

# ISAP NEWS

The newsletter of the International Society for Archaeological Prospection

*Issue 18, January 2009*

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## Editor's Note

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Welcome to 2009 and the 18th issue of ISAP News. This winter seems to have been a fairly quiet time for you, reflected in the shortage of articles for this newsletter. Hopefully the coming months will be more fruitful, especially with the range of conferences scheduled in, many of which are listed here including Archaeological Prospection. As you go about collecting and analysing data, spare a thought for ISAP News and what you might be able to contribute this year. The newsletter is issued quarterly and submissions for issue 19 should be sent to me by 20<sup>th</sup> April 2009.

Don't forget, if you haven't paid yet, your 2009 ISAP membership subscription is now due. Please visit <http://www.bradford.ac.uk/acad/archsci/archprospection/renew.php> to renew.

Day Meeting of the Environmental and Industrial Geophysics Group (EIGG) of the Geological Society of London, held at Burlington House, Piccadilly, on the 16th December 2008.

This was the eighth in the succession of meetings held in London which, in even numbered years, conveniently slot in halfway between our biennial International Archaeological Prospection conferences. It is an opportunity for researchers to present recent work and case studies in prestigious but informal surroundings, chat and view posters and for commercial suppliers to display their wares. The meetings are proving ever more popular with a record audience of 122 attending this time hailing from far and wide with 20 delegates travelling from overseas. Many took the opportunity to stay on for the following linked day meeting on Forensic Geosciences at Crime Scenes.

The talks began with a session on surveys of more recent archaeological structures and Armin Schmidt kicked off proceedings with a talk entitled "There's a Tunnel in my Garden..." – a remarkably common opening gambit from people interested in their own local heritage seeking help from geophysicists. Armin explained Bradford University's work with local heritage groups presenting case studies where they had investigated a hypothesised Civil war priest's hideout and a Second World War air raid shelter. Andrew Parkyn, also from Bradford University then described his survey work in Pudsey Park in West Yorkshire and how the geophysical results had complemented historic research into the development of this civic amenity during the Victorian period. The session was closed by Simon Brightwell of Fugro Aperio Ltd who outlined the geophysical work commissioned to inform the conservation of Battersea Power Station - a well-known London landmark. Given the complexities of construction and limited access, untangling the internal structure of the four chimneys and potential weaknesses within them was anything but a simple task!

After the coffee break, attention turned to methodological issues. David Simpson from Ghent University in Belgium described the development of a sled system mounting two different types of EM sensors to allow simultaneous measurement of both magnetic and electrical properties of the soil. He concluded that use of multiple sensor configurations can yield extra anomalies which augment interpretation of archaeological remains. James Lyall outlined the experiences of the Landscape Research Centre in moving from traditional gridded to gridless magnetometer surveys using a Foerster cart system with an on-board GPS system. Although appearing straightforward at first sight, a number of technical considerations required solutions before this new methodology could be adopted. The morning was concluded with a talk from Ian Hill on the development of the FASTRAC sled based multi-sensor platform which allows rapid ground coverage with a variety of geophysical methods simultaneously. It promises particular benefits for mineral extraction landscapes where data for assessment of both the mineral resource and the potential archaeological impact can be gathered simultaneously.

Lunch was followed by a group of three talks considering the geophysical assessment of wider landscapes. But, in the case of the first presentation, seascapes might be more appropriate as we took to the water with Steph Arnott who outlined Wessex Archaeology's strategy for geophysics as part of developer funded marine archaeological assessments. Next Kayt Armstrong of Bournemouth University, taking her cue from a statement in English Heritage's recently revised guidelines, outlined her research into the geophysical assessment of peatland environments. She demonstrated promising results from surveys over a portion of the Sweet Track, a Neolithic wooden trackway preserved in waterlogged peat in the Somerset Levels. Richard Bates of St Andrews University gave the concluding talk before the afternoon break describing a strategy for modelling an extensive, deeply buried palaeo-landscape in three dimensions by intensive use of electrical imaging

sections. The methodology was illustrated using new results from the Hoo Peninsula in Kent.

