

April 2014

The First SPE Oslo **magazine**

In this issue..

SPE Oslo 20 years

Young Professionals Quiz

SPE President 2015 Helge Haldorsen in Oslo

NPF and SPE

SPE Norway events

Students & SPE

Artist and scientist—SPE member interview



Society of Petroleum Engineers

SPE Oslo section magazine announces a competition for the best name of the magazine, as well as regular photo to contest for the first page.

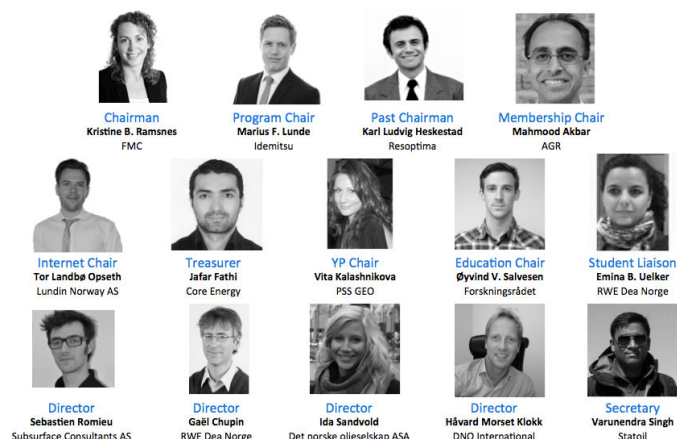
Please send your ideas to

Vita Kalashnikova
on vita@pss-geo.com
with name for SPE magazine.

The First SPE Oslo magazine

20 years of history, more than 400 members, monthly meetings with technical presentations, networking and technical games, seminars and a growing student chapter - this is the SPE Oslo section today! We are very happy to announce the launch of the SPE Oslo section magazine as a gift to all our members, sponsors and followers! This magazine will contain presentations of passed and upcoming events, abstracts of previous technical presentations, info on student and YP activities and it will provide a chance to get to know the SPE Oslo section a bit better. We hope that you will find this magazine interesting and useful and we would like to take the opportunity to welcome you to our next SPE Oslo event.

SPE Oslo board 2013-2014

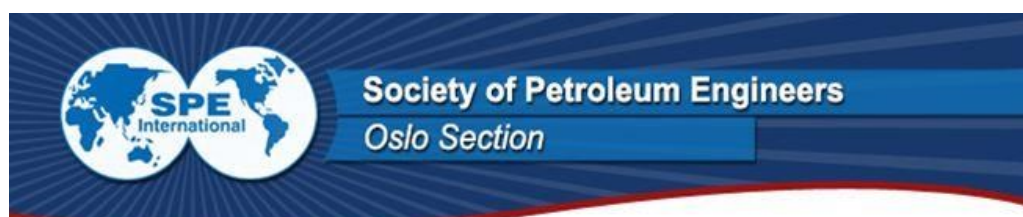


SPE Oslo team

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Watch out for our new SPE Oslo mailing service !!!



SPE Oslo has recently adopted the innovative mailing service provided by Informz to be able to more efficiently connect with you as a member. Our usual meeting invitations will from now on be provided for you through this portal instead of the old-fashioned mail system. But don't worry, you will still be able to receive the regular meeting invitations in your preferred e-mail inbox as usual. SPE International sponsors

the new service and it opens up for exciting new opportunities as embedded interactive content, responsive design that adopts to mobile devices, tracking of delivery status and always up to date membership lists. In the future we aim to include services like online surveys for you to be able to contribute in our applications for the Distinguished Lecturer program and help

us nominee local candidates for the international award program. We really hope that you feel comfortable with our initiative to re-invent the mail system and stay green together with the SPE community and Informz.



Tor Landbø Opseth, internet Chair

Helge Haldorsen, the President Elect for SPE International 2015 is visiting Oslo on April 4th, 2014

Vice president of strategy and portfolio for Statoil Development and Production North America, who is based in Houston, Texas, will take office as president-elect on October 2 2013 at the close of SPE's Annual Technical Conference and Exhibition in New Orleans, LA, USA.

Prior to his tenure at Statoil, Haldorsen worked for Norsk Hydro in various roles including chief reservoir engineer, vice president technology and com-

petence, vice president exploration and research, senior vice president international exploration and production, and president Hydro Gulf of Mexico.

He has also held various engineering positions at British Petroleum, Standard Oil of Ohio (Sohio), and ExxonMobil (Esso). He was a second lieutenant in the Royal Norwegian Navy and professor of industrial mathematics at the University of Oslo.

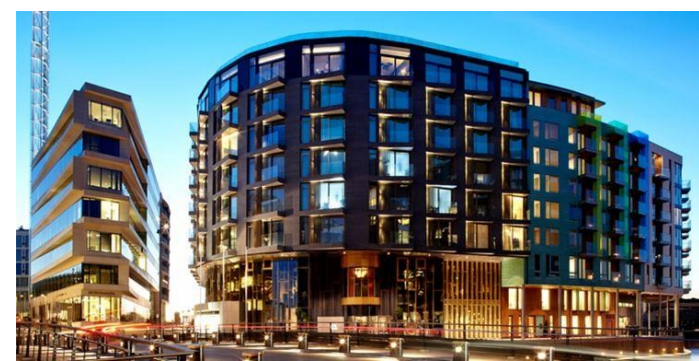
Haldorsen earned an MS in petro-

leum engineering from the Norwegian Institute of Technology and a PhD in reservoir engineering from The University of Texas at Austin. He currently serves on the Offshore Technology Conference board of directors and the external advisory board for the Cockrell School of Engineering at The University of Texas at Austin.

Info SPE Note.



Helge Haldorsen,
Vice president of strategy and portfolio for Statoil Development and Production North America and 2015 SPE worldwide President will give an SPE Oslo presentation at The Thief Hotel, Tjuvholmen in Oslo



The Thief hotel, Tjuvholmen, Oslo

The SPE Oslo section has asked Helge Haldorsen to give a speech on career development and his thoughts on the outlook for the international oil and gas industry. The meeting will include some Friday afternoon refreshments and it will take place at The Thief, Tjuvholmen. The number of guests for this event is limited; sign up on our SPE Oslo webpage oslo.spe.org. Welcome!

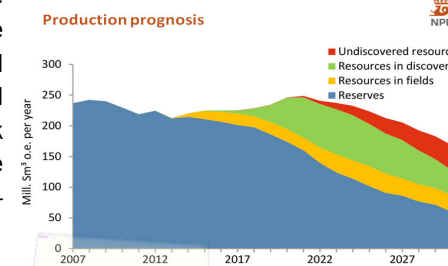
Friday, April 4, 2014,
1:30 PM - 3:30 PM

SPE Oslo kick-off event 2013/14

On September 17 a total of 80 SPE friends joined in to celebrate the opening of the SPE Oslo 20th season in the Revierhavnen Kro at Hovedøya. Director General of the Norwegian Petroleum Directorate Bente Nyland was SPE guest of honor for the night and looking to the

future of the Norwegian Continental Shelf she gave an important talk on challenges and visions in the years ahead. The talk was followed by a lovely seafood dinner and a walk down memory lane for both the Norwe-

gian petroleum business and the SPE Oslo section.



SPE Oslo Chair Kristine B. Ramsnes and SPE Oslo Program Chair Marius F. Lunde kicking off the season



Bente Nyland presenting to guests

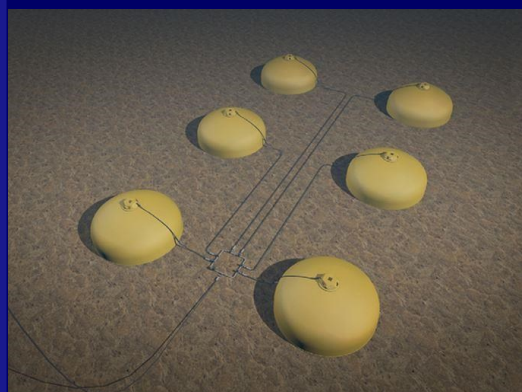


Bente Nyland,
Director General, Norwegian Petroleum Directorate

Register on
the SPE Oslo
webpage

Crude oil Subsea Storage system

Wednesday
April 23 2014
5:30 PM



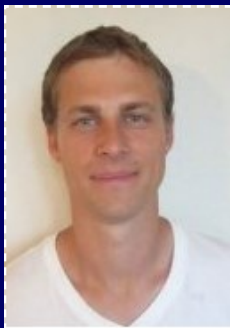
Aker Brygge, Stranden 3, Oslo
Restaurant Olivia

Young Professional event

Lecture + 3 courses dinner

**Torleif
Torjussen**

Department Manager
Production and Integrity
Solutions
Subsea Division
Kongsberg Oil &
Gas Technologies



Distinguished Lecturer Program

Distinguished Lecturer Dinner



COMING UP

Tuesday, April 8 2014, 5:30pm

Anatoly Zolotukhin

*Arctic Petroleum Resources: Basis for
Petroleum Activities in the 21st Century*

The Arctic continental shelf is believed to be the area with the highest unexplored potential for oil and gas. Despite a common view that the Arctic has plentiful hydrocarbon resources, there are ongoing debates regarding the potential of this region as a future energy supply base. Driving forces for such discussions are geopolitics, environmental concern, assessment and delineation of Arctic resources, technology available for their successful development, and the market demand for energy supply. This lecture examines the future role of the Arctic region in addressing the evolving energy demands.

