Foreword

Welcome to Stavanger and to the 19th European Symposium on Improved Oil Recovery. This year, the event is jointly hosted by EAGE and the National IOR Centre of Norway, combining the top two European IOR conferences into one meeting. With this Programme & Catalogue we will help you to make the most of your stay. It contains all necessary information about the symposium, technical tour, technical programme, and social programme.

The EAGE IOR Symposium is a bi-annual symposium that is held in a different city in Europe, North Africa or the Middle East, whereas IOR NORWAY is an annual conference held at the University of Stavanger and organized by The National IOR Centre of Norway. This 2017 meeting provides a unique opportunity to engage with IOR professionals and researchers from Stavanger and across Norway, as well as Europe and further afield.

Oil was discovered in Norway in the 1960s and by 2011 it was one of the top ten oil producers in the world. Since then however, oil production has declined and, as a result, Norway has become one of the leading exponents of IOR worldwide. Stavanger itself is sometimes referred to as the Oil Capital of Norway. Most of the major oil companies have offices here; the Norwegian Petroleum Directorate has its main office in the city and it is home to The National IOR Centre of Norway. All these factors, along with excellent transport links make it an ideal location to hold the next IOR Symposium.

We look forward to seeing you over the course of this week!

Ann Muggeridge
Chair EAGE IOR Steering Committee

Merete Madland
Chair IOR NORWAY

Steering Committee

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<tr>
<th>Name</th>
<th>Affiliation</th>
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<tr>
<td>Ann Muggeridge (Chair)</td>
<td>Imperial College London</td>
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<td>Samir Békri</td>
<td>IFP Energies nouvelles</td>
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<tr>
<td>Dane Cantwell</td>
<td>Legado Resources, LLC</td>
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<td>Emma Chapman</td>
<td>BP Exploration Operating Co Ltd</td>
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<td>Torsten Clemens</td>
<td>OMV Exploration &amp; Production GmbH</td>
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<td>Helber Cubillos</td>
<td>Independent Consultant</td>
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<td>Mariann Dalland</td>
<td>Norwegian Petroleum Directorate</td>
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<td>Inna Edelman</td>
<td>Salym Petroleum Department</td>
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<td>Øivind Fevang</td>
<td>Statoil ASA</td>
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<td>Raymond Anderson Haas</td>
<td>UniPer Neftegaz</td>
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<td>Sunil Kokal</td>
<td>Saudi Aramco</td>
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<td>Bernd Leonhardt</td>
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<td>Franco Masserano</td>
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<td>Danielle Morel</td>
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<td>David Puckett</td>
<td>The Oil and Gas Authority</td>
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<td>Bill Rossen</td>
<td>Delft University of Technology</td>
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<td>Leonid Surguchev</td>
<td>LUKOIL Overseas North Shelf AS</td>
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<td>János Szelenyi</td>
<td>MOL GROUP</td>
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<td>Diederik van Batenburg</td>
<td>Shell International Exploration and Production B.V.</td>
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Local Advisory Committee

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<tr>
<td>Øivind Fevang (Chair)</td>
<td>Statoil ASA</td>
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<td>Mariann Dalland</td>
<td>Norwegian Petroleum Directorate</td>
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<td>Bente Dale</td>
<td>Administrative Coordinator NIOR</td>
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<td>Aksel Hiorth</td>
<td>Director of Research NIOR/ University of Stavanger/ IRIS</td>
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<td>Merete Vadla Madland</td>
<td>Director NIOR/ University of Stavanger</td>
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<td>Randi Vålestrand</td>
<td>Director of Research NIOR/ IRIS</td>
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Theme

The Norwegian oil adventure started in 1965 with the Ekofisk discovery. Later several huge oil and gas fields were discovered. Norway’s oil production peaked at about 3 million STB/D (2001) and is nowadays about 1.6 million STB/D. Currently Norway’s gas production is about...
1.9 million BOE/D. The drop in oil production is, of course, an excellent opportunity to develop, test and implement IOR technologies, a fact that is widely recognized by the oil companies and the authorities.

In 2013 the National IOR Centre of Norway (NIOR) was created. The IOR centre is led by the University of Stavanger with IRIS and IFE as core partners. Several other research groups and 12 oil and service companies complete the centre’s list of partners and collaborators. The 2017 IOR symposium is a collaboration between EAGE and NIOR.

The theme for the 2017 Symposium is ‘Sustainable IOR in a Low Oil Price World’ – how can we improve oil recovery whilst reducing costs and mitigating the environmental impact? Sustainable IOR is important both for resource utilization Sustainable IOR in a low oil price world and for the economy. Many of the world’s oilfields are either on the decline or at the tail-end of their production period. Production from IOR projects represents a significant part of the current production. In the present-day situation with high uncertainty and relatively low oil prices, the interest for capital intensive new projects in frontier areas is relatively low, which makes sustainable IOR even more important.

I attended my first IOR symposium in 1991, which was the first time this conference was arranged in Norway. I hope that many of you will take this opportunity to exchange experiences with your peers and that the atmosphere and enthusiasm for IOR will be the same as it was 26 years ago.

Olivind Fevang
Chairman Local Committee 2017

General Information

Venue
IOR 2017 will be held at the University of Stavanger at the Faculty of Science and Technology.

University of Stavanger
Building: Kjelv Egelandshus, Kristine Bonneviesvei 22
4021 Stavanger

Social Programme

Icebreaker reception
Monday 24 April
17:30 – 19:00 hrs
The symposium will be kicked off by the Icebreaker Reception on Monday evening. The reception will take place at the Norwegian Petroleum Museum.

Norsk Oljemuseum / Norwegian Petroleum Museum
Kjerringholmen 1
4004 Stavanger
www.norskolje.museum.no

Conference Evening
Wednesday 26 April
19:00 hrs onwards
Join us for a night of wining and dining and entertainment during the Conference Evening. The conference dinner will be organized on the evening of Wednesday 26 April 2017 at the Clarion Hotel Stavanger.

Clariion Hotel Stavanger
Arne Rettedalsgate 14, 4008 STAVANGER

Workshop

Monday 24 April
09:00 – 16:00 hrs
Location: Room: V101, Arne Rettedals Hus

The workshop and technical tour take place prior to the conference on Monday 24 April 2017. The title of the workshop is: Offshore polymer EOR; how to make polymer work in the field. The workshop will focus on Offshore field studies and lessons learnt (Statoil experience, Dalia and Schiehallion) and Offshore technology challenges.

