

# New clues in Easter Island hat mystery



Dr Colin Richards with the axe

**A team of archaeologists has come one step closer to unravelling the mystery of how the famous statues dotting the landscape of Easter Island in the Pacific acquired their distinctive red hats.**

Dr Colin Richards from The University of Manchester and Dr Sue Hamilton from University College London are the

first archaeologists ever to have excavated Easter Island's statue hat quarry, known to the locals as 'Puna Pau'.

The discovery of a road and a ceremonial axe by the team, who are the first British archaeologists to work on the island since 1914, has thrown new light on the mystery.

"We now know that the hats were rolled along the road made from a cement of compressed red scoria (volcanic rock-like pumice) dust with a raised pavement along one side," said Dr Richards.

"It is likely that they were moved by hand but tree logs could also have been used," he added.

"The mint condition of the ceremonial axe-like tool used for squaring up logs or hollowing out timber, perhaps in canoe construction - suggests that it was not a quarry tool but an offering left by a worker."

Dr Hamilton said: "The hat quarry is inside the crater of an ancient volcano and on its outer lip. A third of the crater has been quarried away by hat production."

"So far we have located more than 70 hats at the ceremonial platforms and in transit. Many more may have been broken up and incorporated into the platforms."

The team examined the way the hats, each weighing several tons, were moved by Polynesians between 500 and 750 years ago.

The axe and the way the road is lined with hats along one side suggests, say the team, that the road was a ceremonial avenue leading to the quarry itself.



# Going underground

**A new tool developed by sensor scientists at the University will allow farmers to see under the soil to check how efficiently crop roots are using water and nutrients.**

The research could have a strong impact on food security – the subject of the Government's recent announcement that it is consulting on how it can ensure that the UK's food supply remains safe for future generations.

"Climate change means that the ability to rapidly identify new plant varieties tolerant to drought and other stresses is going to be critical to breeding the food crops of tomorrow.

"Our technology will help do that," said Dr Bruce Grieve (pictured), head of the Syngenta Sensors University Innovation Centre in the School of Electrical and Electronic Engineering (EEE).

Dr Grieve said: "This project will deliver a new visualisation tool for farmers which will provide them with a 24/7 signal from each and every plant in a screening programme indicating how efficiently the roots are drawing upon the water and nutrients in the soil.

"These subsoil sensor systems are novel but founded upon established low-cost body scanner technologies, which exploit the bending of electrical fields within the subject.

"This new tool will not simply provide a picture of the size and shape of the root structure but rather a non-destructive, quantified and real-time indication of how well they function".

In coming months the team will implement and characterise a next generation of electrical imaging instrumentation which has been designed to meet the specific needs of subsoil imaging for plant root function.

Dr Grieve welcomes your comments and suggestions on this work and the other food security research being undertaken by the group. Comments may be posted on the group blog (web link below).

