Monday, February 27, 2017

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: $45 Preregistered members; $50 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

Leon Thomsen
Chief Scientist of
Delta Geophysics

Life of Field: Geoscience Monitoring of Reservoir Performance

SEAM is the research arm of the Society of Exploration Geophysicists (SEG). It puts together industrial collaborations to accomplish industrial-scale, realistic, numerical simulations. The latest three-year project is "SEAM LoF: Integrated Geoscience for 4D Numerical Modeling". The pilot project modeled a Gulf of Mexico turbidite fan sequence that is folded and faulted. The geological component included a fully-coupled 4-dimensional specification of reservoir geometry, lithology, porosity, saturation, permeability, and geomechanical deformation, all on a 1-meter scale. A realistic production plan simulation operated for 24 months (7 producers and 7 injectors), with seismic simulations before and afterward. The results seem to be plausible, sometimes after some contemplation and discussion.

In the next two years, project participants will refine and extend this model, and build and compute new models. Two years after the end of the project, non-participants will gain access to all numerical results.

Biographical Sketch

Leon Thomsen holds degrees in geophysics from Caltech (BS, 1964) and Columbia (PhD, 1969). His academic career began with postdoctoral appointments at CNRS in Paris and at Caltech followed by tenured faculty appointments at the State University of New York at Binghamton (1972-80). Thomsen's industrial career began in 1980 at Amoco's famous Tulsa Research Center. In 1995, he moved to Amoco's Worldwide Exploration Group in Houston, to help implement the ideas that he had earlier helped to invent. Following the 1999 merger, he served in BP's Exploration and Production Technology Group in Houston as Principal Geophysicist and Senior Advisor. Following retirement from BP in 2008, he remains professionally and scientifically active as Chief Scientist of Delta Geophysics (hhtp://DeltaGeophysics.net), as Research Professor at the University of Houston, and as visiting Scientist a Lawrence Berkeley National Laboratory. Thomsen has led technical development in applied geophysics through innovation in vector seismics (polar anisotropy, azimuthal anisotropy, azimuthal AVO, converted-waves, and Life-of-Field-Seismics); in pore-pressure prediction; and most recently in controlled-source electromagnetic (CSEM) and fluid dependence of seismic response, through numerous SEG publications and presentations, and many patents. Thomsen was an early recipient (1960-64) of an SEG Scholarship. He received SEG's Fessenden Award in 1994. He served as SEG Distinguished Lecturer in 1997 and as SEG/EAGE Distinguished Instructor in 2002. He is an Honorary Member of GSH and of EAGE. He was appointed a foreign member of the Russian Academy of Natural Sciences, and given their Kapitsa Medal in 2004. He served SEG as Vice President, as President-Elect, and as President (2006-2007).