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Happy February, Denver! The groundhog has seen his shadow, which is great news for those looking forward to this year's [SPE YP Ski Trip!](#) For those who prefer the indoors, we've got a ton of great [speakers](#), [classes](#) and [study groups](#) to participate in, as well as a [racquetball tournament](#).

As a reminder, this is the final month to submit your nominees for [SPE Regional awards](#). It only takes a few minutes, please help us recognize the movers and shakers in the Denver oil and gas community!

Sincerely,
Mike Mehle
Newsletter Chair

February 5, 2018

GENERAL MEETING

Using Measured Mechanical Rock Properties to Identify Depletion

Eric Marshall - Fracture ID

Denver Athletic Club

February 21, 2018, 11:30 AM - 1:00 PM

Early-bird registration deadline: February 19 at 5:00 PM

Tickets:

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

[Register Now](#)

Abstract: With more infill drilling projects occurring, identification of depletion from existing completions will become an important part of the decision making as to whether to drill and/or complete a well. By applying high-resolution mechanical rock properties derived from drill bit vibrations, depletion can be detected from offset wells. Using this data to normalize drainage volumes to EUR's, a more predictive process can be implemented to optimized infill drilling and completion programs.

Biography: Eric Marshall has 15 years of oil and gas experience. He received his B.S. degree in Mechanical Engineering from the Colorado School of Mines in December of 2002 and immediately went to work for Halliburton in the Rocky Mountain Region. During

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his time with Halliburton, he became an expert in coiled tubing and hydraulic fracturing operations leading him to manage their Pinpoint Stimulation technology out of Houston, TX where he successfully expanded the technology globally.

In 2007, Eric joined Integrated Petroleum Technologies in Golden, CO as a reservoir and stimulation adviser. During his 9 years with IPT, he practiced reservoir engineering and completions design, specializing in the economic optimization of field developments. Eric is currently serving as Vice President of Engineering for Fracture ID where he oversees the management of data processing and is working with a team focused on helping operators execute look back studies using measured mechanical rock properties, completions, and production data to generate a predictive model catered to helping them maximize the value of their assets.

AWARDS NOMINATIONS

February is the FINAL month to submit your regional Award Nominations!

SPE Awards recognize expertise and contributions to the upstream oil and gas industry.

Awards will be presented at the regional and international levels for:

- Technical contributions
- Professional excellence
- Career achievement
- Service to colleagues
- Industry leadership
- Public service

Within the confines of the above categories, we ask our members to recommend nominees whom elicit the any of the following thoughts in your mind when you think of their contributions:

- Reliable (A person you can always count on for support in problem solving)
- Inquiring (Asks pertinent and challenging questions)
- Studious (Study the problem with the goal of arriving at the Best Available Solution)
- Thorough (Considers all aspects of the problem and the solution)
- Open (Open to new ideas and cutting-edge practice)
- 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)

Please email barbganong@gmail.com and/or Justin.knappe@gmail.com the following about your nominee: name, email, employer name, department / title.



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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

 0.8 CEUs (Continuing Education Units) will be awarded for this 1-day course

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.

Refracturing - Candidate Selection and Design

Carl T. Montgomery, NSI Technologies

 Schlumberger, 1625 Broadway Suite 1300, Denver

 March 6, 2018

 0.8 CEUs (Continuing Education Units) will be awarded for this 1-day course

Registration deadline: February 19, 2018

[Register Now](#)

Description: If I want to re-frac a well "just because" - maybe I am disappointed in the production - that is most likely a BAD idea. This course discusses how I can go about selecting a candidate (there are no really "good" candidates since having to re-frac indicates original fracs were not adequate) that will benefit from such a workover. Then, what extra considerations are involved in a treatment design.


- What makes a good (or NOT) re-frac candidate


- How does depletion affect the re-fracture for good or bad
- What might be different about re-fracture treatment design

STUDY GROUPS

Reservoir Study Group: Completion and Production Optimization Using Multi-Variate Statistical Analysis

Patrick Rutty - DrillingInfo

 Schlumberger, 1675 Broadway Ste. 700, Denver


 February 12, 2018, 11:30 AM - 1:00 PM


[Register Now](#)

Abstract: How many wells should I plan in an undrilled unit? How much negative impact will a poor completion have in high quality reservoir rock? What drilling and completion parameters are required to deliver economic wells in Tier II rock? Engineers and geoscientists working in unconventional plays face questions like these virtually every day. This workflow-based talk will focus on using geologic, drilling, and completion data as input to a multivariate statistical analysis to predict EUR in the Middle Bakken in Mountrail County, North Dakota. In this way, we arrive at answers much richer than historically obtained from attempts to simplify the problem to a set of bivariate (crossplot) relationships.

