

A New View for ADS



Web-based dynamic working
environments for the analysis
of archaeological data.



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service
.ac.uk/about/
newsletter](http://archaeologydata.service.ac.uk/about/newsletter)**



DIRECTOR'S FOREWARD

All Change at ADS

Professor Julian D Richards

It's with great regret that at the end of February 2015 we said goodbye to Catherine Hardman, ADS Deputy Director and Collections Development Manager. Catherine had been with us for over 13 years, having joined ADS from working on the Extensive Urban Survey project for Cumbria County Council. A lot has changed during that period, but some things are still the same. One of Catherine's first duties was to give a presentation on OASIS at the 2002 Computer Applications in Archaeology conference in Heraklion in Crete. One of her last roles has been to oversee the HERALD User Needs survey, which will inform the future development of the OASIS online recording form. During that period OASIS has become the cornerstone of heritage information strategy in England, and it has played a key role in creating a key online resource for British Archaeology. When Catherine joined ADS there were no unpublished fieldwork reports in the grey literature library; as she leaves us the library has just exceeded the 30,000 report threshold, each with a permanent Digital Object Identifier, and excellent metadata. We wish Catherine good luck in her new job with the Parliamentary Archives, and hope she is as successful sorting out the Government's digital data as she has been with Archaeology. In the meantime we are pleased to welcome Louisa Matthews, who takes over oversight of OASIS, and Collections Development. You can learn more about Louisa, and why we are so pleased to have secured her for ADS, below.



ADS Welcomes Louisa Matthews

Louisa joins the ADS this March as our New Collections Development Manager. Louisa's first brush with archaeology was in 1997 with the University of York training excavation at Castell Henllys in Pembrokeshire. After graduating from the University of Sheffield with a BSc in Archaeological Science in 2001, Louisa worked briefly as a site assistant in Cambridgeshire, before getting her first job in local government at Warwickshire County Council in 2002, where she discovered an interest in working with databases and GIS. Louisa went on to work for South Yorkshire Archaeology Service in 2003 as Assistant Archaeologist with responsibility for the Sites and Monuments Record (SMR) and assisting in the production of the service publication, *Archaeology in South Yorkshire*. In 2008 Louisa took a career break to go back to University, studying for an MSc in Environmental Archaeology and Palaeoeconomy, again at the University of Sheffield. In 2010, Louisa took up the post of Historic Environment Record Officer at North Yorkshire County Council where she worked on implementing and updating the Historic Environment Record enhancement plan. At ADS Louisa will be responsible for managing our expert team of digital archivists, and developing our collections. Louisa will therefore be the main point of contact for depositors wishing to deposit with the ADS.



ADS UPDATE

ADS News

The Grey Literature Library reaches 30,000

The ADS is excited to announce that we now have over 30,000 reports in our Grey Literature Library. A notable contribution to this number has been the addition of around 1,500 backlog reports that have been digitised and deposited with us from the North Yorkshire HER with more to come. Since the start of 2015, 734 reports have been added from 85 different organisations and 729 of those reports were submitted via OASIS. Notable contributions, so far this year, have been made by Archaeological Project Services (51); Suffolk County Council Archaeological Service (37) and Oxford Archaeology East (35). Over the past few months 4 new organisations have been added to the growing number of contributors to the Grey Literature Library from across the sector including the English Heritage Research Reports of which 498 have been deposited with the ADS since December and are now available directly from the Grey Literature Library. These reports include a wide range of specialist subjects and recently deposited examples include 'English Heritage Reviews of Environmental Archaeology: Midlands Region Insects' and 'English Heritage Coastal Estate: risk assessment.'

HERALD Update

HERALD stage one - the user needs survey - is almost complete and the results of the recent mock up consultation are in and being combined with the results of the surveys from the different heritage user groups. Reactions to the workflow and interface changes are generally positive and the recent mock up has done its job by highlighting a last few changes that needed to be made. Recommendations from the project include

that there needs to be more communication and publicity about the OASIS system in the heritage community as well as workflow changes to accommodate different working practices in local government and giving museums and archives access to the system. You can keep up to data with the project at the OASIS blog: <http://archaeologydataservice.ac.uk/blog/oasis/>.

Digital Data Re-use Award

Internet Archaeology and the Archaeology Data Service have teamed up to provide an Award that recognises the outstanding archaeological research being carried out through the re-use of digital data.

