

New York and New England Petroleum Section News

Society of Petroleum Engineering

Summer 2014

From the chair

Greetings to all members and friends of SPE-NYNE,



Our long term former internet and SPE-YP chairperson, Alyssa Charsky, has received the Regional SPE 2014 Distinguished Young Member Award. We congratulate Alyssa for this recognition and

wish her success in her graduate studies at Colorado School of Mines.

We have many news items covered in this edition of our newsletter. First, we have an update in SPE-NYNE Petroleum board list. New officers filled up the vacant roles at the board. This reduces the work load on some of the officers, who over the years had dual duties. Next, we have a brief introduction of ARAMCO to Cambridge. New York and New England is considered to be a hydrocarbon poor region of US, but the same cannot be said for its technical expertise. The Oil and Gas industry is following the recent trend and opening branches in the region. ARAMCO is one of them. We then cover our spotlight person, Lu Yang, who is our current SPE - MIT chapter chairperson. Thanks to Lu and Xiaoxiang, we have had a very active student chapter at MIT, which is an official student groups at MIT currently. We conclude the letter by giving some highlights from the Oblong Industries Tour in July. The rest of the paper is a recap of SPE events that

took place early this year and also announcements of future SPE events locally and globally.

We believe that the primary benefit of being an NYNE section member is to share expertise and experiences with the diverse members we have in our regional section. We have been fostering opportunities to make new connections and have been growing our membership base by hosting events at universities and working with students. We continue the effort of establishing more student chapters in the region. Also, our lecture series continues, and we intend to expand this concept to include section members in peer-to-peer education settings.

Finally, I want to thank Jim Stevens, Jenny Smythe, Inas Hamza, Matthew Godfrey and Jing Yang for their contributions in this newsletter. I hope you enjoy the newsletter and find it both informative and useful.

Bilgin Altundas, *Schlumberger*
SPE-NYNE section chair

Events in 2014

SPE Award

We are proud to announce that Alyssa Charsky is the recipient of the Regional SPE 2014 Distinguished Young Member Award. Alyssa has enrolled this fall at Colorado School of Mines to pursue a PhD in Geology through the Chevron Center of Research



Excellence (CoRE) program. Prior to this, Alyssa has worked as a Research Engineer and Experimentalist in the Petro Labs at Schlumberger - Doll Research in Cambridge, MA. In this position she was responsible for the processing, analysis and interpretation of dual-range Fourier transform infrared spectroscopy (DRFT-IR) mineralogy data in support of Schlumberger's elemental spectroscopy Wireline tools. Additionally, she was a co-developer of DRIFTS for rapid quantification of mineralogy and kerogen on

cuttings or cores, a technology targeted at the unconventional market. Alyssa also served as the Young Professionals Chair and Internet Chair of the NYNE Section of SPE. We all thank Alyssa for her time and efforts on the SPE board, and wish her the best of luck and skiing in Colorado.

ARAMCO Research Center – Boston supports collaboration and innovation

Cambridge, Massachusetts, May 13, 2014

The Aramco Research Center – Boston, located in Cambridge, Massachusetts, aims at expanding the global research network and capability of Saudi Aramco.

The new research center, owned and operated by Saudi Aramco's U.S.-based subsidiary Aramco Services Company (ASC), is located at 400 Technology Square in the Kendall Square neighborhood of Cambridge. It is part of Saudi Aramco's broader strategic research and development (R&D) program and is joined by two new research centers in Detroit and Houston.



Saudi Aramco President & CEO Khalid A. Al-Falih (center) cuts the ribbon to formally inaugurate the Aramco Research Center in Cambridge, Mass. The new research center focuses on upstream and downstream energy research

The new Boston Center is part of the company's ambitious R&D program, which is positioned to seek breakthrough achievements that address long-term industry challenges and contribute to Saudi Aramco's mission of providing a secure and sustainable supply of energy for all.

The quality of the Cambridge area's technology and thought leadership contributed to the company's decision to locate one of its research centers there. Saudi Aramco has maintained long-term, key research partnerships in the Boston area and is a founding member of the MIT Energy Initiative (MITEI), which is dedicated to working on key elements of complex energy challenges through multidisciplinary research.

ASC's Director of Research & Development Mustafa Al-Ali noted that the location of the research center will help boost the quest for breakthroughs in research and innovation. "We see our research program in Cambridge as a natural outgrowth of the innovation and collaboration already taking place," Al-Ali said.

The center in Cambridge seeks to develop game-changing new technology addressing upstream and downstream energy challenges.

