Issue 27: May 2011

ISAP NEWS

The newsletter of the International Society for Archaeological Prospection

Contents

The views expressed in all articles are of the author, and by publishing the article in ISAP News, the ISAP management committee does not endorse them either positively or negatively. Members are encouraged to contact authors directly or to use the discussion list to air their views, should they have any comments about any particular article.

Editor's Note

R.J.Fry@bradford.ac.uk

Welcome to the 27th issue of ISAP News! I would like to thank all those who have found the time to contribute to the newsletter, and I hope you will find it a good, insightful read. Whilst away over summer, you might bear in mind contributing something short for the newsletter, and update the community on your fieldwork!

*Please send any contributions or queries for the next newsletter (ISAP News 28) to the address above by the **29th July 2011**. All entries are gratefully received; I will always try to respond to emails in the same day if possible.*

Important Notices

Archaeological Prospection Journal

Take advantage of the great deal offered to ISAP members by Wiley-Blackwell for this journal http://www.bradford.ac.uk/archsci/archprospection/menu.php?2

The 9th International Conference on Archaeological Prospection (AP 2011)

The deadline for extended abstract submission has been increased till the 20th May 2011

http://web.deu.edu.tr/ap2011/

Conference clashes

It has come to my attention that unfortunately the dates of the AARG and ISAP conferences in September clash. This is accidental and all parties work towards avoiding this in future.

Remote Sensing for Archaeology: an AARG-EAC-ISAP working party

Dave Cowley, RCAHMS Dave.Cowley@rcahms.gov.uk
Chris Gaffney, The University of Bradford C.Gaffney@bradford.ac.uk

ISAP has joined a European working party on remote sensing for archaeology, developed under the umbrella of the Europae Archaeologiae Consilium (EAC). The primary mission of the EAC is to support the management of the archaeological heritage throughout Europe and to serve the needs of national archaeological heritage management agencies by providing a forum for organisations to establish closer and more structured co-operation and exchange of information. This is an important constituency for ISAP to engage with, since dialogue at all levels of heritage management and the promotion of mutual understanding will underpin the adoption of best practice that is fit to particular contexts across Europe.

This working party is concerned with the promotion of techniques and development of best practice in remote sensing archaeology, with a particular focus on heritage management. Remote sensing underpins a large proportion of archaeological knowledge, including the detection and registration of monuments and the creation of reliable records, large-scale mapping and the monitoring and management of monument condition. The remit ranges from long-established techniques such as aerial reconnaissance in light aircraft to data sources at the cutting edge of research, and from ground-based geophysical survey to applications of Airborne Laser Scanning and satellite and aerial imagery. Both terrestrial and maritime contexts are addressed, with a common focus on the importance of understanding and managing the landscape. Its work is directed to the development of broad-based strategies and, especially with reference to heritage management, statements of best practice and guidelines and long term collaborative frameworks.

The working party takes its direction from Article 3 of the Valletta Convention of the Council of Europe, which emphasizes the importance of applying, wherever possible, non-destructive methods of investigation. In addition by encouraging the development of archaeological prospecting techniques in a landscape framework it hopes to support the aims of the European Landscape Convention (ELC) to promote integrated landscape protection, management and planning.

As a partnership between the EAC, the Aerial Archaeology Research Group (AARG) and the International Society for Archaeological Prospection (ISAP) it represents the interests of heritage management, archaeological practitioners and researchers. It is a development from the EAC/AARG Aerial Archaeology working party established in 2007, and now plays to the core strengths and interests of the three partner organisations. Through this collaboration and by working alongside other initiatives such as the EU funded *ArchaeoLandscapes* project the working party is well placed to promote shared agendas and guidelines for best practice across Europe. The coordination of the working party is undertaken by AARG (Dave Cowley), ISAP (Dr Chris Gaffney) and EAC (Dr Kristín Huld Sigurðardóttir, Bernard Randoin). Outputs to date are listed below, and the working party will now focus on the promotion of guidelines for best practice. Members who have an interest in helping progress this agenda should get in touch.

Outputs

- In 2009 the EAC/AARG Aerial Archaeology working party produced a report and collected papers on Education in Aerial Remote Sensing for Archaeology. This was published as *AARG Occasional Publication Series No 1* in April 2009 and is available as a free download PDF (http://www.univie.ac.at/aarg/php/cms/file_download/23/EduARSreport.pdf).

