Across all oil and gas plays, the rapidly evolving approaches to completion and stimulation design and deployment have created enormous opportunities to re-enter and re-stimulate wells that were treated early in play development. With the deep and sustained reduction in oil price, refracturing creates a highly attractive opportunity for many of these wells. Subject matter experts will present case study presentations on extensive field experiences and provide technical updates on refracturing. This workshop is an opportunity to network as well as to learn the newest developments.
### TECHNICAL AGENDA

#### MONDAY, 10 APRIL

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1730-1900</td>
<td>Welcome Reception&lt;br&gt;Terrace Patio</td>
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<tr>
<td>1200-1330</td>
<td>Lunch&lt;br&gt;Terrace Patio</td>
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<tr>
<td>1330-1500</td>
<td>Session 3: Completions and Coiled Tubing Intervention - Past, Present, and Future&lt;br&gt;Session Chairs: Robert Coon, PetroFrac Oil Tools&lt;br&gt;Luis Castro, Baker Hughes&lt;br&gt;Andrew Zheng, Schlumberger</td>
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<tr>
<td>1500-1700</td>
<td>Session 4: Diversion and Zonal Isolation - Past, Present, and Future&lt;br&gt;Session Chairs: Bob Murphy, Weatherford&lt;br&gt;Tom Walker, Maha Energy Inc.&lt;br&gt;Steve Baumgartner, Marathon Oil Corporation</td>
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#### TUESDAY, 11 APRIL

All technical sessions are located in Salon ABC.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>0700-0800</td>
<td>Registration and Continental Breakfast&lt;br&gt;Salon ABC Foyer</td>
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<tr>
<td>0800-0810</td>
<td>Chairperson’s Welcome</td>
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<tr>
<td>0810-0840</td>
<td>Keynote Address: Well Integrity Performance Increases: What Modern Well Designs Accomplish&lt;br&gt;George King, Apache</td>
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<tr>
<td>0840-1010</td>
<td>Session 1: Selection Process for Refracturing Candidates&lt;br&gt;Session Chairs: Dave Allison, Anadarko&lt;br&gt;Luis Castro, Baker Hughes&lt;br&gt;Ali Daneshy, Daneshy Consultants</td>
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<tr>
<td>1010-1030</td>
<td>Coffee Break&lt;br&gt;Salon ABC Foyer</td>
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<tr>
<td>1030-1200</td>
<td>Session 2: Frac Interference Mitigation&lt;br&gt;Session Chairs: Sam French, BP&lt;br&gt;Jason Baihly, Schlumberger&lt;br&gt;Neil Modeland, Halliburton</td>
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<tr>
<td>1230-1330</td>
<td>Lunch&lt;br&gt;Terrace Patio</td>
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<tr>
<td>1330-1500</td>
<td>Session 3: Completions and Coiled Tubing Intervention - Past, Present, and Future&lt;br&gt;Session Chairs: Robert Coon, PetroFrac Oil Tools&lt;br&gt;Luis Castro, Baker Hughes&lt;br&gt;Andrew Zheng, Schlumberger</td>
</tr>
<tr>
<td>1500-1530</td>
<td>Coffee Break&lt;br&gt;Salon ABC Foyer</td>
</tr>
<tr>
<td>1530-1700</td>
<td>Session 4: Diversion and Zonal Isolation - Past, Present, and Future&lt;br&gt;Session Chairs: Bob Murphy, Weatherford&lt;br&gt;Tom Walker, Maha Energy Inc.&lt;br&gt;Steve Baumgartner, Marathon Oil Corporation</td>
</tr>
</tbody>
</table>

#### Presentation 3: Legacy Well Protection Refrac Mitigates Offset Well Completion Communications<br>Neil Stegent, Halliburton
SPE/ICoTA Workshop: Refracturing and Advancing the Learning Curve

1700-1830 | Networking Reception and Poster Session
Terrace Patio

**Poster Presentations:** Posters will be displayed at Tuesday’s networking reception and during all coffee breaks on Wednesday.

**Chairs:** Andrew Zheng, Schlumberger
Robert Coon, PetroFrac Oil Tools
Luis Castro, Baker Hughes

- **Presentation:** What Microseismicity Tells Us About Refracturing: An Engineering Approach to Refracturing Treatment in Naturally Fractured Reservoirs
  Alireza Agharazi, MicroSeismic

- **Presentation:** New Coiled Tubing Technology and Grades for Improved Coiled Tubing Operations
  Bruce Reichart, Tenaris Coiled Tubes

- **Presentation:** Innovative E-line Technology for Improved Efficiency in Well Refrac Preparation
  Daniel Gomez, Welltec

- **Presentation:** Managed Pressure Flowback: A Permian Basin Case Study
  Darryl Tompkins, Halliburton

- **Presentation:** MorphPacker Expandable Steel Packers for Refrac Applications
  Don McLean, Nine Energy

- **Presentation:** Results You Can Take to the Bank
  Jay Miller, Tech Flo

- **Presentation:** Stuck Pipe Rescue - An Innovative Approach
  Kevin Jones, Tenax Energy

