

## **Exploration in an overpressured lacustrine petroleum system; the South Caspian Basin**

Dr. Gregory W. Riley  
Exploration Manager, South Caspian Basin, BP Azerbaijan  
Villa Petrolea 2, Neftchilar, Prosplekti (Bayil)  
Baku, Azerbaijan

There is a long history of oil and gas production from the Pliocene of the South Caspian Basin. Initial production was from onshore fields and their extension in the shallow offshore waters. Technology advances over the past several decades increased the ability to find, drill and develop additional hydrocarbons, leading to dramatic increases in production. More recently, advances in completion technologies, 4D seismic, high pressure drilling technologies, extended reach drilling and a deeper understanding of the South Caspian pressure and fluid systems has allowed continual improvement in our ability to discover and develop South Caspian Basin hydrocarbons. In this talk I will describe some of the technologies and advances we believe will be important in discovering and developing the next generation of hydrocarbons in the South Caspian. Early identification of these key technologies is important, as the time to develop technologies is typically long. Key technology areas we have identified are: 1) Seismic acquisition, drilling and development in shallow-water, environmentally and socially sensitive locations; 2) Ultra deep and ultra high-pressure drilling, testing and completions; 3) sub-sea completions and developments; and 4) continued improvement in geological modelling for prediction of subsurface fluid and pressure distributions.