

Trans-Pecos SPE Meeting

Oct. 12, 2011 11:30am-1pm

Cost: \$20

***Odessa Country Club, 1 Fairway Dr., Odessa, TX
79765***



Artur Stankiewicz is a Global Fluids Domain Head and Scientific Advisor Reservoir Fluids & Geochemistry at Schlumberger. Until March 2010, he was the Subsurface Manager in Shell Abu Dhabi, and Shell's expert in the area of Geochemistry Fluid Properties and Flow Assurance. At Shell, he led development and implementation of asphaltene technology while also pioneering interdisciplinary focus on hydrocarbon fluid properties and its acquisition via foundation of a unique, integrated Fluid Evaluation and Sampling Technologies Team (FEAST). Stankiewicz worked on numerous projects around the world, with postings in the USA, the Netherlands and UAE, authored more than 60 articles and 70 conference abstracts, and has been an invited lecturer, organizer and chair of numerous international meetings and symposia. He is currently a Treasurer and the Chair-elect of the European Association of Organic Geochemists (EAOG), and a member of SPE and AAPG. Stankiewicz holds MSc and PhD degrees in Geology/Organic Geochemistry and spent 2 years as a Post-Doctoral Assistant at Bristol University, UK.

Artur Stankiewicz, Schlumberger

Origin and Behaviour of Oil Asphaltenes—Integration of Disciplines

In the last decade, traditionally engineering area of flow assurance have arguably seen one of the most dynamic influences of petroleum geochemistry. The "merger" of engineering and geochemical knowledge in the development of asphaltene technology has dynamically advanced this area of petroleum industry. While the impact of such integration has been presented at many conferences, the topic is still poorly appreciated. A universal asphaltene molecule does not exist—in the diverse world of hydrocarbons fluids and its asphaltene fraction, a single field/reservoir may exhibit significantly different composition and dynamic behaviour. While asphaltene precipitation is driven primarily by changes in pressure and composition, natural factors such as source rock type, timing of oil generation, expulsion and migration, secondary reservoir processes and alterations, and PVT conditions from

source to reservoir will affect its molecular structure, size, chemical composition and phase behaviour. Thus, understanding both the phase behaviour (PVT) and geochemical history of reservoir fluids is critical to the identification of potential deposition problems during oil production. Determining factors controlling asphaltene behaviour is best achieved by an integrated study of stock tank liquid properties and live oil experiments. Experimental data combined with production experience in the field can be used to establish the spatial distribution and severity of asphaltene stability/deposition in the field. Early understanding of the spatial distribution and behaviour of “asphaltene problematic” fluids in a reservoir is key in the development of any oil field and will lead to introduction of robust prevention and mitigation strategies. Integration of knowledge and experience from worldwide operations provides an opportunity to develop theories and predictive models, explaining fluids behavior ahead of the drill bit.