

# FLUIDS 2022

THE PREMIER TECHNICAL CONFERENCE AND EXHIBITION

DRILLING | COMPLETION | CEMENTING | FRACTURING





Tuesday, April 19

7:00 am - 8:15 am  
8:15 am - 8:30 am  
8:30 am - 9:30 am

10:00 am - 5:30 pm  
12:00 pm - 5:30 pm  
12:00 pm - 1:15 pm

Breakfast

**Welcome:** Ahmed Amer and Neil Trotter, Conference Chairs

**Keynote Speaker:** Richard Spears | Managing Director (Spears & Associates)  
*How Extreme Financial Discipline Impacts Drilling Activity in 2022 and 2023*

Technical Sessions

Student Presentations in Texas C

**Luncheon:** *Remarks from AADE National President* - Sharon Moore (Halliburton)

Awards Presentation during luncheon:

- Wayne Bryant AADE Service Award
- AADE Fluids Hall of Fame Induction

Wednesday, April 20

7:00 am - 8:15 am  
8:00 am - 5:30 pm  
8:00 am - 9:30 am  
10:00 am - 12:00 pm  
12:00 pm - 1:15 pm

1:30 pm - 3:00 pm

3:00 pm - 3:30 pm

Breakfast

Technical Sessions

Student Interactive with HR

Student Interactive with Industry Panel

**Luncheon Speaker:** Dr. Lynn Frostman | VP Engineering (Syzygy Plasmonics)  
*Reframing Challenges as Opportunities: Sustainability, Hydrogen and the Houston Innovation Ecosystem*

Student Awards Presentation during luncheon

- Sandy Purdy Gold Medal for Best University Student Presentation

**Plenary Panel**

*Embracing the Challenges Associated with Adopting Innovative Concepts and Technology Applications*

**Afternoon Break** Best Exhibitor Award

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On behalf of the American Association of Drilling Engineers (AADE) Houston Chapter and the National Board, we want to welcome you to the 2022 Fluids Technical Conference and Exhibition.

This year's event marks the return of the AADE conference since the start of the COVID 19 pandemic. As we all know, the pandemic has provided many challenges to our industry, so we are excited about the input we've had for the technical program and overall response for participation.

We have a dynamic and diverse group of authors, speakers, and panelists slated to provide insight into new technology developments and the overall state and direction of the industry. We trust that you will find the conference informative and it will provide a venue to network with old friends and make some new ones all while adding value.

The conference committee has worked very hard over the last year to plan this event and provide the best program and venue possible. However, it is only through your attendance and participation that the conference can truly be a success.

Looking forward to seeing you!