This Award is intended to:

- acknowledge the wide range of research carried out that re-uses data hosted at the ADS
- raise awareness of the research potential of data re-use in archaeology
- raise winners profiles amongst peers
- assist winners career development

The top 3 entries will receive one of our coveted 1GB trowel-shaped USB sticks, a certificate of accomplishment, and will be invited to publish their case studies in the ADS blog SoundBytes. The overall winner of the Award will also be invited to submit a fully developed article to Internet Archaeology which, subject to positive peer-review, will be published in a future issue of the journal Internet Archaeology with all fees waived. The deadline for this years application is 13th March 2015. Information can be found here <http://archaeologydataservice.ac.uk/blog/2014/10/digital-data-re-use-award/>

If you miss the prize this year we will be running it again in 2016!

**To get up to the minute news
follow us on twitter
@ADS_Update
or Like us on Facebook**

Find us at:

An ADS representative will be attending the following events:

Computer Applications and Quantitative Methods in Archaeology Conference. Sienna, 30 March - 3rd April 2015.

Institute for Archaeologists Conference. Cardiff, 15-17 April 2015.

Society for American Archaeology Annual Meeting. San Francisco, 15-19 April 2015.

Digital Heritage 2015. Aarhus, 21-22 May 2015.

European Association of Archaeologists Annual Meeting. Glasgow, 2-5 September 2015.



Staff Spotlight

Dr Ray Moore

Digital Archivist and ADS-easy Manager

Digital Archivist and ADS-easy Manager Ray joined the ADS in August 2008 following the completion of his PhD, and has developed his digital archiving skills on CTRL and many other archives. He has worked alongside colleagues on ADS+, CARARE and helped the ADS secure the Data Seal of Approval. Over the last couple of years Ray has been working alongside Lei Xia and Paul Young on the development of the ADS archive submission system, ADS-easy, whilst behind the scenes he has worked with Jenny O'Brien on streamlining workflows for those archives submitted electronically. In conjunction with Tim Evans, Ray has written a number of articles on the role of the PDF in digital archiving strategies.

internet
archaeology

Open Access Success!

In case you missed the announcements at the time. Internet Archaeology became a fully open access journal in September 2014. Several things had spurred this decision. Over the last few years, active efforts were made to reach this target, for example, by opening up back issues with an annual rolling wall and by switching to a default CC-BY license in 2013. During the same time, we have also seen a marked increase in quality, funded submissions including several themed issues.

Internet Archaeology has always tried to be more than 'just a journal'. It enables authors to explore the possibilities of the web and we have delved into many different publication formats. This flexibility extends into everything we do. Being a small operation has meant we could be responsive to changes in the wider scholarly landscape (Finch report, RCUK and the European Research Council mandates), and so by the end of last year, the journal had simply reached the tipping point.

To help library open access publishing budgets go further, and in partnership with the ADS, we have launched an optional, low-cost, institutional membership scheme. This gives a 25% discount on every quoted APC to authors from member institutions as well as a discount on the related ADS deposit. Membership enables institutions to support open access publication and encourages wider dissemination and re-use of outputs. We encourage you to pass this information on to your librarian.

<http://intarch.ac.uk/inst-membership.html>

COLLECTION HIGHLIGHTS

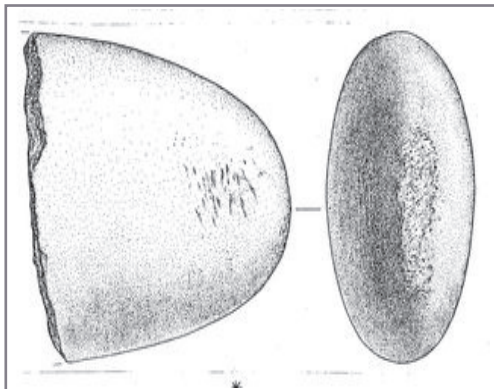
Recent Releases

The following collections are a sample of archives released last year. These are just a small sample of new resources. To get up to the minute information on all our new releases follow us on twitter @ADS_Update or Like us on Facebook.

