



SOCIETY OF PETROLEUM ENGINEERS

# SPE NEWS

COPENHAGEN SECTION

## CONTENT

PAGE

- 1 A Growing Industry
- 2 GEUS: Focus on North-east Greenland
- 3 Full Lectures available to Everyone for a Limited Time
- 6 A Frontier for future Exploration?
- 7 Copenhagen December Meeting



Satellite photo from East Greenland.

## *A Growing Industry* **A GROWING INDUSTRY**

At our last meeting, George Stosur covered one of the hot topics of our time: the growing demand for oil and gas and the global warming issues. The presentation provided a good overview of the many factors that are at play, the associated uncertainties and also the potential opportunities carbon capture and storage could provide for the oil industry. I want to thank George Stosur for an interesting presentation and Chevron for sponsoring an excellent dinner.

The topic of our next meeting is the Hydrocarbon Potential on Greenland. This is another hot topic in the industry and for Denmark and Greenland in particular. Several analyses indicate that the potential could be significant, but so far, drilling has been disappointing. Hopefully, this only reflects that we have not yet broken the code. Perhaps, our speaker Jørgen Bojesen-Koefoed from GEUS will provide us with some help in this respect. If the

oil is there and we find it, then recovering it would be exciting. We would have to overcome the challenges associated with deep water drilling in remote and arctic conditions. Next, sub-sea production systems would have to be designed and maintained. And what do we do if we find gas and not oil? Many high risk high reward decisions would have to be made in such an adventure, probably with the involvement by several members of SPE Copenhagen.

The themes over the last two meetings are connected. A globally growing demand for oil will lead oil companies into more challenging conditions. And we are moving closer. Last month, both Dong Energy and Maersk Oil were awarded exploration licenses in the UK in areas West of Shetland.

The increasing activity level requires more talented people. Perhaps some of the many high school students that participate in the Oil Sim game this month have the talent and desire to join the oil industry. Read more about Oil Sim inside the newsletter.

I hope to see many of you at our next meeting on **December 4th at GEUS.**

**Per Bak, Section Chairman**

**FUTURE MEETINGS**  
FOR MORE INFORMATION  
REGARDING THE PROGRAMME  
SEE PAGES 4-5

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## A STORY FROM THIS MONTHS MEETING SPONSOR

**GEUS: Focus on Northeast Greenland**

Over recent years the petroleum potential of the Arctic has received increasing attention. The USGS 2007 Circum-Arctic Resource Appraisal (CARA) identified the Northeast Greenland shelf as an area of particular interest with an estimated total of 31 billion barrels of oil equivalents (BBOE) awaiting discovery. In 2008, GEUS launched a major industry-sponsored project designed to run for the coming 4-5 years with focus on the petroleum geology of the Northeast Greenland onshore basins that serve as analogs to the poorly known and presently rather inaccessible offshore basins. The project comprises a range of activities that include the compilation of existing relevant information into a GIS-product, as well as shallow core drilling and traditional fieldwork in areas where the current sample base and the level of knowledge is not satisfactory.

The first field season saw the successful drilling of a corehole on Jameson Land through the Upper Jurassic Hareelv Formation - the local Kimmerridge Clay Formation equivalent - as well as traditional fieldwork from Kap Dalton on the Blossville Coast to Kuhn Ø north of Wollaston Forland. The fieldwork included studies of volcanics, sampling for uplift studies (apatite fission tracks studies), sand provenance, biostratigraphy, petroleum source rocks and the identification of drillsites for the coming field season plus the search for petroleum seepages.



## Presentations Distinguished Lecturer Presentations Full Lectures Available to Everyone for a Limited Time

We are pleased to make available several of the 2006-07 Distinguished Lecturer's presentations on SPE.org in a video streaming format. Please go to the following site to view these presentations:

[www.spe.org/web/dl/2006-2007\\_videos.html](http://www.spe.org/web/dl/2006-2007_videos.html)



## 600 potential future employees... Oil Sim 2008

During November 2008, some 600 high school students will attend the Oil Sim competition at DTU sponsored by DONG Energy, Chevron and Maersk Oil.