Increased interest from colleagues from overseas has been a welcome development at recent meetings and, reflecting this trend, the day was concluded with four papers about sites around the globe. Jorg Fassbinder of the Bavarian State Department for Monuments and Sites began the session by describing his recent geophysical research into the enigmatic statues of Easter Island which revealed new archaeological evidence suggesting additional structures may have existed in front of them. Volker Lindinger of the Österreichisches Archäologisches Institut in Vienna then described the extensive use of geophysics made by the Mautern Hinterland Survey Project at the Danubian Lower Limes in Lower Austria. Roger Ainslie presented results from recent work on the Parthian Gorgan wall in Iran, where geophysical survey has been able to reveal evidence for the internal structure of some of the forts for the first time. The day was concluded by Chris Gaffney of Bradford University who discussed the results of remote sensing surveys to map the Roman town of Cyrene in Libya and showed how 3D scanning and mapping techniques could be combined with the geophysical survey to dramatic effect.



*Fig 1: Discussion of the posters in the Geological Society's Lower Library during the tea break (photograph courtesy Jorg Fassbinder).*

The talks were augmented, and for the first time outnumbered, by fifteen posters which provided the subject matter for discussion during the breaks. Space unfortunately precludes the detailed description that these merit but topics covered

surveys to map Roman towns in East Anglia and Portugal, the Roman frontier in Bavaria, a Broch site in Orkney, a farmstead in Shetland, a Kirk in Aberdeen, Earls Colne Priory in Essex and from the more recent past, English Civil War and First World War trenches. Challenging landscapes were also considered with presentations on prospecting deeply alluviated environments, examining buried prehistoric land surfaces in the Scottish Isles, using recorded scanning as a tool for extensive landscape assessment and magnetic prospecting near the geomagnetic equator (over the Peruvian Nasca geoglyphs). The possibility that meteorite impact sites might be associated with archaeological remains was investigated and it was also pleasing to see the work of local archaeological societies represented by a presentation on the search for a lost Roman villa site in Wanstead Park. The ISAP committee awarded a prize for the best poster to James Adcock, John Gater and E Wood for their poster entitled "Free with Centurian Wheatoflakes" - Lenticular Visualisation of 3-D Ground Penetrating Radar data which showed how a presentation method used to create 3D postcards and promotional material could be used to great effect to display GPR data in 3D without the need for a computer screen. The posters were complemented by commercial exhibitions by Allied Associates Ltd, Bartington Instruments Ltd, DW Consulting, Geomatrix Ltd, Geoscan Research Ltd, STATS Ltd and Wiley-Blackwell.

As is becoming traditional, the day was concluded with the ISAP annual general meeting after which those with stamina remaining repaired to quench their thirst in the cellar bar of Walkers of St James's. For those wishing to know more about the work presented at the meeting a PDF version of the abstracts booklet can be downloaded from the EIGG web site

[http://www.eigg.org/sitebuildercontent/sitebuilderfiles/eigg\\_abstracts2008\\_lores.pdf](http://www.eigg.org/sitebuildercontent/sitebuilderfiles/eigg_abstracts2008_lores.pdf) [6Mb].

## Obituary

### Geoff Bartington

Geoff Bartington, the Technical Director of Bartington Instruments Ltd, died on 13th December 2008 aged 60. Trained as an electronics engineer specialising in telecommunications, he became interested in geophysics, geomagnetism and archaeology whilst working at Littlemore Scientific Engineering in Oxford.

He originated the idea of a magnetic susceptibility meter with a range of sensors for different applications for the emerging discipline of environmental magnetism. When his employer declined to take up this idea commercially he continued development, with encouragement from Professor Oldfield of Liverpool University, at home in his spare time. A prime innovation was the use of a dual frequency laboratory sensor to allow the study of magnetic viscosity phenomena in the finer fractions of sediments and soils.