PaMELA: Palaeolithic & Mesolithic Lithic Artefact database

<http://dx.doi.org/10.5284/1028201>

Released in October 2014, the PaMELA database consists of a digital transcription of Roger Jacobi's extensive card index of find-spots and collections of Upper Palaeolithic and Mesolithic artefacts. These originally formed the basis of the Council for British Archaeology (CBA) Gazetteer of Mesolithic Sites in England and Wales. Jacobi subsequently extended the card index begun for the CBA Gazetteer over many years of museum and private collection visits. PaMELA has created a digital 'back-up' of the only complete copy of Jacobi's index cards.

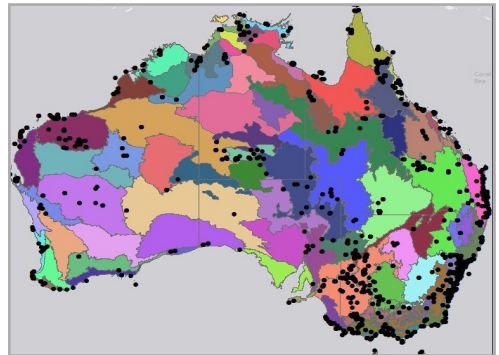


Drawing of a flint hammerstone from the PaMELA database © Wessex Archaeology, Dr Roger M. Jacobi.

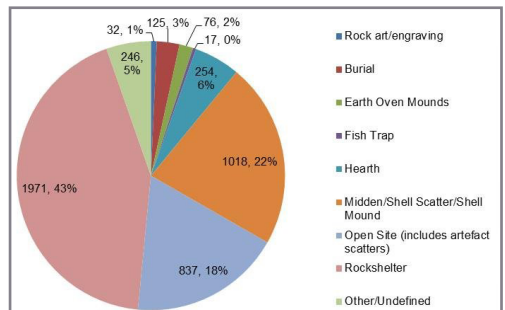
AustArch: A Database of 14C & Luminescence Ages from Archaeological Sites in Australia

<http://dx.doi.org/10.5284/1027216>

The AustArch database contains radiocarbon and non-radiocarbon determinations from 1,748 archaeological sites across Australia from a total of 1,067 publications. The dataset represents all published dated archaeological deposits from the last 60 years, including extensive unpublished/grey literature data. The dataset accompanies an Internet Archaeology Data Paper which can be found at: <http://dx.doi.org/10.11141/ia.36.6>.



Map of the AustArch dataset divided by bioregions © Alan Williams.



Number and proportion of main site types represented in the AustArch database © Alan Williams.

COLLECTION HIGHLIGHTS

English Heritage Archaeological Monographs

<http://dx.doi.org/10.5284/1028203>

This archive consists of a collection of PDF versions of English Heritage's illustrated archaeological monographs. At present, the ADS holds 84 titles covering some of the country's most iconic heritage sites and including a wide range of subjects, periods and specialisms. Some of our staff favourites include, Yeavinger: An Anglo-British centre of early Northumbria, by Brian Hope-Taylor, Grimes Graves by R. Mercer and Birdoswald: Excavations of a Roman fort on Hadrian's Wall and its successor settlements by Tony Wilmott.

The Prehistoric Stones of Greece: A Resource from Field Survey

<http://dx.doi.org/10.5284/1028984>

The Prehistoric Stones of Greece dataset collates information primarily about Palaeolithic and Mesolithic sites in Greece, and describes the field survey projects from which they were discovered. The dataset includes information about sites and find-spots including location, elevation, chronology, and the types of artefacts and ecofacts recovered. The result is a searchable database which has the potential to grow as new field survey projects continue to be set up.

Journal Updates

Several journal collections within the ADS have been recently updated to include new issues including:

Society of Antiquaries of Scotland Proceedings (<http://dx.doi.org/10.5284/1000184>), **London Archaeologist** (<http://dx.doi.org/10.5284/1000168>), and

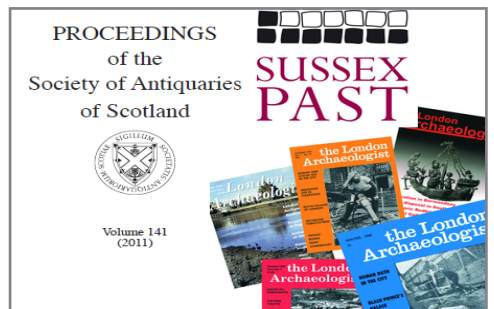
Sussex Archaeological Collections (<http://dx.doi.org/10.5284/1000334>).



