



# Offshore Technology Conference

## Interview with Norman Carnahan

### What is the Offshore Technology Conference?

The Offshore Technology Conference (OTC) was founded in 1969, in Houston, TX, by AIChE and 11 other engineering and scientific societies. The OTC is organized and operated to promote and further the advancement of scientific and engineering knowledge and practical technology needed to effectively develop offshore petroleum resources in a safe and environmentally responsible manner.

The original OTC was held in the Albert Thomas Convention Center. The event was moved to the Astro-dome complex in 1970, and was held there for 33 years. In 1982, the OTC drew 108,000 attendees and 2,500 exhibitors — the highest attendance to date. Today, the OTC is held in the Reliant Center complex. Attendance last year was 89,000, and is expected to exceed that at the 2013 OTC.

### What is your current role in OTC?

I am a member of the OTC Board of Directors. Since the first OTC in 1969, I have attended the annual event and served on various OTC Conduct Committees that the South Texas Section of AIChE has staffed for decades. The OTC now has three regionally focused events, OTC Brazil, Arctic Technology Conference, and OTC Asia. My responsibilities include monitoring the financial and technological aspects of programming that support AIChE's mission in each of those events.

Whereas we once had only one event, we now have four events, each presenting challenges and opportunities to advance AIChE's mission in different regions of the world.

### What are some of the top reasons to attend OTC 2013?

Finding and developing oil and natural gas resources is a multidisciplinary endeavor that involves the funda-

mentals, principles, and practices of chemical engineering, petroleum engineering, mechanical engineering, civil engineering, electrical engineering, geology, geophysics, etc. The OTC 2013 is a great opportunity to interact with fellow professionals from many other scientific and professional societies and learn more about the development of offshore energy resources. Participation promotes knowledge transfer in this field.

OTC 2013 will honor a prominent chemical engineer, Professor Dendy Sloan, of the Colorado School of Mines. Sloan will receive the OTC's prestigious Heritage Award in recognition of his career achievements in gas hydrate research.

OTC 2013 will have AIChE-developed and sponsored panel sessions on safety and environmental management systems, and on megaproject management, plus many technical sessions on flow assurance chemistry, multiphase flow applications, etc.

### What are some of the events and presentations that attendees can look forward to at OTC 2013?

In addition to the excellent technical program with sessions on many topics of interest to chemical engineers, OTC 2013 will feature three networking events to stimulate interaction among participants.

The Health, Safety, and Environmental (HSE) Networking Event on Monday afternoon, May 6, is an opportunity for HSE professionals and managers to meet and discuss issues of interest to them.

The Women in the Industry Sharing Experiences (WISE) Event on Tuesday afternoon, May 7, is an opportunity for women in this field to meet, network, and discuss common interests. Maria das Graças Silva Foster, CEO of Petrobras and

a successful chemical engineer, is its keynote speaker.

On Wednesday afternoon, May 8, there will be a networking event focused on the emerging area of megaproject management. In addition, there will be a panel session on megaproject management on Wednesday morning to discuss the challenges and opportunities in this emerging field.

### What can chemical engineers in particular gain from OTC 2013?

OTC is a forum for discussion and dissemination of technical knowledge pertaining to the safe and effective development of offshore petroleum and mineral resources. The offshore industry has numerous challenges that involve the chemical engineer's education, training, and analytical mindset. Chemical engineers have a unique opportunity to contribute to the development of innovative technologies that will solve current offshore challenges and make the next wave of technologies a reality.

This year's OTC technical program is one of the best ever, with excellent sessions involving fluid flow, phase equilibrium, pipelines, corrosion and coatings, hydrates, asphaltenes, and many other topics familiar to chemical engineers. Chemical engineers can find a myriad of opportunities to apply their skill and knowledge in the upstream arena of offshore technologies.

Are you looking for a new job? You may find a company looking for someone with your skill set and level of experience. OTC is a great opportunity to meet others and cultivate connections.

