



## **Collection of water samples from an autonomous underwater vehicle for tracer analysis**

**P. A. Dodd** (1), M. Price (1), M. Pebody (2) and K. J. Heywood (1)

(1) University of East Anglia, Norwich, United Kingdom, (2) Southampton Oceanography Centre, Southampton, United Kingdom

A compact water sampler rated to full ocean depth (a WS Envirotech Aqualab) has been deployed from an Autonomous Underwater Vehicle (AUV) for the collection of oceanographic tracer measurements. Techniques developed to allow the instrument to collect samples of sufficient purity for tracer measurement without the need for extensive flushing have increased its sampling frequency, allowing a 200ml sample to be collected in 11 minutes. This is achieved by flushing the instrument and sample containers with a chemically labelled fluid of known properties before deployment that can be detected after recovery. The use of a fluid which does not affect the measurement of specific sample properties is also discussed. The sampler was deployed successfully from the Autosub-2 AUV in summer 2004 to collect water samples for oxygen isotope ratio analysis in an East Greenland Fjord.