A collection of English Heritage Monographs © English Heritage.



Stone bridge, Greece © Dr Paraskevi Elefanti, Dr Gilbert Marshall, Prof Clive Gamble.



Selection of journals archived by ADS © ADS

PROJECTS

ADS 3D Viewer: A 3D web-based dynamic working environment for the management and analysis of archaeological data

Fabrizio Galeazzi

ADS 3D Viewer is a two year project funded under the 'Marie Curie Actions' Seventh Framework Programme, and benefits from the collaboration with the Italian Visual Computing Lab (ISTI-CNR; <http://vcg.isti.cnr.it>) in the framework of the ARIADNE European project.

In the past ten years the use of new technologies for the 3D documentation and reconstruction of cultural heritage has changed how we approach archaeological research. The growth of information technology in 3D documentation tools, including electronic surveying instruments, laser scanners, photogrammetric cameras, and even CAD modellers, has brought an exponential increase in the use of digital data. The use of "real-time" survey software and hardware such as total stations, global positioning systems (GPS), photogrammetry and laser scanners has had a remarkable impact on archaeological recording as well as important implications for archaeological survey. The use of these techniques, by improving the accuracy and precision of the documentation process, is considerably changing the nature and implications of the word "digital" in archaeology.

Presently, the main challenge for archaeologists and information and communication technology specialists consists in the preservation and dissemination of 3D data in archaeology. Up to now, a large number of 3D digital data archives have been produced and most focus on the preservation of the information over time without thinking about the accessibility of these data on the part of the scientific community.

The aim of the ADS 3D Viewer project is to fill this gap, by developing an interactive 3D web-based working environment for the management and analysis of archaeological data within the ADS website infrastructure, for all kinds of users, including those who are unfamiliar with these technologies. The first accomplishment of the ADS 3D Viewer project was the development of a beta version of the viewer that extends the web-based browsing functionality of the ADS project archives. Each ADS project archive has a short introduction about the project and a download section. In the download section it is possible to view project data produced in different file formats, such as JPG (2D images) and ASCII and OBJ (3D data). Before the development of the ADS 3D Viewer it was only possible to interrogate excavation archives by downloading individual files and reassembling the 3D geometry of the site, which demands a high level of IT skills and access to software by the end user.

The ADS 3D viewer developed, exploits the 3DHOP tool developed by the Visual Computing Lab (<http://vcg.isti.cnr.it/3dhop/>), and now enables users to browse 3D geometry directly in the webpage containing all the information related to the digital model and can try out the 3D viewer in the Virtual Amarna Project archive (<http://dx.doi.org/10.5284/1011330>). The 3D viewer not only offers users the possibility to interact with and analyse the 3D model in the 3D window embedded in the web-page of the project, but also in full-screen mode using a trackball and different features (viewpoint, zoom and lighting).

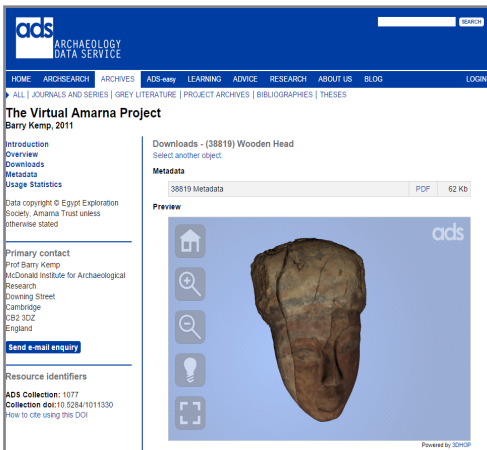
PROJECTS

The final aim of the project is to improve the viewer allowing the visualization and analysis of a very specific kind of “aggregated” data such as different layers of the archaeological stratigraphy. Currently the ADS stores 3D models of each stratigraphic unit as single objects, without the possibility to explore their spatial and temporal relationship. Future developments of the 3D Viewer will aggregate different geometric layers in a single 3D environment, where the user may turn layers on and off according to different patterns (single layer, all layers under this one, two layer comparison, etc.), control their transparency, and explore the layered geometry using a specialized trackball. The ADS 3D viewer will not only allow the exploration and interaction with the different stratigraphic layers, but will also give users the possibility to measure the 3D models and select hyperlinks that provide extra information on all the features contained in the layer (i.e. text, pictures, stratigraphic unit sheet, etc.).