Speaker Biography:

Anatoly Zolotukhin is a professor at the Gubkin Russian State University of Oil and Gas. He serves as deputy chancellor on international affairs and is a director of the Institute for Arctic Oil and Gas Technologies. Zolotukhin earned an MS in applied mathematics and an MS and a PhD in petroleum engineering.

Annual Workshop



On the 4th of June 2014, SPE Oslo and event sponsors Oslo Børs and PwC invite professionals from both the technical and the financial segment of the oil and gas business to a workshop on *Financing E&P companies and projects*. Based on last year's success, where more than 120 participants got together for a seminar on *Reserve reporting and valuation of E&P companies*, we are sure that this will be a unique event and we look forward to seeing you there. Welcome!



Oslo Section
Society of Petroleum Engineers
Oslo Section

Event Sponsors



Annual Workshop

Financing E&P Companies and Projects

4 June 2014 | PwC AS, Dronning Eufemias gate 8, 0191 Oslo, Norway

Technical program

Welcome and Introduction
Changes in the regulatory environment
Reserves based lending
IPO/Equity financing: Case study
Bond market financing in E&P Companies
Transactions in the License market: License Portfolio, APA

Financial considerations: How to avoid financial failure in E&P companies

Upstream project value, Farm-in, Farm-out, data room

Company's future strategies: Company acquisitions, field development projects, IOR/EOR, seismic

Oil price outlook and costs in NCS: activity-driven vs. price-driven

Panel discussion:

What is the outlook for the Norwegian oil and gas industry?

- Oil price outlook
- Investment outlook in NCS

Committee Members

Marius Lunde,
Idemitsu Petroleum Norge

Jafar Fathi,
CORE Energy AS

Per Fossan-Waage,
PwC Norge

Per Gunnar Ølstad,
Oslo Børs

Karl Ludvig Heskestad,
Resoptima

Reception at Oslo Børs

For more information and registration please visit: <http://oslo.spe.org/home>
<http://www.pwc.no> or <http://www.oslobors.no>

Chairman's Message



Kristine Behné Ramsnes
WIS Delivery Manager
at FMC Kongsberg
Subsea/ SPE Oslo
Chairman
2012-2014

Dear SPE friends,

Welcome to our very first edition of the SPE Oslo magazine!

With a strong technical program and a growing and diverse member base, the SPE Oslo section is an interesting and familiar meeting place for petroleum professionals in the Oslo region. The SPE Oslo ambition is to be an arena for knowledge sharing and networking and to achieve this, we continue to invite members and friends to a variety of different events throughout the year. We are very happy to see that meeting attendance is higher than ever and we are always glad to welcome new members.

The SPE Oslo magazine aim is to give you a summary of recent events and also a glimpse of what is ahead. The YP and student chapters are included and you also have the chance to get to know some of our SPE Oslo members a bit better. The magazine will focus on presenting the people and the everyday life of our SPE section. Complete technical presentations given at SPE Oslo meetings can be found on oslo.spe.org (member login required).

As this is our first magazine edition, any comments and inputs on improvements are appreciated. Please forward any remarks to our editor and YP Chair Vita Kalashnikova (vita@pss-geo.com).

We look forward to the upcoming SPE Oslo spring; welcome to our next event!

Kristine Behné Ramsnes
SPE Oslo Chairman 2012-2014

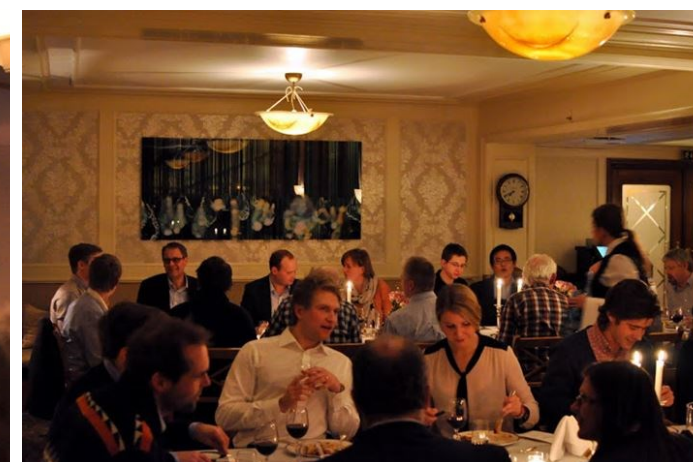


SPE Oslo Dinner meetings

Dinner meetings at Hotel Continental are regular events for the SPE Oslo section. Both members and non-members are welcome and presentations are later published on the SPE Oslo webpage. Below you will find summaries of very interesting presentations given at our dinner meetings so far this season.



Dinner meetings at hotel Continental



Flow Assurance – From Well to Processing

Christmas Dinner, Dec 6 2013

Flow assurance issues are not easily cured, but use of electric heating of production flow lines has proven to provide an excellent preventive medicine. Most medicines do have negative backside, so in order to prevent the downside of strong Electric Magnetic Fields (EMF) towards subsea marine biologic life, the complete heating system was bundled in a Faradays cage. Such bundled constructions with an outer steel pipe can be provided an inside and/ or outside collective thermal insulation. Equivalent bundled constructions with an outside thermal insulating cement, are frequently found in downhole completions and use of large Electric Submerged Pumps

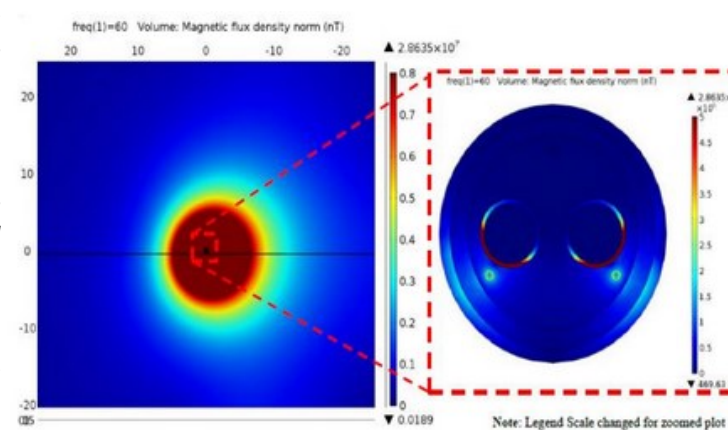
(ESP) and/ or other consumers. An intelligent arrangement and use of the electric supply cable may thus easily include a general or dedicated heating of the casing annulus and thereby the full length of the production pipe flow. A more important tooling however, is the available

preparedness for cold starts and remediation of wax and hydrate blockages.

Presented by Finn Aarseth from CBundel on the Christmas dinner at Hotel Continental.



Finn Aarseth
CBundel



SPE Oslo “home” - Hotel Continental

If anything can be called the home of SPE Oslo, it must be Hotel Continental; this venue has been the meeting place for SPE dinners and events for 20 years.

On December 3 2013 more than 60 SPE Oslo members joined in on the annual SPE Oslo Christmas dinner. The evening started with an interesting talk from Finn

the Internet in order to search for juicy historical details. Pinnekjøtt or “meat on sticks” directly translated to English, seems to be something as special as a genuine Norwegian specialty. It is made from salted and wind dried lamb chops and as such it will keep “fresh” for almost as long as you wish, provided a cool dry



but the writings indicate it may be very, very much older.

I have searched for any dish made more or less the same way and found only one: “soutribbetjie”. It is a common traditional dish in South Africa which came with the “Boers”. As they came from Holland and tradesmen from Holland have sailed the long Norwegian coast from medieval times, they probably were served pinnekjøtt from the local population on their way. So I think we may conclude: this is a Norwegian tradition, at its most genuine.

If anyone of you wishes to make this dish yourself you will find an excellent recipe on the Internet:

<http://mat.tv3.no/oppskrifter/jul-med-hellstrom/hellstroms-pinnekjott-med-stappe>

For the rest of us let us meet every Christmas at SPE Oslo and enjoy the food with everything needed, after an excellent and stimulating presentation!”

climate. The north and west coast of Norway where this dish is most common, is quite cool but normally not especially dry. This is the reason for a special version of pinnekjøtt, which is smoked before drying. The smoking process prevented the generation of mold that would easily destroy the product. Today the preservation is not a big issue but still many people prefer the smoked variant for the taste.

The oldest written sources mentioning it goes back 300 years,



Aarseth (CBundle) which was followed by a dinner serving of the traditional Norwegian dish “pinnekjøtt” in the grand Hotel Continental surroundings. For those of us who tried the dish for the first time, it was an interesting and new taste, and according to SPE customs we filled up the plate not only once but twice throughout the evening.

