
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<tr>
<td>1030-1400</td>
<td><strong>Knowledge Sharing ePosters II</strong> (Oaklawn</td>
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<tr>
<td></td>
<td>&amp; Rosedown)</td>
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</tr>
<tr>
<td>1130-1330</td>
<td><strong>Keynote Luncheon</strong>, with speaker Marc</td>
<td>Salons E-F-D</td>
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<tr>
<td></td>
<td>Rowland (Founder and Senior Managing</td>
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<td></td>
<td>Director of IOG Capital, LP)</td>
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<tr>
<td>1330-1630</td>
<td><strong>Session 12</strong> - Sand Control Case Studies</td>
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<td></td>
<td><strong>Session 13</strong> - Formation Damage</td>
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<td></td>
<td>Attributed to Drilling, Cementing and</td>
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<td></td>
<td>Perforating</td>
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<tr>
<td></td>
<td><strong>Session 14</strong> - New Developments and</td>
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<td></td>
<td>Field Experiences</td>
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<tr>
<td>1830-2200</td>
<td>Social Dine and Dance (Randol's Restaurant &amp; Cajun Dance Spot - offsite)</td>
<td></td>
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### Friday, 9 February

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>0830-1200</td>
<td><strong>Open Forum</strong>: Mythbusters: Will Formation</td>
<td></td>
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<tr>
<td></td>
<td>Damage Crush Your Completion? Proven or</td>
<td>Salons A-B</td>
</tr>
<tr>
<td></td>
<td>Busted!</td>
<td></td>
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<tr>
<td>1130-1400</td>
<td>On-Site Product Exhibit and Luncheon</td>
<td>(north parking lot, overlooking the river)</td>
</tr>
</tbody>
</table>
Schedule – Quick View

Registration
Located on the Mezzanine Level (Fourth floor).
  - **Tuesday, 6 February**: 1600–1900
  - **Wednesday, 7 February**: 0800–1700
  - **Thursday, 8 February**: 0800–1700

Exhibition
Located on the Mezzanine Level (Fourth floor).
  - **Wednesday, 7 February**: 0800–1700
  - **Thursday, 8 February**: 0800–1700

Speaker Check-In
Speaker Check-In is located in the Oak Alley room. Speakers are requested to check-in prior to reporting to their assigned session room.
  - **Wednesday, 7 February**: 0800–1700
  - **Thursday, 8 February**: 0800–1700

Author’s Breakfast
Presenting authors are invited to attend the authors’ breakfast in Salon D on Wednesday and Thursday from 0700-0800, on the day of their presentation, and seat at the table designated for their session.

General Information

Consent to Use of Photographic Images
Attendance at or participation in SPE meetings and other activities constitutes an agreement by the registrant to SPE’s use and distribution of the registrant’s image or voice in promoting future SPE meetings in any way SPE deems appropriate.

Copyright Information
All SPE sessions are protected by US copyright laws. Photography and video/audio recording of any kind are strictly prohibited in the sessions and throughout the exhibition area.

About the Society of Petroleum Engineers
The Society of Petroleum Engineers (SPE) is a not-for-profit professional association whose more than 164,000 members in 143 countries are engaged in oil and gas exploration and production. SPE is a key resource for technical knowledge providing publications, events, training courses, and online resources at www.spe.org.
### 01 Sand Control Practices