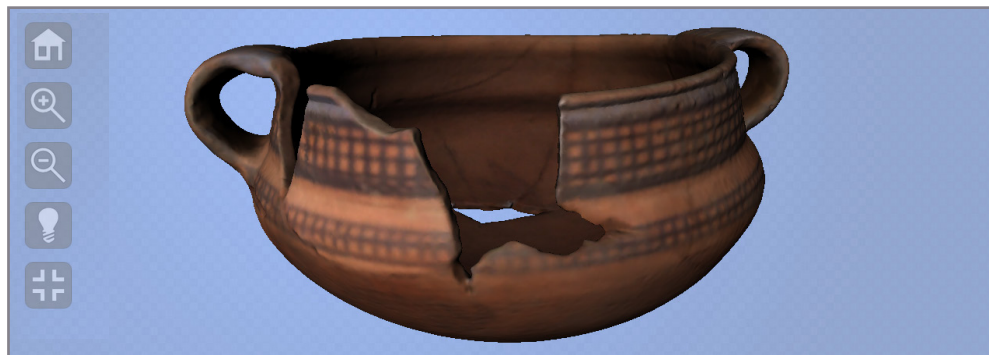
Increasing the accessibility of 3D metric reproductions of the excavation process and the interpretations made by different scholars of the same context on the web, this new tool will be a usable and useful instrument for the remote, collaborative study of complex archaeological

datasets promoting the use of 3D representations for the analysis, interpretation and knowledge production in archaeology.

The progress of this research will be reported on the project webpage http://archaeologydataservice.ac.uk/research/ADS_3D_Viewer and the ADS blog <http://archaeologydataservice.ac.uk/blog/>



Above: The new ADS viewer within the Virtual Amarna Project archive. Below: Blue/Black on Red Jar, ID 76449 in the ADS 3D viewer. © Egypt Exploration Society, Amarna Trust



PROJECTS

Internet Archaeology Displays Pre-Columbian Rock Art in New Light with Interactive Technology

Judith Winters

Polynomial Texture Mapping (PTM) is a fairly new technique employed by archaeologists and it has furthered research at a well-known Brazilian rock art site, Avencal 1, revealing details not previously detected. An article outlining the work has just been published in Internet Archaeology and it contains an interactive viewer which enables readers to explore the rock art panels for themselves, including altering lighting conditions.

The viewer was developed by colleagues at the Visual Computing Lab at Pisa who are also developing the 3DHOP application for use by the ADS. This is the first time the viewer has been used in a peer-reviewed journal, and demonstrates once again the capabilities of publishing in Internet Archaeology over many other journals.

Phil Riris (Southampton, UK) and Rafael Corteletti (Universidade Federal do Paraná, Brazil) applied the technique to a series of 'blank' panels and revealed undocumented geometric designs as well as being able to identify differences in how the engravings were produced as well as potential sequencing.

Riris, P. and Corteletti, R. (2015). A New Record of Pre-Columbian Engravings in Urubici (SC), Brazil using Polynomial Texture Mapping, Internet Archaeology 38. <http://dx.doi.org/10.11141/ia.38.7>

Below: The WebRTIVIEWER showing Panel 1a from Urubici embedded in the Internet Archaeology article. © P. Riris, R Corteletti, Internet Archaeology.

defined and referred to by us, the seven subdivisions of the site only served a heuristic purpose, and permit a straightforward discussion of the data. The result of this work was the creation of a total of 21 polynomial texture maps, representing almost the entirety of the known site, excluding two inaccessible engravings located approximately 5m above ground level on the north end (left side) of the panels. Throughout data collection we also aimed to include as great an area of the surrounding rock face as possible, so as to detect any subtle and potentially anthropogenic differences in texture or relief. We also applied the technique as a prospection tool on 'blank' panels in order to evaluate whether eroded or otherwise damaged petroglyphs could be detected in these areas.