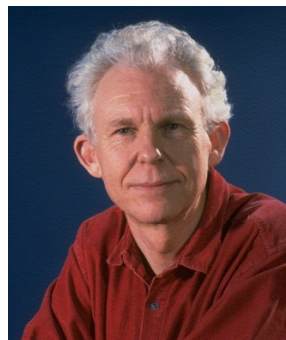
The presentation and the traditional dinner were followed by a speech (“takk for maten tale”) from SPE Oslo member Truls Fallet. Truls had done historical investigation into the origin of the lovely dish pinnekjøtt. It was a very nice and complementary finish to the evening, and the results of his investigation are written for you to read below:

“Friends and colleagues in SPE-Oslo section, as prescribed by a long tradition we have been eating “pinnekjøtt” today and hopefully you have enjoyed it as much as I have. But how much do you know about this traditional Norwegian Christmas dish?

I must admit that my knowledge was limited to the preparation in my mother’s kitchen so I went to



Hotel Continental (top), dinner hall (left), SPE Oslo members at the Christmas dinner table (bottom)



Truls Fallet
is prizewinner of
“SPE Regional
Technical Award for
Formation
Evaluation” for
2010. He has been
central to the
development, testing
and commercialization
of new technologies for
the oil industry, and
especially contributed
in the fields of
management and
measurement of oil/
gas production, well
technology and
advanced logging of
wells /chief scientist
Badger Explorer
ASA

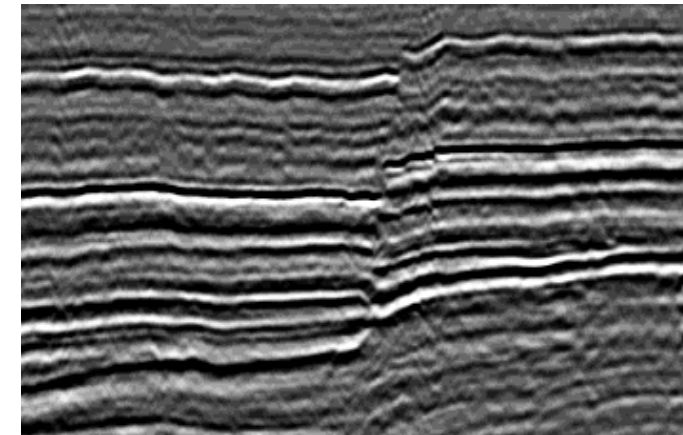
Seismic For Engineers (abridged)

Dinner meeting at SAS Hotel, February 18 2014

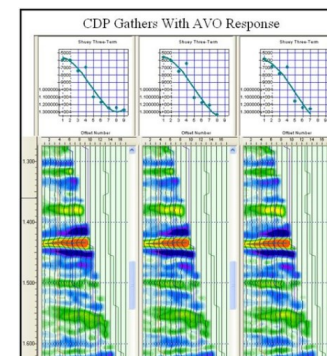
Seismic for engineers covers seismic theory (just what you need to know), types of seismic data, acquisition, processing, seismic attributes and the special attribute 4D. The aim of the talk is to familiarize engineers with terminol-

reflections and their placement on the seismic section. We learned about the types of reflections on the seismic section; primaries, diffractions, multiples, and side swipe.

Prior to the discussion on Acquisition we covered types of seis-



ogy associated with seismic data for a better understanding for better communication. Several topics were covered under Theory. These included types of seismic waves, velocity of the seismic waves, where



reflections are generated including an animation. “What is AVO and anisotropy?” and some effects.

AVO analysis has basically 4 classes all based on Gas Sands which are aimed at improving the use and predictability of AVO effects. Modeling is always necessary for such predictions. Anisotropy within the subsurface will affect the amplitudes of the

cludes AVO and Trace Inversion are dependent on as true as possible amplitude preservation has been. Seismic velocities are used for processing of the data, pressure prediction, lithology prediction, AVO, seismic inversion, and depth conversion. Depth conversion being, aside for processing, the primary use of seismic velocities.

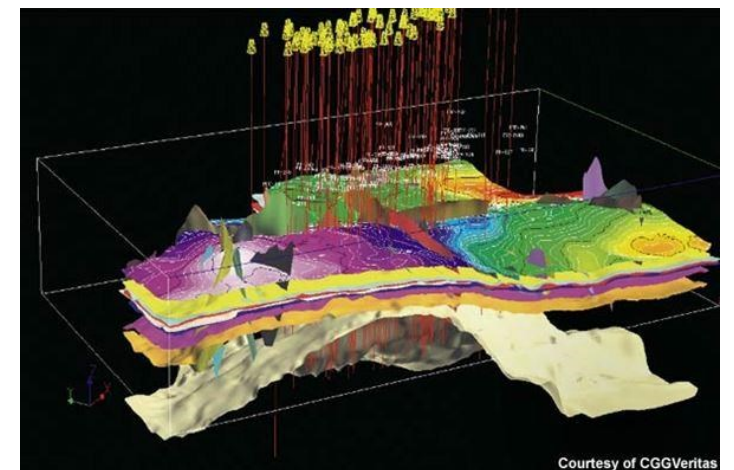
There are a whole host of seismic related attributes; the familiar seismic attributes based on the Hilbert transforms, trace inversion, AVO attributes, spectral decomposition, coherency related attributes, and 4D attributes based on differences in monitor and base surveys.

With the discussion of 4D came a number of examples from CO₂ sequestration, oil and gas production for siliciclastics and carbonates, and from good and poor quality seismic data. And finally how the planning and interpretation of 4D seismic data should be performed by multidisciplinary teams, which include engineers as well as the geophysicist, petrophysicist/rock physicist.

John Erick Battie



John Erick Battie
AGR Petroleum Services



Courtesy of CGGVeritas



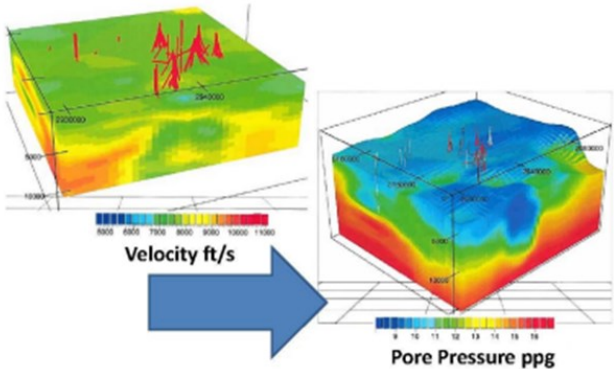
Board member Mahmood Akbar and SPE Oslo dinner guests at a dinner meetin in SAS Hotel Holberg

Pore- and fracture pressure; a scientific approach to a practical challenge and some philosophy

Dinner meeting, October 15 2013



Our approach includes analysis on a number of offset wells to find good correlation of properties. This is subsequently applied on the well prognosis to establish a fairly confident prediction and also to make room for uncertainty and surprises. Seismic data is used to correlate pressure and velocity away from wells. The cost of drilling a well calls for every effort to understand the uncertainty and to plan for surprises. Design of well is subject to scrutiny, what if? In terms of surprises, contingent plans are necessary. Extra casings and contingent equipment need to be in place at spud. AFE and the programs will have to allow for contingencies. A pressure profile will directly influence on the number of casings necessary to reach the target reservoir, admittedly confidence will vary. A philosophy of aiming for the cheapest solution is combined with an acceptance for a more expensive result. In turn this philosophy can be extended to formation evaluation program: Dry hole is cheap and a discovery will cost. Aim is that Management will accept that an AFE will have a probability distribution, not just a number, but a range - depending on the success and what the drilling of rocks is revealing."



A dinner meeting at Continental, October 15th was dedicated to pore pressure prediction. Ole Gunnar Tveiten (Manager Well Operations Support (first picture) and Eyvind Aker (Senior Rock Physicist (second picture) AGR Petroleum Services presented some of their work: "Pore- and fracture pressure; a scientific approach to a practical challenge and some philosophy". The topic addresses data usage and evaluation, uncertainty handling and cost/benefit

considerations in relations to well planning. Methods differ, aims are the same. Pore pressure predictions in various basins are performed with an aim to increase confidence and make drilling procedures more efficient. Our work use a number of empirical and scientific founded techniques with an aim to increase confidence and to limit uncertainty. Despite significant heterogeneous properties of rock, great efforts are made to measure and characterize their properties.

SPE Oslo Lunch meetings at AGR

For a number of years, AGR in Skøyen has very kindly been hosting SPE Oslo lunch meetings. A lunch meeting includes sandwiches at 11:00 followed by an interesting presentation. The meetings are free and anyone is welcome. Below you will find a summary from lunch meetings so far this season.