**Salon B**

**Session Chairpersons:** George K. Wong, University of Houston; Michael T. Hecker, ExxonMobil Development Co

<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>0900</td>
<td>189528</td>
<td><strong>Sand Control Design Through Assessment of Mathematical Models Representing Particle Size Distribution of Reservoir Sands</strong></td>
<td>M. Roostaei, A. Nouri, V. Fattahpour, M. Mahmoudi, University of Alberta; M. Izadi, Louisiana State University; A. Ghalambor, Oil Center Research International; B. Fermaniuk, RGL Reservoir Management</td>
</tr>
<tr>
<td>0930</td>
<td>189515</td>
<td><strong>A Novel Approach to Constant Flow-Rate Sand Retention Testing</strong></td>
<td>C.C. Fischer, H.M. Hamby, Constien &amp; Associates</td>
</tr>
<tr>
<td>1000</td>
<td>189484</td>
<td><strong>Downhole Gauge Data Analysis of Open-Hole Gravel Packing Treatments: Methodology and Examples</strong></td>
<td>A. Kumar, M. Beldongar, D.M. Agee, B.R. Gadiyar, M. Parlar, Schlumberger</td>
</tr>
<tr>
<td>1030</td>
<td>189568</td>
<td><strong>Sand Production Caused by Water Hammer Events: Implications for Shut-In Protocols and Design of Water Injection Wells</strong></td>
<td>H. Wang, J. Hwang, M.M. Sharma, The University of Texas At Austin</td>
</tr>
<tr>
<td>1100</td>
<td>189481</td>
<td><strong>Estimating Sand Production Through Gravel Packs</strong></td>
<td>C. Wu, M.M. Sharma, The University of Texas at Austin; M.J. Fuller, S.P. Mathis, Chevron Energy Technology Company</td>
</tr>
<tr>
<td>1130</td>
<td>189539</td>
<td><strong>Comparative Study on the Performance of Different Stand-alone Sand Control Screens in Thermal Wells</strong></td>
<td>V. Fattahpour, M. Mahmoudi, RGL Reservoir Management; C. Wang, O. Kotb, M. Roostaei, A. Nouri, University of Alberta; B. Fermaniuk, A. Sauve, C. Sutton, RGL Reservoir Management</td>
</tr>
</tbody>
</table>
02 Well Stimulation - Carbonates
Salon A
Session Chairpersons: D V Satya Gupta, Baker Hughes; Wade H. Williams, Chevron Corporation

0900    189546  Influence of Transport Conditions on Optimal Injection Rate for Acid Jetting in Carbonate Reservoirs
D. Ridner, T. Frick, D. Zhu, A.D. Hill, Texas A&M University; R. Angeles, N. Vishnumolakala, ExxonMobil Upstream Research Company; C.E. Shuchart, ExxonMobil Development Company

0930    189506  Fundamental Wormhole Characteristics in Acid Stimulation of Perforated Carbonates
A.N. Seagraves, M.E. Smart, M.E. Ziauddin, Schlumberger

1000    189496  A Novel Equipment-Friendly and Environment-Friendly and Well Stimulation Fluid for Carbonate Reservoirs: Better Wormholes and Lower Corrosion at Reservoir Conditions
J.S. Pandey, University of Kansas, Technical University of Denmark; N. Nazari, University of Kansas; K. Thomsen, Technical University of Denmark; R. Barati Ghahfarokhi, University of Kansas

1030    189559  New Single-Phase Retarded Acid System Boosts Production after Acid Fracturing in Kazakhstan
D. Abdrazakov, M. K.R. Panga, C. Daeffler, Schlumberger; D. Tulebayev, Emir Oil LLP

1100    189519  The Effect of pH and Mineralogy on the Retention of Polymeric Scale Inhibitors on Carbonate Rocks for Precipitation Squeeze Treatments
K. Jarrahian, K.S. Sorbie, M.A. Singleton, L.S. Boak, A.J. Graham, Heriot-Watt University

1130    189486  Skin Factor Equations for Anisotropic Wormhole Networks and Limited Entry Completions
M. Palharini Schwalbert, Petrobras and Texas A&M University; D. Zhu, A.D. Hill, Texas A&M University
## Technical Program
(As of 18 January 2018)

### Wednesday, 7 February 2018 | 0900–1200

#### 03 Damage Mechanisms
Ashland

**Session Chairpersons:** Pavel Bedrikovetsky, University of Adelaide; Michael Byrne, LR Senergy

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation ID</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0900</td>
<td>189490</td>
<td>A Flow Laboratory Study of an Enhanced Perforating System Designed for Well Stimulation</td>
<td>R.P. Satti, R. White, D. Ochsner, T. Sampson, S.N. Zuklic, Baker Hughes, a GE company; S. Geerts, Owen Oil Tools Inc</td>
</tr>
<tr>
<td>0930</td>
<td>189488</td>
<td>Understanding the Impact of Production Slugging Behavior on Near-Wellbore Hydraulic Fracture and Formation Integrity</td>
<td>H. Lu, O.L. Anifowoshe, L. Xu, Schlumberger</td>
</tr>
<tr>
<td>1000</td>
<td>189535</td>
<td>Improving Well Productivity of Tight Gas Reservoirs by Using Sodium Silicate in Water-Based Drill-in Fluid</td>
<td>T. Jafarov, M.A. Mahmoud, A.A. Al-Majed, S.M. Elkatatny, B.S. Bageri, King Fahd University of Petroleum &amp; Minerals</td>
</tr>
<tr>
<td>1030</td>
<td>189541</td>
<td>Salt Precipitation in the Near Well Bore Region of Gas Wells</td>
<td>P. Egberts, R. Nair, A. Twerda, TNO</td>
</tr>
<tr>
<td>1100</td>
<td>189471</td>
<td>Investigating Impact of Rock Type and Lithology on Mud Invasion and Formation Damage</td>
<td>C.P. Ezeakacha, S. Salehi, University of Oklahoma; A. Ghalambor, Oil Center Research Intl.; F. Bi, Grace Instrument Company</td>
</tr>
<tr>
<td>1130</td>
<td>189523</td>
<td>Treating Liquid Banking Problem To Increase Shale Gas Wells Productivity</td>
<td>T.T. Phan, M. Kazempour, D.T. Nguyen, Nalco Champion, An Ecolab Company</td>
</tr>
</tbody>
</table>
**Special Event**  
(as of 18 January 2018)

