



DCC Goes from Strength to Strength



The UK Digital Curation Centre has received JISC funding for a further three years to February 2010. UKOLN is a partner in the Centre, which will be concentrating on the curation of scientific data during Phase 2. The UKOLN work is in Community Development. It will include developing closer partnerships with Data Centres, e-Science Programme Projects and Centres, Research Councils and external organisations, both in the UK and beyond, such as the US Office for Cyberinfrastructure. UKOLN will also facilitate a bridge between the DCC and the JISC Digital Repositories Support Project, in which UKOLN and the DCC are partners. UKOLN will be co-ordinating a separate JISC-funded supporting project within the Community Development work package, called Disciplinary Approaches to Sharing Curation, Re-use and Preservation (SCARP). This activity seeks to explore disciplinary approaches to curation, and will feature collaboration with particular subject areas such as engineering and architecture, both of which are research domains at the University of Bath.

MLA Partnership Addresses Digital Futures

The MLA Partnership (MLAP) has formed a new Digital Agenda Scoping Group which is identifying the work required in the creation of an Action Plan for the Partnership in this area. The "Digital Futures" theme will form a part of the forthcoming Partnership Corporate Plan. Liz Lyon, UKOLN Director, is a member of this group and gave the opening presentation on *Memory institutions and*

the social fabric of the Web at the inaugural meeting. The Group will be coming together again in 2007 to develop the Action Plan further. Members of the group include the 24 Hour Museum and representatives from MLA and the Regional Agencies. It is chaired by Bob Sharpe, Chief Executive MLA South West, for the Partnership.

International Journal of Digital Curation

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The *IJDC*, the new journal on digital preservation and curation, was announced at the 2nd International Digital Curation Conference this autumn.

Repositories Research Team

The Repositories Research Team will be continuing its role by providing programme level support for the JISC Repositories and Preservation strand of the Capital Programme over the next two years. The team's remit is wide and includes helping projects find and exploit synergies across the programme and beyond. The team has been active over the last year gathering scenarios and use cases from the Digital Repository and Preservation projects; liaising with other national and international repository activities, including liaison with the JISC e-Framework; and engaging with interoperability standards activity and repository architectures. Over the next few months the team will be synthesising project and programme outcomes from the Digital Repository and Preservation Programme with a view to informing an end-of-programme event in June 2007. The Repositories Research Team is a collaboration between UKOLN and CETIS. Further information on the team's activities can be found on the digirep wiki.

UKOLN is a centre of expertise in digital information management. It is funded by MLA: the Museums, Libraries and Archives Council, the Joint Information Systems Committee (JISC) of the Higher and Further Education Funding Councils, as well as by project funding from the JISC and the European Union. UKOLN also receives support from the University of Bath where it is based.

The Driver Project

The Digital Repository Infrastructure Vision for European Research (DRIVER) Project brings together a number of open access repository initiatives across Europe. This joint collaboration between ten international partners will build infrastructure to support access to scientific content across Europe. UKOLN is participating in the project as a complementary activity to existing repository Research and Support projects. Involvement in DRIVER will also ensure that UKOLN's technical approach to the Intute search infrastructure is visible in, and benefits from, the wider European perspective.

The project will develop a test-bed over the next 18 months, building upon existing institutional repositories and networks, from countries including Belgium, France, Germany, the Netherlands and the UK. The aim is for one large-scale virtual content resource to be created to access and integrate individual repositories. Several user services, including search, data collection, profiling and recommendation, will be implemented in the test-bed. Work is underway to survey the current state of repositories in Europe. UKOLN will contribute to future reports on technical standards and data curation.



The JISC IE Metadata Schema Registry

UKOLN continues its interest in furthering the development of infrastructural services to realise a rich Information Environment for the education community. The JISC IE Metadata Schema Registry has gained continuation funding over the next two years. This will enable development of a more robust Web and machine-to-machine interface to the Metadata Schema Registry.

The Registry project will initially focus on providing information about emerging application profiles such as the DC ePrints Application Profile. UKOLN will also be contributing to the JISC IE Services Registry and the Intute Search infrastructure project, both led by MIMAS at the University of Manchester.

Complementary to this shared services project activity, UKOLN will be expanding the Repositories Research Team with a half-time post to focus on Shared Infrastructure Services at the programme level.