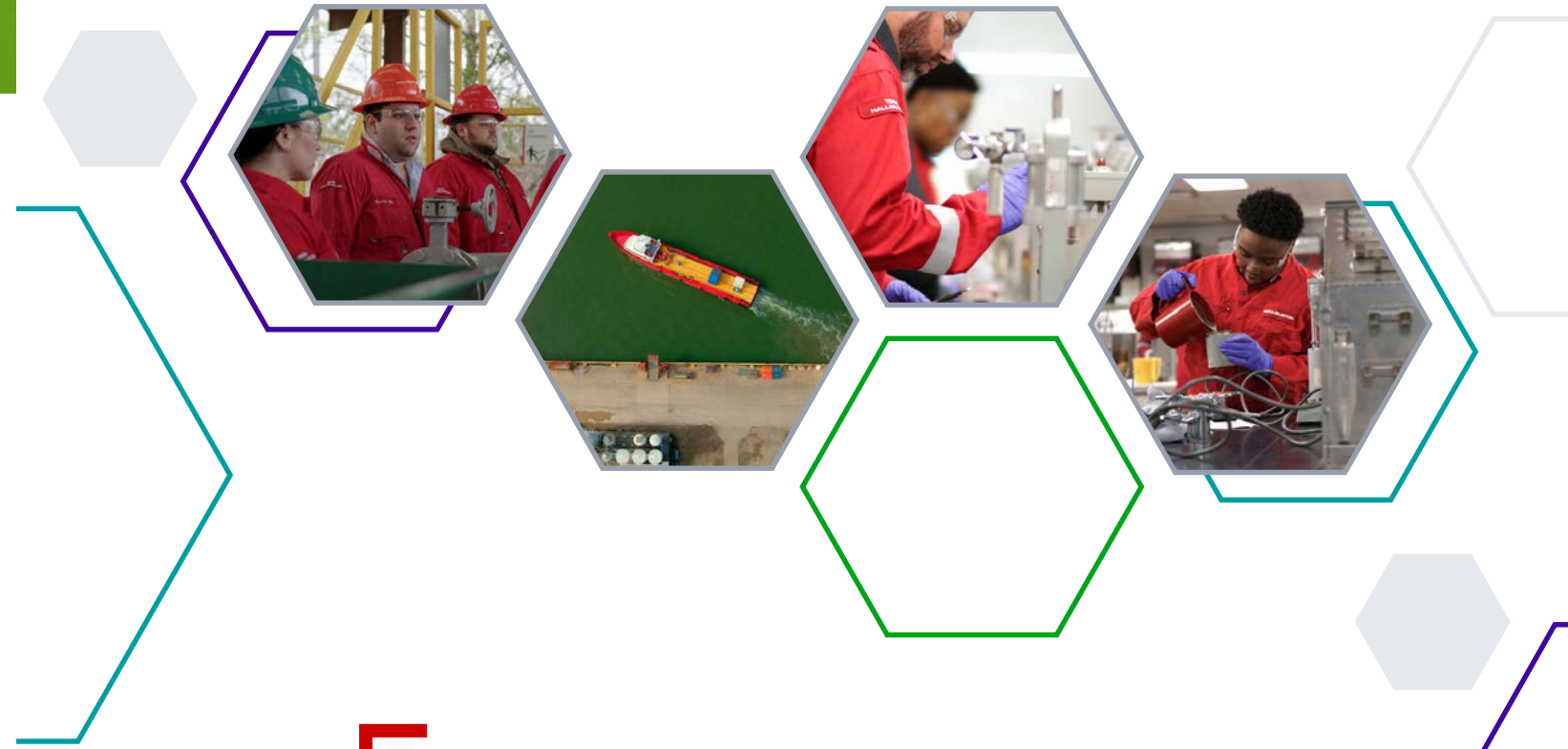
Sincerely,



*A. Amer*  
Ahmed Amer  
2022 Conference Co-Chair



*Neil Trotter*  
Neil Trotter  
2022 Conference Co-Chair



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Tuesday 8:30 am – KEYNOTE SPEAKER

## How Extreme Financial Discipline Impacts Drilling Activity in 2022 and 2023

**Richard Spears**  
Managing Director | Spears & Associates

Richard Spears is a managing director of Spears & Associates, a company that has measured oilfield equipment and service markets globally since 1965. Richard sits on the boards of several oilfield service companies, including Latshaw Drilling, Pruitt Tool and Varel Energy Solutions. Each of these is heavily involved in the world of drilling and drilling fluids.

*For decades, the relationship between oil price and US land drilling activity was correlated and predictable because with high oil prices capital and debt surged into the industry to pursue reserve growth and production growth. In 2019 that came to a screeching halt as a new generation of investors demanded their money back in the form of dividends and debt reduction. Every old relationship between oil price and rig count was thrown out the window, never to return (I hope). What's next? Financial discipline causes oil output to grow slowly while oil demand grows quickly and that means oil prices soar. Will high oil prices crack the discipline of the oil companies and send us back to the old days of boom and bust?*



Wednesday 12:00 noon – LUNCHEON SPEAKER

## Reframing Challenges as Opportunities: Sustainability, Hydrogen and the Houston Innovation Ecosystem

**Dr. Lynn Frostman**  
Vice President Engineering | Syzygy Plasmonics

Dr. Lynn Frostman is Vice President of Engineering at Syzygy Plasmonics, where she leads the team developing novel photocatalytic reactors that will electrify the manufacturing of chemicals, fuels, and fertilizers, thereby reducing both cost and emissions. She started her career at Baker Hughes and progressed through a variety of functional roles including leading technology teams on both the global & regional levels, running the P&L for several regional product lines, and developing strategies across multiple business units. She later transitioned to Newpark Fluids Systems, where she served as Senior Vice President – Research & Development, and was accountable for product commercialization, applied engineering, and digital initiatives. She holds both B.S. & Ph.D. degrees in Chemical Engineering from Michigan State University & the University of Minnesota, respectively. She also serves on the External Advisory Board for the Chemical Engineering & Materials Science Department at the University of Minnesota.

*The oil and gas industry is well-known for being cyclical, and certainly the past few years have been tumultuous. This time around though, there is an increasing mandate for fundamental change in our industry to be more sustainable. Can we reframe this challenge as an opportunity? This talk will highlight the efforts of sustainability-focused innovators and entrepreneurs to leverage what the oil and gas industry does best - solving complex technical challenges and bringing robust solutions to the market on a global scale. As a specific example, there's a tremendous potential to use hydrogen to eliminate point-of-use emissions in a variety of applications, but the engineering challenges to get to a "hydrogen economy" are not trivial. One definite opportunity to drive improved sustainability is the critical mass of engineering and energy leadership talent in Houston, resulting in a vibrant and collaborative innovation ecosystem.*

## PLENARY PANEL



**Diana Grauer - MODERATOR**  
Chief Technology Officer | Ocean Aero

Prior to Ocean Aero, Diana held various roles at TechnipFMC, including Director of Ventures, Director of R&D, and Chief Research Engineer. Diana joined TechnipFMC from Hoerbiger, where she was Vice President of Engineering. She currently serves as past-chair of the Internal Combustion Engine Division of the American Society of Mechanical Engineers. Prior to joining Hoerbiger, Diana held various management roles within Schlumberger and also worked as Corporate Technology Manager of OneSubsea, A Schlumberger Company. Prior to the acquisition of Cameron International Corporation by Schlumberger, Diana served as Engineering Manager for Cameron. Diana joined Cameron from the U.S. Department of Energy, where she was a Research Engineer and Laboratory Program Manager for the Department of Energy Efficiency & Industrial Technology department at the Idaho National Laboratory. Diana has also taught Mechanical Engineering courses at Idaho State University and Kansas State University. Diana holds a Master's Certificate in Venture Capital from University of California at Berkeley, as well as both a B.Sc. and Ph.D. in Mechanical Engineering from Kansas State University where she graduated with honors.