Convenors: Emma Chapman (BP)
David Puckett (Oil & Gas Authority)

Technical tour: visit of the labs

Monday 24 April
09:00 – 16:00 hrs
Location: UiS, Norwegian Petroleum Directorate, IRIS

This tour offers the participants the opportunity to visit the petroleum laboratories at the University of Stavanger (UIS) and IRIS. The labs were established in early 80’s and the main activities are Special Core Analysis (SCAL) and Enhanced Oil Recovery (EOR).

All delegates who are interested in the workshop or the technical tour should sign up separately. Registration onsite is possible on a first-come, first served basis.
**Technical programme**

**Oral presentations | Tuesday 25 April**

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<thead>
<tr>
<th>TJODHALLEN, KJØLV EGELELANDS HUS</th>
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<tr>
<td><strong>Opening Session</strong></td>
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<tr>
<td>Opening by the State Secretary of the Ministry of Petroleum and Energy, Mrs Ingvil Smines Tybring-Gjedde</td>
<td>08:30 Opening by the State Secretary of the Ministry of Petroleum and Energy, Mrs Ingvil Smines Tybring-Gjedde</td>
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<td>Welcome speech by the Rector of the University of Stavanger, Mrs Marit Boyesen</td>
<td>08:50 Welcome speech by the Rector of the University of Stavanger, Mrs Marit Boyesen</td>
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<td>Introduction by the Conference Steering Committee</td>
<td>09:00 Introduction by the Conference Steering Committee</td>
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<td>Musical Performance by Aina and Aril Schøld</td>
<td>09:15 Musical Performance by Aina and Aril Schøld</td>
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<td>Poster Introductions 1</td>
<td>- At 09:25 hrs we start with a brief pitch from all poster presenters of Tuesday 25 April. The posters will be displayed throughout the day.</td>
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<tr>
<td><strong>Low Salinity</strong></td>
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<tr>
<td>W. Rossen (Deild University of Technology) &amp; T. Puntervold (University of Stavanger)</td>
<td>O. Fevang (StatOil ASA) &amp; I. Fjelde (IRIS)</td>
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<tr>
<td>Tu A01 - Produced Water Treatment with Membranes for Enhanced Oil Recovery in Carbonate and Sandstone Reservoirs</td>
<td>Tu B01 - Investigation of CO2 Application for Enhanced Oil Recovery in a North African Field - A New Approach to EOS Development</td>
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<td>Tu A02 - Impact of Salinity and Water Ions on Surface Charge Alteration in Arab D Reservoir Cores at Elevated Temperatures</td>
<td>Tu B02 - Pore-scale Simulation of Three-phase Capillary Pressure and Trapping on 3D Rock Images</td>
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<td>S.C. Ayirala* (Saudi Aramco PE&amp;D), S.H. Saleh (Saudi Aramco PE&amp;D), S.M. Emez (Saudi Aramco PE&amp;D) &amp; A.A. Yousef (Saudi Aramco PE&amp;D)</td>
<td>J.O. Helland* (International Research Institute of Stavanger), H.A. Friis (International Research Institute of Stavanger), J. Pedersen (International Research Institute of Stavanger) &amp; E. Jettetuen (International Research Institute of Stavanger)</td>
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<tr>
<td>Tu A03 - Laboratory Investigation of Low Salinity Waterflooding Using Carbonate Reservoir Rock Samples</td>
<td>Tu B03 - Novel Application of Micro-CT and Intepreterive Geological Analysis to Assess Asphaltene Deposition by CO2 Injection</td>
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<tr>
<td>T. Utamur* (INPEX Corporation), K. Takabayashi (INPEX Corporation), H. Kaido (INPEX Corporation) &amp; H. Yonebayashi (INPEX Corporation)</td>
<td>A. Emadi* (Corex (UK) Ltd), R. Khabibullin (Wintershall), I. Patay (COREX (UK) Ltd), Z. Abu Grin (Wintershall), M. Grivet (Wintershall) &amp; K. Elgridi (Wintershall)</td>
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<td>Tu A04 - Streaming Potential Measurement to Quantify Wetting State of Rocks for Water Based EOR, In-house Novel Setup Experience</td>
<td>Tu B04 - What Are the Differences between CO2 Injection Offshore and Onshore?</td>
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<td>M. Rahbar* (Tarbiat modares university), A. Jafariou (Sharif University of Technology), M. Nejadalil (Sharif University of Technology), S. Esmaeili (Sharif University of Technology), H. Pahlavanazadeh (Tarbiat modares university) &amp; S. Ayatollahi (Sharif University of Technology)</td>
<td>S. Ghanban* (Heriot-Watt University), E.J. Mackay (Heriot-Watt University) &amp; G.E. Pickup (Heriot-Watt University)</td>
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<td>Tu A05 - The Influence of Crude Oil Flooding and Ageing on Carbonate Core Wettability During Core Restoration</td>
<td>Tu B05 - New Methodology for Numerical Simulation of Water-Alternating-Gas (WAG) Injection</td>
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<td>P.A. Hopkins* (University of Stavanger), K. Walrand (University of Stavanger), I. Omland (University of Stavanger), S. Strand (University of Stavanger), T. Puntervold (University of Stavanger) &amp; T. Austad (University of Stavanger)</td>
<td>A. Alsayyel* (Heriot-Watt University), S. Ghanbari* (Heriot-Watt University), S. Shakhbettar (Heriot-Watt University) &amp; M. Sobrabi (Heriot-Watt University)</td>
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<td><strong>Low Salinity (Continued)</strong></td>
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<td>D.A. Puckett (Oil and Gas Authority) &amp; T. Puntervold (University of Stavanger)</td>
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<td>B. Leonhardt (Wintershall) &amp; Y. Guo (IRIS)</td>
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<td>Tu A06 - Mineral Dissolution and Precipitation Rate Laws Predicted from Reactive Pore Scale Simulations</td>
<td>Tu B06 - Field Pilot of Gel Barriers Placement for In-depth Fluid Diversion of Horizontal Wells in Jidong Oilfield</td>
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<tr>
<td>J.L. Vinningland* (IRIS), E. Jettestuen (IRIS), O. Aursjø (IRIS), M.V. Madland (UiS) &amp; A. Hirst (University of Stavanger)</td>
<td>J. Li (China University of Petroleum (Beijing)), Y. Pei* (China University of Petroleum (Beijing)), W. Wang (China University of Petroleum (Beijing)), K. Ma (China University of Petroleum (Beijing)), H. Jiang (China University of Petroleum (Beijing)) &amp; F. Wei (Research Institute of Petroleum Exploration)</td>
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<td>Tu A07 - Interaction of Ionic Species with Calcite and Oil Components in Waterflooding - Theoretical Study</td>
<td>Tu B07 - Application of Self-Conforming Well Stimulation Technology in Oil and Gas Fields - Fundamentals and Case Histories</td>
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<tr>
<td>A. O. Alghamdi* (King Abdulaziz University), M.B. Alotaibi (Saudi Aramco) &amp; A.A. Yousef (Saudi Aramco)</td>
<td>I.J. Lakatos* (University of Miskolc), J. Lakatos-Szabó (University of Miskolc, RIAES), G. Szentes (University of Miskolc, RIAES), A. Jobbik (University of Miskolc, RIAES) &amp; A. Vagl (Hung. Oil and Gas Plc., Budapest)</td>
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<td>Tu A08 - Impact of Anhydrite on the Low Salinity EOR Effect in Sandstone Material with High Clay Content</td>
<td>Tu B08 - Analysis on Pilot-scale Water Control Tests for Multi-stage Fractured Horizontal Wells in Changing Oilfield</td>
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<td>I. Piñerez Torrijos* (University of Stavanger), M. Risanger (University of Stavanger), T. Puntervold (University of Stavanger), S. Strand (University of Stavanger) &amp; T. Austad (University of Stavanger)</td>
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**Tu A10 - Uncertainties in the Mechanistic Models of the Modified Brine Water-flooding of Chalk - A. A. Eftekhar**
* (Technical University of Denmark), H. Baghooee (Technical University of Denmark), M. Ia Cour Christensen (Technical University of Denmark), K. Thomsen (Technical University of Denmark), H.M. Nick (Technical University of Denmark) & E. Stenby (Technical University of Denmark)

