

Monday, 11 September

## Großer Saal

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| 11:30 - 13:00 | <b>Registration</b>  |
| 13:00 - 13:10 | <b>Welcome</b><br><i>Thor Noevig, Chairman GeoEnergy Celle e.V.</i>  |
| 13:10 - 13:30 | <b>Program Introduction / Conference Overview</b><br><i>Prof. Dr.-Ing. Joachim Oppelt</i>  |
| 13:30 - 14:00 | <b>Keynote Talk</b><br><b>Inventing Smarter Ways to Bring Energy to the World</b><br><i>Tom Thissen, Baker Hughes, a GE company</i>  |
| 14:00 - 14:30 | <b>Keynote Talk</b><br><b>Big Data... Big Whoop! Is Better the Enemy of Good Enough?</b><br><i>Frank Springett, National Oilwell Varco</i>   |
| 14:30 - 15:00 | <b>Keynote Talk</b><br><b>Innovative Design and Operation of High-Temperature Geothermal Wells</b><br><i>Ingólfur Thorbjörnsson, ÍSOR - Iceland GeoSurvey   Project Consortium GeoWell</i> |
| 15:00 - 15:30 | <b>Coffee Break &amp; Networking</b>   |

## Großer Saal: Session 1 "Drilling Equipment and Technology"

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| 15:30 - 16:00 | <b>New Laboratory Test Setup Enables Testing of Full Scale BHAs with Respect to Torsional Field Loads</b><br><i>Dennis Heinisch, Baker Hughes, a GE company</i>   |
| 16:00 - 16:30 | <b>Field Test of Simultaneous Gyro Attitude Reference for Magnetic Ranging Measurements in a Near Vertical Magnetically Perturbed Environment</b><br><i>Georgy Rassadkin, Scientific Drilling International</i> |
| 16:30 - 17:00 | <b>Composite Drill Pipe for Superior Performance</b><br><i>Jaromir Ufer, Voith Composites GmbH &amp; Co. KG</i>   |
| 17:00 - 17:30 | <b>Optimised Hybrid Drill Bit Technology Matched to Application Yields Breakthrough in Drilling Performance</b><br><i>Waleed Agawani, Baker Hughes, a GE company</i>  |
|               | <b>(ePoster) Condition Monitoring</b><br><i>Vincent von Melle, Zeppelin Power Systems GmbH &amp; Co. KG</i>   |

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| 17:30 - 18:30 | <b>Coffee Break &amp; Networking</b> |
| 18:30         | <b>Conference Evening</b>            |

Tuesday, 12 September

07:30 - 08:30 **Registration, Coffee & Networking**

**Großer Saal: Session 2  
"Drilling Optimization and Dynamics I"**

08:30 - 09:00 **Field Test Result with a Stick-Slip Reduction Tool**

*Steve Jones, Sanvean Technologies / Scout Downhole*

09:00 - 09:30 **3D Directional Trajectory Prediction Using Coupled Bit and BHA models: Theory and Field Case Studies**

*Will Attridge, Baker Hughes, a GE company*

09:30 - 10:00 **Case Study: Methods for Automated Drilling Performance Analysis Based on Downhole Measurements**

*Hamza Sellami, Leibniz Universität Hannover Institute of Dynamics and Vibration Research (IDS)*

10:00 - 10:30 **Advanced Dynamics FEA Modelling as a New Approach for Geothermal Drilling Optimization in Indonesia**

*Yoan Mardiana, Schlumberger*

**Europa Saal: Session 3  
"Drilling Fluids and Borehole Hydraulics"**

**Simulation Of Steady State Cuttings Transport In Inclined And Horizontal Wells**

*Yaroslav Ignatenko, Baker Hughes*

**An Insight Into the New IWCF Level 5 Curriculum**

*Ivo Nijhuis, The Well Academy BV*

**Flow-Loop Experiments With Non-Newtonian Reference Fluids for Estimating Uncertainty of In-Line Rheology Sensors**

*Fionn Iversen, IRIS - International Research Institute of Stavanger*

**Drilling Fluids and Borehole Hydraulics**

*James Mansell, Clear Solutions International Ltd*

**(ePoster) Sepiolite Base Mud Challenges Harsh Drilling Conditions**

*Ali Ettehad, Izmir Katip Celebi University*

10:30 - 11:00 **Coffee Break, Networking & ePosters**

**Großer Saal: Session 4  
"Drilling Optimization and Dynamics II"**

11:00 - 11:30 **Drilling Systems Design and Operation Management: Leveraging the Value of Advanced Data-Driven Analytics**

*Opeyemi Bello, TU Clausthal - Institute of Petroleum Engineering*

11:30 - 12:00 **Enhancing Post-Run Drilling Optimization with Data Analytics and High-Speed Drilling Dynamics Measurements**

*Pedro Arevalo, Baker Hughes, a GE company*

12:00 - 12:30 **Mathematical Modelling of Axial Vibration on Tri-Cone Bits for Maximum ROP and Optimum RPM**