**Stayne Hoff**  
Senior Director Business Development | AeroVironment

Mr. Hoff first joined AeroVironment (AV) in 2004 and is a Senior Director within Business Development focusing on strategic international/global campaigns for unmanned aircraft systems. In addition to producing multiple classes of UAS, AV has a whole cadre of specialized UAS, ranging from ones launched by submerged submarines to others flying as smart loitering munitions, stratospheric long-endurance vehicles, and most recently UAS for planetary exploration. Mr. Hoff has specialized in robotics and unmanned systems business development for the last 20 years of his 30+ years in aerospace, predominately in military and scientific markets. He's worked with UGVs, UAVs, USVs, and UUVs, and unmanned planetary / space robotics. He's been used as an unmanned systems subject matter expert by several authors, including the Brookings Institute's Peter W. Singer for his book "Wired for War" (wiredwar.pwsinger.com). Mr. Hoff is a graduate of the University of Washington, where he earned a Bachelor of Science in Physics with a minor in Aeronautical Engineering. He now lives on Whidbey Island in Washington State.



**David Marchetti**  
Senior Director of The Americas | Ocean Power Technologies

David Marchetti is the Senior Director of The Americas for Ocean Power Technologies. Over his career, David spent the majority of his time in the Oil and Gas industry, but has also focused on the Renewables Industry during his 5 years at OPT. David has worked in the areas of engineering, project management, operations, aftermarket, and most recently business development. Prior to his current role at OPT, David held positions with increased levels of responsibility for a variety of companies including Forum Energy Technologies, TechnipFMC, Schilling Robotics, and GE Oil and Gas. David holds an MBA, from Our Lady of the Lake University, and a BS in Mechanical Engineering from San Diego State University.



**Todd Newell**  
Senior Vice President of Business Development | Nauticus Robotics

Todd was educated as mechanical engineer specializing in industrial automation with extended studies within new product innovation. He currently utilizes insights gained from 30+ years of experience within industrial automation and robotics to advance autonomous underwater robotic technology. His career has ranged from hands-on engineering in the early '90s to leading the commercialization efforts of new technologies across multiple markets including automotive, aerospace, defense, medical, and offshore.



**Phillip Murphy**  
Vice President of Business Development | KAMAN Aerospace

Philip Murphy is the Vice President of Business Development for Kaman Air Vehicles, based in Bloomfield, Connecticut, and Kaman Precision Products, based in Middletown, Connecticut, and Orlando, Florida. He also leads Kaman's Innovation Team. Phil has a wide range of aviation experience, including 22 years as an aviator in the United States Marine Corps; Director of Sales for Beechcraft Defense where he was recognized for his sales leadership and ability to effectively sell the T-6 military trainer aircraft and associated systems throughout Africa and Latin America; General Manager of a part 145 repair station for Textron Aviation; and Director of Sales for Aurora Flight Sciences (a Boeing company). Phil holds a Bachelor of Political Science from the University of Washington, as well as an MBA from Indiana University and a Master of Science in Global Supply Chain Management from the University of North Carolina. He was also an associate professor of military science at the University of Nebraska and Head Coach of UN Rugby programs.