15:00

**Tu B09 - Silicate Gel for In-depth Placement - Gelation Kinetics and Pre-flush Design - A. Omekeh**
* (The National IOR Centre of Norway/IRIS), A. Hiorth (The National IOR Centre of Norway/IRIS), A. Stavland (The National IOR Centre of Norway/IRIS) & A. Lohne (The National IOR Centre of Norway/IRIS)

15:00

**Tu A11 - Application of Low Salinity Water to Improve Oil Recovery from a Fractured Tight Carbonate Reservoir - A Case Study - A. Emadi**
* (Corex (UK) Ltd), J. Guitián (Repsol Technology Center), T. Worku (Repsol Technology Center), C. Cornwall (COREX (UK) Ltd), B. Shubber (Repsol Technology Center) & E. Escobar (Repsol Technology Center)

15:25

**Tu B10 - Simulation of Sodium Silicate Water Diversion Using IORsim - A. Hiorth**
* (The National IOR Centre of Norway, UiS/IRIS), J. Sagen (The National IOR Centre of Norway, IFE), A. Lohne (The National IOR Centre of Norway, IFE), J. Haukås (The National IOR Centre of Norway, IFE) & T. Sira (The National IOR Centre of Norway, IFE)

15:25

**Tu A12 - Pore-scale Visualization of Oil Recovery by Viscoelastic Flow Instabilities during Polymer EOR - A. Rock**
* (Clausthal University of Technology), P.E. Hincapie (Clausthal University of Technology), J. Wegner (Clausthal University of Technology), H. Födisch (Clausthal University of Technology) & L. Ganzer (Clausthal University of Technology)

15:50

**Tu B11 - Snorre In-depth Water Diversion Using Sodium Silicate - Evaluation of Interwell Field Pilot - V.R. Stenerud**
* (Statoil ASA), K. Håland (Statoil ASA), K. Skrettingland (Statoil ASA), Ø. Fevanger (Statoil ASA) & D.C. Stabnedes (Statoil ASA)

15:50

**Tu A13 - Modelling of Normal Net Stress Effect on Two-phase Relative Permeability and Capillary Pressure of Rough-walled Fracture - A.Y. Rozhko**
* (Statoil ASA and University of Stavanger), O.P. Wennberg (Statoil ASA) & S. Jonoud (Statoil ASA)

16:30

**Tu B12 - Temperature-switchable Polymer for Enhanced Oil Recovery - R. Reichenbach-Klinke**
* (BASF Construction Solutions GmbH), A. Stavland (International Research Institute of Stavanger), T. Zimmermann (BASF Construction Solutions GmbH), D. Strand (International Research Institute of Stavanger), H. Berland (International Research Institute of Stavanger) & C. Bitter (BASF SE)

16:30

**Tu A14 - Dynamic Pore Scale Modelling of Multiphase Flow during Application of EOR Techniques - A. Boujelben**
* (Heriot-Watt University) & S.R. McDougall (Heriot-Watt University)

16:55

* (SNF), O. Braun (SNF), J. Dutilleul (ENSG), F. Gathier (SNF), N. Gaillard (SNF), T. Leblanc (SNF) & C. Favéro (SNF)

16:55

**Tu A15 - Associative Polymers as Enhanced Oil Recovery Agents in Oil-wet Formations - A Laboratory Approach - R. Askarinezhad**
* (University of Stavanger (UiS) / DrillWell), D.G. Hatzignatiou (University of Houston (UHi)) & A. Stavland (International Institute of Stavanger (IRIS))

17:20

**Tu B14 - Enhanced Polymer Flooding - Reservoir Triggering Improves Injectivity and Eliminates Shear Degradation - W.J. Andrews**
* (NALCO Champion), S.E. Bradley (NALCO), P. Reed (NALCO), M. Salehi (NALCO Champion) & D. Chappell (BP)

17:20

**Tu A16 - End of day one**

18:10

**Tu B15 - Qualifying an ’Emulsion’ Polymer for Field Use - Lab-scale Assessments on Adsorption and Injectivity - K. Sandengen**
* (Statoil ASA), M.T. Tweheyo (Statoil ASA), C.M. Crescenz (Statoil ASA), A. Mouret (IFP Energies nouvelles), I. Henaut (IFP Energies nouvelles) & D. Rousseau (IFP Energies nouvelles)

18:10
**Poster presentations | Tuesday 25 April**
The posters for 25 April will be displayed throughout the day; poster presenters will give a brief pitch during the Poster Introductions session at 09:25 hrs in the morning.