- In 2010 the 11th EAC Heritage Management Symposium was held in Reykjavík, Iceland, on the subject of Remote Sensing for Archaeological Heritage Management in the 21st century. The proceedings were published in March 2011 by Archaeolingua as Cowley, D (ed.), *Remote Sensing for Archaeological Heritage Management* (EAC Occasional Paper No. 5/Occasional Publication of the Aerial Archaeology Research Group No. 3). http://www.archaeolingua.hu/books/eac/eac%2005.html

Links and contacts:

Aerial Archaeology Research Group
http://www.univie.ac.at/aarg
Contact: Dave Cowley -
dave.cowley@rcahms.gov.uk

Europae Archaeologiae Consilium
http://www.european-archaeological-council.org/2-0-About-EAC.html

International Society for Archaeological Prospection
http://www.bradford.ac.uk/archsci/archprospection/
Contact: Dr Chris Gaffney -
C.Gaffney@Bradford.ac.uk

ArchaeoLandscapes
http://www.archaeolandscapes.eu
Contact: Dr Axel Posluschny -
posluschny@rgk.dainst.de

Iberian-Roman City of Puig Ciutat: First season of surveys and excavation. Call for collaborations to research institutions and commercial companies

Robert Tamba, SOT Prospecció Arqueològica info@sotprospection.com

In June and July of 2010, we started a research program in the archaeological site of Puig Ciutat, an Iberian-roman settlement of 5.1 hectares, about 60Km at the north of Barcelona, in the municipality of Oristà.

The research project is a common effort of a team of archaeologists, geophysicists and local administrations, directed by Roger Sala (SOT Prospecció Arqueològica), Angels Pujol and Carles Padrós.

The project of Puig Ciutat has two main objectives: The first is to describe and investigate a previously unknown Roman-Republican site of Catalonia. The second is to develop research and training programs in geophysics applied to archaeology. In the coming years, the research program will include the tests of methodologies, field proceedings and format of exchange between archaeologists and geophysicists.

The only previous systematic works achieved over the site of Puig Ciutat are a first magnetic survey (Geoscan Research FM-256) and a small GPR (SIR 3000-400MHz) grid, carried in 2005. The magnetic survey, achieved in the main discovered area (ca.9000m²), revealed evidence of archaeological remains in relation to the pottery of the II-I B.C. century collected from the surface. More recently, a small GPR test survey was carried by Ekhine García, Roger Sala and Dr. Dean Goodman in 2007, acquiring data in two grids placed in forest areas.

The 2010 campaign aimed to evaluate the chronology, the importance and the grade of conservation of the site. The results will be used in order to establish a detailed investigation program. The campaign included a geophysical survey, archaeological excavations and additional studies. The geophysical survey consisted of the magnetic prospecting of the main discovered areas, complementary GPR acquisition in the areas of interest, resistivity mapping of the main structural element detected in Camp1 (see Graphic 1), and a comparative GPR acquisition centered on a previously detected spatial feature using systems from GSSI 270 and 400MHz, IDS 200 and 600 MHz, USRadar 500MHz. Topography measurements of Camp1 were conducted using a scanner laser. The archaeological campaign included the excavation of three trenches determined following the results of the geophysical survey. The pottery retrieved during excavation was submitted to a detailed study and was dated based on its typology. The first excavation results revealed evidence of fire destruction on the site between 80 and 30 BC in the three main excavation locations.

