



## **NEWSLETTER September 2010**

### ***Message from the LPS President:***

I hope you all managed to take some time off this summer. I had a great time down in the Dordogne. I last visited the area when I was twelve; back then I spent most of my time digging fossils out of the soft limestone. I am not a geologist but I still find these rocks fascinating. Although I know a bit more about these rocks than I did when a youngster, limestone are a challenge for the petrophysicist. If you want to know more about these rocks please attend our Carbonates III one day seminar at the Geological Society on Thursday 16<sup>th</sup> September, see this newsletter for more details.

The Monday (13<sup>th</sup> September) of that week we return from our summer break to continue our programme of evening talks. Prof. Mike Lovell from Leicester University will be talking about gas hydrates. Mike is an excellent speaker. The evening meetings are free and all are welcome.

A few of the LPS Committee will be leaving in the next few months. The LPS is run by volunteers. The work of the committee is not too demanding or onerous. If you are able to help, please contact any of the committee.

All the Best

Adam

***Adam Moss: LPS President***



*Dates for Your Diary*

**Monday 13<sup>th</sup> September, LPS Evening Meeting, Geological Society, London Piccadilly. 6pm.**

Mike Lovell – University of Leicester.

"Gas hydrates: energy resources, slope stability & climate change".

**Thursday 16<sup>th</sup> September, LPS One Day Seminar, Geological Society, London Piccadilly – “Carbonates III”.**

**Monday 11<sup>th</sup> October, LPS Evening Meeting, Geological Society, London Piccadilly. 6pm.**

Elnur Binyatov – BP.

"Use of measurement after drilling logs (MAD logs) and PWD data for interpreting hole problems".



Next Evening Talk:

**“Gas hydrates: energy resources, slope stability & climate change”**

**Mike Lovell**

**Department of Geology  
University of Leicester**

Gas hydrates are crystalline icy solids composed of a cage or lattice of water molecules encasing a gas, typically methane. These hydrates occur naturally around the world along continental margins and in permafrost regions where there is a supply of methane, water, and where pressure and temperature conditions are suitable. It has been estimated that about 6 trillion tonnes of methane are trapped in deposits either on the seafloor or in permafrost regions. This has been estimated as more than half the organic carbon reservoir on Earth, although such estimates incur substantial uncertainties and possibly grossly over exaggerate insitu hydrate volumes.

There is a growing realisation this huge methane reservoir is in constant flux, absorbing gas from below, releasing gas above, and continually equilibrating to local changes in pressure, temperature and geochemical regimes. Implications of this vast and dynamic methane reservoir on the global carbon cycle, long-term climate, seafloor stability, and global economics and energy policy, are only now being widely investigated.

From a petrophysical viewpoint, evaluating sediment-hosted gas hydrate volumes presents various challenges. Conventional petrophysical models can be used to characterise and quantify the gas in place but these models have significant limitations. For example Archie type equations or sonic algorithms are routinely applied, and these are discussed with respect to variations in hydrate morphology. Yet the anomalous properties of hydrate can lend themselves to simple identification from downhole logs.

From a resource perspective, the production of gas hydrate is for many countries a central component of energy strategy and current programmes are aimed at yielding significant quantities of methane from the sub seafloor within the next decade. Meanwhile the risks to seafloor stability and ultimately to climate change have yet to be fully quantified, and are the subject of intensified efforts at modelling these complex processes.



The London Petrophysical Society announces a one day seminar on:

# Carbonate Formation Evaluation

Thursday 16<sup>th</sup> September 2010 at the Geological Society, London

### Objective:

Review current approach and thinking towards Carbonate Petrophysics.

### Abstract:

More than half the Earth's conventional hydrocarbon resources are found in carbonate reservoirs. These are highly heterogeneous over many length scales and are typically extensively fractured: as a result recovery factors are often low. Essential to improving oil and gas recovery is to understand the fundamental controls on carbonate porosity, permeability and saturation, and develop new techniques for evaluating and predicting these reservoir properties.

### The technical program includes:

Company / Affiliation	Speaker	Subject
International Centre for Carbonate Reservoirs (ICCR), Heriot-Watt and Edinburgh Universities	Patrick Corbett & Rachel Wood (Keynote)	Carbonates – a tortuous upscaling journey from Geology to Petrophysics to Simulation
Core Specialist Services	Craig Lindsey	Applications of mercury Intrusion Data for Petrophysical Rock Typing in Carbonates
Halliburton	Iain Dowell	Fluid sampling while drilling in Carbonates
Schlumberger	David Allen	CIPHER: Carbonate Pore System Parameters using NMR and Images
BG Group	Clive Sirju	A novel technique to integrate NMR and welltest data in complex carbonates
BG Group	Robert Webber	Carbonate Facies and Permeability Estimation using Rock Physics and Flow-Zone Facies
BP	John Williams	Carbonate Petrophysics case study
BP	Andy Holden	Carbonate Petrophysics case study
SUNCOR	Mike Millar	Dolomite gas field case study

### Registration Cost:

£150 for LPS/PESGB/AFES/SPE Members  
£175 for Non-members (LPS is not VAT registered).

For more info or to register for this event please visit: <http://www.lps.org.uk>  
or email [Robert.Webber@bg-group.com](mailto:Robert.Webber@bg-group.com)