**TJODHALLEN, KJØLV EGE LANDS HUS**

**Poster Introductions**

**During breaks**

**Tu P001** - Experimental Investigation of Inorganic Scale Deposition during Smart Water Injection - A Formation Damage Point of View - J. Ghasemian (Tehran University), R. Mokhtari* (Shiraz University), S. Ayatollahi (Shahid University of Technology), S. Riahi (Tehran University) & E. Malekzade (National Iranian South Oil Company)


**Tu P004** - Water-blocking Solution Based on Emulsion with SiO2 Nanoparticles Content for Reservoir Stimulation Technologies - V.V. Sergeev* (V-Energy LLC, Skolkovo Foundation), Y.V. Zeigman (Ufa State Petroleum Technological University) & F.S. Knyzyaev (V-Energy LLC, Skolkovo Foundation)

**Tu P005** - Integrated Approach to CO2 EOR and Storage Potential Evaluation in an Abandoned Oil Field in Czech Republic - R. Berenyblym* (International Research Institute of Stavanger), A. Khulenko (International Research Institute of Stavanger), L. Kollbott (International Research Institute of Stavanger), A. Nermoen (International Research Institute of Stavanger), A. Shchipanov (International Research Institute of Stavanger), H.J. Skadsm (International Research Institute of Stavanger), J. Zuta (International Research Institute of Stavanger) & V. Hlatik (Czech Geological Survey)

**Tu P008** - Gravity Override and Vertical Sweep Efficiency in Dipping Reservoirs - G.Y. Yu* (Delft University of Technology), M.N. Namani (Norwegian University of Science and Technology), J.K. Kleppe (Norwegian University of Science and Technology) & W.R. Rossen (Delft University of Technology)

**Tu P009** - Study of Effectiveness of Different Surfactants for Wettability Alterations on Reservoir Rocks for Improved Oil Recovery - M. Mallick (Halliburton), R. Belakhris (Halliburton), R. Salla (Halliburton) & Y. Ghoudary* (Halliburton)

**Tu P011** - Evaluation of Chemical Assisted Smart Water Enhanced Oil Recovery in One of Iranian Oil Field - S. Mohammad* (Ahwaz Petroleum University of Technology/PUT), S. Mohammad* (Ahwaz Petroleum University of Technology), S. Kord (Ahwaz Petroleum University of Technology) & S. Sharifpanahi (University of Stavanger)

**Tu P012** - Uncertainties - Extension of Smart Waterflooding from Core to Field Scale - T. Kadenethum (University of Calgary), H.K. Sarma (University of Calgary), B.B. Maini (University of Calgary) & C. Januwattanasakul* (University of Stavanger)

**Tu P013** - Water ION Interactions at Crude Oil-water Interface - Is there a Correlation between IFT and Interfacial Rheology? - S.C. Ayirala* (Saudi Aramco PE&O), S.H. Saleh (Saudi Aramco PE&O), A.A. Yousel (Saudi Aramco PE&O), Z. Li (University of Alberta) & Z. Xu (University of Alberta)

**Tu P015** - Effects of Potassium Ion on Low Salinity Waterflooding in Sandstone Formation - F. Srisuriyachai* (Chulalongkorn University), V. Sirivivatpanich* (Chulalongkorn University), C. Charoentanaworakun (Chulalongkorn University) & Y. Vathanapanich (Chulalongkorn University)

**Tu P016** - Elasticity and Electrical Resistivity of Chalk and Greensand during Smart Waterflooding - K. Katika* (Technical University of Denmark), M.M. Alam (Schlumberger Oilfield UK PL), T.L. Fabricius (Technical University of Denmark), K.H. Chakravarty (Technical University of Denmark), P. Fosbel (Technical University of Denmark), I. Xiaochos (Technical University of Denmark) & E. Stenby (Technical University of Denmark)

**Tu P017** - Effect of Mud Invasion on the Determined Low Salinity Water Flooding Potential - I. Fjelde* (IRIS and University of Stavanger)

**Tu P018** - A Novel Characterization of Effective Permeability of Tight Reservoir - Based on the Flow Experiments in Microtubes - J.Z. Wu* (China University of Petroleum (Beijing)), L.S. Cheng (China University of Petroleum (Beijing)), C.L. Li (China University of Petroleum (Beijing)), R.Y. Cao (China University of Petroleum (Beijing)), Z.Y. Xu (China University of Petroleum (Beijing)), D.Y. Ding (China University of Petroleum (Beijing)) & M. Cao (China University of Petroleum (Beijing))

**Tu P019** - Petrological, Mineralogical and Geochemical Constraints on Hydrocarbon Bearing North Sea Reservoir Chalk - E.I. Kallesten* (The National IOR Centre of Norway/UIS), U. Zimmermann (The National IOR Centre of Norway/UIS), M.V. Madland (The National IOR Centre of Norway/UIS) & M.W. Minde (The National IOR Centre of Norway/UIS)

**Tu P021** - Physical Modelling of Rheological Properties of Polymer Solutions for Enhanced Oil Recovery - D. Shogin* (UIE / The National IOR Centre of Norway), P.A. Arimond (University of Stavanger), A. Hiorth (UIE / IRIS / The National IOR Centre of Norway & M.V. Madland (UIE / The National IOR Centre of Norway)

**Tu P022** - Scale Risk Management during CO2 WAG in Carbonate Formations - A.S. Ribeiro* (Heriot-Watt University), E.J. Mackay (Heriot-Watt University), L.J.N. Guimarães (Universidade Federal de Pernambuco), M. Jordan (NaicoChampion) & S. Fellows (CMG Ltd)

**Tu P023** - Improved Modelling of Gravity-Aided Spontaneous Imbibition Using Momentum-Equation-Based Relative Permeabilities - P.B. Andersen* (University of Stavanger, Nat. IOR Center of Norway), Y. Qiao (University of Stavanger), S. Evje (University of Stavanger) & D.C. Storndes (University of Stavanger)

**Tu P025** - An Analytical Model for Analysis of Centrifuge Capillary Pressure Experiments - P.B. Andersen* (University of Stavanger, Nat. IOR Center of Norway), S.M. Skjæveland (University of Stavanger, Nat. IOR Center of Norway) & D.C. Storndes (University of Stavanger)

**Tu P026** - Reflection of Processes of Non-equilibrium Plastic or Two-phase Filtration in Oil-saturated Hierarchic Medium - O.A. Hachay* (Institute of Geophysics, Ural Branch of RAS), O.Y. Khachay (Ural Federal University) & A.Y. Khachay (Ural Federal University)

**Tu P027** - Induced Shear Failure by Temperature Reduction at Uni-axial Strain Conditions - T. Voake* (University of Stavanger, IOR Centre of Norway), A. Nermoen (University of Stavanger, IOR Centre of Norway), R.I. Korsnes (University of Stavanger) & I.L. Fabricius (Technical University of Denmark)

**Tu P028** - A Laboratory Study of Production Enhancement Mechanism of Natural Gas Huff and Puff - R. Wang* (RIPED, CNPC)

**Tu P029** - Interaction Forces between Two Calcite Surfaces in NaCl Solutions as a Function of Ionic Strength - S.J. Javad* (University of Stavanger/University of Oslo), A.R. Reyne (University of Oslo) & A.H. Hiorth (University of Stavanger/IRIS)
### Oral presentations | Wednesday 26 April

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<td><strong>Polymer II</strong></td>
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<td>D. Puckett (The Oil and Gas Authority) &amp; J. Ludvig Vinningland (IRIS)</td>
<td>B. Leonhardt (Wintershall Holding GmbH) &amp; A. Stavland (IRIS)</td>
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#### 08:30
**We A01 - Introducing a Novel Enhanced Oil Recovery Technology** - C. Parsons* (Shell Global Solutions International B.V.), A. Chernetsky (Shell Global Solutions International B.V.), D. Eikmans (Shell Global Solutions International B.V.), P. te Riele (Shell Global Solutions International B.V.), D. Boersma (Shell Global Solutions International B.V.), I. Sencis (Shell Global Solutions International B.V.) & R. Broos (Shell Global Solutions International B.V.)