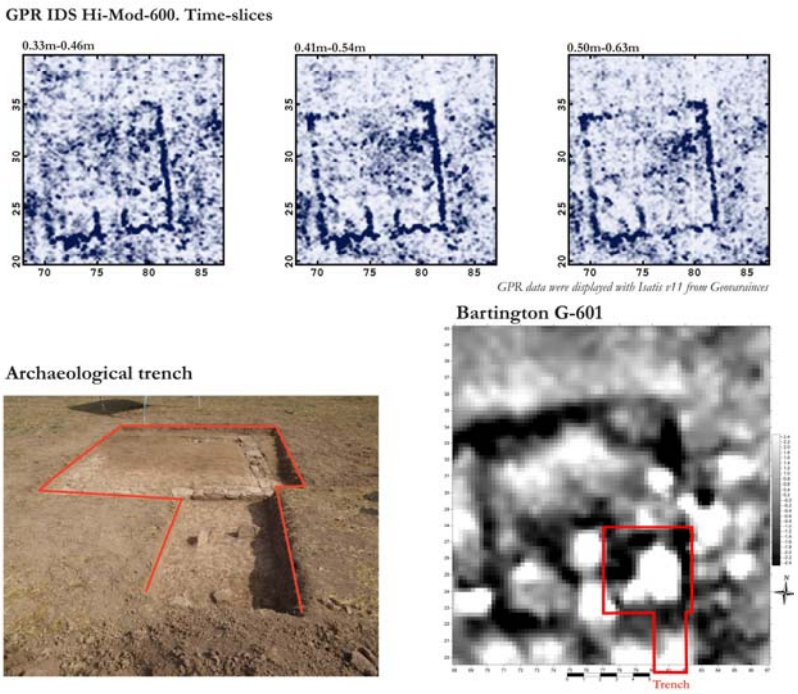
Graphic 1: Location of Geophysical Surveys

Graphic 2: Results of the Magnetic Surveys

The areas of investigation that will be programmed include:

- Comparative studies of geophysical and archaeological surveys
- Exploration of the surroundings of the site in order to find possible Roman military camps
- Magnetic signal modeling
- Dense GPR data processing
- Test and comparison of geophysical equipments
- Resistivity imaging
- Remote sensing
- Multi-system surveys data integration and interpretation
- Sedimentation and landscape evolution
- Use of geostatistics for data processing

The project is open to any research institution, student or company operating in archaeology or geophysics and interested in a collaboration for a training or a research program.



Graphic 3: Main building detected in camp1. GPR, magnetic results and photo of the excavation.

Integrating multi-scalar remote sensed data: a comment on resolution, calibration and validation

Tara-Jane Sutcliffe tara-jane.sutcliffe@english-herigage.org.uk

In 2010 air photographic interpretation was undertaken of the former Roman town of *Isurium Brigantium*, located in North Yorkshire, UK (Sutcliffe 2010). The town has received over 20 years of field-walking by the Yorkshire Archaeological Society and is the focus for ongoing geophysical survey by the University of Cambridge. This represents an ideal opportunity for collaboration. However, the resolution of data capture differs between each of these non-intrusive survey methods; what we have the potential to learn about the past subtly varies between techniques; and, furthermore, the method and resolution of how we depict our results also differs.

This leads to consideration of how best to integrate multi-scalar and remote-sensed sources of data, an epistemological question that has drawn attention in recent years both within the discipline of Archaeology (e.g. Lock & Molyneaux 2006) and the specialist area of Archaeological Prospection.

In 2009 an edition of the Journal of *Archaeological Prospection* (16:3) took to task the issue of 'Integrated Remote Sensing Techniques for Archaeological Prospection'. The constituent papers brought together several types of air-borne and ground-based remote-sensed data. To take just one example: Ciminale *et al* (2009) in their study of the Tavoliere agricultural region in northern Apulia, Italy, demonstrated the utility of *combining* satellite imagery and traditional aerial photography with high-resolution magnetic surveys. This multi-disciplinary and multi-scalar approach was facilitated through the use of a Geographical Information System (GIS), in which the orthorectified photographs and magnetograms were mosaicked to provide a *composite* image from which to map the archaeological features.

However, it has been lamented that so-called "integrated" surveys are often more in name than in deed: 'devoid of "interpretation" (unless we also treat the pure description of the results as interpretation)' (Rąckowski 2009: 6). Doneus *et al* have appropriately emphasised that prospection data should not only be combined but also, crucially, be *re-evaluated* and *re-interpreted* together (2002: 150). Explicitly then, *integration* should be a step beyond the visual and statistical *combination* or, to echo Rąckowski, *description* of data sets.

A number of researchers have rightly emphasised the need to *plan for integration* from the outset (Keay *et al* 2009: 155). This withstanding, it is also crucial to look to the past and consider the vast majority of antiquarian and so-called 'legacy' data – that which has accrued over time, recorded for differing purposes and to various degrees of accuracy and which adds to the sum of our knowledge about a site or landscape *if only* we can ascertain how best to integrate it with our own data.

