

SPE Board of Directors Approves 2009 Western Hemisphere Forums Schedule

The SPE Board of Directors approved the Western Hemisphere Forums schedule for 2009. The schedule is listed below.

Artificial Intelligence in the E&P Industry—Future Opportunities for Better Decision Making

31 May–5 June 2009 • Colorado Springs, Colorado, US

Technical disciplines: *Drilling and Completions; Management and Information; Production and Operations; Reservoir Description and Dynamics*

The acceptance of artificial intelligence (AI) techniques in the E&P industry has been slow compared to other mainstream industries. Yet, a quick literature search of the SPE eLibrary indicates that within the past 5 years there have been more than 100 papers that describe the use of AI techniques in a variety of E&P disciplines. These publications span the subjects of drilling, rig scheduling, completions, hydraulic fracturing, data acquisition, knowledge management, production optimization, field management, field development, uncertainty analysis, risk management, reservoir characterization, and dynamic modeling of reservoirs. Despite a slow start, AI techniques have already become mainstream tools in E&P decision support systems.

As of 2008, most of the E&P industry applications of the AI techniques have been limited to data processing and local optimization. Over the next 10 years, it is anticipated that the employment of AI techniques will significantly increase in data mining, learning, and knowledge management, which will lead to complex decision support tools. These tools will enable short-, medium-, and long-term optimizations with uncertainty assessments and risk mitigation.

Chairpersons: *Jesse E. Roye, BP, and Doug Johnson, Halliburton*

Maximizing Oil Recovery in the 21st Century

31 May–5 June 2009 • Colorado Springs, Colorado, US

Technical discipline: *Reservoir Description and Dynamics*

Increasing demand for oil and high oil prices have created an unprecedented environment for the implemen-

tation of novel technologies in maximizing oil recovery. Because of a lack of reserves replacement through exploration, the pressure to increase the recovery factors from mature oil reservoirs is way ahead of traditionally accepted norms.

An analysis of the current state of the technology indicates some serious hurdles that have yet to be overcome, and some opportunities that have to be investigated. On the negative side, existing enhanced oil recovery (EOR) technologies are all from the previous era, most of the EOR expertise has left the industry, and most of the offshore production systems have inherent facility limitations for EOR. On the positive side, the industry has made significant advances in imaging, characterizing, quantifying, reaching, and producing of the reservoirs.

For conventional oil reservoirs, this forum will review the current state of the technologies that impact oil recovery, investigate novel ideas/approaches that can be implemented over the next 10 years, address how to overcome bottlenecks associated with commercialization of the technologies (from design to laboratory to field), and investigate the benefits of integrating multiple disciplines in maximizing recovery.

Chairpersons: *Omer Gurpinar, Schlumberger, and Geoff Warren, Shell*

The Future of Stimulation in Tight Gas and Shale

16–20 August 2009 • Kananaskis, Alberta, Canada

Technical disciplines: *Production and Operations, Reservoir Description and Dynamics*

Over the past decade, the contribution of unconventional gas resources (tight gas, gas from shale, and coalbed methane) as a percentage of total gas production in the US has seen significant growth, averaging 8.6 Tcf/year at the end of 2006 (approximately 45%). This growth was driven by the drilling in 2005 and 2006 of more than 34,000 tight gas and shale wells. While this tsunami of unconventional gas growth has carried its share of technological advances—the need for further game-changing technologies is critical. This criticality is evident in the decreasing estimated ultimate recoveries/well recoveries being observed in more recent completions. These reduced recoveries combined with the dramatic increase in industry drilling and completion costs have short-circuited some unconventional developments as projects became uneconomic.

Economic rejuvenation will require efforts across a number of fronts, including the development of new technologies and approaches toward unconventional gas stimulation. In addition to allowing for continued development of known reservoirs, such technologies if identified and pursued, would enable development of additional resources throughout the world, including an estimated 10 Tcf in the US alone.

This forum will unite global experts for the purpose of focusing on the future of tight gas and shale stimulation. Participants will include industry and government representatives, educators, and researchers.

Chairpersons: Larry Britt, NSI Technologies, and Jorge Manrique, Shell

Operational Innovation for Field Rejuvenation (Lift no Water)

25–30 October 2009 • Dorado del Mar, Puerto Rico

Technical disciplines: Production and Operations; Projects, Facilities and Construction

Published data suggest that approximately 80% of oil and gas fields are characterized as mature or nearing depletion. While a relative handful of these fields have been abandoned, less than 20% have undergone significant rejuvenation once they have experienced significant

decline after achieving the initial production plateau. Historical data and advancements in characterization only confirm that we know where most of the oil is: the places already in production. Major operators are beginning to apply sophisticated subsea and smart well technology to maximize recovery while smaller operators typically adopt more traditional techniques to exploit smaller, and sometimes previously stranded, reserves.

With many fields ranging from 20 to 50 years old and a 10- to 20-year gestation for broad acceptance of new technology, a field developed with and still using 30-year-old technology is not that uncommon. Rejuvenation efforts in these fields could benefit through the application of subsurface separation and processing where water cut encroaches on existing transport capacity, smart well completion systems to improve reservoir management, and potentially from subsurface power generation. This forum will focus on the application of these systems and capabilities, with an emphasis on their application in land and offshore fields experiencing advanced production decline, and the extension of technology developed for subsea applications to onshore applications.

Chairpersons: Vicky Jackson-Nielsen, WellDynamics, and Paul Shepherd, AMEC Paragon



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