**Wednesday, 7 February 2018 | 1200–1400**

**Keynote Luncheon**  
Salons E-F-D

**Speaker:**  
**Rustom Mody**  
VP–Technical Excellence  
at Baker Hughes, a GE Company

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**Biography**

**Rustom K. Mody, P.E.,** is vice president of technical excellence for Baker Hughes, a GE company. He has more than 39 years’ experience in drilling, completion, and production, of which 30 years has been with Baker Hughes, a GE company in various executive positions in technology.

Mody has authored more than 75 articles, technical presentations and publications, and holds 18 patents. He has won numerous Meritorious Awards for Engineering Innovation. Mody is a Distinguished Member of SPE, member of the International Association of Drilling Engineers (IADC), and serves on various committees. He also serves on the board of advisors at many institutions and industry organizations. In 2016 he was appointed to serve on the advisory board of Council on Competitiveness Technology Leadership and Strategy Initiative in Washington DC.

He earned Bachelor of Science degree in Mechanical Engineering from University of Pune, Master of Science degree in Mechanical Engineering from University of Oklahoma, and Master of Business Administration in Finance from University of Houston.
04 Well Stimulation - Fracturing
Salon B

Session Chairpersons: Harold Brannon, Sun Drilling Products Corp.; Mahmoud Asadi, Fritz Industries Inc

1400 189494 Integrated Fracture Performance and Formation Damage Assessment to Enhance Well Production in the Hassi Messaoud Field, Algeria: Case Study
M. Azari, H. Hadibeik, S. Ramakrishna, Halliburton; K. Bakiri, A. Imouloudene, Sonatrach; A. Ghalambor, Oil Center Research International

1425 189476 Controlling Proppant Wettability Leads to Increase Flowback Recovery and Flow in Frac-Packs
N. Spurr, K. Langlinais, D.G. Stanley, M.J. Usie, C. Li, Baker Hughes, a GE company

1450 189551 Effect of Fracturing Chemicals on Well Productivity: Avoiding Pitfalls in “Big Data” Analysis
D. Khvostichenko, S.M. Makarychev-Mikhailov, Schlumberger

1515 189543 Novel Chelation Opens the Door for Redeployment of Sea Water Based Fracturing Fluids in High Temperature Wells
D. Gupta, P.S. Carman, S. Nguyen, Baker Hughes, a GE Company

1540 189478 Successful Application of Clean Fracturing Fluid Replacing Guar Gum Fluid to Stimulate Tuffstone in San Jorge Basin, Argentina
H. Qu, R. Liancheng, Chongqing University of Science & Technology; H. Wenhao, University of Louisiana at Lafayette; J. Tingxue, Y. Yiming, Sinopec Research Institution of Petroleum Engineering

1605 189555 Lowering Fresh Water Usage in Hydraulic Fracturing by Stabilizing scCO2 Foam with Polyelectrolyte Complex Nanoparticles Prepared in High Salinity Produced Water
H. Hosseini, J. Tsau, E. Peltier, R. Barati, University of Kansas

1630 189498 Fracture Permeability of Activated Calcite Veins to Water and Gas
M. Mokhtari, University of Louisiana At Lafayette; A.N. Tutuncu, Colorado School of Mines
## 05 Damage Removal Aspects of Wellbore Fluids

