

## ADS Annual Report

1<sup>st</sup> August 2009 – 31<sup>st</sup> July 2010

*The Archaeology Data Service (ADS) supports research, learning and teaching with high quality and dependable digital resources. It does this by preserving digital data in the long term, and by promoting and disseminating a broad range of data in archaeology. The ADS promotes good practice in the use of digital data in archaeology, it provides technical advice to the research community, and supports the deployment of digital technologies. The ADS was established at the University of York in 1996. It now has a staff of twelve.*

### 1. Highlights of the year

Work over the past year has been dominated by a major overhaul of the ADS website, and a reworking of many of the ADS's most important internal systems. In particular it has entailed the adoption of a service-oriented architecture, the rationalisation of internal data sources, and the complete reworking of internal and external searches. This has been accompanied by the launch, in March 2010, of an ambitious 12-month project to implement Fedora Commons, as the backend to a completely overhauled Collections Management and Project Tracking System. Fedora will enhance the user experience by allowing deeper richer searching within and across archives, and also ensure a higher level of automation and sustainability for file management operations, an essential part of digital preservation functions.

The redesign of the ADS website, itself a major challenge given the scale of the site and the volume of material, incorporates a number of new features and approaches that will enhance both the user's experience and their ability to access resources for research. The most obvious change is in the design and visual identity of the website. ArchSearch, the ADS cross-searching mechanism has undergone a major revamp, rolling out to service a novel technology for archaeological searches called faceted classification. First applied at the ADS in 2004, this technology offers significant advantages over more traditional 'type and hope' search boxes, not least an intuitive clickable interface. The updated ArchSearch also includes a greatly enhanced geospatial interface that allows users to select areas of interest as well as displaying their results on a range of openly available mapping bases.

Another major enhancement to the web site is the ability for users to register as an ADS user and to access their own ADS workspace 'myADS'. This workspace will offer the ability to save ArchSearch searches for future use, to bookmark ADS pages with notes, to review usage history, and download results sets, and to tailor elements of the websites design and feel to their own taste. Registering will also allow users to select their news and email alerts service to subjects of specific archaeological interest to themselves.

Alongside the new web site, work also continued on a comprehensive set of new guidance for creators and depositors, updating the original Guides to Good Practice. Under the general editorship of Kieron Niven an international team of editors and reviewers have been working on the wiki, and in April 2010 the new Guides were given their European launch at CAA Granada, and North American launch at the SAA in St Louis. It is clear that efforts to establish digital archives in other countries are gaining momentum, and partners from the USA visited ADS in March 2010, and from Canada in July 2010. Although the immediate financial climate in the UK will undoubtedly be difficult it is hoped that ADS will gain resilience in the coming years from the diversity of its international partnerships.

## **2. Collections Development**

### Significant New Collections

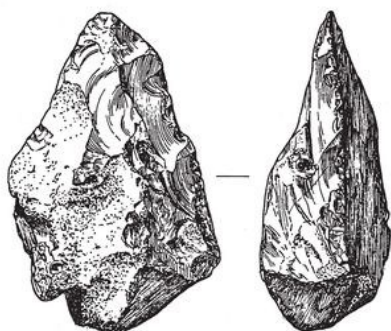
#### *The Stansted Framework Project*

Framework Archaeology is a Joint Venture agreement between Oxford Archaeology (OA) and Wessex Archaeology (WA) to provide archaeological services to BAA. Between 1999 and 2004, Framework Archaeology undertook a series of large-scale archaeological excavations at Stansted Airport, Essex. These were undertaken in advance of redevelopment work within the Stansted Airport Limited landholding. The results of the archaeological excavations were published by Framework Archaeology in 2008 in the book entitled "From hunter gatherers to huntsmen: A history of the Stansted landscape" ( Framework Archaeology Monograph No. 2.). To help fulfil the aim of developing a historical narrative as the site was excavated, field staff, were provided with access to a on-site computer network, database and geographic information systems which aimed to provide as complete a digital model of the excavations as possible. This on-site data capture then helped to inform decision-making and interpretation throughout post-excavation analysis and the field data was augmented with the results of specialist analysis. Accompanying the monograph and freely downloadable since publication, there is the Framework Free Viewer, a distilled version of the digital archive presented as a Microsoft Windows® installable geographic information system. This GIS system has been replicated and made available on line on the ADS site.

#### *The English Rivers Project*

Dr John Wymer, who died in 2006, was Britain's foremost Palaeolithic archaeologist, with an unparalleled knowledge of Quaternary geology and the earliest human artefacts in Britain that are occasionally associated with these deposits, and much of his work was carried out as a direct or indirect result of mineral extraction. His personal archive forms a collection of national importance. Following his death, the JJ Wymer Archive Project was commissioned by English Heritage (EH project number 5088) with the support of the Aggregates Levy Sustainability Fund (ALSF), with the intention of securing the Wymer archive and making selected elements of it accessible to public and professional audiences. One of these elements comprised John Wymer's card index of every known Lower and Middle Palaeolithic artefact from Britain. These formed the basis of first the Southern Rivers Palaeolithic Project and then the English Rivers Palaeolithic Project (TERPS), the results of which were

published in 1999 as *The Lower Palaeolithic Occupation of Britain*. Wymer's work on the Southern Rivers Project and TERPS between 1993 and 1997 was conducted in conjunction with Wessex Archaeology, who also undertook the work on the Wymer Archive Project. As part of the development of the Wymer archive, the data gathered for TERPS have been used to create a database, which is available to search or download on the ADS site. PDF versions of the two volumes of *The Lower Palaeolithic Occupation of Britain*, for many years out of print, are also available to read or download here, and digital versions of John Wymer's eight Field Note Books are also accessible through the ADS.



### *The Grey Literature Library*

The Grey Literature Library currently holds over 5,300 grey literature reports. The vast majority of these (4,950+) have been submitted via the OASIS system. This resource is proving very popular with contracting units wanting to find a dissemination method for their work, and the provision of a secure archival home, not easily available at a local level. It is also proving very popular with ADS users and researchers.

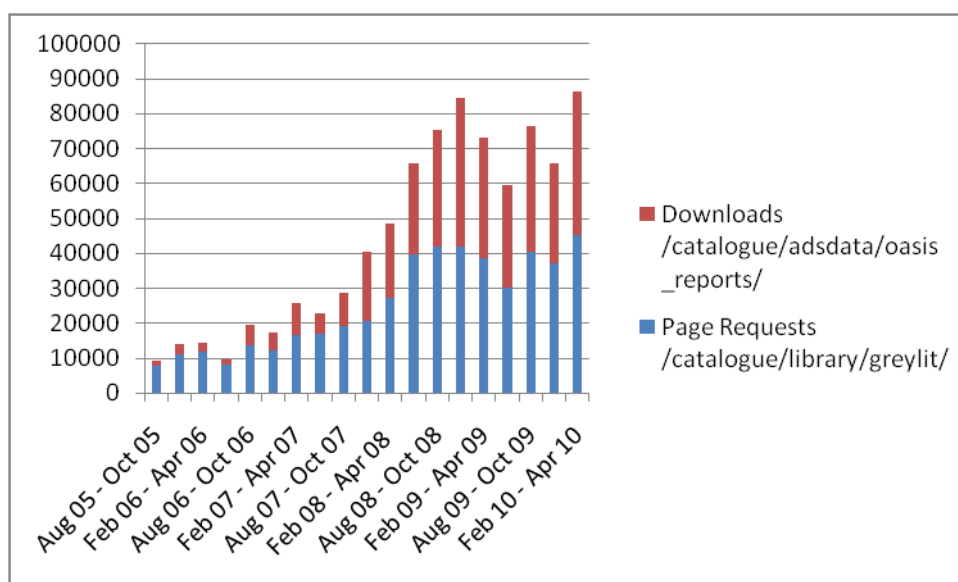


Figure 1: Showing the number of page requests from the library (in blue) and the number of downloads of Grey Literature reports from the library (in red) since its creation in 2005.

In total, since the start of the grey literature library over 400,000 reports have been downloaded by ADS users and, as can be seen on the graph, the trend is showing a slight increase in usage. While it is difficult to see in the available web statistics, analysis of internal OASIS information has shown a sharp rise since 2005 in the number of units uploading reports, and together with a general increase in the use of OASIS in England and Scotland, the ADS has seen the number of grey literature reports to be uploaded per month rise from an average of 50 to over 100 per month.

Number of new negotiations by month and funder

*NB This does not include the ALSF archives or OASIS related negotiations*

	<b>New Projects Under Negotiation</b>	<b>Month</b>	<b>Funder</b>
1	Inductively coupled plasma mass spectrometry	September 09	
2	Magnetic moments in the past	September 09	AHRC
3	The South Lanes, Carlisle: Specialist Fascicules	September 09	EH
4	Society of Antiquaries of London Subject index	September 09	Soc of Ants
5	Sherborne Old Castle	October 09	EH
6	Northumberland and Tyne and Wear Reference Collection	October 09	
7	Roman Gazetteer Project	October 09	
8	The Brian Hartley Legacy	October 09	EH
9	Cypriot Figurine Database	October 09	AHRC
10	Survey of Medieval Welsh tomb carvings	October 09	
11	Chilterns Historic Landscape Characterisation	November 09	EH
12	Oxford Urban Archaeological Strategy	November 09	
13	Former Elmete Caravan Site, Leeds	November 09	
14	Quarry Farm	November 09	
15	Glamorgan Gwent Archaeological Trust Grey Literature	November 09	
16	A survey of Assyrian Christian material remains	November 09	BA
17	Berkshire Archaeological Society Archives	December 09	Self
18	Roman Society Slides Collection	December 09	
19	Whalebone database	January 10	
20	Managing Landscape change in Yorkshire	January 10	EH
21	Acoustics in Archaeology	January 10	AHRC
22	Post medieval Britain and Ireland	January 10	
23	Early Bronze Age Copper Mines, Great Orme	January 10	
24	RCZA: Isles of Scilly	February 10	EH
25	Isles of Scilly Research Framework	February 10	EH
26	Buckinghamshire Archaeological Journal	February 10	Self
27	Morphometric analysis of variation in human skeleton...	February 10	NERC
28	Dunbridge Hampshire	February 10	
29	Bosworth Battlefield project	February 10	
30	The Archaeological Journal	March 10	
31	Camel Estuary Wreck	March 10	
32	Analysis of A-S burials at Mucking	March 10	
33	Project Gargoyle	March 10	
34	The DART project	March 10	AHRC