#### 08:55
**We A02 - Nanoparticle-stabilized Emulsions for Improved Mobility Control for Adverse-mobility Waterflooding** - I. Kim* (Western New England University), A.J. Worthen (The University of Texas at Austin), M. Loftholli (The University of Texas at Austin), K.P. Johnston (The University of Texas at Austin), D.A. DiCarlo (The University of Texas at Austin) & C. Huh (The University of Texas at Austin)

#### 09:20
**We A03 - Evaluation of Innovative Associative Polymers for Low Concentration Polymer Flooding** - D. Alexis* (Chevron), D. Varadarajan (Chevron), D.H. Kim (Chevron), G. Winslow (Chevron) & T. Mailik (Chevron)

#### 09:45
**We A04 - Reservoir Management in Howard-Glasscock Field - Waterflood Redevelopment in a 50 Year Old Field** - C. Smith* (ConocoPhillips), S. Chapman (ConocoPhillips) & J. Lopez (ConocoPhillips)

#### 10:00
**We A05 - How Much Polymer Should Be Injected during a Polymer Flood? Review of Previous and Current Practices** - R.S. Seright* (New Mexico Tech)

#### 10:35
**Poster Introductions 2** - At 10:35 hrs we start with a brief pitch from all poster presenters of Wednesday 26 April. The posters will be displayed throughout the day.

#### 11:00
**Coffee break**
**Tracers**
L. Surguchev (LUKOIL Overseas North Shelf AS) & S. Viig (Institute for Energy Technology)

11:25 We A06 - Application of New Tracer Technologies for Surveillance of EOR and IOR - O.K. Huseby* (Restrack), S.K. Hartvig (Restrack), K. Jevarand (Restrack) & Ø. Dagstad (Restrack)

11:50 We A07 - Improved Method for Inter-well Partitioning - S.P. Bisch (Delft University of Technology), D.W. van Batenburg* (Shell International E&P BV) & C.P.J.W. van Kuijssijk (Shell Global Solutions International B.V.)

12:15 We A08 - New Fluorescent Tracers for SWCTT - T.B. Brichart (Institutt For Energiteknikk / IOR center of Norway), M.O.M. Ould Metidi* (Institut For Energiteknikk / IOR center of Norway), L.F. Ferrando-Clement (Institut For Energiteknikk) & T.B. Bjornstad (Institut For Energiteknikk / IOR center of Norway)

12:40 We A09 - Integration of Analytical and Simulation Techniques to Estimate Uncertainty in Incremental Oil Recovery from SWCTTs - D.J. Robbins* (BP) & G.R. Jenaud (BP)

**Polymer II (Continued)**
E.J. Chapman - BP Exploration Operating Co. Ltd
I.W. Jolma - International Research Institute of Stavanger

11:25 We B05 - Reduced Residual Oil Saturation for Secondary and Early Tertiary Polymer Floods Obtained in the Laboratory - M.J. Bourgeois* (TOTAL E&P), C. Cottin (TOTAL E&P), D. Morel (TOTAL E&P), J. Hy-Billic (TOTAL E&P), S. Hourcq (TOTAL E&P), S. Lassalle (TOTAL E&P) & M. N'guyen (TOTAL E&P)

11:50 We B06 - Advanced Selection of Polymers for EOR Considering Shear and Hardness Tolerance Properties - N. Gaillard* (SNF), A. Thomas (SNF), S. Bataille (SNF), G. Dupuis (SNF), F. Daguerre (SNF) & C. Favero (SNF)

12:15 We B07 - Spontaneous Imbibition as Indicator of Wettability Change During Polymer Flooding - J.L. Juarez-Morejon* (University of Bordeaux), H. Berlin (University of Bordeaux), A. Omai (Bordeaux INP), G. Hamon (Total), C. Cottin (Total), G. Bourdarot (Total) & D. Morel (Total)

12:40 We B08 - Mechanical Degradation of Polymers at the Field Scale - A Simulation Study - O.M. Nodland* (The National IOR Centre of Norway / UiS / IRIS), A. Lohne (The National IOR Centre of Norway / IRIS) & A. Hørron (The National IOR Centre of Norway / UiS / IRIS)

**Modelling & Optimization of EOR**
F. Masserano (Eni S.p.A. E&P) & X. Luo (IRIS - International Research Inst. of Stavanger)

13:05 Lunch break


14:55 We A13 - Capital Rationing by Metrics - Implications for IOR/ EOR-projects - P.O. Osmundsen* (University of Stavanger)

15:20 We B12 - Numerical Modelling Study for Designing CO2-foam Field Pilot - M. Sharma* (University of Stavanger), Z.P. Alcorn (University of Bergen), S. Fredriksen (University of Bergen), M. Ferne (University of Bergen) & A. Graue (University of Bergen)

15:45 Coffee break
The posters for 26 April will be displayed throughout the day; poster presenters will give a brief pitch during the Poster Introductions session at 10:10 hrs in the morning.