In 1985 Geoff and Tessa Bartington (now Tessa Evans) formed Bartington Instruments Ltd. The magnetic susceptibility system was soon followed by further products. When a suitable fluxgate sensor for an instrument to measure the declination and inclination of the geomagnetic field was not available, Geoff designed and built his own. This was typical of his approach.



Geoff went on to design a family of world-leading single and three-axis fluxgate magnetometers. His genius for invention coupled with his commercial foresight allowed his designs to be used for a wide range of applications and remain viable over an extended period.

One of his last designs is the hugely successful Grad601 magnetic gradiometer for archaeological prospection.

*Fig 1: Geoff with a Grad601*

Geoff had several papers and patents to his credit but the need for commercial confidentiality prevented him from publishing his most important work. He was a regular lecturer at the National Parks summer courses on archaeology in the USA. His untimely death prevented him from taking up a Visiting Fellowship extended to him by Oxford University.

By his inventive genius and understanding the needs of researchers, Geoff made a unique contribution to environmental magnetism and archaeology. The instruments he designed are to be found in all the major universities and every corner of the world. He leaves a legacy of a thriving company with a unique range of products.

## Announcement

### GeoSIG Press Release

Members of the UK Institute for Archaeologists (IfA) and the wider archaeological geophysical community have come together to form the IfA Geophysics Special Interest Group (GeoSIG). Open to both IfA members and non-IfA members, the GeoSIG represents the interests of archaeological geophysicists to IfA council and in the Institute's activities.

The role of GeoSIG is:

- To act as a focus for IfA members interested in geophysics
- To produce documents and guidelines relating to geophysical work
- To promote geophysical work constructively within the structure of archaeology

The group is currently examining a number of specific issues:

- The practical implementation of guidelines such as the Geophysical Survey in Archaeological Field Evaluation (English Heritage, 2008)
- Archiving of geophysical data
- Training and CPD for practitioners in archaeological geophysics
- Training and CPD for users of archaeological geophysics

GeoSIG is working closely with ISAP, EIGG, and EuroGPR to ensure that we keep up to date with developments in the wider geophysical community. The committee also has close links with the Near Surface committee of EAGE.

The GeoSIG committee comprises Peter Barker (Chair), Hannah Heard (Secretary), Ken Hamilton (Treasurer), Roger White and Adrian Butler. There are also representatives from ISAP, EIGG, EuroGPR, EAGE and English Heritage, and plans to include representatives from ALGAO, CADW, Historic Scotland and NIEA.

Membership is free to IfA members (£10 for non members).

For more information, please contact Ken Hamilton ([ken.hamilton@norfolk.gov.uk](mailto:ken.hamilton@norfolk.gov.uk), +44 (0)1362 869275)

## Journal Notification

### Archaeological Prospection 16:1

The first issue of the New Year will be out soon. As you can see the papers reflect the breadth of techniques now used in archaeological prospecting.

*3D resistivity probability tomography at the prehistoric site of Grotta Reali (Molise, Italy).* Vincenzo Compare, Marilena Cozzolino, Paolo Mauriello and Domenico Patella

*Automatic detection of circular structures in high resolution satellite images of agricultural land.* Øivind Due Trier, Siri Øyen Larsen and Rune Solberg

*Airbourne remote sensing of valley floor geoarchaeology using Daedalus, ATM and CASI.* Keith Challis, Mark Kincey and Andrew J Howard

*Geochemistry as an aid in archaeological prospection and site interpretation: current issues and research directions,* Stijn Oonk, Caroline Slomp and Hans Huisman

*Geophysical investigation of the environs of Rattin Castle Tower House, County Westmeath, Ireland.* Terence Francis O'Rourke and Paul Gibson

As ISAP members you are entitled to a large discount, please refer to the society's website for details (<http://www.bradford.ac.uk/archsci/archprospection>).