35	St Peter's Church Barton on Humber	March 10	EH
36	Caerleon Legionary Fortress	March 10	CADW
37	Combe Down Stone Mines	April 10	
38	Holmes by the Sea	April 10	EH
39	Japanese Archaeological Resource	May 10	
40	Church of England Grey Lit Reports	May 10	
41	Cowlam	June 10	
42	Cottam A	June 10	
43	VAG Wealden	June 10	
44	Representing re-formation	June 10	AHRC
45	Garton Wetwang Slack	July 10	
46	South Yorkshire HER	July 10	
47	Exeter City UAD	July 10	
48	Star Carr	July 10	

Number of collections released with month of deposition/accession and month of start of service, by funder (with new editions italicised)

	<b>Resource title</b>	<b>Released</b>	<b>Accession</b>	<b>Funder</b>	<b>Special interface</b>
1	Wiltshire EUS	August	Feb 09	EH	
2	Hilton of Cadboll	August	March 09	HS	
3	Bremetenacum	August	May 09	EH	
4	Peak Forest Tramway	August	July 09	EH (ALSF)	
5	Tinney's Lane, Dorset	August	Feb 09	EH	
6	Boden Vean Fogou	September	Sept 09	EH	
7	<i>Newham Museum Service</i>	<i>September</i>	<i>1998</i>	<i>None</i>	
8	Hill Hall	September	June 09	EH (ALSF)	
9	Stansted Framework Project	September	Feb 08	BAA	Yes
10	Black Country HLC	October	July 09	EH	
11	Willington, South Derbyshire	October	Dec 09	EH (ALSF)	
12	Dungeness and Port of Rye	October	Sept 09	EH (ALSF)	
13	Buried under Bidford	October	May 09	EH (ALSF)	
14	Securing a future for Maritime Archaeological Archives	October	Various	None	
15	Suffolk Rivers Valleys project	October	June 09	EH (ALSF)	
16	TERPS	October	March 09	EH	Yes
17	Magnetic Structures of medieval and post medieval pyrotechnical industries PhD	October	August 09	None	
18	Novum Inventorium	November	April 08	AHRC	

	Sepulchrale				
19	Celtic Art in Iron Age and Roman Britain	November	June 09	AHRC	
20	Defence Areas WWII anti invasion landscape	November	Dec 05	EH	
21	Refining Areas of Maritime Archaeological Potential	November	October 09	EH (ALSF)	
22	Excavations at Kissonerga Mylouthkia	November	May 05	BA	
23	CBA Research Report – vernacular buildings	December	Nov 09	None	
24	Field walking on Sherwood Sandstone of Notts	December	June 09	EH	Yes
25	Chedworth Roman Villa	December	Various	National Trust	
26	Review of animal bone evidence from Southern England	December	July 09	EH	Yes
27	The Shala Valley project	January	May 09	Mellon	Yes
28	Sandhills project	January	Sept 09	EH (ALSF)	
29	Medieval Britain and Ireland	February	Various	Med Soc	Yes
30	Post Medieval Britain and Ireland	February	Various	Post Med Soc	Yes
31	England's Historic Seascapes: Withernsea to Skegness	February	June 09	EH (ALSF)	Yes
32	Searching for traces of the Southern Dispersal	February	Sept 09	NERC	
33	<i>Chedworth Roman Villa update</i>	<i>March</i>	<i>Dec 09</i>	<i>National Trust</i>	
34	<i>Black Country HLC update</i>	<i>March</i>	<i>Dec 09</i>	<i>EH</i>	
35	Church Wilne DMV	March	Feb 10	EH (ALSF)	
36	Development of a regional sediment mobility model	March	Feb 10	EH (ALSF)	
37	Scowles Survey	March	Various	EH (ALSF)	
38	Anglo Saxon Stafford	March	Mar 09	EH	
39	Norwich Castle Mall	March	Various	EH	
40	<i>Medieval Britain and Ireland update</i>	<i>April</i>	<i>Mar 10</i>	<i>None</i>	
41	Hampshire assessment in aggregate areas	April	Mar 10	EH (ALSF)	
42	Benchmark Report Theme 4A	April	Nov 09	EH (ALSF)	
43	<i>VAG Bibliography</i>	<i>April</i>	<i>Various</i>	<i>None</i>	<i>Yes</i>

	<i>update</i>				
44	Valdoe Assessment Survey	May	Mar 10	EH (ALSF)	
45	Lower and middle palaeolithic of the fenland Rivers of Cambridgeshire	May	Apr 10	EH (ALSF)	
46	<i>Sussex Archaeological Collections Vol 144</i>	<i>May</i>	<i>Dec 09</i>	<i>Sussex</i>	
47	West African pottery decorate using roulettes	May	Apr 10	UEA	
48	Ancient Don Gorge	May	Apr 10	EH (ALSF)	
49	Benchmark Report Theme 4B	May	May 10	EH (ALSF)	
50	Fields for discourse PhD	May	May 10	None	
51	Unlocking historic landscapes	May	Feb 10	AHRC	
52	<i>Post Medieval Britain and Ireland update</i>	<i>May</i>	<i>Apr 10</i>	<i>None</i>	
53	St Laurence Chapel Bradford on Avon	June	Nov 09		
54	Mesopotamian environmental archaeology database	June	March 04	AHRC	
55	National Ice Age Network	June	Apr 10	EH (ALSF)	
56	Developing Magnetometer techniques	June	Apr 10	Eh (ALSF)	
57	Glastonbury Abbey on line	July	Oct 09	EH	
58	Culture and Celtic Speech	July	Jan 05	AHRC	
59	The evolution of Rome's Maritime Facade.	July	March 10	AHRC	
60	Sutton Park LiDAR, air photographic and ground surveys and palaeoenvironmental assessment	July	March 10	EH	

In addition we have uploaded 1445 reports into the grey literature library reported via the OASIS system.

### 3. Collections Management and Preservation

#### Systems developments

- A dedicated file server – medea.york.ac.uk - is now active. The system purchased is a PowerEdge 2970 server running under Solaris 10 (5/09) for X86 systems. Main features include 8 virtual processors (2 \* Quad Core Opteron 2378), 8GB RAM and 6 \* 1TB drives. The latest versions of Solaris support ZFS file systems which are very configurable in terms of failsafe mechanisms. Currently the drive containing the root partition is mirrored with the other 4 drives set up in a RAID configuration. The server now houses all our data (with an offsite backup located with the UKDA at the University of Essex). A read only share is mounted on our main public access server.
- Two Samsung N210 Netbooks running under Windows 7 have been purchased for staff use (meetings, conferences, etc). The main criteria were lightness, battery life and sufficient resources to run standard software such as MS Office, a web browser and an email client. These netbooks weigh in at 1.34kg (c. 3 lbs in 'old money'), have a battery life of up to 11 hours and are reasonable resources for mobile computing with an Intel Atom Processor N450 (1.66GHz), 1GB RAM and a 250GB SATA Hard drive. Feedback has so far been favourable.
- Four new PCs were purchased all running under Windows XP. The University plans to move to Windows 7 at sometime in the next year skipping Vista. All staff PCs are of high enough spec to undergo the migration to Windows 7.

#### Curation

- All deposited data sets were accessioned into the ADS Collections Management System.
- During the course of the year preservation and resource discovery metadata was prepared for all new collections.
- Preservation copies of all data continue to be synchronised off site into our deep storage facility within the UK Data Archive at the University of Essex.
- The AHRC have funded a one year project under the DEDEFI programme: ADS+: Enhancing and Sustaining the Archaeology Data Service digital repository (<http://ads.ahds.ac.uk/project/ads+/>). The grant has enabled the employment of a programmer who is building on earlier work looking at the integration of Fedora Commons with existing ADS systems, and the assignment of existing curatorial staff to necessary data cleaning and restructuring to facilitate this (See Research and Development projects).
- The ADS continues to refine levels of compliance to the Trustworthy Repositories Audit & Certification: Criteria and Checklist



- The ADS curatorial team are continuing to use a series of checklists to audit completion of all ingest tasks; datasets are signed off by the appropriate project manager on completion of preparation and delivery.
- Preservation manuals and internal data procedures were kept under ongoing review.
- A formal preservation policy document is now available (<http://ads.ahds.ac.uk/project/PreservationPolicyV1.pdf>)

### System uptime

*Unplanned downtime: minerva2 (main production server)*

Date	Downtime (hour.min)	Comment
30-31 March 2010	11.13	Overnight out of memory error. An application was writing large numbers of large files to a temp directory. This has been resolved permanently by running a nightly task to clean up this directory.

### *Planned downtime*

Patching, etc of servers took place during the Tuesdays 8-9am (UK time) advertised 'at risk' period.

## **4. Advisory services**

### New guidelines

1. Work on the revision and development of the new Guides to Good Practice has continued with substantial content being revised and developed across the range of guidelines. As previously mentioned, the Guides were officially launched in April 2010 at both the CAA conference in Granada, Spain and the SAA conference in St Louis, USA. In terms of content, significant developments have been seen in the revision of the common introductory sections to the Guides (covering digital preservation, archival strategies and project-level issues) together with the development of the six new 'Basic Components' guides and new Close Range Photogrammetry and Laser Scanning guides.

The Guides project is scheduled to complete at the end of December 2010.

<http://guides.archaeologydataservice.ac.uk>

2. New guidelines on the scanning journal back runs or legacy grey literature reports have been created and can be found at <http://archaeologydataservice.ac.uk/advice/scanningGuide>. This initiative was in

response to requests from some HER officers who were considering large digitisation projects to scan their grey literature collections.