- **Presentation:** Multicycle Frac Sleeves Enable a 25-stage Pinpoint Refrac
  Michael Mckown, NCS Multistage

- **Presentation:** Adopting New Technologies to Enhance Stimulation Efficiency: Temporary Diversers Engineered Design
  Mojtaba Shahri, Weatherford

- **Presentation:** Advancement in Multistage Fracturing Technology Enhances Stimulation and Refrac Capabilities
  Rair Barraez, Stage Completions

- **Presentation:** Utilizing Slimhole Systems with Mechanical Isolation for Effective Refracture Treatments
  Tess MacLeod, Packers Plus

- **Presentation:** Isolation and Diversion Methods: Restimulation Results in the Bakken/Three Forks Play
  William Ruhle, Halliburton

**WEDNESDAY, 12 APRIL**

0700-0800 | Continental Breakfast
Salon ABC Foyer

0800-0930 | Session 5: Refrac Design and Modeling
Session Chairs: Ross Rucker, Aramco Services
                Jason Baihly, Schlumberger
                Brian Ward, Marathon Oil

- **Presentation 1:** EP Energy Eagle Ford Refrac Optimization Study
  Steve Geetan, EP Energy

- **Presentation 2:** Re-Frac Re-Design: Should I Do Something Different?
  Mike Smith, NSI Tech

- **Presentation 3:** Refracturing as a Strategy to Control Parent-Child Well Fractures
  Mukul Sharma, University of Texas at Austin

0930-1000 | Coffee Break
Salon ABC Foyer

1000-1130 | Session 6: Diagnostics and Surveillance
Session Chairs: Dick Leonard, ProTechnics
                Tom Walker, Maha Energy Inc.
                Neil Modeland, Halliburton

- **Presentation 1:** Refrac Design and Post Treatment Evaluation of the Three Forks Formation: A Single Well Case Study
  William Ruhle, Halliburton (on behalf of North Plains)

- **Presentation 2:** Diagnosing a Re-Stimulation Strategy for Infill Drilling
  Mehdi Rafiee, Statoil

- **Presentation 3:** Improving Re-Completion Techniques with Real-Time Downhole Fiber Optic Monitoring
  Robert Loov, Schlumberger

1130-1300 | Lunch
Terrace Patio

1300-1430 | Session 7: Flowback, Productivity and Economics
Session Chairs: Steve Asbill, Silver Oak Energy
                Martin Rylance, BP
                Dave Allison, Anadarko

- **Presentation 1:** Less Equals More: Increasing Cash Flow “1/64th” at a Time
  Nabeel Masood, BP
SPE/ICoTA Workshop:
Refracturing and Advancing the Learning Curve

Presentations:

- **Presentation 2:** Multi-Well Project Brings Enerplus Basin-Level Strategy Refinements for Refracturing in the Bakken
  Jason Baihly, Schlumberger (on behalf of Enerplus)

- **Presentation 3:** Refracture Learnings in the Eagle Ford – An Encouraging Collaboration Story
  Lina Paola Chorry Tovar, Schlumberger

1430-1500 | Coffee Break
Salon ABC Foyer

1500-1630 | Session 8: Future and Emerging Technologies

**Session Chairs:**
- Martin Rylance, BP
- Robert Coon, PetroFrac Oil Tools
- Ali Daneshy, Daneshy Consultants

- **Presentation 1:** Diverters: Ugly Truths and the Cost of Knowledge
  Dario Stemberger, Devon

- **Presentation 2:** Latest Developments in a Far-Field Proppant Detection Method
  Terry Palisch, Carbo Ceramics

- **Presentation 3:** Protective Refracturing of Depleted Wells - A Field Study Using Pressure Monitoring on Offset Wells
  Erica Coenen, Reveal

Complete a quick 5 question survey to share your thoughts.
www.spe.org/go/SPEjaus17

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Accessibility
Our events and functions are accessible to all attendees with wheelchairs. If you require special arrangements, please contact our staff at the registration desk.

Alcohol Policy
SPE recognizes the legitimate serving of alcoholic beverages in the process of conducting business and social activities. We also recognize that the use and consumption of alcohol carries with it the requirement for all attendees to consume those beverages responsibly.

Commercialism
In remaining consistent with workshop objectives and SPE guidelines, commercialism in presentations will not be permitted. Company logos should be used only to indicate the affiliation of the presenter(s).

Continuing Education Units
Attendees will receive 1.6 CEUs. One CEU equals 10 contact hours of participation. CEUs will be awarded through SPE Professional Development for participation and completion of SPE workshop. A permanent record of a participant’s involvement and awarding of CEUs will be maintained by SPE.

Documentation
The workshop online community will contain released copies of the workshop presentations.

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As a courtesy to the speakers and your fellow registrants, please turn off all electronic devices during presentations.

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Workshop Format
Workshops maximize the exchange of ideas among attendees and presenters through brief technical presentations followed by extended Q&A periods. Focused topics attract an informed audience eager to discuss issues critical to advancing both technology and best practices.

Many of the presentations are in the form of case studies, highlighting engineering achievements and lessons learned. In order to stimulate frank discussion, no proceedings are published and members of the press are not invited to attend.