



## CONTENT

PAGE

- 2 From research to more oil recovered
- 4 Challenge the research on oil and gas recovery from the North Sea
- 7 SPE Summer party Annual General Meeting
- 8 Conger Field in Gulf of Mexico Triples Its Sanction Volume
- 10 SPE Young Professionals SPE Student News
- 11 Chemical Water Conformance Treatment on South Arne

# SEISMIC SHIFTS

We can't escape the fact that the landscape has changed forever in the oil and gas industry. This is having major repercussions globally and we are starting to see some seismic shift on a local scale.

Locally we are seeing the political and corporate landscape changing and although we expect to see some more big changes, as companies adapt to the new reality, it is almost impossible to predict what will happen. The one thing that is certain is that the view will not look the same in 12 months time and what we do know is that we cannot continue to do what we have always done and expect a different outcome.

Chevron gave us an instructive insight into how the downstream side of the business has turned a low margin environment into an opportunity. Cost management and flexibility were the key take aways and certainly something the upstream side has not prioritized in the high oil price environment.

The Danish Hydrocarbon Research and Technology Centre will present their vision and introduce us to some of the detail in how they hope to make the pie bigger. On 26th April they will host us at DTU and show

us how new and innovative thinking transforms into solutions and ultimately more hydrocarbon extraction.

Hess will host in May where we can learn about some field tested and proven methods of increasing oil recovery with what looks to be a very informative and operational talk about water conformance.

There is no silver bullet that will solve all of the issues and many of the reactive decisions made today will have effects felt well into the future. But as with many things doing more of the right thing and less of the wrong thing is a good way to start.

The year's events and the coming events aim to give us new perspectives and some tools that we can all use in our professional lives. Whether it is ensuring that tried and tested techniques are used correctly and efficiently, or whether it is a new, novel and innovative approach that is required is probably dependent upon the individual problem and situation.

We look forward to seeing you for this year's final meetings before we break for summer.