View Panel 1a with WebRTIVIEWER



DADAISM: Digging into Archaeological Data and Image Search Metadata

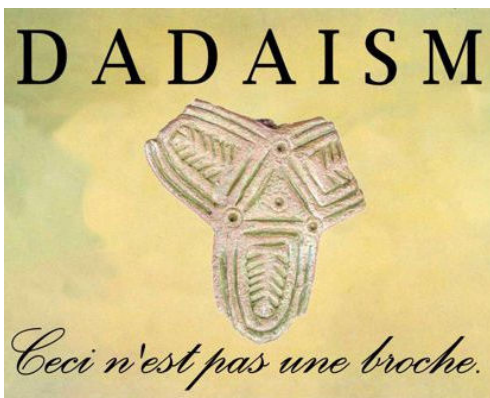
The DADAISM project (<http://dadaism-did.org/>) brings together researchers from the diverse fields of archaeology, human computer interaction, image processing, image search and retrieval, and text mining to create a rich interactive system to address the problems of researchers finding images relevant to their research.

In the age of digital photography, thousands of images are taken of archaeological artefacts. These images could help archaeologists enormously in their tasks of classification and identification if they could be related to one another effectively. They would yield many new insights on a range of archaeological problems. However, these images are currently greatly undeutilized for two key reasons. Firstly, the current paradigm for interaction with image collections is basic keyword search or, at best, simple faceted search. Secondly, even if these interactions are possible, the metadata related to the majority of images of archaeological artefacts is scarce in information relating to the content of the image and the nature of the artefact, and is time intensive to enter manually.

The aim of the DADAISM project is to develop an interactive system that combines minimal human interaction with automated processing techniques to transform the tasks of searching for relevant images and relating them to other electronic resources such as grey literature documents; to investigate how image search and text mining techniques can be used to extract information about images; to improve search and browsing of image archives and improve labelling of

images, and to investigate whether researchers can be more efficient and effective in finding images that are relevant to their archaeological research questions through the DADAISM approach. The project uses data from the following ADS archives: The J J Wymer archive (<http://dx.doi.org/10.5284/1000062>); The Library of Unpublished Fieldwork Reports (<http://archaeologydataservice.ac.uk/archives/view/greylit/>); Lower Palaeolithic Technology, raw material and population ecology archive (<http://dx.doi.org/10.5284/1000354>); and the Culture and Gender in the Danelaw archive (<http://dx.doi.org/10.5284/1012709>) to experiment with image processing and text mining.

The result of the project will be an interactive web-based system that will support researchers in exploring image archives, in labelling images with appropriate metadata, and in relating images to other information sources such as grey literature documents.



PROJECTS

Roman Rural Settlement at the ADS

Tim Evans

Since April 2012 I have been fortunate enough to be the ADS lead in the Roman Rural Settlement of Britain project, undertaken by Mike Fulford and a small team at the University of Reading in collaboration with Cotswold Archaeology with funding from the Leverhulme Trust and English Heritage. For those unfamiliar with the project, the primary aim is to research both unpublished and published sources from excavations to write a new account of the rural settlement of Roman Britain. The settlement evidence from Roman England will be published in a book-length study and simultaneously online via an ADS interface in April 2015. An ongoing phase of analysis incorporating the settlement evidence from Wales and related finds and burial data will be added in 2016.

The latter is where I come in, and since the beginning of the project I've been involved in planning for the final archive and the best delivery of the research dataset. The role has been multi-faceted; initially it was concerned with building a desktop database and GIS for data collection (not forgetting to create metadata for my own work!) and assisting the rest of the team with the holdings of the ADS catalogue. Latterly it has involved integrating reports in the ADS library, and building a bespoke interface for the research dataset.

The geospatial element of the interface is one I've particularly enjoyed, and the ADS use of Open

Source alternatives (namely Geoserver and Openlayers) for the delivery of these datasets has enabled what I hope is an attractive yet useable front-end, enabling the research dataset to be viewed against a range of cultural and geographical WMS layers as well as data from within our own archive. Indeed, one of the benefits of working alongside the project team at Reading has been the flexibility to design an interface within the timescale of the project itself, allowing the comparison of differing approaches and technologies, as well as factoring in the wishes and observations of the team.

