DGF

Dansk Geologisk Forening

*Nyhedsbrev nr. 3 • December 2002*

# Kommende arrangementer

## 17. december 2002 kl. 15.00 – Geologisk Institut Århus

## 19. december 2002 kl. 17.00 – Mærsk Olie og Gas, København

**DGF oliegeologisk foredragsrække:**

*Doug Waples (konsulent):* 1-D maturity modelling: a tool for general geologic analysis. Læs mere side 3.

Bemærk at der efter præsentation i **København d. 19. december** vil være middag. Da præsentationen afholdes i samarbejde med SPE **er tilmelding nødvendig**. Dette skal gøres på e-mail til *rst@maerskoil.dk,* **senest mandag d. 16 december**. Anfør venligst også om du ønsker at deltage i den efterfølgende middag. Mødet og middag sponsoreres af Mærsk Olie & Gas AS og arrangementet er derfor gratis.

## 27. januar 2003 kl. 17.00 – Geologisk Museum, København

Generalforsamling med uddeling af Danmarks Geologipris samt foredrag:
*Jesper Magtengaard (DONG*) & *Lars Henrik Nielsen (GEUS)*: Geotermisk energi i Danmark. Læs mere side 2.

## 4. februar 2003 kl. 16.00 – Geologisk Museum, København

**DGF oliegeologisk foredragsrække:**

*Jens Christian Olsen, Reidun Myklebust (TGS-NOPEC), Sverre Planke (VBPR*) & Flemming G. Christiansen (GEUS): West Greenland: new data, new exploration targets and the first glimpse of a new tectonic model. Læs mere side 4.

## 27. februar 2003 kl. 16.00 – Geologisk Museum, København

**DGF oliegeologisk foredragsrække:**

*Henry W. Posamentier (Anadarko Canada Corporation):* Stratigraphical and geomorphological analyses using 3D seismic data. Læs mere side 5.

## 26. - 29. marts 2003

**14. Ingeniørgeologiske Konference i Kiel**

Se indbydelsen med program på *www.ifg.uni-kiel.de/inggeo2003/*

# Geologist Tidsskrift 2002, hæfte 2

Figuren til Holger Lykke-Andersens artikel er desværre blevet meget 'tynd' - en opdateret version af figuren til udprintning og indklæbning kan hentes på DGF's hjemmeside på adressen:
www.2dgf.dk/Publikationer/Geologisk_Tidsskrift/gt02-2HLfig1.pdf

Deadline for næste udgave af Nyhedsbrevet er 19. februar 2003.
Eventuelle bidrag sendes til Martin Sønderholm, e-post: ms@geus.dk

**Dansk Geologisk Forening • www.2dgf.dk**
Sekretariat: Øster Voldgade 5–7 • DK-1350 København K
Kontortid: onsdag kl. 9:15–12:00 • Telefon: 3532 2354 • Fax: 3232 2325 • E-post: dgf@geologi.com

# Generalforsamling

med uddeling af Danmarks Geologipris

**mandag d. 27. januar 2003 kl. 17:00 – 19:30**
Geologisk Museum, København

## kl. 17.00: Velkomst og uddeling af Danmarks Geologipris

## kl. 17:15: Geotermisk energi i Danmark

*Lars Henrik Nielsen*[1] *(GEUS) og Jesper Magtengaard*[2] *(DONG)*

[1] Danmarks og Grønlands Geologiske Undersøgelse, GEUS, Øster Voldgade 10, DK-1350 København K
[2] DONG VE A/S, Agern Alle 24–26, DK 2970 Hørsholm

I 1998 afsluttede Energistyrelsens Udvalg om Geotermi sit arbejde. Udvalget anbefalede blandt andet, at der blev etableret et geotermisk demonstrationsanlæg, og at København burde tages i betragtning. I 2001 fik 5 energivirksomheder tilladelse til efterforskning og indvinding i det storkøbenhavnske område, og med DONG som operatør blev der udført seismiske undersøgelser og valgt en borelokalitet ved Amagerværket. Boringen blev i 2002 udført til grundfjeldet i knap 2,7 km's dybde, og Bunter Formationens sandstenslag blev testede. Vurderingerne er positive. Fortsætter projektet, påregnes endnu en boring udført i forsommeren 2003 og et varmepumpeanlæg etableret i løbet af 2003-04. Produktionen påregnes at begynde sent i 2004.

Projektets videre forløb bliver afgjort i november-december i 2002, hvor alle parter i projektet skal godkende fortsættelsen. De seneste nyheder om projektet vil blive præsenteret.

Foredraget vil endvidere diskutere de geologiske forudsætninger for en udnyttelse af geotermi i Danmark og den regionale geologiske model, der ligger til grund for den positive vurdering af mulige geotermiske reservoirer i Danmark. Endvidere vil resultaterne af den seismiske kortlægning i Storkøbenhavn og de stratigrafiske resultater af den nyligt gennemførte boring på Amager vil blive præsenteret og diskuteret.