**Anders Krag Norman,**  
**SPE Copenhagen**  
**Section Chairman**

## FUTURE MEETINGS

FOR MORE INFORMATION REGARDING THE PROGRAMME SEE PAGE 6



**SECTION CHAIRMAN****Anders Krag Norman, HESS Corp.**

Østergade 26B, 1100 Copenhagen K

Tel.: +45 3330 1216 · E-mail: anorman@hess.com

**PROGRAMME CHAIRMAN****Jonathan Hastings, Maersk Oil and Gas AS**

Esplanaden 50, 1263 Copenhagen K

Tel.: + 45 3363 3731

E-mail: jonathan.hastings@maerskoil.com

**NEWSLETTER CHAIRMAN****Miriam Lykke, Shell Olie & Gasudvinding B.V.**

Midtermolen 3, 4., 2100 København Ø

E-mail: Miriam.Lykke@shell.com

**MEMBERSHIP CHAIRMAN****Carsten Møller Nielsen, GEUS**

Øster Voldgade 10, 1350 Copenhagen K

Tel.: +45 9133 3761 · E-mail: cmn@geus.dk

**TREASURER****Miroslav Slapal, Schlumberger**

Kanalholmen 1,1, 2650 Hvidovre

E-mail: MSlapal@slb.com

**SPE STUDENT REP****Farhad Varzandeh, DTU CERE**

DTU Chemistry, Building 206, Room 247,

2800 Kgs. Lyngby

Tel.: +45 4525 2034 · E-mail: farvar@kemi.dtu.dk

**SECRETARY****Claus Myllerup, Centre for Oil and Gas – DTU**

Elektrovej, Building 375, 2800 Kgs. Lyngby

Tel.: +45 4525 7226 · E-mail: cmyl@dtu.dk

**SPE YOUNG PROFESSIONALS REP.****Mette Juncker Hansen, Schlumberger**

Kanalholmen 1,1, 2650 Hvidovre

Tel.: +45 60350711 · E-mail: mhansen4@slb.com

**WEB MASTER****Pernille Silberg, DONG Energy Oil & Gas A/S**

Nesa Allé 1, 2820 Gentofte

Tel.: +45 99555945 · E-mail: persi@dongenergy.dk

**MEMBERS****Hans Horikx, Maersk Oil and Gas AS**

Esplanaden 50, 1263 Copenhagen K

Tel.: + 45 3363 1735

e-mail: johannes.horikx@maerskoil.com

**Alexander Shapiro, DTU CERE**

Tel.: +45 4525 2881 · e-mail: ash@kt.dtu.dk

**Hans Plessing, Welltec**

Gydevang 25, 3450 Allerød

Tel.: +45 4814 3514 · e-mail: hplessing@welltec.com

**Gregers Kudsk, Maersk Drilling**

Esplanaden 50, 1098 Copenhagen

(Visiting adresse: Gl. Lundtoftevej 7, 2800 Kgs Lyngby)

Phone +45 3363 3250 / Mobile +45 40133260

e-mail: gregers.kudsk@maerskdrilling.com

**Lars Gammelgaard, DONG Energy Oil & Gas A/S**

Nesa Allé 1, 2820 Gentofte

e-mail: larga@dongenergy.dk

**Duncan Healey, Chevron Denmark**

Parken, Øster Allé 48, DK-2100 Copenhagen Ø

Tel.: +45 70218432 · e-mail: dhea@chevron.com

**Kitt Anita Ravnkilde, The Danish Hydrocarbon  
Research and Technology Centre**

Elektrovej, Building 375, room 020, 2800 Kgs. Lyngby

e-mail: kittra@dtu.dk

# From research

**A new research centre focusing on oil and gas recovery in the North Sea saw the break of light in 2014; Danish Hydrocarbon Research & Technology Centre – DTU. Now the team is set and the first research programmes are put in motion to demonstrate increased hydrocarbon recovery by 100 MMBOE by 2040.**

The percentage of oil possible to recover from the North Sea is currently around 28% of the amount known to be in the subsoil. That leaves room for improvements and at the same time outlines the purpose of the Danish Hydrocarbon Research & Technology Centre – DTU (DHRTC). The overarching goal of the centre is to identify new technological and conceptual solutions that boost oil and gas extraction in the Danish section of the North Sea.

“We are to deliver beyond important tasks as education and publications. We aim at increasing the recovery in a commercially viable way. This means that we will carry out research which directly can be implemented in demonstrations models that clearly shows e.g. the opportunities of implementing the new knowledge,” tells Bo Cerup-Simonsen, Director at DHRTC.

