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Happy Holidays from the SPE Denver Section Board! The Denver oil and gas community has many great excuses to venture into the cold this winter, be sure to check them out below. If your New Year's resolutions include saving money and participating more in your local SPE section, be sure to pick up a Spring 2018 [Jack England Pass](#), now on sale. Also, give the gift of recognition and appreciation for one or more of your industry colleagues by submitting an [SPE Award Nomination](#) today!

Mike Mehle
Newsletter Editor

December 4, 2017

GENERAL MEETING

Using Water Hammer Characteristics as a Fracture Treatment Diagnostic

Jessica Iriarte - Well Data Labs, Inc.

📍 Denver Athletic Club

📅 December 13, 2017, 11:30 AM - 1:00 PM

Early-bird registration deadline: December 11 at 5:00 PM

Tickets:

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

[Register Now](#)

Abstract: A water hammer signal is generated at the end of a hydraulic fracturing treatment from the sudden change in fluid velocity in the system. Analysis of water hammer data has been proposed to be a simple, inexpensive diagnostic technique to assess the hydraulic connection between the wellbore, fracture network, and reservoir. Previous studies have reached differing conclusions, suggesting that the water hammer signal can be dominated either by the hydraulic fracture dimensions or by wellbore effects. This study evaluates the utility of water hammer diagnostics in a large dataset to determine correlations between the observed water hammer signal characteristics and treatment size, fracture fluid type, completion type, tracer data and resulting well productivity.

Biography: Jessica Iriarte is a Research Engineer at Well Data Labs, an oil & gas technology company in Denver, Colorado. She

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**Thanks to This Month's
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analyzes large completion datasets for original research and to drive engagement with customers. Jessica holds an MS in Petroleum Engineering from Colorado School of Mines and has field and technical experience working with well stimulation and completions.

JACK ENGLAND PASS

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](#)

AWARDS NOMINATIONS



Not Santa Claus, but we hope these elves arrive before Christmas...

SPE Regional Award 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



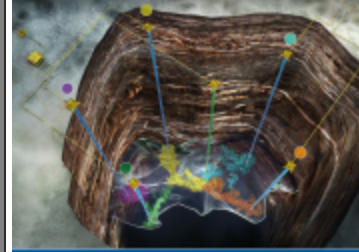
Honor one or more of your colleagues for being a **Good Elf** in a category above, if they have been:

- Reliable (supportive in problem-solving)
- Inquiring (pertinent and challenging questions)
- Studious (researches for the Best Available Solution)

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- 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 [here](#) or email barbganong@gmail.com or Justin.Knappe@gmail.com with your nominee's: Name, Employer, Department/Title, and award category.

SECTION SURVEY



If you are a Denver section professional, you should have received an invite to participate in the SPE Denver Annual Survey on November 14. If you haven't already, please take 5-7 minutes to complete this survey and be entered into a drawing for a \$100 Cabela's gift card at the December General Meeting. We will use the results of this survey to guide the direction of our chapter in terms of classes and events we offer, volunteer opportunities we make available, and how we continue to communicate with you. This is your chance to influence the way the Denver section serves you!

Please respond to the survey by **Tuesday, December 12**. Thank you for taking the time to help our chapter. We look forward to receiving your input!

[Access Survey](#)

HAPPY HOUR

"The Big Chill" SPE/RMAG Industry 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 to mark your calendars and 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 pre-purchased 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!

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 statistics-heavy 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.

YOUNG PROFESSIONALS

YP Holiday Ugly Sweater Happy Hour



📍 First Draft Brewery, 1309 26th St., Denver

📅 December 13, 2017, 5:00 PM - 7:00 PM

[Register Now](#)

It's time to fill up your glass and put on your ugliest holiday sweater!



Annual YP Ski Trip

 Winter Park, Colorado
 March 2-4, 2018

[Save the date](#), ski season is here! Details on registration are coming soon, stay tuned!

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.

SOLD OUT: RESERVOIR STUDY GROUP

Diversion - Be Careful What You Ask For *Claudio Ramos - ProTechnics*

 Schlumberger, 1675 Broadway Suite 700, Denver
 December 4, 2017, 11:30 AM - 1:00 PM

Abstract: Success of a fracture stimulation treatment depends upon complete coverage of all targeted intervals. Diversion

techniques are being applied in new well completions to achieve greater cluster treatment efficiency and to access additional rock. The objective of this study is to characterize diversion and to utilize near-wellbore diagnostics to determine the effectiveness of diversion. Multiple basins are included in this study, incorporating a variety of drilling and completion practices.

Proppant tracing and temperature logging provide near-wellbore diagnostics to evaluate the new rock contacted as a result of diversion. Tracers injected during the treatment at various intervals before and after diversion can be used to determine cluster efficiency as well as the overall changes to a stage as a result of the diversion. Temperature logging is used to determine cooling effects of the treatment and is correlated back to the near-wellbore proppant coverage. The combination of multiple diagnostics provides additional confirmation of the treatment coverage or in some cases the lack thereof.

The results of this study show examples of both effective and ineffective diversion. Effective near-wellbore diversion is defined as diversion that results in accessing clusters that were previously not stimulated or under-stimulated. In many cases, the surface treating pressure response due to diversion does not correlate with its effectiveness. Optimizing the design and deployment of the diversion process often results in improvement of treatment effectiveness. The results of this study are grouped by Anadarko Basin, Permian Basin, Eagle Ford, and Williston Basin and show the effectiveness of a variety of diversion techniques.

Biography: Claudio Ramos will be presenting SPE-187045-MS “Diversion- Be Careful What You Ask For” paper. Claudio is currently the region engineering advisor for ProTechnics based in Denver. He has a bachelor’s degree in Chemical Engineering from the University of Oklahoma and for the last decade, his work experience includes multiple positions in Cementing, Fracturing and Tracing Services.

Society of Petroleum Engineers - Denver Section

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