

Oceanology International to have Three Points of Focus

When Oi08 opens at the ExCeL centre in London's Docklands on 11 March, the exhibition and its accompanying conference will focus on the three important issues that have begun to dominate thinking in ocean science and technology: climate change, meeting future energy demands, and ensuring environmental and civil security. These have become interconnected issues, with expertise now moving freely between each of these apparently specialised sectors.

With a 3-day conference accompanying this major exhibition, it is almost inevitable that public concerns about climate change will attract considerable interest. The role of the oceans in global warming is likely to take the exhibition and conference beyond its traditional specialised audience, as all eyes will be on it in the quest for a solution to the problem. The need to identify future energy resources is a closely related challenge that demands the application of expertise from many sectors of the ocean science community. Meanwhile, civil and environmental security now seem to underlie everything that happens today and this specialised sector has been attracting expertise from previously unrelated branches of the industry. This year, the 3-day conference is being sponsored by the Institute of Marine Engineering Science and Technology (IMarEST) and the Society for Underwater Technology. Dr Ralph Rayner, Vice-president of IMarEST, will act as chairman of the conference, which – in addition to a range of papers – will feature a Distinguished Lecture by former BP Chief Executive Lord Browne of Madingley. Each day of the conference will be devoted to one of the three themes and the organisers believe that, in view of the level of technology and skills transfer within the industry, delegates are likely to find something of interest on each day.

"We can expect the opening Plenary to provide those attending Oceanology with a comprehensive overview of some of the most pressing issues for the future," said Dr Rayner. "These are issues that will be the predominant drivers for marine science and that will shape future markets for marine technology."

Several conference papers will highlight new developments in environmental monitoring and the provision of the data needed to measure the effects of climate change. Changes to ocean currents and ice thickness are acknowledged as vital indicators of global health and the new technologies developed to monitor them will play an important role in the global campaign to preserve our environment.

The conference will also include papers on the increasingly important role of AUV technologies in supporting deep-water oil and gas exploration and production. Other papers will explore the analysis and interpretation of marine information in support of offshore design and operations.

"Many of the technologies developed to support the offshore oil and gas industry are finding application in the rapidly growing offshore renewables sector," explained Dr Rayner. "The session 'Renewable Energy from the Oceans' includes papers describing the types of renewable energy systems being implemented and the ways in which marine science and technology is being applied in support of this increasingly important sector."

In addition to its role in monitoring the global environment as affected by climate change, the industry also has responsibilities towards more local issues.

"There is a growing awareness of the vulnerability of the offshore and coastal environment to both natural events and human pressures," said Dr Rayner. "The 'Marine Environmental Security' session focuses on the latest developments in monitoring and forecasting natural events such as tsunamis, as well as papers covering aspects of the protection of the coastal environment."

Even for those who do not attend the conference, Oceanology International must be an essential date in their diary as the accompanying exhibition is where the latest products and services are on show and where intensive networking can be an enjoyable preoccupation. With over 400 exhibitors in the ExCeL hall, manufacturers and customers will have the year's best opportunity for meeting and doing business. They will also be together in Europe's – if not the world's – best city for leisure and entertainment, so that at the end of the working day there will be no shortage of opportunities for practising their social skills.

Products on Show at Oi08

The Oceanology International exhibition is the prime event for manufacturers supplying businesses in the ocean sciences sector. Here is a look at some of the products and innovations they will be presenting.

Upgraded Ice Profiler

Physical oceanography specialists ASL Environmental Sciences will be showcasing the Ice Profiler-5 and the Acoustic Water Column Profiler-5. Both are recently released upgraded versions with many new features. The Ice Profiler measures ice-keel depths and many have been sold recently for use in International Polar Year studies and offshore oil and gas projects. The Acoustic Water Column Profiler monitors the presence and location of zooplankton, fish or sediments.

Location: Stand 841

www.aslenv.com?

New Products on the RS Aqua Ltd Stand

Visitors to the RS Aqua stand will be able to pick up the latest news about the Waverider Mk4 directional wave buoy from Datawell bv. This new product, code-named DWR Mk4, this device will feature acoustic current-measuring capabilities and is scheduled for market release later this year. It will also feature intelligent battery management and automatic identification system (AIS) capabilities.