## Advanced Water Flooding

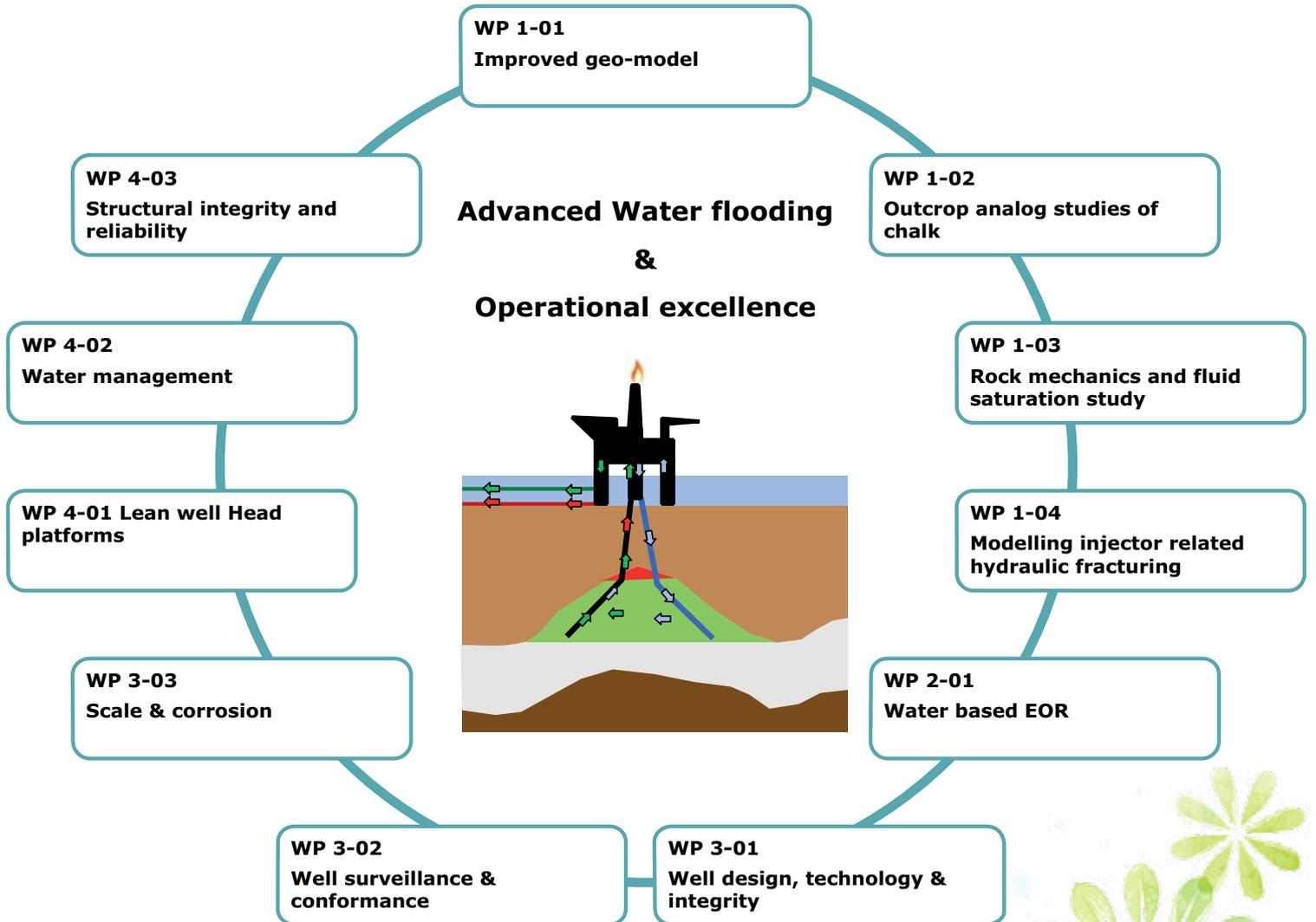
One of the first programmes underway in the centre is named “Advanced Water Flooding”. It focuses on water flooding in oil and gas producing chalk fields, with the key objective being to drive this technology to an even more advanced level than it is today. The water flooding technique is widely used in chalk fields in the North Sea, and also outside the Danish sector, and therefore the challenges are well known and documented in numerous publications and industry reports.

Many of the proposed solutions have great need for a data-driven maturation process. For this reason, three producing fields, Dan, Halfdan and Kraka, have been selected for this program, as they can provide data and real scenarios for the research, development and idea generation.

DHRTC currently have 11 work packages all working to find the best and most feasible solutions in relation to advanced water flooding. The figure shows the individual work packages. ◀



# to more oil recovered



DHRTC host an SPE event the 26th of April at DTU during which you can learn more about Advanced Water Flooding, Operational excellence and other research projects.

Read more about Advanced Water Flooding:  
<http://www.oilgas.dtu.dk/english/Contract>  
 (Click on "Flagship Programme" under "Download")

# ABSTRACT .....

## CHALLENGE THE RESEARCH ON OIL AND GAS RECOVERY FROM THE NORTH SEA

Danish Hydrocarbon Research & Technology Centre – DTU (DHRTC) is to do research aimed at recovering extra 100 MMBOE by 2040 in the North Sea.

The strategy to reach that goal is ready as is the team and a number of work packages and programmes have already been launched. But how will the centre actually manage to do it? Get the answer the 26th of April when Bo Cerup-Simonsen, Managing Director at DHRTC, will let you in on the vision and how they work with the concept “From research to reality”.

You will also get the opportunity to challenge and share ideas with some of the researchers at DHRTC during a poster session. To stimulate a good dialogue during the poster session, DHRTC has selected four topics out of the 13 possible (See article “From research to more oil recovered”). Each of the posters has an open question for the participants to debate with the researchers.