3. A set of guidance about the deposition of sensitive and/or personal data has been approved by the ADS Management Committee. It can be found at: <http://archaeologydataservice.ac.uk/advice/sensitiveDataPolicy>
4. ADS staff contributed to the Network of Centres review of the AHRC Technical Appendix. This has led to a new form being developed for use by applicants to the AHRC.
5. ADS staff are also involved with the Marine Environmental Data and Information Network (MEDIN) a partnership of UK organisations committed to improving access to marine data. MEDIN provides guidance on metadata generation for data sets and advice on the information that should be recorded when different types of data are being collected. Information can also be found on international metadata and data standards.

Number of AHRC projects seeking advice (meeting/email/phone):

55 emails  
7 phone calls  
1 meeting

(Covering c. 26 planned projects)

Number of AHRC Technical Appendices Assessed

41 technical appendices were assessed on behalf of AHRC

Advice has also been provided to a small number of NERC and British Academy projects, at pre-application stage.

Workshops

The ADS hosted a faunal remains expert working group workshop as part of the TAG project in March 2010. With 26 attendees this workshop was essential to build the necessary consensus for a cross-search schema for the TAG project. A draft schema has been created as a result of this workshop and will be presented to members of the working group during ICAZ in Paris in September. It is a gratifying outcome of this project that the working group formed for this workshop has continued to communicate internally and continue to the ongoing objectives of the TAG project.

The ADS also hosted and actively contributed to an AHRC Science and Heritage Programme Workshop, on Archiving and Resource Discovery held in King's Manor in December 2009.

As part of the ADS's participation in the STAR/STELLAR project in collaboration with the University of Glamorgan a workshop was hosted in the King's Manor in May 2010. Drawing together around twenty leading experts in the areas of natural language processing and linked data in a heritage context, project results were

presented and a series of productive discussions were held to inform future work on the STELLAR project, including the test corpus for the proposed STELLAR linked data ingest tool.

## 5. Publicity and promotion

### Conference Appearances:

In addition to conference attendance members of staff from the ADS presented 37 papers at 29 different conferences, workshops and seminars throughout the year. These included major international conferences such as Computer Applications in Archaeology, the congress of the Society for American Archaeology, the IEEE and a Digital Heritage Symposium in Adelaide, Australia, as well as UK conferences such as the annual meetings of the IfA and the Higher Education Academy. A full list of conferences, workshops and other significant meeting attended is available in Appendices E and F.

### Newsletters blogs and press coverage:

ARIADNE January 2010:

*“Catherine Hardman’s presentation reminded us that integrated systems bring benefits back to Higher Education. Access to unpublished material from fieldwork reports in archaeology has been an ongoing problem for researchers, exacerbated by the small size of the academic sector and the fragmentation of the discipline. The Archaeology Data Service (ADS) has been slowly and very effectively addressing this problem for a few years now”* The Digital Preservation Roadshow 2009-10 review.

Throughout the year the ADS continued to appear in numerous blog posts covering archaeological and digital preservation topics. Examples of selected posts are:

*“it was a pleasure to browse data from the Fedora-powered Archaeology Data Service (ADS).....Visitors are invited to browse new additions that include analysis of recent findings, and access to special and general collections such as “England’s Rock Art.”*”

DuraSpace Blog (Open Repositories):

<http://expertvoices.nsd.org/duraspace/2010/04/05/for-your-weekend-repository-browsing-pleasure-archaeology-data-service/>

*“It’s good to see old excavations being published. The PfA blog has deplored the existence of grey literature previously, so it’s great to see that someone is doing something about it.”*

Pagans for Archaeology: <http://archaeopagans.blogspot.com/2010/08/1970s-excavation-published.html>

*“Dig the new breed: how open approaches can empower archaeologists, The project has looked at extracting structured knowledge from “grey literature” using Natural Language Processing (NLP) tools ... In addition they have developed an RDF based approach to query data stored in heterogeneous excavation databases. WOW!”*

A review of the STAR/STELLAR projects from the DART blog:

<http://dartproject.info/WPBlog/?p=151>

The ADS has also found itself referenced via twitter, for example :  
 “Spent the morning downloading archaeometallurgy papers from Archaeology Data Service.” From Primitive Method: Exploring jewellery techniques from the early middle ages.

Regular postings to our own and other email lists continued to take place throughout the year to highlight significant new resource releases. For example the following list posts were made:

ADS general list [Ads-all@jiscmail.ac.uk](mailto:Ads-all@jiscmail.ac.uk) (members) 20 posts (>200 members)  
 British Archaeology discussion list (CBA moderated). [Britarch@jiscmail.ac.uk](mailto:Britarch@jiscmail.ac.uk) 7 posts (>1400 members)  
 Other lists posted to regularly include Antiquist, HERForum, OASIS-users, Higher Education Academy, the FISH mailing list and the IfA IMSIG.  
 The ADS RSS news feed continues to run with an average of three new news items per month (c.50 in the last year) and is broadly consumed (e.g. by Wessex Archaeology).

## 6. Resource discovery

### Interoperability

The ADS continues to move towards the adoption of a service-orientated architecture both internally and externally. We are in the advanced stages of rolling out the ARENA 2 web service implementation for the DARIAH project scheduled for service release in October 2010. Additional services have been aggregated from partners in the USA under the TAG programme in its testing phase. Competing workloads have delayed the full launch of the HEIRNET Java Universal Discovery, Description and Integration server although it is still scheduled for release in 2010 and is currently in use for the ARENA and TAG projects. The ADS host 5 web service targets for the English Heritage (Heritage Gateway). Finally, are also creating and hosting a number of OAI-PMH targets for direct/aggregated consumption by Europeana under the forthcoming CARARE project. Negotiations continue with other potential service harvesters such as those operated by NERC, the British Geological Survey, and MEDIN.

### Resource Discovery metrics:

Service	Number	Comments
Total Records Aggregated:	1,064,792	+c.30,000 on 2009/10
External Data Sources	28 (25)	Including the monuments inventories for England, Scotland, Wales and NI
Web services hosted	9 (5)	2 OAI PMH, 7 SOA
Web services consumed	4 (3)	TAG, EH Heritage Gateway test service, two ESRI WMS
External aggregators	2	Intute and ADS RD Metadata bulk loaded to MICHAEL – Multilingual

		Inventory of Cultural Heritage in Europe.
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Last year's figures in brackets.

## 7. Resource delivery

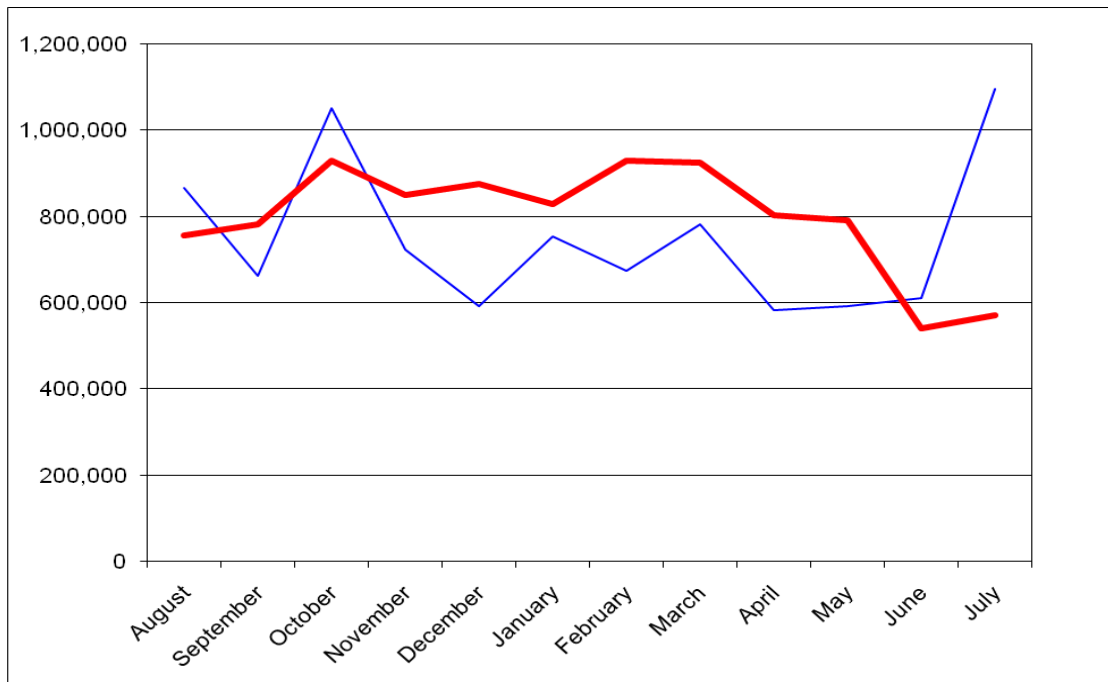
### User Interface developments:

ArchSearch III is the RedSquid component that integrates both the faceted classification search (for all aggregated records and our own archive holdings) with an advanced geospatial search mechanism based on OpenLayers. This represents a very significant step forward for the ADS not just in terms of usability, but in terms of ensuring that our site design paradigms keep pace with general changes on the web.

User testing with selected groups of undergraduates and postgraduates took place in Dublin in December 2009 and in Southampton in February 2010. As a result of these (and internal tests) this new interface was released into public beta-test (soft launch) in July 2010 and will be further promoted, after user feedback, in September 2010. Full launch and the official switch off of the 'old' ADS site is forecast to take place before the end of the year, to be followed by further extensive promotion.

### Access statistics

The total number of adjusted page requests for 2009/10 was 9,557,818, which is a significant increase on the previous year's numbers (up 6% or around 500,000 requests). The only additional factor to note is that the 2008/9 figures were actually a small decrease from 2007/8 (c.3%) and, as discussed in the previous report the spike in the last year's figures in June/July is unlikely to be entirely user driven, meaning the real year on year rise may actually be larger than shown by the raw stats. It has long been recognised that this type of naive access statistics gathering and analysis, whilst useful as a broad brush indicator of usage, does not provide either reliable usage indicators or the level of detail on types of usage we require. The implementation of the RedSquid optional user registration feature in July this year will allow for more comprehensive and detailed reporting in the next annual report than has previously been possible. Whilst this will provide us with much more useful data, we will also maintain the raw statistics in order to continue to compare results with previous years. We hope to be able to demonstrate the impact of the new ADS website on access figures before the end of the year.



