

**Early bird Registration  
Deadline 16 April 2010**

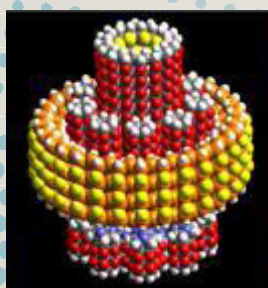


**Society of Petroleum Engineers**

**13–16 June 2010** | Grand Rotana Hotel | Sharm El Sheikh, Egypt

# **SPE Applied Technology Workshop**

## *Nanotechnology: Exploring Practical Solutions for 21<sup>st</sup> Century Upstream E&P Challenges*



### **Who Should Attend?**

Professionals from the industry, academia and government who are interested in nanotechnology and its applications in the upstream sector of the oil and gas industry.

### **Committee Members**

**Co-chairperson**  
**Modiu Sanni**  
Saudi Aramco

**Co-chairperson**  
**Rick Ng**  
Chevron Energy Technology

**Darren Willauer**  
Baker Hughes

**John Ullo**  
Schlumberger

**Kamarulzaman Ahmad**  
PETRONAS

**Kevin Jakubenas**  
Chevron

**Leandro Balzano**  
Shell

**Lewis Norman**  
Halliburton

**Mohamed Abdel-Mottaleb**  
Sabry Corporation

**Nasser Hamdan**  
American University of Sharjah

**Pascal Dauboin**  
Total

**Rami Kamal**  
Saudi Aramco

**Sami Habib**  
King Abdul Aziz University

**Thomas Pisklak**  
BJ Services Company

### **Workshop Description**

Notable advances in Exploration and Production (E&P) are often made possible through leveraging technologies from non oil and gas (O&G) industries.

The emergence of recent innovations in nanotechnology is opening up a new vista of applications that are relatively untapped for E&P upstream challenges. This Applied Technology Workshop will build on the achievements of the first workshop held February 2008 to further strengthen collaboration between the nanotechnology and E&P communities that will ultimately lead to significant deployment of nanotechnology solutions to E&P upstream challenges.

### **Workshop Objectives**

This ATW aims to:

- Showcase nanotechnology solutions and value proposition for upstream E&P applications.
- Focus on key areas where nanotechnology can create step-change impact to improve oil recovery and hydrocarbon production to meet increasing global energy demands.
- Discuss deployment roadmaps for various strategic technology areas of interests (reservoir characterisation, reservoir management, drilling/completion, production operations, improved oil recovery processes, etc.)
- Identify and address potential barriers or show-stoppers to early adoption and commercialisation of nanotechnology solutions in E&P.
- Create communities of interest/practice on nanotechnology applications for upstream E&P.
- Facilitate networking, knowledge sharing and exchange of ideas among professionals in nanotechnology and E&P organisations.

**[www.spe.org/events/10ash2](http://www.spe.org/events/10ash2)**

### Workshop Guidelines

#### Workshop Venue:

Grand Rotana Resort and Spa  
Shark's Bay, Sharm El Sheikh, South Sinai, Egypt  
Tel.: +20.69.360.2700 | Fax: +20.69.360.2711 | [www.rotana.com/property-15.htm](http://www.rotana.com/property-15.htm)

#### Format

Three days of informal discussions prompted by selected keynote presentations and discussions. Workshops maximise the exchange of ideas among attendees and presenters through brief technical presentations followed by extended Q&A periods. Focused topics attract an informed audience eager to discuss issues critical to advancing both technology and best practices. The majority of the presentations are in the form of case studies, highlighting engineering achievements and lessons learned. In order to stimulate frank discussion, no proceedings are published and the press is not invited to attend.

#### Documentation

- Proceedings will not be published; therefore, formal papers and handouts are not expected from speakers.
- Work in progress, new ideas, and interesting projects are sought.
- Professionally-prepared visual aids are not required; handwritten view graphs are entirely acceptable.
- Note-taking by participants is encouraged.