### Salon A

**Session Chairpersons:** Allan Twynam, Consultant; Lanne R. Houchin, Production Improvement Consultants

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper Code</th>
<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>1400</td>
<td>189500</td>
<td><strong>The Real World isn’t Perfect: An Investigation into Wellbore Clean-up with Non-Uniform Filtercake Exposure</strong></td>
<td>C.C. Fischer, Constien and Associates</td>
</tr>
<tr>
<td>1425</td>
<td>189475</td>
<td><strong>Development of Environmentally Friendly Epoxies for Well Conformance</strong></td>
<td>F. Bertram, Maersk Oil; A. Tuxen, T.B. Nielsen, Danish Technological Institute</td>
</tr>
<tr>
<td>1450</td>
<td>189959</td>
<td><strong>Novel Surface Modified Nanoparticles for Mitigation of Condensate and Water Blockage in Gas Reservoirs</strong></td>
<td>M.A. Sayed, F. Liang, H. Ow, Aramco Services Company</td>
</tr>
<tr>
<td>1515</td>
<td>189562</td>
<td><strong>Laboratory Preparatory Work of Cased-hole Clean-up as a Part of Entire Remedy Program in Removing Damage Attributed to Oil-Based-Mud</strong></td>
<td>H. Yonebayashi, Y. Miyagawa, T. Watanabe, S. Kurokawa, S. Teshima, R. Yamada, INPEX</td>
</tr>
<tr>
<td>1540</td>
<td>189538</td>
<td><strong>Chelate Based Acidizing Fluid Provides HSE Advantages in Successful North Sea Application</strong></td>
<td>A.A. Dos Santos, E. De Oliveira, T. Stanitzek, AkzoNobel; A. Hoq, A. Doghmi, BP</td>
</tr>
<tr>
<td>1605</td>
<td>189563</td>
<td><strong>High-Temperature Viscoelastic Surfactant Fluids with Low Scaling Tendency and Based on Seawater, Produced Water, or Brines</strong></td>
<td>L. Li, F. Liang, Aramco Services Company</td>
</tr>
<tr>
<td>1630</td>
<td>189487</td>
<td><strong>Microbial Remediation of Guar-based Fracturing Fluid Damage</strong></td>
<td>X. Ma, G. Lei, Z. Wang, Q. Da, P. Song, X. Zhang, C. Yao, China University of Petroleum (East China)</td>
</tr>
</tbody>
</table>
Technical Program
(as of 18 January 2018)

Wednesday, 7 February 2018 | 1400–1700

06 Formation Damage Remediation and Diagnostics
Ashland


1400  189514  Microemulsions Increase Well Productivity by Removing Organic Deposits and Inorganic Scale in One-Step
L. Quintero, M. Felipe, K. Miller, R. Ponnapat, Baker Hughes, a GE company; M. Loya, Breitburn Energy Partners

1425  189558  Formation Damage Circumvent in HP-HT due to Pore Pressure Regression
S.S. Shaker, Geopressure Analysis Services

1450  189489  Application of Solid Scale Inhibitor in Annular Space to Reduce Well Intervention Cost
S. Bhaduri, D. Shen, D. Gupta, Baker Hughes, a GE company

1515  189560  Formation Damage versus Chemical Performance - Important Aspects for Upscaling Scale Inhibitor Squeeze Core Floods for Carbonate Systems
I. Mokogwu, S.C. Wilson, G.M. Graham, Scaled Solutions Limited

1540  189533  Systematic Laboratory and Modelling Study of Kaolinite in Rocks On Formation-Damage-Fines-Migration (non-equilibrium effects, analytical model)

1605  189503  Dispersion-Based Paraffin Inhibitors Adsorbed in Solid Substrates Affords Long Term Flow Assurance
F.H. De Benedictis, S. Bhaduri, Baker Hughes, a GE company

1630  189526  A New Tool for Formation Damage Management
A. Restrepo, Equion Energia LTD; R.D. Zabala Romero, Ecopetrol SA; J.M. Calle, K.Y. Espinosa, J.M. Mejia, Universidad Nacional De Colombia
07 Knowledge Sharing ePoster I
Oaklawn & Rosedown

Session Chairperson: Syed Ali, Consultant

189540 Improving Wormholing Efficiency in Carbonates With a Novel System based on Hydrochloric Acid

189571 Effect of Multi-Stage Hydraulic Fractures on Performance of Naturally Fractured Tight Oil Reservoirs with Bottom-Water
S. Prasun, Louisiana State University; A. Ghalambor, Oil Center Research International

189534 Revival of Green Conformance and IOR/EOR Technologies: Nanosilica Aided Silicate Systems - A Review
I.J. Lakatos, J. Lakatos-Szabó, G.J. Szentes, University of Miskolc, Research Institute of Applied Earth Sciences

189509 Integrated Image Processing and Computational Techniques to Characterize Formation Damage
C.P. Ezeakacha, University of Oklahoma; A. Rabbani, Sharif University of Technology; S. Salehi, University of Oklahoma; A. Ghalambor, Oil Center Research Intl.

