

**Joint Session with SPE**  
**Radisson Hotel – Greentree**  
**23 October 2006**

## **Reserves from Unconventional Reservoirs**

*presented by*

**Dr. Theo H Fleisch**  
**SPE Distinguished Lecturer**  
**BP**

### **Abstract**

The world has an abundant supply of low cost natural gas in remote locations. The monetization of these stranded gas resources requires new technologies and new, large markets. GTP technologies, including the well-known GTL (Gas to Liquids) process, finally emerge as options to efficiently convert this resource into clean, high value fuels and chemicals. This change was brought about by technology developments over the last two decades. Over the last two years, we have seen financial project commitments of over \$20 billion for GTL projects alone. Less well known are rapid advances in gas to chemicals (such as methanol) conversion technologies and increases in plant scales which significantly reduce manufacturing costs. These developments transition e.g. methanol from a chemical to a large scale, future fuel and chemical feedstock for other large-scale chemicals such as olefins. Among the many methanol derivatives (olefins, gasoline, acetic acid, hydrogen, etc) there is great promise for dimethyl-ether (DME), which has the properties of LPG. DME is envisioned and already employed as a domestic heating and

cooking fuel, power generation fuel and as a super clean diesel alternative.

This presentation will review the technologies, products and markets of the many GTP options. It will discuss the role of GTP in the context of existing gas monetization businesses, such as LNG and pipelines, as well as other emerging technologies such as CNG and gas by wire. Future developments of floating GTP applications for offshore associated gas scenarios will also be reviewed.

### **Author Biography**

Dr. Theo Fleisch is a member of BP's Group Leadership and holds the position of Distinguished Advisor. Currently, he works in BP's new Global Gas To Products (GTP) group. His work focuses on the development and capture of low cost Gas To Market technologies, the development of commercialization strategies, evaluation of business opportunities and support of commercial ventures. Dr. Fleisch is well known for his leadership in GTP and his recognition of DME as a multi-source, multi-purpose clean fuel and chemical feedstock of the future. He holds a Masters and PhD summa cum laude degree in Physical Chemistry from the University of Innsbruck, Austria, had a postdoctoral assignment in Chemical Engineering at Purdue and has worked for 27 years in numerous technical and managerial positions in Amoco and BP. He has over 70 publications and 10 patents and has held many leadership positions in scientific and industrial organizations.

**For reservations to this informative and entertaining evening, please complete the attached reservation form.**

## WHAT IS THE PAPG?

PAPG is a non-profit organization founded in 1984 to provide a forum for Petroleum Geologists in the Pittsburgh Area to meet socially and discuss technical topics relative to the exploration and development of reserves in the Northern and Central Appalachian Basin. PAPG is an affiliated association with AAPG (American Association of Petroleum Geologists) and has representation in the House of Delegates. Educational opportunities are provided via field trips, seminars and AAPG Sectional meetings, sponsored solely by PAPG or in conjunction with the PTTC (Petroleum Technology Transfer Council), PGS (Pittsburgh Geologic Society) and SPE (Society of Petroleum Engineers).

Although PAPG is predominately a geologic organization, numerous industry professionals including geophysicists, engineers, lawyers and landmen are among PAPG's members and find the interaction at meetings and educational opportunities beneficial to their professions. PAPG also encourages student membership and participation.

Meetings are typically held monthly from September through May in locations within 50 miles of downtown Pittsburgh. From time to time, meetings are held in conjunction with SPE and PGS.

# NOTICE OF OCTOBER 2006 MEETING PITTSBURGH ASSOCIATION OF PETROLEUM GEOLOGISTS

**DATE:** Monday 23, October 2006

**PLACE:** Radisson Hotel - Greentree  
101 Radisson Drive,  
Pittsburgh, PA 15220  
412-922-8400

**TIME:** 11:30 AM – Lunch (New York Deli)  
12:30 PM – Speaker

**TOPIC:** “The End of Stranded Gas: The  
Emergence of the Gas to Products (GTP) Option”

**SPEAKER:** Dr. Theo H Fleisch

**COST:** \$25.00  
\$10.00 students  
(Checks payable to SPE)

**RESERVATIONS:** Call, email, fax, or mail this reservation form to:

**Barbara A. Purks**  
412-787-5403 (phone)  
412-787-2906 (fax)  
bpurks@pittsburgh.oilfield.slb.com

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## **Mark your calendar now for these upcoming events:**

**November 6 2006 –**

**PAPG/SPE Joint Meeting**

*“Is Underbalanced Drilling the Right Answer for Your Reservoir”*

P.V. Suryanarayana– SPE Distinguished Lecturer

**December 2006 –**

**Christmas Party**

**January 2007 –**

**PAPG/SPE Joint Meeting**

*“Appalachian Shale Plays”*

Bill Zagorski – Great Lakes Energy Partners L.L.C.

## **CONTACT THE PAPG**

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PLEASE INDICATE YOUR MEMBERSHIP STATUS BY CHECKING THE APPROPRIATE BOX:

PROFESSIONAL - RENEWAL

STUDENT - RENEWAL

PROFESSIONAL – NEW MEMBERSHIP

STUDENT - NEW MEMBERSHIP

The **PITTSBURGH ASSOCIATION OF PETROLEUM GEOLOGISTS** membership year runs from JUNE 1 through MAY 31. Monthly meetings are usually held the second Thursday of the month from September through November and January through May.

**Professional Dues are \$25.00 per year**

**Student Dues are \$10.00 per year**

**NEW APPLICATION:** If you have never been a member of PAPG, please fill out the remainder of the form, obtain the signatures of two members to sponsor you, and mail check, payable to PAPG, to the address below.

**RENEWAL:** Please fill out the mailing address/directory information below if your contact information has changed and submit dues, payable to PAPG, to the address below.

**Mail completed form and dues payment (checks only) to:**

Dave Boyer  
Texas Keystone, Inc.  
560 Epsilon Drive  
Pittsburgh, PA 15238

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IN THE MEMBERSHIP DIRECTORY (available to members only?)**      Yes              No

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