### The four topics are:

- Water-Based EOR – Can alterations of injection water composition help to produce additional oil?
- Improved geomodel with deterministic fracture representation – Can geo-mechanics produce a better fracture understanding?
- LEAN Well Head Platforms – Can subsea technology be used to minimize maintenance?
- Well Design, Technology & Integrity – Is it possible to design leaner wells at lower costs without compromising hydrocarbon recovery & safety? ◀

*Picture by Christian Ove Carlsson.*

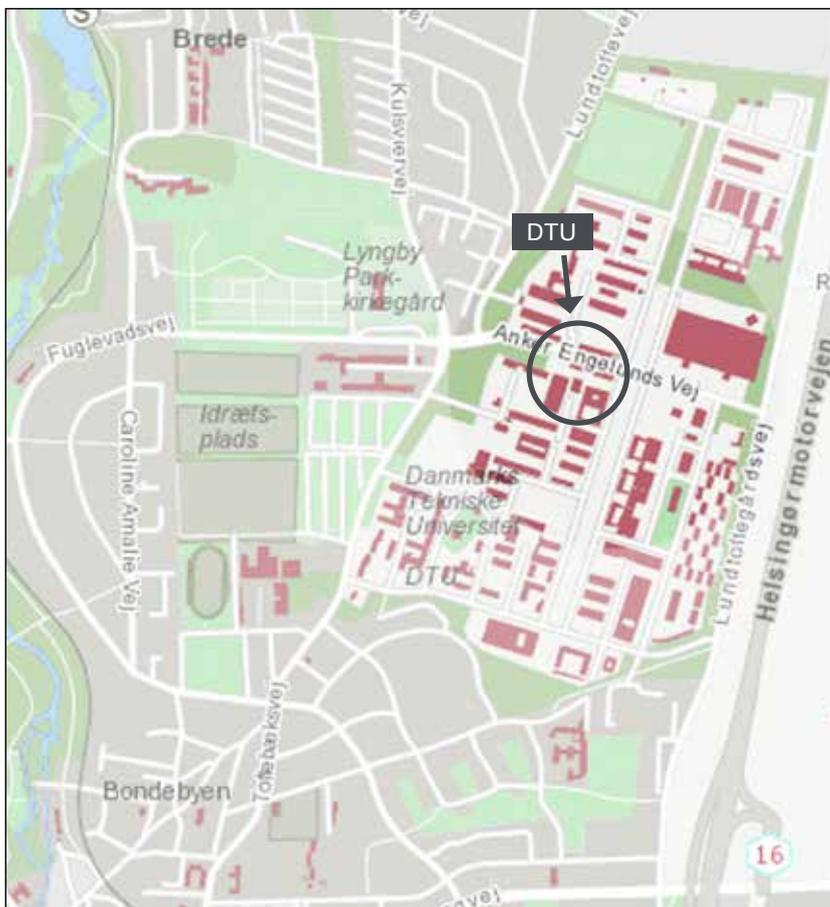


# BIOGRAPHY .....



## Bo Cerup-Simonsen, CEO at the Danish Hydrocarbon Research Technology Centre – DTU.

Bo Cerup-Simonsen has been Managing Director at the Danish Hydrocarbon Research Technology Centre – DTU since August 2014. Bo holds a Master of Science in Engineering from DTU (Technical University of Denmark) and was a Ph.D. student, Technical University of Denmark. He continued working in the research environment as Associate Professor and Head of section at the Department of Naval Architecture and Offshore Engineering. Afterwards, Bo began working in the industry. He held the job as Head of Maersk Maritime Technology before he decided to head the new centre at DTU; Danish Hydrocarbon Research Technology Centre. ◀



COPENHAGEN  
MEETING  
TUESDAY 26 APRIL 2016

APRIL

## PROGRAMME

17:00 - 17:30  
Drinks and snacks

17:30-18:30  
Presentation

18:30 - 20:00  
Poster sessions and tapas

## LOCATION

Anker Englands Vej 1  
Building 101A  
2800 Lyngby  
Meeting room M1

## SPEAKER

Bo Cerup-Simonsen, Managing Director at Danish Hydrocarbon Research Technology Centre. Poster sessions with researcher from the Danish Hydrocarbon Research Technology Centre.

## TOPIC

How can research deliver extra 100 MMBOE in 2020? Interact with the researchers during poster session.