## Conference, Seminar and Course Announcements

### National Park Service's 2009 Archaeological Prospection Workshop

Natchitoches, Louisiana, USA, 18-22 May 2009

The National Park Service's 2009 workshop on archaeological prospection techniques entitled *Current Archaeological Prospection Advances for Non-Destructive Investigations in the 21<sup>st</sup> Century* will be held May 18-22, 2009, at the National Park Service's National Center for Preservation Technology and Training, Natchitoches, Louisiana. Lodging will be at the Ramada Inn. The field exercises will take place at the Los Adaes State Historic Site (a Spanish presidio and capital of the Spanish province of Texas between 1719 and 1772). Co-sponsors for the workshop include the National Park Service, the U.S. Army Corps of Engineers, Los Adaes State Historic Site, Northwestern State University of Louisiana, and the Louisiana Division of Historic Preservation. This will be the nineteenth year of the workshop dedicated to the use of geophysical, aerial photography, and other remote sensing methods as they apply to the identification, evaluation, conservation, and protection of archaeological resources across this Nation. The workshop will present lectures on the theory of operation, methodology, processing, and interpretation with on-hands use of the equipment in the field. There is a registration charge of \$475.00.

Application forms are available on the Midwest Archeological Center's web page at <http://www.nps.gov/history/mwac/>. For further information, please contact Steven L. DeVore, Archeologist, National Park Service, Midwest Archeological Center, Federal Building, Room 474, 100 Centennial Mall North, Lincoln, Nebraska 68508-3873: tel: (402) 437-5392, ext. 141; fax: (402) 437-5098; email: [steve\\_de\\_vore@nps.gov](mailto:steve_de_vore@nps.gov).

### American Geophysical Union, 2009 Joint Assembly (The Meeting of the Americas)

Toronto Convention Centre, Toronto, Ontario, Canada, 24–27 May 2009

Session GP10: Magnetism and Other Geophysical Techniques Applied to Archaeology

Magnetism is used in archaeology in several ways: archaeomagnetism, or the remanent magnetization of archaeological materials; use of magnetic properties for determining archaeological provenance; magnetic surveying at archaeological sites, and use of magnetic susceptibility on the surface and subsurface at archaeological sites. This session invites submissions on any of these topics, especially involving novel approaches, or the application of other geophysical methods to archaeology.

Abstract submission deadline: 04 March 2009

Abstract submission information: [http://www.agu.org/meetings/ja09/program/abstract\\_submissions.php](http://www.agu.org/meetings/ja09/program/abstract_submissions.php)

Session conveners:

Rob Sternberg, Franklin & Marshall College; [rob.sternberg@fandm.edu](mailto:rob.sternberg@fandm.edu)

Annick Chauvin, Université de Rennes; [Annick.C Chauvin@univ-rennes1.fr](mailto:Annick.C Chauvin@univ-rennes1.fr)

Stacey Lengyel, Illinois State Museum; [slengyel@museum.state.il.us](mailto:slengyel@museum.state.il.us)

<http://www.agu.org/meetings/ja09/>

### III INTERNATIONAL CONFERENCE ON REMOTE SENSING IN ARCHAEOLOGY

Bharathidasan University, Tiruchirappalli, India, 17-21 August 2009

In October 2004, the 1st International Conference on Remote Sensing Archaeology was organized by the Chinese Academy of Sciences in Beijing and hosted by the Joint Laboratory of Remote Sensing Archaeology (JLSRA). In that context an international team of experts was created in order to promote multidisciplinary activities of remote sensing archaeology in the entire world. In December 2006 the second International Conference was held in Rome (Italy) at the National Research Council.

The IIIrd International Conference will be organized in India at Tiruchirappalli, jointly by Bharathidasan University, University of California, Merced and Berkeley, University of Siena (Italy) and by the REACH Foundation, Chennai.

