



# TMS Members Lead the Focus on Materials Technology at OTC

**Mark Kalman, Greg Kusinski, Indranil Roy, and Art Schroeder**

The Offshore Technology Conference (OTC) was recently named “The Greatest Show on Earth” and one of the top 100 “gold standard” shows of 2014 by *Trade Show Executive*, a leading journal of the trade show industry. Founded in 1969 and held annually in early May in Houston, Texas, OTC set records by attracting more than 108,000 attendees and 2,500 exhibitors in 2014. Taking place May 4–7, 2015 at Houston’s NRG Park, OTC has the highest visibility of any international conference focusing on offshore technology. The event is considered by many to be a must-attend conference for the offshore industry. In recent years, OTC has also expanded to new markets, with OTC Brasil and OTC Asia each held bi-annually and the Arctic Technology Conference offered every 18 months.

OTC is unique among international conferences in that it is sponsored by 12 industry organizations and professional societies who work together to develop the technical program. The OTC program development model ensures highly relevant and topical technical sessions, panel discussions, industry breakfasts and luncheons, as well as an extensive exhibition covering a broad range of technologies that are crucial for the exploitation of offshore energy and mineral resources. OTC also leads the way in training newcomers to the industry. The “Next Wave” program, for instance, is a full-day event focusing on young professional career development.

TMS has been involved as an OTC Sponsoring Organization from the beginning, as a member society of the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME), one of OTC’s founding organizations. Hundreds of TMS volunteers have worked tirelessly over the years to assemble a sound and highly relevant annual technical program. Subject matter experts consistently present cutting-edge technologies developed by industry and academia that expand the world’s capability to produce energy resources from ever-increasing

water depths and severe operating environments. As a case in point, ultra-deepwater oil and gas production is now occurring in depths greater than 3,000 meters. Subsurface wells are another 8,000 meters deep, with downhole temperatures of more than 200°C and pressures as high as 138 MPa (20,000 psi). These operating conditions have required significant advancements and understanding in both metallic and nonmetallic materials. TMS members play a key role in bringing these material developments to the oil and gas industry.

TMS volunteers involved in OTC ensure that the fundamental materials technology that is applied offshore is a key focus area of the meeting. Development of new materials and improved understanding of existing materials are critical to successful deployment of offshore topside, subsea, and downhole infrastructure. Nobody knows this better than the TMS members working in the offshore industry.

TMS volunteers contribute their expertise and perspectives through the TMS subcommittee of the OTC Program Committee. Volunteer leadership roles include committee chairs, advisory board chairs, and technical session and panel discussion chairs. The TMS Board of Directors also appoints a TMS member to serve on the OTC board. Participating on these committees provides an excellent venue to network with leaders in materials technology across the industry, providing both career development and the opportunity to stay apprised of the latest technologies being developed and commercialized.

At OTC 2015, TMS will sponsor four technical sessions:

- Advances in Flexible Pipe Technology
- Advances in Deepwater Risers
- Materials Innovation and Reliability issues for HP/HT Deepwater Reservoirs
- Functional Nanomaterials—Novel Solutions for Oil & Gas

TMS has organized sessions on flexible pipe and risers for many years, as these structures experience significant materials challenges. These include polymer and composite reinforcement subject to combined fatigue, aging, and alternating loads in a difficult-to-inspect environment, as well as corrosion fatigue of weldments in sour service applications. With the recent developments in high-pressure/high-temperature (HP/HT) reservoirs, particularly in sour service, the industry now not only faces new materials-related concerns, but also issues regarding reliability and safety. This has resulted in the increased use of costly materials, such as corrosion-resistant alloys. Nanostructured and advanced materials may offer some relief and new possibilities, especially in drilling, exploration, production, and reservoir characterization, as well as in harnessing unconventional reserves. In light of these developments, the TMS-OTC subcommittee was motivated to promote new technical

sessions on HP/HT and functional nanomaterials for 2015, broadly addressing the following topics:

- Materials challenges, reliability, and failures in HP/HT and/or sour reservoirs
- Advanced nonmetallic materials for HP/HT and/or sour reservoirs
- Environmentally assisted degradation of materials in HP/HT and/or sour reservoirs
- High-temperature electronic materials for HP/HT, including sour reservoirs
- Nanostructured and ultrafine grained (UFG) materials
- Emerging technologies in the advancements of UFG/NC materials
- Carbon nanotube, graphene, and nano-reinforced materials
- Multifunctional nano-scale coatings and surface treatments

## TMS-OTC Volunteers Shine the Spotlight on Materials in 2015

2015 is an exceptionally busy year for the Offshore Technology Conference (OTC), with three meetings slated to share the latest insights on offshore technology issues throughout the world. Ensuring that materials topics presented by leading experts are integral to the technical program are the following TMS member volunteers:

### TMS Representative to OTC Board



Mark Kalman  
*DeepFlex*

### 2015 TMS-OTC Program Committee



Houston, Texas  
May 4-7, 2015



Greg Kusinski,  
*Committee Chair,*  
*Chevron*



Indranil Roy,  
*Committee Vice Chair,*  
*Schlumberger Materials*  
*Engineering*

### Immediate Past TMS Representative



Art Schroeder  
*Energy Valley, Inc.*

### Committee Members

Bulent Aksel,  
GE Oil and Gas  
Keith Anderson,  
Woodgroup Kenny  
George T. Campbell,  
Valimet  
Ting Chen,  
West Virginia University  
Adrian Connaire,  
Wood Group Kenny  
Jeff O'Donnell,  
Technip  
Peter Gibb,  
Vitrex

Rick Hill,  
Universal Pegasus  
Peter Huang,  
Subsea Engineering  
Kieran Kavanagh,  
Woodgroup Kenny  
Hojong Kim,  
Penn State  
Xingbo Liu,  
West Virginia University  
Weihong Meng,  
Genesis Oil and Gas  
Carlos Moreira,  
Genesis Oil and Gas

Patrick O'Brien,  
ITF Energy  
Sandeep Patni,  
Shell  
Jamal Righi,  
Alcoa  
Ruxin Song,  
Genesis Oil and Gas  
Xiaoyan Yan,  
Chevron  
Liang Yu,  
Deepflex  
Jeff Zhang,  
Clearview Subsea LLC



The authors of this article sincerely thank the many volunteers over the years who have established and maintained the TMS presence at OTC. We have a common goal of increasing TMS's visibility in our industry to bring materials technology to the forefront. TMS members interested in volunteering their expertise and ideas to OTC should contact Mike Bazzy, TMS Senior Manager, Membership and Marketing, at [mbazzy@tms.org](mailto:mbazzy@tms.org); Mark Kalman, TMS-OTC board member, at [mark.kalman@deepflex.com](mailto:mark.kalman@deepflex.com); Greg Kusinski, TMS-OTC Program Committee Chair, at [gkusinski@chevron.com](mailto:gkusinski@chevron.com); or Indranil Roy, TMS-OTC Program Committee Vice-Chair, at [iroy@slb.com](mailto:iroy@slb.com). We look forward to seeing you at OTC 2015! For further information about OTC, visit [www.otcnet.org](http://www.otcnet.org).

The authors of this article are members of the TMS-OTC leadership group as described above.

## Join OTC in 2015

Plan now to attend one of the OTC events taking place in 2015. The most comprehensive is OTC 2015, May 4–7, at NRG Park, Houston, Texas. A new event—"d5: The Next Big Thing"—immediately follows OTC on Friday, May 8, at the University of Houston, with the goal of sparking innovation and identifying the next big step for the energy industry.

The Arctic Technology Conference, March 23–25, Copenhagen, Denmark, is a highly focused event addressing the particular issues associated with arctic exploration and production. OTC Brasil 2015, October 27–29, Rio de Janeiro, enables networking and business connections in an emerging region of offshore development.

To learn more about these events and to register, visit the OTC website at [www.otcnet.org](http://www.otcnet.org).

### TMS Volunteers to the 2015 Arctic Technology Conference



**Copenhagen,  
Denmark**

**March 23–25, 2015**

#### TMS Representatives to Program Committee

Rocky Taylor,  
Memorial University  
of Newfoundland  
Jeffrey R. O'Donnell,  
Technip



Charles Smith,  
*TMS Representative  
to the Oversight  
Committee,  
Petroleum Research  
Newfoundland and  
Labrador*

### TMS Volunteers to OTC Brasil 2015

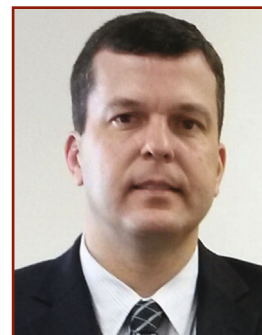


**Rio de Janeiro,  
Brazil**

**October 27–29, 2015**

#### TMS Representatives to Program Committee

Carlos Moreira,  
Genesis Oil and Gas/  
Technip



Felipe Lamego,  
*TMS Representative  
to the Oversight  
Committee,  
DeepFlex Inc.*



**Kuala Lumpur,  
Malaysia,**

**March 22–25, 2016**

OTC Asia 2016 is currently in the early planning stages. TMS representatives to the organizing committees of this event will be announced in 2015.

For information on volunteering for any of the OTC events, contact Mike Bazzy, TMS Senior Manager, Membership and Marketing, at [mbazzy@tms.org](mailto:mbazzy@tms.org).