Come find out. You'll be amazed by the innovative work and technologies presented at the conference. Join me and many of your chemical engineering colleagues at OTC 2013, at the Reliant Center in Houston, May 6–9.

CEP



### Orbital Welding System Controls Welding Parameters



The APEX 2100 orbital welding system has several new features that speed up and ensure accurate high-speed tungsten inert gas (TIG) welding. Housed in a modular cabinet, the complete system integrates an advanced welding power source, controller, water cooler, and accessories required to drive the orbital weld head and pipe clamping system. Its new orbital controller monitors and controls welding parameters throughout the welding process, and records all information for future reporting. The Helix T55 Weld Head has a low-profile design for confined or restricted spaces. The Power Wave S500 is a power source that delivers a fast arc response and includes more than 65 standard welding waveforms for optimized performance in any application.

**Lincoln Electric**  
[www.lincolnelectric.com](http://www.lincolnelectric.com)  
Booth 3721

### Density Meter Withstands Harsh Chemicals

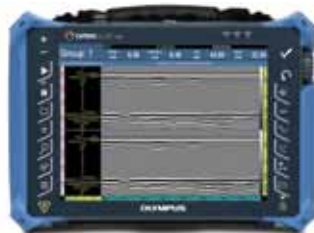


The L-Dens 437 E process density meter has a U-tube made of Hastelloy, which is suitable for applications involving aggressive or corrosive chemicals. It measures density by determining the frequency of the

oscillations of the U-tube. The meter connects to an evaluation and display unit that calculates specific gravity, concentration of various acids/bases, and several other parameters based on density. The unit also provides Modbus, HART, and 4–20-mA outputs to connect to any flow computer or programmable logic controller (PLC).

**Anton Paar**  
[www.anton-paar.com](http://www.anton-paar.com)  
Booth 8721

### Ultrasound Module Improves Flaw Detector



The OmniScan MX2 flaw detector is now offered with a 2-channel conventional ultrasound (UT) module for time-of-flight-diffraction (TOFD) inspections. The onboard software has also been updated with TOFD-specific improvements to maximize performance. TOFD is a unique ultrasonic technique that utilizes time-based signal information for flaw sizing, instead of the traditional amplitude-based sizing. TOFD can size defects more reliably regardless of the orientation of the crack. The new UT module has a higher pulse voltage (340 V) and an improved signal-to-noise ratio.

**Olympus NDT**  
[www.olympus-ims.com](http://www.olympus-ims.com)  
Booth 5431

### PEK Polymer Is Both Ductile and Thermally Resistant

The oil and gas industries typically use polyether ether ketone (PEEK) rather than polyether ketone (PEK) thermoplastics; although PEK has higher thermal resistance, it is also more

brittle and more expensive. However, the Thermec K 3780 PEK polymer provides an optimal, cost-effective combination of ductility, strength, chemical resistance, and temperature resistance. It also has high impact resistance, high elongation, and a moderate price. Thermec K 3780 PEK has a tensile strength of 107 MPa, a flexural modulus of 4,000 MPa, a melt temperature of 370°C, and a heat deflection temperature of 166°C.

**Technical Polymers**  
[www.technicalpolymers.com](http://www.technicalpolymers.com)  
Booth 11824

### Gas-Detection System Is Battery Operated

The MeshGuard wireless gas detector is a battery-operated, rapidly deployable, area-wide monitoring system. It communicates with wireless detectors and controllers, and can use any of its five internal relays to trigger audible and visible alarms to provide alerts in noisy environments. When it detects hazardous gases, it relays information to a central system so safety personnel have real-time data on the whole facility. MeshGuard can improve worker safety and save the time and money it takes to run signal cabling in hazardous environments.