189529 Economic Evaluation of Wettability Alteration towards the Alleviation of Condensate Blocking
O.I. Ajagbe, University of Oklahoma; M. Weiss, Apache Corp.; M.M. Fahes, University of Oklahoma

189467 Fracture Effect Limitation on Residual Oil Saturation: Aperture Shrinkage
S. Canbolat, Near East University; M. Parlaktuna, Middle East Technical University

189958 Use of Fluid Level Survey Data to Infer Near-Wellbore Conditions for Curing Lost Circulation Wells
B. Guo, University of Louisiana at Lafayette; J. Li, University of Petroleum China Beijing; X. Zhang, X. Cai, University of Louisiana at Lafayette; G. Wang, Southwest Petroleum University
08 Well Stimulation Tools and Treatments
Salon B

Session Chairpersons: Leonard Kalfayan, Hess Corp.; Mehdi Azari, Halliburton Co.

0830 189477 A Novel High-Pressure, Low Temperature Perforation Diverter

0855 189473 Modeling the Effectiveness of Diversers for Matrix Acidizing Based on Filter Cake Characteristics
X. Tan, C. Payne, M.K. Panga, Schlumberger

0920 189499 The Remediation of Oilfield Asphaltenic Deposits: Near-Well-Bore Application
N. Budd, Nalco Champion; N.B. Joshi, Anadarko Petroleum Corp; C. Russell, A. Paille, Q. Li, Nalco Champion

0945 189517 Corrosion Mitigation of HF Acid-Containing Fluids for Ti Alloy in Marine Risers
E.A. Reyes, A. Kridner, Halliburton

1010 189482 Modern Fracturing Revitalizes Dormant Technologies: A Case History
C. Li, P.S. Carman, B.J. Davis, Baker Hughes, a GE company

1035 189573 An Improved Ball Sealer Model for Well Stimulation
X. Tan, X. Weng, T.K. Ahmed, T. Bukovac, P. Enkababian, Schlumberger

1100 189567 Evaluation of the Effectiveness of Matrix Stimulation Recipes for High CO2 Carbonate Reservoir to Bypassing Formation Damage
### Technical Program

(as of 18 January 2018)

#### Thursday, 8 February 2018 | 0830–1130

**09 Injection Wells and Injectivity**

**Salon A**

**Session Chairpersons:** Euin Vickery, Shell International E&P (Rijswijk); Carl T. Montgomery, NSI Technologies LLC

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<tr>
<th>Time</th>
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<th>Authors</th>
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<tr>
<td>0830</td>
<td>Injectivity Decline during Waterflooding and PWRI due to Fines Migration</td>
<td>S. Borazjani, L.B. Chequer, T. Linsay Russell, P.G. Bedrikovetsky, The University of Adelaide</td>
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<tr>
<td>0855</td>
<td>An Experimental Investigation of Formation Damage Induced by PWRI in Unconsolidated Sands</td>
<td>J. Ochi, R. Oughanem, Total</td>
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<td>0920</td>
<td>A Theoretical Study of the Effect of Salt Precipitation on CO₂ Injectivity</td>
<td>R. Shaibu, Y.A. Sokama-Neuyam, J.R. Ursin, University of Stavanger</td>
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<td>0945</td>
<td>Successful Hot Water Injection Trial in Stacked Reservoirs in South Lokichar Basin - Onshore Kenya</td>
<td>M. Jha, S. Namuganyi, J. Van Limborgh, A. Wenk, M. Amin, F. Anuar, P.A. Peytchev, Tullow Oil Plc.; S. Lightford, Formerly Halliburton; B. Reilly, Halliburton; D. Brankling, OCTL</td>
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<td>1010</td>
<td>Fines-Migration-Assisted Waterflooding To Improve Sweep Efficiency (Analytical Model)</td>
<td>S. Borazjani, the University of Adelaide; A. Behr, L.C. Genolet, P. Kowollik, Wintershall Holding GmbH; A. Zeinijahromi, P. Bedrikovetsky, the University of Adelaide</td>
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## Technical Program (as of 18 January 2018)