## kl. 18.00: Pause med forfriskninger

## kl. 18.15: Generalforsamling

Dagsorden:

1. Valg af dirigent
2. Formandens beretning for år 2002 – se i øvrigt Geologiskt Tidsskrift 2002, hæfte 2, udkommet december.
3. Aflæggelse af regnskab
4. Budget for år 2003
5. Fastsættelse af kontingent
6. Valg af formand
7. Valg af bestyrelse
8. Valg af revisorer
9. Eventuelt

Der var ikke indkommet forslag fra medlemmer ved udløbet af indsendelsesfristen d. 1. december 2002.

Kl. ca. 19.30 vil der være mulighed for at deltage i en middag på et af de lokale spisesteder, hvis der er stemning herfor; pris ca. 100 kr. + drikkevarer. Tilmelding til bespisning er nødvendig enten pr post til:
Dansk Geologisk Forening, Geologisk Museum. Øster Voldgade 10, 1350 København K
*eller pr. e-post på:* dgf@geologi.com **inden d. 22. januar 2003**.

# Oliegeologisk foredragsrække

**tirsdag d. 17. december kl. 15:00**
Århus Universitet, Geologisk Institut, bygning 110, auditoriet

*samt*

**torsdag d. 19. december, kl. 17:00**
Mærsk Olie og Gas, Esplanaden 50

## 1-D Maturity Modeling: A Tool for General Geologic Analysis

*Doug Waples*, Independent Consultant

1-D maturity modeling is widely used to calculate types and quantities of hydrocarbons generated and expelled, timing of hydrocarbon generation and expulsion, and cracking of oil to gas, both in source rocks and in reservoirs. However, the utility of 1-D modeling as a general tool for understanding and integrating the various aspects of geologic history is both potentially more valuable and much less recognized.

Among the geologic phenomena that can and should be investigated using 1-D modeling are tectonic subsidence (causes, timing, amounts); relationships among sediment types, accumulation rates, water depth, sediment supply, and tectonic events; erosion (causes, amounts, rates, timing, thicknesses and lithologies of eroded units); relationships between tectonic events and basal heat flow; paleoclimate; relationships between thermal conductivity and temperature profiles; and convective thermal events (hydrothermal, magmatic, groundwater flow). Recognition and proper integration of these facts and concepts often leads to a radically new understanding of geologic events.

**The presentation will be held in English. Non-DGF members are welcome.**

*Doug Waples received his PhD in physical organic chemistry from Stanford University in 1971. He shifted his emphasis to petroleum geochemistry during postdoctoral fellowships in West Germany and Chile, and then worked in research for Chevron and Mobil, as well as teaching at the Colorado School of Mines. Since 1983 he has worked as an independent consultant to many oil companies, including three years spent as a researcher for JNOC in Japan. He has published three books and more than 80 papers on geochemistry, and has taught short courses in more than 20 countries.*

# VIGTIGT!

Bemærk at der efter præsentation i **København d. 19. december** vil være middag. Da præsentationen afholdes i samarbejde med SPE **er tilmelding nødvendig**. Dette skal gøres på e-mail til *rst@maerskoil.dk*, **senest mandag d. 16 december**. Anfør venligst også om du ønsker at deltage i den efterfølgende middag. Mødet og middag sponsoreres af Mærsk Olie & Gas AS og arrangementet er derfor gratis.

MÆRSK

SPE.org
Where knowledge powers the E&P industry
Society of Petroleum Engineers

# Oliegeologisk foredragsrække

**tirsdag d. 4. februar kl. 16:00 – 17:45, reception 18:00 – 19:00**
Geologisk Museum, Øster Voldgade 5–7

## West Greenland: new data, new exploration targets and the first glimpse of a new tectonic model

*Jens Christian Olsen[1], Sverre Planke[2], Reidun Myklebust[1] & Flemming G. Christiansen[3]*
[1] TGS-NOPEC, Veras Alle, DK-2720 Vanløse, Denmark, [2] VBPR, Gaustadalleen 21, N-0349 Oslo, Norway, [3] GEUS, Øster Voldgade 10, DK-1350 Copenhagen K, Denmark

Since the new exploration strategy was launched by the Greenland authorities in 1999, West Greenland has been the scene for intense data acquisition and many new exploration models have developed in the last couple of years. Despite the brief disappointments of the Fylla well in 2000, significant interest has grown within the oil industry and a new license was granted in October 2002 to EnCana.

*Flemming G. Christiansen* will start the presentation with a short overview of recent exploration and research activities and mention some of the most promising results, especially with respect to source rocks and evidence of older sedimentary successions.

