

SPE UNIVERSITY OF UTAH STUDENT CHAPTER

Volume 1 / Issue 2

*MERRY CHRISTMAS
AND HAPPY NEW
YEAR*

UPCOMING EVENTS
SPE Luncheon Meeting by
Ian Walton, Jan, 2016
Place: Energy & Geoscience
Institute (EGI)
**Engineering Jobs in the
Petroleum Industry**
In January 2016

ENERGY & GEOSCIENCE INSTITUTE (EGI) AT THE UNIVERSITY OF UTAH - A RESOURCE FOR YOU

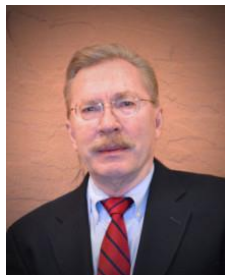
The Energy & Geoscience Institute (EGI) is the largest cost-shared, industry-supported, upstream research program at any University in the world and provides high-quality, scientific research to 60+ member companies from over 20 nations. EGI scientists collaborate with colleagues across academic, industry and government organizations around the world to discover and improve scientific innovation and applied technologies. EGI's integrated science, research and expertise leads to lower exploration costs and enhanced production knowledge and capabilities for EGI's Corporate Associate members.



Many of EGI's research programs relate directly to Petroleum Engineering topics. Example projects include "Shale Liquids Production Analysis", "Improved Liquids Recovery in Shale", "Flow in Nanoporous Rocks", "More Efficient Hydraulic Fracturing Systems for Gas Shale Development", and "Large-scale Geologic Controls on Hydraulic Stimulation". Some of the Principal Investigators for R&D projects include faculty in the Department of Chemical Engineering and also teach Petroleum Engineering classes; e.g. Milind Deo, Professor and Chair Department of Chemical Engineering; John McLennan, USTAR Associate Professor Department of Chemical Engineering, and Dr. Ian Walton, Senior Research Scientist, EGI.

EGI has close ties with many students in Chemical Engineering and those enrolled in the MS Petroleum Engineering program. Over 20 engineering students are employed at EGI at any given time. Approximately two-thirds of these students are undergraduates. EGI also provides Research Services. Laboratory services are available in the areas of geochemistry, geomechanics, petrophysics, and petrology.

ARNIS JUDZIS



Head of Engineering Development & Innovation at EGI

Arnis Judzis holds a B.S. in Chemical Engineering from Cornell University and an M.S. and Ph.D. in Chemical Engineering from the University of Michigan. Judzis has an over 35-year career in the oil industry working with companies such as The Standard Oil Company/BP, TerraTek/ Schlumberger, and his current position at EGI. He has made numerous contributions to the upstream research and development sector, authoring multiple published articles, as well as promoting geomechanics and unconventional core analysis on the international market. He has been actively involved with the Society of Petroleum Engineers, Offshore Technology Conference (OTC), American Institute of Chemical Engineers, the Drilling Engineering Association and the management team for the Unconventional Resources Technology Conference (URTeC). He currently

serves SPE on the Distinguished Lecturer Committee and a Chairman of the Oversight Committee for the 2016 Offshore Technology Conference Asia.

"If you want to succeed, strike out on new paths rather than travel the worn paths of accepted success." John D. Rockefeller- Revolutionized the petroleum industry

SPE LECTURE: THE CASE FOR GAME-CHANGING CHANGES FOR HYDRAULIC FRACTURING

On Tuesday, November 17th, Sidney Green presented a lecture on hydraulic fracturing for our SPE student chapter lunch and learn lecture. It was a well-attended event where all were able to learn from the knowledge and expertise of Mr. Green. It was also our honor to host Dr. Richard Brown and Dr. Henry White, Deans of Engineering and Science Departments at the University of Utah, respectively.

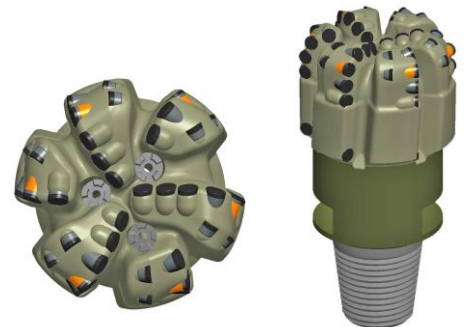
Sidney Green is a Research Professor in Mechanical Engineering, and is a retired Schlumberger Senior Staff Member and a founder and former President of TerraTek in Salt Lake City. TerraTek was the first commercial tenant in the University of Utah Research Park. Mr. Green has a BS and an MS in Mechanical Engineering. He attended the University of Pennsylvania graduate school in applied math, and then later received the degree of Engineer in Engineering Mechanics from Stanford University. He has worked in the area of geomechanics for over five decades, and has published numerous papers and reports, holds a number of patents, has given many presentations on rock mechanics / geomechanics, and has received a number of rock mechanics /geomechanics recognitions. He is a Fellow of the American Rock Mechanics Association, and is a member of the US National Academy of Engineers. He is currently also President/CEO of a company he has founded, Enhanced Production, Inc. in Salt Lake City.



INDUSTRY INNOVATIONS

ONYX 360 Rolling PDC Cutter¹

The ONYX 360 rolling PDC cutter substantially increases PDC bit durability by rotating 360°. The diamond cutters are positioned in the highest wear areas of the cutting structure which increases the longevity. PDC bits that include ONYX 360 rolling cutters demonstrated run length increases of up to 57% compared to fixed-cutter-only bits, resulting in fewer bit trips and lower drilling costs. Bit engineers determine the rolling cutter's optimum orientation in the blade relative to its contact with the formation by using IDEAS integrated design platform. This precise positioning, coupled with the bit's drilling force, drives efficient rotation of the cutter. And because the entire diamond edge of the cutter is used, wear is reduced for more sustained rates of penetration.



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¹ http://www.slb.com/services/drilling/drill_bits/cutter_technology/onyx_360.aspx