Object Reuse and Exchange OAI-ORE

A new digital repository interoperability Open Archives Initiative project, Object Reuse and Exchange, has recently been announced. It is funded by the Mellon Foundation and led by Herbert Van der Sompel, LANL, and Carl Lagoze, Cornell.

UKOLN will be collaborating with this important new project through the Director (ORE Advisory Committee) and the Deputy Director (ORE Liaison Group).

Terminology Services and Technology Review

A comprehensive state-of-the-art review of terminology services and technology, written by Douglas Tudhope (University of Glamorgan), Traugott Koch and Rachel Heery (UKOLN) was published in July. The JISC Capital Programme call (September 2006) points to the review as briefing information and selects various recommendations as invited topics for projects, i.e. in the repositories section: a semantic interoperability demonstrator combining established vocabularies and social tagging; text mining tools; and name authority and terminology registry services. Other parts of the publication describe different types of vocabularies and place terminology services in user and information life cycle contexts. They also: cover vocabulary mapping and automatic classification/indexing; systematically investigate potential Terminology Web Services; and describe needed identifiers, protocols and standards. The detailed descriptions, the style of the text and the rich references make this review suitable reading for anyone seeking an overview of present issues regarding terminology services.

Chapter in New Book on Web Archiving

Michael Day has contributed a chapter to a new book *Web Archiving* published by Springer. The book was edited by Julien Masanès of the European Archive and contains ten chapters looking at the issues of selection, collection methods, access, use and long-term preservation, as well as including case studies of the Internet Archive and smaller-scale academic Web archiving initiatives. Michael Day's chapter investigated the long-term preservation of Web content, focusing on the need for trusted repository infrastructures and the adoption of appropriate preservation strategies with supporting metadata. See *Web Archiving*, ed. Julien Masanès (Springer, 2006) ISBN 3-540-23338-5.



The Repository Support Project

As well as its role at the JISC programme level, as part of the successful bid for the Repository Support Project, UKOLN will also be supporting Higher Education institutions more directly over the next two years. The RSP aims to assist institutions to develop a deployed network of inter-working repositories for academic papers, learning materials and research data across the UK. The RSP will co-ordinate and deliver practical advice to English and Welsh HEIs regarding implementation, management and development of digital institutional repositories. The project is being led by SHERPA, University of Nottingham, with core partners, the University of Wales Aberystwyth and UKOLN. Other funded partners are the University of Southampton and the Digital Curation Centre. The project will build on these partners' previous national and international activity across the repositories landscape. Whilst fulfilling the business requirements of HEIs to manage their assets, showcase research outputs, and share learning materials, a network of populated repositories will represent a major step in the provision of open access materials. The RSP is building an active outreach programme of advice and information.

Towards a Science Commons?

The scholarly process is becoming increasingly open, with enhanced access to greater volumes of open content (both primary data and eprints), experiments in open peer review e.g. Nature Publishing, and open source science initiatives, which taken together are pioneering a more inclusive and collaborative approach to scientific research. Liz Lyon, UKOLN Director, has given a number of invited and keynote presentations exploring aspects of this theme including talks on *Digital repositories as research infrastructure* (EU workshop, Brussels), *Digital libraries and digital scholarship: changing roles and responsibilities?* (SCONUL, Newcastle), *Adding Value to Data and Information: moving towards a Science Commons* (CODATA Workshop, Brussels) and *Reflections on open scholarship: process, product and people* (DCC Conference 2006 Keynote, Glasgow).

Liz also organised a joint eBank / DCC Workshop on Data Curation at the UK e-Science All Hands Meeting in Nottingham in September.

eBank Project Moves into Phase 3

The eBank Project, led by UKOLN, has been awarded funding from the JISC for Phase 3: Transitioning to the eCrystals Federation. Work will focus on scoping the requirements for eCrystals, which will seek to implement a global federation of repositories for crystallography data. Working closely with the core partner Departments of Chemistry and Electronics & Computer Science at the University of Southampton, and the Digital Curation Centre, the advocacy, technical and curation requirements for the supporting partner organisations will be investigated. These include: repository sites at CCLRC, the University of Sydney, ReciprocalNet and the University of Indiana; professional bodies such as the International Union of Crystallography and the Cambridge Crystallographic Data Centre; publishers including Chemistry Central and the Royal Society of Chemistry; and Web services such as ChemRefer. The eBank Evaluation Report by Professor Gráinne Conole, which describes pedagogical aspects of using research data in a learning context, is now available on the Project Web site.