Completions Study Group: Surface Casing Pressure as an Indicator of Well Integrity

Greg Lackey - University of Colorado Boulder

 Halliburton, 1125 17th Ste. 1900, Denver

 February 15, 2018, 11:30 AM - 1:00 PM



[Register Now](#)

Abstract: The risk of environmental contamination by oil and gas wells depends strongly on the frequency with which they lose integrity. Oil and gas wells with compromised integrity typically exhibit a sustained pressure in their outermost annulus (SCP) due to gas accumulation. SCP is an easily measured but poorly documented gauge of well integrity. Here, we analyze SCP data from the Colorado Oil and Gas Conservation Commission online database to evaluate the frequency of well integrity loss in the Wattenberg Test Zone (WTZ), within the Wattenberg Field, Colorado. Deviated and horizontal wells were found to exhibit SCP more frequently than vertical wells. We propose a physically meaningful well-specific critical SCP criterion, which indicates the potential for a well to induce stray gas migration. We show that 270 of 3,923 wells tested for SCP in the WTZ exceeded critical SCP. Critical SCP is strongly controlled by the depth of the surface casing. Newer horizontal wells, drilled during the unconventional drilling boom, exhibited critical SCP less often than other wells because they were predominantly constructed with deeper surface

casings. Thus, they pose a lower risk for inducing stray gas migration than legacy vertical or deviated wells with surface casings shorter than modern standards.

Joint Completions & Reservoir Study Group: Tying the Data Together

Patrick Hayes - Tracerco

 Schlumberger, 1675 Broadway Ste. 700, Denver
 February 22, 2018, 11:30 AM - 1:00 PM



[Register Now](#)

Abstract: Tying the Data Together: A 4-Dimensional Look at Geology's Impact on Wellbore Production. Understanding individual horizontal well stage performance and tying in expectations based upon reservoir properties, geophysics, petrophysics, geochemistry and geosteering results, along with stimulation observations is key to both best practices and well design improvements.

The presentation will illustrate the use of 4D data as an evaluation tool to review drilling, stimulation, geophysics, geology, including petrophysical and geochemistry data. It will provide case studies comparing actual stage tracer production results with pre-completion data, petrophysics and geophysical expectations (from seismic, petrophysical logs, landing zone, etc.). It also provides discussion and a review of correlation between zonal productivity and drilling, stimulation, and production design. Using this knowledge, the operator can amend future well development plans with a greater confidence that the changes made will result in enhanced ultimate hydrocarbon recovery.

RACQUETBALL TOURNAMENT

38th Annual SPE Racquetball/Handball Tournament

 Denver Athletic Club
 February 23, 2018, 12:30 PM

[Register Now](#)

The 38th Annual SPE Racquetball/Handball Tournament will be held at the Denver Athletic Club on Friday, February 23, 2018 at 12:30 PM. Sponsorship opportunities are still available, follow the registration link above for more info. Come out and show Denver what you're made of!



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.

Call For Interviewers!

 Halliburton and Liberty Oilfield Services Offices
 February 8, 2018

The Colorado School of Mines Spring 2018 Career Day will be held on February 13th.

Members of the CSM SPE student chapter need your help as industry professionals in sharpening their interviewing skills ahead of the big day.

Please consider donating an hour or two from your busy schedule to participate in mock interview sessions with the students on Thursday, February 8th at the Halliburton or Liberty Oilfield Services offices in downtown Denver.

For more details, click the registration link below.

[Register Now](#)



Rocky Mountain Student Symposium Speakers Needed

CSM SPE is hosting the Rocky Mountain Student Symposium (RMSS) and needs help with getting speakers for presentations and panel discussions. We are looking for presentation on soft skills (e.g. collaboration between engineers, geologists, etc., experiences from working internationally), data analytics, energy economics (e.g. Energy analysts, what an engineering student can expect, optimization), and EOR (Future of EOR, how it's related to geomechanics, etc.)

If you are interested in participating as a speaker in the RMSS (Thursday March 22 and/or Friday March 23) email zhijunliu@mines.edu.

YOUNG PROFESSIONALS

Lunch and Learn - A New Hybrid Physics-Based Multi-Variate Statistical Approach to Optimize Completions in Unconventional Reservoirs
Michael Mayerhofer - Liberty Oilfield Services

 Liberty Oilfield Services, 950 17th St. Suite 2400, Denver
 February 14, 2018, 11:30 AM - 1:00 PM

Lunch will be provided



[Register Now](#)

Abstract: The objective of this new approach is to provide a scoping tool for better economic completion design optimizations in unconventional reservoirs. The method utilizes extensive data mining of actual completion and production data and combines these data with the actual physics of hydraulic fracture growth and reservoir flow dynamics.

Current statistical multi-variate models (MVA) use either multiple linear regression or neural network type models to find correlations between relevant completion/reservoir parameters and production. While these models have shown merit, they may have poor predictive capabilities, especially beyond the range of existing data. The new hybrid approach uses physics-based variable transformations in the MVA to provide more realistic predictions of how completion parameters affect production.

The MVA model is then used in an economic optimization routine to minimize Cost\$/BO to help find an optimized completion design.



YP + Membership Happy Hour

 Thirsty Lion Gastropub, 1605 Wynkoop St., Denver
 February 14, 2018, 4:30 PM - 6:00 PM

[Register Now](#)

Join us for drink and appetizers to catch up and network with friends and colleagues. It's on us!

Annual YP Ski Trip

 Winter Park, Colorado
 March 2-4, 2018

[Register Now](#)

Ski season is finally here! And you know what that means... our annual Ski Trip! We added a Snowmobile Tour this year!

Society of Petroleum Engineers - Denver Section

Americas
222 Palisades Creek Dr.
Richardson, TX 75080-2040 USA

Asia Pacific
Level 35, Gardens South Tower
Mid Valley City, Lingkaran Syed Putra
59200 Kuala Lumpur, Malaysia

Europe
1st Floor, Threeways House
40/44 Clipstone Street
London W1W 5DW UK

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