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Welcome back to work, Denver! Our SPE community was busy in December, meeting for technical talks and happy hours, as well as giving back through volunteering. Be sure to check out the pictures from the December <u>#SPECares</u> event. Also, don't forget to get the new year off on the right foot by registering for your Spring <u>Jack England Pass</u>!

Mike Mehle Newsletter Editor

January 2, 2018

GENERAL MEETING

Fracturing Without a Drop of Water: Lessons Learned Fracturing with LPG

Robert Lestz - eCORP International Distinguished Lecturer

Oenver Athletic Club

IIII January 17, 2018, 11:30 AM - 1:00 PM

Early-bird registration deadline: January 15 at 5:00 PM

Tickets:

Members \$25 Non-Members \$35 Walk-Ins \$45

Register Now

Abstract: The practice of hydraulic fracturing has come under increased scrutiny in recent years for a number of reasons. One technology developed to address the technical inefficiencies of fracturing also answered many of the environmental concerns. In 2008, fracturing with gelled LPG as an alternative to water was introduced to the industry to enhance well performance. LPG offered a non-damaging fluid which originally came from the reservoir itself. Due to its favorable viscosity, miscibility, surface tension, and phase behavior properties, longer effective fracture lengths and fluid recoveries approaching 100% were envisioned. Furthermore, it eliminated the use of water and the related water handling costs and long term disposal issues.

Today this technology/service is no longer available to the industry as the sole provider has left the market. This presentation will review the hypothesis of why LPG is an ideal fracturing fluid and share historical successes, failures, and lessons learned along with

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Thanks to This Month's Newsletter Sponsor:

ongoing efforts to advance the next generation of light hydrocarbon fracturing. Ideally members will take away a greater appreciation of the successes associated with LPG fracturing and an understanding that the business failure was not due to the technology but to its misunderstanding and misapplications.



Biography: Robert Lestz is a petroleum engineer with 32 years of industry experience. He currently serves as the CTO for eCorp International. He coinvented the LPG Fracturing technology and worked at GasFrac as their CTO. He spent 22 ½ years at Chevron working in the areas of fracturing, artificial lift, completions, and well operations. He holds 5 patents and has additional patents pending. He previously served on the BOD of the Petroleum Technology Transfer Council, the US DOE Oil Shale

Ad Hoc Group, ICoTA US Chapter President, and the advisory board of the University of Utah Institute for Clean and Secure Energy.

JACK ENGLAND PASS

Hurry! Sales end Monday, January 15th

Denver SPE members who would like to pre-pay for the spring general meeting lineup may do so through the purchase of a Jack England Pass. This \$125 pass provides access to the January, February, March, and May General Meetings as well as the CSM joint session in April. If a pass holder is unable to attend a pre-paid meeting, they can transfer the pass to another member by contacting denversection@spemail.org. The pass will be on sale until Monday, January 15.

Register Now

HAPPY HOUR

"The Big Chill" SPE/RMAG Happy Hour

Lime at the Denver Pavilions, 500 16th St #322, Denver
January 18, 2018, 4:30 PM - 7:30 PM

Register Now

It's time register for the January Industry Happy Hour to be held at the Lime Cantina by SPE and RMAG. This is an open event, so please feel free to bring family and friends! Tickets may be prepurchased at the above link, \$10 for SPE and RMAG members, \$15 for non-members. Tickets will also be available at the door for \$25. We'll see you there!



COMMUNITY OUTREACH

#SPECares

Before the Holidays, SPE volunteers served breakfast at the Denver Rescue Mission to show #SPECares! Are you interested in volunteering? We also have volunteer opportunities judging Science Fairs, teaching Denver students about energy, and engaging kids in STEM. Please email Community Outreach Chair, Ellen Scott, to learn more.





AWARDS NOMINATIONS

SPE Awards recognize expertise and contributions to the upstream oil and gas industry with awards at the regional and international levels for:

- Technical contributions
- Professional excellence
- Career achievement
- Service to colleagues

- · Industry leadership
- Public service

Honor one or more of your colleagues for their contributions in a category above, if they have been:

- Reliable (supportive in problem-solving)
- Inquiring (pertinent and challenging questions)
- Studious (researches for the Best Available Solution)
- Thorough (considers all aspects of the problem and solution)
- Open (open to new ideas and cutting-edge technology)
- Progressive (push the advancement of their own, and others', knowledge, skill technical ability)
- Admirable (worthy of honoring for any one or several of the traits above)

Nominate directly <u>here</u> or email <u>barbganong@gmail.com</u> or <u>Justin.Knappe@gmail.com</u> with your nominee's: Name, Employer, Department/Title, and award category.

CONTINUING EDUCATION

Applied Statistical Modeling and Data Analytics for Reservoir Performance Analysis

Dr. Srikanta Mishra - Battelle Memorial Institute

Liberty Oilfield Services, 950 17th St. Suite 2400, Denver February 20th, 2018

Registration deadline: February 6, 2018

Register Now

Description: There is a growing trend towards the use of statistical modeling and data analytics for analyzing the performance of petroleum reservoirs. The goal is to "mine the data" and develop data-driven insights to understand and optimize reservoir response. The process involves: (1) acquiring and managing data in large volumes, of different varieties, and at high velocities, and (2) using statistical techniques to discover hidden patterns of association and relationships in these large, complex, multivariate datasets. However, the subject remains a mystery to most petroleum engineers and geoscientists because of the statisticsheavy jargon and the use of complex algorithms.

This workshop will provide an introduction to statistical modeling and data analytics for reservoir performance analysis by focusing on: (a) easy-to-understand descriptions of the commonly-used concepts and techniques, and (b) case studies demonstrating the value-added proposition for these methods.

