SPE Hydraulic Fracturing Technology Conference and Exhibition

5–7 February 2019
The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, USA

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Conference Preview: Technical Program
Technical Program (as of 30 October 2018)

Tuesday, 5 February

**Plenary Session: “Frac Hits,” Well Spacing, and the Science (and Art) of Infill Drilling in Unconventionals**
Significant advancements have been made in industry understanding, execution, and optimization of multi-fractured completions. However, significantly more complexity and uncertainty result from interactions between infill wells and existing wells due to depletion and connectivity. This session explores the intricacies and additional challenges brought by such scenarios and examines the task of integrating data to accelerate learning and optimizing overall economics.

**Moderator**
Stephen Holditch, Texas A&M University

**Speakers**
George King, GEK Engineering
Ripudaman Manchanda, The University of Texas at Austin
Piyush Pankaj, Schlumberger
Brendan Elliott, Devon Energy Production

**Case Histories I**
The strength of hydraulic fracturing as a technology has been its ability to adapt, change, and improve incrementally based on case history and field results. The papers in this session provide excellent examples and learnings to help develop insight and understanding, with a view to building improvements in operations.

**Fracture Modeling**
Different approaches to modeling fracture propagation are presented in this session. These models provide a basis for a better understanding of field observations.

Learn and Network at the Sold-Out Exhibition
As one of SPE’s most popular conferences, this event provides attendees the opportunity to experience the latest technologies and advances in hydraulic fracturing. The show includes a sold-out exhibition with more than 100 exhibiting companies.

Visit go.spe.org/19HFTCregister for more information.
**Technical Program (as of 30 October 2018)**

**Wednesday, 6 February**

**Case Histories II**
This session includes data-rich case studies by operators, service companies, and a university. Key development challenges operators are facing regarding infill drilling, completion activities, evolving completion designs, and results are covered. Presentations will also include potential cutting-edge completion technology advancements.

**Completion Optimization**
Completion optimization plays a key role in improving well performance and economics. This session covers various ways to enhance completion designs and methods to understand the completion effectiveness on well performance. A case study from the DJ Basin presents a workflow to identify the right size completion. The Permian Basin completion evolution and parent/child relationships on type curves is discussed for Wolfbone and Wolfberry. Various experimental results and other notable papers focused on multi-cluster design efficiency, proppant selection, and mechanical diversion will be presented.

**Pressure Analysis Diagnostics**
This session covers a variety of pressure diagnostic techniques commonly applied in unconventional reservoirs. Topics include Diagnostic Fracture Injection Test (DFIT), advanced Pressure Transient Analysis (PTA) techniques, as well as a look at poroelastic pressure response interpretations. The session also includes a poroelastic case study evaluating the effectiveness of diverters, a case study integrating pressure modeling with DAS to determine diversion success real-time and an integrated look how DFIT data can calibrate geomechanical simulators to better estimate the Dynamic Stimulated Reservoir Volume.

**Fluid, Proppants, and Transport**
This session includes studies on proppant transport and fracture conductivity. The impact of fluid viscosity on proppant transport, as well as proppant distribution in slickwater-created fractures will be discussed. Novel concepts regarding proppant and fluid development will be presented. Attendees will come away with insights on the current understanding of proppant transport, conductivity, and associated effects on production.

**Thursday, 7 February**

**Downhole Diagnostics**
This session discusses applications, new technologies, and analysis methods for evaluating stimulation distribution effectiveness, fracture geometry characteristics, and well performance. Diagnostics presented include: optic fiber distributed sensing (acoustic & temperature), downhole video camera imaging, acoustic imaging tools, proppant and chemical fluid tracers, and production logs. Several authors emphasize the value of integration of complementary diagnostic methods to accelerate the optimization process, including potential for real-time decision making.

**Well Performance and Re-Frac**
Traditionally, to replace declining production in unconventional wells, operators would drill more wells. Current economics, however, have enabled the industry to explore cost-effective ways to sustain and enhance production. Well performance and re-fracturing have become much discussed topics in unconventional reservoirs. This session presents an opportunity to review and brainstorm on these efforts to enhance fracture optimization, re-fracturing, and production.

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**Monday, 4 February | 0800–1700**

- **Shale Hydraulic Fracturing: Design and Analysis**  
  **Instructor:** Steve Hennings
- **Fracturing Fundamentals for Non-Frachers**  
  **Instructor:** Carl Montgomery
- **Critical Geomechanics Concepts and Applications to Unconventional Completions**  
  **Instructors:** Neal Nagel and Marisela Sanchez-Nagel
- **Design of Fiber-Optic DTS and DAS Well Installations**  
  **Instructors:** Dennis Dria and Bill Shroyer
- **Multistage Completions, Fracturing, and Refracturing in Shales**  
  **Instructors:** W. Aaron Burton and Sergey Kotov

**Friday, 8 February | 0800–1700**

- **Water Treating for Shale Operations**  
  **Instructors:** John Walsh and Kris Bansal
- **Hydraulic Fracturing-Design and Treatment**  
  **Instructors:** Carl Montgomery and Michael Smith
- **Shale Selection, Completions, Fracturing, and Production**  
  **Instructor:** George King
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Registration

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