## ENTRANCE FEE

None

## REGISTRATION

Please indicate your attendance by Thursday 21 April by signing up on the internet [spe-cph.dk](http://spe-cph.dk)

## SPONSOR

Center for Oil&Gas – DTU

DTU



SPE  
COPENHAGEN  
SECTION

[www.spe-cph.dk](http://www.spe-cph.dk)  
[www.spe.org](http://www.spe.org)

<b>September 16</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>Cement Testing: Are we Looking at the Right Things the Wrong Way?</b>	Culzean Project
SPEAKER	Donald Purvis, Consultant, SPE DL	Morten Stage, Maersk Oil
LOCATION	Maersk	
SPONSOR	Maersk	
<b>October 6</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>DTU Research Projects</b>	Cross-Institutional Effort on the Oil and Gas Educations
SPEAKER	Farhad Varzandeh, Alay Arya and Amalia Halim	Martin P. Bendsøe, DTU
LOCATION	DTU	
SPONSOR	DTU	
<b>November 17</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>Ormen Lange Development Phase 3; Nyhamna Expansion Project</b>	
SPEAKER	Marianne Jensen Olsnes, Shell	
LOCATION	Charlottehaven	
SPONSOR	Shell	
<b>January 19</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>Bridging the Gap between Drilling and Completions: Challenges and Solutions in Horizontal Wells</b>	
SPEAKER	Mary Van Domelen, Continental Resources	
LOCATION	GEUS	
SPONSOR	GEUS	
<b>February 18</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>The Value of Assessing Uncertainty (What you Don't Know Can Hurt You)</b>	
SPEAKER	Duane McVay, Texas A&M	
LOCATION	Carlsberg Hall of Parken Stadium	
SPONSOR	Chevron	
<b>March 16</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>DONG Energy in the West of Shetlands</b>	
SPEAKER	Mike Smith, DONG Energy Oil & Gas	
LOCATION	DONG, Gentofte	
SPONSOR	DONG	
<b>April 26</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>Challenge the research on oil and gas recovery from the North Sea</b>	
SPEAKER	Bo Cerup-Simonsen, DHRTC	
LOCATION		
SPONSOR	Danish Hydrocarbon Research & Technology Centre – DTU (DHRTC)	
<b>May 24</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>Chemical Water Conformance Treatment on South Arne</b>	Annual General Meeting
SPEAKER	Agustin Riccio Rodriguez	
LOCATION	Moltke's Palæ	
SPONSOR	Hess	
<b>June 17</b>	MAIN SPEAKER	AFTER DINNER
TOPIC	<b>SPE Summer party</b>	
SPEAKER		
LOCATION	Orangeriet, Kongens Have	
SPONSOR	Schlumberger	

# Summer Party

Dear SPE Member,

You and your partner are cordially invited to the 2016 SPE summer party on the 17th of June at Orangeriet in Kongens Have at 6PM

Please register by email to Stine Gerhardt: [SGerhardt@slb.com](mailto:SGerhardt@slb.com) and pay 400 DKK to the SPE account at Nordea: 2274 - 5360 613 323  
Please mark payment SPE-"Your Name"  
Seats will be limited

RSVP and payment: 13th of May  
Dress code: Suit or Black Tie

**Orangeriet**  
Kongens Have

Sponsored by **Schlumberger**

## ANNUAL GENERAL MEETING 2015-2106 SEASON

Prior to the Hess SPE presentation we will hold the AGM. We are always looking for new energy, ideas and input and if you think we could do anything better then we would welcome your presence on the board. If you would like to join the board of the SPE Copenhagen Section then please contact Anders Krag Norman before the AGM.

### Agenda:

1. 2015-2016 Season Look Back
2. Financial Statement Approval
3. 2016-2017 Copenhagen Board Proposal
4. 2016-2017 Copenhagen Board Approval
5. AOB

**CHALLENGING  
PROJECTS  
REQUIRE INNOVATIVE  
SOLUTIONS**

Find the job at [dongenergy.com/jobs](http://dongenergy.com/jobs) and become a new ambitious colleague.

**DONG  
energy**

**NATURAL GAS IS THE CLEANEST  
BURNING FOSSIL FUEL**



Pairing it with renewables is the fastest and cheapest route for many countries to lower emissions while maintaining a reliable energy system. Shell has constructed the world's first floating liquefied natural gas facility, revolutionizing the way natural gas resources are developed.

