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Dear ,

It is the season of holiday parties! To start things off in a giving mood, Oilfield Helping Hands is having a [Bowling and Billiards Bash](#) this Thursday, December 4th, to benefit oilfield families in financial crisis.

Congratulations are in order for Colorado School of Mines SPE sent a team to the 2014 Petrobowl finals in Amsterdam. CSM's Petrobowl team placed third after University of Oklahoma and champion University of Tulsa out of 36 teams competing. From left to right: Hayden Wambach, PetroBowl Chairs Katie Horner and Chris Giuffreda, Eli Montoya, Lance Vadla, Darkhan Maulingazy, Bryan McDowell. Go Orediggers!



And finally, it is time to start thinking about which of your colleagues are deserving of being recognized for their technical contributions, career achievement, public service or industry leadership. There are numerous awards for which Denver SPE section members are eligible. [Check out the SPE Awards website](#) for more details or send our Awards Chairperson, [Tom Cryan](#) and email with names and he will help you with the process.

Cheers and Happy Holidays,

Kelly Wilson

Newsletter Editor

December 2, 2014

GENERAL MEETING

Seismic Monitoring of Hydraulic Fracture Treatments

Tom Davis, Professor of Geophysics, Director Reservoir Characterization Project, CSM

Dec 17, 2014 11:30-1pm Denver Athletic Club

Multicomponent seismic monitoring enables time-lapse monitoring with the use of shear waves. Shear waves are horizontally polarized waves that travel in the subsurface and are useful for detecting natural and induced fractures in the subsurface. Time-lapse monitoring of hydraulic fracture treatments in two horizontal wells



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using multicomponent seismology was first conducted by Talisman Energy in Pouce Coupe Field, Alberta. Since that time the Reservoir Characterization Project has been undertaking extensive research of the Pouce Coupe data set in conjunction with Talisman. The outcome has been robust testing to determine the viability of the technology to monitor hydraulic fracturing treatments. Seismic monitoring of hydraulic

fracturing can aid in the understanding of fracture complexity and connectivity associated with hydraulic fracturing. Fracture complexity often involves the interaction of the hydraulic fracturing process with the natural fractures in the subsurface. Due to the sensitivity of shear waves to fractures and fracture density the technology has the ability to help us understand what the effective connected volume is and how it changes over time.

Tom is currently Professor of Geophysics at Colorado School of Mines. At Mines he guides the leading edge research of the Reservoir Characterization Project, whose mission is to develop and apply time-lapse (4-D), multicomponent (3-C and 9-C) seismology to improved recovery. He has been an organizer of technical conferences, workshops and Continuing Education programs for the SEG, SPE, AAPG and EAGE. Tom was the SEG's Second Vice President in 1989, Distinguished Lecturer in Spring, 1995 and Technical Program Co-Chairman in 1996. He received the C. J. Mackenzie Award from the Engineering College of the University of Saskatchewan in 1997, the Milton B. Dobrin Award from the University of Houston in 1998, the Colorado School of Mines Dean's Excellence Award in 1999 and the RMAG/DGS Best Paper Award at the tenth annual 3-D Symposium in 2004. In 2007 he was awarded the Melvin F. Coolbaugh Memorial Award from Colorado School of Mines. In 2009 he was co-recipient of the Best Poster Award from SEG and in 2011 the Best Poster Award of the SW section of AAPG. IN 2014, RCP was awarded the Distinguished Achievement Award of the SEG.



Young Professionals

Lunch and Learn: Oil and Gas Investments from an Investor's Viewpoint

Geoff Jay, Founder, Fermata Resources

December 10, 2014. 11:30-1pm [Sanjel Office Suite](#)

Presentation Overview: Join us for the December Lunch & Learn session where Geoff will share his experience advising oil and gas companies on energy-related investment opportunities, and how companies in the industry are compared from an investor's viewpoint. He will also discuss commodity markets and oil prices, and how the dynamic changes in the US and around the globe impact investment and growth opportunity. We've also asked Geoff to attempt to connect the dots from day-to-day operations to energy investment.



