



## Society of Petroleum Engineers Distinguished Lecturer 2016-2017 Lecture Season



Lecture Title:

**“Fooled by Randomness”, improving decision making with limited data sets.**

Abstract:

Professionals routinely face the challenge of making informed decisions with limited data sets. Our exploitation of Unconventional resource plays has exacerbated this issue. We commonly refer to these resource plays as “statistical plays”, as large programs have provided repeatable year over year results. Competitive pressures and the desire to get to the right answer as soon as possible has driven the observed decision-making based on limited data sets. In an environment where horizontal well costs can exceed \$10 MM and programs hundreds of millions of dollars, decisions based on limited wells have become our industry’s “money pits”. Development decisions are often made without due consideration for the representativeness of the data. Similarly, we frequently test new technologies with limited samples with the expectation that a simple arithmetic comparison of the average results can validate or refute their further application.

This talk presents the theory and utilization of aggregation curves as a pragmatic graphical approach to determining the uncertainty in the sampled mean relative to the desired average program outcome. The presentation will conclude with a discussion on the use of sequential accumulation plots as a graphical approach to validating the representativeness of our forecasted results versus actuals based on limited actual results.

### **Biography:**

James (Jim) Gouveia (BaSc, Chemical Engineering, University of Toronto) is a registered Professional Engineer with a diverse technical, business and operations background in the petroleum industry. He joined Rose & Associates in March, 2002 after 21 years with Amoco and BP Energy. Mr. Gouveia has worked in a variety of technical and managerial assignments in exploration, production and reservoir engineering, strategic planning, and risk management. Prior to BP's acquisition of Amoco in 1999, Mr. Gouveia was a Director of Risk Management for the Amoco Energy Group of North America. In this role he was accountable for assurance of consistent project evaluation of major capital projects. In his last roles Mr. Gouveia led BP's strategic initiative into unconventional gas resources in Western Canada. With BP, he was a member of several task forces including a world-wide task force focused on growth initiatives in mature basins and developing a portfolio management process for BP's North American unconventional gas assets. Mr. Gouveia is a key author in the development of Rose & Associates course on the assessment of Unconventional resource plays. He has consulted with firms in North America, South America, the Middle East, S.E. Asia and Australia on the resource, reserve and economic evaluation of their Unconventional assets. Mr. Gouveia has co-authored and presented papers, most recently as a contributing author to the SPEE's 2011 Monograph 3, “Guidelines for the practical evaluation of undeveloped reserves in Resource plays”, and SPE 185077, 175527, 175888 & 121525. Mr. Gouveia is a member of APEGA, SPE, SPEE and AAPG. Mr. Gouveia is a partner in Rose & Associates.