<b>7:00 – 9:30 Conference Opening and Keynote Speaker</b>	
7:00 – 8:15	Breakfast   Foyer
8:15 – 8:30 Texas D	<b>Welcome</b>   Conference Chairs: Neil Trotter (Chevron) and Ahmed Amer (Newpark Fluids Systems)
8:30 – 9:30 Texas D	<b>Keynote</b>   Richard Spears   Managing Director (Spears & Associates) <i>How Extreme Financial Discipline Impacts Drilling Activity in 2022 and 2023</i>
9:30 – 10:00	Break   Exhibits Open Sponsored by <b>ChampionX</b>
<b>10:00 – 12:00 Morning Technical Sessions</b>	
Texas A <b>ESG</b>   Session Chairs: David Horton (Schlumberger) and Les Skinner (Consultant)	
10:00 – 10:30	<b>Developing the Origin of Raw Materials to Achieve Environmentally Responsible Products Without Sacrificing Performance</b> – Charles Landis and Tim Haggerty (Integrity); Mark Luyster and Kim Tresco (TBC-Brinadd). [040]*
10:30 – 11:00	<b>Sustainable Fluid Solutions Facilitate the Energy Transition Through Delivery of Efficiencies in Well Construction and New Levels of Environmental Performance</b> – Vance Smith, Pawilai Hallmark, Brittany Granger, Kassie Harris, Chris Detiveaux, Alessandro Cascone, and Stephen Williams (Newpark Fluids Systems). [075]
11:00 – 11:30	<b>Drilling and Drilling Fluid Strategies to Minimize Impact on Local Communities</b> – Dean Madrid, Joshua Hendrickson and Matthew Offenbacher (AES Drilling Fluids). [035]
11:30 – 12:00	<b>Advancement in Friction Reducer Development with an ESG Focus</b> – Zoraida Vázquez, Clayton Smith, and Andrew Babey (Newpark Fluids Systems). [080]
Texas B <b>High Temperature Fluids</b>   Session Chairs: Paul Scott (ConocoPhillips) and Jim Friedheim (Consultant)	
10:00 – 10:30	<b>Breakthrough Liquid Fluid Loss Control Agent in Oil-Based Mud Improved HPHT Fluid Loss by 40% Across Extended Reach Wells</b> – Tulio Olivares-Antunez and Waleed Al Zahrani (Saudi Aramco); Ahmed ElBatran and Sunil Sharma (M-I SWACO). [062]
10:30 – 11:00	<b>Statistical Analysis of Drilling Fluid Heat Transfer in HTHP Well in the Gulf of Mexico</b> – Felipe Quissak and Juan Espinoza (Baker Hughes). [077]
11:00 – 11:30	<b>New Rheological Duo System for HTHP Drilling</b> – Brett Cramer and Rick Bennett (BYK). [021]
11:30 – 12:00	<b>Targeted Improvements in Chemistry of Common Fluid Additives Increase Temperature Stability of Non-Aqueous Drilling Fluids</b> – Dimitri Khramov and Bala Panamarathupalayam (Schlumberger); Evgeny Barmatov (Schlumberger Cambridge Research). [054]
Texas C <b>Digital Solutions</b>   Session Chairs: John Oliver (Petroconnex) and Mario Bouguetta (M-I SWACO)	
10:00 – 10:30	<b>Digital Twins for Automated Treatment of Drilling Fluids</b> – Mehrdad Shirangi, Reza Etehad, Charles Thompson, and Edward Furlong (Baker Hughes). [025]
10:30 – 11:00	<b>Bringing Drilling Fluids into the Digital Era</b> – Katherine Price Hoelscher, Ethan Peterson, and Caleb Rabon (M-I SWACO). [079]
11:00 – 11:30	<b>Unlocking Performance Advancements Using State of the Art Digital Technologies</b> – Ahmed Amer, Travis Vordick, Bill Alsobrook, Gabriel Azzarelli and Fahad Zia, (Newpark Fluids Systems). [044]
11:30 – 12:00	<b>Improved Understanding of Gas Influx Behaviors During Riser Gas Events: A Data Assimilation Approach</b> – Chen Wei and Yuanhang Chen (Louisiana State University). [058]
12:00 -1:30 Texas D	<b>Luncheon   Award Presentations</b> Remarks from AADE National President - Sharon Moore (Halliburton) • Wayne Bryant AADE Service Award • Hall of Fame Presentations – Class of 2020   Inducted 2022: – Glen Benge – Hallan N. Marsh – Lindsay J. Fraser – Larry J. Remont – George E. King – Christopher A. Sawdon

