



## TECHNICAL PROGRAM

- Breakfast: 7:00 – 8:30 am
- Student Posters – During Breaks

### Tuesday, April 11

- Opening: Ed Rapp, Conference Chair, 8:15 am
- Keynote Speaker: J. Marshall Adkins, Raymond James, 8:30 – 9:30 am
- Technical Papers: 10:00 am – 5:30 pm
- Luncheon Speaker: Rick Farmer, AADE National President, **“How Can AADE Promote Its Mission, Its Vision and Its Values in a Dynamically Driven Job Market”**
- Student Presentations: 1:30 pm – 5:30 pm (Galileo 1 Room)

### Wednesday, April 12

- Technical Papers: 8:00 am – noon, 3:30 – 5:30 pm
- Student Interactive with AADE Professionals: 10:00 am – noon (Galileo 1 Room)
- Luncheon Speaker: George King, Apache Corp, **“Preserving Well Integrity During Fracturing”**
- AADE Awards Presentations during Luncheon
- Afternoon Break: Best Exhibitor Award
- Plenary Panel: Fred Growcock, Moderator, **“The New Regulatory Landscape – Finding Common Ground,”** 1:30 – 3:00 pm



Registration booth opens at 7:00 am each morning.

April 11-12, 2017  
Hilton Houston North  
12400 Greenspoint Dr.  
Houston, Texas 77060



**2017 AADE National Technical Conference and Exhibition**  
**“Emerging into a New Dawn”**  
**Tuesday, April 11, 2017**

<b>7:00 – 8:30</b>	<b>Breakfast sponsored by Newpark Drilling Fluids</b>		
<b>8:15 – 8:30</b>	<b>Opening Comments – Ed Rapp – TETRA Technologies, Conference Chair</b>		
<b>8:30 – 9:30</b>	<b>Keynote Address: Mr. J. Marshall Adkins, Director of Energy Research, Raymond James</b>		
<b>9:30 – 10:00</b>	<b>Break sponsored by TETRA Technologies, Inc. Exhibits and Student Poster Session Open</b>		
	<b>Room C</b>	<b>Room D</b>	<b>Galileo Room</b>
<b>10:00 – 12:00</b>	<b>Drilling Fluids</b> <i>Session Chairs: Rick McCoy, Fieldwood Energy and Tom Carlson, Consultant</i>	<b>Drilling Mechanics</b> <i>Session Chairs: Ryan Lisowski, ConocoPhillips and Denny Banks, Derrick</i>	<b>Software &amp; Modeling</b> <i>Session Chairs: Terry Hemphill, Halliburton and Sanjit Roy, QMAX</i>
10:00	<b>The Missing Pressure Factor in Deepwater SBM</b> – Shawn Lu, Jose Perez, Chase Brignac, Sanjit Roy and Steve Lattanzi, QMax. [052]	<b>Three-Dimensional Ridge-Shaped Diamond Element Efficiently Removes Rock, Well-Cost</b> – Davon Crane, Continental Resources; Y. Zhang, C. Douglas, L. Mueller, X. Gan, H. Song, Z. Lin, G. Skoff, J. Self and B. Krough, Smith Bits. [035]	<b>Prediction and Identification of Downhole Drilling Vibrations Through an Advanced Drillstring Model</b> – Mohsen Emami, Qian Li, Ian Soukup and Sheila McLean, National Oilwell Varco. [041]
10:30	<b>Comparison of GTL Synthetic versus Diesel Muds in Permian Drilling Operations</b> – Burney Lee, Pat Grover and Vladimir Martin, Shell. [066]	<b>Systematic Wellbore Spiraling From Stick Slip Induced Micro-Sliding</b> – Christopher Viens, Bosko Gajic, and Steve Krase, Nabors. [049]	<b>Effect of Temperature on Casing and Drillstring Stretch Calculations</b> – Samuel Ighalo and Yousuf Mazher, Halliburton. [063]
11:00	<b>Uintaite Application in Deepwater Operations</b> – Dario Montes and Ghery Sotomayor, American Gilsonite. [086]	<b>Innovative Torque Management Using Dual Cutting Mechanics of Hybrid Bit Enhances Stability While Control Drilling in Sediment and Salt with Concentric Reamer in Gulf of Mexico</b> – AR Chowdhury and Ryan Groetsch, Baker Hughes. [068]	<b>A Leak-Off Model for Critical Permeability in Wellbore Strengthening Applications</b> – Ruizhi Zhong, Stefan Miska, Mengjiao Yu and Evren Ozbayoglu, Univ of Tulsa; Jianguo Zhang and Reza Majidi, BP. [018]
11:30	<b>Evaluation of Measurement Techniques for Fluid Lubricity in the Laboratory</b> – Junhao Zhou and Shawn Lu, QMax; Hongfeng Bi, Grace Instrument. [100]	<b>Innovative Use of Common Lab Equipment to Show Chemical Benefits of the Reduction of Stick-Slip</b> – Mike Redburn, Jacob Komaromy, Matthew Bechaver and Jay Miles, Newpark; Kyle Scott, Ultra Resources. [090]	<b>A Comprehensive Hydraulic Software Package for Drilling Operations</b> – Z. Ma, A. Karimi Vajargah, A. Ambrus, P. Ashok, D. Chen and E. van Oort, Univ of Texas at Austin; R. May, D. Curry, J. Macpherson and G. Becker, Baker Hughes. [108]