**RAE Systems, Inc.**  
[www.raesystems.com](http://www.raesystems.com)  
Booth 9154

### Compressor Controller Features Advanced Algorithms

This single-stage compressor controller ensures safe and energy-efficient operation across a compressor's operating range. Advanced control algorithms compensate for variations in gas composition, temperature, and pressure, while surge detection predicts and negates the onset of surge. The controller harnesses the Allen-Bradley CompactLogix control platform. The pre-assembled

cabinet comes ready to install, with power supplies and terminations, and offers Ethernet and serial Modbus communications.

**Rockwell Automation, Inc.**  
[www.rockwellautomation.com](http://www.rockwellautomation.com)  
Booth 9035

### **HMI Controller Has High-Resolution Display**

This human-machine interface (HMI) controller for the company's automated cladding equipment includes a high-resolution color display, an intuitive user interface with 23 backlit buttons, and emergency stop and multistep confirmation buttons. Other features include English or Spanish readouts, a loop handle, and a magnetic device bracket. The company's automated cladding systems are completely digital, and come with a power supply, wire feeder, and controller to provide the end user with maximum arc control.



**Fronius USA**  
[www.fronius-usa.com](http://www.fronius-usa.com)  
Booth 7029

### **Transport System Accommodates Heavy Equipment**

This modular offshore equipment transport system (MOETS) transports and positions heavy equipment such as valves, compressors, turbines, pumps, and transformers. It is both lightweight and flexible to accommodate any load. The unique, portable structural-overlay system operates easily on the rig surface and maneuvers into tight spaces. MOETS makes it possible to move heavy objects outside of a crane's operating area.

**AeroGo**  
[www.aerogo.com](http://www.aerogo.com)  
Booth 6543

### **Particle Analyzer Examines Samples Automatically**

The At-Line Flow-CAM Engineered System (ES) imaging particle-analysis system automatically extracts, dilutes, and runs samples from within the production or processing line to eliminate manual sampling. This speeds the sampling process and promotes maximum line uptime and removes the risk of human error in data acquisition. The system automatically detects thousands of particles and microorganisms in seconds, takes a high-resolution, full-color digital image, and displays the size and shape using more than 30 different measurement parameters. The FlowCAM ES may be monitored and operated remotely, and is available custom-configured.



**Fluid Imaging Technologies, Inc.**  
[www.fluidimaging.com](http://www.fluidimaging.com)  
Booth 11826

### **Metal Expansion Joints Feature Proprietary Welding Technology**

These metal expansion joints have been manufactured using micro-edge-welding technology. With this technique, round or rectangular metal diaphragms are stamped; then the inside diameter and alternating outside diameters of the diaphragms are welded together to create an extremely flexible joint. Edge-welded bellows technology offers high cycle life and excellent repeatability. The joints are available in stainless steel, Inconel, Hastelloy, and titanium, among other materials.



**BellowsTech**  
[www.bellowstech.com](http://www.bellowstech.com)  
Booth 6109

### **Battery-Powered Systems Are Lithium-Free**

These downhole power systems have lithium-free extreme environment (EE) cells, which eliminate the need for primary cells in measurement-while-drilling (MWD) and logging-while-drilling (LWD) operations. Unlike existing downhole batteries, the EE cells operate safely and reliably at 150°C and present no safety risks when overloaded. They carry no risk of thermal runaway explosions, and pose no hazards when overcharged, subjected to high shock or vibration, or crushed or damaged.

**FastCAP Systems**  
[www.fastcapsystems.com](http://www.fastcapsystems.com)  
Booth 256

### **Fiber Cleans Metal Fragments from Wellbores**



The Super-Sweep fiber cleans cuttings and metal fragments from a wellbore without changing the viscosity of the drilling fluid. Rather than chemically changing the fluid to increase its carrying strength, Super-Sweep creates a fluid suspension that carries cuttings to the surface and allows them to be removed from the fluid system. The fiber is white, and is produced in uniform lengths to allow for rapid dispersion and uniform flowability in a wide range of fluids. Super-Sweep contains an estimated 850 miles of fiber per pound.

**Forta Corp.**  
[www.fortacorp.com](http://www.fortacorp.com)  
Booth 1670