Red - 2009/10  
Blue - 2008/9

	<b>2008/09</b>	<b>2009/10</b>
August	866,798	756,999
September	662,127	781,327
October	1,051,477	930,339
November	723,797	848,606
December	592,031	875,337
January	753,823	828,964
February	674,453	928,747
March	780,563	924,834
April	582,080	801,820
May	591,265	790,732
June	611,358	540,340
July	1,179,649	569,773
<b>Totals</b>	<b>9,069,421</b>	<b>9,577,818</b>

**User feedback:**

As well as the usual informal feedback channels the ADS Helpdesk handled 126 requests for assistance in 2009/10. In keeping with previous years there is no significant pattern in the queries that would inform us that major changes were needed in a particular resource. Changes to the new site-reporting mechanism for Defence of Britain sites continue to mean that far fewer Defence of Britain 'reports' have been spuriously channelled through the helpdesk than in previous years.

The following are a sample of comments received through the helpdesk or directly from users in the last 12 months:

*"Many thanks for your comprehensive reply....the ADS is clearly a great resource"*  
Comment on *Medieval Archaeology*, Diana Jones, Researcher, University of Sussex, May 2010.

*"As someone not as computer literate as my children, I found this an astonishingly easy site to use, very clear and simple, whereas most people's nearly drive me to drink!"* Sally Spencer, April 2010.

*"This is a very effective resource, the ability to switch between OS maps, streetmaps and aerial photos is extremely useful in researching an area. Very impressed"*  
Comment on ArchSearch, Russ Edwards, April 2010.

*"I find the ADS to be a wonderful resource for electronic journals"* Comments on PSAS, Jessica Aberere, University of Virginia, March 2010.

*"I have spent hours on the site, it is superb."* Comment on ArchSearch. June Banks, Yorkshire, October 2009.

*"I have just discovered the online catalogue of amphoras (sic), and have been using it for cross-referencing and updating it is really very well constructed and very complete."* Comment on Roman Amphora resource, Cherine Gebars, Conservateur en Chef du Patrimoine, Conseil General du Var, August 2009.

We have this year an additional source of user feedback in the form of the RIN/JISC Repository Survey carried out by the consultants Technopolis. This has been the first extensive survey of ADS users using industry standard survey techniques for a number of years. Technopolis have kindly allowed us access to anonymised versions of their raw results for the ADS user base (83 responses). The results cast a very interesting light on ADS usage.

#### Selected examples drawn from the Technopolis survey

##### **What is your role?**

Academic	42	51%
Public research organisation	0	0%
Private research organisation	3	4%
Central / local Government	8	10%
Private Consultant / Independent researcher	7	8%
Private research organisation	3	4%
Business	4	5%
Community / charity	9	11%

organisation		
Other (please specify)	7	8%
<b>Total</b>	<b>83</b>	<b>100%</b>

**How often do you access the ADS?**

Daily	2	2%
Weekly	17	20%
Monthly	39	47%
Annually	7	8%
Have only used once	0	0%
Other (please specify)	18	22%
<b>Total</b>	<b>83</b>	<b>100%</b>

**Has your usage changed over time?**

Decreased over time	9	11%
Stayed the same	28	34%
Increased over time	46	55%
<b>Total</b>	<b>83</b>	<b>100%</b>

**What types of outputs do you produce using the data that you have obtained from the ADS?**

<i>Internal reports</i>	<i>Research papers for publication</i>	<i>Additional / enhanced / expanded data</i>	<i>No formal outputs</i>
30	32	27	18
43%	46%	39%	26%

**Who are the intended final customers / end-users of the outputs?**

<i>Academics</i>	<i>Policy makers</i>	<i>Businesses</i>	<i>Individuals within your organisation</i>	<i>For your own use only</i>
69%	16%	19%	43%	31%



## User Satisfaction:

	The relevance of the data held	The comprehensiveness of data held	The quality of the data held	The ease of navigation	The ease with which you can access / obtain data
Very dissatisfied	0%	0%	0%	5%	0%
Dissatisfied	2%	5%	2%	11%	5%
Neutral	6%	16%	14%	20%	22%
Satisfied	57%	64%	63%	43%	42%
Very satisfied	35%	16%	22%	22%	31%
Total	100%	100%	100%	100%	100%

## Example free text comments:

*"...in general I think ADS is an essential resource for UK archaeology which needs to be maintained and supported as a high priority"*

*"Curation needs to be seen long term. I'd not expect some of the datasets to become valuable for "re-research" for several decades."*

*"The data centre now forms a cornerstone of our work as both a giving and a receiving resource for the benefit of all its users."*

*"Data is essential to the discipline of Archaeology. The ADS provides a common forum clearly indicating good practice in the curation and sharing of data which is largely lacking in the wider archaeological community!"*

Although the outcomes of this survey are generally positive and supportive of the ADS it has also allowed us to identify a number of areas where our users have misconceptions regarding our service and there has been meaningful comment on issues such as ease of access and notification mechanisms. Some of these were already recognised by the ADS and addressed via RedSquid.

## 8. Partnerships and collaboration

### United Kingdom

- We have continued our involvement in a number of UK networks of digital archives. Catherine Hardman was elected to the Steering Committee of the Network of Centres which comprises organisations with specific expertise in arts and humanities computing. ADS is also represented at the Research Data Management Forum.
- We have continued to work in partnership with other heritage agencies. We have been active participants in FISH (the Forum for Information Standards in Heritage) and HEIRNET.

- We continue to work within the Archaeological Archives Forum to promote digital archives standards. This work compliments our standards role within the HE sector and allows us to keep abreast of broader archival developments. The ADS contributed to the new AAF guidance on “Developing an Archaeological Resource Centre: Guidance for Sustainable Storage and Access to Museum Collections”.
- We have continued to support the development of web services for the Heritage Gateway in collaboration with the English Heritage NMR Heritage Gateway team
- We have continued to work with the English Heritage NMR, the Royal Commission on the Ancient and Historical Monuments of Scotland, and the Archaeological Investigations Project at Bournemouth University to support OASIS. With the support of Historic Scotland ADS completed the development of a system for the management and recording of the Scottish C14 dating programme, which is linked to OASIS records.
- We also undertook the GLADE project for English Heritage, in order to evaluate user needs for grey literature and to assess the scope for capturing the grey literature backlog. We have been asked by English Heritage to develop a project design for the next stage of OASIS development, integrating a number of web-based recording systems, with the next generation of OASIS as a common core, although development may be delayed due to the current economic climate.
- Work has gone ahead, with support from Wessex Archaeology, on the modification of OASIS to permit the upload of digital photographs and associated technical and image metadata associated with archaeological interventions, and its linkage with event-based metadata within OASIS. Internal pages have been set up within OASIS to allow relevant museums to view the image archives that have been uploaded by Wessex Archaeology, alongside the OASIS metadata and grey literature reports.
- English Heritage have continued to partially fund a post to support the dissemination and archive of ALSF digital outputs, and they have provided additional funding to secure the preservation of a number of more complex datasets generated during the ALSF programme. There are currently 132 ALSF project archives in the ADS online catalogue, up from 112 in 2008-9.
- We continue to maintain the Archaeology Image Bank in collaboration with the HEA who have agreed additional funding to streamline the accessioning and validation of image upload.
- We continue to host the online library catalogue of the Society of Antiquaries of London, as well as their online catalogue of prints and drawings.
- We continue to host the national database of the Parks and Gardens Partnership Trust.

### Europe

- The ADS hosted a meeting of the EAC Archives Working Group in May 2010. The Group continue to work towards producing European best practice guidelines for archives, and are preparing a bid to the EU Culture programme. ADS will provide wiki

technology for the project to enable collaboration across the 12 European partners.

- The ADS has continued to liaise closely with DARIAH partners numerous via Marratech/Skype meetings, and the DARIAH-TECH email list. Work has continued on the ARENA2 gateway and Julian Richards attended the meeting of the DARIAH General Assembly in Paris on 28 April 2010. ARENA2 will be launched as one of two DARIAH technical demonstrators at the final meeting of the DARIAH General Assembly in Vienna in October 2010. From January 2011 DARIAH moves from the 'Preparing DARIAH' phase into a fully-fledged European digital infrastructure service for Arts and Humanities researchers, although it looks unlikely that the UK will be able to join as a full partner at the present time.
- The ADS has continued to work towards the Archaeology of Contemporary Europe (ACE) objectives and Julian Richards and Stuart Jeffrey attended meetings of the ACE partners in Thessaloniki in October 2009 and Budapest in May 2010. Julian Richards also attended an ACE sponsored conference on Digital Data Management in Archaeology held by VIOE in Brussels on 9 November 2009, and gave a presentation on the LEAP project. In addition to continuing work on the development of the UDDI under the auspices of ACE, the ADS has also been involved in the preparation of ACE reports on the Crisis in Archaeology and on the archaeological profession. Plans are being developed for ACE mobility bursaries and ADS has been proposed as one of the hosts for two-week training sessions.

#### North America

- The ADS continues to work closely with the Digital Antiquity consortium in the United States, and Julian Richards is a member of the Board of Directors, participating in bi-monthly meetings via Skype or Access grid. ADS hosted a visit by Keith Kintigh, Katherine Spielman, and Francis McManamon, Executive Director in March 2010 to discuss various areas of collaboration, including the TAG, G2GP and LEAP projects.
- From 5-7 July 2010 ADS hosted a visit from Neal Ferris and Rhonda Bathurst, of the University of Western Ontario and Royal Ontario Museum, to discuss the development of an archival infrastructure for Ontario.

## **9. Research and development**

**CARARE.** CARARE is a best practice network funded by the European Commission's ICT Policy Support Programme. CARARE brings together heritage agencies and organisations, archaeological museums and research institutions and specialist digital archives from all over Europe to establish a service that will make digital content for Europe's unique archaeological monuments and historic sites interoperable with Europeana. It aims to add the 3D and Virtual Reality content to Europeana. The ADS have specific responsibility for investigating the issues surrounding the long-term sustainability of the CARARE aggregation service.

