# ISAP NEWS

The newsletter of the International Society for Archaeological Prospection

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## Contents



## Editor's note

Happy New Year to all you ISAP members out there. Not only does the beginning of 2006 bring you this 6th edition of the newsletter, it also brings with it the requirement to pay your ISAP subscription for the coming year!

Payment is easy and comes at the bargain price of £7 or €10. Please make sure you visit http://www.bradford.ac.uk/acad/archsci/archprospection/subscribe.php soon to keep your membership up to date.

And once more, if you have some news on a site, equipment, new technique, an update on a previous submission, or anything vaguely related to archaeological prospecting that you would like to share, please send a brief piece of text (around 500 words) in MS Word format with images to *louise.martin@english-heritage.org.uk*.
Next deadline… 31st March 2006. But please feel free to send your contributions to me any time between now and then.

# A Structure of Unknown Meaning

Harald von der Osten-Woldenburg

## Introduction

In 1998 Dr. Otto Braasch took some pictures of an unusual structure near the town Schwaebisch Gmuend in Baden-Wuerttemberg (fig. 1). Seven years ago this structure was situated in the fields, far away from any houses. But today it is surrounded by buildings of the local industry. In October 2005, it was possible to do some magnetic and electric mappings of this area to get some more information on this archaeological site.

*Fig. 1: Schwaebisch Gmuend - Guegling: Aerial picture of the structure investigated by magnetic and electric mapping. Photo by Dr. Otto Braasch, 1998*

## Results

The magnetic mapping delineated some walls (fig2, top), and the first impression was that this structure, about 40m by 40m in size, could represent the remnants of a roman temple. On one side, sherds of rubbing bowls from the Roman period were detected some years ago at this site suggesting that this structure should be of the Roman period. But on the other side the entrance would be very unusual for a Roman temple. The strong anomalies which surround this archaeological object mark some trees which were planted by the administration of the town to mark the size of the monument. And the bright magnetic anomaly in the south of the structure is caused by a metallic sub-construction of a wooden platform.

We were not successful at all doing some ground-penetrating radar measurements on this site, and the results of the electric mapping showed us, why: the electrical contrasts are extremely low, and according to the resistances we have measured, the humidity and the content of clay in the soil are too high for GPR.

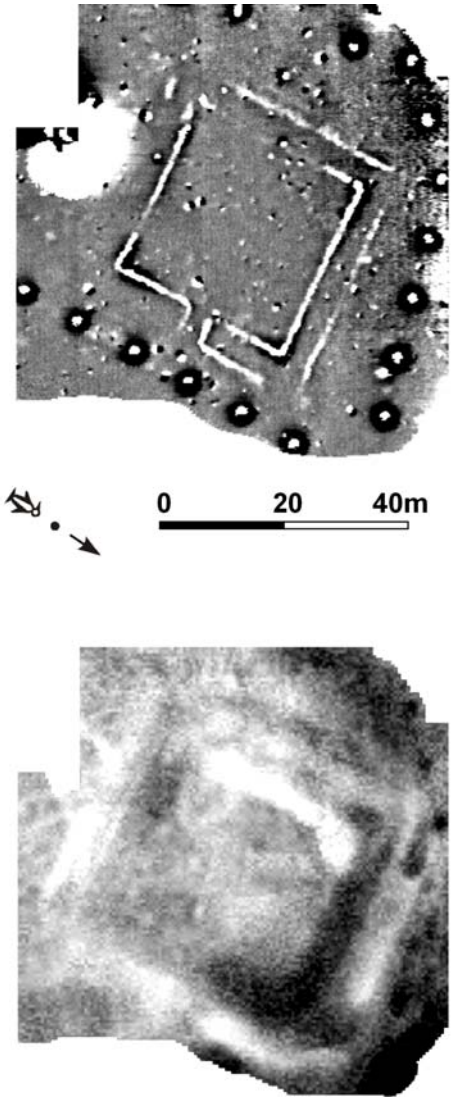


*Fig. 2: Results of magnetic (top) and electrical (bottom) mapping.*

## What is it? A brief discussion

In spite of the low dynamic of the data of the electric mapping we were able to get some more information on this structure, especially some hints on the inner area (fig 2, bottom). Someone suggested that these structures could be typical for a minor Roman fort. But this is in contradiction to the results of the magnetic mapping. Furthermore the results of the electric mapping suggest that there was a wall surrounding the structure indicated in the magnetic mapping by walls. And