Aanderaa Data Instruments (AADI) will be highlighting the new Seaguard platform, which is an adaptable, powerful underwater data-acquisition system. Designed to operate with both the AADI range of Smart Sensors and other proprietary sensors, Seaguard can be configured to meet a host of applications in environments ranging from the deep ocean to the coastal zone.

Contros Offshore Systems & Solutions GmbH will be demonstrating their novel range of on-line sensors for methane, hydrocarbons and CO2 monitoring in the ocean environment. Design experts from Contros will be on hand to explain operational techniques.

Cobham Tracking & Locating Ltd will have a comprehensive display of their location beacons including the model AS-900A full ocean depth Argos beacon, which has proved extremely popular over the last 12 months. Rosemount Tank Radar AB from Sweden will display WaveRadar REX, which has experienced record sales during 2007 with the first quarter of 2008 showing a further increase. The device is a standard fixture on offshore oil and gas platforms, offshore wind farms and coastal monitoring stations.

Nautilus Marine Systems GmbH will be showing Vitrovex glass products, including deep-ocean buoyancy spheres, instrument housings and camera lenses. Turner Designs Inc. will feature their PhytoFlash submersible active fluorometer, which detects the quantum efficiency of phytoplankton in coastal and ocean environments. Also being promoted is the 'C6' – a host platform for up to six Cyclops7 submersible sensors with available parameters including chlorophyll a, phycocyanin, phycoerythrin, rhodamine WT, fluorescein, coloured dissolved organic matter, crude oil and turbidity.

Location: Stand 520

www.rsaqua.co.uk

WatchKeeper Data Collection Buoy

AXYS will be exhibiting its new WatchKeeper™ data-collection buoy, a key feature of which is its AIS capability. The buoy can send its location and associated data, such as wave height or wind speed, at set intervals to any transiting vessel within a pre-defined radius. The 1.7m diameter WatchKeeper™ is said to offer exceptional station keeping, a long life and system-expansion capabilities. The solar-powered WatchKeeper™ can be fitted with a variety of water-quality and meteorological sensors.

Location: Stand 302

www.axystechnologies.com

EdgeTech's new Side-scan Sonar System

EdgeTech has designed a new side-scan sonar system that is capable of providing very-high-resolution imagery at increased ranges and tow speeds. The new 4700-DFX is a dual-frequency 300/600kHz system that combines EdgeTech's multi-pulse technology (for high tow speed capability) with dynamically focused transducers, which provide high-resolution imagery at increased ranges: as much as 20–30% over conventional technology side-scan systems. The result is an affordable state-of-the-art sonar system. Using dynamically focused transducers, the 4700-DFX will provide very-high-resolution imagery at a range of 250 metres/side at 300 kHz and 125 metres/side at 600 kHz. While operating in multi-pulse mode at the 600kHz frequency, the system can be towed at speeds of up to 14 knots while still maintaining 100% coverage.

Location: Stand 320

www.edgetech.com

General Acoustics to Show new Sub-bottom Profiler and LOG_aLevel Tide Gauge

General Acoustics will be presenting its new SUBPRO 1210 sub-bottom profiler, which is said to offer solutions for many different applications and tasks. It is claimed to be particularly effective in very shallow water starting at 1.5m, and its high resolution and 10m penetration in sand is expected to impress visitors.

The LOG_aLevel tide and wave gauge is autonomous, being calibration- and maintenance-free. It won several comparison tests (for example, RIZA 2005) and received BfG (German Hydrographic Office) approval in 2007. The mobile version of LOG_aLevel is used, for example, by the US Army Corps of Engineers district SF to support survey operations with accurate tidal and wave data.

Location: Stand 1120

www.generalacoustics.com

HYPACK Version 2008

HYPACK 2008 is starting the year with a totally new look with floating tool bars, multiple views for a project, and flexible and customised window arrangement in Survey. Some of the new features in HYPACK 2008 that will be demonstrated during Oi08 are the point cloud editing tool, sub-bottom profiling, new 3DTV with waves and sky, and support for MrSID and JPEG2000 background charts. Some of the new features in HYSWEEP include the new Odom ES3 and Riegl laser scanning interfaces. In addition, the capability for logging and displaying snippets and total propagated error (TPE) has been added. New multi-beam editing and filtering tools and a new CUBE with enhanced OpenGL graphics will also be presented.