[www.shell.com/future-energy](http://www.shell.com/future-energy)

**THANK YOU!**  
20 YEARS OF PARTNERSHIP  
& INNOVATION

**Welltec**

# Conger Field in Gulf of Mexico Triples Its Sanction Volume

By Noreen Seebacher

**Back in 1997, Hess took a calculated risk to drill one of the earliest subsalt targets in the Gulf of Mexico (GoM). But the gamble on the Conger Field has more than paid off: In July 2015, Conger and the Hess Offshore Americas and West Africa (OAWA) team achieved a major milestone as production surpassed 200 million barrels of oil equivalent (MMBOE).**

Conger, along with Penn State and Baldplate (see photo above), is part of the Baldplate Production Hub. Located about 125 miles southwest of New Orleans in the north-eastern portion of Garden Banks, Conger pushed the limits of existing technologies. The field is situated partially beneath thick salt deposits, which significantly distorts seismic images. In addition, field modeling challenges were intensified by the instability of the subsalt rock.

So Hess relied heavily on the well data and geologic analogs, and a well drilled to 21,652 feet in about 1,500 feet of water produced first oil from Conger in 2000. The sanction volume for the project was 67 MMBOE, said Ebenezer Ageh, GoM Production Engineering Manager.

“Today, the field’s production is even higher than initial estimates — greater than 40,000 barrels of oil per day (BOPD) and 135 million standard cubic feet of gas per day (MMSCFD) from four drainage points,” Ageh said. “This is due to optimization efforts occasioned by the application of an in-house model. But besides that, cumulative volume is triple the sanction volume. This is a phenomenal achievement, best described as top quartile.”

Hess continues to reap significant rewards from the Conger Field — and the payoff isn’t expected to end anytime soon.

“It’s a great example of getting the most out of the assets we have,” Frederiksen said.

The team is planning to get even more out of Conger after Ocean Bottom Node (OBN) seismic acquisition and interpretation identified infill opportunities. Hess has been given a green light to drill another well in the field and is evaluating future activity. Like the existing wells, future wells would likely be tied back via an existing flowline to Shell’s Salsa/Enchilada development.

## Drilling and production excellence in the GoM

The success of Conger and other Hess assets in the Gulf is a tribute to the GoM team’s reliance on teamwork, technology and Lean operating principles to maximize production.

As GoM Asset Director Jeff Wirth said, Hess is bullish on the Gulf — a fact evidenced by development of new projects like Stampede and exploitation of existing assets such as Conger.

The GoM is a proven oil prone basin and Hess is capitalizing on its track record of drilling and production excellence. The team expects to optimize production levels in the Gulf through prudent well and reservoir management strategies and well selection.

There’s no secret sauce, no “silver bullet,” Frederiksen noted. “It’s just the result of efforts at many levels by teams that share the same vision: To get more out of what we have and meeting or beating expectations.”

“Through a lot of hard work, we’ve produced more oil than expected,” added Kevin Sheppard, Superintendent, Production Operations in the GoM.





Hess Operations Manager Neil Hopkin attributes the accomplishment to safety, teamwork and collaboration. Throughout the GoM, the teams focus on Hess Rules and Production Excellence metrics to carefully manage the business, as well as to identify, assess and safely implement all optimization opportunities, he said.

Chinedu Emegwa, Subsurface Manager for the Baldpate Production Hub, said Hess has been doing a lot to improve its understanding of deepwater GoM assets.

**“There’s no secret sauce, no “silver bullet,” It’s just the result of efforts at many levels by teams that share the same vision: To get more out of what we have and meeting or beating expectations.”**

Quote by Rene Frederiksen, OAWA Subsurface Manager

To address the complexities created by the thick layer of salt, the teams are turning to advanced technologies that hold promise of creating better subsurface images. Hess now uses the latest computational methods and imaging algorithms to create increasingly detailed and accurate pictures of the subsurface.

“It’s still a work in progress,” Emegwa said. “But we’re increasingly better able to manage our wells. We’re focusing on the asset, getting more from the wells we have and carefully planning new ones that will boost production from Conger even higher.” ◀



## Why do geologists become members of the senior management?"

Please join the YP event at Nørrebro Bryghus 3rd of May 2016 from 5-7 PM. Anders Bruun, General Manager of Qeye Labs will give a presentation with the title: "Why do geologists become members of the senior management?"