according to old documents, a lot of stakes from oak wood were excavated in the year 1870, when preparing the site for gardening.

If we do a numerical combination, based on two different algorithms, of the results of the magnetic mapping (fig3, top) and the results of the electric mapping (fig3, bottom), the combined images suggest that this archaeological structure couldn't be a roman fort.

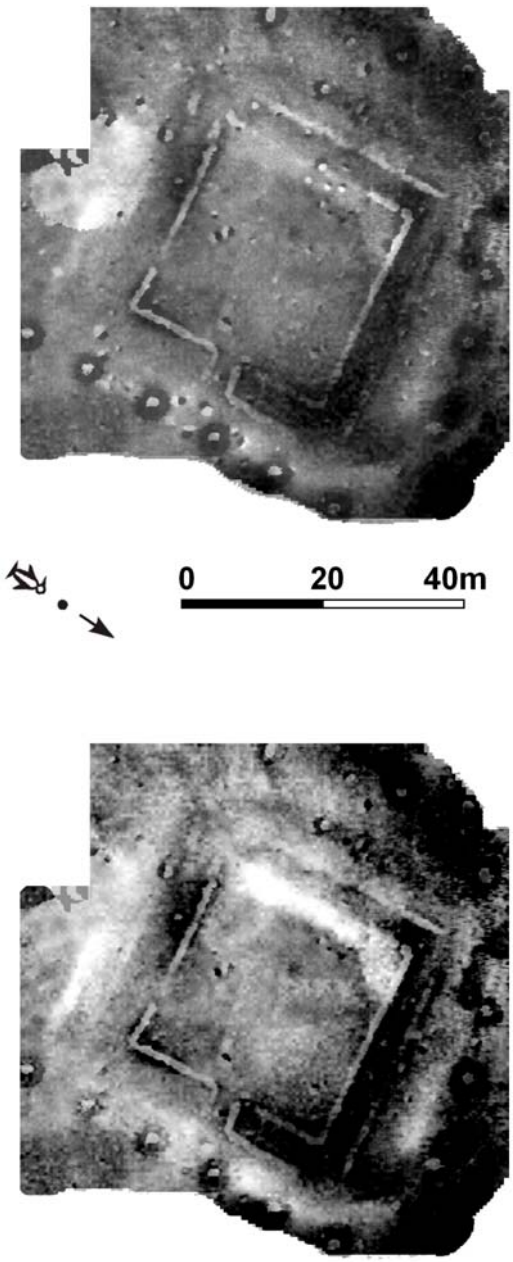


*Fig. 3: Numerical combination of the results of magnetic and electric mappings of the structure near Schwaebisch Gmuend, using two algorithms.*

On the other side, the area is called "Schwedenschanze" (a temporary military field-work constructed by the Swedish during the 30-years war), which means that it could be a structure from the early 17th century. But there is no hint at all that this structure could really be a Schwedenschanze, and there is also no hint that it is a structure from the Middle Ages. We have seen aerial pictures of very similar structures (for example at Bad Wildungen, Hessen, [1]), which are assumed to be Schwedenschanzen. But we didn't find out if such a structure was investigated intensively by geophysical prospecting or by an archaeological excavation.