Instructor: Dr. Srikanta Mishra is an Institute Fellow and Chief Scientist (Energy) at Battelle Memorial Institute, the world's largest independent contract R&D organization. He is responsible for developing and managing a geoscience-oriented technology

portfolio related to computational modeling and data analytics for geological carbon storage, shale gas development and improved oil recovery projects. Dr. Mishra has taught short courses on uncertainty quantification, statistical modeling and data analytics at various professional conferences and client locations in the US, China, Spain, Japan, Finland, Belgium and Switzerland. He is author of a forthcoming book on statistical modeling



and data analytics for the petroleum geosciences to be published by Elsevier, as well as ~200 technical publications. He holds a PhD degree from Stanford University, an MS degree from University of Texas and a BTech degree from Indian School of Mines – all in Petroleum Engineering.

HSSE STUDY GROUP

Mitigating Respirable Crystalline Silica with No Engineering Footprint

John Jackson - Unimin Energy

Noble Energy, 1625 Broadway Suite 2200, Denver January 18, 2018, 11:30 AM - 1:30 PM Lunch will be provided

Register Now

Abstract: In June 2016, the Occupational Safety and Health Administration, OSHA, reduced the Permissible Exposure Limit (PEL) and created an Action Level (AL) for respirable crystalline silica (RCS) by half and will require engineering controls to help mitigate employee exposure. In June 2018, the new RCS PEL of 0.05 mg/m3 averaged over an 8-hour period will apply to hydraulic fracturing and most other industries, and engineering control obligations will commence in June 2021 for hydraulic fracturing operations.

With an average of over one million pounds of silica sand used in horizontal well completions, crystalline silica is a major component of hydraulic fracturing. Multiple proppant transfer points can generate high concentrations of airborne dust, from offloading trucks to being pumped down hole. Engineering controls can be used to mitigate exposure.

A study was conducted at multiple hydraulic fracturing sites to determine if RCS concentrations could be reduced below OSHA's new PEL using engineering controls that do not have an onsite footprint, namely chemically pre-treated sand. The results showed significant reductions in RCS in both personal and area sampling.

Biography: John Jackson is the Application Technology Manager for Unimin Energy in The Woodlands, Texas. He holds a Bachelor of Science degree in Chemistry from Sam Houston State University. John has spent the last 7 years in proppant research and development for the hydraulic fracturing industry. He is currently developing engineering methods to control respirable

crystalline silica within the Oil & Gas and glass markets.

John serves as the Co-Chair of the American Petroleum Institute 19 C group, which oversees the practice for measurement of proppants used in hydraulic fracturing. He previously served 5 years on the Board of Directors for the Society of Petroleum Engineers Gulf Coast Section, where he won awards for section services and committee of the year.

YOUNG PROFESSIONALS

Lunch and Learn - Modern Data Systems and Data Analysis Without the Hype

Samid Hoda - Kalnin Ventures LLC

Liberty Oilfield Services, 950 17th St. Suite 2400, Denver January 10, 2018, 11:30 AM - 1:00 PM Lunch will be provided

Register Now

Abstract: In the last decade we have seen a revolution in the way organizations collect, manage, organize and analyze their data. We have also been bombarded with buzzwords like big data, cloud computing, data science, and deep learning. It can be difficult to cut through the hype and identify useful tools to better solve your day-to-day problems. My goal is to provide you with a no-nonsense overview of modern data systems, workflows, and analytical methods and to highlight some of the challenges and opportunities that I see in the oil and gas industry.

Biography: An applied mathematician and computer scientist, Sam specializes in data science and analytics. He obtained his PhD in Algorithms, Combinatorics and Optimization from Carnegie Mellon University where his work focused on developing efficient solution methods in artificial intelligence. His first paper provided an algorithm that helped compute the strategy of one of the world's best automated poker players.

After finishing graduate school, Sam worked at Exxon Mobil's Upstream Research Center developing new methods for the strategic and tactical management of Exxon Mobil's Liquefied Natural Gas (LNG) business. After Exxon Mobil, Sam has continued to deliver effective solutions to challenging problems across many industries. He has experience working in logistics, supply chain management, telecommunications, digital advertising and SaaS. As part of delivering solutions he has been responsible for building and maintaining large-scale data and analytics pipelines. Sam is back working in the oil & gas industry as Data Scientist for Kalnin Ventures.

Annual YP Ski Trip

Winter Park, Colorado
March 2-4, 2018

Register Now

Registration is now open for the 2018 Annual SPE Ski trip, being held this year at the Winter Park Resort! Follow the link above to reserve your spot for a weekend of fun in March!

RACQUETBALL TOURNAMENT

Save the Date - SPE Racquetball/Handball **Tournament**

Denver Athletic Club

February 23, 2018, 12:00 PM

The 38th Annual SPE Racquetball/Handball Tournament will be held at the Denver Athletic Club on Friday, February 23, 2018 at 12:00 PM. Details on registration for the event will follow in a future mailing. Sponsorship opportunities are available, contact denversection@spemail.org for details.

CSM STUDENT CHAPTER

Career Lunch and Learns

The Colorado School of Mines Student Chapter will be conducting a series of "Career Lunch and Learns" January through May of 2018. We are looking for professionals who would be interested in coming to CSM during lunch to hold a small presentation on their experience. We are looking for professionals with both traditional and non-traditional career paths related to the petroleum industry. If you are interested, please email denversection@spemail.org.

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Asia Pacific

Level 35, Gardens South Tower Richardson, TX 75080-2040 USA Mid Valley City, Lingkaran Syed Putra 40/44 Clipstone Street 59200 Kuala Lumpur, Malaysia

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