#### Poster Sessions

The Steering Committee encourages registrations from professionals who are able to prepare and present a poster on a relevant project. For further details kindly contact Muniza Bano Shaikh, event manager at [mshaikh@spe.org](mailto:mshaikh@spe.org).

#### Attendance

Registrations will be accepted on a first-come first-serve basis. The Steering Committee encourages attendance from those who can contribute to the workshop most effectively either in discussions or with posters. A mix of attendees in terms of geographic origin, companies and disciplines will be encouraged.

#### Workshop Deliverables

- The Steering Committee will appoint a "scribe" to record the discussions and to produce the full Workshop Report for SPE.
- This report will be circulated to all attendees as the Workshop deliverable within 4–6 weeks following the Workshop. The copyright of the report is with SPE.
- PowerPoint presentation materials will be posted on a specific SPE URL address after the workshop. Provision of the materials by the speakers will signify their permission for SPE to do so.

#### Commercialism

In keeping with ATW objectives and the SPE mission, commercialism in posters or presentations will not be permitted. Company logos must be limited to the title slide and used only to indicate the affiliation of the presenter and others involved in the work.

#### Attendance Certificate

All attendees will receive an attendance certificate attesting to their participation in the workshop. This certificate will be provided in exchange for a completed Workshop Questionnaire.

#### Continuing Education Units

Attendees at this workshop qualify for SPE Continuing Education Units (CEU) at the rate of 0.1 CEU per hour of the workshop.

#### Workshop Registration Fee:

Early bird by 16 April 2010:	USD 1,450 for SPE Members	USD 1,550 for Nonmembers
Advance by 16 May 2010:	USD 1,850 for SPE Members	USD 1,950 for Nonmembers

#### The fee includes the following:

- All workshop sessions
- Daily coffee breaks and luncheons
- Workshop workbook and Certificate of Continuing Education Units (CEU)

**Note: Registration fee does NOT include hotel accommodation for attendees.**

#### Registration Policy

- Registration fee **MUST** be paid in advance for attending the Applied Technology Workshop.
- Full fixed fee is charged regardless of the length of time that the registrant attends the workshop.
- Fixed fee cannot be prorated or reduced for anyone (Co-chairpersons, committee members, speakers, discussion leaders, students and registrants).
- Attendees are expected to attend all workshop sessions and are not permitted to attend on a partial basis.

#### Cancellation and Refund Policy

- a) A processing fee of USD 100 will be charged for cancellations received before the registration deadline 16 May 2010.
- b) For cancellations received after the registration deadline, 16 May 2010, 25% refund will be made to the registrant.
- c) No refund on cancellations received within seven (7) days prior to the workshop date, i.e. on or after 06 June 2010.
- d) No refund will be issued if a registrant fails to attend the workshop.

# WORKSHOP

## Nanotechnology: Exploring Practical Solutions for 21<sup>st</sup> Century Upstream E&P Challenges

### 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 conference hall itself, the society recognises that sponsoring companies offer valuable information to attendees outside the technical sessions.

### Sponsorship Package

USD 10,000 per sponsor

### Sponsorship Benefits

In addition to onsite recognition; SPE will recognise sponsors on the SPE website and in all printed material for the workshop.

### For More Information

For more information or to discuss a tailor-made sponsorship package, contact Muniza Bano Shaikh, event manager at [mshaikh@spe.org](mailto:mshaikh@spe.org).