This will followed by *Jens Christian Olsen* who will take you through relevant new seismic examples that demonstrate that the Ungava Transform Fault Zone consists of elongated grabens that connect the oil seep area of Disko-Nuussuaq with the large gas and condensate discoveries offshore Labrador. Some of the structures on the Greenland side of the grabens are very large and the seismic data show Direct Hydrocarbon Indicators. Furthermore, the plate-tectonic setting of Greenland will be discussed, based on magnetic mapping of the northern hemisphere.

In the last part of the presentation, *Sverre Planke* will go through results of a recent integrated seismic, gravity and magnetic interpretation (SGM) study. The SGM interpretation has been particularly useful for outlining depths and trends of deep sedimentary basins and structural highs. It also provides new information on the possibility of pre-Cretaceous sedimentary successions within many of the inversion structures and structural highs, information that may have an impact on the petroleum prospectivity of the area.

The many new results have significant implications for the plate-tectonic model of the Labrador Sea – Davis Strait – Baffin Bay region, i.e. on the boundary between continental and oceanic crust. Although it is far too early to develop a new comprehensive model, selected examples will be used to challenge both old and (relatively) new models and thereby give a hint of new trends of exploration and research in the region in the coming years.

**The presentation will be held in English. Non-DGF members are welcome.**

**After the presentation there will be a reception hosted by TGS-NOPEC, the Greenland Bureau of Minerals and Petroleum and GEUS.**

Greenland Bureau of Minerals and Petroleum

TGS NOPEC GEOPHYSICAL COMPANY

Volcanic Basin Petroleum Research

GEUS

*Jens Christian Olsen started his career at the Geological Survey of Denmark in 1977. He started Danpec A/S as a subsidiary to Nopec A/S in 1982, and took over Danpec A/S in 1986. He has been one of TGS-NOPEC sales managers since 2000. Jens Chr. Olsen has world-wide experience as an exploration consultant and has combined his geological work with planning of seismic surveys.*

*Sverre Planke holds an M.Sc. in geophysics from the University of Utah and a Ph.D. in geology from the University of Oslo. He has worked six years as a Post. Doc. and Associate Professor at the University of Oslo. Since 1999, Sverre has lead Volcanic Basin Petroleum Research, a research and consulting company located in Oslo. His main interests are exploration and geodynamic development of volcanic basins.*

*Flemming G. Christiansen holds an M.Sc. and Ph.D. in geology from the University of Aarhus. Since 1984, he has worked at the Geological Survey of Denmark and Greenland (GEUS). He has been head of department since 1991, firstly of the Department of Petroleum Geology in GGU and, since the merger with DGU, of the Department of Stratigraphy at GEUS. Petroleum Geology (at GGU) and after the merger with DGU the Department of Stratigraphy. Flemming G. Christiansen is co-ordinator of petroleum-related matters with respect to the authorities in Greenland.*

# Oliegeologisk foredragsrække

**torsdag 27. februar, kl. 16:00**
Geologisk Museum, Øster Voldgade 5-7

## Stratigraphical and geomorphological analyses using 3D seismic data

*Henry W. Posamentier, Anadarko Canada Corporation, Calgary Alberta.*

3D seismic data in recent years has become a widely used tool in the exploration and development of petroleum fields. It affords continuous imaging of the subsurface allowing accurate and precise delineation of structural and stratigraphic features. As the search for petroleum moves to higher risk and higher cost settings the need for "getting it right" the first time becomes ever greater. This is particularly true of drilling in deep-water environments where exploration wells can cost 10's of millions of dollars, and development can reach into the billions of dollars. Seismic imaging of deep-water depositional settings reveals a wealth of stratigraphic details. The great complexity of deep-water depositional environments can be simplified by grouping depositional elements into five major categories: 1) turbidity-flow leveed channels, 2) channel-overbank sediment waves, crevasse splays, and levees, 3) frontal splays/distributary channel complexes, 4) crevasse splay complexes, and 5) debris-flow channels, lobes and sheets. Each depositional element type displays a unique morphology and seismic-stratigraphic expression. Their reservoir architecture is a function of the interaction between sedimentary process, sea-floor morphology, and sediment grain size distribution.

**The presentation will be held in English. Non-DGF members are welcome.**

*Henry W. Posamentier is the manager of geology for Anadarko Canada Corporation. Prior to joining Anadarko in 2001 he was with Veritas Exploration Services (2000-2001), ARCO (1991-2000), Exxon (1979-1991) and at Rider Univeristy as assistant professor of geology (1974-1979). Henry Posamentier's research interests have been in the fields of sequence stratigraphy and depositional systems analysis where he has published widely. He has employed an interdisciplinary approach using3-D seismic data integrated with borehole data to interpret depositional systems and develop basin fill histories. Recently he has focused his efforts on deep-water depositional settings.*

# DGF's bestyrelse

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Kontor tid: onsdag: 9.15-12.00

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