SPE Oslo lunch meting at AGR

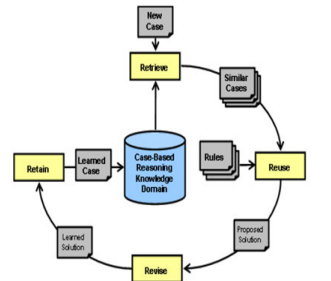
Understanding the Potential of Case-Based Reasoning in the Oil Industry

Lunch meeting, January 21 2014



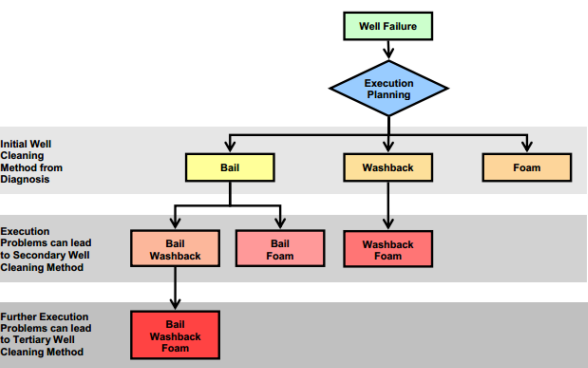
Andrei Popa
Technology Advisor at
Chevron, Bakersfield,
US

The first Distinguished Lecturer talk in 2014 was held on the 21st of January at AGR's offices at Skøyen. Andrei Popa was welcomed to talk about "Understanding the Potential of Case-Based Reasoning in the Oil Industry". Case-based reasoning is a soft computing technology developed to address uncertainty, calculate approximate reasoning, and exploit knowledge domain. This simple and practical technique solves new problems by comparing them with the solutions of past problems,



Example from presentation.

WELL CLEANING METHOD PROGRESSION



* Darker Color Represents increasing job cost and duration

resulting in saved time and money. This lecture provides a general framework of case-based reasoning, describes the technique's four-step cycle (retrieve, reuse, revise, and retain), and reviews two specific applications in which the technology was used in oilfield. Further details can be found on the SPE Oslo webpage.

Listening to a Compacting Reservoir Using a High Channel-Count, Down-hole Array of Acoustic Sensors

Lunch meeting, March 4 2014



Jakob Haldorsen
*Sr. Geoscience Advisor/
Chief Scientist from
READ AS*

Jakob Haldorsen (Sr. Geoscience Advisor/Chief Scientist) from READ AS presented "Listening to a Compacting Reservoir Using a High Channel-Count, Down-hole Array of Acoustic Sensors". As a reservoir is produced and pressure reduced, the reservoir rock will compact. This compaction will naturally generate seismic events, mostly of low magnitude. As the reservoir section compacts, the overburden may undergo significant changes in the stress regime. These changes may, in turn, generate micro-seismic tremors, which can be detected and located using arrays of receivers. Knowledge of the frequency and distribution of these is important in the assessment of the "health" of the reservoir, and helps determine where and when mitigating actions should be taken.

With permanently installed acoustic sensors one could listen to the acoustic signals generated by the micro-seismic tremors. Such systems can be deployed either on the sea floor or in a well.

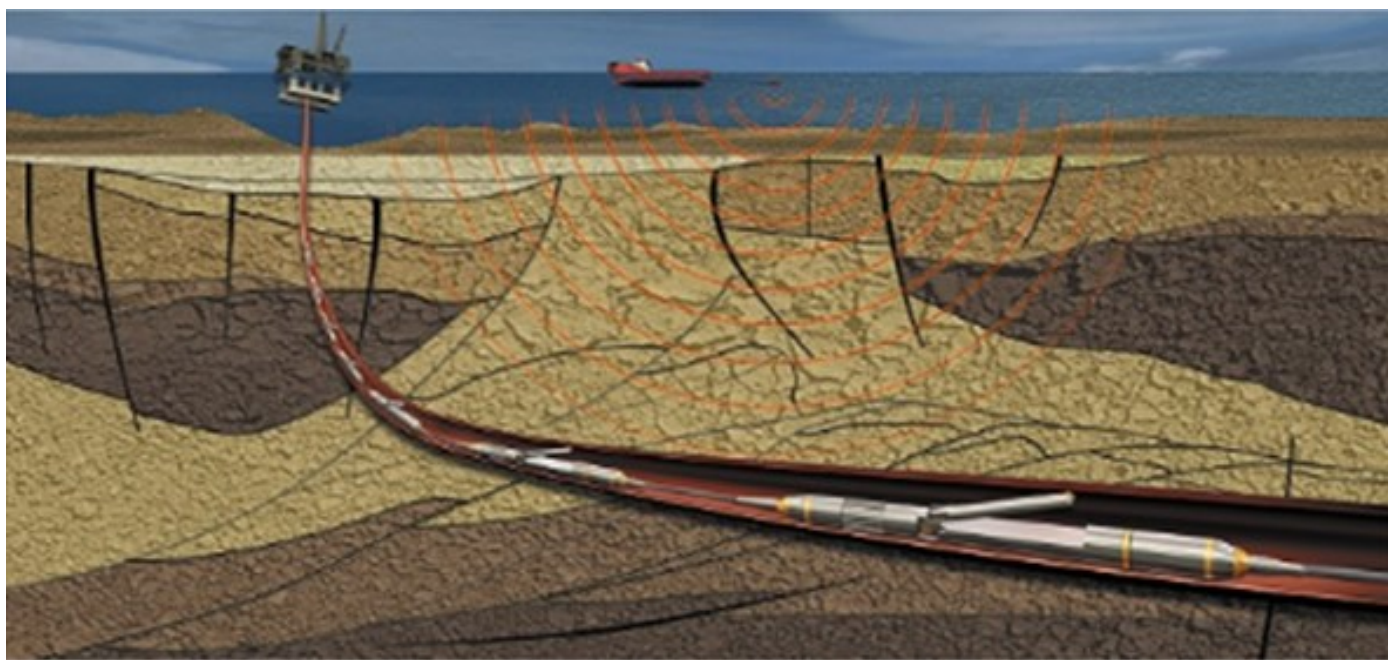
However, since the amplitudes of the acoustic emissions are mostly low, it is natural to assume that the acoustic signals are more easily detected using receivers deployed in the low-noise down-hole environment, rather than in the much noisier environment on the surface or at the sea floor. Down-hole sensors should also be closer to the reservoir and therefore see a stronger signal.

READ AS has developed a cost-effective, modular down-hole system for permanent installations, to be used for monitoring acoustic activities in a producing reservoir. The system, named PerForM™, can be installed on production tubing and has an interface which allows integrating data from other types of sensors. The present PerForM system uses electric geophones with electric communication (copper) with full redundancy between the sensor nodes, and a high-capacity digital fibre-optic transmission of the measurements to the surface, also

with full redundancy. The high-bandwidth digital communication allows the deployment of up to 120 sensor nodes with a total of 480 individual data channels at 2ms sampling. The digital transmission also allows the possibility of feeding through a wellhead in a sub-sea completion using electrical penetrators by temporary conversion back to digital electric signal.

The pilot system has been delivered to Petrobras and is scheduled to be installed offshore Brazil, Q1, 2014.

The presentation will also touch upon still further developments that would allow a substantial increased capacity of PerForM, as well as new algorithms that would allow tracking the growth of natural and hydraulically induced fractures in real-time.



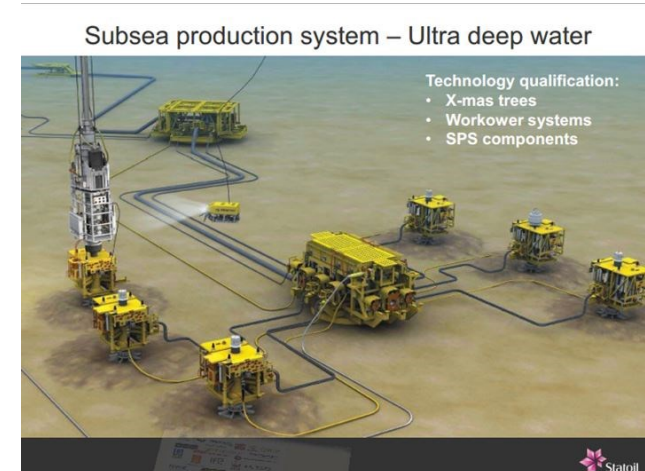
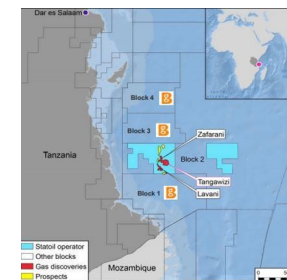
Statoil discovery gas project: from discovery to development