Working in a digital environment, namely a GIS, has great potential. However, the vast majority of data captured about the past are non-digital and so have to undergo some form of translation, or 'transcription', and herein lies room for error! In the best of all possible worlds – that Panglossian ideal – we would wish to combine *all* available *credible* sources. But in the face of time and resource pressures this is not always practicable.

Furthermore, a GIS, whilst facilitating creation of a *composite* picture, does not in itself achieve *integration*. Vector data; raster data; polygons, points and blocks; located to 4-, 6-, or 8-figure grid references: this profusion of spatial data can actually serve to confuse rather then elucidate the past. A significant problem is the misalignment or incompatibility of spatial datasets. Doneus *et al* have rightly stressed that, to be *compatible* with one another, data must be at a comparable scale and accuracy (2002: 152). This can only be determined by expressing our epistemological knowledge or rather doubt about the quality of our data, succinctly and in an appropriate format to best facilitate use.

It is thus essential that we are explicit about and critically aware, for each data source, of:

a. the scale of data capture;
b. methods of data validation and processes for filtering the data;
c. the interpretative procedure; and
d. the resolution of depiction.

This allows us to understand potential margins of error in positional accuracy as well as confidence levels in interpretation: pre-requisites to determining the extent to which different data sources are actually *compatible*. In a digital environment this can partly be achieved through the use of descriptive attribute data and aided by adherence to data standards and application of controlled vocabulary (Fig. 1). However, for 'older' sources it is not always possible, *ex post facto*, to ascertain the resolution of data capture and the processes employed, if at all, for calibrating and validating that data (cf. Sutcliffe 2008).

There is thus [*sic*] much ground still to be covered.

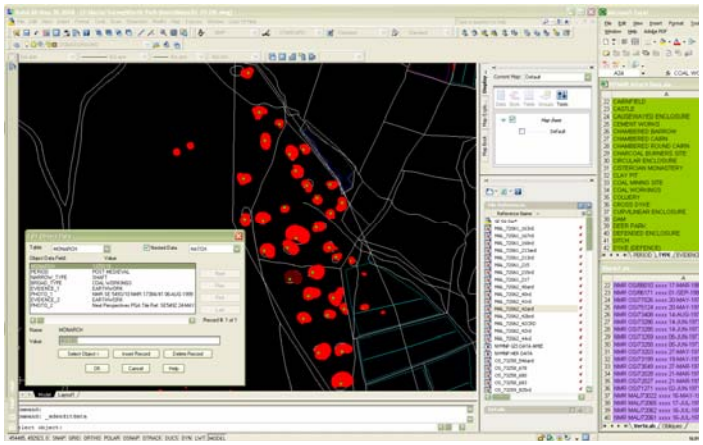


Figure 1. Meta-data and controlled vocabulary employed by English Heritage's National Mapping Programme.

Acknowledgments
Elements of this paper were delivered in a session entitled 'seeing the wood for the trees: towards a critical multi-scalar archaeology' at the Theoretical Archaeology Group (TAG) Conference held in Bristol, December 2010. I am grateful to the organisers for the opportunity to develop my thoughts on this subject and to my employer for supporting my attendance of the conference.

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The DART Project: Developing the roadmap for archaeological remote sensing in the 21st century

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Geophysical and Aerial survey have substantially increased our understanding of the nature and distribution of archaeology. However, there is variable understanding of the physical, chemical, biological and environmental factors which produce the archaeological contrasts that are detected by the sensor technologies. These factors vary geographically, seasonally and throughout the day, meaning that the ability to detect features changes over time and space. This is not yet well understood.

Detection of Archaeological Residues using remote sensing Techniques (DART) is a three year, £815,000 Science and Heritage funded initiative led by the School of Computing at the University of Leeds. The Science and Heritage programme (www.heritagescience.ac.uk) is funded jointly by the Arts and Humanities Research Council (AHRC: www.ahrc.ac.uk) and the Engineering and Physical Sciences Research Council (EPSRC: www.epsrc.ac.uk). To examine the complex problem of heritage detection DART has attracted a consortium consisting of 25 key heritage and industry organisations, academic consultants, and researchers from the areas of computer vision, geophysics, remote sensing, knowledge engineering, and soil engineering.