The conference will discuss a wide range of perspectives, approaches and issues on the use of remote sensing and digital technologies in documenting, analyzing and interpreting archaeological and anthropological contexts.

Abstract (max 500 words): 28th, February, 2009

Send By E-Mail to: [cliuzza@ucmerced.edu](mailto:cliuzza@ucmerced.edu)

For more information go to <http://www.spacetimeplace2009.org>

### The 8th International Conference on Archaeological Prospection

Conservatoire National des Arts et Métiers, Paris, France, 9-12 September 2009

The international conference is entitled "Mémoire du sol, Espace des hommes"; it aims to bring together specialists from different academic disciplines interested in the history of human settlement and its impact on the landscape and our environment.

Different scientific communities such as archaeologists, agronomists, geographers, geotechnicians, geophysicists and geologists specialised in the earth's surface share many interests but rarely have the opportunity to meet each other. This conference will make this possible: the thematic sessions have been planned with the aim of maximising the exchange of knowledge and experience between researchers from various disciplines. The conference intends to offer a global vision of the relationships between the environment and human settlement. Study of the environment is effectively inseparable from a study of an archaeological site: the study of water supply, control of natural resources, soil evolution and landscape history allow us to restore the environmental but also the economic and social context of human occupation.

Oral communications and posters will therefore be treated in the following thematic sessions:

- Methods and innovation
- Sites and their landscapes
- Landscape evolution
- History and evolution of the urban subsoil

The deadline for the submission of abstracts is 15 February 2009. For more information download the 1<sup>st</sup> circular [http://www.archeorient.mom.fr/colloqueap2009eng/images/Call%20for%20papers%20first\\_circ.pdf](http://www.archeorient.mom.fr/colloqueap2009eng/images/Call%20for%20papers%20first_circ.pdf)

Or visit <http://www.archeorient.mom.fr/colloqueap2009eng/indexeng.html>

## AARG 2009

### University of Siena, Italy, 25-27 September 2009

The following sessions have been proposed for the presentations and discussions on 25 and 26 September. Offers, posters and additional session titles of papers are welcome:

*Aerial Archaeology in Italy and the central Mediterranean*  
*New Projects*  
*Postgraduate Research*  
*Interpretation, Interpretation, Interpretation..... in the 21st century*  
*The Death of Cropmarks?*  
*Engaging with Aerial Photography*  
*Conflict and Military Archaeology*  
*Beyond-Visible Archaeological Reconnaissance*

#### 27 September Conference Day 3: Field Trip

Note: session titles are provisional and all papers and session proposals are welcome. Oral papers should usually be 20 minutes duration. Equal value is given to poster presentations. Closing date for abstracts is 31st May 2009.

#### Conference Organising Committee:

Professor Dr hab. Wlodek Rączkowski (AARG, University of Poznań)  
Dr Stefano Campana (AARG, University of Siena), Dave Cowley (AARG, RCAHMS)  
Robin Standring (AARG, Cambridge), Lidka Žuk (AARG, University of Poznań)

#### Address for all conference correspondence:

Dave Cowley, RCAHMS, 16 Bernard Terrace, Edinburgh, EH8 9NX, Scotland  
Email [dave.cowley@rcahms.gov.uk](mailto:dave.cowley@rcahms.gov.uk)

#### STUDENT/YOUNG RESEARCHERS BURSARIES FOR AARG 2009

These are to support bona fide students and young researchers who are interested in aerial archaeology and wish to attend the conference. Applications to Dave Cowley at the above address, by letter or email. There is no formal application form but please provide the following information:

Your interests in archaeology and aerial archaeology; place of study; the name and contact details of a supervisor or employer who can provide a reference; an estimate of travel costs to attend.

Closing date for applications is 31st May 2009.

Aerial Archaeology Research Group website: <http://aarg.univie.ac.at/>



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