

## SEA-BIRD SCIENTIFIC TRAINING AT OCEAN BUSINESS (Ray Beverton Room 044/11)

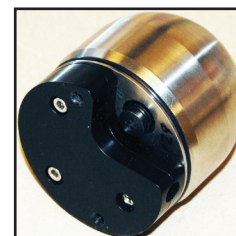
Tuesday, April 9	Wednesday, April 10	Thursday, April 11
9:30 am (WET Labs): Long-term water-quality monitoring	9:00 am (Satlantic): Long-term ocean pH monitoring	1:30 pm (WET Labs): Crude oil detection: fingerprinting & reduction of false positives
11:00 am (Sea-Bird Electronics): Application-specific CTDs & sensors: 911plus to MicroCATs	10:30 am (WET Labs): Stability & calibration of optical sensors	3:00 pm (Sea-Bird Electronics): Real-time data moorings using Inductive Modem communications
1:00 pm (Satlantic): In-situ UV nitrate sensor technology	12:00 pm (Sea-Bird Electronics): New optical dissolved oxygen sensor: SBE 63	

## PRODUCT NEWS

### SBE 63 Optical Dissolved Oxygen Sensor

The SBE 63 features:

- Initial accuracy larger of  $\pm 3 \mu\text{mol/kg}$  or 2%, resolution  $0.2 \mu\text{mol/kg}$ , sample-based drift  $< 1 \mu\text{mol/kg}/100,000$  samples ( $20^\circ\text{C}$ ), response time  $< 6$  sec ( $20^\circ\text{C}$ ), measurement range 120% of surface saturation in all natural waters (fresh and salt)
- Sampling speed: 1 Hz
- Calibration: each sensor fully and individually calibrated
- Depth rating 600 or 7000 meters



The SBE 63 is intended for integration with moored SBE 16*plus* V2, 16*plus*-IM V2, and 19*plus* V2 SeaCATs, Argo float CTDs, and SBE 37 ODO MicroCATs. Details: [www.seabird.com/products/spec\\_sheets/63data.htm](http://www.seabird.com/products/spec_sheets/63data.htm).

### Next Generation Sealogger CTD — SBE 25*plus*

Compared to the SBE 25, the 25*plus* incorporates an electronics upgrade, mechanical redesign, and additional features, with 16 Hz sampling, 8 differentially amplified A/D input channels and 2 RS-232 data input channels, 12-cell alkaline battery holder, and 2 GB memory. Output formats include engineering units in addition to raw hex data. Data is uploaded via the external bulkhead connector or internal USB connector (fast upload). The unique end cap design provides easy access to bulkhead connectors, simplifying the addition and removal of sensors. Customers with existing SBE 25s can re-use their temperature and conductivity sensors and pump, associated cabling, and cage, reducing the cost of upgrading. Details: [www.seabird.com/products/spec\\_sheets/25plusdata.htm](http://www.seabird.com/products/spec_sheets/25plusdata.htm).



Sea-Bird will continue to service and support the old SBE 25 for the foreseeable future.

### SDI-12 Interface — MicroCAT CTDs

SBE 37-SMP and 37-SMP-ODO MicroCATs are now available with an SDI-12 interface in addition to the RS-232 interface. The dual interface allows for setup and data upload from memory via RS-232, using the full set of commands, while a more limited set of commands can be sent via SDI-12 to make small setup changes in the field and poll for data.

### Biogeochemical Navis Autonomous Profiling Float

A Navis profiling float with integrated biogeochemical sensors is now available:

- The individually calibrated SBE 63 Optical Dissolved Oxygen sensor is integrated within the CTD flow path, providing maximum bio-fouling protection.
- The MCOMS is three sensors in one, providing any combination of fluorescence and scattering measurements. The sensor is integrated directly into the float end cap and co-located with DO and physical measurements.