**Poster Introductions 2**

**During breaks**

- **We P001 - Environmental Consequences of Polymer Flooding** - E.O. Opsahl* (University of Stavanger) & R.K. Kommendal (University of Stavanger)
- **We P002 - Multilateral Technology - Riding the Uncertainty Wave** - G.L. Liland* (Halliburton), S.C. Cappiello (Halliburton), C.B. Benson (Halliburton) & C.G. Graham (Halliburton)
- **We P003 - Detection of Divalent Cations Present in Interstitial Water Using a Nanofluid PIII** - K. Shahbazy* (Petroleum University of Technology), M. Behbahani (Shahed Beheshti University) & H. Rezaei (Petroleum University of Technology)
- **We P004 - Performance Analysis of Radial Jet Drillings (RJD) in Heterogeneous and Fractured Chalk Reservoirs** - S. Salimzadeh* (Technical University of Denmark) & H.M. Nick (Technical University of Denmark)
- **We P005 - Effect of Oil on Gravity Segregation in SAG Foam Flooding** - A.A.A. Hussain* (Delft University of Technology), A. Amin (Delft University of Technology), S. Vincent-Bonnieu (Shell Global Solutions International B.V.), R. Farajzadeh (Shell Global Solutions International B.V.), A. Andrianov (Shell Global Solutions International B.V., AIA Consulting), P. Abdul Hamid (PETRONAS Research Sdn. Bhd.) & W.R. Rossen (Delft University of Technology)
- **We P008 - Improvement in Foambility/stability Test Rigs for CO2 Foam EOR Screening Evaluation** - H. Yoneyabashi* (INPEX Corporation) & Y. Miyagawa (INPEX Corporation)
- **We P009 - The Effect of Oil on Steady-state Foam Flow Regimes in Porous Media** - J. Tang* (Delft University of Technology), S. Vincent Bonnieu (Shell Global Solutions International) & W.R. Rossen (Delft University of Technology)
- **We P100 - Experimental Study of Hysteresis Behavior of Foam in Porous Media** - S. Kahrabaei* (Delft University of Technology), S. Vincent Bonnieu (Shell Global Solutions International) & R. Farajzadeh (Shell Global Solutions International)
- **We P101 - Chemical EOR – High Potential beyond ASP** - B. Jakobs-Sauter (Sasol Performance Chemicals), R. Rommerskirchen* (Sasol Performance Chemicals)
- **We P102 - Comparative Study of Polyamylamide Co-polymers for EOR at High Salinity Conditions Laboratory and Simulation** - M.A. Centeno* (London South Bank University), P. Diaz (London South Bank University) & A. Breda (London South Bank University)
- **We P103 - Surfactant Polymer Formulation Design Targeting High Salinity Temperature Water-in-oil Reservoir - A. AlSalmuati (The Petroleum Institute Abu Dhabi), W. Almen (The Petroleum Institute Abu Dhabi) & M. Mustajab* (The Petroleum Institute Abu Dhabi)
- **We P105 - Laboratory Artefacts in Your IOR Coreflows - Have You Got Them?** - C.M. Lindsay* (Core Specialist Services Limited)
- **We P106 - New Potential Tracer Compounds for Inter-well SOR Determination - Stability at Reservoir Conditions** - M. Silva* (National IOR Centre of Norway), H. Stray (Institute for Energy Technology, Tracer Department) & T. Bjervang (The National IOR Centre of Norway/FEI)
- **We P107 - Characteristic Fracture Spacing in Primary and Secondary Recovery for Naturally Fractured Reservoirs** - J. Gong* (Delft University of Technology) & W.R. Rossen (Delft University of Technology)
- **We P108 - Bayesian Inversion of Time-lapse Seismic Waveform Data Using an Integral Equation Method** - K. S. Ekrem* (IRIS), M. Jakobson (UoB/IRIS) & G. Nævdal (IRIS)
- **We P109 - Estimation of Pressure-Saturation and Porosity Fields from Seismic AVA Data Using an Ensemble Based Method** - T. Bhakta* (The National IOR Centre of Norway/IRIS), X. Luo (The National IOR Centre of Norway/IRIS) & G. Nævdal (The National IOR Centre of Norway/IRIS)
- **We P200 - Optimization of Recovery under Injection of Biopolymer, Synthetic Polymer and Gels in a Heterogeneous Reservoir** - C.T. Temizel (Aera Energy), C.Y. Yegin (Texas A&M University), K.B. Balaji (University of Southern California), A.S. Sabahi (University of Southern California), M. Zhang (Frontida Biopharm), D.P. Putra (Rafflesia Energy), O.S. Saracoglu (Consultant), H.A. Anggriani* (HESS) & D.D. Dhannoon (Texas A&M University, National IOR Centre of Norway/IRIS)
- **We P201 - Non-linear Newton Solver for a Polymer Two-phase System Using Interface-localized Trust Regions** - J. Greve (Technical University of Denmark) & K.A. Lie (SINTEF Digital)
- **We P202 - Numerical Modelling Analysis of Smart Water-oil Interactions in Carbonates - P. Kowollik* (Freiberg University of Mining and Technology), A. Behr (Wintershall Holding GmbH), L. Genolet (Wintershall Holding GmbH), P. Bedrikovetski (University of Adelaide) & M. Amro (Freiberg University of Mining and Technology)
- **We P203 - Impact of Biodegradation - Consideration in the Polymer Flood Model** - A. Behr* (Wintershall Holding GmbH), S. Mukherjee (Wintershall Holding GmbH) & D. Prasad (Wintershall Holding GmbH)
- **We P204 - Data Conditioning of 4D Seismic Time-lapse Data for Improved Inversion of Reservoir Pressure and Saturation** - S.F.A. Carpenter* (TNO), T.P.H. Steighns (TNO), Y. Zhang (TNO) & D. Leeuwenburgh (TNO)
- **We P207 - Modelling the Rheology of Two-phase Polymer Flow** - D. Shogin* (UiS / The National IOR Centre of Norway), P. Amin (University of Stavanger), A. Hjord (University of Stavanger & IRIS) & M.V. Madland (US / The National IOR Centre of Norway)
- **We P209 - Effect of Newtonian and Non-Newtonian Viscosifying Agents on the Stability of Foam for EOR - Part I, under Bulk Condition** - S.M. Hosseini-Nasab* (Delft University of Technology), M. Taal (Delft University of Technology) & P.L. Zitha (Delft University of Technology)
- **We P301 - Detailed Modelling of Injection and Production Induced Rock Displacements** - M. Nieling* (Schlumberger Stavanger Research), J. Haugen (Schlumberger Stavanger Research), M. Nickel (Schlumberger Stavanger Research) & J. Bakke (Schlumberger Stavanger Research)
- **We P302 - When Size Matters - Polymer Injctivity in Chalk Matrix** - O.M. Acosta (University of Southern California), A. Stavland (IRIS), I. Fjelde (IRIS) & D. Hatzignatiou (IRIS)
- **We P303 - 4D Seismic History Matching of the Norne Field Model Using Ensemble-based Methods with Distance Parameterization** - Y. Zhang* (TNO), D. Leeuwenburgh (TNO), S. Carpentier (TNO) & P. Steeghs (TNO)
- **We P304 - Foam Coarsening - Behaviour and Consequences in a Model Porous Medium** - S.A. Jones* (Technical University of Denmark & TU Delft), N. Getrou (TU Delft) & S. Vincent-Bonnieu (Shell Global Solutions Int. B.V. & TU Delft)
Coffee break

08:30 Th A01 - Optimization of Polymer Waterflooding Using Proxy Modelling and Genetic Programming - K. Stephen* (Heriot-Watt University) & P. Alikhani (Heriot-Watt University)

08:55 Th A02 - Nickel Decorated Carbon Nanocomposites as Catalysts for the Upgrading of Heavy Crude Oil - K. Guo (University of Stavanger) & Z. Yu (University of Stavanger)

09:20 Th A03 - Characterization of Viscous Unstable Flow in Porous Media at Pilot Scale - Application to Heavy Oil Polymer Flooding - S. Bouquet* (IFPEN), S. Leray (IFPEN), F. Douarche (IFPEN) & F. Roggero (IFPEN)

09:45 Th A04 - Oil Recovery Potential for a Heavy Oil in Unconsolidated Sands Under Polymer Flood in the UKCS - S. Law* (Lloyd’s Register), E. MacKay (Heriot-Watt University) & E. Castillo (Lloyd’s Register)

10:10 Poster Introductions 3 - At 10:10 hrs we start with a brief pitch from all poster presenters of Thursday 27 April. The posters will be displayed throughout the day.