Anders has fourteen years of industry experience within seismic reservoir characterisation and as business development management in the North Sea region. Following his master

degree in Geology from Aarhus University Anders started his career in WesternGeco as a Junior Proc. Geophysicist moving to a geophysicist role in Ødegaard Denmark in 2002. From 2004 he moved into a business management role in Ødegaard and Schlumberger till 2011 when Qeye Labs was founded. Anders is responsible for sales and marketing and the general management of Qeye Labs. **Sign up at [www.spe-cph.dk](http://www.spe-cph.dk).** ◀

# SPE STUDENT NEWS

## SPE Soft Skills Seminar

On February 22, 2016 a Soft skill workshop was organized to benefit the student member's upgrade their networking skills. The workshop was given by Kristi Johvik from Career Center at DTU. More than 20 students attended the event. The main focus of the workshop was to help students improve their "Networking and Elevator Pitch" skills. The students were also benefitted from some practical exercises during the session. In addition, two young professionals and recent graduates presented how networking and soft skills in general have helped them in their job hunt and their professional career development. The workshop ended with a social networking session where students interacted one to one with professionals to get their questions answered while food was being served during event. ◀

## SPE Petrobowl Internal Competition

On March 3, 2016 an internal competition was held at DTU to select a candidate team for Petrobowl regional qualifiers 2016 in Stavanger, Norway. A total of 20 students from different disciplines including Petroleum, Chemical and Civil Engineering background participated in the competition. Live questions were displayed on the screen and results were declared afterwards. Top 5 students having more than 40% of the questions right were selected at the initial place and in total a team of 7 members was selected including 2 members as stand by for the competition. The competition ended with social networking and pizza get together for all the participants and audience present there. ◀

## SPE Hays Recruiting Expert Seminar

On March 17, 2016 an event was organized in collaboration with two professionals including Morten Andersen from Hays – Recruiting Experts Worldwide. The theme of the seminar was "The Hunt is On – Oil and Gas Job Market". Experts from Hays gave an insight to the students about the current condition of Oil and Gas job market and how students can tackle the difficult times in Oil and Gas industry. They focused on being positive and streamlined while looking for jobs and stressed upon being proactive and amend one's personality and communications skills to catch an eye of recruiter. In total more than 35 students attended the event. After the event students got a chance to interact one to one with the experts and ask questions while the snacks were being served. ◀



# ABSTRACT .....

## Chemical Water Conformance Treatment on South Arne

Syd Arne field is located in the Danish sector of the North Sea. The field is a fractured carbonate reservoir with long horizontals production wells and has been on active water flood since its first year of production.

Historically efforts have been made to improve sweep efficiency with downhole choked nozzles being run in the completion. Injection pressure modelling and adjustment as well as sleeve shifting and zonal isolation have been used to try to improve sweep efficiency and reduce water short circuiting. These methods had varying degrees of success. Where the success was poor Hess started looking at developing tools to improve the recovery.

This presentation will outline the thinking behind the choice of the new tools and focus on the actual trial Chemical Conformance Treatment (CCT). The CCT was using a polymer based solution and the presentation will look at the operational aspects and some of the preliminary findings and results. ◀

# BIOGRAPHY .....



**Agustin Rodriguez Riccio, Petroleum Engineer at Hess Denmark**

Agustin works as a Petroleum Engineer for Hess Denmark on various projects and is currently leading the conformance improvement efforts at Syd Arne. He has been working on different assignments as a Reservoir and Production Engineer in Argentina and Denmark. Agustin graduated from the Instituto Tecnológico de Buenos Aires and continued his relationship with the institution working as a professor for the Production Engineering subject. ◀

