The goal of flow assurance is uninterrupted production, and process safety and operability of production equipment. Flow assurance becomes more important during downturns in the market when successful and economic flow is critical. During these times, less cash flow is available to address any new blockages in production. This workshop, held in collaboration of the Society of Petroleum Engineers and the American Institute of Chemical Engineers, is designed to exchange knowledge, address challenges, and network with industry professionals.

**Committee Members**

**CHAIRPERSONS**
- Steve Cochran, Chevron
- Taras Makogon, Wood
- John Nighswander, Schlumberger
- Mohammad Tavakkoli, ENNOVA LLC/Rice University
- Fouad Fleyfel, Shell
- Ayman Gazawi, Pioneer
- Gizem Ersoy Gokcal, ExxonMobil
- Doris Gonzalez, BP
- Tekin Kunt, PSRG
- David Lavenson, Chevron
- Prabu Parthasarathy, Wood
- Mack Shippen, Schlumberger

**Who We Are**
SPE is the largest individual member organization serving managers, engineers, scientists and other professionals worldwide in the upstream segment of the oil and gas industry.
General Information
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 an SPE workshop. A permanent record of a participant’s involvement and awarding of CEUs will be maintained by SPE.

Documentation
Following the workshop, a URL containing released copies of the workshop presentations will be available to all attendees.

Electronic Devices
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.

Tuesday, 5 February, 2019
Technical Sessions located in Room 203.

0700–0800
Registration Check-in and Breakfast
Room 203 Foyer

0800–0815
Chairperson’s Welcome and Introduction

0815–1000
Session 1: Current Onshore Flow Assurance Experiences
Session Chairs: David Lavenson, Chevron
Ayman Gazawi, Pioneer

• Presentation 1: Risk Assessment of the Long Term Impact on the Mixing the Different Produced Water Sources in the Shale on Flow Assurance, Field and System Integrity
  Wally Georgie, Maxoil Process Consultancy
• Presentation 2: An Overview of Paraffin Related Problems in Shale Gas and Treatment Methodologies
  Shekhar Khandekar, Sii Group
• Presentation 3: Operational Considerations for Microbiological Control in the Permian Basin
  Paul Evans, Chevron

1000–1030
Coffee Break | Tejas Dining Room

1030–1200
Session 2: Current Onshore Flow Assurance Experiences (Continued)
Session Chairs: David Lavenson, Chevron
Ayman Gazawi, Pioneer

• Presentation 1: Case Study: Flow Assurance Challenges in a DJ Gathering System
  Elijah Kempton, Assured Flow Solutions
• Presentation 2: Hydrate Surveillance, Identification and Operational Response on Wet Gas Gathering Systems
  Joseph Schmidt, Anadarko
• Presentation 3: Plunger Modeling – Transient Analysis with OLGA for HPHT Shale Wells
  Jake Peerless, Pioneer

1200–1330
Lunch | Tejas Dining Room

1330–1500
Session 3: Current Offshore Flow Assurance Experiences
Session Chairs: Mack Shippen, Schlumberger
Fouad Fleyfel, Shell

• Presentation 1: Advanced Hydrate Management Strategies for Deepwater Production Systems
  Gaurav Bhatnagar, Shell
Wednesday, 6 February, 2019

0700–0800
Breakfast | Tejas Dining Room

0800–0930
Session 5: Impact of the Digital Revolution on Flow Assurance
Session Chairs: Tekin Kunt, PSRG
Prabu Parthasarathy, Wood

• Presentation 1: How Can We Manage our Multiphase Flow Oil and Gas Wells if We Don’t Measure Them?  
  Ron Cramer, Ep Upstream Associates

• Presentation 2: Real-Time Digital Chemistry Has Potential to Transform Flow Assurance Management  
  John Lovell, MicroSilicon Inc

• Presentation 3: A Knowledge Integration Perspective on Field Development and Operations  
  Javier Canon, MAANA

• Presentation 4: Communication and Mitigation Strategies for Slugging in Gas Lifted Wells  
  Badri Velamur Asokan, ExxonMobil

0930–1000
Coffee Break | Tejas Dining Room

1000–1130
Session 6: Impact of the Digital Revolution on Flow Assurance (Continued)
Session Chairs: Tekin Kunt, PSRG
Prabu Parthasarathy, Wood

• Presentation 1: The More Things Change, the More Things Stay the Same – Evolution of Flow Assurance Models for Asset Monitoring  
  Danny Golczyński, Wood

• Presentation 2: Solving Operational Challenges Through Online Flow Assurance  
  Sonia Smith, Schlumberger

• Presentation 3: Decision Support Systems: Simulators, Digital Twins, Machine Learning and Beyond  
  Kapil Mukati, Kongsberg Digital

1130–1300
Lunch | Tejas Dining Room

1300–1500
Session 7: Data Measurement and Modelling State of the Art
Session Chairs: Doris Gonzalez, BP
John Nighswander, Schlumberger

• Presentation 1: Gas Hydrate Research & Development to Support a Low Price Environment  
  Carolyn Koh, Colorado School of Mines

• Presentation 2: The Current State of the Art in in Multiphase Flow Experimental Measurements  
  Cem Sarica, Tulsa University

• Asphaltene Measurements and Modelling: Do they Represent Actual Field Performance and Help Fixing the Problem?  
  Doris Gonzalez, BP

1430–1500
Coffee Break | Tejas Dining Room

1500–1630
Session 8: Data Measurement and Modelling State of the Art (Continued)
Session Chairs: Doris Gonzalez, BP
John Nighswander, Schlumberger

• Presentation 1: Remaining Challenges in Wax Measurements and Modeling  
  Rama Venkatesan, Chevron

• Presentation 2: Remediation of Oilfield Asphaltenic Deposits: Chemical Product Design Technology and Application  
  Christopher Russell, Nalco Champion, an Ecolab Company

• Using Scale Modeling for Treatment Feedback  
  Ross Tomson, Tomson Technologies

1700–1830
Networking Reception | Courtyard (Weather permitting)