**ADS+** has been funded by the Arts & Humanities Research Council (AHRC) under the Digital Equipment and Database (DEDEFI) call of the 5 November 2009. The project has the twin objectives of:

- (i) Increasing the sustainability of the ADS, by implementing Fedora (Flexible

Extensible Digital Object Repository Architecture). This is a world-leading open source digital repository application which will allow the automation of many ADS curatorial functions, according to the Open Archival Information System (OAIS) Reference Model (ISO 14721:2003). This will help ensure the long term preservation of all ADS digital archives, as well as making the ADS archival procedures more cost-effective.

(ii) Enhancing the impact of AHRC-funded digital outputs, databases and resources by improving the level of access of end users to all ADS archival holdings. Hitherto access has been constrained to collection-level. ADS+ will provide deeper and richer object-level access. The implementation of Fedora will enable cross-searching and joined-up access within nearly 300 collections of primary data, including 25 archives of AHRC-funded resource enhancement and research grants. This will not only extend the range of research activities that can be carried out by direct users of the ADS site, but also allow a much deeper level of searching and linking from external web sites.

The project runs for 12 months until 28 February 2011.

**TAG: Transatlantic Archaeology Gateway.** The primary aim of the Transatlantic Archaeology Gateway (TAG) project is to develop tools for transatlantic cross-searching and semantic interoperability between ADS and tDAR, the digital repository being developed at Arizona State University on behalf of the Digital Antiquity consortium. This will not only provide a sustainable service for archaeological teaching, learning and research across two continents; it will also provide an exemplar for international cyber-infrastructure partnerships between North America and Europe, across all subject areas.

Funded jointly by JISC and the NEH, TAG will develop interoperability between the USA and UK at two levels. The first stage is to create infrastructure to enable basic cross-search of Dublin Core compatible metadata records for digital resources covering the archaeology of the USA and UK, and by the end of the 2009-10 year this was well advanced. The second stage attempts to develop a much deeper and richer level of cross-searching for faunal data from North America and Europe. This sub-discipline has been chosen as there is a relatively high level of agreement over basic classifications and a very productive workshop was held in York in March 2010 to develop a TAG schema. The project is due to complete by April 2011.

**Making the LEAP II: A Transatlantic LEAP** is an ADS/*Internet Archaeology* project funded by the Andrew W Mellon Foundation. The aim of the project is to publish four exemplars (based upon projects hosted in North American institutions) of multi-layered e-publications in *Internet Archaeology*, and to make the underlying data available via a digital archive in such a way so that readers are provided with the opportunity to 'drill down' seamlessly from the publication into the archive to test interpretations and develop their own conclusions. The archive component of each exemplar is to be hosted by an appropriate US-based digital repository, or by the ADS. All four exemplar archives have been selected, and the first publication, on the Shala Valley project in Northern Albania was published in January 2010, alongside its associated archive hosted by ADS. The article features an online mechanism, linked to the journal, designed to facilitate and encourage comment and debate.

## **10. Service management**

During the year 1 August 2009 – 31 July 2010 the ADS had total income of £636,042 and total expenditure of £685,502, including £10,000 which was transferred to the preservation legacy endowment fund. An additional £18,540 was received as the ADS share of University of York overheads. A credit balance of £14,191 was carried forward from the 2008-09 financial year, leaving a deficit of £16,729 to carry forward to 2010-11. This is fully offset by outstanding payments relating to the VENUS and STELLAR projects. The full accounts for 2009-10 are available as a separate document.

The internal management team held quarterly meetings to review finances, and all ADS staff met for project updates on a monthly basis, with separate meetings of the curatorial and technical staff to resolve technical issues. Weekly progress meetings were introduced to monitor progress of curatorial staff against the task spreadsheet.

Stewart Waller, Applications Developer, left at the end of 2009 to work as a freelance programmer. He was replaced by Lei Xia, who came to ADS from the Department of Computer Science at the University of Sheffield. In April 2010 he was joined by a second Applications Developer, Dr Paul Young, who was appointed on a 12-month fixed term contract to work on the ADS+ project. Paul was previously a programmer with the Higher Education Academy. Catherine Hardman, Stuart Jeffrey and Julian Richards attended two one-day training sessions on Project Management, provided by Tim Franklin of the University of York. All staff had performance reviews, in accordance with University of York procedures.

## Appendices

### (A) STAFFING LIST

Prof J D Richards, Director  
T Austin, Systems Manager  
J Bateman, Curatorial Officer  
M Charno, Curatorial Officer  
T Evans, Curatorial Officer  
C Hardman, Collections Development Manager  
S Jeffrey, User Services Manager  
J Mitcham, Curatorial Officer  
R Moore, Curatorial Officer  
K Niven, Data Standards Editor  
D Page, Administrator  
L Xia, Applications Developer (from December 2009)  
P Young, Fedora Developer (from April 2010)  
S Waller, Applications Developer (until December 2009)

### (B) MANAGEMENT COMMITTEE MEMBERSHIP

Met on 30 September 2009 and 30 March 2010

Corresponding members are indicated with an asterisk

Tim Darvill	Chair, Bournemouth University
Mike Heyworth	Vice-Chair, Council for British Archaeology
Jeremy Huggett	Vice-Chair, University of Glasgow
Diana Murray	Vice-Chair, RCAHMS
Graeme Barker	Arts and Humanities Research Council
Ian Broadbridge	Arts and Humanities Research Council
Peter Halls	Association for Geographic Information
Gail Falkingham	Association of Local Government Archaeological Officers
Barry Cunliffe*	British Academy
Isabel Holroyd*	British and Irish Archaeological Bibliography
Dan Pett*	British Museum
Nick Poole	Collections Trust
Dan Hull	Council for British Archaeology
Marion Meek*	Dept of the Environment for Northern Ireland
William Kilbride	Digital Preservation Coalition
Keith May	English Heritage
Mike Evans	English Heritage (NMR)
John Walker	Federation of Archaeological Managers and Employers
Anthony Sinclair	Higher Education Academy
Noel Fojut	Historic Scotland
Edmund Southworth	Lancashire County Museums

Mark Thorley	Natural Environment Research Council
Gary Lock*	Oxford University
Hilary Malaws	RCAHMMW
David Gaimster/Ortrun Peyn	Society of Antiquaries of London
Simon Gilmour	Society of Antiquaries of Scotland
Paul Miller	Cloud of Data
Clive Orton	University College London, Institute of Archaeology
Vince Gaffney*	University of Birmingham
Armin Schmidt	University of Bradford
Richard Higgins	University of Durham, Archives and Special Collections
Nick Ryan	University of Kent at Canterbury
Mark Gillings*	University of Leicester
Sam Turner	University of Newcastle
Graeme Earl	University of Southampton, Dept. of Archaeology
Steve Mills*	University of Wales - Cardiff, School of History and Archaeology
Alastair Fitter	PVC, University of York (until April 2010)
John Local	PVC, University of York (from April 2010)

## (C) NEW COLLECTIONS RELEASED

### **Sutton Park LiDAR, air photographic and ground surveys and palaeoenvironmental assessment**

The project consisted of obtaining a comprehensive and more accurate record of archaeological earthwork remains in Sutton Park, West Midlands, England, through capture and analysis of LiDAR data and subsequent ground recording; and assessment of the extent, from documentary sources and field inspection, of deposits likely to contain palaeo-environmental data.

### **The evolution of Rome's maritime facade: archaeology and geomorphology at Castelporziano**

This AHRC funded project investigated the evolution of the Laurentine Shore, integrating archaeological and multi-variate geographical analysis to achieve a holistic interpretation of the relationship between the built and natural environments. Working principally within the confines of the modern Castelporziano Estate whose sea front extends 7-13 km south-east of the Tiber mouth at Ostia, the project focused on the period between 100BC and AD500 and the development of the shore as a 'maritime facade' of luxury villas belonging to the Roman emperors and their court.

### **Culture and Celtic Speech**

This AHRC funded project - based at the University of Wales Centre for Advanced Welsh and Celtic Studies - studied the evidence for early linguistic material for the Celtic languages and non-linguistic culture, particularly the archaeologically defined

material culture. The research has produced several major publications and research tools, including an Atlas for Celtic Studies and an Interactive English-Early Irish Semantic Index, available to download from the ADS archive.

### **Archaeology at Glastonbury Abbey on-line**

Three new reports - with accompanying datasets - have been added to the existing archive of research and fieldwork undertaken at Glastonbury Abbey. These include excavations at St Patrick's Chapel, excavation adjacent to the refectory undercroft, and a metric survey of the whole site.

### **Developing Magnetometer Techniques to Identify Submerged Archaeological Sites**

Marine magnetic surveying has become a standard technique for mapping the location of ferrous material on the seabed. The aim of the project was to acquire a better understanding of magnetic data and thus develop our ability to interpret these data with increased confidence.

### **National Ice Age Network**

The project focuses on the Pleistocene (Ice Age) remains to be found in England's sand and gravel quarries. Although a resource of great importance for science and education, and of widespread public interest (e.g. mammoths, Neanderthals, climate change), these remains have often not received the attention devoted to the environmental and archaeological evidence for later periods.

### **Mesopotamian Environmental Archaeology Database: phase I Iraq**

This project has produced a database of environmental archaeological (animal bone and plant remains) evidence for all archaeological sites in Iraq that have yielded such material. The database files are available to download as csv files.

### **Chapel of St Laurence, Bradford on Avon**

Field notes and photographs from the 2000 excavations of the Anglo-Saxon chapel at Bradford on Avon are available for download

### **Post-Medieval Britain and Ireland (fieldwork summaries) 2008**

Fieldwork summaries for 2008 have now been added to this on-line searchable database. The 2008 data consists of 567 individual entries, many of which have associated images and links to grey literature in our online library of unpublished fieldwork reports.

### **Unlocking historic landscapes in the eastern Mediterranean**

This AHRC funded project adapted and used a new technique developed in Britain (Historic Landscape Characterisation - HLC) for the first time in the eastern Mediterranean to study two rural landscapes in Naxos (Greece) and Thrace (Turkey).



