

# SPE WORKSHOP



Society of Petroleum Engineers

7-8 November 2017 | Mercure Hotel | The Hague | The Netherlands

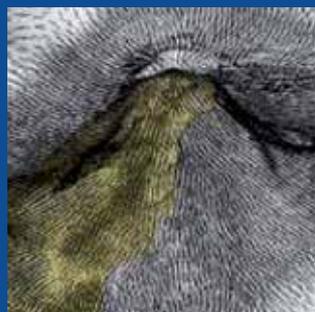
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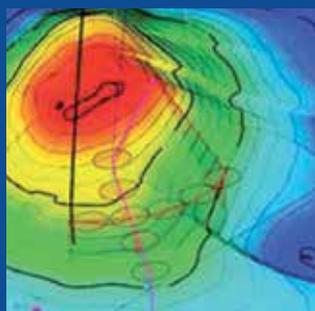
Organised with the support of the  
Institution of Mechanical Engineers

## North Sea and Europe Area Stimulation

This workshop is intended to address all types of stimulation practices used in both the North Sea and in continental Europe. To achieve a fruitful discussion, workshop sessions have been designed to address both the very specific technical challenges and the fundamental questions pertaining to stimulation in a sensitive land and offshore environment. Optimising stimulation treatments in these economically challenging times, in both a technical and environmental arena, requires special considerations. The participation of major and independent operating companies and service companies



will allow a wide sharing of views, experiences, and opinions on how to proceed toward successfully meeting all well objectives.



The aim of this workshop is to bring together a broad cross-section of people actively involved in stimulation design and implementation within the region, while also introducing a select number of global stimulation specialists who will share their experiences. Open discussion, coupled with friendly debate, are encouraged. The goal is to define where we are today, the current and future stimulation challenges, and introduce new and proven technologies that may have application in the North Sea and European region. The intended outcome of this workshop is to clearly define what is known and unknown, and to identify the most pertinent and promising solutions which can be applied.

**REGISTRATION  
DEADLINE**  
**3 NOVEMBER 2017**

### WHO SHOULD ATTEND

The workshop will benefit a range of industry professionals, particularly those involved in tight oil and gas development. Participants will be able to share their own experiences and actively contribute to the discussions. Suggested attendees include:

**Petroleum, Production,  
Reservoir, and Completion  
Engineers**

**Production Technologists**

**Stimulation Engineers  
and Managers**

**Asset Management  
Engineers and Managers**

**Academics**

**Research and  
Development Scientists**

### WORKSHOP SPONSORS



### COMMITTEE MEMBERS

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**Neil Wood**  
Fracture Technologies

**Lars van Zelm**  
Wintershall

# North Sea and Europe Area Stimulation

## SCHEDULE

### TUESDAY 7 NOVEMBER:

0800-0850 | Registration

0850-0900 | Introduction

0900-0930 | Keynote Speech

#### 0930-1030 | **Session 1a: Stimulation in Tight Gas Sands**

Tight gas well stimulation has a long and sporadic history in the North Sea and Europe and it is still far from being an easy development option in the current economic climate. Onshore, the pause in activity in Germany continues, but there appears to be a light at the end of the tunnel, after recent new legislation has been passed. In Poland and Hungary, activity has fallen sharply, but there has been renewed interest in offshore tight gas in the Dutch and UK sectors (stranded gas). In addition to new field development, there is also potential development of tight gas horizons within existing fields.

The economics of such developments are much more attractive than standalone tight gas projects, although there are often operational issues that need to be considered. This session will examine recent developments in tight gas stimulation, both onshore and offshore, and focus on case studies. The emphasis will be building on the recent experience to push the envelope of tight gas stimulation practices.

1030-1100 | Coffee Break

#### 1100-1200 | **Session 1b: Stimulation in Tight Gas Sands continued**

1200-1300 | Lunch

#### 1300-1430 | **Session 2: Stimulation in Oil Fields**

Chalk stimulation is the most mature of all stimulation practices in the North Sea. This session will review field stimulation techniques and results from major chalk reservoirs. Different stimulation strategies have been applied, using both acid and proppant. In this session we will focus on case histories of all these different approaches. Field design and operational issues will be discussed along with well productivity results. The discussion will also review how each operator determines the “best” stimulation technique for their reservoir. Topics in this session will include:

- Acid stimulation in multi-lateral wells with advanced completions.
- Re-stimulation challenges in horizontal wells.
- Updates on chalk stimulation from Denmark and Norway.

1430-1500 | Coffee Break

#### 1500-1630 | **Session 3: Fracturing at Extremes**

This session will address new techniques and practices in the areas of stimulation in Europe for application in difficult well conditions and locations, for example high pressure, high temperature and sub-sea wells. The focus will be on recent advances in fluids, equipment, and techniques applicable for these situations.

Topics in this session will include:

- Remedial fracturing treatments in HPHT reservoirs.