Detection techniques rely on the ability of a sensor to measure the contrast between an archaeological residue and its immediate surroundings or matrix. Detection is influenced by many factors - changes in precipitation, temperature, crop stress/type, soil type and structure, and land management techniques. DART will increase the foundational knowledge about the remote sensing of sub-surface archaeological remains. This research will increase the understanding of how archaeological features can be detected and the impact that physical, chemical, biological and environmental processes have on the detection process. This will lead to better detection strategies in the future.

In October 2010, 3 PhD students were appointed at the universities of Leeds (David Stott), Bradford (Robert Fry), and Birmingham (Daniel Boddice), with an additional associated PhD at Birmingham (Laura Pring) funded by EPSRC. They will be focusing on specific (yet overlapping) research areas in feature detection associated with spectral imaging, geophysics, Time Domain Reflectometry (TDR) data analysis, soil engineering and archaeological interpretation.

Sites have been selected in both Cambridgeshire (Diddington) and Cirencester (Royal Agricultural College) for their mixed geologies (having areas of both clay and 'other' better draining soils) and their potential for archaeological features. These were initially selected through GIS analysis, historic mapping, and targeted by consultation with the DART consortium and the county archaeologists to find two geographically different areas of investigation http://dartproject.info/WPBlog/?p=464. Initial geophysical (fluxgate gradiometer) surveys were then undertaken to identify potential archaeological features such as ditches running through the sites (Fig. 1). These features have been cored in order to characterise the nature of the archaeology and the suitability for the project.

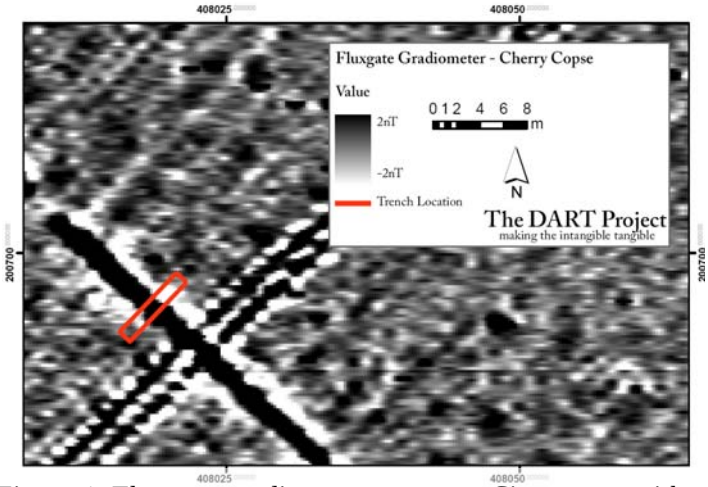

Figure 1. Fluxgate gradiometer survey at Cirencester with trench shown, locating the ditch feature for investigation

Figure 2. Excavated section of the ditch feature prior to TDR installation. Note the cropmark of the ditch leading to the archaeological feature

On the site at Cirencester, sections through the selected features have already been excavated and TDR sensors installed into the vertical profile of both the archaeological feature, and the surrounding soils (Fig. 2).

Soil samples have also been taken for further analysis. This will allow for direct monitoring of the conditions below ground. Further periodic geophysical, vegetation, and spectroradiometry surveys will be taken to examine process dynamics. A core fortnightly/monthly interval is postulated with additional surveys to characterise core processes and events (drought, heavy rain etc.). A number of hyper-spectral flights will also be flown over the following year.

The monthly geophysical investigation will concentrate on earth resistance, Electrical Resistivity Tomography (ERT), dual-frequency Ground Penetrating Radar (GPR) and Electromagnetic (EM) survey over the selected sites to monitor the changes in moisture content between the archaeological and 'natural' sediments underground throughout the year. This will be complimentary to the data collected by the *in situ* TDR probes, the soil analysis, and the spectral information collected to broaden the knowledge-overlap between the disciplines of geophysics, hyper-spectral imagery, environmental science and soil engineering.