### **Fields for Discourse: Landscape and Materialities of Being in South and West Yorkshire and Nottinghamshire during the Iron Age and Romano-British Periods. A Study of People and Place. (PhD thesis)**

This PhD thesis is an interpretative study of the rural landscapes and communities of Nottinghamshire and South and West Yorkshire during the Iron Age and Romano-British periods. It focuses on the regional evidence for inhabitation, much of it consisting of cropmarks of field systems and enclosures, which remained relatively unknown until the late 1970s.

### **ALSF Dissemination: Benchmark Report Theme 4B. Management of extraction - Sustainable Heritage**

In 2007 DEFRA commissioned the ALSF Dissemination Project, to bring together and disseminate the results of all research funded by the ALSF during the six years between 2002 and 2007. This project, Sustainable Heritage - Aggregates Extraction and Management of the Historic Environment is one of three linked projects covering the Heritage theme. The project reviews the impact that ALSF projects aimed at developing new guidance, standards and best practice have had on the aggregates industry, archaeological curators and practitioners.

### **Discovering the Ancient Don Gorge**

Discovering the Ancient Don Gorge was delivered by Doncaster Museum and Art Gallery, in partnership with InHeritage, South Yorkshire Archaeology Service and Creswell Heritage Trust, on behalf of The Don Gorge Strategic Partnership. The core aim of the project was to reduce the effects of aggregates extraction on local communities by raising awareness of the rich historic environment of the Don gorge, demonstrating its regional importance and educating the local communities about the link between aggregate extraction and the discovery and study of local archaeology.

### **West African pottery decorated using roulettes**

Roulettes are objects that are impressed onto the surface of a pot before firing to create decorative patterns have been associated with pottery assemblages of several continents for millennia. The images in the archive are all issued from West African archaeological contexts. Pottery sherds decorated with different classes of roulette are illustrated: twisted cord, cord-wrapped, braided strip, folded strip, and braided cord. Short notes accompany each image, with the aim of providing a didactic resource for the identification of roulette pottery decoration.

### **Sussex Archaeological Collections Volume 144**

The contents and abstracts of volume (144) of SAC has been made available through the ArchSearch Library. The full contents have been deposited by the Sussex Archaeological Society for digital archiving.

### **Lower and Middle Palaeolithic of the Fenland Rivers of Cambridgeshire**

The Lower and Middle Palaeolithic of the Fenland Rivers of Cambridge, also known as the Fenland Rivers of Cambridgeshire Palaeolithic Project (FRCP) was initiated in 2007 as a short research project to examine the Palaeolithic and Quaternary evidence from the county. The project was funded by the Aggregates Levy Sustainability Fund (ALSF) as a collaborative project between the Durham University, Cambridgeshire County Council and the University of Cambridge.

### **Valdoe Assessment Survey**

The Valdoe Quarry lies on the Goodwood Estate, near Chichester in West Sussex. Topographically it occupies an almost identical position to the Boxgrove site situated some 6km to the east. The Valdoe Assessment Survey, aimed to determine the full extent of the palaeolandsurfaces within the vicinity of the nearby quarry, to determine the degree to which the quarry had impacted upon these deposits and to develop a plan for the future management of this unique and precious scientific resource.

### **Bibliography of the Vernacular Architecture Group: updated**

The Bibliography of the Vernacular Architecture Group has been updated, and now contains almost 11,000 references.

### **ALSF Dissemination: Benchmark Report Theme 4A. Rich Deposits - Aggregates Extraction, Research and the Knowledge Pool**

This report addresses a specific subset of ALSF funded projects - those which contain significant elements of research and set out to expand our understanding of the historic environment related to aggregates extraction on land and under the sea.

### **Aggregates Industry in the Trent Valley: A History and Archaeology**

This ALSF project takes a different approach to previous archaeological work in the Trent valley, in that it takes the aggregates industry itself as the object of study.

### **Hampshire - assessment of archaeological resource in aggregate areas updated**

This existing archive has been updated to include the second phase of the project, this comprised an archaeological survey of the New Forest and North West Solent coastal plain based on a review of all available aerial photographs and Environment Agency LiDAR data.

### **Medieval Britain and Ireland - fieldwork summaries for 2008**

The on-line version of Medieval Britain and Ireland has been updated with fieldwork summaries for 2008. This has added 266 entries to the existing database of 2007 fieldwork.

### **Norwich, Castle Mall**

Funded by English Heritage and the developer (Estates and General/Friends Provident), extensive excavations in central Norwich have permitted detailed analysis of the great Norman and medieval institution of Norwich Castle and part of the Anglo-Saxon town that preceded it. The digital archive forms a fifth element of the publication (following four volumes in *East Anglian Archaeology*) and presents detailed information on the various cemeteries that were sealed by the castle defences, as well as a group of 17th-century prison burials found on the castle mound.

### **Anglo-Saxon Stafford. Archaeological Investigations 1954-2004. Field Reports Online**

The digital archive contains the Field Reports for the excavations in Stafford (1974-1983), comprising the edited surviving evidence for the evaluation and the major excavations together with studies of the artefacts, bones and plant remains. The Stafford results are considered in their national and international context in the Research Report, the monograph *Birth of a Borough* by Martin Carver (Boydell Press), which may be regarded as the synthesis that accompanies and draws on this archive.

### **Scowles Survey, Forest of Dean**

The Scowles Survey' investigated all scowles and known early smelting sites (bloomeries) within the aggregates resource area in the Forest of Dean, Gloucestershire.

### **Development of a Regional Sediment Mobility Model for Submerged Archaeological Sites**

This project, funded through the ALSF, applies one of the leading commercial numerical hydrodynamic modelling products, DHI's MIKE 21 software, to the development of regional scale models of seabed sedimentation and erosion. An understanding of the dynamics of underwater archaeological sites has been a primary research aim of marine archaeologists for the last four decades. To develop a viable sediment dynamic model for artefact based sites is crucial both in terms of site formation process study; a priori archaeological investigation; and latterly the effective management of marine sites to ensure their future stability.

### **Church Wilne Deserted Medieval Settlement, Derbyshire**

The small medieval village of Church Wilne in Derbyshire, was located on marginal land in the broad alluvial floodplain of the River Derwent, close to its confluence with the River Trent. This ALSF project secured and enhanced the excavation archive relating to archaeological excavations at the site in the 1970's.

### **Black Country Historic Landscape Characterisation updated**

The existing archive has been supplemented by a series of new reports.

### **Chedworth Roman Villa updated**

The Conservation, Management and Maintenance Plan (CMMP) and associated documents and reports have been added to the existing ADS archive.

### **Searching for traces of the Southern Dispersal: environmental and historical research on the evolution of human diversity in southern Asia and Australo-Melanesia**

This research sought to explore the pattern of population movement (direction, rate, permanency) along a hypothesised route from Africa to Australasia during Oxygen Isotope Stage 4. Using GIS-based analyses and hypothetical models of population movement, potential routes out of East Africa were generated and examined. The goal of these analyses was to assess the viability of particular routes, and consider them in terms of ecological and geographical constraints. As a result, several routes through Africa, Arabia, South Asia, Southeast Asia, and Australasia were proposed and evaluated.

### **England's Historic Seascapes: Withernsea to Skegness**

The project was carried out by the Museum of London Archaeology (MoLA) on behalf of English Heritage, and was been funded by the Aggregates Levy Sustainability Fund (ALSF). The study area runs between Withernsea in Yorkshire to Skegness in Lincolnshire, including the Humber Estuary, and extends out into the open sea as far as the median line with Holland. The overall aim of the project is to map and interpret current sea uses in the pilot area, with a view to identifying historic significance of the maritime environment.

### **Post-Medieval Britain and Ireland (fieldwork summaries)**

The on-line version of Post-Medieval Fieldwork in Britain and Northern Ireland is a new venture for the Post-Medieval Archaeology journal, featuring a searchable digital database for these annually submitted excavation summaries. The new database, commencing with reports from the 2007 fieldwork season, will link individual sites, through their OASIS identifiers, to the relevant records in the Library of Unpublished Fieldwork Reports, providing access to a wide range of data and grey literature. The aim is to eventually enter also the backlog of previously published round-ups.

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### **Sandhills Project, Alderley Edge, Cheshire**

The Alderley Sandhills Project (ASP) was established in 2003 and funded through the Aggregates Levy Sustainability Fund, a government initiative to fund projects

investigating or restoring sites from which aggregates were extracted. The area south of Alderley Edge known as the Sandhills had until the 1960s been covered by a highly polluted sand residue from the copper extraction process. The project excavated two pairs of miners' cottages which had stood in their lee as a combined cross-disciplinary undertaking.

### **The Shala Valley Project**

The Shala Valley Project (SVP) is an Albanian-American collaboration, led by Michael Galaty of Millsaps College in Jackson, MS and Albanian archaeologists Ols Lafa of the Albanian Ministry of Tourism, Culture, Youth and Sports and Zamir Tafilica of the Shkodra Historical Museum. The project was launched in 2004 and conducted fieldwork during the summers of 2005-2008. The SVP integrates interdisciplinary programs of intensive and extensive archaeological survey and excavation with geo-scientific, ethnographic, and (ethno) historical surveys, including archival historical research, in order to study the Shala fis ("tribe"), one of many northern Albanian fisi that survived intact into the 20th century and, to some extent, down to the present day.

### **Review of Animal Bone Evidence from Southern England**

This project, funded by English Heritage, aimed to review the animal bone evidence from Late Bronze Age-Late Iron Age sites from southern England. The Regional Review report (Hambleton 2008), for which this database serves as a freely available online appendix, provides a synthetic review of published faunal assemblages. Key themes include: animal husbandry; diet and economy; agricultural diversification and specialisation; and the nature of 'special deposits'.

### **Chedworth Roman Villa**

Chedworth Roman Villa is a major site of the Roman period in Britain, one of the largest rural domestic buildings known from the 4th century high point of Romano-British culture. It lies in a particularly beautiful setting which has changed little since Roman times. The site was first excavated in 1864 and bought by the National Trust in 1924. The archive comprises the Conservation Management Plan (CMP), the CMP Gazetteer and a number of key surveys.

