**SÖKKVABEKKR – TECHNICAL PROGRAM**

**Day 1 – Monday, 18 November 2019**

**All Technical Sessions are located in the Casa Monica Ballroom**

**07:00 – 08:00**

**Registration and Breakfast**

**Casa Monica Ballroom**

**08:00 – 08:15**

**Chairperson’s Welcome and Opening Remarks**

**08:15 – 10:00**

**Session 1: Developments in RTA – A Year in Review**

**Session Chairs: Audrey Rasmussen, Petronas Canada**

**Orkhan Samandarli, Pioneer Natural Resources**

This session will cover some of the highlights in RTA over the past year and showcase the latest advancements in commercial software. The presentations will collectively cover production analysis and modeling considerations for multi-phase, multi-layer and multi-well environments with a specific focus on the Permian basin, headlined by PXD’s improved production forecasting procedure. The impact of frac fluid clean-up, well interference, reservoir fluid properties and well spacing on early and late well performance behavior will be addressed.

**Presentation 1:** Evaluation of the Impact of Multiphase Flow on Unconventional Reservoir Signatures

Chris Clarkson, University of Calgary

**Presentation 2:** Practical Tools for Modeling Well Interference – A Delaware Case Study

James MacDonald, IHS Markit

**Presentation 3:** Life in the Delaware Doesn’t Need to Be so Hard: Simple Analyses to Guide Development

Tyler Micheli, Tap Rock Resources

**10:00 – 10:30**

**Coffee Break ‖ Casa Monica Pre function Area and Cordova Room**

**10:30 – 12:00**  
**Session 2: Artificial Intelligence for Field Development and M&A Decisions**

**Session Chairs: Ryan Howrish, GeoSouthern Energy**

**David Jones, Chesapeake Energy**

With the rise of AWS, companies are using the same infrastructure that powers e-commerce to extract value in real time from their data.  Like most revolutions, getting started is a rocky road.  What tools are available to you that can get you and your teams past the first step and directly into making decisions and what can make the existing tools a better fit?

**Presentation 1:** Utilizing the Power of Data and AI in the Utica Play: M&A Case Study

Anangela Gonzalez, Encino Energy

**Presentation 2:** Applying Deep Learning Computational Paradigms to Invert Time-Rate-Pressure Data

David Fulford, Gryphon Oil & Gas

**Presentation 3:** Making Basin Models a Reality – Workflows that Enable Decisions in Real Time

Mark Bahorich, Q Engineering

**12:00 – 13:30**

**Lunch – Keynote Presentation by Craig Cipolla, Hess Corporation “Weighing in on Fracture Half-Length and Optimized Well Spacing – Lessons Learned in the Bakken”**

**Sultans Pavilion and Pool Deck**

**13:30 – 15:00**

**Session 3: Flowback Analysis Panel Discussion – How Flowback Data is Being Used to Evaluate Completion Effectiveness**

**Moderator: Trent Jacobs, SPE**

**Panelists: Chris Clarkson, University of Calgary**

**Darryl Tompkins, Revo Testing Technologies**

**Robert Hawkes, Abra Controls**

**Tyler Conner, Devon Energy**

**James Tucker, Venado Oil & Gas**

Determining fracture properties from early-time production data is gaining popularity. Much has been learned in the six years following the last major SPE workshop on flowback analysis and this fall we will witness the release of Clarkson’s SPE Monograph Chapter on the subject. Analysis techniques presented from this work will be reviewed and discussed, as well as other practical evaluation methods currently being used by the best of the blue collars.

**15:00 – 15:30**

**Coffee Break ‖ Casa Monica Pre function Area and Cordova Room**

**15:30 – 17:00**

**Session 4: EOR – Advances in Technology and Surveillance**

**Session Chairs: Richard Baker, Richard Baker Consulting**

**Travis Black, Devon Energy**

EOR has made its debut in shale oil fields, however it’s still in its infancy. With a little more experience and new technology on the horizon, more consistent positive returns are just around the corner. It’s not a question of if, but when it will become ubiquitous. This session will introduce emerging tools in this space and share injection-driven stories; from flooding to huff-and-puff.

**Presentation 1:** Enabling Next Generation EOR with FCDs, Controllable Completions and AI

Warren MacPhail, NCS Multistage

**Presentation 2:** Gas EOR in Tight Unconventionals – Present and Future

Mathias Carlsen, Whitson

**Presentation 3:** Early Stage Results of an EOR pilot in an Unconventional Play

Ray Ambrose, EP Energy

**17:00 – 18:30**

**Cocktail Reception - Skål!**

**Sultans Pavilion and Pool Deck**

**Day 2 – Tuesday, 19 November 2019**

**All Technical Sessions are located in Casa Monica Ballroom**

**07:00 – 08:00**

**Breakfast**

**Casa Monica Ballroom**

**08:00 – 09:30**

**Session 5: Multistage Completions – Design Trends & Maximizing Value from Frac Data**

**Session Chairs: David Craig, DFIT Pro**

**Tim Cook, Apache Corporation**

“Don’t waste your time going back, you’re not going that way” – Ragnar Lothbrok (Vikings)

Extreme limited entry plug-and-perf, high viscosity friction reducer, refracing parents for infill programs, pinpoint stimulation and ShuttleFrac™. These are some of the emerging terms and strategies associated with modern completion designs. These topics and others will be discussed with completion considerations for a well’s full life-cycle. Extracting reservoir characterization value from freely available pressure fall-off data will also be presented.