10:35 Coffee break

11:00 Th A05 - Study of Nanoparticle Retention in Porous Media - A Perfect Sink Model - E.R. Abdefattah (University of Oklahoma), K. Kang (University of Oklahoma), M. Poumik* (University of Oklahoma), B. Shuai (University of Oklahoma) & J. Harwell (University of Oklahoma)

11:25 Th A06 - Experimental Investigation of EOR by Injecting SiO2 Nanoparticles as Water Additive with Application to the Hebron Field - H. Kim* (Memorial University), D.J. Sivira (Memorial University), L.A. James (Memorial University) & Y. Zhang (Memorial University)

11:50 Th A07 - Dynamic Screening for Microbial Enhanced Oil Recovery (MEOR) - F.K. Kögler* (Wintershall Holding GmbH), N.D. Doppfel (BASF SE), E. Mahler (BASF SE) & H.A. Alkan (Wintershall Holding GmbH)

12:15 Th A08 - Nanoeumulsion Enhanced Oil Recovery - From Theoretical Aspects to Coreflooding Simulation - O. Uchenma (University of Oklahoma, formerly Eni SPA), A. Amendola (Eni SPA), G. Maddalli* (Eni SPA), E. Braccalenti (Eni SPA), A. Belloni (Eni SPA), P. Albionco (Eni SPA) & M. Bartossek (Eni SPA)

12:40 Lunch break

Panel Session

A.H. Muggeridge (Imperial College London) & K.M. Flornes (IRIS - International Research Inst. of Stavanger)

13:40 Lars Høier (Senior Vice President, Statoil) Shawket Ghezzan (Reservoir Eng Advisor & Consulting Coordinator, Computer Modelling Group)

15:20 Discussion

15:40 Awards

15:45 Closing
Th P001 - Shift to Hydrogen - 100% Recovery from Depleted and Abandoned Gas Fields - L. Surguchev* (LUKOIL Overseas North Shelf AS), R. Berenblum (International Research Institute of Stavanger) & M. Surguchev (Heriot Watt University)

Th P002 - Integration of IOR Research Projects through Generic Case Studies - J. Haukås* (The National IOR Centre of Norway / Schlumberger), L.A. James* (DEA Norge AS), J.N. Ravnås* (DEA Norge AS), L. Surguchev* (LUKOIL Overseas North Shelf AS), A.A. Ivanova* (Skoltech institute of science and technology), A.N. Cheremisin (Skoltech institute of science and technology) & M.Y. Spasennykh (Skoltech institute of science and technology)

Th P003 - A New Method of Bidirectional Displacement to Enhance Oil Recovery in Fault-block Reservoirs at High Water Cut Stage - K. Ma* (China University of Petroleum-Beijing), H.Q. Jiang (China University of Petroleum-Beijing), J.J. Li (China University of Petroleum-Beijing), Y.H. Chang (China University of Petroleum-Beijing), L. Zhao (China University of Petroleum-Beijing), H.X. Yang (China University of Petroleum-Beijing) & G. Yan (China University of Petroleum-Beijing)

Th P004 - Fluid-rock Interaction between SiO2 Nanofluids and Standard Cores Mimicking Hebron Field Conditions for EOR Applications - Z.P. Peksgalim (University of Southern California), V.M. Malik (University of Southern California), Z.W. Wijaya (HESS), D.P. Putra (Rafflesia Energy), H.A. Anggraini* (HESS), D.S. Saracoglu (Consultant), D.D. Dhannoan (Texas A&M University) & C.T. Temizel (Aera Energy)

Th P005 - Application of Nanoparticles in Chemical EOR - A.A. Ivanova* (Skoltech institute of science and technology), A.N. Cheremisin (Skoltech institute of science and technology) & M.Y. Spasennykh (Skoltech institute of science and technology)

Th P006 - Supramolecular Assemblies as Displacement Fluids in EOR - C.Y. Yegin (Texas A&M University), M.Z. Zhang (Frontida Biopharm), A.S. Suhai (University of Southern California), R.R. Ranjith (University of Southern California), K.B. Basaj (University of Southern California), Z.P. Peksgalim (University of Southern California), V.M. Malik (University of Southern California), Z.W. Wijaya (HESS), D.P. Putra (Rafflesia Energy), H.A. Anggraini* (HESS), D.S. Saracoglu (Consultant), D.D. Dhannoan (Texas A&M University) & C.T. Temizel (Aera Energy)


Th P008 - Zonal Isolation in a Unique Fractured Carbonate Heavy Oil Reservoir - Cementing Steam Injection Wells Issaran Field - D. Bhaisora* (Halliburton), S. Mohamed (Halliburton), A. Aly (Halliburton), W. Hassan (Scimitar), E. Nabi (Scimitar) & A. Tag (Scimitar)

Th P009 - A Novel Optimization of SAGD to Enhance Oil Recovery - The Effects of Pressure Difference - H. Xiong* (China University of Petroleum), S. Huang (China University of Petroleum), H. Liu (China University of Petroleum), L. Cheng (China University of Petroleum), K. Ma (Tianjin Branch of CNODC Ltd, Tangu, Tianjin) & Q. Huang (China University of Petroleum)

Th P010 - Laboratory Testing of Thermo-chemical Schemes for Carbonate Heavy Oil Reservoirs - S. Ursegov* (Skolkovo Institute of Science and Technology) & E. Tarasik (Luol-Energying Ltd - PermNPInept)

Th P011 - On Mobilizing Residual Heavy Oil by Micellar-Water Alternate Flooding - An Experimental Investigation - R. Nguiele* (Kyushu University), K. Sasaki (Kyushu University), Y. Sugai (Kyushu University), H.S. Al-Salim (UCSI University) & R. Ueda (JAPEX)

