

# Joint GRC-SPE Workshop

## *High Temperature Well Cementing*

*March 30 - April 1, San Diego, California, USA*

*More information at  
<https://cement.mygeoenergynow.org/>*



# GRC/SPE Workshop: High-Temperature Well Cementing and Integrity

## Exploring Geothermal and Oil and Gas Synergies

The joint workshop will enable both the geothermal and oil & gas industries to share their experiences, technologies, technical procedures and best practices on this important aspect of well completion. The workshop will highlight cement formulae and slurry blends, placement methods, remedial procedures and result evaluations. Case studies will be discussed and analyzed. All drilling personnel, both geothermal and oil & gas drilling and production engineers, well-site supervisors, cementing engineers and interested personnel are welcome to attend and participate.

## Agenda

### **Monday 30 March**

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|--------------------|--|
| <b>7:30-8:30</b>   | <b>Registration Check-in<br/>Continental Breakfast</b>   |
| <b>8:30-8:45</b>   | <b>Chairperson's Welcome and Introduction</b><br><i>Louis Capuano, Jr. and Todd Zahacy</i>   |
| <b>8:45-10:00</b>  | <b>OPENING PANEL SESSION</b><br>Moderators: <i>Louis Capuano Jr., and Todd Zahacy</i><br>Panelists: <i>Steve Pye, Daniel Bour, and Jeff Spence.</i>  |
| <b>10:00-10:30</b> | <b>Coffee Break</b>  |
| <b>10:30-12:00</b> | <b>SESSION 1: The Function of Cement in Well Construction</b><br>Chairs: <i>Susan Petty and Kyriacos Agapiou</i> <ol style="list-style-type: none"><li><b>1. Technical Challenges for Cementing Super-Hot Geothermal Wells</b><br/>Presenter: <i>Daniel Bour</i></li><li><b>2. California Division of Oil, Gas, and Geothermal Resources' Geothermal Regulations</b><br/>Presenter: <i>Jack Collender</i></li><li><b>3. A Discussion on Casing-Cement Bonding at Elevated Temperatures and its Implications to Well Integrity</b><br/>Presenter: <i>Catalin Teodoriu</i></li></ol> |
| <b>12:00-13:00</b> | <b>Lunch</b>   |

13:00-14:30

**SESSION 2: Slurry Blends**

Chairs: *Hamid Najafi and Jeff Spence*

1. **A Review of Thermally Responsive Cement Case Studies**  
Presenter: *Nicolas Droger*
2. **Hexagonal Boron Nitride Reinforced Multifunctional Well Cement for Extreme Environments**  
Presenter: *Rouzbeh Shahsavari*
3. **Mitigating Strength Retrogression Using Tailored Cement Designs**  
Presenter: *Thomas J. Pisklak*

14:30-15:00

**Coffee Break**

15:00-17:00

**SESSION 3: HT/HP Cements**

Chairs: *Giorgia Bettin and Axel-Pierre Bois*

1. **Extended Surface Batch Mix Cement Slurry For HPHT Drill-in Liner In Depleted Reservoirs**  
Presenter: *Martin Herriot*
  2. **Evaluation of Cement/Casing & Cement/Rock Bond Integrity during Well Operations**  
Presenter: *Abdelfattah Lamik*
  3. **Cement strength with silica**  
Presenter: *Arpita Bathija*
- **Alternate: Cement Replacement System for HP-HT High Stress Applications**  
Presenter: *Vidar Rygg*

17:00-18:30

**Reception**

## **Tuesday 31 March**

7:00-8:00

**Continental Breakfast**

8:00-9:30

**SESSION 4: Placement Procedures**

Chairs: *Steve Pye and Ramon Viso*

1. **Geothermal Well Casing Cementing At Contact Energy – A Modern Revision Of Pioneering NZ Practices**  
Presenter: *Ralph Winmill*
2. **Proper centralization for optimum cement coverage and long-term wellbore integrity in hot and corrosive drilling environments**  
Presenter: *Rafael Hernandez*
3. **Managing challenging loss zones in high temperature applications; fallback and lost circulation**  
Presenter: *Simon Iremonger*

- 9:30-10:00**      **Coffee Break**
- 10:00-11:30**      **SESSION 5: Other Uses of Cement/Research and Development**  
Chairs: *Marc Brennen and Mileva Radonjic*
- 1. Graphene Enhanced Wellbore Cement**  
Presenter: *Achang Mercy*
  - 2. Methods for Improving Cement Performance and Integrity in Thermal Wells**  
Presenter: *Simon Iremonger*
  - 3. Self-Repairing Polymer-Modified Wellbore Cements with High Thermal and Chemical Stability for Enhanced Geothermal Systems**  
Presenter: *Carlos A. Fernandez*
- 11:30-12:30**      **Lunch**
- 12:30-14:30**      **SESSION 6: Problems and Solutions**  
Chairs: *Bob Pilko and Catalin Teodoriu*
- 1. Experimental Method Development to Evaluate Cements at Elevated Pressure and Temperature**  
Presenter: *Stephen J. Bauer*
  - 2. Reservoir Depletion Needs to be Included in Top of Cement Selection to Prevent Leakage**  
Presenter: *Jarrett Wise*
  - 3. Shear Bond Strength of Oil Well Cement in Carbonic Acid Environment and the Effects of Pressure and Temperature**  
Presenter: *Ramadan Ahmed*
- Alternate: Long Term Wellbore Integrity Assessments in the Gulf of Mexico – Results from Reactive Transport Modeling**  
Presenter: *Temitope Ajayi*
- 14:30-15:00**      **Coffee Break**
- 15:00-16:30**      **SESSION 7: What is Needed for Future Cement Blends and Cement Placement Technologies**  
Chairs: *Mileva Radonjic and Daniel Bour*
- 1. Designing Robust Barrier Materials: Learning the Lessons of Nature**  
Presenter: *Sai Vamsi Krishna Vissa*
  - 2. Smart Expandable Fiber Additive to Improve Zonal Isolation in Geothermal Wells**  
Presenter: *Arash Dahi Taleghani*
  - 3. Experimental Study of Genesis of Geologically Activated Cementing Materials for Deep Wellbore Plugging and Its Self-healing Behavior for the Resilient P&A System**  
Presenter: *Yunxing Lu*

## **Wednesday 1 April**

**7:00-8:00**      **Continental Breakfast**

**8:00-10:00**      **SESSION 8: Case Histories and Past Experiences**  
Chairs: *Pablo Gutierrez and Carlos Fernandez*

- 1. Non-Portland Cement Slurry Development and Application for Ultrahigh-Temperature Geothermal Well with Supercritical Conditions (SPE-190974-MS)**  
Presenter: *Andreas Ruch*
  - 2. Two-Stage Cementing Operations in the Salton Sea Geothermal Field (A Case Study)**  
Presenter: *William (Billy) Thomas*
  - 3. Enhanced Mechanical Property Cement Improves Surface and Intermediate Casing Cement Bond Logs, Post-Drill Out**  
Presenter: *Kristin Kutchak*
- **Alternate: Duvernay Formation Thermal -Low Rheology-Variable Densities Cement Design For Long, Production Casing: Case History**  
Presenter: *Afshin Ahmady*

**10:00-10:30**      **Coffee Break**

**10:30-12:00**      **SESSION 9: Conclusion**  
Moderator: *Susan Petty*  
Panelists: *Bob Pilko and Catalin Teodoriu*

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