In addition, one of the most interesting facets of this project, to me at least, has been the collation of perhaps all the unpublished reports pertaining to Roman rural settlement in England by the project team. This task has of course been made easier by the large numbers of reports held online by the ADS through OASIS but also other transfers of report libraries from organisations such as Lincolnshire County Council. There has, however, been a requirement for the team at Cotswold Archaeology to undertake searches of each HER for suitable reports, obtaining digital copies or creating scans where appropriate, and a debt of thanks must be expressed to all those organisations that aided in this endeavour. Part of my role has been contacting organisations or individuals for permission to reproduce these reports online. This has often involved a fair



**University of
Reading**



PROJECTS

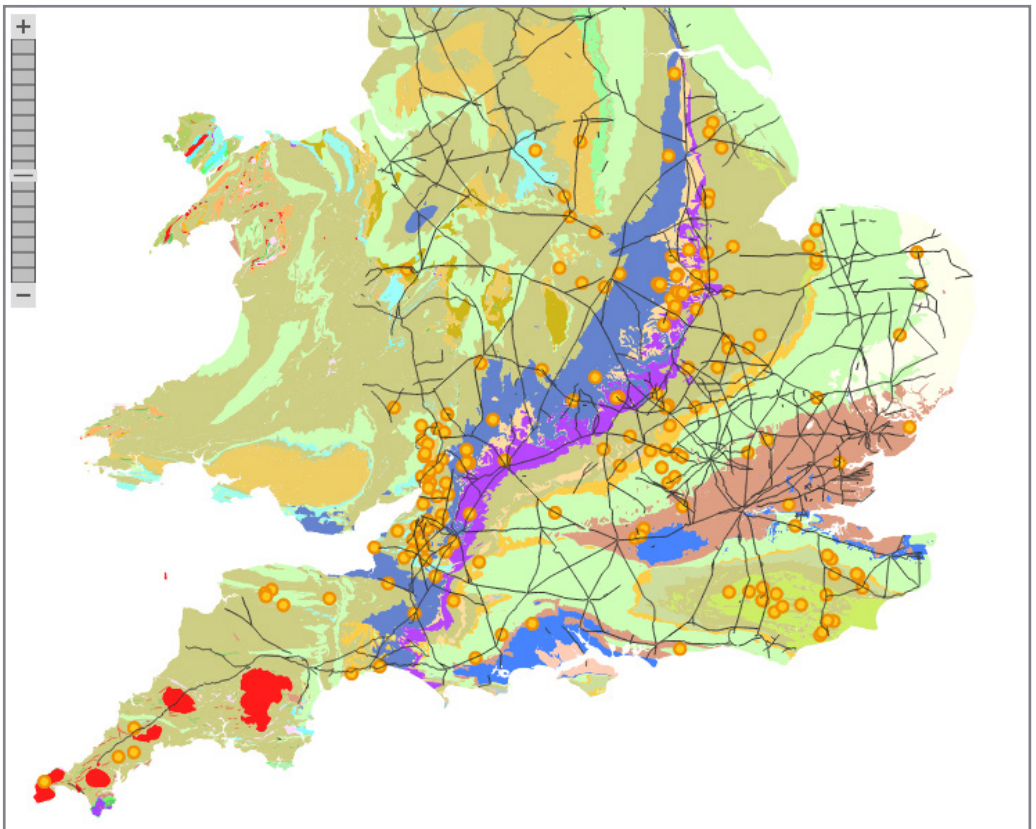
amount of detective work and scouring of the IfA members lists, but ultimately the response to these enquiries has been positive across the board. This cooperation shows not only the impact that the ADS Library as a research resource but also the willingness of fieldworkers to see their reports online for others to use.

The project has collected almost 2000 of these reports, as well as several hundred already online via the ADS. Not only can these reports now be found via the traditional library interface, but searched by the very detailed terms used by the team at Reading – thus for example one can

search for decapitated inhumations, fowl remains, or dragonesque brooches; hopefully enabling a new wave of specialised and focussed research to build on the success of the current project.

Find out more about the Rural Settlement of Roman Britain project here: <http://www.reading.ac.uk/archaeology/research/roman-rural-settlement/>

Below: An example of the Mapping interface: iron production sites in relation to bedrock geology and the network of Roman roads.



EUROPEAN PROJECTS

All Three of our European Projects are in Full Swing!

Holly Wright

The ADS is currently a partner in three major European projects, and all are well on their way. We have passed the midpoints for the three-year **Local Content in a Europeana Cloud (LoCloud)** project and the four-year **Advanced Research Infrastructure for Archaeological Dataset Networking (ARIADNE)** project. We are also now in year two of our five-year **New Scenarios for a Community Involved Archaeology (NEARCH)** project. It's been a lot of hard work for us and for our wonderful partners, but we are starting to see results!