Forthcoming Events

Content Packaging Workshop

31 January-1 February 2007

Watershed, Bristol ~ Invitation only

Long Term Knowledge Retention Workshop

12-13 February 2007,

Bath ~ Invitation only

JISC Conference 2007

13 March 2007, Birmingham

<http://www.jisc.ac.uk/events.aspx>

Progress on RDA

The October 2006 meeting of the Joint Steering Committee on the Revision of AACR (JSC) reviewed progress to date and set target deadlines for further work on Resource Description and Access (RDA). The chapters on related resources and on persons, families and corporate bodies associated with a resource are to be revised to reflect FRBR relationships. Moreover, the order of these chapters within RDA will be reversed.

Content and carrier description is proving a challenging area as work on RDA continues. Following substantial feedback from the constituency review, a revised version of the relevant chapter will be issued for comment in early 2007.

Ann Chapman, UKOLN Policy and Advice, took over as chair of the CILIP/BL Committee on AACR in May 2006.

KIM Project Moving Forward

'Immortal Information and Through-Life Knowledge Management (KIM)' is a Grand Challenge project looking at strategies and tools needed by construction, aerospace and defence firms, which are increasingly expected to provide through-life support for their products. UKOLN joined academics and researchers from the various academic partners at the Project Meeting in July, where the research agenda was agreed and formal working practices were adopted. UKOLN contributed expertise in preservation and descriptive metadata to ensure that the Project's working documents and research outputs will be easy to archive at the conclusion of the research. As part of the wider research agenda it will be investigating the use of representation information registries to aid the long-term preservation and curation of digital engineering documents. Further information about the Project and UKOLN's involvement was published in the inaugural issue of the *International Journal of Digital Curation*, the new peer-reviewed e-journal published by the Digital Curation Centre.



UCISA 2007 Management Conference

28 March 2007, London

<http://www.jisc.ac.uk/events.aspx>

Institutional Web Management Workshop 2007

16-18 July 2007, York

<http://www.ukoln.ac.uk/web-focus/events/>

Please note that the names of authors of all items in **focus**, together with references and URLs are available at <http://www.ukoln.ac.uk/focus/>

JSC Certificate Award

Certificates have been awarded to Ann Chapman and other members of the Working Group on GMD/SMD by the Joint Steering Committee on the Revision of AACR (JSC). They are issued by the JSC to express its appreciation to individuals who have made a significant contribution to AACR/RDA. The awards were made in respect of the Group's work on a new approach to content and carrier description within bibliographic records. They were announced at the October 2006 JSC meeting in Washington, D.C. Ann's certificate was presented by Alan Danskin, the British Library representative to the JSC at the CILIP Cataloguing and Indexing Group Committee meeting on 6 December.



Alan Danskin of the British Library presents a special certificate on behalf of the JSC to Ann Chapman of UKOLN

Digital Curation and Representation Information

Representation information is defined by the Open Archival Information System Reference Model (ISO 14721) as the information needed to turn a data object, such as a bit sequence, into something meaningful. It can therefore cover information about file formats, encodings, data column headings and units of measurement. UKOLN is contributing sets of representation information to the Digital Curation Centre (DCC) Registry/Repository as part of its contribution to the eBank and the KIM Grand Challenge projects. The current phase of eBank, a scoping study looking at networking data repositories, includes work on identifying and investigating file formats and other representation information of particular relevance to crystallography. The suitability of this representation information for submission to the DCC's Registry/Repository will be assessed and explored.

The KIM representation information will be used to determine optimal preservation formats for engineering documents, such as 3D product models, by bringing together information on the capabilities of various file formats and conversion software. It will also contain some data to help retrieve information from these file formats in the future.

JISC Shared Infrastructure Report

UKOLN has recently completed a JISC-commissioned study on JISC shared infrastructure services. The review looked at the current state of development of these services, and how they contribute or will contribute to the effective functioning of the JISC Information Environment. Each service was evaluated in terms of what it provides; whether work elsewhere in the world duplicates, overlaps with or complements it; and the potential for collaboration in the future with both commercial and non-profit initiatives. The report includes recommendations on how JISC can best support the developing shared infrastructure services to become fully functioning services. The report was a supporting paper for the October 2006 JISC call for proposals.

The study was carried out by Ann Chapman and Rosemary Russell of UKOLN, with contributions by Mark Bide of Rightscom, Leona Carpenter, consultant, and Andy Powell of Eduserv.