New Board Members' Bios

– Inas Hamza

Inas Hamza, administrative support, Aramco Research Center-



Boston, joins the Society of Petroleum Engineers (SPE) NYNE chapter as the Young Professionals Chairperson.

Hamza has worked in various roles throughout her career directing project leads and providing support with budgets, financial analysis and contracts. She joined Aramco R&D in September 2013 bringing experience with market research analyses tools including specialized software such as STATA, SPSS, MatLab, and advanced Microsoft Excel VBA.

Hamza earned a Bachelor of Science degree in Business Administration from Salem State University and a Master of Arts degree in International Finance and Economics from Brandeis University, Waltham, MA. At Brandeis, she included a specialization in the field of risk management. She is a member of the National Association for Business Economics (NABE).

Hamza's role as Young Professionals Chairperson encourages and promotes involvement in SPE and develops recruitment strategy and professional development opportunities for young chapter professionals.

– Jenny Smythe

Jenny Smythe is a Senior Research Scientist at Schlumberger - Doll Research (SDR) in Cambridge MA. She works in the MicroSensors Technology group, looking at methods for optical interrogation of fluids. She joined Schlumberger in 2009 as a post-doctoral scientist after finishing her PhD in Applied Physics at Harvard. In her free time, Jenny swims, sails, and plays violin in the Longwood Symphony Orchestra.



– *Joseph Alifano*

Joseph Alifano joined Alliant Techsystems (ATK) as an engineer in 2004 and has been engaged in the design, analysis, and evaluation



of air breathing and rocket engines; high pressure and high heat flux energy conversion systems; as well as tools for hydrocarbon recovery. Currently, he is a senior engineer in the Systems Development Group of ATK's Missile Product Systems Group focused on the rapid development and deployment of disruptive technologies for the oil and gas industry.

He has also researched mechanistic pathways of methane oxygen reactions on short contact time catalyzed screens with a shock tube in pursuit of a M.S in Earth and Environmental Engineering from Columbia University.

He has coordinated and contributed to the design of many of ATK's recent successes in the alternative energy and propulsion markets including; a Hydrogen Powered Utility Vehicle for the Navy Surface Warfare Center Crane Division; the Laser-Induced Thermal Acoustics experiment at NASA Langley Research Center; a Catalytically Controlled Reactor Gasification system for coal and biomass; and a LOX-CH₄ rocket engine developed and tested for NASA which Time Magazine named Innovation of the Year in 2007.

Visit to Oblong Industries

Monday July 28, 3-6pm on July 28.



We are constantly on the lookout for opportunities to connect our members with innovative companies in our region and interesting venues for social events that will stimulate our creativity. We are excited to announce that Oblong Industries, who has been developing “Next Generation Conference Room Technology”, has enabled us to meet both of those objectives at once. Oblong has been working to provide a new technology platform which transforms computing from a single user, single interface experience to a unified environment for multiple users across multiple devices and screens. Oblong graciously hosted us in their Boston location where we were given a live demonstration of their impressive conference and computing tools.

Member Spotlight

Lu Yang is a fourth-year PhD student in Chemical Engineering, with a minor in business administration at the MIT Sloan School of Management. Prior to joining MIT, Lu obtained her Bachelor's degree in Chemistry from Peking University in China. Lu has worked as a technical consultant at General Mills and Merck & Co., where she made key contributions to a variety of projects involving process optimization and numerical simulations. She is actively



involved with energy communities on and off campus, and is currently the president of the SPE chapter at MIT. Lu's research at MIT focuses on the modeling and visualization of multiphase flow on the microscale, and she has a keen interest in the oil and gas industry.

Member Status

As of July 2014, The SPE NYNE section has a total membership of 474. Fifty-four members have newly joined in the first half of 2014. On behalf of our Section, we would like to welcome the new members and we are looking forward to increased participation from our members in our meetings and activities.

The following is the distribution of our membership based on the members' Technical Discipline:

Drilling:	87	Health:	27
Management:	99	Production:	87
Projects:	37	Reservoir:	116
Unknown:	21		

Some of the members have not paid for their membership for this year. In order to receive the benefits of SPE membership, please make sure that your membership dues are paid through the end of 2014.

Upcoming SPE-NYNE Events

SPE-Distinguished Lecturers

Hydraulic Fracture Complexity in Shale Gas and Tight Oil Plays: Insights from Geology, Modeling and Physical Experiments by Prof. Jon E. Olson, The University of Texas at Austin, SPE-Distinguished Lecturer.