Lunch meeting, January 21 2014

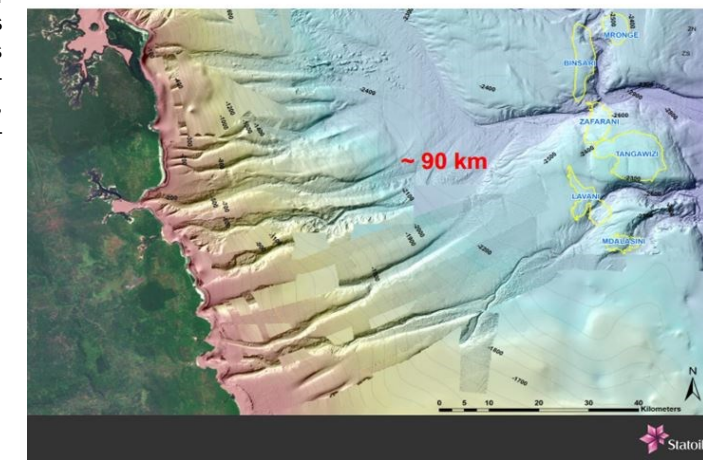


Lars Jetlund Hansen
*Petroleum Technology
Manager for
the project*

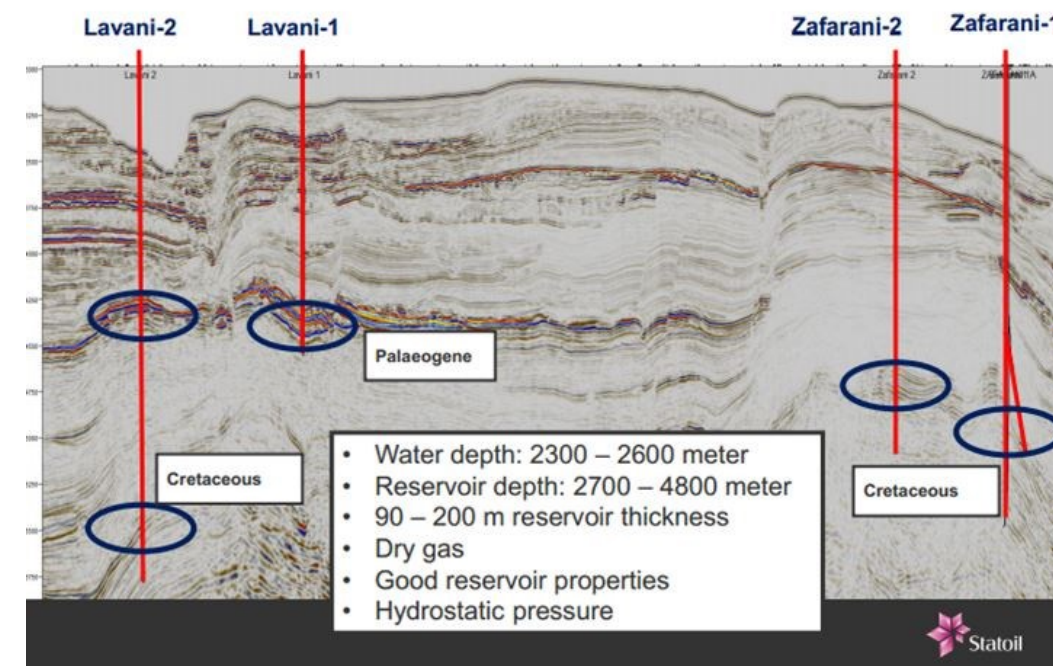
Statoil's four discoveries and further exploration potential in Tanzania Block 2 are the largest operated international project ever to be developed. The full value chain development project will comprise of reservoir extraction through a subsea development at ultra-deep water, potentially a floating production unit, and pipelines to an onshore LNG plant as a well as subsequent transportation to the domestic and international gas markets. The project will be very challenging and demanding, but the Contractor Group in Tanzania Block 2, comprising of Statoil (Operator 65%) and ExxonMobil (partner 35%), is prepared for taking on this challenge. For more information regarding the project, please review SPE Oslo web-site



Challenging sea bed for pipeline route to onshore LNG plant



Discoveries in 3 different stratigraphic levels



Direction to success

Master student, geologist, and now former president of SPE Oslo Student Chapter, Sanne Lorentzen, just recently handed the presidency over to Edi Hasic. Edi is a bachelor student in geology and he has served on the SPE Oslo student board for several years in different roles.

Sanne is a very creative person, and a talented organizer. She sets her aims and has a clear view of reaching them. The SPE Board wishes her great success in her future career! Below you can read more about the student chapter and their ambitions for this SPE Oslo season.

annual number of company presentations and organizing more informal social events, we believe that we have increased the amount of memberships as well as attained a good reputation on campus. Furthermore, we encouraged students to participate in all events arranged by the Oslo Section, such as lunch meetings and dinner meetings. In this way they get to socialize and learn from more experienced people in the industry. The goal for next two years is to increase the educational benefits of our members. To realize this we are planning:

1. A One-day seminar on a topic chosen by our students and a

2. A Student Award involving a scholarship paid for by the Student Chapter

3. To organizing an offshore excursion for a limited amount of students

4. Petroleum Presentations with the focus on bachelor students

5. To organize a paper competition

6. To arrange movie nights with petroleum related themes

7. To increase the student involvement in our organization

8. To keep up the numbers of company presentations and social events"

Sanne Lorentzen to the annual SPE Oslo report

Edi so far finds the presidency to be an exciting challenge and he will continue to work with the new student board on the plans presented above. Edi sees great potential to strengthen the connection between the students and the industry, and he also hopes to contribute with social events as the students have been fond of them. "Due to graduations, the new student board has gone through some major changes recently, hence teamwork and good communication will be key factors for this semester. We are all looking forward to it", assures Edi.



The former President of SPE Oslo Student Chapter, Sanne Lorentzen, together with her team made an incredible contribution in the development and organization of events



East Meets West International Student Conference and Career Expo in Cracow this April.

"This year the main goal has been to reach out to as many petroleum interested students as possible. By increasing the

recruitment lecture and session with both people from the petroleum and recruitment industry



At the annual SPE & RWE Spring Games



Oil&Gas Quiz

On January 22n 2014 the first Young Professional Oil&Gas quiz this season was held at Peppe's Pizza Solli plass. With approximately 30 participants from both SPE Oslo and Kongsberg Oil&Gas the atmosphere was great and the competitive spirit very much present.

The idea of the quiz was to challenge participants to join

forces with their knowledge of geophysics, geology, drilling, reservoir and petroleum engineering in order to optimize field development and achieve the best result. All participants were divided into random teams and the atmosphere was very relaxed.

With questions from different segments (see next pages),

the SPE Oslo YP Chair Vita Kalashnikova ensured that all participants had to twist their mind and participate in lively discussions to find good answers. All this while of course finding time for social chatting and some familiar cold refreshments.

After scores had been presented and winners congratulated,

it was clear that the first quiz event had been a success. Hence, SPE Oslo YP followed up with a second quiz at Olivia's Aker Brygge on March 26.

SPE YP will continue to host events on a regular basis and everyone is welcome; this is a great place to meet and mingle with young professionals in the business – see you there!

Eager teams are discussing and socializing at this season's very first Oil&Gas Quiz at Peppe's Pizzeria.



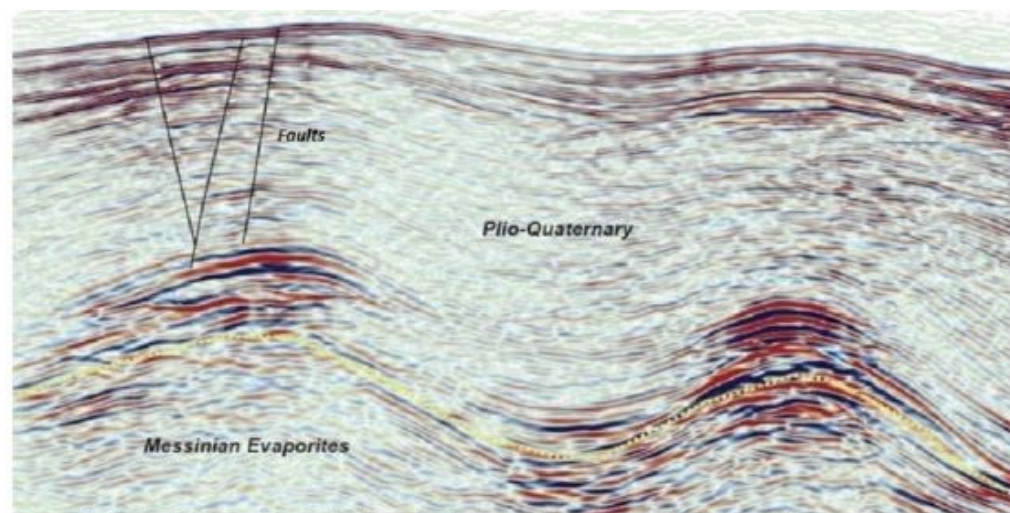
"The SPE quiz is such a great way to meet people from the industry with totally diverse backgrounds and experiences. The atmosphere is relaxed, the questions are challenging, and it is so much fun to win! Big thanks to dream team supreme for a good mix of gut feeling and actual knowledge!"