Eprints Application Profile

UKOLN and the Eduserv Foundation have recently collaborated on a Dublin Core Application Profile, funded by JISC, to describe scholarly works (or 'eprints'). This Profile tackles quality and consistency issues inherent in using Simple DC. The work, co-ordinated by Julie Allinson (UKOLN) and Andy Powell (Eduserv Foundation), applies FRBR as the basis of an application model for scholarly works. The Profile also uses the DCMI Abstract Model to group descriptions of multiple entities and their relationships. As part of their community engagement plan, the co-ordinators ran a successful special session at the Dublin Core 2006 conference in Manzanillo, Mexico in October.

This session presented the profile to the group and asked for comments, reactions and suggestions from the assembled experts. Reactions were positive and there was support for taking forward the application profile activity in a Dublin Core taskforce. Since then, a similarly well-received session was held at Open Scholarship 2006 in Glasgow, with significant European interest being shown. Further discussions with developers, repositories and aggregator services are taking community acceptance even further.

UKOLN Participation in OAIS Review Meeting

The Reference Model for an Open Archival Information Model (OAIS) is an international standard (ISO 14721:2003) approved by the International Organization for Standardization that is intended to inform the development of digital preservation systems and services. As part of the five-year review cycle of ISO standards, Julie Allinson and Michael Day attended an OAIS review meeting held in Edinburgh on 13 October 2006.

The meeting was jointly organised by the Digital Curation Centre and the Digital Preservation Coalition and resulted in a comprehensive set of recommendations on the OAIS model that has been submitted to the review.

Software Development at UKOLN



In recent times, various pieces of user-centred software have been developed internally or jointly with partners. All are made available for reuse in the wider community. A typical example is the software supplier selection toolkit which was developed for the DISCS-UK Project at the request of MLA North-East. The underlying toolkit is still available and continues to be of interest with several hundred copies downloaded in the past five months. A script, originally designed for UKOLN use to permit migration of data from one wiki to another, has also attracted considerable interest.

Accessibility Summit II

At one stage it was widely thought that universal access to Web resources for people with disabilities could be achieved by applying a set of guidelines to Web content. However, over time it has become apparent that the Web Accessibility Initiative (WAI) approach was unduly prescriptive.

In February 2004 UKOLN and the JISC-funded TechDis service organised an Accessibility Summit in which broad agreement on the limitations of conventional approaches was reached. This led to the development of a holistic approach to e-learning accessibility which focuses on user needs and recognises that accessibility can be provided in a variety of ways.

TechDis On 2 November 2006 a follow-up Accessibility Summit was held. JISC Strategic e-Content Alliance partners, including MLA, BBC and BECTa, were in broad agreement on the need to extend the initial work to a wider community. A manifesto outlining the areas of agreement and a roadmap for future work are currently being developed.

IWMW 2006: Quality Matters

In June 2006 the 10th Institutional Web Management Workshop returned to UKOLN's home base at the University of Bath.

The event was opened by the Vice-Chancellor Professor Glynis Breakwell and offered the 180 delegates three packed days of plenary talks and parallel sessions on institutional case studies, national initiatives and emerging technologies. One of the most discussed topics was Web 2.0, and the institutional barriers Web managers might face when trying to deploy relevant technologies. This year, to support the event, greater use was made of a number of collaborative technologies such as chat rooms, the Access Grid, video, wikis and blogs.

For this year's social events there was a barbeque at the University, with a band and rapper sword dancing as entertainment, and a drinks reception at the Roman Baths. On the final day of the workshop a brief presentation was made to Brian Kelly, chair of the previous 9 workshops, in appreciation of his work as UK Web Focus. The 2007 workshop will be held at the University of York from 16-18 July.



Message from the Editor

Welcome to the latest issue of *Focus on UKOLN* offering its usual mixture of news and comment from across all teams here at UKOLN. As you can see from its content, there has been a number of developments, among others, in the area of digital repositories together with some important funding news.



New readers may not be aware that *Ariadne* is published by UKOLN and its autumn issue (no. 49) has articles on the use of Creative Commons licences in Higher and Further Education, differing approaches to populating institutional repositories, developments in e-book technologies, and more. The upcoming winter issue will, among other articles, offer insights into ONIX for licensing terms and standards for the electronic communication of usage terms, look into models of early adoption of ICT innovations in Higher Education and ask, "What happens when we mash the library?"