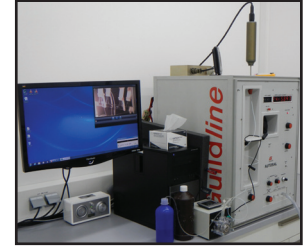


Navis serves the Argo mission with the fleet-standard SBE 41CP CTD, Iridium two-way communication, and an easy-to-use mission programming interface. It is self-ballasting, and deployment is easy as a result of the light weight and small size. With 6000+ ocean CTD profiles transmitted over the past three years, Navis has demonstrated field endurance, and is backed by a Sea-Bird warranty. Details: [www.seabird.com/products/spec\\_sheets/NavisBGCdata.htm](http://www.seabird.com/products/spec_sheets/NavisBGCdata.htm).

## SEA-BIRD NEWS

### European Calibration and Repair Facility

Sea-Bird's calibration and repair facility in Kempton, Germany opened in late 2011. Currently the facility is performing calibrations and repairs for the following instruments: SBE 3, 4, 5, 9*plus*, 11*plus*, 16, 16*plus*, 16*plus* V2, 17*plus*, 18, 19, 19*plus*, 19*plus* V2, 21, 27, 37, 38, 39, 45, 49, 50, and 52-MP. Additional product capability is planned throughout 2013; it is anticipated that by the end of 2013 this facility will handle 90% of our product line, reducing turn-around time and costs for our European customers. For further information and updates as support is added for additional products, see [www.seabird.com/Sea-Bird\\_GmbH/SbeEurope.htm](http://www.seabird.com/Sea-Bird_GmbH/SbeEurope.htm).



### Lithium Battery Regulation Updates

Significant changes to regulations for shipping lithium batteries were implemented January 1, 2013. If you plan to ship an SBE 37 MicroCAT, SBE 39 Temperature Recorder, and/or SBE 44 Underwater Inductive Modem, see the latest version of your instrument manual on our website ([www.seabird.com/products/ModelList.htm](http://www.seabird.com/products/ModelList.htm)) for a summary of the changes.

### Visit us at Sea-Bird

Planning to be in the Seattle area? We invite you to tour our factory, calibration labs, and offices, and meet with our team to discuss your applications and equipment needs. **Please email or phone ahead of time to schedule your visit.**

### Training at Sea-Bird

Sea-Bird offers regularly scheduled four-day training classes near our factory in Bellevue, Washington (12 miles from Seattle). The class consists of comprehensive operator training on major Sea-Bird products and software, and is hands-on in nature. The curriculum covers profiling instruments, thermosalinographs, and moored instruments, and includes theory and operation, data processing, and maintenance and repair. **The next class is scheduled for October 21-24, 2013.** See [www.seabird.com/training/trainingclass.htm](http://www.seabird.com/training/trainingclass.htm).

## WEBSITE TIPS ([www.seabird.com](http://www.seabird.com))

Check out these recent website additions:

**Training Videos** (to view, go to [www.seabird.com/training/Videos.htm](http://www.seabird.com/training/Videos.htm))

- *O-ring, connector, and cable maintenance*
- *SBE 5T pump maintenance*
- *SBE 32 Carousel Water Sampler maintenance*
- *SBE 18 and 27 pH sensor calibration*
- *SBE 16/19 SeaCAT family maintenance*

**Papers/Posters** (to view this and other papers, pull down *Support* on our home page to select *Technical Papers*)

- *Biogeochemical Monitoring of the Oceans Using Autonomous Profiling Floats*
- *Environmental Monitoring of Dredging Operations*
- *Physical Oceanographic Data from Seaglider trials in Stratified Coastal Waters Using a New Pumped Payload CTD*
- *Drift Measurements in Pressure Sensors*
- *Sea-Bird Electronics: Small Beginnings, Global Impacts*

**Application Notes** (to view this and other application notes, pull down *Support* on our home page to select *Application notes*)

- *Application Note 93: CTD Basics*