### Thursday, 8 February 2018 | 0830–1130

#### 10 Formation Damage Attributed to Drilling, Cementing and Perforating

**Ashland**

**Session Chairpersons:** Syed Ali, Consultant; Oya Karazincir, Chevron ETC

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<tr>
<td>0830</td>
<td>189505</td>
<td>How Does Mixing Water Quality Affect Cement Properties</td>
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<td>F. Saleh, R. Rivera, S. Salehi, C. Teodoriu, University of Oklahoma; A. Ghalambor, Oil Center Research Intl.</td>
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<tr>
<td>0855</td>
<td>189483</td>
<td>Perforation Crushed Zone Characteristics in a Subsurface Sandstone</td>
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<td>G. Craddock, J. Smith, D.J. Haggerty, Halliburton Jet Research Center</td>
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<td>0920</td>
<td>189531</td>
<td>Qualification and Implementation of a Technologically and Cost Effective Solution for Perforating in Drilling Fluid for HPHT Fields: Gudrun Case History</td>
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<td>N. Fleming, M. Karunakaran, S. Hireche, Statoil ASA</td>
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<td>0945</td>
<td>189553</td>
<td>Mechanisms of Perforation-Induced Damage in Carbonates and the Effect on Injection Flow Performance</td>
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<td>A.N. Seagraves, M.E. Smart, M.E. Ziauddin, Schlumberger</td>
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<td>1010</td>
<td>189472</td>
<td>Transient Cuttings Transport with Foam in Horizontal Wells-A Numerical Simulation Study for Applications in Depleted Reservoirs</td>
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<td>S. Prasun, Louisiana State University; A. Ghalambor, Oil Center Research International</td>
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<td>1035</td>
<td>189530</td>
<td>Evaluating Formation Damage Predictions Drawn From HPHT Core Flooding Tests on Brent Group Sandstone Reservoir Cores with Heavy Formate Drill-In Fluids: A Case Study From the Huldra Field</td>
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<td>J.D. Downs, Formate Brine Ltd; N. Fleming, Statoil ASA</td>
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<td>1100</td>
<td>189572</td>
<td>Laboratory Investigation of Zinc and Lead Sulphide Inhibition</td>
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<td>B.G. Al-Harbi, A.J. Graham, K.S. Sorbie, Heriot-Watt University</td>
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Thursday, 8 February 2018 | 1030–1400

11 Knowledge Sharing ePoster II
Oaklawn and Rosedown

Session Chairperson: Hugues Poitrenaud, Total

189537 Methodology for Evaluating Drag Reduction Characteristics of Friction Reducer
S.N. Shah, University of Oklahoma; M. Asadi, Fritz Industries Inc.; R.S. Wheeler, Baker Hughes, a GE company; H.D. Brannon, Sun Drilling Products Corp.; S. Kakadjian, Keane Group Holdings; B. Ainley, ConocoPhillips; Y. Chen, Schlumberger; P.M. Mcelfresh, Consultant; A. Ghalambor, Oil Center Research Intl.; P.B. Kaufman, Kaufman Consulting; D. Archacki, Shrieve Chemical Products

189480 Determination of Maximum Allowable Safe Core Retrieval Rates
R. Ashena, G. Thonhauser, Montan University of Leoben; A. Ghalambor, Oil Center Research Intl.; V. Rasouli, University of North Dakota; R. Manasipov, Montan University of Leoben

189495 Causes and Mitigation of Completion Fluids-induced Formation Damage in High Temperature Gas Wells
B.S. Hamzaoui, A.M. Al Moajil, Saudi Aramco

189564 Application of Polyelectrolyte Complex Nanoparticles to Increase the Lifetime of Poly (Vinyl Sulfonate) Scale Inhibitor
M. Veisi, S.J. Johnson, K. Peltier, C. Berkland, University of Kansas; J. Liang, Texas A&M University; R. Barati Ghahfarokhi, University of Kansas

189469 Newly Developed, Highly Automated Apparatus for Rapid Evaluation of Stimulation Fluid Additives
A. Recio, III, D.N. Benoit, A. Potty, J. Sun, K. Henkel, Halliburton Energy Services

(continued on next page)
11 Knowledge Sharing ePoster II (continued)
Oaklawn and Rosedown
Session Chairperson: Hugues Poitrenaud, Total

189570  The Impact of the Fracturing Fluid Spontaneous Imbibition on the Petrophysical Properties of Low Permeability Reservoirs
A.A. Al-Ameri, M.C. Watson, T.D. Gamadi, Texas Tech University