\* [xxx] refers to the paper number. The full paper number is AADE-17-NTCE-xxx. This will make it easier to access the full text paper on the CD or AADE website.

CEU – Continuing Education Units are available. Contact AADE representatives in the registration booth for information.



**2017 AADE National Technical Conference and Exhibition**  
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**Tuesday, April 11, 2017**

<b>Luncheon</b>			
<b>Speaker: Rick Farmer, AADE National President 2016x2017</b>			
<b>“How Can AADE Promote Its Mission, Its Vision, and Its Values in a Dynamically Driven Job Market?”</b>			
	<b>Room C</b>	<b>Room D</b>	<b>Galileo Room</b>
<b>12:00 – 1:30</b>			
<b>1:30 – 3:00</b>	<b>Well Control</b> <i>Session Chairs: Joshua Bozarth and Richard Leturno, Wild Well Control</i>	<b>Tubulars &amp; Expandables</b> <i>Session Chairs: David Pattillo, Anadarko and Carl Johnson, Viking Engineering</i>	<b>Student Sessions</b>
1:30	<b>The Effects of Gas Kick Migration on Wellbore Pressure</b> – Seyhmus Guner, Tawfik Elshehabi and Ilkin Bilgesu, West Virginia Univ. [132]	<b>The Use of Induction Brazing in Casing Connections to Improve Well Integrity</b> – Peringandoor Hariharan, Dennis Ernens, Willem van Haaften, Matt Jabs, Rihard Pasaribu and Richard McKim, Shell. [091]	
2:00	<b>Reduce Risk and Save Cost by Better Understanding of the Physics of Well Control</b> – Dan Morrell, Mark Davis, Yahya Hashemian and Zhaoguang Yuan, Schlumberger. [036]	<b>Liner Drilling Options Can Significantly Reduce Well Construction Time in Deepwater Operations</b> – William Lesso, LF Pinewood Consultants. [081]	
2:30	<b>Drilling Unconventional Shales with Upward or Downward Laterals: What are the Hydraulics and Well Control Consequences?</b> – Tawfik Elshehabi and Ilkin Bilgesu, West Virginia Univ. [115]	<b>360° Casing Wear Estimation Using Stiff-String Model Improves Well Integrity</b> – Samuel Robello, Aniket Kumar and Adolfo Gonzales, Halliburton. [137]	
<b>3:00 – 3:30</b>	<b>Break sponsored by O-TEX Pumping Exhibits and Student Poster Session Open</b>		
<b>3:30 – 5:30</b>	<b>Cementing &amp; Displacements</b> <i>Session Chairs: Cory Arceneaux, Chevron and Ron Sweatman, RS Consulting</i>	<b>Real-Time Technology</b> <i>Session Chairs: Rafael Santana, Chevron and Les Skinner, Consultant</i>	<b>Student Sessions</b>
3:30	<b>Universal, High-Performance Wellbore Displacement Spacer System</b> – Stanley Gunawan, Drew Fowler, and Arthur Mack, TETRA Technologies. [067]	<b>Proven Mud Motor Technology Upgraded for the Digital Age – A Mud Motor with Embedded Sensors Provides Cost-Effective Drilling Dynamics Measurements at Bit Box and Stator Top Sub</b> – Steve Jones and Junichi Sugiura, Scout Downhole / Sanvean Technologies. [077]	
4:00	<b>Mitigating Interfacial Debonding by Use of an Expandable Silicate-Based Plug</b> – Michael McDonald, PQ Corp; Brett Cramer, BYK. [084]	<b>Real-Time Porosity from Surface Drilling Data Prediction and Verification</b> – A. Cedola, A. Atashnezhad and G. Hareland, Oklahoma State Univ. [134]	
4:30	<b>Evaluation of Testing Environments and Additives on Cement Tensile Strength using HPHT Tensiometer</b> – Li Li, Cresencio Perez and Rolando Lew, Baker Hughes. [089]	<b>Real-Time ECD Management by Accounting for Effects of Drillpipe Rotation and Eccentricity in the Wellbore</b> – Sandeep Kulkarni, John Singh, Vítor Pereira and Aidan Porter, Halliburton. [097]	
5:00	<b>Use of Advanced Gas Migration Model to Optimize Zonal Isolation</b> – Axel-Pierre Bois, Manh-Huyen Vu, Greg Galdiolo and Anthony Badalamenti, CURISTEC. [104]	<b>Smart Cement Modified with Laponite for Real Time Monitoring of Oil Well Cementing Applications</b> – C. Vipulanandan and A. Mohammed, CIGMAT & THC-IT/Univ Houston. [126]	