### **Fieldwalking the cropmark landscape on the Sherwood Sandstone of Nottinghamshire**

Crop-marks on the Sherwood Sandstone of Nottinghamshire, discovered and published by Derrick Riley, are analyzed in combination with artefacts recovered through a programme of field-walking. A coherent landscape of fields, mostly laid out in a pattern resembling brickwork, is seen to be integrated with small enclosures, presumed farmsteads, situated at approximately 1km apart where the crop-marks are best represented.

### **Vernacular buildings in a changing world: understanding, recording and conservation (CBA Research Report No. 126)**

Based largely on a conference at Oxford in 1998, this Research Report is relevant to all who are concerned with the future of vernacular buildings in England and Wales. It explores many of the current issues facing those who study small historic buildings, and who are concerned with their conservation. The whole report is available to download as a pdf file.

### **Excavations at Kissonerga-Mylouthkia, Cyprus 1976-1996**

The Lemba Archaeological Project of the University of Edinburgh investigates the prehistory of western Cyprus by multi-site excavations and survey. Kissonerga-Mylouthkia is one of the three Lemba cluster sites that constitute the core of its excavation research in the Ktima Lowlands, some 5 km north of the modern city of Paphos. The project archive available to download consists of the final published report, specialist data and photographs.

### **Refining Areas of Maritime Archaeological Potential (AMAPs) for Shipwrecks**

The aim of this ALSF project was to undertake quantitative spatial analysis of shipwreck data using GIS to compare typologised wreck scatters to environmental, historical and hydrographic datasets in order to identify biases in the data and refine areas identified as Areas of Maritime Archaeological Potential (AMAPs) during a previous ALSF project.

### **Defence Areas: a national study of Second World War anti-invasion landscapes in England**

The Defence Areas Project was carried out between April 2002 and June 2004. Its overall aim was to build on the results of the Defence of Britain Project (April 1995-March 2002) by examining in more detail anti-invasion defence works that form a coherent and legible grouping and survive well in landscapes largely unchanged from those of 1940/41.

### **Technologies of enchantment: Celtic Art in Iron Age and Roman Britain**

This AHRC funded project - entitled 'Technologies of enchantment: Celtic Art in Iron Age and Roman Britain' - aimed to investigate the artefacts found in Britain between about 300 BC and 150 AD which have come to be known as 'Celtic Art'. Although, in recent years, questions have been raised about whether the Celts actually did exist as a distinct group of people, the term 'Celtic Art' continues to be used to describe a group of distinctively decorated objects found right across Europe during the later Iron Age and early Roman periods.

### **Novum Inventorium Sepulchrale - Kentish Anglo-Saxon graves and grave-goods in the Sonia Hawkes archive**

The county of Kent is exceptionally rich in Anglo-Saxon cemeteries. Systematic excavations of some of these cemeteries in the 18th and early 19th centuries provided a wealth of finds that reflect Kent's close political and economic ties to the Frankish world in the 5th to 7th centuries. Excavations by the Revd Bryan Faussett in 1757-73 uncovered c. 750 graves from sites at Crundale, Gilton, Kingston Down, Bishopbourne, Barfrestone and Sibertswold Downs, Bekesbourne and Chartham

Down.

In 1961, the need to re-publish this important material to a modern standard led Sonia Hawkes of the University of Oxford's Institute of Archaeology to undertake the publication of Kentish cemeteries as the first stage of a national monograph series, the Corpus of Anglo-Saxon Graves and Grave-Goods. Work carried out between 1961 and 1971 dealt with the c. 1140 graves and large numbers of unassociated objects from Bifrons, Sarre and the seven sites excavated by Faussett, resulting in an extensive archive comprising object descriptions, drawings, photographs and X-rays.

### **The Magnetic Signatures of Medieval and Post-Medieval Pyrotechnical Industries (PhD thesis)**

In this PhD thesis, the medieval and post-medieval high temperature industries of iron smelting, lead smelting, glass production and charcoal production are investigated in order to obtain a better understanding of their magnetic characteristics and to improve the geophysical survey interpretation of the features associated with these industries. The chapters, figures and appendices of this thesis are available to download as a series of pdf files.

### **TERPS - The English Rivers Project**

The JJ Wymer Archive Project was commissioned by English Heritage (EH code 5088) with the support of the Aggregates Levy Sustainability Fund (ALSF), with the intention of securing the Wymer archive and making selected elements of it accessible to public and professional audiences.

One of these elements comprised John Wymer's card index of every known Lower and Middle Palaeolithic artefact from Britain. These formed the basis of first the Southern Rivers Palaeolithic Project and then the English Rivers Palaeolithic Project (TERPS), the results of which were published in 1999 as *The Lower Palaeolithic Occupation of Britain*. As part of the development of the Wymer archive, the data gathered for TERPS have been used to create a database, which is available to search or download here. PDF versions of the two volumes of *The Lower Palaeolithic Occupation of Britain*, for many years out of print, are also available to read or download.

### **Suffolk River Valleys Project**

The project, funded through the Aggregates Levy Sustainability Fund, was a joint project between Suffolk County Council Archaeological Service and The University of Birmingham. The primary objective of the project was to assess and characterise the geoarchaeological and palaeoenvironmental resource of the major river valleys of Suffolk affected by mineral extraction. In addition, it set out to investigate the evolution of different river catchments relating to the preservation and character of archaeological sequences in these areas, and to further assess the potential for investigating the role that human activity and climate change have played in the evolution of these valleys.

### **Securing a Future for Maritime Archaeological Archives**

There is a critical lack of long-term, accessible and secure homes for maritime archaeological archives (the artefacts, samples and documentary and digital records from the many investigations undertaken in the marine zone around the UK). There is an acknowledged lack of capacity in our museums and archives to curate maritime archaeological archives and a lack of clarity over roles and responsibility for archives from the marine zone. This project has provided baseline information on the scale and extent of the problem.

### **Buried under Bidford**

Buried under Bidford was an archaeological outreach project created by Warwickshire County Council and supported by the English Heritage Aggregates Levy Sustainability Fund.

### **The Depositional and Landscape Histories of Dungeness Foreland and the Port of Rye**

The Depositional and Landscape Histories of Dungeness Foreland and the Port of Rye project explored the long term resilience of the Romney Marsh / Dungeness Foreland depositional complex in the Southeast of England. The project was funded through the English Heritage distributed Aggregates Levy Sustainability Fund, and undertaken by staff from Durham University, University of Liverpool, University of Wales Aberystwyth and Kingston University London.

### **Willington, South Derbyshire**

The Willington, South Derbyshire project has comprised the analysis of Neolithic and Bronze Age domestic remains and evidence of fire clearance of the area in the third and second millennia B.C. The archive contains a series of specialist reports commissioned in support of the published research report (published in the Derbyshire Archaeological Journal).

### **Black Country Historic Landscape Characterisation**

The Black Country Historic Landscape Characterisation (BCHLC) has been carried out by Black Country Archaeology Service on behalf of the four West Midlands local authorities covering the area. Although the national programme of Historic Landscape Characterisation had rural beginnings, the HLC in the Black Country records the most urbanised landscape of any equivalent project so far published, covering as it does the area of Dudley, Sandwell, Walsall and Wolverhampton.

### **The Stansted Framework Project**

Between 1999 and 2004, Framework Archaeology undertook a series of large-scale archaeological excavations at Stansted Airport, Essex. These were undertaken in advance of redevelopment work within the Stansted Airport Limited landholding. The developments were designed to improve facilities for passengers or to augment the infrastructure of the Airport. The results of the archaeological excavations were published by Framework Archaeology in 2008 in the book entitled "From hunter gatherers to huntsmen: A history of the Stansted landscape" (Framework



Archaeology Monograph No. 2.). In addition to the downloads, this special collection has an interactive map interface to allow users to investigate the data over the Web.

### **Hill Hall: a singular house devised by a Tudor intellectual**

*Hill Hall: A Singular House Devised by a Tudor Intellectual*, is the complete history of a building that began as a hunting lodge, late in the eleventh century and that grew to be the principal house of the manor of Theydon Mount in Essex, a small country retreat within easy reach of London.

### **Newham Museum Service - reports available through grey literature library**

Newham Museum Archaeological Service was closed down in 1996. Its digital archive was passed to the Archaeology Data Service. The archive contained data produced over a ten year period, relating to approximately 180 archaeological events. A large number of grey literature reports from this archive have just been made available for the first time through the Library of Unpublished Fieldwork Reports. Many of these files had to be 'rescued' from archaic or obsolete software formats such as Wordstar 4.0 and MS Word 2.0. They are now available to download as pdf files.

### **The Evaluation of a Multi-Period Prehistoric Site and Fogou at Boden Vean, St Anthony-in-Meneage, Cornwall**

In 2003 a team from the Historic Environment Service, Cornwall County Council carried out a programme of archaeological recording as part of an evaluation of a Bronze Age structure, Iron Age enclosure and fogou at Boden Vean. The results of this fieldwork are available to download as a series of pdf files and jpg images.

### **A Late Bronze Age Pottery Production Site and Settlement at Foster's Field, Tinney's Lane, Sherborne, Dorset**

In 2002 an excavation was undertaken by Exeter Archaeology in advance of residential development at Foster's Field, Tinney's Lane, Sherborne, Dorset. A unique example of a Late Bronze Age pottery production site and multi-phase prehistoric settlement was revealed. The archive presented here consists of the final report and specialist data.

### **Peak Forest Tramway and Cromford and High Peak Railway**

A Heritage Audit was undertaken for the Peak Forest Tramway and the Cromford and High Peak Railway in Derbyshire by ARCUS, in conjunction with Derbyshire County Council. The project was divided into two stages, an archive search and a baseline field survey. The archive search collated available information from local, regional and national archive sources. The walkover survey involved the use of proforma record sheets and digital photography. A total of 63 sites were identified along the Peak Forest Tramway, with 418 sites along the Cromford and High Peak Railway.

### **Bremetenacum, Excavations at Roman Ribchester archive updated**

Ribchester (Bremetenacum), on the northern edge of the Ribble flood plain, has been known as a major Roman establishment since the time of Leland, and was also noted by Camden and Stukley. It is famous for the discovery of a fine Roman cavalry parade helmet, now in the British Museum, and frequent excavations have taken place during the nineteenth and twentieth centuries. The excavations which are reported in this volume were undertaken in 1980 and 1989-90, prior to the use of an extensive area to the north of the fort as an extension to the cemetery of St Wilfred's church and the redevelopment of the Ribblesdale Mill site at the northern edge of the town.