Helle, Resoptima



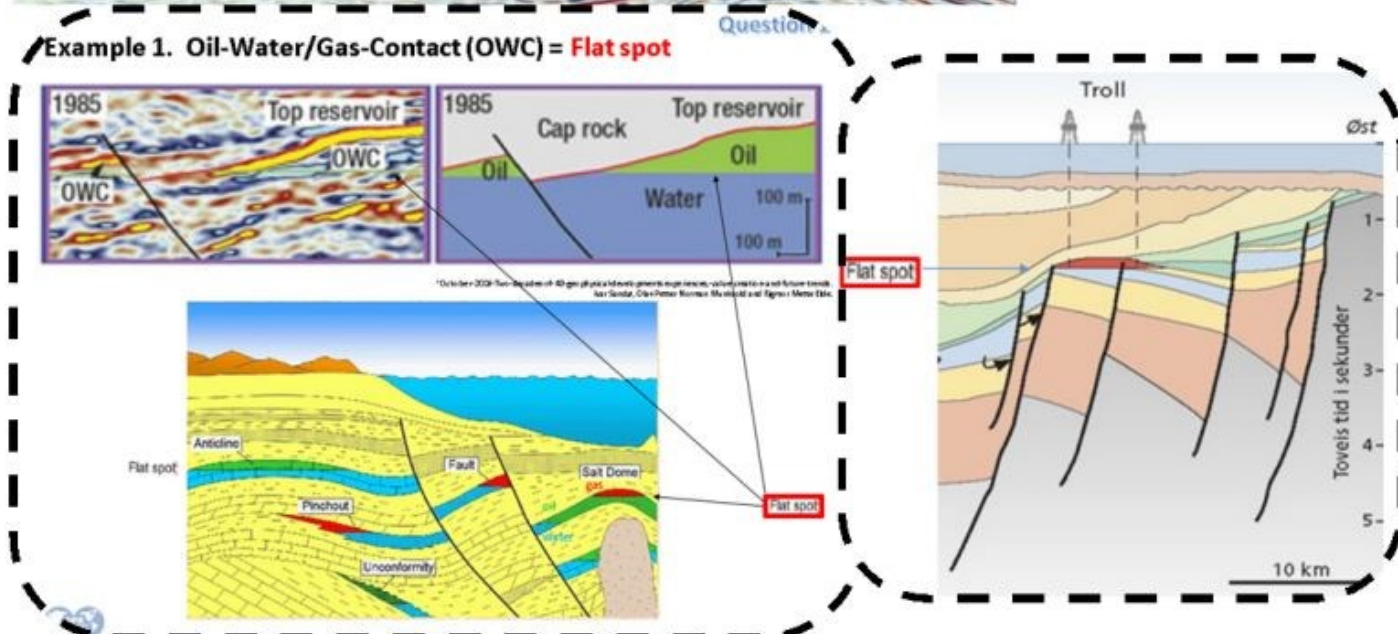
The winners "Dream Team Supreme" in Quiz 2, 26 March

Quiz questions—test your knowledge!



1. Where will we drill? You have money for either 2 short or 3 long wells.

Examples are shown below.



Connect pictures and names by line:

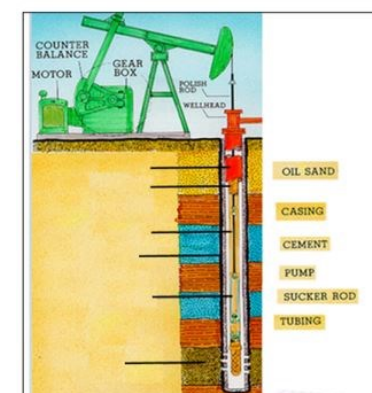
Fixed platforms	Semi-submersible platform	Jack-up drilling rigs	Drillships	Vertically moored tension leg	Drilling rig
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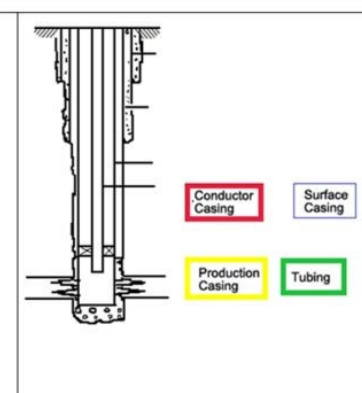
Check yourself! =)

2. Rig types.

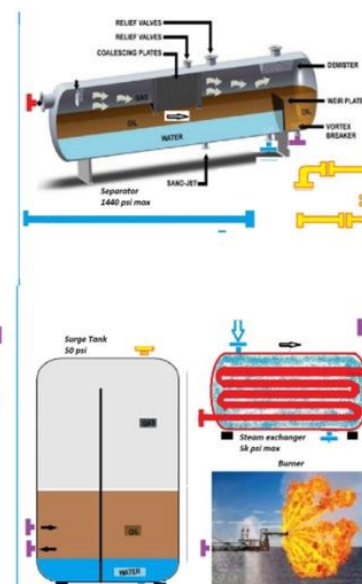
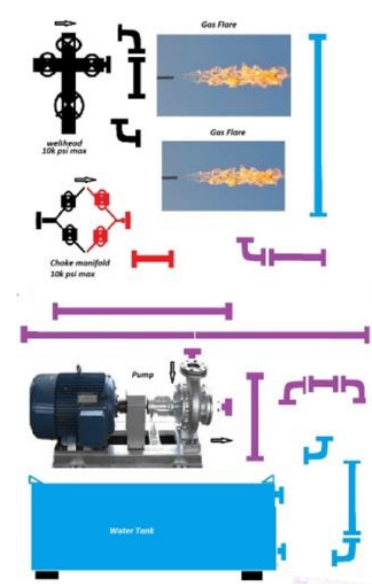
Connect pictures and names by line:



Paint parts of the well in an appropriate color.



3. Well construction.

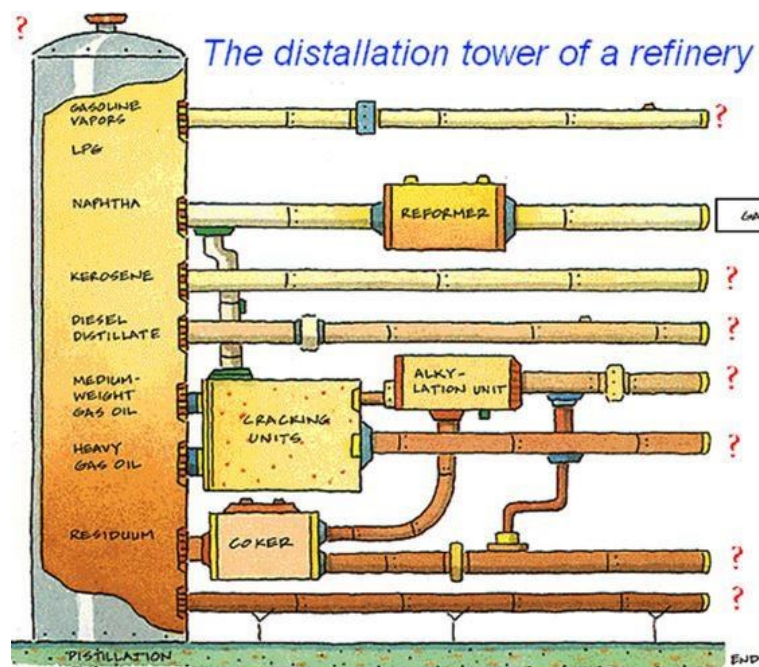


4. Well test layout.

The primary purpose of well test is to evaluate the volume of oil/gas/water coming from a well.

Collect the well test equipment in the correct flow, starting from Wellhead to Burner. Note that separation is happening in two stages. Put attention to the pressure. To burn the oil you need a pump.

5. Refinery



NPF and SPE - Young Professionals collaboration



Ida Toftbagen, Sales Manager/ Business Analyst at Spectrum ASA and NPF board member (left), and Vita Kalashnikova, Geophysicist at PSS-Geo and SPE Oslo YP Chair (right)



After several meetings and brainstorming events, the Oslo sections of Norsk Petroleumsforening (NPF) and SPE Oslo are ready to collaborate in creating technical and social events for their Young Professional members. In order to ensure both a solid technical and social program, good discussions and planning meetings have been initiated. Whether the meeting format should be a presentation or a game, it has been important to ensure that topics suit all participants. The first joint event will be organized soon. The organizing committee hopes that the event will

be a memorable evening for all participants and that SPE Young Professionals in the Oslo region grab the opportunity to meet with the young NPF member base. Further details will be communicated through the SPE Oslo website and in your inbox.



26 September 2013 SPE Oslo young professionals organized a joint event with Aker Solutions and DNV at SEEDS

More than 100 young professionals from Aker Solutions, DNV and SPE Oslo gathered at SEEDS in Oslo for several technical presentations, drinks and entertainment on September 26 2013.

Luca Garrè, Senior Researcher, DNV Research and Innovation held the first presenta-

tion on "Risk-based Adaptation to Climate Change". Åsmund Bøe, Chief Technology Officer at Aker Solutions then presented his view on "Technology Innovation in Aker Solutions", and finally Shane McArdle, PhD, Account Manager Software & Services in Kongsberg Oil & Gas Tech-

nology had the pleasure to end the technical part of the meeting with a presentation of "Real Time Decision Support Systems".