Location: Stand 800

www.hypack.com

INNOVATUM's Smartrak 6 Looks Down

Smartrak 6 is a new AC magnetic-tracking system for finding toned cables, and gives location and survey, including depth of burial. A wider range of ROVs than before can be used, including work class vehicles and, for the first time, observation class vehicles. Lightweight electronics and new smaller sensors (95mm length x 25mm diameter) have made this versatility possible.

Location: Stand 710

Micro DVL Gains Popularity

LinkQuest will be showing its NavQuest 600 Micro DVL (Doppler velocity log), which gained much popularity worldwide during 2007. Applications include deep-water AUV navigation, shallow-water AUV navigation, ROV station keeping, ROV velocity, altitude and current speed monitoring, manned submersible navigation and diver navigation. The NavQuest 600 Micro DVL is the world's smallest and lightest DVL. In its standard configuration with pressure housing, NavQuest 600 Micro DVL is about 12.6cm in diameter, 17.0cm in length and weighs less than 1.2kg in water. In the OEM configuration without pressure housing, it is about 12cm in length and weighs less than 0.8kg, which LinkQuest says makes it by far the smallest and lightest DVL in the market.

Location: Stand 904

www.link-quest.com

Magellan to Showcase new High-performance GNSS Receiver

Magellan will showcase its latest dual-frequency GNSS receiver to marine survey and dredging industry customers. This new development processes GPS and GLONASS signals via the company's patented baseline accurate determination engine (BLADE) technology to offer fast centimetre-accurate performance for demanding high-precision applications. BLADE technology employs a unique algorithm that delivers very efficient performance for faster, more accurate point determinations.

This new receiver is said to offer a unique blend of technologies that increase RTK availability. It enables users to take advantage of currently available GPS, GLONASS and SBAS signals, and it can be upgraded to receive future constellations such as Galileo.

Location: Stand 1314

www.magellangps.com

WaMoS II Displays High-resolution Currents

OceanWaveS GmbH will be launching an add-on for their wave-monitoring system WaMoS II that allows the determination of high-resolution surface currents and bathymetry by monitoring the wave field with X-band radar. This high-resolution surface current and bathymetry software delivers maps of current speed, current direction and water depth on a 300m grid in real time. It allows the investigation of morphodynamics and small-scale dynamic processes in coastal zones, for instance. For certain offshore and shipping operations, surface currents can play a critical role. Such measurements provide detailed information about the currents within the radar image, which can cover many square kilometres.

Location: Stand 934i

www.oceanwaves.de

New Data Buoys and Corer

OSIL will be launching its new range of robust and adaptable data buoys. Visitors to the company's stand will be able to see the small and cost-effective OSIL200, which illustrates the compact and light-weight design of the buoys. OSIL's data buoys provide a monitoring platform for a wide assortment of instrumentation and their highly stable design makes them suitable for a variety of short- and long-term applications.

OSIL will also be exhibiting its new midi corer, which is part of the company's range of Bowers and Connelly multiple corers. These have undergone significant changes in manufacture to ensure that the best possible sediment cores are obtained.

Location: Stand 602

www.osil.co.uk

Presens Creates Technology Shift in Pressure Measurement

Norwegian pressure sensor company, Presens AS, is launching its new PRECISE pressure sensor. Utilising advanced digital MEMS technology, the PRECISE sensor is ideal for applications such as maritime underwater positioning and navigation systems, submarine applications, leakage detection and digital gauges that require high accuracy, low drift and high resolution. The PRECISE sensor measures high pressures with extreme accuracy and no significant drift. With a guaranteed total error band (all possible errors) of less than about $\pm 0.01\%$ FS, high resolution and an inherent tolerance to over-pressure and pressure spikes, the sensor offers a level of performance that Presens says is unequalled by any other pressure sensor.

Location: Stand 1545

www.presens.com

Directional WaveGuide from Radac

Radac will be introducing its new directional WaveGuide Radar for applications such as monitoring sea level, tides, tsunamis, wind set up, swell and wind waves. The new instrument functions by measuring the relationship between three WaveGuides that each measure wave direction. A configuration with three radars looking vertically downwards has been in operation for years. The Radac solution is to tilt the radars by up to 15° as this makes it possible to have the radars together in one frame. The associated WaveGuide Server then performs all the analyses, presentation, storage and distribution of data.

Location: Stand 844

www.radac.nl

New Products from Saderet

Saderet will have a number of new products and agency introductions on show at Oi08. New products include the Eclipse dual-frequency GPS receivers from Hemisphere GPS. For the first time, Saderet will also be featuring Teledyne RDI ADCP products following the company's appointment as the exclusive UK representative for the Marine Measurements Division in 2007. On the stand will also be the Odom ES3 shallow-water multi-beam system, which was recently very successfully trialled.

