

Oil companies help marine biologists to explore new frontiers in deep-sea oceanography

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An idea from a young marine biologist at the National Oceanography Centre, Southampton is revolutionising oceanography in the deep oceans. Dr Ian Hudson has been getting the oil industry to sign up to a project that has captured the imagination of companies and oceanographers across the world.

Animals in the deep oceans are now being filmed using robotic vehicles and cameras operated by oil companies. As they seek out new oil reserves on the deep-sea floor or carry out maintenance work, these companies are teaming up with scientists to capture shots of animals never seen before and discover new science.

This global collaboration is called the SERPENT Project - Scientific and Environmental Rov* Partnership using Existing iNdustry Technology.

'The results have been incredible, far beyond our original expectations,' said Dr Hudson. 'We have seen new species, found animals in areas where they were believed not to be present, but most importantly we have been able to observe their behaviour in their natural habitats. There are over 400 oil rigs worldwide - all with the potential to help science explore the oceans. We are working with companies that represent over 200 of them.'

Dr Hudson features in Little Geek, a programme to be shown on BBC World's Earth Report this week (Tuesday 27th September 16.30 GMT Wednesday 28th 01.30 and 07.30 GMT). Little Geek was the name of the robot camera in James Cameron's film The Abyss. Cameron, the director of Titanic appears in the documentary. He regularly sends footage of strange animals to scientists to be identified and says 'That's my favourite game - stump the experts!'

As Dr Hudson explains, 'The SERPENT project has given scientists around the world a privileged view of science in the deep. And it's not just the scientists working on the rigs. When we find something unusual we can email footage to specialists around the world for their advice and expertise. The other great advantage of SERPENT is that we get to see animals behaving in their own habitats and we have documented their behavioural traits at depths from 100 to over 3000 metres.

'Working with Woodside, Australia's largest oil producer, off the coast of Western Australia we have filmed frogfish -deep-sea anglerfish that walk instead of swim. It would have been very difficult to discover this fact from capturing them in a net!'

Following the growing success of the SERPENT project, two giants from the oil industry are hosting international biodiversity conferences next October. This represents a real effort to understand the deep sea and its huge biodiversity.

The first conference, 5th-7th October 2005, is the Deep Sea Biodiversity Symposium to be hosted by TOTAL at Port Cros in France. Oceanographers from the National Oceanography Centre, Southampton, the US and Europe will be addressing the conference, which will be attended by oil chiefs and UN representatives. It is intended that this will launch a new programme to help science and industry work together to survey the deep ocean before it is explored for oil. This is the only way to measure the impact the industry has on deep-sea environment.

Later in the month, 12th-14th October 2005, the IADC, International Association of Drilling Contractors, the world's largest body of gas and oil exploration companies, are meeting for a conference in Stvanger, Norway that addresses the

issue of exploring and drilling for oil in environmentally sensitive areas. This is the first time the IADC have chosen the environment as their key conference issue.

Dr Hudson feels the project is not only changing the way the industry thinks about oceanography but the way science itself is conducted. He said, 'Off the Ninagaloo Reef, Western Australia, scientists working with Woodside have seen a strange jelly-nosed fish that has never been recorded before. Ironically, it is not until these animals have been caught and preserved that they can be officially recognised and named - it's a hangover from the early days of natural science when specimens were rigorously collected and displayed. So although the scientists may film a new species it cannot be formally named until it is captured and dead, even though its very existence might be endangered. We're hoping modern robotic technology will help us to describe more and more species, gaining valuable information about their distribution and life history.'

**ROV - Remotely Operated Vehicles*

Source: University of Southampton

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