<b>1:30 - 5:30 Afternoon Technical Sessions</b>	
Texas A <b>Cementing</b>   Session Chairs: Cory Arceneaux (Chevron) and Brittany Granger (Newpark Fluids Systems)	
1:30 – 2:00	<b>Performance Testing of Cement Defoamers</b> – Allen Kelley, Kristina Fontenot, and Cornell Stanciu (Sasol). [042]
2:00 – 2:30	<b>Distribution of Stresses to Improve Mechanical Properties of the Oil Well Cement</b> – Hasmukh Patel, Roland Martinez and Kenneth Johnson (Aramco Americas). [065]
2:30 – 3:00	<b>Cement Spacer Technology Restores and Maintains Circulation in a Complex Casing Drilling Application</b> – Cristian Aramayo and Carlos Martinez (Pan American Energy); Mario Armella, Roberto Arroyo, and Walter Mamani (Servicios Especiales San Antonio); Francisco Bermudez and Jené Rockwood (Impact Fluid Solutions). [087]
Texas B <b>Geothermal Fluids</b>   Session Chairs: Eric van Oort (University of Texas at Austin) and Saleh Haidary (Saudi Aramco)	
1:30 – 2:00	<b>Latest Developments in Geothermal Drilling &amp; the Path to Geothermal Anywhere</b> – Eric van Oort (University of Texas at Austin).
2:00 – 2:30	<b>Geothermal Technologies and Drilling Fluids: New Opportunities and Applications</b> – Matthew Offenbacher (AES Drilling Fluids); Josh Nordquist (Ormat Technologies). [047]
2:30 – 3:00	<b>Evaluate the Sealing Efficiency of Lost Circulation Material on a Large-Scale for High-Temperature Drilling Applications</b> – Abdelmjeed Mohamed, Saeed Salehi, and Ramadan Ahmed (University of Oklahoma); Guoqiang Li (Louisiana State University). [083]
Texas C <b>Student Presentations</b>	
3:00 – 3:30	Break   Exhibits Open Sponsored by <b>ChampionX</b>
Texas A <b>Drilling Fluids</b>   Session Chairs: Leigh Gray (AES Fluids) and Bala Panamarathupalayam (Schlumberger)	
3:30 – 4:00	<b>Advancements in Drilling Mud Online Dynamic Imaging Particle and Droplet Size Analysis</b> – Tod Canty and Colin Dalton (Canty). [089]
4:00 – 4:30	<b>An In-depth Analysis of Mixed Metal Oxide Fluids and Their Suitability for Lost Circulation</b> – Arthur Hale (Aramco Americas); Ahmed Amer and Pawilai Hallmark (Newpark Fluids Systems). [045]
4:30 – 5:00	<b>Elimination of Wellbore Instability and Water Influx with Fluid Technology Used in Over 60 Wells in the Bakken</b> – Marcus Brassette, Jack DeGrand, John Hightower, and Cody Wellman (Impact Fluid Solutions). [088]
5:00 – 5:30	<b>An Effective Multi-Functional Nanoparticle Drilling Additive for Invert Emulsion Fluid to Drill to Target Depth in a Critical Well</b> – Tulio Olivares and Walid Al-Zahrani (Aramco); Jay Lavin (NOV). [084]
Texas B <b>Machine Learning &amp; AI</b>   Session Chairs: Daria Khvostichenko (Schlumberger) and Saad Maraqa (Consultant)	
3:30 – 4:00	<b>Real-Time Drilling Hydraulics Advisory System: A Case Study</b> – Ali Karimi, Jonathan Lightfoot, Qian Li, Reza Asgharzadeh, and Tatiana Gobert (Oxy). [078]
4:00 – 4:30	<b>Drilling Fluids Recommendation System — Artificial Intelligence in Action</b> – Oleh Petryshak, Sergey Makarychev-Mikhailov, Fatma Mahfoudh, Yezid Arevalo, Viktor Antoniuk, and Serhiy Seredynskyy (Schlumberger). [082]
4:30 – 5:00	<b>Non-Newtonian Flow in Clogged Non-Circular Piping Conduits</b> – Jamie Chin (Stratamagnetic Software). [006]
5:00 – 5:30	<b>Return Permeability Optimization Using Flowback Additives in Formate-Based Fluids</b> – Gianna Pietrangeli, Alice Ceballos, Wade Wise, and Laurie Hayden (Baker Hughes); Siv Howard (Sinomine Specialty Fluids). [033]
Texas C <b>Student Presentations</b>	

\* [xxx] refers to the AADE paper number.  
The full paper number is AADE-22-FTCE-xxx.