Location: Stand 1020

www.saderet.co.uk

Schleifring Offering two Variations for Rotary Joint

Underwater and deep-sea applications such as ROVs and observation systems require demanding solutions and an unparalleled level of precision and technical reliability even under extreme temperatures, shock and vibration. For submerged and pressure-compensated use in depths of 4,000 metres and pressures of up to 6,000psi (400bar), Schleifring offers two variations: the full system, which is fluid-filled and pressure-compensated up to 6,000psi (400 bar); and the open system, for integration into any existing oil pressure system. Various custom-specified fluid types can be used with this pressure-compensated fibre optic rotary joint (FORJ). With transmission of data rates at >10Gbit/s and a rotational speed of 100rpm, the slip ring unit allows for extremely low insertion loss of <3.5dB – valid for all channels.

Location: Stand 934e

www.schleifring.de

ENC Capturing Tool Turns Freeware

SevenCs GmbH announced that its popular ENC digitising software became available as freeware as of the end of January 2008. First introduced in 1997, the ENC Designer is in use by more than 40 hydrographic offices. It is considered the most effective software on the market to quickly generate ENC's from survey sheets and paper charts. The ENC Designer software can be downloaded from

www.enctools.org

Location: Stand 114

www.sevencs.com

Sonardyne sets the Oi08 Theme

The successful application of offshore technology to security applications has made Sonardyne one of the companies demonstrating the theme of Oi08. Climate change and maritime security, two of Oceanology's conference themes for 2008, will be represented by - Sonardyne's much publicised tsunami warning system and the new Sentinel Diver Detection Sonar, both of which are making their Oceanology debut. Both are based on acoustic expertise developed serving the offshore energy industry.

The principal theme of Sonardyne's stand will, however, be its successful wideband technology. A Lodestar, Sonardyne's new attitude and heading reference system, will feature in the company's wideband USBL zone where it will highlight the unrivalled performance attainable when this sensor is combined with Ranger and Fusion USBL systems.

The successful use of wideband for subsea construction will be highlighted in the LBL zone where some of the company's specialist project surveyors will be on hand to discuss its benefits for field development applications. There will be live demonstrations of integrated high-speed data telemetry using wideband-enabled transponders, transceivers and Lodestar AHRS. These demonstrations will illustrate the long-term logging and autonomous operation capabilities of this new technology.

Location: Stand 926

www.sonardyne.com

Submarine Escape Training on Laptop

Sonistics is promoting a training package based on serious games software. This is currently being developed for use within submarine escape training but has a huge range of applications. Visitors to stand 332 will be able to try their hand at seeing how far they get finding their way around a submarine!

Location: Stand 332

www.sonistics.com

New Solid-state Gyrocompass

Teledyne TSS is launching a new solid-state, digital gyrocompass, the SGB 2000. The units will be available in surface and subsea versions and will build upon the international success of the company's Meridian gyros. Teledyne TSS will also be showing its high-performance Orion inertial navigation system, which is aimed at meeting the needs of users in the offshore subsea construction and survey industries, who need a dependable and competitively priced reference system. It can provide precise attitude, heading and heave data, and is suitable for a wide range of applications such as supporting multi-beam sonar surveys or the construction of major seabed installations. The subsea version is available rated to 6,000 metres, while the surface model can be used in the most extreme sea conditions to ensure minimal downtime.

Location: Stand 306

www.tss-international.com

'Devil XBT' Data-acquisition and Recording System

Turo Technology is launching its latest product, the Devil XBT data-acquisition and recording system. The Devil XBT has been designed for use with Lockheed Martin Sippican launchers and expendable probes to record ocean temperature profiles. The compact and lightweight Devil XBT connects via USB to a shipboard computer or laptop for simple and portable operation.

The Devil XBT software is claimed to be very simple and intuitive to use. Selecting and launching a probe is straightforward and quick, and the user interface can be configured to the needs of different types of users such as navies, volunteer ships and researchers.

Location: 1260

www.turo.com.au

Oi08 dates - Tuesday 11 March 2008, 9am to 6pm- Wednesday 12 March 2008, 9am to 6pm- Thursday 13 March 2008, 9am to 5pm