Oil Sim is an on-line simulation game where teams compete on finding oil and gas in a fictive country. The team that finds most oil and gas and avoids spending a fortune on it wins. Before profiting on the oil and gas the teams need to do geological surveys of the underground, make bids for licenses, join in shared licenses with other teams, make test drilling and hire proper service companies. If successful in these disciplines the teams are likely to have a profitable business running.

The Oil Sim game is facilitated by DTU and high school teachers who have already participated in a facilitator day.

Lets us hope that some of the students go away from this event with an aspiration to join the oil industry.

## REMINDER

### The SPE Copenhagen Section Student Scholarship

The SPE Copenhagen Section Student Scholarship can be applied for once a year by students working with petroleum engineering or closely related topics. The total amount that can be applied for is 12,000 DKK. The scholarship can be applied for by filling in the application form, which can be downloaded from the website [www.spe-cph.dk](http://www.spe-cph.dk). The application form should be returned to the secretary of the SPE Copenhagen Section:

**Gerwyn Williams**  
**Chevron Denmark Inc.**  
Parken, Øster allé 48  
2100 Copenhagen Ø

The letter should be marked:  
**SPE Student Scholarship. The application should be returned no later than 31th December 2008**



**Down Hole Precision Robotics**

**Precision Robotics**  
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Kongevejen 100C, DK-2840 Holte, Denmark [www.noreco.com](http://www.noreco.com)

<b>September 18</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
<b>TOPIC</b>	<b>Intervention Strategies for Production Enhancement</b>	
<b>SPEAKER</b>	John Haukvik	
<b>LOCATION</b>	Welltec, Gydevang 25, 3450 Allerød	
<b>SPONSOR</b>	Welltec	
<b>October 23</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
<b>TOPIC</b>	<b>The Growing Demand for Oil and Natural Gas and the Related Global Warming Issues</b>	
<b>SPEAKER</b>	SPE-DL George J Stosur	
<b>LOCATION</b>	Hotel Adina, Amerika Plads 7, 2100 København Ø	
<b>SPONSOR</b>	Chevron	
<b>December 4</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER</b>
<b>TOPIC</b>	<b>Hydrocarbon potential in East Greenland</b>	
<b>SPEAKER</b>	Jørgen Bojesen-Koefoed, Flemming Getreuer Christiansen	
<b>LOCATION</b>	GEUS, Øster Voldgade 10, 1350 København K	
<b>SPONSOR</b>	GEUS	
<b>January 13</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER</b>
<b>TOPIC</b>	<b>Højre development – Uncertainty analysis using experimental design techniques</b>	
<b>SPEAKER</b>	Jesper Werner Christensen	
<b>LOCATION</b>	DONG E&P, Agern Allé 24-26, 2970 Hørsholm	
<b>SPONSOR</b>	DONG Energy	
<b>February 11</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER / DISCUSSION</b>
<b>TOPIC</b>	<b>LNG – Roaring Ahead – Where Will it End?</b>	
<b>SPEAKER</b>	SPE-DL John Morgan, John M. Campbell & Company	
<b>LOCATION</b>	Moltkes Palæ, Dronningens Tværgade 2 , 1302 København K	
<b>SPONSOR</b>	Shell E & P	
<b>March 10</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER</b>
<b>TOPIC</b>	<b>Mature Fields: Keep Revisiting the Fundamentals New Technology</b>	Chevron: The ultrasound Well Scanner
<b>SPEAKER</b>	SPE-DL Dr. Neil Williams, Oil Search Limited - Tecwel, Chris Nussbaum	
<b>LOCATION</b>	Moltkes Palæ, Dronningens Tværgade 2 , 1302 København K	
<b>SPONSOR</b>	HESS	
<b>April 16</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER</b>
<b>TOPIC</b>	<b>Gas hydrates in flow assurance: Controlling hydrates at arctic conditions and evaluation of new green inhibitors</b>	“Opal not only for fun” by Ida L. Fabricius
<b>SPEAKER</b>	Nicolas von Solms & Lars jensen	
<b>LOCATION</b>		
<b>SPONSOR</b>	DTU	
<b>May 19</b>	<b>MAIN SPEAKER</b>	<b>ANNUAL MEETING</b>
<b>TOPIC</b>	<b>Halfdan Northeast: Development of tight gas with dual lateral wells</b>	
<b>SPEAKER</b>		
<b>LOCATION</b>	Mærsk Olie og Gas AS, Esplanaden 50, 1263 København K	
<b>SPONSOR</b>	Mærsk Olie og Gas AS	
<b>June 19</b>	<b>MAIN SPEAKER</b>	<b>DINNER SPEAKER</b>
<b>TOPIC</b>	<b>Summer party</b>	
<b>SPEAKER</b>		
<b>LOCATION</b>		
<b>SPONSOR</b>	Schlumberger	