[Bakken & Niobrara Crude Takeaway & Markets 2015](#) is the only dedicated event on expanding Bakken midstream takeaway capacity & markets, revamped this year to have a 100% focus on crude & to include the Niobrara.

You will hear views from refineries on their 2015 strategies for absorbing additional Bakken crude and detailed production forecasts from E&Ps working on the play:

Day 1 will focus on analyzing Bakken and Niobrara production forecasts and providing updates on pipeline and rail takeaway projects.

Day 2 will focus on assessing the optimally priced markets for Bakken and Niobrara crude and identifying strategies for accessing new destinations.

Speaker companies include, Enbridge Pipelines - CITGO Petroleum - Genesis Energy & more.

[Email with any questions](#)

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Speaker: Geoff Jay founded Fermata Resources in May 2014, and is currently providing consulting services to public and private companies in the Energy sector. Prior to Fermata, Mr. Jay was the Energy Sector Head at Janus Capital for nearly 12 years, providing energy-related equity investment research and recommendations to portfolios with more than \$100 billion of assets under management. Mr. Jay has 16 years of professional energy investment experience. Mr. Jay received a Bachelor of Arts in Philosophy from Northwestern University in 1993.

Please RSVP by Monday, December 8, 2014 at 5:00 PM to ensure we order enough lunch. Look forward to seeing you there!



YP Happy Hour

 **December 10, 2014, 4:30-6:30pm**  [Rock Bottom Brewery](#)

Join your friends (old and new) for networking! The first round's on us.

Completions Study Group

Production Optimization Approach to Completion and Fracture Spacing Optimization for Unconventional Shale Oil Exploitation

Leopoldo Sierra, Technology Manager, Center of Excellence on Fracturing Pinnacle, Halliburton

 **Dec 18, 2014, 11:30 -1pm**  [Halliburton Office](#)



Unconventional shale oil reservoir exploitation has increased exponentially in recent years in reservoirs such as the Bakken, Eagle Ford, and Niobrara formations. As with shale gas plays, the production optimization of shale oil plays must be addressed routinely by the industry to help maximize recovery. Fracture spacing in

horizontal wells as a function of reservoir and fracture properties and well spacing are two of the most critical issues that should be addressed. Because the reservoir simulation process can take significant time and effort, and analytical solutions are sometimes very complex, a simple "back of the envelope" methodology to estimate the optimum fracture spacing can be advantageous for everyday application and used as a starting point for completion design.

Biography: Petrochemical Engineer with more than 35 years of global experience in the conventional and unconventional reservoirs fracture stimulation business. Leopoldo spent most of his career in the technical side of Halliburton working as: Field engineer; technical advisor, reservoir engineer, account leader, Senior Technical Advisor, Engineering & Technology Leader and fracture Technology Manager in Peru, Venezuela, Saudi Arabia and USA. Leopoldo is actually Fracturing Technology Manager in the Center of Excellence for Fracturing (COE) at Pinnacle A Halliburton Service in Houston, Texas.



COMMUNITY OUTREACH

After a VERY successful 1st presentation at **Greenlee Elementary**, we have been asked to do another Energy4Me class in January.



When: 1hr week of January 5th or 12th

Details: Email [Megan Starr](mailto:megan.starr@denverpublicschools.org)

AMBASSADOR LECTURE PROGRAM

The Ambassador Lecturer Program is designed for Young Professionals to share their career development in the industry with students at secondary schools and universities. We are looking to schedule more sessions in upcoming months.

Details: Email [Megan Starr](mailto:megan.starr@denverpublicschools.org)

Continuing Education

January 2015

Microseismic Imaging of Hydraulic Fracturing Jan 22-23

The goal of the course is to give attendees understanding and realistic expectations of microseismic imaging as a diagnostic tool for hydraulic fracturing.

February 2015

Performance Analysis in Resource Plays Feb 24-25

Methods to assess and compare the performance of resource play multi-stage vertical and horizontal oil and gas wells will be the focus of this course.

Society of Petroleum Engineers - Denver Section

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