After the presentations a quiz related to the topics of the day was performed, and upon arrival all the participants had been asked to pay close attention to the presentations. Snacks and drinks were served while the groups answered the quiz as best they could. A surprising turn of event was when two carnival dressed Brazilian salsa dancers entered the stage to perform a magnificent dance show. After the show two brave volunteers from the audience was brought to the stage to participate in the dance. The evening ended with awards for the best group as well as for our two brave dancers.

High technology and Brazilian Salsa



Advertising post for the Event



Winning team getting prizes from Georg, DNV Young professional team



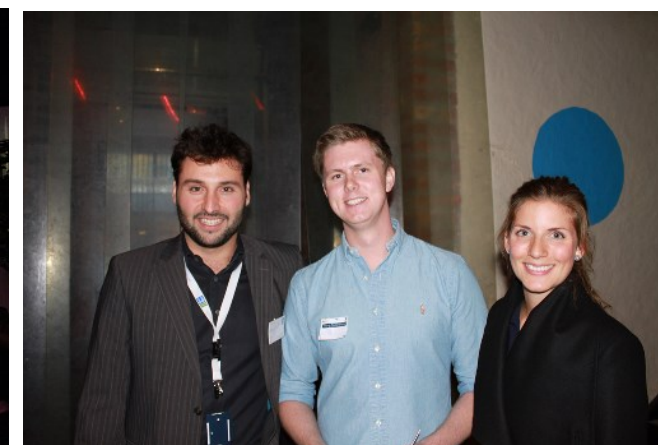
From left to right: Luca Garrè (Senior Researcher at DNV Research and Innovation); Åsmund Bøe (Chief Technology Officer at Aker Solutions); Shane McArdle (PhD and Account Manager Software & Services in Kongsberg Oil & Gas Technology)



Left: Luca Garrè (DNV), Shane McArdle and Ludvine Le Gramvalet (Kongsberg Oil & Gas Technology)

Bottom left picture: dancing contest

Bottom right picture: organizers of the event. From left to right: Georgios Kasimatis (DNV OSL International Affairs), Stig Kjemperud (Senior Engineer, Landing String) and Linda Sollie (Vice President of Solutioneers Board in Aker Solutions)



The SPE Oslo Magazine appreciates help in terms of journalism and welcomes anyone who would like to participate in the process of making the magazine.

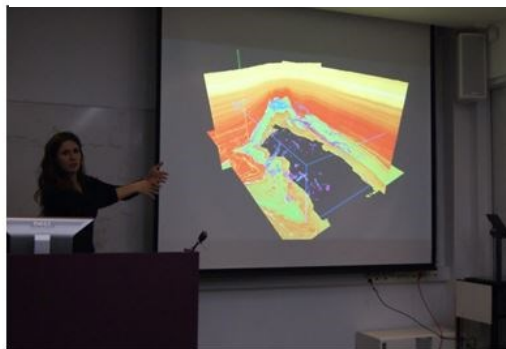
If you have an interesting topic related to the oil and gas industry please share it with any of the SPE board members.

SPE Young Professionals Presentation

On the October 29 2013, SPE Young professionals held their first presentations for the students. The main purpose of the presentations was to share experience with the students and to give them insight of what a young professional could look like. The SPE Oslo student chapter prepared the advertisement, the auditorium and some coffee/tea to welcome the students. Vita and Sebastien brought with them cakes and candies and they came to present in front of curious students. Vita Kalashnikova works for PSS-GEO AS as a geophysicist. She kindly took the time to hold a presentation on some of her tasks and on what to expect for newly educated students looking for jobs. She also gave the audience some good advice for job interviews. Sebastien Romieu told about early days in his career starting from being a consultant in Norway and the UK, to a position in a Norwegian E&P company and getting operator experience. He explained how he liked travelling, meeting great professionals and building experience, in sometimes exciting places like Iraq. He also shared with the students how he ended up starting his own company with former more experienced colleagues, showing the students that opportunities are out there for eager young professionals.



Sebastien talking about his change from a big company to starting up his own company



Vita explaining methods of reservoir analysis



The students were welcomed with delicious sweets and cakes, as well as hot beverages at the start of the

SPE students

SPE YP are looking for young professional speakers who can share their job descriptions and daily tasks with the students. Preferable discipline is geoscience. Please contact any board member.

Connect with SPE Oslo on the web and in social media

Did you know that SPE Oslo is available on the web and in numerous social media portals? We strive to be available for our members in your favorite place, either you're on the move or in front of the computer in the office. We have been around Twitter and LinkedIn since the early beginning and during the last season SPE Oslo also joined Facebook and Instagram to stay connected with our members. Through our portals you'll always stay up to date with the latest activities in the Oslo E&P industry, connect with fellow members and benefit of the professional worldwide SPE network.

In addition to the social media portals, we are always available at our homepage run by the SPE Connect service at www.connect.spe.org/oslo. The SPE Connect portal, provided by SPE International, is an online community where you can meet, collaborate, discuss specific technical challenges and resolutions, or share your experience and knowledge with other SPE members worldwide. SPE Connect provides an integrated App-service for iOS and Android mobile devices for you to stay in touch on the move. Main features in SPE Connect includes:

- Your Online Profile and Inbox
- Communities and Discussions
- Access to SPE's Member Directory
- Announcements
- News



Tor Landbø Opseth,
Internet Chair



SPE in Norway

The Society of Petroleum Engineers (SPE) is a professional association whose 100,000-plus members worldwide are engaged in energy resources development and production.

Local sections of the SPE are established around E&P communities all over the world. In Norway, there are five local sections. Each section maintains its own individual website. Visit, and learn more!

STAVANGER SECTION ►
BERGEN SECTION ►
OSLO SECTION ►
TRONDHEIM SECTION ►
NORTHERN NORWAY SECTION ►

Info <http://www.spe.no/>



SPE Bergen Sailing with Statsraad Lehmkuhl

The annual SPE Bergen Sailing with Statsraad Lehmkuhl is an activity for our sponsors (become a sponsor!), and it is one of our most popular activities during the year.

We embark Bryggen (Bergen harbour) and the 3-masted barque will take us from Bergen Centre on a round trip returning around 2300. On board, you are served sea-food with the appropriate extras. Drinks will be sold on board.

The SPE Bergen Sailing is known for its excellent networking. 350 E&P professionals join the trip, including student members from the SPE Bergen Student Chapter.

Make sure you book your tickets as early as possible. Tickets are available for all our sponsoring companies. Number of tickets are normalized according to the size of the individual sponsorship.

Pictures from previous events available on Facebook



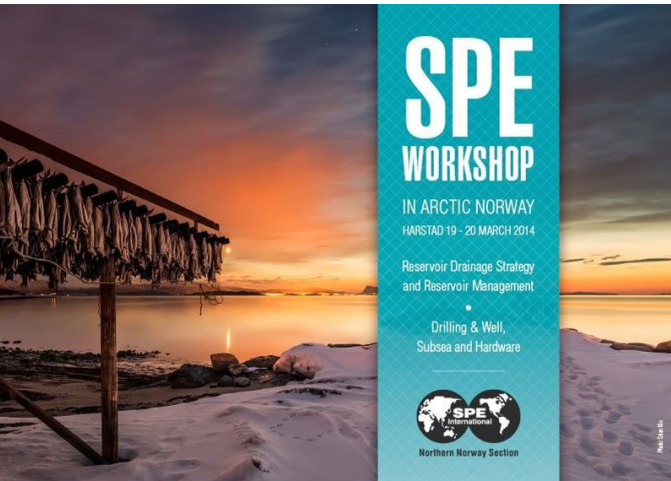
2014 SPE Workshop in Arctic Norway



Marius Stamnes
Web & Program
Chair SPE Northern
Norway Section/
Lead Completion
Engineer
Commercial Group,
Weatherford

SPE Northern Norway is the newest section of the five existing sections in Norway, as it was formally approved by SPE International 7 December 2010. This section covers the three northern counties Nordland, Troms and Finnmark and is operated from Harstad. In 2013, the section hosted its first workshop, the SPE Workshop in Arctic Norway. 85 delegates attended this workshop on IOR. Both the program and the execution of the conference was successful as well as the "Hunting for the Aurora Borealis" social event.

After having evaluated the 2013 Workshop, it was decided to make it an annual event. As opposed to the first workshop, it was decided to focus on a geographical region; the Barents Sea. In recent years there has been a series of discoveries in the Barents Sea, starting with the Johan Castberg discovery and the most recent discoveries of the Wisting and the Gotha. From a petroleum technical point of view, these



discoveries have a number of interesting challenges. Some of the discoveries are rather shallow with low pressure and temperature. Development strategies must take this into account to reach sufficiently high recovery factors. So far the sizes of the discoveries are medium and often far away from existing infrastructure. This results in relatively high exploitation costs and might for instance require new subsea solutions and transport systems. Therefore, the main

two topics to be discussed at this workshop was:

- * Reservoir Drainage Strategy and Reservoir Management
- * Drilling & Well, Subsea and Hardware

On 19 March, the second SPE Workshop in Arctic Norway in Harstad Kulturhus was opened by Kåre Fostervold, State Secretary of the Ministry of Petroleum and Energy, followed by interesting presentations on the Barents Sea and Arctic by NPD, Statoil and ENI. After the opening session, more specialized sessions on drilling, formation evaluation and monitoring were held during the day with presentations from operators, service companies and academia.