### **Hilton of Cadboll**

The Hilton of Cadboll Pictish cross-slab is thought to have been erected at the Chapel site on the east coast of Easter Ross in the late 8th century AD. After falling and breaking its tenon, it was re-erected on the site in the 12th century and a medieval chapel was built beside it, possibly on the site of an earlier structure. The cross-slab is thought to have fallen in a storm in 1674 and shortly afterwards one side of the cross-slab was defaced and re-carved with a memorial to Alexander Duff in the 17th century. The result of this re-carving left thousands of fragments of the Pictish carving and the lower portion in-situ beside the Chapel. Historic Scotland, The National Museums of Scotland, Highland Council and Ross and Cromarty Enterprise sponsored excavations in order to retrieve the carved fragments and the lower portion of the cross-slab in 1998 and 2001.

### **Wiltshire Extensive Urban Survey (EUS)**

The Extensive Urban Surveys project is part of a national programme of surveys of the archaeology, topography and historic buildings of England's historic towns and cities, supported by English Heritage. This project comprised a survey of the historic towns of Wiltshire, including those in the Unitary Authority of Swindon Borough Council. In all, 34 towns were surveyed, including the five rural Roman towns and the city of Salisbury. Report text and illustrations from all town surveys are available to download as pdf files.


## **(D) PUBLICATIONS**

Jeffrey, S., Richards, J., Ciravegna, F., Waller, S., Chapman, S. & Zhang, Z., (2009) "Integrating archaeological literature into resource discovery interfaces using natural language processing and name authority services." In *The Proceedings of the 2009 5th IEEE International Conference on e-Science* 9-11 December 2009 Oxford, UK,. IEEE Cat No. CFP0917J-CDR.


Jeffrey, S., Richards, J.D., Ciravegna, F., Waller, S., Chapman, S., and Zhang, Z. (2009) 'The Archaeotools project: faceted classification and natural language processing in an archaeological context' in P. Coveney (ed) *Crossing Boundaries: Computational Science, E-Science and Global E-Infrastructures*, Special Themed Issue of the *Philosophical Transactions of the Royal Society A*, **367**, 2507-19

Hardman, C. (2009) The Online Access to the Index of Archaeological Investigations (OASIS) Project: Facilitating Access to Archaeological Grey Literature in England and Scotland. "The Grey Journal Volume" 5, Number 2, ISSN 1574-1796, Amsterdam.

Richards, J.D. (2009) 'From anarchy to good practice: the evolution of standards in archaeological computing' *Archaeologia e Calcolatori* **20**, 27-35.

Austin, T. (2010) "ADS+ and Fedora Commons" in CSA Newsletter XXIII, No. 1. Online at <http://csanet.org/newsletter/spring10/nls1001.html> 

Hardman, C. (2010) Our grey literature legacy: opportunity of headache?, *The Archaeologist*, Summer 2010, Number 76, 40-41

Mitcham, J. (2010) 'Who's Who: sixty second interview with Jen Mitcham', Archaeology Data Service. *What's New - Issue 25, May 2010*. DPC and DCC on-line newsletter <http://www.dpconline.org/newsroom/whats-new-in-digital-preservation-issue-25.html#editorial25> 

Dam, C., Austin, T., and Kenny, J. (2010) 'Breaking Down National Barriers: ARENA - A Portal to European Heritage Information'. In F. Niccolucci & S. Hermon (Eds.) 2010, *Beyond the Artifact. Digital Interpretation of the Past. Proceedings of CAA2004, Prato, 13-17 April 2004*, Archaeolingua, Budapest.

Jeffrey, S. (2010). 'The colourful story of the grey literature library', *British Archaeology*, Number 112, ISSN 1357-4442, Council for British Archaeology, April 2010

Jeffrey, S. (2010) 'Resource Discovery and Curation of Complex and Interactive Digital Datasets'. In Gardner, H. & Bailey, C. (Eds.) 2010, *Re-visualising Visual Culture*, AHRC ICT Methods Network, Ashgate, London.

Richards, J.D., Jeffrey, S., Ciravegna, F., Waller, S., Chapman, S., and Zhang, Z., (In press) 'Web 2.0, Archaeotools, and the Archaeology Data Service' In Whitcher-Kansa, S., Kansa E.C. & Watrall, E. (Eds.), in press 2010 *Archaeology 2.0 and Beyond: New Tools for Collaboration and Communication*, Los Angeles: Cotsen Institute of Archaeology.

Mitcham, J. & Richards, J. (In press) 'Digital archiving at the Archaeology Data Service: a quest for OAIS compliance', in eds E. Jerem & V. Szeverenyi, (eds) *On the road to reconstructing the past, Proc. 36th Int. Conf. on Computer Applications and Quantative Methods in Archaeology (CAA), Budapest, Hungary, 2008*.

Mitcham, J., Niven, K. and Richards, J.D. (forthcoming) 'Archiving Archaeology: Introducing the Guides to Good Practice', iPRES 2010.

Richards, J.D., Austin, A.F. and Hardman, C. (forthcoming) 'Covering the costs of Digital Curation', *Heritage Management* **3**(2).

## (E) PRESENTATIONS GIVEN

23/07/2010	eScience project completion meeting (Archaetools), KCL.	Presentation by Stuart Jeffrey and Julian Richards
16/07/2010	'Archiving CAD in Archaeology: ingest to dissemination', at "Designed to Last: Preserving Computer Aided Design", DPC workshop	Presentation by Kieron Niven
18/06/2010	'Data archiving for cultural heritage: preserving data from complex processes', International Summer School "3D Modelling in Archaeology and CUltural Heritage 2010", University of Durham	Presentation by Jon Bateman
12/05/2010	'Introducing the ADS: themes in digital archaeology', Teaching development workshop, Liverpool University	Presentation by Jon Bateman
18/5/2010	STELLAR project work shop, King's Manor York.	Presentation by Stuart Jeffrey
22/04/2010	Beyond Books: What STM & Social Science publishing should learn from each other, London	Presentation by Michael Charno
15/04/2010	SAA 75 <sup>th</sup> Anniversary Congress, St Louis, USA, G2GP	Presentation by Julian Richards
14/04/2010	IfA Annual Conference, Southport , G2GP	Presentation by Kieron Niven
14/04/2010	IfA Annual Conference, Southport , ArchSearch III	Presentation by Stuart Jeffrey
07/04/2010	CAA, Granada, Spain - G2GP	Presentation by Kieron Niven
07/04/2010	CAA, Granada, Spain – ALSF Poster Presentation: ALSF: Data Integration and Dissemination	Tim Evans
07/04/2010	CAA, Granada, Spain -session on 'Digital Archiving and best practice in Archaeology'	Session organised by ADS
03/04/2010	Sustainability' CARARE - Europeana Kick-Off meeting, Copenhagen, Denmark -	Presentation by Stuart Jeffrey
08/02/2010	University of Southampton, Postgraduate and UG Seminars and RedSquid User Testing	Presentations by Stuart Jeffrey
18/02/2010	CAA UK, University College London, Project Redsquid	Paper by Michael Charno
15/12/2009	AHRC Science and Heritage Workshop, The King's Manor York - Archiving and Resource Discovery	Presentations by Stuart Jeffrey and Catherine Hardman

05/12/2009	IEEE International Conference on e-Science 9-11 December 2009 Oxford, UK, Discovering archaeological literature/NLP	Paper by Stuart Jeffrey
18/12/2009	TAG Conference, University of Durham, What matters about the monument: reconstructing historical classification	Paper by Jon Bateman (speaker) and Stuart Jeffrey
09/11/2009	Digital Data Management in Archaeology, Brussels, LEAP	Presentation by Julian Richards
14/11/2009	International Congress Cultural Heritage and New Technologies, Vienna, 16-19th, ADS	Presentations by Catherine Hardman
27/11/2009	University of Manchester, Postgraduate Seminar	Presentation by Stuart Jeffrey
24/11/2009	University of Reading, Undergraduate Seminar	Presentation by Stuart Jeffrey
14/11/2009	Birkbeck College, Postgraduate Seminar	Presentation by Michael Charno
06/11/2009	University College Dublin, UG Seminar and RedSquid User Testing	Presentations by Stuart Jeffrey
19/10/2009	DARIAH Consortium Meeting, Paris, ARENA2 Update	Presentation by Stuart Jeffrey
05/10/2009	University of Chester, UG Seminar	Presentation by Stuart Jeffrey
26/10/2009	JISC Headquarters, London, Transatlantic Archaeology Gateway/Digging into Data	Presentation by Stuart Jeffrey
19/10/2009	DARIAH consortium meeting, Paris, ARENA2(WP7) update and demo	Presentation by Stuart Jeffrey
01/10/2009	Oxford University Postgraduate Seminar	Presentation by Michael Charno
22/10/2009	Digital Heritage Symposium, Flinders University, Adelaide, South Australia, '12 Years of the ADS'	Paper by Julian Richards
30/10/2009	eScience Visualisation, Edinburgh, Workshop, Constructing the monument from the record: archaeological experience with data facets.	Paper by Stuart Jeffrey
01/07/2009	HEA Conference, Birkbeck, London, RedSquid sneak preview	Paper by Stuart Jeffrey
20/07/2009	JISC Roadshow, York, Integrating Digital Archaeological Data	Presentations by Stuart Jeffrey

**(F) OTHER CONFERENCES/ WORKSHOPS ATTENDED**

10/11/2009	Attended by Catherine Hardman	Research Data Management Forum , Manchester	Workshop
9-11/2/2010	Attended by Jen Mitcham	Digital Preservation the PLANETS way, London	Workshop
18/03/2010	Attended by Stuart Jeffrey	Landscape Research Seminar (GIS), Dominic Powlesland, Leeds University.	Seminar/Workshop
6-9/7/2010	Attended by Paul Young	Open Repositories Conference, Madrid	Conference