C O P E N H A G E N  
M E E T I N G  
T U E S D A Y 2 4 M A Y 2 0 1 6

MAY

### PROGRAMME

17:00 - 18:00

Drinks

18:00 - 19:00

Presentation and Annual General Meeting

19:00 - 21:00

Dinner

### LOCATION

Moltkes Palæ  
Dronningens Tværgade 2A  
1302 København K

### SPEAKER

Agustin Riccio Rodriguez,  
Petroleum Engineer at Hess Denmark

### TOPIC

Chemical Water Conformance Treatment on South Arne

### ENTRANCE FEE

None

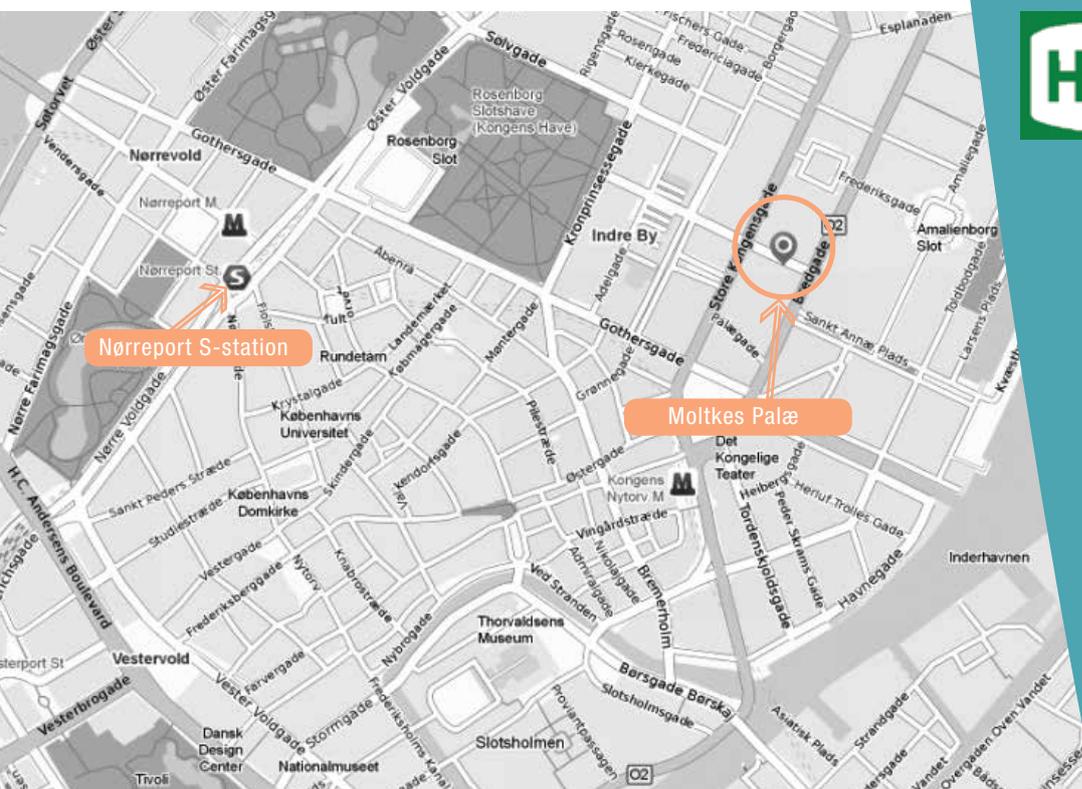
### REGISTRATION

Please indicate your attendance by Friday 13 May by signing up on the internet [www.spe-cph.dk](http://www.spe-cph.dk)

### SPONSOR



SPE  
COPENHAGEN  
SECTION  
[www.spe-cph.dk](http://www.spe-cph.dk)  
[www.spe.org](http://www.spe.org)



Moving boundaries  
within offshore  
drilling



www.maerskdrilling.com



## Making the most of natural resources

Maersk Oil has a proven track record of making the impossible possible through deployment of integrated technical solutions and profitable field development.



HESS  
COPENHAGEN  
OFFICE

## Responsibly Meeting the World's Growing Need for Energy

Hess, one of Denmark's largest oil producers, is completing an 8.6 billion DKK project with partners to more than double production at Syd Arne. With support from our communities, employees and partners, we are building a sustainable business that will continue to make a positive impact in Denmark.



**5TH LARGEST PRODUCER IN THE COUNTRY**



**PUTTING SAFETY FIRST**

21 Years as operators of the South Arne Field



**CREATING GREAT JOBS**

1,385 direct and indirect jobs approx.\*

\*Based on a study conducted by Quartz+Co and Copenhagen Economics 2008-2010

Everyone, Everywhere, Every Day, Home Safe

Hess.com