94 delegates attended the workshop this time.

Minutes after opening the workshop, the State Secretary opened a parallel student seminar at Harstad University College for high school students and students doing their qualification courses for making them eligible for attending studies in engineering this fall. Erling Peder Bergerød presented Petoro and Chairman Kurt Jørgensen



Overview of the conference arena



State Secretary Kåre Fostervold opening the student seminar at Harstad University College

from SPE Northern Norway presented the establishing of the SPE Student Chapter Harstad Narvik. Focus on young talent is key for the industry in the north, and SPE Northern Norway Section seek to "open up" the industry for the students in our region by establishing the joint student chapter for Harstad and Narvik University Colleges will be our key instrument. The student seminar was concluded by two young engineers from this region, Line Nygård Hansen from DNV GL and André Storskjær from Weatherford sharing, their experiences as students and young professionals. During lunch, the same day, the students comingled with the workshop delegates in the exhibition area where they among

other things could get a hands on presentation on a full-size model of NOV's Cyberbase driller's chair.

When hosting an SPE workshop in Harstad, it makes sense to focus on the arctic both in the presentations and discussions as well as for the social event. In 2013 the delegates where brought to the Northern Lights Camp on Aunfjellet mountain just outside town to witness the Northern Lights (the Aurora Borealis). The plan was to repeat this successful event this year, but unfortunately a hurricane demolished the whole camp a week prior to the workshop. The event was therefore moved to Trondenes Historical Centre. Before going to the



Sundquist – Knut Erik Sundquist playing his double bass at the icebreaker hosted by DNV GL

event, the delegates got a chance to relax at the icebreaker hosted by DNV GL, with a short and entertaining concert by Knut Erik Sundquist on double bass.

After arriving at Trondenes Historical Centre, the delegates got a guided tour of the Centre which focus on the Viking heritage of this region and the medieval Trondenes stone church, before enjoying a delicious 4 course dinner. The Northern Lights was also visible from this location.

Day 2 started with presenta-

WORKSHOP MAIN SPONSOR



Students from the upcoming Student Chapter, together with State Secretary Kåre Fostervold



Dinner Speaker, Daniel Tuppen, VP Exploration, Barents Sea and Norwegian Sea, Statoil

tions from Statoil on the Johan Castberg field development followed by sessions on pro-

duction technology. SPE Northern Norway Section is pleased to see that our work-

shop is drawing attention from an international selection of delegates of whom many were attending for the second time. This gives us motivation and dedication to keep this as an annual event.

Shortly, we will announce the dates for the 2015 SPE Workshop in Arctic Norway.

We would like to thank our sponsors, program committee and partners for their dedication and support:

2014 SPE Arctic Workshop sponsors



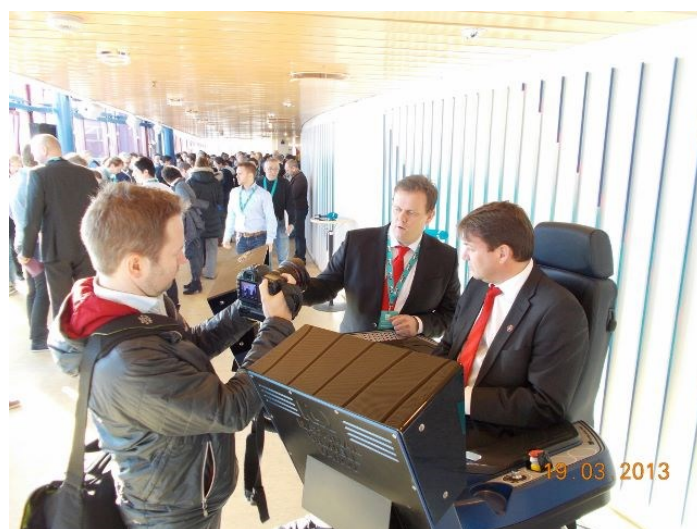
2014 SPE Workshop in Arctic Norway Partners:

Aktiv Events Hoelstuen Harstad Kulturhus

2014 SPE Workshop in Arctic Norway Program Committee:

Program Chairman, Martin Springer, Det norske
John Even Lindgård, OCTIO
Ingvar Grøtberg, FMC
Douglas Gilding, Statoil
Thomas Bognø, Total E&P
Lina Leknes, Norwegian Petroleum Directorate
Erling Peder Bergerød, Petoro
Birgitte Nordheim Tveter, Statoil
Øivind Fevang, Statoil

SPE Northern Norway Section Sponsors 2013-2014:



State Secretary Kåre Fostervold getting an introduction to NOV's Cyberbase driller's chair



Students trying the Cyberbase driller's chair

The presentations that have been approved for publication by the presenters can be downloaded from www.speworkshop.no and www.spe.no/harstad.

Follow us:

Facebook: <https://www.facebook.com/SPENorthernNorway>

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Twitter: <https://twitter.com/SPENorthNorway>

YouTube: <https://www.youtube.com/channel/UCAXEotREwRDITJ5VW3bRjGw>

The video for this workshop will be published this spring.

Marius Stamnes

Web & Program Chair
SPE Northern Norway Section

Branimir Cvetkovic - SPE member, scientist, what else?



Branimir Cvetkovic
Ph.D., Senior Staff
Reservoir Engineer at
Bayerngas Norge AS

How much do we know about our talented members? Let us introduce you to Branimir Cvetkovic. Some of us know Branimir as a Ph.D in reservoir modeling and simulation from NTNU and further as the Senior Staff Reservoir Engineer at Bayerngas Norge AS. Branimir has an impressive career with a strong track record in engineering, research and teaching, but so few of us knew that he also has a strong interest in painting and that he frequently exhibits his work.

Branimir is originally from Croatia and throughout his career he has been working with different operating and service companies. Further, he has done research work at several institutes and he has been teaching at a number of universities (France, Kazakhstan and Brazil).

Branimir's lifelong interest in visual arts started when he was inspired to paint by a teacher at school. From 1977 to 1991 he was a member of the Art Association of INA - NAFTAPLIN (Croatian national oil and gas company) and it was during this period that he



Skedsmo Art Association 2013

developed his real passion.

Throughout the years, Branimir's works have been displayed in numerous group exhibitions. A number of his exhibitions have been abroad, but he also continues to display his art here in Norway.

Along with fellow artist Kjell Stig Amdam, Branimir had exhibitions in Trondheim in 1995 and in the Skedsmo Art Association in the years 1998–2001. Among others, his solo exhibitions include Lillestrømbanken in 2002, the

Open Bakery in Oslo in 2003 and Strømmen Library in 2010. In both 2013 and 2014 his work was again displayed in Skedsmo Art Association.

If you wish to take a closer look at Branimir's art you can meet him at SPE Oslo events or contact him at

brelleb@gmail.com

SPE Oslo wishes Branimir all the best with future art work!

Norefjell 2013



*Moscow 2006 Kremlin,
Moscow 2006 Cathedral*



The SPE Oslo section

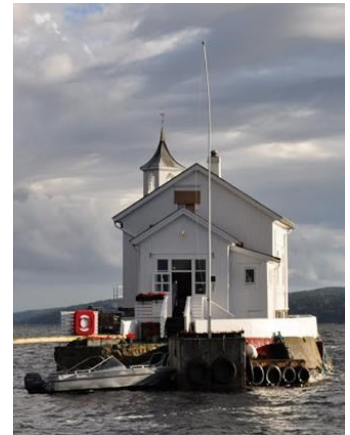
The SPE Oslo section was established in 1993. Today, the section has grown to over 400 members and this includes both Young Professional (YP) and the student chapter at the University of Oslo.

SPE Oslo hosts monthly meetings with technical presentations from September to May, normally on the second Tuesday of the month. This includes both dinner and lunch meetings and in addition the YP and student chapters host separate events. SPE Oslo board members are elected for a period of 2 years and the board meets around 6 times a year to plan and coordinate activities.

The SPE Oslo section is based on voluntary work from board members and expenses are funded by local sponsors on a yearly basis. Both the YP and student chapters are financed by SPE Oslo.

The basis for the local section is the numerous petroleum related companies located in the Oslo area:

- Ministry of Petroleum and Energy
- E&P companies
- Service companies
- Research centers such as IFE, NGI and SINTEF
- The Petroleum Geology Masters and PhD program at UiO
- FPSO and LNG ship owners



**Your logo is very welcome here–
thanks to all SPE Oslo sponsors!**