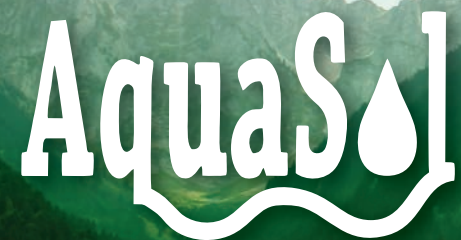


7:00 – 8:15	Breakfast   Foyer
8:00 - 12:00	<b>Morning Technical Sessions</b>
Texas A	<b>Zonal Isolation</b>   Session Chairs: John Trenerly (Chevron) and Nils Kaageson-Loe (Baker Hughes)
8:00 – 8:30	<b>A Novel Bench-Scale Experimental Setup to Evaluate Cement Sealability to Mitigate Gas Migration</b> – Abdelmjeed Mohamed and Saeed Salehi (University of Oklahoma); Farag Muhammed and Bruno Giovannetti (SNF). [081]
8:30 – 9:00	<b>Sealing Challenging Fracture with Acid Soluble Fluid Loss Control Pill</b> – Anna Wei, Joyce Zhang, Josh Sheldon, and Benjamin Merceron (M-I SWACO). [069]
9:00 – 9:30	<b>Successful Application of Thixotropic LCM Technology for Zonal Isolation in Magdalena Medio Basin Colombia</b> – Sebastian Mesa, Felipe Quissak, and Carlos Toro (Baker Hughes). [050]
Texas B	<b>Completion Fluids</b>   Session Chairs: Chris Detiveaux (Newpark Fluids Systems) and Cedric Manzoleloua (M-I SWACO)
8:00 – 8:30	<b>Extending the Temperature Window for Formate Drilling and Completion Fluids with Cellulose Nano Fibrils</b> – Siv Howard, Zhao Anderson, and Christian Busengdal (Sinomine Specialty Fluids); Simen Prang and Hugo Harstad (Norske Skog Saugbrugs). [026]
8:30 – 9:00	<b>Novel Zinc-Free Heavy Clear Brine Fluid for HPLT Applications</b> – Eric Liimatta and Yunqi Liu (Albemarle); David Messler (Acme Fluids Training). [030]
9:00 – 9:30	<b>Evaluation of New Equipment to Measure Pressurized Crystallization Temperatures of High-Density Brines</b> – Hui Zhou, Chesnee Davis, Preston May, and Jay Deville (Halliburton). [056]
Texas C	<b>Student Interactive with HR</b>
8:00 - 9:30	HR Leader Panel: Denise Espinoza (Marathon); Amanda Kite (Baker Hughes); Teresa Demoura (Surge Energy)
9:30 - 10:00	Break   Exhibits Open
10:30- 12:00	<b>Mid-Morning Technical Sessions</b>
Texas A	<b>Pills &amp; Squeezes</b>   Session Chairs: Mark Luyster (TBC-Brinadd) and Ingrid Velasco (Newpark Fluids Systems)
10:00 – 10:30	<b>Low Density Lost Circulation Plug for Low Temperature Applications</b> – Besmir Hoxha, Pranjal Sarmah, Vishnue Ramnarine, and Mario Villalobos (Baker Hughes). [024]
10:30 – 11:00	<b>Unconventional Reservoir Depletion Generates the Need for a Dissolvable Cased Hole Sealant</b> – Zachary Turi and Brandon Hayes (DrillChem). [015]
11:00 – 11:30	<b>Implementing Manufacturing-Style Workflow to Resin Sealant Squeeze Applications Reduces Cost and NPT</b> – Matt Spirek (American Cementing), Casey Bristow, Larry Watters, and Fred Sabins (Riteks). [020]
11:30 – 12:00	<b>A New High Fluid Loss Squeeze: Design to Delivery in the Field</b> – Jordan Bengue and Richard Toomes (AES Drilling Fluids). [055]
Texas B	<b>Non-Aqueous Fluids</b>   Session Chairs: Dimitri Khramov (Schlumberger) and Fred Growcock (Consultant)
10:00 – 10:30	<b>Novel Torque Reduction Technology for Invert Emulsion Fluids in ERD Wells</b> – Tulio Olivares, Walid Al-Zahrani, Rami Sindi, and Abdullah Abahussain (Saudi Aramco). [070]
10:30 – 11:00	<b>Improved OBM System for North Dakota</b> – William Connell (Baker Hughes) and Tim New (Geo Drilling Fluids). [071]
11:00 – 11:30	<b>A Flat-Rheology Invert Emulsion System Resulted in Operational Excellence and Nonproductive Time Reduction</b> – Rami Sindi, Tulio Olivares-Antunez, and Rafael Rojas (Saudi Aramco); Sunil Sharma (M-I SWACO). [028]
11:30 – 12:00	<b>A Versatile Flat Rheology Invert Emulsion System Optimized Long Horizontal Drilling and Complex Completions</b> – Hugo Osorio, Abdullah Abahussain and Walid Alzahrani (Saudi Aramco); Sunil Sharma and Ahmed ElBatra (M-I SWACO). [#085]
Texas C	<b>Student Interactive with Industry Panel</b>
10:00 - 12:00	Industry Leader Panel: Jonathan Lindsey (Talos Energy); Patricia Vega (Quantum New Energy); Tywon Veazie (Halliburton-Baroid); Sumitra Mukhopadhyay (TETRA Technologies).