**Presentation 1:** Multistage Completions – The Past, Present, and Future

Aaron Burton, Unconventional Oil & Gas Training

**Presentation 2:** Catalyzing Completion Optimization through Downhole Data

Eric Schmelzl, NCS Multistage

**Presentation 3:** Determining Effective Permeability Creation from Stage-Level Pressure Fall-Off Data

Michael Sullivan, Chevron

**9:30 – 10:00**

**Coffee Break ‖ Casa Monica Pre function Area and Cordova Room**

**10:00 – 11:00**

**Session 6: Field Development in a Parent-Child Well Environment**

**Session Chairs: Autumn Shannon, Marathon Oil Corporation**

**Nicole Frechette, Repsol**

The implications of parent well production and the associated pressure sinks on child/infill well development have received much attention in the past few years. Reliably predicting well performance impact on both the parent and child following the child well stimulation is no easy task. This session presents sound strategies to consider before dropping your drill-bit near your PDPs to grow reserves or accelerate reserves recovery from your DSU.

**Presentation 1:** Parent-Child Relationships and Unit-Level ROIs – A Sensible Development Plan in the DJ

Logan Heffner, Rye Ridge Resources

**Presentation 2:** Well Interference during Fracturing and Production: Implications for Field Development

Mukul Sharma, University of Texas

**11:00 – 12:00**

**Session 7: Holistic Reservoir Studies – Shared Experiences from Tool Integration**

**Session Chairs: Michelle Huddleston, Southwestern Energy**

**Conor Ross, Goldman Sachs**

Have you ever had to move your modeling results from one vendor’s application into another’s? Have you experienced the pains of incongruent gridding systems? Have you wanted the SPE to cover this, but they can’t because it requires an overtly commercial discussion? This session addresses perhaps industry’s hottest topic; considerations for coupling geo and engineering applications together from different software vendors for integrated reservoir studies. An SLB-exclusive reservoir modeling study (Petrel-Intersect-Kinetics) will also be featured. Infill well prediction results from such workflows will be presented featuring case studies from the Marcellus and the Bakken.

**Presentation 1:** Multi-Physics Modeling: Trials, Tribulations and Pitfalls

Adam Staruiala, NCS Multistage

**Presentation 2:** Integrating Frac Models into Reservoir Flow Models for Unconventional Well Analysis

Jim Erdle, CMG

**12:00 – 13:30**

**Lunch**

**Sultans Pavilion and Pool Deck**

**13:30 – 15:00**  
**Session 8: Novel Use Cases for Fiber Optics – Beyond PLT**

**Session Chairs: Deven Gibbs, Rebellion Energy**

**Rick Stanley, KORE-Optics**

Fiber Optic (FO) monitoring is trending and is now widely considered a technology that provides a positive ROI for asset development. This session explores the more interesting applications for fiber – not the boring DTS Joule-Thomson cluster efficiency studies. We’re talking about strain hits through DAS for well spacing insights, justification for completion AFE reduction and frac modeling calibration. Stories from major E&Ps will be shared.

**Presentation 1:** Understanding and Extracting Value from Fiber-Optic Strain Data in Unconventionals

Kevin Boone, KORE-Optics

**Presentation 2:** Integrated Data Collection to Optimize Near & Far Field Fracture Effectiveness

Lucas Martin, Marathon Oil Corporation

**Presentation 3:** Cross-Well Strain Monitoring: Interpretation and Application

Kyle Haustveit, Devon Energy

**15:00 – 15:30**

**Coffee Break ‖ Casa Monica Pre function Area and Cordova Room**

**15:30 – 16:15**

**Closing Presentation by Darcy Fairbrother, Saga Wisdom “Continuing Education in Our Industry – The Road Ahead”**

“The world is changing and we must change with it” ― Ragnar Lothbrok (Vikings)

The oil industry is one of the most powerful branches in the world economy. More than four billion metric tons of oil is produced worldwide annually and oil & gas companies are among the largest corporations worldwide. Why is it then that we’re so slow to evolve when it comes to continuing education, especially at a time when our industry is losing some of its best and brightest to retirement? Interactive teaching tools, artificial and virtual reality and other advancements are now available to step-change learning efficacy and efficiency. This session presents a glimpse into the future.

**16:15 – 16:30**

**Final Remarks**