## References

[1] Burgwuestung und Schanzen, in: Zeitspuren – Luftbildarchaeologie in Hessen. Ed.: Landesamt fuer Denkmalpflege, Hessen. 1997, p. 83

## Research – One overlooked area of support?

Chris Gaffney

In the UK the Natural Environment Research Council (NERC) is one of the eight UK Research Councils that fund and manage scientific research and training. NERC uses a budget of around £350 million a year to fund independent research and training in the environmental sciences. About half of that budget goes to universities and half is invested in our wholly and partly owned research centres (the British Antarctic Survey, the British Geological Survey, the Centre for Ecology & Hydrology, and the Proudman Oceanographic Laboratory).

One small, but important aspect of NERC is that they support Archaeology and Earth Sciences via the Geophysical Equipment Facility (GEF). This facility loans equipment suitable for land based geophysical research to universities and other institutes engaged in research within the NERC remit. Specifically GEF considers its role as

'…an essential and unique facility that supports high-quality, peer-reviewed projects across a broad spectrum of earth and environmental sciences by provision of internationally-recognised, state-of-the-art geophysical instrumentation for field experiments. It is designed to enable researchers to undertake world-class research that utilizes geophysical observations. The diverse customer base encompasses fields such as crustal structure, active tectonics, science-based archaeology, glaciology, sedimentology, volcano monitoring and magma chamber imaging, environmental hazards and geothermal resource mapping.'

GEF is fortunate to provide two nodes of support:-

GEF (Edinburgh) is located within the Grant Institute at the University of Edinburgh and forms the central administrative node and specialises in support for GPS, GPR and Geomagnatism.

GEF (Leicester) – SEIS- UK is located within the Department of Geology at Leicester University and specialises in support for Seismology.
Over the years the GEF has supported a number of archaeological projects by loaning equipment, software and giving specialist training. Effectively they maintain a centralised equipment base run by a small, skilled group of well-qualified electronic engineers and scientists They willingly give advice, loans, scheduling, training, maintenance and data management on geophysical issues. Although GEF is funded by NERC it does not only support NERC projects and they are well qualified to help less experienced researchers, such as PhD students. While it is normally the case that the main applicant to the GEF must be a UK based academic, researchers outside the UK can benefit from the facility as long as they use an academic who is based here.

Examples of the type of project that archaeologists or archaeological geophysicists that GEF has supported include:

- Airborne remote sensing of the sand dune of Coll and Tiree: re-locating recently buried archeaological sites threatened by erosion
- Location of Medieval structures associated with iron smelting in Esk Valley
- GPR archaeological survey of Lindsaey Aisle, Edzell
- Medieval palace of Westminster research project
- Three Dimensional geophysics and visualisation in archaeology

To ensure high quality science a peer-reviewed application process is followed. You can get information on GEF via their website (http://gef.nerc.ac.uk/). This facility wants to support science based archaeology, and the service is free at the point of delivery… if you want specific advice then get in contact with the facility manager, Paul Kearney (Paul.Kearney@glg.ed.ac.uk).

## Geoarchaeology 06: 10-13 September 2006

# Geoarchaeology 06

**Exeter, UK**

Geoarchaeology is an important and developing area of archaeological research. It provides an essential technique and conceptual base for understanding the archaeological record by integrating aspects of palaeoecology, geomorphology, geology and pedology with cultural artefacts and sites. The department of geography at the University of Exeter will host the Geoarchaeology 06 conference between 10th – 13th September 2006. Papers and posters are invited on all aspects of geoarchaeological research.

**The conference aims to:**

**1.Bring together practioners and academics in geoarchaeology**
**2.Showcase recent geoarchaeological research**
**3.Highlightfuture research areas and methodologies**

Call For Papers

Papers are invited in any area of Geoarchaeology and from all geographical areas. Please email a title to the E address below. Abstracts will be requested by circular early in the 2006.