12:00 – 1:15	<b>Luncheon   Award Presentation</b> Speaker: Dr. Lynn Frostman   VP Engineering (Syzygy Plasmonics) <i>Reframing Challenges as Opportunities: Sustainability, Hydrogen and the Houston Innovation Ecosystem</i> Student Award   Sandy Purdy Gold Medal for Best University Student Presentation
1:15 – 1:30	Break between Luncheon and Plenary Panel
1:30 – 3:00	<b>Plenary Panel</b> <b>Embracing the Challenges Associated with Adopting Innovative Concepts and Technology Applications</b> Moderator: Diana Grauer   Chief Technology Officer (Ocean Aero) - Stayne Hoff (AeroVironment) <i>Autonomy is Not an Option: Flying on Mars</i> - David Marchetti (Ocean Power Technologies) <i>Autonomous Renewable Solutions to Reduce Carbon Emissions &amp; OPEX</i> - Todd Newell (Nauticus) <i>Advancements in Autonomous Underwater Robotic Technology</i> - Phillip Murphy (KAMAN Aerospace) <i>Autonomous Heavy-lift Cargo Delivery Technology</i>
3:00 - 3:30	Break   Best Exhibitor Award   Exhibits Open
3:30- 5:30	<b>Technical Sessions</b>
Texas A	<b>New Developments</b>   Session Chairs: Richard Toomes (AES Fluids) and Vance Smith (Newpark)
3:30 – 4:00	<b>A Novel Invert Emulsion Lubricant: Review, Design, and Delivery</b> – Richard Toomes and Matthew Offenbacher (AES Drilling Fluids); Michael Luketich (Texas A&M University). [014]
4:00 – 4:30	<b>Friction or Fiction: A Data-Driven Model for Lubricant Performance</b> – Jordan Blair and John Whyte (Schlumberger). [039]
4:30 – 5:00	<b>New Records of Drilling &amp; Environmental Performance Achieved in Delaware Basin Wolfcamp Horizontals Utilizing a Novel High-Performance Water-Based Fluid</b> – Michael Davis and Travis Vordick (Newpark Fluids Systems); Curt Jones (Kaiser-Francis Oil Company). [074]
5:00 – 5:30	<b>Field Case Study: Application of Microemulsion Technology in Displacement in the Colombian Foothills</b> – Sebastian Mesa, Felipe Quissak, and Carlos Toro (Baker Hughes). [048]
Texas B	<b>Lost Circulation</b>   Session Chairs: Arthur Hale (Aramco Americas) and Kim Tresco (TBC – Brinadd)
3:30 – 4:00	<b>Multifunctional Cement Spacer Fluid Improves Cement Seal Integrity, Minimizes Formation Damage, and Controls Lost Circulation</b> - Fred Sabins, John Ward, and Larry Watters (Riteks); Russel Roberts (Nine Energy). [009]
4:00 – 4:30	<b>Acid-Soluble and Degradable Lost Circulation Materials for Productive Zones: A Review and Outlook</b> – Madina Baltaeva and Maxim Orlov (Aramco Innovations). [066]
4:30 – 5:00	<b>Improvements to Bridging Solids Particle Size Selection Models for Post-Gravel Pack Screens</b> – Jessica Ramirez-Angulo, Kurt Landry, and Ed Rapp (TETRA). [004]
5:00 – 5:30	<b>Wellbore Strengthening – Continuous Application or Sweep as Needed?</b> – Ismael Musa (Saudi Aramco); Arthur Hale (Aramco Americas); Mamdouh El Mohandes (Baker Hughes). [068]
Texas C	<b>And More...</b>   Session Chairs: Tatiana Conn (M-I-SWACO/Schlumberger) and Carl Thaemlitz (Consultant)
3:30 – 4:00	<b>Maintaining Consistent Rheology of Fluids Containing an Exceedingly High Volume of Low Gravity Drilled Solids for Oil and Gas Drilling</b> - Alexandria Hernandez, Shadaab Maghrabi, Rodrigo Kramer and Kerry Moore (Ingevity). [005]
4:00 – 4:30	<b>CFD Modeling of Flow Channels in Non-Newtonian Wellbores with Drill Pipe Rotation</b> - David Rathgeber and Lee Richards (Montana Tech); Erick Johnson and Ryan Anderson (Montana State University). [008]
4:30 – 5:00	<b>A New Low-Solids, Brine-Based, HP/HT Fluid for Well Testing</b> – Hui Zhou, Raul Navarro, and Mohamed Marouf (Halliburton). [060]
5:00 – 5:30	<b>Comparative Analysis between Mechanical and Non-Mechanical Homogenization Techniques for Field-Used Drilling Fluid Laboratory Testing</b> – Barrett Watts, Benjamin Merceron, and Walter Flores (Schlumberger). [038]

\*\* [xxx] refers to the AADE paper number.  
The full paper number is AADE-22-FTCE-xxx





## Eco-Friendly Solutions Through Bio-Based Chemistry

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*J. Daniel Bennett | President*

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### ALTERNATE TECHNICAL PAPERS

**Investigating the Caking Phenomena of a Novel Dual Emulsifier and Fluid Loss Additive to Establish Control Specifications for Storage**  
- Shadaab Maghrabi, Devin Granger, Jennifer Henry, Aaron Engel, and Thomas Sisson (Ingevity). [012]

**Increasing Value Using a Specialized Weighting Agent for Challenging Operations in Oil and Gas Well Drilling**  
- Christopher Steele, Ole Jacob Prebensen, Yohnny Gonzalez, and Rahul Dey (Elkem). [013]

**Don't Lose your Hydrostatic Head - Intelligent Fluids Approach to Curing Loss Circulation and Minimizing NPT**  
- Tulio Olivares and Walid Al-Zahrani (Saudi Aramco); Chidiebere Aniokie (Baker Hughes). [032]

### STUDENT PRESENTATIONS

**Thermal Effects on Wellbore Stability and Fluid Loss in High-Temperature Geothermal Drilling. #01\*\***  
- Mubarek Alpkiray (New Mexico Institute of Mining and Technology)

**Optimized Three-Mile Lateral Design. #02**  
- William Benson (Colorado School of Mines)

**Experimental Investigation of Strain-Rate Effect on Cement-Steel Bond Measurement. #03**  
- Jose Bocanegra-Yanez (Oklahoma State University)

**A Study of Lost Circulation Materials in Massive Fractures Networks. #04**  
- Nicholas Bryan (Colorado School of Mines)