189511  Multifunctional, Salt-Tolerant Friction Reducer Stabilizes Clay Formations and Minimizes the Alteration of Rock Wettability under Downhole Conditions after Hydraulic Fracturing
L. Xu, K. He, A. Wittmeyer, J.W. Ogle, Multi-Chem, A Halliburton Service

189960  Nanomaterials-Enhanced Hydrocarbon-Based Well Treatment Fluids
L. Li, S. Ozden, Aramco Services Company; G.A. Al-Muntasheri, Saudi Aramco; F. Liang, Aramco Services Company
Thursday, 8 February 2018 | 1130–1330

Keynote Luncheon
Salons E-F-D

Speaker:

Marc Rowland
Founder and Senior Managing Director of IOG Capital, LP

Biography

Marc Rowland is the founder & senior managing director of IOG Capital, where he leads the company’s investment team through his 40+ years of experience in the oil & gas upstream and midstream industry.

He is considered a leading industry expert in energy mergers, acquisitions, divestitures, public securities transactions, and derivatives facilities. He has won numerous awards for transactions, and has received recognition by Institutional Investor as “Energy CFO of the Year.”

Rowland is the former executive vice president and chief financial officer of Chesapeake Energy Corporation, where he led the company from its IPO in 1993 to a $40+ billion market cap oil and gas producer for 18 years.

Rowland serves on a number of private and public boards, including as chairman of the board for SilverBow Resources. He is a 1975 alumnus of Wichita State University where he currently serves as a member of the Investment Committee.
Technical Program
(as of 18 January 2018)

Thursday, 8 February 2018 | 1330–1630

12 Sand Control - Case Studies
Salon B

Session Chairpersons: Mehmet Parlar, Schlumberger; Xiuli Wang, Consultant

1330 189554 A Novel Viscoelastic Surfactant Fluid System Incorporating Nanochemistry for High Temperature Gravel Packing Applications

1400 189548 Tunu: From lab to Field Application With a new Hybrid Inorganic-Organic Sand Consolidation Fluid as Primary Treatment on Shallow Reservoirs
J. Andrieu, B. Kutzky, B.T. Schackmann, Engineered nanoProducts Germany AG; A. Mahardhini, I. Abidiy, H.M. Poitrenaud, Total

1430 189491 Openhole Mechanical Packer with Eccentric Shunt Tube Gravel Pack Assembly Reduces Capex and Accelerates Production in Kaombo Deepwater Development, Angola
J. Hernandez, Total SA; B.H. Lai, Total E&P Angola; O. Bahabanian, Total SA; D. Goyallon, Total E&P; A.A. Ahmad Nordin, C.E. Nwafor, E.Y. Taleballah, L. Semin, Schlumberger

1500 189557 A Large-Scale Sand Retention Test Facility for Evaluation and Selection of Optimal Standalone Sand Screen for Injection Wells in Thermal Operations
M. Mahmoudi, V. Fattahpour, RGL Reservoir Management; C. Wang, O. Kotb, M. Roostaei, A. Nouri, University of Alberta; B. Fermaniuk, A. Sauve, C. Sutton, RGL Reservoir Management

1530 189556 Optimising Sand Control And Production Strategies in A Low Permeability Sandstone Oil Field
B. Daramola, Propellio Limited; C.M. Alinnor, Chevron Nigeria Ltd.

1600 189492 Successful Installation of Horizontal Openhole Gravel-Pack Completions in Low Fracture Gradient Environment: A Case History from Deepwater West Africa
J. Jeanpert, T. Banning, C. Abad, I. Mbamalu, Schlumberger; J.A. Hardy, CNR International
## 13 Formation Damage Attributed to Completion Fluids