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Northeast Greenland:

# A FRONTIER FOR FUTURE EXPLORATION?

*Abstract*  
Jørgen A. Bojesen-Koefoed,  
Peter Alsen, Flemming G.  
Christiansen, Henrik Nøhr-  
Hansen and Stefan Piasecki

Geological Survey of Denmark  
& Greenland (GEUS)  
Øster Voldgade 10  
1350 Copenhagen K  
Denmark

The rifted margin basins of Northeast Greenland have long been recognised as important outcrop analogs to understand the stratigraphy and hydrocarbon potential of basins on the conjugate North Atlantic margin, whereas exploration in the region itself has been minor.

Onshore East and Northeast Greenland, numerous organic-rich sedimentary successions with ages from the Middle Devonian through the Jurassic show petroleum source potential. Regionally distributed source rocks include rich marine Permian shales and Kim-

meridian mudstones equivalent to the Kimmeridge Clay Formation sensu lato in NW-Europe. The presence of Cretaceous age source rocks still remains to be demonstrated. The Devonian-Cretaceous succession has a composite thickness of more than 10 km, and in the Jameson Land basin probably more than 15 km. Potential reservoirs and regional seals are present in several intervals throughout the sedimentary succession.

This understanding of stratigraphy and depositional models is very important for establishing play elements in the neighbouring offshore basins where seismic coverage is sparse and well information non-existing. These models have importance for the ongoing assessment of the resources of the region that suggest a very significant potential.

Despite challenges provided by environmental concerns and a hostile climate, the geology of the Northeast Greenland shelf shows large potential for petroleum exploration. GEUS has launched a major field campaign that will continue over the coming years to update and improve the insight into the petroleum geology of Northeast Greenland, and to provide a sound basis for a possible future exploration.



## BIOGRAPHY

**JØRGEN A. BOJESEN-KOEFOD**  
M.Sc., Ph.D., sedimentology and organic geochemistry and petrology. 20+ years of professional experience, working primarily in Greenland, the North Sea and in Southeast Asia.

JBK is leading a major industry-sponsored project in Northeast Greenland, initiated by GEUS in 2007/2008.

### COPENHAGEN, DECEMBER MEETING:

GEUS  
Øster Voldgade 10  
1350 Copenhagen K  
Denmark



COPENHAGEN  
**DECEMBER**  
**MEETING**  
THURSDAY 4 DECEMBER 2008

### PROGRAMME

17:00 – 18:00  
Drinks

18:00 – 19:00  
Presentation and SPE news

19:00  
Dinner

### LOCATION

GEUS  
Øster Voldgade 10  
1350 København K

### SPEAKER

Jørgen Bojesen-Koefod  
Flemming Getreuer Christiansen

### TOPIC

Northeast Greenland: a frontier for future exploration?

### ENTRANCE FEE

None

### REGISTRATION

Please indicate your attendance by 1 December 2008 by signing up on the internet: [www.spe-cph.dk](http://www.spe-cph.dk)

### SPONSOR



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