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7:00 – 8:30 <i>Breakfast sponsored by M-I SWACO and Smith Bits</i>			
	Room C	Room D	Galileo Room
<b>8:00 – 10:00</b>	<b>Drilling Management &amp; Optimization I</b> <i>Session Chairs: Leon Robinson, retired and Mary Dimataris, Consultant</i>	<b>Hydraulics &amp; MPD</b> <i>Session Chairs: Pradeep Ashok, Univ of Texas at Austin and Jason Maxey, Halliburton</i>	<b>Student Interaction with Industry Professionals</b>
8:00	<b>The Limits of Backreaming, Hole Enlargement, and Casing to Mitigate Wellbore Tortuosity</b> – Ben Leonard and Serik Seitassanov, Chevron. [027]	<b>Cementing Operations in Controlled Annular Mud Level Drilling</b> – Tan Nguyen and Ciro Batista, New Mexico Inst of Mining and Tech; Eissa Al-Safran, Kuwait Univ; Arild Saasen, Univ of Stavanger. [020]	
8:30	<b>Use of Mechanical Specific Energy Calculation in Real-Time to Better Detect Vibrations and Bit Wear While Drilling</b> – S. Menand and K. Mills, DrillScan. [033]	<b>Transitional and Turbulent Flow of Drilling Fluids in Pipes: An Experimental Investigation</b> – Ali Vajargah, Gregory Sullivan, Mitchell Johnson and Eric van Oort, Univ of Texas at Austin. [042]	
9:00	<b>Stick-Slip and Torsional Oscillation Control in Challenging Formations – A New Solution to an Old Problem</b> – Steve Jones and Junichi Sugiura, Scout Downhole / Sanvean Technologies. [076]	<b>Experimental Study and Modeling of Surge and Swab Pressures in Horizontal and Inclined Wells</b> – Ruchir Srivastav and Ramadan Ahmed, Univ of Okla; Arild Saasen, Univ of Stavanger. [075]	
9:30	<b>Leveraging Design for Manufacturing Principles in Liquid Mud Plant Design</b> – Joel Huggins, Ahmed Amer, Bob Pahlkötter and JW Cross, Newpark. [088]	<b>Choke Controller Design for Automated Managed Pressure Drilling with Realistic Operational System Conditions</b> – Adrian Ambrus, Ali Vajargah, Pradeepkumar Ashok and Eric van Oort, Univ of Texas at Austin. [095]	
10:00 – 10:30 <i>Break sponsored by Viking Engineering Exhibits and Student Poster Session Open</i>			
<b>10:30 – 12:00</b>	<b>Well Construction</b> <i>Session Chairs: Marc Summers, Petroskills and Juan Pinzon, Consultant</i>	<b>Lost Circulation</b> <i>Session Chairs: Alan Rodgerson, BP and Ahmed Amer, Newpark</i>	<b>Student Interaction with Recruiters and Industry Professionals</b>
10:30	<b>Achieving Efficient Well Spacing Using Advanced MWD Correction Techniques</b> – Christopher Chia and David Ross, Scientific Drilling International. [022]	<b>Common Misconceptions Regarding Lost Circulation Treatments</b> – Ahmed Amer and Bonnie Carter, Newpark; Massimo Sergiacomo, ENI. [093]	
11:00	<b>Investigating the Effect of Synthetic Fluid PVT Properties on APB-Induced Collapse Loading</b> – Ryan Simpson and Samuel Ighalo, Halliburton. [046]	<b>Limiting Drilling Parameters to Control Mud Losses in the Shuaiba Formation, South Rumaila Field, Iraq</b> – Abo Al-Hameedi, S. Dunn-Norman, H. Alkinani, R. Flori and S. Hilgedick, Missouri Univ Sci and Tech. [045]	
11:30	<b>Preventing Sustained Casing Pressure in Shale Wells</b> – Kyle Combs, Fred Sabins, Jeff Watters and Larry Watters, CSI Technologies. [114]	<b>HPHT Formation Fluid Loss Control Without Bridging Particles</b> – Siv Howard and Zhao Anderson, Cabot Specialty Drilling Fluids; Eric van Oort, Univ of Texas at Austin; [110]	