### Salon A

**Session Chairpersons:** Niall Fleming, Statoil ASA; Reza B. Ghaahfarokhi, University of Kansas

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<th>Session Title</th>
<th>Presenters</th>
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<td>1330</td>
<td>Encapsulating Biopolymer for Control of Clay and Fines Generation in Unconventional Reservoirs</td>
<td>C. Landis, IBC LLC; D.M. Maley, J. Nelson, STEP Energy Services; M.V. Blackmon, A.V. Madduri, C.J. Rodencal, IBC LLC</td>
</tr>
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<td>1430</td>
<td>Geochemical and Geomechanical Alterations Related to Rock-Fluid-Proppant Interactions in the Niobrara Formation</td>
<td>J.G. Iriarte, Well Data Labs, Colorado School of Mines; D. Katsuki, A.N. Tutuncu, Colorado School of Mines</td>
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<tr>
<td>1530</td>
<td>Unveil the Unknown: Combining the Laboratory Study of Fracturing Fluids at High Pressure with a State-of-the-Art Hydraulic Fracturing Simulator</td>
<td>D. Vernigora, O.V. Olennikova, S. Parkhonyuk, A. Fedorov, L. Belyakova, I. Velikanov, A.S. Konchenko, Schlumberger</td>
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<tr>
<td>1600</td>
<td>Rates of Permeability Restoration in Tight Gas-Bearing Sandstone Cores Following Long-Duration Exposure to Cesium Formate Fluids Under HPHT Conditions - A Detailed Laboratory Investigation</td>
<td>J.D. Downs, Formate Brine Ltd; S.K. Howard, Z.Q. Anderson, Cabot Specialty Fluids</td>
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## 14 New Developments and Field Experiences

**Ashland**

**Session Chairpersons:** David Wagner, Chevron ETC; Hugues M. Poitrenaud, Total

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<tr>
<td>1400</td>
<td>189516</td>
<td><strong>Improving Well Productivity in North Kuwait Well by Optimizing Radial Drilling Procedures</strong></td>
<td>A.K. Al-Jasmi, A. Al-Sabee, A.D. Al-Awadh, A. Attia, A. Elsayed, Kuwait Oil Company; A. El-Mougy, Petrosas Oil Services and Radial Drilling Services</td>
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<tr>
<td>1430</td>
<td>189504</td>
<td><strong>Well Assessment and Evaluation by Decomposition of Energy Dissipation</strong></td>
<td>L. Chu, P. Ye, Hess Corporation</td>
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<td>1530</td>
<td>189532</td>
<td><strong>Well Productivity Impairment Due to Fines Migration</strong></td>
<td>Z. You, P.G. Bedrikovetsky, The University of Adelaide</td>
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<tr>
<td>1600</td>
<td>189466</td>
<td><strong>Dynamic Flow Modeling and Risk Mitigation Enables Optimized Perforation Design in Complex Well Completions</strong></td>
<td>R.P. Satti, D. Bale, J. Gilliat, P. Hillis, Baker Hughes, a GE company</td>
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Cajun Icebreaker  
Tuesday, 7 February, 1830–2030  
Enjoy an evening with friends, hors d’oeuvres, and cocktails at the DoubleTree by Hilton Lafayette Salons D-E.  
*Sponsored by Halliburton.*

Knowledge Sharing ePosters  
Wednesday, 7 February, 1600–1830  
Thursday, 8 February, 1030–1400

Welcome Reception  
Wednesday, 8 February, 1830–2030  
“Laissez les bons temps rouler!” Come pass a good time with an evening of food and fun at the River Oaks Event Center (offsite).

Social Dine and Dance  
Thursday, February 08, 1830 -2200  
Randol’s Restaurant and Cajun Dance Spot (offsite)

Open Forum–Mythbusters: Will Formation Damage Crush Your Completion? Proven or Busted!  
Friday, 9 February, 0830–1200  
Moderators: Niall Fleming, Statoil ASA and Allan Twynam, Consultant  
Discussion Leaders: Ryan van Zanten, Shell; Chris Shuchart, ExxonMobil; Wade Williams, Chevron ETC  
The forum will cover many of the myths around formation damage through interactive and stimulating discussions and will attempt to conclude if they are proven or busted!

On-Site Product Display and Luncheon  
Friday, 9 February, 1130-1400
The exhibition is located on the Mezzanine Level (Fourth floor) and open to conference registrants Wednesday and Thursday.

**Wednesday, 7 February:** 0800–1700  |  **Thursday, 8 February:** 0800–1700

Exhibitors (as of 18 January 2018)

- Cabot Corp.
- Constien and Associates
- Core Mineralogy
- Corex UK Ltd
- Lloyd’s Register
- Pegasus Vertex, Inc.
- RGL Reservoir Management Inc.
- Scaled Solutions Ltd
A clean well is a productive well. In addition to maximizing the production rate and value of the well, the risk of gas or water coning, or failure of sand control completions is minimized.

ORCA™ for WBM and ORCA™ for OBM treatment fluids are field-proven for treating water-based or oil-based drill-in fluid filter cake drilling damage in the reservoir.

ORCA™ treatment fluids are designed to achieve uniform longitudinal and radial treatment of the whole section, to efficiently remove filter cake damage in deviated and horizontal wells.

Get in touch
Contact Ian McKay or Ralph Harris

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contact@cleansorb.com
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