

Monday, November 18, 2019

Live Oak Room • Norris Conference Center • 816 Town and Country Blvd #210  
Social Hour 5:30–6:30 p.m.  
Dinner 6:30–7:30 p.m.

**Cost: \$40 Preregistered members; \$45 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.*

## HGS International Dinner Meeting

Rog Hardy, Grant  
Ferguson, Jim Peck

Canopy E&P Services LLC

# The Quest from Shallow Shelf to Deepwater in Latin America: How We Got Where We Are, Where We Are Going

Industry's first exploration foray into open ocean was shortly after World War II on Louisiana's shallow shelf as an extension of prolific onshore and transition zone discoveries, enabled by a booming U.S. post-World War II economy and a wealth of former military ocean engineering talent. As geotechnical and engineering innovations progressed in the 1950's and early 1960's, Mexico's nearly adjacent shallow shelf Tampico and Salina Basins, plus Trinidad's Gulf of Paria and Atlantic Columbus Basin were soon beneficiaries, also as extensions of geologically contiguous major onshore producing areas.

This initial trendology, focused mainly by limited early seismic and seabed gravity data, continued to garner success and gradually gave way in the 1960's to utilizing large digital multichannel geophysical surveys to expand beyond the basins immediately adjacent onshore production. As the 60's to the 80's progressed, however, production technology limited exploration to the shelf where failure or marginal success was achieved in basins such as Brazil's Santos, Peru's Talara, Argentina's Malvinas, and Guyana-Suriname Basins.

In the 90's and 2000's production technology advanced in the U.S. GOM beyond the fixed-leg platform enabled exploration in deeper waters, focused by more data sets, integration of DSDP and ODP drilling data, seismic stratigraphy, AVO, and plate tectonics (especially in the South Atlantic linking up Africa's productive basins with South American target areas). Major deepwater success followed in Brazil's Campos-Santos, and more recently Mexico's Perdido Foldbelt plus Guyana. Not all deepwater expansion has been roses, however, with in failures including Cuba, Barbados, Suriname with French Guyana, northeast Brazil, and Uruguay, plus relatively marginal or gas-only success in Colombia, Venezuela, Trinidad, French Guyana, north central Brazil and the Malvinas – Falklands regions.

We informally categorize the shelf and deepwater success of the last sixty years into "closed" and "open" productive systems. "Closed" systems are highly structured with super seals and/or readily definable traps and boundaries on seismic data – Mexico's Salina-Sureste Basin and Brazil's Campos-Santos, plus a lesser extent the US-Mexico Perdido Foldbelt and Brazil's Sergipe Alagoas. "Closed" systems are very rich and have major reserves to be found primarily by drilling in-between existing discoveries in Brazil, plus some step-outs in Mexico. Their heyday has decades to come, but they will probably see a production decline before humankind moves to a post-carbon world. "Open" systems, conversely, are subtly structured (with local exceptions) or purely stratigraphic with undefinable boundaries on seismic – best characterized by Guyana. Vast regions possibly harboring major accumulations in "open" systems remain undrilled or barely touched by the bit, from deepwater Barbados to Argentina on the Atlantic side, and higher risk Mexico to Chile on the Pacific side. A major effort is underway to identify more Guyanas that will result in establishing new producing provinces, but at the present industry pace some large productive complexes may go undiscovered before we move to that post-carbon world. ■

### Biographical Sketches

**ROG HARDY** has over four decades of diverse business and technical experience – in international and domestic, in operations and new ventures, with host governments, majors, independents, start-ups, contractors and as an independent consultant.



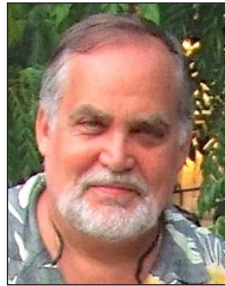
Most recently, Rog's equity position in a Latin America-focused E&P start-up, Cruz del Sur LLC, and extensive consulting in North American shale growth strategy plus

international new ventures and operations position him to be well versed in current issues and trends in the global industry.

Previously, Rog held technical and leadership positions of increasing scope and responsibility in Amoco, Chevron, Natomas/ IAPCO (Maxus) and Unocal, culminating in six years as Vice President Unocal Indonesia leading and participating in a major business unit's oil, gas, and geothermal exploration, production (including LNG export) of over 200,000 MMBOE, and new venture strategy. Global experience elsewhere includes in-depth new ventures and operations in the Sub-Andean Countries of South America, Southeast Asia, Sub-Saharan Africa, the Caribbean and North America.

Rog is past chair of the AAPG History of Petroleum Geology Committee and a Visiting Petroleum Geoscientist. He has a bachelor's in geology from the University of Minnesota, and a master's from San Diego State. He is a registered geophysicist by the state of California. See more at [www.linkedin.com/in/roghardy](http://www.linkedin.com/in/roghardy)

**JIM PECK** has proven repeatedly over the last four decades to be an effective explorationist and oil finder with extensive geological and geophysical interpretation worldwide with emphasis on sequence stratigraphy and geophysical attribute analyses. He has shown exceptional and holistic ability to quickly synthesize regional tectonics, basinal analyses, depositional systems and burial histories into petroleum system models, and then utilize those elements toward comprehensive prospect evaluation and field development projects.



Jim's new ventures and operational experience essentially extends globally with emphases on North Africa and the Mediterranean, the Middle East, West Africa, South America, the Caribbean, Southeast Asia and the Gulf of Mexico.

Most recently, Jim has consulted to a broad range of clients internationally and domestically, and founded the Pelagic Exploration Company with two partners, conducting successful ventures in the Eastern Mediterranean.

Previously, Jim was Vice President of Geology for Reading and Bates Development Company, Senior Team Leader with Total in Singapore and Jakarta, and Chief Geologist for the Syrian-American Petroleum Company.

Jim has a Bachelor's degree in geology from the University of Houston. His primary interpretational platforms are IHS 3D-2D Kingdom Geophysics and Geology. See more at <https://www.linkedin.com/in/james-peck-05a94123/>

**GRANT FERGESON** has a strong track record finding commercial accumulations of oil and gas in both conventional and unconventional Paleozoic through Tertiary exploration plays, principally in North America's onshore and offshore Gulf Coast, East Texas, Williston and Michigan Basins, plus generating and evaluating prospects in the Caribbean and other basins worldwide.



Grant specializes in integration of basin research with subsurface and seismic data to create a complete picture of working petroleum trap styles and prospective regions. This enables generation of high quality risk appropriate prospects which has resulted in numerous successful discoveries over the decades of his career. He is also adept at driving multi-player technical teams toward the rapid conclusion of technical evaluations of prospects, and subsequent funding and testing by drill bit in order to realize economic potentials.

Recently Grant was Executive Vice President E&P for Mertz Energy, and earlier was affiliated with Devon Energy, EOG Resources, and Vastar Resources. He was also owner of Ferguson Petroleum Company and Chief Geologist at Venus Oil Company in San Antonio.

Grant has a BS from The University of Texas at Austin, is a Texas Certified Professional Geoscientist, an AAPG DPA Certified Geologist, and has an extensive record of professional service including past-President of the South Texas Geological Society plus Technical Session Chairman for GCAGS and AAPG Conventions. See more at <https://www.linkedin.com/in/grant-fergeson-19515213/>