The DART Project is an Open Science initiative. Where practicable all science objects (data, algorithms, etc.) will be made openly available. Ongoing development of our methodology is available http://dartproject.info/WPBlog/?p=174 and in the near future will be submitted to an open access methodology store for open critique and development (we have developed this resource in collaboration with the Open Knowledge Foundation and with the support of the Council for British Archaeology). This allows for broader dissemination of objects used in the generation of research knowledge. An open license means that the outputs can be reused in a broadly unfettered way (be that for research, teaching, personal edification etc.). This has the potential to dramatically increase the impact of the research both within and outside the traditional academic communities. The project's activities are updated on the DART project website http://dartproject.info/WPBlog/ to which all posts can be viewed and commented on.

Call for Papers

The 9th International Conference on Archaeological Prospection

Dokuz Eylül University in Izmir, Turkey. 19th-24th September 2011

The 9th International Conference on Archaeological Prospection will be organised by the Center for Near Surface Geophysics and Archaeological Prospection (CNSGAP) of Dokuz Eylül University and International Society for Archaeological Prospection (ISAP).

SESSIONS

1. Archaeological prospection in the past, present and future in Anatolia
2. Site based studies
3. Integrated prospection methods
4. Processing, interpretation and visualization
5. Technical aspects and archaeological feedback
6. Remote sensing, GIS, imaging
7. Archaeological prospection in urban sites
8. Archaeological prospection in restoration and conservation studies
9. Marine studies
10. Poster session

REGISTRATION & EXHIBITION

	Early Registration (until 30 of June)	On the desk
Full Participant	300 €	350 €
Student	100 €	125 €
Accompanying person	100 €	125 €
Exhibitor	1000 €	1000 €

Registration fees include; attendance to the sessions, volume of extended abstracts, congress kit, coffee break, cocktails on Monday and Friday. Exhibition fee includes; a table, chairs, billboards, electricity.

Important Dates

Opening Call for Papers	15/03/2011
Opening Registration	15/03/2011
Deadline for extended abstract submission	20/05/2011
Early Registration	30/06/2011

Oral presentations cannot be longer than 15 minutes, including questions. Please keep in mind that the accepted language of the conference is English.

Poster presentations will be presented in a separate session in the conference program (10 minutes). Poster dimensions are dictated by stand size and cannot exceed 90 cm in width and 150 cm in height.

Website: http://web.deu.edu.tr/ap2011/ **(soon to be online)**
Email: ap2011@deu.edu.tr

Conference on Archaeological Prospection in Germany 2011

The University of Mainz, Germany 9th and 10th September 2011

The application of different survey methods (aerial photography, geophysics and remote sensing as well as sampling and field walking) are essential tools in modern archaeology. A conference, which will take place at the University of Mainz (Germany) on 9 and 10 September 2011, focuses on these issues. The aim of this conference, which is being organised with the support of the ISAP and AARG, is to bring together users and producers of archaeological survey data. Besides the current developments in the different fields there will be a focus on an improved linkage of the results and the sustainable networking of the methods.

Due to the federal governmental structure of Germany the use of survey methods differs in the individual states. Especially the public archaeology agencies but also research institutes and commercial companies can derive advantage from an improved networking. The conference addresses to everyone belonging to the producers, users or administrators of archaeological survey data. It affords room to present current and completed projects, to exchange experiences, to create new ideas and to discuss problems and research deficits.

You are invited to give a talk (20 minutes) or to present a poster (up to A0). We would like to ask you to send us the title and an abstract (500 to 1000 words, optional with illustrations) of your talk or poster. Please indicate if you prefer oral or poster presentation. Abstracts will be published online after the conference. The conference will be held in German although translations of abstracts into English are welcome.

For questions or further information please visit our website http://www.geowiss.uni-mainz.de/351_DEU_HTML.php or send us an e-mail to ap-konferenz@uni-mainz.de

Archaeology Special Interest Group Session – Imaging our Heritage – Cultural Heritage

13th-15th September, Bournemouth

Applications of Remote Sensing and Photogrammetry
RSPSoc Annual Conference 2011 - 13th-15th September, Bournemouth, UK

RSPSoc ArchSIG invites submission of papers to the special interest group session of the RSPSoc 2011 Annual Conference "Earth Observation in a Changing World".
http://www.rspsoc.org/images/uploads/RSPSoc_2011_First_Call.pdf

Contributions are encouraged in the following broad areas:

- Novel technological applications for the cultural heritage sector
- Ground based remote sensing (e.g. laser scanning, geophysical survey)
- Airborne and satellite remote sensing
- Multisensor survey techniques
- UAVs for archaeological prospection

Please contact Rebecca Bennett rbennett@bournemouth.ac.uk for further information.