*Arash Asgharzadeh, TU Clausthal - Institute of Petroleum Engineering*

**(ePoster) Prediction of Bit and Reamer Loads for Increased Reliability of Hole-Opening BHAs**

*Armin Kueck, Baker Hughes, a GE company*

**Europa Saal: Session 5  
"Cementing, Well Integrity, Geomechanics"**

**Class G Cement – A Universal Remedy?**

*Oliver Czuprat, DEA Deutsche Erdoel AG*

**Initial Integrity Evaluation of Storage and Production Wells**

*Thomas Brückner, Deep Underground Engineering*

**Innovative Casing Drilling Technology Improved The Ability to Set The Casing Deeper Through The Problematic Zone in Indonesia Geothermal Operation**

*Bonar Noviasta, Schlumberger*

**(ePoster) Surface Deformation Study for a Geothermal Operation Field**

*Julia Diessl, GeoMechanics Technologies*

Tuesday, 12 September

12:30 - 13:30 **Lunch Break, Networking & ePosters**

**Großer Saal: Session 6  
"Drilling Simulation and Automation"**

13:30 - 14:00 **Web Enabled High Fidelity Drilling Computer Model with User-Friendly Interface for Education, Research and Innovation.**  
*Robert Ewald, IRIS - International Research Institute of Stavanger*

14:00 - 14:30 **Miniature Robotic Drilling Rig for Research, Technology Development and Education.**  
*Astrid Lescoeur, Martin Aagaard Olsen, Mayuran Vasantharajan, Norwegian University of Science and Technology*

14:30 - 15:00 **Construction of an Autonomous Laboratory Scale-Drilling Rig for Testing and Control of Drilling Systems**  
*Erik Løken, University of Stavanger*

15:00 - 15:30 **Networking Break, Exhibition & ePosters**

15:30 - 17:00 **Visit of Drilling Simulator Celle Research Institute**  
(only for registered participants)

17:00 **End of Conference**

**Europa Saal: Session 7  
"Hammer Drilling "**

**New Developments for Hard Rock Drilling - From Hydraulic DTH Hammer to Laser Drilling**  
*Volker Wittig, International Geothermal Centre - GZB*

**The Water Hammer Effect in Hammer Drilling**  
*Marc Spinneker, TU Clausthal - Institute of Petroleum Engineering*

**HAMMR Drilling Motor Improves Efficiency**  
*Gunther von Gynz-Rekowski, ASHMIC LC*

**Visit of Drilling Simulator Celle Research Institute**

Drilling Simulator Celle (DSC) is a new and unique research lab that uses virtual (software) and real (hardware) devices to help oilfield clients to understand and mitigate critical drilling and well construction scenarios. The Virtual Simulator is based on an industry-leading training simulator that has been enabled to allow modifying the software, in order to describe especially downhole events in an optimized way. The hardware simulator basically consists of a horizontal full scale flow loop, powered up by two oil-field triplex pumps with 800 HP each. The system allows drilling with a BHA up to 6 ¾" into a formation and investigate the dynamic behavior of components and cuttings transportation. Both industry and research customers are welcome to have their equipment tested in the software and hardware environment.

Shuttle services from the conference building to the DSC will available. Special registration is required because of limited seats available.

Tuesday, 12 September

The members of the project group "GeoWell" will present their mit-term results of the research and innovation project "Innovative materials and designs for long-life high-temperature geothermal wells". The project is funded under the European Union's Horizon 2020 research and innovation programme.

Celler Saal:  
GeoWell Part 1

- 08:30 - 09:00 **Chemical and Microstructural Alterations of Annular Cements of a High-Temperature Geothermal Well**  
*Penny Pipilikaki, TNO - Netherlands Organisation for Applied Scientific Research*
- 09:00 - 09:30 **High-Temperature Composite Casings**  
*Emile Lautier, Akiet*
- 09:30 - 10:00 **Flexible Coupling of Casings**  
*Gunnar Skúlason Kaldal, ÍSOR - Iceland GeoSurvey*
- 10:00 - 10:30 **Properties and Selection of Casing Materials**  
*Ingólfur Thorbjörnsson, ÍSOR - Iceland GeoSurvey*
- 10:30 - 11:00 **Coffee Break & Networking**

Celler Saal:  
GeoWell Part 2

- 11:00 - 11:30 **Integrity Monitoring of High Temperature Geothermal Wells Using Fibre Optic Distributed Sensing Techniques**  
*Martin Lipus, GFZ German Research Centre for Geosciences*
- 11:30 - 12:00 **Development of a Framework for Well Integrity Risk Assessment of Geothermal Wells**  
*Mohammad Mansouri Majoumerd, IRIS - International Research Institute of Stavanger*
- 12:00 - 12:30 **First Result of DESCRAMBLE Project: Evidences for Existence of Deep Supercritical Fluid?**  
*Massimo Luchini, EGP - Enel Green Power*
- 12:30 - 13:30 **Lunch Break & Networking**

Celler Saal:  
GeoWell Part 3

- 13:30 - 14:00 **Brief over view of the Icelandic deep drilling RN-15/IDDP-2 at Reykjanes, Iceland**  
*Ómar Sigurdsson, HS Orka*
- 14:00 - 14:30 **Well Integrity Platform**  
*Kris Ravi, Kris-Ravi Consultancy LLC*
- 14:30 - 15:00 **Discussion between the session participants on the GeoWell project**