

# Geophysics in Archaeological Fieldwork

## Context

Fieldwork is one of the areas where undergraduates can make a genuine contribution to the creation of knowledge through the discovery and mapping of archaeological sites. From an employers' perspective, archaeological contractors complain that graduates do not have enough field experience.

At Reading, an undergraduate geophysics module exists, but this is mainly taken by Environmental Science students rather than archaeologists. Archaeology students' exposure to geophysics can be limited to one lecture in Part 1 and an optional section of a Part 2 module. The number of undergraduate dissertations involving original fieldwork has significantly reduced over the last decade, despite increasing student numbers.

## Aim

This project aimed to develop geophysics in three ways:

- to create an archaeological geophysics lab to enable undergraduate access to a comprehensive range of equipment;
- to increase the number of undergraduates exposed to geophysics both within and outside the curriculum; and
- to build capacity within the department of students with geophysics skills to support colleagues' research and do their own, fundamentally linking teaching and research.

## Resources and Processes

The first objective was achieved by creating a geophysics project room with PCs for geophysical processing and research.

A project officer, based in the Archaeology Department, identified a range of geophysics equipment, which was then trialled for ease of use by undergraduates during the Silchester Archaeology Field School. The students found one set clearly easier to use, and with which they obtained excellent results; this equipment was then purchased.

The project officer also produced a number of 'how to' guides and information sheets to support the equipment. This enabled nearly all first year undergraduates to participate in a large-scale survey and gain experience of the equipment and learn the techniques.

During the Field School, the project officer worked with undergraduates to keep a log of students' experiences so that academics could call on them to assist with their own research projects.

## Results

The project has successfully achieved the first two objectives of the project. The geophysics lab has been used to process data by undergraduates and research students. The geophysics equipment is used at the Silchester Field School, and through using the guides students are more or less able to train themselves. This enables students to gather primary research data and develop new fieldwork skills. As a consequence, academic staff have been able to involve some of the students with work on their own research projects, fulfilling the final project objective.

Additionally the numbers of students undertaking geophysics based dissertations is on the increase: three students conducted geophysics based dissertations in 07-08, and in 08-09 four students are planning to involve geophysics in their project work.

## Sustainability

The equipment, guides and information sheets now form an ongoing part of the work undertaken during the Field School. The geophysics lab is also proving to be a valuable resource.

## Further information

Tim Phillips

[t.j.phillips@reading.ac.uk](mailto:t.j.phillips@reading.ac.uk)