Guest Keynote Speakers

These will include Prof. Karl Butzer (University ofTexas, USA), Prof. G Barker (Cambridge, UK) and Prof. J. Rose (Royal Holloway London, UK)

*The conference is supported by English Heritage, Quaternary Research Association and British Geomorphological Research Group*

**Working Session Titles:**

**Fluvial geoarchaeolgy, terraces and floodplains**
**Coastal geoarchaeology and environmental change**
**Palaeoecology and geoarchaeology**
**Soils and landscape archaeology**
**New techniques in geoarchaeology: geophysics to geochronology**

***Papers will be grouped thematically by the conference and session organisers***

UNIVERSITY OF EXETER

For details contact C.J.Carey@exeter.ac.uk
To submit an abstract (deadline 30/04/2006)
GeoArch06-abstract@exeter.ac.uk
Or visit www.exeter/geography

# Journal notifications

## Dossiers d'Archeologie No. 308

Tomasz Herbich would like to bring your attention to the November issue (No. 308) of the French monthly Dossiers d'Archeologie (www.dossiers-archeologie.com). The issue is entirely devoted to archaeological prospecting (the title of issue is "La prospection geophysique") and was edited by Christophe Benech. Please visit the website for more information, but to whet your appetite, here is a list of contents:

Christophe Benech, *Introduction;*
Albert Hesse, *Petite histoire de la prospection archéologique*;
Rémy Boucharlat, *L'example de Pasargades*;
Christophe Benech, *Études des plans d'urbanisme antiques*;
Jörg Fassbinder, Helmut Becker, Margarete van Ess, *Prospections magnétiques àUruk (Warka). La cité du roi Gilgamesh (Irak)*;
Michel Martinaud, *Prospection géophysique et sites préhistoriques*;
Alain Tabbagh, *Les méthodes électriques et électrostatiques*;
Éric Marmet, Christian David, *Les occupations anciennes des sols*;
Cécilia Bobée, *La méthode magnétique*;
Nico Fröhlich, Martin Posselt, Norbert Schleifer, *Fouilles á l'aveugle: les fantômes magnétiques;*
*Julien Thiesson, La méthode électromagnétique*;
Michel Dabas, Laurent Guyard, Thierrry Lepert, *Gisacum revisité*;
Tomasz Herbich, David O'Connor, Matthew Adams, Pascale Ballet, Ulrich Hartung, *La géophysique dans l'archéologie égyptienne*;
Jeanne Tabbagh, *Traitement des données géophysiques*;
Christian Camerlynck, *Principes et mise en oevre de la méthode radar*;
Argitxu Beyrie, Pierre Fluck, Marc Leroy, Florian Tereygeol, *La prospection géophysiques en paléométalurgie*.

## Archaeological Prospection

The final issue of 2005 of the Journal Archaeological Prospection is now out and includes the following papers:

- Airborne multi-spectral prospection for buried archaeology in mobile sand dominated systems (S. J. Winterbottom and T. Dawson)
- Exploring a prehistoric site for remains of human structures by three-dimensional seismic tomography (L. Polymenakos and S. P. Papamarinopoulos)
- Aerial archaeology: a full digital workflow for aerial photography (Jürg Leckebusch)
- Combined seismic tomographic and ultrashallow seismic reflection study of an Early Dynastic mastaba, Saqqara, Egypt (Mohamed Metwaly, Alan G. Green, Heinrich Horstmeyer, Hansruedi Maurer, Abbas M. Abbas and Abdel-Rady Gh. Hassaneen)
- Detection of archaeological crop marks on declassified CORONA KH-4B intelligence satellite photography of Southern England (Martin J. F. Fowler and Yvonne M. Fowler)

As you know the journal's publisher, Wiley, offers ISAP members a significant discount – see the 'Membership Benefits' section of the society's website for details (http://www.bradford.ac.uk/acad/archsci/archprospection/menu.php?2).

No doubt you will be aware there is no better, or cheaper, way to keep up to date with our discipline than the journal Archaeological Prospection - continual professional development starts with this journal! Additionally, during 2006 you can expect a Special Issue on 'Alluvial Landscapes' and the first ever sponsored issue on GPR…two more reasons why you should have Archaeological Prospection on your bookshelf in 2006.