LoCloud is a best practice network which has developed a variety of new and updated metadata mapping and enrichment tools and micro-services, to help small and medium sized heritage organisations make their resources available within Europeana, alongside some of the largest in Europe. Now in its final year, most of the new tools are now complete and in use. Partners and the organisations with which they are working are now using the tools, and some of have already had their collections published in Europeana! Some of the new tools include a metadata mapping interface, and enrichment tools for geolocation, historic place names, controlled vocabularies, and Wikimedia.

One of the services ADS has helped to promote is LoCloud Collections: a lightweight digital library that allows even the smallest groups to make their resources available online, and be made discoverable within Europeana. LoCloud Collections was developed by our partners the Digital Libraries Team at the Poznań Supercomputing and Networking Centre. ADS staff presented workshops on using LoCloud

Collections at the ICOMOS 18th General Assembly in Florence, and most recently at Digital Past 2015 in Swansea. ADS continues to work to make more of the resources in our own archives discoverable within Europeana, as well as planning upcoming dissemination activities. To check out the new tools and services, go to <http://support.locloud.eu>. While some services are still in development, all are free to try, so any thoughts or comments are very welcome! You can also keep in touch with the progress of LoCloud through the main project website at <http://locloud.eu> and via Twitter @LoCloudProject.



Culture

EUROPEAN PROJECTS



ARIADNE is an e-infrastructure project, working to bring together and integrate existing research data infrastructures, so researchers can use the distributed datasets with new technologies, as an integral component of their research. ARIADNE is now at its half-way point, and the partners have been working hard to help realise the ambitious-course we set ourselves. As Deputy Coordinators, ADS is involved in all aspects of this work, but particularly in good practices and dissemination, transnational access, linking archaeological data, and natural language processing.

One of the early outcomes has been the recently launched Visual Media Service. The service was developed by the Visual Computing Lab at ISTI-CNR in Pisa, to make it easy to publish advanced multimedia content on the web. It is based on the 3D Heritage Online Presenter (3DHOP) also developed by ISTI-CNR, which is a collection of tools and templates for creating multimedia interactive web presentations for cultural heritage objects. The Visual Media Service allows the publication of 3D models, RTI images and high resolution images. Give the new service a try at <http://visual.ariadne-infrastructure.eu>.

Fabrizio Galeazzi, who joined us last year as a Marie Curie post-doctoral fellow, has been working with ADS and ISTI-CNR on the implementation of the 3DHOP as a way of presenting 3D data within our archives (see pages 8-9). More services, including the ARIADNE portal, which is the main project outcome, will begin to appear over the next year or so. You can keep in touch with the project at <http://ariadne-infrastructure.eu> or via Twitter @Ariadne_Network.



NEARCH is an EU Culture project, which will explore different dimensions of public participation and the significance of archaeological heritage in today's Europe. It's still early days for NEARCH, but ADS has already begun its preparatory work for our involvement in expanding European participation in the digital Day of Archaeology, in developing a mobile app, creating archaeological publications adapted to various audiences, and hosting researchers through mobility grants.

In December, ADS organised the first of three scientific sessions, to be held in conjunction with our plenary meetings. A full account of the York plenary and scientific session is available on the ADS Sound Bytes blog (<http://archaeologydataservice.ac.uk/blog/>)

ADS is also participating in *Thinking and creating together: artists in residence*. Artists have now been chosen for residencies by Le CentQuatre in Paris and the Jan Van Eyck Academie in Maastricht, and ADS/Department of Archaeology at York and the Department of Archaeology at Oxford have been paired with an artist from each arts centre to be their 'archaeological partners'. We are delighted to be working with Nathalie Joffre who will be resident at Le CentQuatre (<http://www.nathaliejoffre.com>) and Leyla Cárdenas who will be resident at Jan Van Eyck Academie (<http://lehila.net>). We hope to host both artists in York soon, and look forward to our collaboration. More information about NEARCH activities can be found at <http://nearch.eu>, or on Twitter @NearchProject.

WORD SUDOKU

To enter the prize draw to win a trowel usb stick send the completed puzzle to ADS at the address above with your name and contact details. Alternatively you can email a photograph or scanned image of the completed puzzle to help@archaeologydataservice.ac.uk

L	O	N	G	E	V	I	T	Y
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All entries must be received before the 1st August 2015. The winner will be announced on the 3rd August 2015.

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