**Geopolymer Compatibility with API Cement Mixing Standards. #05**  
- Cameron Devers (University of Oklahoma)

**Model Predictive Control for Automated Drilling Fluid Maintenance. #06**  
- Ivan Feng (University of Texas - Austin)

**Modeling and Transient Simulation of Foam-Assisted Bullheading Processes in MPD and UBD Applications. #07**  
- Hazem Fleifel (Louisiana State University - Baton Rouge)

**Data Analysis to Explore the Effect of Drillstring Natural Vibration on Drill Bit Dynamics. #08**  
- Faraz Khan (Oklahoma State University)

**Evaluations of Polyacrylamide Water-Based Drilling Fluids for Horizontal Drilling in the Permian Basin. #09**  
- Mohamed Metwally (New Mexico Tech)

**The Application of Nano-Silica Particles in Sealing Well Cement Channeling. #10**  
- Olatunji Olayiwola (University of Louisiana - Lafayette)

**A Comparative Analysis and Look into Alternative Drilling Fluid Systems. #11**  
- Saba Sadiq (University of Wyoming)

\*\* [xx] refers to the AADE paper number. The full paper number is AADE-22-FTCE-SPP-xx.

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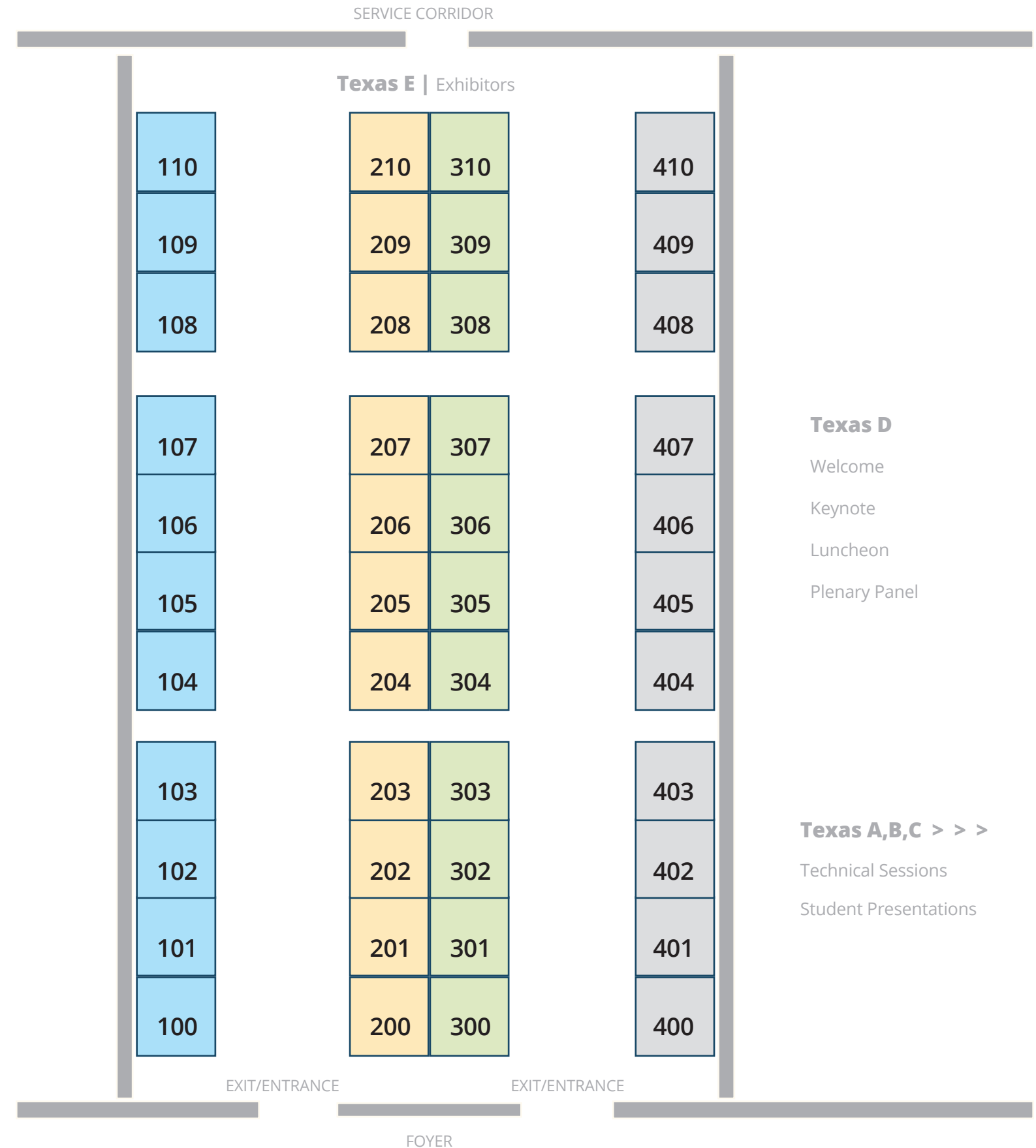


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