National Park Service's 2011 Archaeological Prospection Workshop

Texas, 23-27th May 2011

The National Park Service's 2011 workshop on archaeological prospection techniques entitled *Current Archaeological Prospection Advances for Non-Destructive Investigations in the 21st Century* will be held May 23-27, 2011, at the Palo Alto Battlefield National Historical Park in Brownsville, Texas.

Lodging will be at the Courtyard by Marriott in Brownsville. The field exercises will take place at the site of Fort Brown on the University of Texas at Brownsville and Texas Southmost College campus in Brownsville. The Palo Alto Battlefield National Historical Park preserves the historic and archaeological remnants of the first battle of the Mexican War in 1846. Co-sponsors for the workshop include the National Park Service's Palo Alto Battlefield National Historical Park and the Midwest Archaeological Center. This will be the twenty-first 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 Archaeological Center's web page at http://www.nps.gov/history/mwac/. For further information, please contact Steven L. DeVore, Archaeologist, National Park Service, Midwest Archaeological 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.

AARG / EARSeL 2011, Poland

The Adam Mickiewicz University of 21-24 September 2011

AMBITIONS AND REALITIES
Remote Sensing for Archaeology, Research and Conservation

A joint meeting of the Aerial Archaeology Research Group AARG)
and European Association of Remote Sensing Laboratories (EARSeL)
Poznan, Poland, 21-24 September 2011

SECOND CALL FOR PAPERS AND SESSIONS

The main - but not exclusive - theme of this conference will be exploration of objectives and challenges in the effective use of remote sensing techniques in archaeological and landscape studies, not only for research but also for the promotion of conservation and public understanding. How can our various techniques be deployed in combination with one another, and with what practical outcomes? How can we build bridges across regional or national divides? What can we learn from combining or comparing our techniques? How can we make our results useful to those involved in practical conservation and future planning? How do our national or regional realities assist or impede the use of remote sensing techniques in research, conservation and the promotion of public understanding?

Suggestions, with a maximum 150-word summary of the intended content, are invited on any of the following themes, or on other considerations relating to ambitions and realities in the fields of remote sensing for archaeology and landscape studies.

- Ambitions and impediments: national and regional realities across Europe.
- Sharing understanding and experience: creating conditions for international or interdisciplinary exchange and cooperation.
- Modelling the past for the future: accessibility of LiDAR and similar data for uses in research and conservation.
- Remote sensing applications in responding to infrastructure and development projects.
- "Crossover studies": learning from comparisons and combinations of remote sensing (and other) techniques.
- Exploration + interpretation = understanding??? But whose understanding? And of what relevance to conservation and public appreciation?

Contacts for offers of papers or sessions by 31 May 2011:
Dave Cowley (AARG, RCAHMS, UK): dave.cowley@rcahms.gov.uk
Rosa Lasaponara (EARSeL, CNR-IMAA, Italy): lasaponara@imaa.cnr.it

Bursaries

AARG / EARSeL 2011, Poland

The Adam Mickiewicz University of 21-24 September 2011

STUDENT/YOUNG RESEARCHERS BURSARIES FOR AARG 2011

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 (dave.cowley@rcahms.gov.uk) 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 2011.

http://aarg.univie.ac.at/
http://www.earsel.org/

Books

Remote Sensing for Archaeological Heritage Management
Edited by David C Cowley

Remote sensing is one of the main foundations of archaeological data, under pinning knowledge and understanding of the historic environment. The volume, arising from a symposium organised by the Europae Archaeologiae Consilium (EAC) and the Aerial Archaeology Research Group (AARG), provides up to date expert statements on the methodologies, achievements and potential of remote sensing with a particular focus on archaeological heritage management. Well-established approaches and techniques are set alongside new technologies and data-sources, with discussion covering relative merits and applicability, and the need for integrated approaches to understanding and managing the landscape.