### Registration Fee

#### Early bird by 16 April 2010

SPE Member USD 1,450

Nonmember USD 1,550

#### Advance by 16 May 2010

SPE Member USD 1,850

Nonmember USD 1,950

### Preliminary Technical Agenda

#### Sunday, 13 June 2010

1600–1800 hours      Collection of Badges and Delegate Packs  
Posters Set-Up  
Steering Committee Meeting  
Discussion Leaders Meeting

1900 hours      Welcome Reception and Networking Hour (TBC)

#### Monday, 14 June 2010

##### 0830–1200 hours

##### Session 1: Upstream E&P Challenges and Opportunities

This session will specifically seek to highlight:

- The key challenges that warrant NT solutions in exploration, drilling and completions.
- Challenges in reservoir engineering, particularly those relevant to improving reservoir illumination and hydrocarbon recovery.
- Challenges in Oil and Gas production operations.
- Challenges and considerations in leveraging of nanotechnologies posed by the downhole and reservoir environments.

##### 1300–1600 hours

##### Session 2: Showcase of NT Solutions

This session aims to show case state-of-the-art and future nanotechnology solutions that could have potential applications in the E&P industry.

- What are the existing nanotechnology solutions for the Energy Industry (especially Upstream E&P)?
- What are the existing nano-technologies in other industries that can be readily adapted for the E&P industry?
- Where are the current nanotechnology research directions?
- What should we expect in 2, 5, 10 and > 15 years time?
- What should the E&P industry do to expedite uptake of nanotechnology solutions?

Participants should leave the session with a better insight on how to bring innovative ideas from industries such as medical, pharmaceutical, semi-conductors, and material science among others into transformational changes in upstream E&P applications.

#### Tuesday, 15 June 2010

##### 0830–1200 hours

##### Session 3: Exploring NT for Strategic Technology Areas

The use of nanotechnology for subsurface oil and gas applications has raised considerable interest in prospects for new enabling technologies related to novel materials, sensors, actuators and enhanced oil recovery mechanisms. Despite a wide literature already, much still needs to be done to examine the potential, priorities and application performance of nanotech-based ideas in a systematic fashion to meet oilfield requirements. For this session we will organise five breakout groups to brainstorm, discuss and if possible prioritise nanotechnology ideas relevant to the key E&P areas of exploration and geoscience, drilling and completion, fracture and stimulation, reservoir characterisation and formation evaluation, reservoir management and surveillance, and IOR/EOR. Each group will consist of industry experts (challenges and needs) and nanotechnology experts (new science and technologies) guided by a facilitator to gain a common understanding of industry opportunities matched against possible solutions resting on nanotechnology. With the added element of time scales we expect each group will report back a high level roadmap, and taken together, will expose both common and distinctive solutions amongst the E&P domains.

#### Wednesday, 16 June 2010

##### 0830–1200 hours

##### Session 4: How Do We Deploy and Commercialise NT Solutions for E&P Challenges?

This session explores the possibilities in collaboration to commercialise nanotechnology for E&P including:

- What barriers to collaboration exist? How can these be overcome?
- What opportunities are easy to take advantage of?
- What have other industries done to accelerate adoption of nanotechnology?
- What commercial models should the industry look at? Partnerships, corporate new venture investment, start-ups, spin-offs, consortia, preferred suppliers, research alliances or something else?
- Does the existing supply chain help or hinder new breakthroughs?
- Would the industry benefit from a common roadmap? If so, how should that be organised?

Participants should leave the session with a better understanding of how great ideas in nanotechnology can turn into profitable products at an accelerated rate.

##### 1300–1530 hours

##### Session 5: Creating Communities of Interest/Practice

To succeed in the implementation of nanotechnology based solutions in the E&P industry, it is critical to reduce the gap between the two distinctive oil and gas and nanotech communities. Currently oil and gas experts do not know enough about nanotechnology and nanotech experts are not aware of the challenges faced by the O&G industry. Thanks to a few initiatives such as the nano SPE ATWs, the Advanced Energy Consortium and EPNanoNet, the situation is starting to change. Still, a common communication platform has yet to be established and a forum where both communities can maintain an open dialog and educate each other is needed. This session will explore the ongoing efforts and identify those that are still needed to consolidate an oil and gas-nanotech community.

**Advance Registration deadline 16 May 2010**