#### 1630-1700 | **Key points discussion**

1830 | Workshop Dinner

### WEDNESDAY 8 NOVEMBER:

#### 0900-1030 | **Session 4: Completion Optimisation for Stimulation**

The biggest enabler for making offshore tight reservoir development economic has been the use of multiple zone horizontal well stimulation. The original application of this technology by Maersk in the 1980s required the use of a rig during the entire completion and stimulation process. Recent well developments focusing on tight gas have been done with a variety of different completion technologies, each of which has different advantages and limitations. This session will focus on case studies of wells using different completion technologies to achieve rapid multi-zone stimulation, including the use of dissolvable balls and diverting agents.

1030-1100 | Coffee Break

#### 1100-1230 | **Session 5: Maximising Recovery**

Stimulation can be used in many different ways to maximise recovery in both new developments and existing fields. Case studies in this session will look at cases of hydraulic fracturing in situations that are not “tight” in the classic sense, but where stimulation was able to improve well and project economics by accelerating production or increasing reserves. This session will also include cases of using stimulation in mature fields to access bypassed reserves in tight formations, especially offshore.

1230-1330 | Lunch

#### 1330-1500 | **Session 6: Onshore Fracturing**

In spite of recent problems with regulatory agencies and public opinion, there continues to be a limited amount of on shore stimulation activity in Europe. This session focuses on case studies of recent activity, such as:

- Stimulation of mature/depleted moderate permeability gas reservoirs.
- Stimulation on shore UK.

1500-1530 | Break

#### 1530-1700 | **Session 7: New Materials and Techniques**

Recent developments in the materials used for stimulation, such as proppant, fluids and completion hardware, will be covered in this session. This session will include case studies on:

- Use of tagged proppant to monitor diversion effectiveness.
- Use of abrasive jetting for fracturing applications.

1700-1730 | **Key points discussion**

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## GENERAL INFORMATION

### FORMAT

Two days of informal sessions, with a series of short presentations and dinner on 07 November 2017. Full details will be provided with the registration pack which will be sent approximately two weeks before the meeting.

### ATTENDANCE CERTIFICATE

All attendees will receive a certificate from SPE attesting to their participation.

### CONTINUING EDUCATION UNITS

The workshop qualifies for SPE Continuing Education Units (CEU), at the rate of 0.1 CEU per hour of the workshop.

### SCRIBE'S REPORT

The steering committee will appoint a scribe to make a full report of the workshop, summarising all presentations and discussion. This report will be circulated to all attendees. The copyright of the scribe's report will belong to SPE.

### CANCELLATION POLICY

Written notice received 30 days before the starting date of the workshop entitles registrants to a 50% refund. There will be no refund for cancellations received after this time but alternative delegates will be welcomed.

Register online at [www.spe.org/events/17Ahag](http://www.spe.org/events/17Ahag) or alternatively complete and send back the form on the reverse.

## SPONSORSHIP INFORMATION

### SPONSORSHIP SUPPORT

Sponsorship support helps offset the cost of producing workshops and allows SPE to keep the attendance price within reach of operations-level individuals, those who benefit most from these technical workshops.

Sponsors benefit both directly and indirectly by having their names associated with a specific workshop.

While SPE prohibits any type of commercialism within the technical session room itself, the Society recognises that sponsoring companies offer valuable information to attendees outside the technical sessions.

For a detailed list of remaining sponsorships, including benefits and pricing, please contact Emma McGrath at [emcgrath@spe.org](mailto:emcgrath@spe.org)

### SPONSORSHIP BENEFITS

- Company logo on event website with link to sponsor's website
- Company logo on sponsor page of onsite delegate pack given to all attendees upon arrival
- Company logo displayed on signage at workshop
- Company logo included in thank you slide displayed in meeting room during all breaks
- One item of company literature on sponsor table within the event
- One complimentary workshop registration
- One company flyer / insert included in the delegate pack

### FOR MORE INFORMATION

For more information on any of the above items, please contact Emma McGrath at [emcgrath@spe.org](mailto:emcgrath@spe.org). Further details on the technical programme, registration, and location information can be found at: [www.spe.org/events/en/2017/workshop/17ahag/homepage.html](http://www.spe.org/events/en/2017/workshop/17ahag/homepage.html)

## UPCOMING CONFERENCES AND WORKSHOPS

For the full SPE events calendar and for more details on the events above, log on to [www.spe.org/events](http://www.spe.org/events)

## SPE Workshop: Gas Well Deliquification

9 - 10 Nov 2017 Mercure Hotel Den Haag Central The Hague, The Netherlands

[www.spe.org/events/en/2017/workshop/17aams/homepage.html](http://www.spe.org/events/en/2017/workshop/17aams/homepage.html)



**Register  
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**SUSTAINABILITY STATEMENT** SPE is committed to ensuring that the environmental impact of our events is kept to a minimum, we aim to make progress in the field of sustainability through reducing energy usage, promoting eco friendly mobility, reducing water consumption and limiting waste, all cores values in keeping with those of the oil and gas industry.

## Workshop Venue

Mercure Hotel Den Haag Central, Spui 180,  
2511 BW Den Haag, The Netherlands  
[www.mercure.com/gb/hotel-1317-mercure-hotel-den-haag-central/index.shtml](http://www.mercure.com/gb/hotel-1317-mercure-hotel-den-haag-central/index.shtml)

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