Discussions cover aerial photography, both modern and historic, LiDAR, satellite imagery, multi- and hyper-spectral data, sonar and geophysical survey, addressing both terrestrial and maritime contexts. Case studies drawn from the contrasting landscapes of Europe illustrate best practice and innovative projects.

See http://www.univie.ac.at/aarg/php/cms/Occasional-Publications/ for contents list.

Language: English with abstracts in French and German
Distribution: Archaeolingua, Budapest
Format: 312 pp + 218 illustrations in full colour throughout, 297 × 210mm, hardback
ISBN: 978-963-9911-20-8
Price: € 40 + packing and shipping
Copies of the book can be ordered from:
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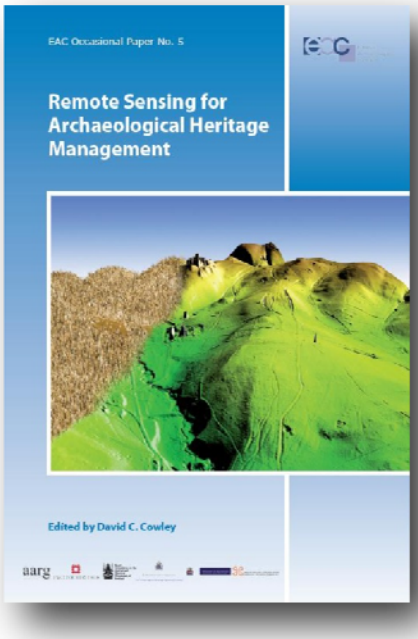
email: kovacsr@archaeolingua.hu
web: http://www.archaeolingua.hu/books/eac.html



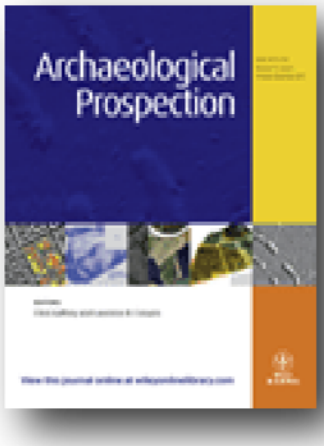
Journal Notification

Archaeological Prospection

The next Special Issue of Archaeological Prospection contains seven expanded papers originally presented at the MPRG12 "Magnetic and other geophysical prospection for archaeology" session of EGU2010 Conference (Vienna, 2010).

This session was devoted to the updated geological and geophysical methods developed to study the characterization, the protection and the valorisation of archaeological and historical sites, contained in the urban territories of major cities or small historical centres. Moreover, the session was open to studies evaluating those geological hazards such as cavity instability, landslides, differential settlements or subsidence that can threaten historical city centres, archaeological sites or even single historical monuments, impairing their safety and usability.

The issue contains a selection of papers presented during the indicated Conference and from authors later invited by guest editors, with the aim of providing an overview on state of the art, advances and applications of geophysical methods for archaeology.



The first paper is by **Walach *et al.*** – *Geomagnetic and geoelectric prospection on a roman iron production facility in Huttenberg, Austria. (Ferrum Noricum)*

The second paper is by **Ullrich *et al.*** – *Geophysical prospection in the southern Harz Mountains, Germany: settlement history and landscape archaeology along the interface of the Latène and Przewarsk cultures.*

The third paper is by **Quesnel *et al.*** – *Geophysical signatures of a roman and early medieval necropolis.*

The fourth paper is by **Boschi** – *Geophysical survey of the Burnum archaeological site (Croatia).*

The fifth paper is by **Piro *et al.*** - *Integrated Geophysical and Archaeological Investigations to study the site of Aquinum (Frosinone Italy).*

The sixth paper is by **Campana *et al.*** - *Archaeological impact assessment: the Brebemi project (Italy).*

The seventh paper is by **Walach *et al.*** – *Geomagnetic and geoelectric prospection on a roman iron production facility in Huttenberg, Austria. (Ferrum Noricum).*

As described in this issue, ground remote sensing techniques are bringing new powerful tools to help archaeologists in their quest of discovery and exploration. Even though this field is still in progress, the different articles in this issue give us a glimpse of the things to come and the great potential of ground remote sensing in archaeology.

SALVATORE PIRO AND YOANN QUESNEL
Guest Editors