Cambridge, Massachusetts, Nov 5, 2014

The shale gas revolution has demonstrated the potential of multi-frac horizontal wells. A close companion with hydraulic fracture placement technology was fracture diagnostic technology, and this illustrated that hydraulic fractures were not as simple as we once thought. The ideas around hydraulic fracture complexity had been brewing for a long time, but really exploded with widespread application of micro-seismic monitoring. Yet, with all the incredible insight gained from micro-seismic mapping, there is still a significant gap in our level of observation. This talk utilizes natural fracture examples as analogs for what hydraulic fracture complexity might look like, and then create possible realizations of complex fracture geometries using numerical fracture propagation modeling and scaled laboratory experiments.

Shale Sweet Spot Detection with Surface Seismic by Brian E. Toelle, Schlumberger, SPE-Distinguished Lecturer.



April 27, 2015

One of the greatest revolutions in the history of the oil and gas industry has taken place over the past decade. This revolution is the rise of the shale reservoirs. Initially these shales were developed using statistical drilling methods in which a large number of horizontal boreholes are drilled throughout the play. Until recently gas prices supported the economics of this approach. But due to their success, an abundance of gas has caused a decrease in gas price and a new economic paradigm has emerged, shale sweet spot drilling.

Production from numerous shale plays indicates the existence of these sweet spots. These result from certain geologic conditions, such as increased matrix porosity or TOC, increased micro-fractures and areas with increased brittleness. These reservoir characteristics affect the physical rock properties which, in turn, affect a passing seismic signal. Recent advances in seismic interpretation have demonstrated that these shale reservoir sweet spots can be detected prior to drilling. During this presentation a number of these seismic interpretation methodologies will be discussed.

Shale Plays: How Technology, Governments,



Regulators, Academia, and the Public Have Changed the World's Energy Supply and Demand Equation by Joseph H. Frantz, Jr., VP of Eng.

Technology with Range Resources Corporation, SPE-Distinguished Lecturer.

May 18, 2015

The global shale revolution is just beginning. Production from US shale reservoirs has increased from 2.5 Bcf/d to over 25 Bcf/d since 2007, illustrating the viability of this prolific new source of long-term gas supply. Other countries will undoubtedly use the knowledge developed in North America to jump-start their own shale plays. Although technical advancements are largely responsible for unlocking the potential of shale gas, the industry's coordination with a broad set of stakeholders arguably have equal, and perhaps more influence on implementation of new shale developments.

As such, they will increasingly impact our industry's ability to more fully develop these

resources. This presentation focuses on key technological advancements that drive shale gas development, but also the important aspect of how our industry is working with governments, regulators, academia, and the public more collaboratively to best maximize the immense benefits from this opportunity, while fostering the use of best practices.

Upcoming SPE events

SPE Annual Technical Conference and Exhibition (ATCE) will be held on October 27 to 29, 2014 at the RAI Center in Amsterdam, The Netherlands. This is only the second time that ATCE has been held in Europe over its 90 year history. ATCE is the premier annual SPE Event, providing O&G professionals the opportunity to learn about best practices, future trends, and the newest tools and technologies. ATCE will have over 400 technical papers covering current applications and future technologies, 300 exhibitors showcasing the latest technologies and new products and numerous training courses and networking events and activities. Student and Young Professionals will have many opportunities to participate including the Student General Session and Awards Luncheon on Sunday, October 26th. The Opening General Session, Monday, October 27th, will cover the topic of Affordable Energy and include a panel of experts who will discuss how the O&G industry must keep costs under control, manage environmental impacts and advocate for sound policy decisions.

Oct 21 - 23, 2014 Conference:
Charleston, West Virginia
SPE Eastern Regional Meeting

Oct 23 - 24, 2014 Workshop:

Vancouver, British Columbia, Canada
SPE/ASME LNG: From Well Head to Global Markets

Nov 18-20, 2014 Workshop:
Banff, Alberta, Canada
SPE Thermal Well Design and Integrity

Nov 19-20, 2014 Workshop:
Galveston, TX, USA
SPE Petroleum Data-Driven Analytics: Decision Making and Value Delivery

Dec 2-3, 2014 Workshop:
Corpus Christi, TX, USA
SPE Southern Extension of the Eagle Ford Shale: A Cross-border Collaboration Workshop

Dec 2-3, 2014 Workshop:
Banff, Alberta, Canada
SPE HSSE-SR: Beyond Conventional Oil and Gas: New Social Opportunities and Risks

For more information on SPE Events, check out the link below:

<http://www.spe.org/events/calendar/>

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