Open Licences

UKOLN continues to investigate the use of open licences. A workshop providing an Introduction to Creative Commons was given in November to the Higher Education Funding Council for England (HEFCE). HEFCE intends to use lessons learnt from the workshop to inform a new IPR policy currently being written. The workshop also looked in more detail at the limitations of Creative Commons informed by the recent *Ariadne* issue 49 article written by Naomi Korn and Charles Oppenheim. JISC has recently funded a report looking into the applicability of these licences to the UK HE/FE sector. In early 2007 UKOLN will be mapping the technology and metadata landscape for members of the Creative Archive Licence Group (CALG). The CALG comprises organisations which may want to use the Creative Archive licence for their content and are looking at the potential of bringing together their various archives. This work is being supported by the MLA. UKOLN now assigns Creative Commons licences to much of its policy and advice material.

UK DCMI Affiliate Work

The MLA and JISC jointly fund the UK DCMI (Dublin Core Metadata Initiative) Affiliate, which seeks to promote the use of DC metadata standards within the UK and also feeds back UK requirements to DCMI. UKOLN is the managing agent, responsible for planning and co-ordinating UK Affiliate activity; part of this role was to produce a Report of the UK DCMI Affiliate 2005-2006. The report, submitted in September, includes coverage of DCMI-related activities carried out by UKOLN staff, as well as some examples of the range of DCMI work undertaken by staff in other UK organisations. It also contains a work plan for the next year.

Two members of UKOLN staff participated in DC-2006 and satellite meetings, which took place in Mexico in October. This included chairing the Registry Working Group, participating in the Advisory Board meeting, presenting the DC ePrints Application profile tutorial and a plenary paper. The DCMI Directorate has announced that DC-2007 will be held in Singapore in the week of 27-31 August 2007, hosted by the National Library Board.

DCC Conference and IJDC

The 2nd International Digital Curation Conference was welcomed by Sir Muir Russell, Principal of the University of Glasgow in the Hunterian Art Gallery. The main event began on 21 November with a keynote address given by Dr. Hans F. Hoffman from CERN. The conference went on to address different aspects of the curation life cycle including managing repositories, educating data scientists and understanding the role of policy and strategy. As well as an impressive line-up of international speakers, the conference included peer-reviewed presentations and a dedicated poster and demonstration session. The conference finished with



a launch announcement of the new open access *International Journal of Digital Curation*, the first journal focusing specifically on digital preservation and curation issues. This was followed by a closing keynote from Clifford Lynch, Executive Director of the Coalition for Networked Information.

Digital Repositories Roadmap: Looking Forward

The Roadmap (through a literature review and consultation with domain experts) provides an aspirational vision up to 2010 of how digital repositories could be used in Further and Higher Education institutions and outlines what needs to be done to get there.

The report recognises the technical developments needed to support open access as well as the requirement for more flexible legal arrangements to protect all parties without stifling creative sharing and reuse. It also highlights the areas of policy (national and institutional), culture and working practices where major changes need to be made. Open Access is dependent on changes in national policy which are emerging. For example, both JISC and funding councils are supportive of open access. Institutions are increasingly recognising the benefits of managing, curating, sharing and reusing digital assets as openly and effectively as possible, and are setting up repositories to achieve this.



Marieke Guy, conference chair, welcomes delegates to IWMW 2006; Chris Scott of Headscape speaks on current trends in Web design and technology; Brian Kelly dazzles at the barbecue.

Staff News

In April, Pete Johnston left UKOLN after five years to join the Eduserv Foundation, a Bath-based not-for-profit company with which we collaborate on various initiatives; so staff continue to work with Pete. In June, Michelle Smith joined UKOLN as Events Administration Assistant from Bath Spa University where she worked in an administrative role. Matt Thrower, who joined us in September, is the new Systems Support Co-ordinator in the Software & Systems Team, with responsibility for managing the helpdesk and re-developing the UKOLN Web site and intranet. His previous role was as a software developer at the Research Councils in Swindon and prior to that he was the Intranet & Information Manager at Cramer Systems in Bath. Paul Walk also joined in September as Technical Manager. Previously he worked for London Metropolitan University (and its predecessor institutions) in a variety of roles over a 13-year period, starting in the library service then moving to the newly formed Web team. During this period he combined service provision and support roles, particularly in e-learning, with extensive software development and project management activities.