Th P012 - Overcome Viscous Fingering Effect by an Optimized Smart Water Injection Scheme Part II - T. Kadeethum (University of Calgary), H.K. Sarma (University of Calgary), B.B. Maini (University of Calgary) & C. Jaruwwatansakul* (University of Stavanger)

Th P013 - Sedimentary Characteristics and Architecture of Fan Delta Front Reservoir Based on Dermed Well Pattern in Oilfield, China - J. Wang* (PetroChina Exploration & Development Research Inst) & X.M. ZHU (RIPED)

Th P014 - A Non-standard Model for Microbial Enhanced Oil Recovery Including the Oil-water Interfacial Area - D. Landa-Marbán (University of Bergen), F.A. Radu (University of Bergen) & J.M. Nordbotten (University of Bergen)

Th P015 - Efficient Brownfield Optimization of a Reservoir in West Siberia - O. Ushmaev (Gazpromneft NTC), V. Babin (Gazpromneft NTC), N. Glinov (Gazpromneft NTC), R.R. Yubatytov (Gazpromneft NTC), D. Echeverria Ciurzi (IBM), M. Golitsyna (IBM), A. Pozdneev (IBM) & A. Semenikhin (IBM)

Th P016 - EOR Screening and Potential Applications on the Norwegian Continental Shelf (NCS) - J. Zuta* (IRIS-International Research Institute of Stavanger) & A. Stavland (IRIS-International Research Institute of Stavanger)

Th P017 - Bugs and Electric Fields - Underexplored IOR? - J.N. Raina (DEA Norge AS)

Th P018 - Evaluation of Three Large Scale ASP Flooding Field Test - Hu Guo* (China University of Petroleum,Beijing), Y. Q. Li (China University of Petroleum,Beijing), R.C. Ma (China University of Petroleum,Beijing), F. Y.Wang (China University of Petroleum,Beijing) & Z. Shihui (No.3 Gas Production Plant, Changqing Oilfield)

Th P019 - Comparison of Scaling in Strong Alkali and Weak Alkali ASP Flooding Pilot Tests - H. Guo* (China University of Petroleum,Beijing), Y. Qiu (China University of Petroleum,Beijing), Y. Zhu (No.1 Oil Production Plant of Daqing Oilfield), F.Y.Wang (China University of Petroleum,Beijing), D.B.Kong (China University of Petroleum,Beijing) & R.C.Ma (China University of Petroleum,Beijing)

Th P020 - Efficient Brownfield Optimization of a Reservoir in West Siberia - Q. Yan (China University of Petroleum,Beijing), Y. Chang (China University of Petroleum,Beijing), L. Zhao (China University of Petroleum,Beijing), H.X. Yang (China University of Petroleum, Beijing) & F. Yan (Tsinghua University)

Th P021 - Advanced Intelligent Completion System - Toe to Hanger - Norwegian Continental Shelf Case Study - J.J. Joubran* (Halliburton), C.F. Allen (Halliburton), P.E.R. Riis (Halliburton), J.K. Klingsheim (Halliburton) & S.E.G. Grønnestad (Halliburton)


Th P023 - Fluid-rock Interaction between SiO2 Nanofluids and Standard Cores Mimicking Hebron Field Conditions for EOR Applications - D. Sriva Ortega* (Memorial University), H. Kim (Memorial University) & L. James (Memorial University)

Th P024 - Cost-effective Seawater Pre-treatment for EOR Development - B. Dørum* (ENWA Water Technology AS) & A.A. Muminova (ENWA Water Technology AS)

Th P025 - New Anionic Surfactants for EOR and a Partnership Solution to Meet a Pilot - C.Y. Yegin (Texas A&M University), M.Z. Zhang (Frontida Biopharm), A.S. Suhai (University of Southern California), R.R. Ranjith (University of Southern California), K.B. Basaj (University of Southern California), Z.P. Peksgalim (University of Southern California), V.M. Malik (University of Southern California), Z.W. Wijaya (HESS), D.P. Putra (Rafflesia Energy), H.A. Anggraini* (HESS), D.S. Saracoglu (Consultant), D.D. Dhannoan (Texas A&M University) & C.T. Temizel (Aera Energy)

Th P026 - Integrated Conceptual Pre-treatment System for CO2 Neutral Capture Re-injection System for Enhanced Oil Recovery in the North Sea - J. Zuta* (IRIS-International Research Institute of Stavanger) & A. Stavland (IRIS-International Research Institute of Stavanger)

Th P027 - Integrated Conceptual Pre-treatment System for CO2 Neutral Capture Re-injection System for Enhanced Oil Recovery in the North Sea - J.M. Nordbotten (University of Bergen), F.A. Radu (University of Bergen) & J.M. Nordbotten (University of Bergen)

Th P028 - On Mobilizing Residual Heavy Oil by Micellar-Water Alternate Flooding - An Experimental Investigation - R. Nguiele* (Kyushu University), K. Sasaki (Kyushu University), Y. Sugai (Kyushu University), H.S. Al-Salim (UCSI University) & R. Ueda (JAPEX)

Th P029 - Overcome Viscous Fingering Effect by an Optimized Smart Water Injection Scheme Part II - T. Kadeethum (University of Calgary), H.K. Sarma (University of Calgary), B.B. Maini (University of Calgary) & C. Jaruwwatansakul* (University of Stavanger)

Th P030 - Efficient Brownfield Optimization of a Reservoir in West Siberia - O. Ushmaev (Gazpromneft NTC), V. Babin (Gazpromneft NTC), N. Glinov (Gazpromneft NTC), R.R. Yubatytov (Gazpromneft NTC), D. Echeverria Ciurzi (IBM), M. Golitsyna (IBM), A. Pozdneev (IBM) & A. Semenikhin (IBM)

Th P031 - Advanced Intelligent Completion System - Toe to Hanger - Norwegian Continental Shelf Case Study - J.J. Joubran* (Halliburton), C.F. Allen (Halliburton), P.E.R. Riis (Halliburton), J.K. Klingsheim (Halliburton) & S.E.G. Grønnestad (Halliburton)
Registration

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<td>EAGE member</td>
<td>€ 700</td>
</tr>
<tr>
<td>Non-member</td>
<td>€ 750</td>
</tr>
<tr>
<td>EAGE student member</td>
<td>€ 350</td>
</tr>
<tr>
<td>Full time student non-member</td>
<td>€ 275</td>
</tr>
<tr>
<td>Family member</td>
<td>€ 120</td>
</tr>
</tbody>
</table>

1 The non-member fee includes EAGE membership for 2017.
2 To qualify for the reduced student registration fee:
   • Students must be enrolled in a full-time study programme at a recognized university or institute;
   • The registration must be accompanied by a copy of a student ID card and/or official proof of enrollment;
   • Please note: Student non-members cannot be older than 34 years of age (when registering).

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