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**Luncheon and Awards Presentations**

**12:00 – 1:30**

**Speaker: – George E. King, Global Technology Distinguished Engineering Advisor, Apache Corp**  
**“Preserving Well Integrity During Fracturing”**

Room C

Room D

Galileo Room

**1:30 – 3:00**

**Plenary Panel – “The New Regulatory Landscape – Finding Common Ground”**

*Session Chair: Kim Burrows, Halliburton*

*Moderator: Fred Growcock*

**3:00 – 3:30**

**Break sponsored by O-TEX Pumping**  
**Exhibits and Student Poster Session Open**  
**Best Exhibitor Award**

**3:30 – 5:30**

**Drilling Management & Optimization II**  
*Session Chairs: Rick Farmer, Stone Energy and*  
*George Hanst, Consultant*

**Wellbore Stability & Integrity**  
*Session Chairs: Paul Scott, ConocoPhillips*  
*and Dave Clark, ClarkNRG*

**Formation Evaluation**  
*Session Chairs: Matt Offenbacher, M-I SWACO*  
*and Clay Lockett, Petroleum Specialty Rentals*

3:30

**Smart Expandable LCM Materials: A Theoretical and Experimental Study** – Arash Dahi Taleghani and Ahmed Mansour, Louisiana State Univ. [074]

**How Does Rock Type and Lithology Affect Drilling Fluid’s Filtration and Plastering?** – Chinedum Ezeakacha and Saeed Salehi, Univ of Oklahoma; Hongfeng Bi, Grace Instrument. [094]

**Before Drilling Pore Pressure Prediction Modeling and Pitfalls** – Selim Shaker, Geopressure Analysis Services. [039]

4:00

**Making Projects Economic in a Low-Cost Environment While Improving Health, Environment and Safety in the Operations** – Filip Krneta and Robert Rodriquez, Occidental Oil & Gas. [060]

**Resolving Losses and Increasing the Drilling Window in Depleted Zones by Constantly Strengthening Wellbores** – Clint Falgout and Guido De Stefano, M-I SWACO. [015]

**An Evaluation of Engineered Completions Based on Mechanical Specific Energy** – William Logan, Panagiotis Dalamarinis, Keith Rabb and Tony Villegas, C&J Energy Services. [059]

4:30

**Field Application of a Particle Swarm Optimization (PSO) and a Rate of Penetration Model Routine to Reduce Overall Drilling Cost by Finding Optimal Bits, Pull Depths and Operating Parameters** – Ryan Self, Amin Atashnezhad and Geir Hareland, Okla State Univ. [123]

**Effect of Pressure Drawdown on Near Wellbore Stress Change and Growth of Plastic Zone in Depleted Reservoirs** – Saeed Rafieepour, Stefan Miska, Evren Ozbayoglu and Mengjiao Yu, Univ of Tulsa; Jianguo Zhang, and Reza Majidi, BP. [101]

**Extended Rock Debris Analysis in Oil and Gas Wells Construction and Production** – Jose Guzman, Geochem Technologies. [107]

5:00

**Evaluating Drivers of Liability, Risk, and Cost While Enhancing Sustainability for Drilling Waste** – Rodger Keller, Jeffrey Tyson and Blake Scott, Scott Energy Technologies. [085]

