First ever underwater university lectures

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Underwater lectures.

Students at the University of Essex have taken their lectures to a whole new level – 18 metres under the sea in remote Indonesia to be precise.

The ground-breaking underwater marine biology lectures were the first of their kind, revolutionising the teaching, educational and learning experience during dives on tropical coral reef systems.

The lectures were held during the annual field trip to the Wakatobi

Marine National Park in Indonesia, organised by the University's School of Biological Sciences for its students.

The serious challenges threatening the future of the world's coral reefs are the backbone of major research being carried out by the University's internationally-recognised Coral Reef Research Unit (CRRU). Its on-going research, focused in this area of Indonesia, looks at the impact of climate change on coral reefs and how to work with nature to find a solution. More than half a billion people depend on coral reefs for food and income.

For the underwater lectures, Professor David Smith used specialised audio equipment so he could talk to students underwater, explaining exactly what they were seeing as they were seeing it. This was a world away from usual underwater communication involving basic slates to write on and hand signals.

Underwater lectures 6.

"It was a fantastic experience as I was able to use the power of observation like never before," explained Professor Smith. "I have been on thousands of dives over the years but this was a totally new experience as I was able to explain to students exactly what they were seeing and inject more passion and feeling into the whole lecture. It was very special and transformed the whole experience both for me and our students."

Using a University of Essex special teaching grant, Professor Smith was able to buy an audio system which, to date, has never been used for formal lecturing and is only used by TV presenters and some professional divers. Professor Smith wore a full face mask which included a microphone and the students wore headsets so they could hear him talk. A hydrophone – an underwater microphone – was then positioned in the water which was linked to a control box and recorder on a boat.

With over 1,000 videos taken during the underwater lectures, adding up to 15 hours of footage, these will prove to be a valuable virtual field course resource for students who are not able to travel to Indonesia but can still get an insight into the experience whilst also providing a great "listen again" opportunity for participating students.

Second-year marine and freshwater biology student Tilly James said: "The underwater lectures were an invaluable part of the course as they enabled us to get a much better understanding of how all the components of the reef system were interacting with each other.

"It was an experience you simply cannot get with traditional lectures. Professor Smith was able to ask us questions throughout the dives, encouraging us as students to apply our theoretical knowledge in a much more practical setting."