**Shale Stabilization by High-Salinity Formate Drilling Fluids** – Eric van Oort, Univ of Texas at Austin; Siv Howard, Cabot Specialty Fluids. [111]

**Sealing Pressure Prediction Model for Lost Circulation Treatments Based on Experimental Investigations** – M. Alsaba, Australian College of Kuwait; M. Aldushaishi, Texas A&M; M. Jeennakorn, Missouri Univ of Science & Tech; R. Nygaard, Okla State Univ; Arild Saasen, Univ of Stavanger and O. Nes, BP. [021]

**Alternates:**

<b>Application of Vane Viscometers to Estimate Drilling Fluids Rheology</b> – Sandeep Kulkarni, Jessica Ramirez-Angula, Dale Jamison and Lalit Mahajan, Halliburton. [017]
<b>Theoretical Modelling of Positive Displacement Motor Performance</b> – Tan Nguyen and Khiem Bui, New Mexico Tech; Eissa Al-Safran, Kuwait Univ; Arild Saasen, Univ of Stavanger. [026]
<b>A Novel Approach to the Analysis of Non-Aqueous Fluids for Drilling</b> – Martin Harrison and Alan Finlay, Salunda; Antoine Thuriere, Newpark; Michael Morgenthaler, Cutpoint. [064]
<b>Transportation Engineering Basics for Drilling Engineers</b> – Jeffrey Tyson, Scott Energy Technologies. [072]
<b>Impact of Anionic Nanoparticles on the Rheological, Filtration and Hydraulic Properties of the Flocculated Water-Based Drilling Fluids</b> – AH Salih and HI Bilgesu, West Virginia Univ. [129]



## Student Posters

**Student Organizers: Jessica Ramirez, Halliburton and Saad Maraqa, OMNOVA**  
 Posters will be in the Exhibit area;

**Student Presentations will be on Tuesday from 1:30 to 5:30 pm (Galileo 1 Room)**

Federal Rural University of Rio de Janeiro	<b>Effect of Anionic Polymers and Solid Additives on the Rheology of Water Based Muds</b> – Beatriz de Oliveira ( <i>Poster #01</i> )
Missouri University of Science and Technology	<b>Lost Circulation Problems in Hartha Formation, South Rumaila Field, Iraq: Comprehensive Statistical Investigations, Sensitivity Analysis Models, and Practical Solutions</b> – Abo Taleb Al-Hameedi ( <i>Poster #02</i> )
New Mexico Institute of Mining and Technology	<b>Combined Effects of Total Dissolved Solids and Total Suspended Solids on the Performance of Friction Reducers in Slickwater Fracturing</b> – Ethan Risley ( <i>Poster #03</i> )
West Virginia University	<b>Horizontal Well Kicks and Blowout Control: What We Know and What We Need to Know?</b> – Twafik Elshehabi ( <i>Poster #04</i> )
West Virginia University	<b>Pressure Variations in Wellbore During Gas Kicks</b> – Seyhmus Guner ( <i>Poster #05</i> )
Texas A&M University	<b>Real-Time Rate of Penetration Optimization of an Autonomous Miniaturized Drilling Rig using a Predictive Regression Model</b> – Enrique Losoya ( <i>Poster #06</i> )
University of Alaska - Fairbanks	<b>The Influence of Nanoparticles on Rheological Properties of Water-Based Mud</b> – Paritosh Dhiman ( <i>Poster #07</i> )
University of Alaska -Fairbanks	<b>Influence of Polymers on Water-Based Mud</b> – Katherine O'Connor ( <i>Poster #08</i> )
University of Alaska -Fairbanks	<b>Anti-Collision Risk Management Guidelines for Alaskan North Slope Directional Wells</b> – Neeraj Mahajan ( <i>Poster #09</i> )
University of Louisiana at Lafayette	<b>Bakken Field Wellbore Stability using 3D Finite Element Model</b> – Bharatsai Alla ( <i>Poster #10</i> )
University of Oklahoma	<b>Thermo-Poro-Elastic Modeling of Time-Dependent Wellbore Strengthening and Casing Smear</b> – Raj Kiran ( <i>Poster #11</i> )
The University of Texas at Austin	<b>Optimization of Drilling in Real-Time Using Data-Driven Models</b> – Chiranth Hegde ( <i>Poster #12</i> )