# Information Scotland
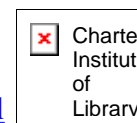
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## Digital environment

## A national showcase

**Gordon Dunsire updates us on the development of IRI-Scotland, the national digital library that aims to be a showcase of Scotland's research activity**.

A two-year project investigating an Institutional Repository Infrastructure for Scotland has just ended. One of the main outcomes of IRI-Scotland is a pilot cross-repository service which offers general, author, title and subject keyword searches on one or more of the seven available institutional repositories located in Scotland. An institutional repository is an infrastructure for storing, managing, accessing and disseminating electronic versions of resources created by the institution and its members; in other words it is a type of digital library. Resources may be made available on open access or via a login, and can comprise research output, teaching and learning materials, and administrative publications.

IRI-Scotland focused on research materials, ranging from peer-reviewed journal articles through pre-prints to conference presentations, so the pilot service developed by CDLR only includes repositories from research-intensive institutions such as universities. These comprise Aberdeen, Edinburgh, Glasgow, Queen Margaret, St Andrews, Stirling, and Strathclyde.

Institutional repositories generally follow standards developed by the Open Archives Initiative for disseminating the content of resources. The pilot service uses the OAI Protocol for Metadata Harvesting (OAI-PMH) to harvest or copy catalogue records from each repository into a central database used for subsequent information retrieval. All repositories supply records in Dublin Core format, which limits the potential sophistication of the pilot service compared with a library Opac, but in practice this is much less of an issue than problems caused by the content of the records.

One of the attractions of an institutional repository is that metadata can be created by anybody, and not just trained cataloguers. The result is a noticeable increase in spelling and typographic errors, a wide range of divergent approaches to identifying names and subjects, and variations in the scope and meaning of individual metadata elements. This finding was not unexpected; indeed, the Scottish higher education libraries had discovered significant variations in institutional approaches to MARC cataloguing, a more tightly-controlled metadata environment than Dublin Core, as long ago as 1999 during the Co-operative Academic Information Retrieval Network for Scotland (CAIRNS) project. IRI-Scotland therefore included the development of a draft metadata agreement for institutional research repositories, intended to meet the requirements of users and to improve the consistency of

metadata content within and between individual repositories. The agreement is freely available online at http://cdlr.strath.ac.uk/pubs/dawsona/ irismetadatadraft.pdf. Adoption of the recommendations made in the document remain future tasks for institutions and consortia such as SCURL, but there is an appendix with a quick guide to avoiding many of the elementary typographical and transcription problems we have encountered.

Academic staff and postgraduate researchers in Scottish universities were asked to indicate what retrieval points, such as author and publication date, they would expect to be available when searching for research output such as papers and theses. The top-ranked choices, by a significant margin, were author, title and subject. The service only offers keyword searching in these areas: alphabetic listing of authors is ineffective because personal names are not always recorded in family name/given name order; a title list is thwarted by the presence of quotation marks and 'non-filing' definite and indefinite articles; subject browsing is impossible because institutions use different, incompatible subject heading and classification schemes. Nonetheless, the low precision and recall supported by keyword searching is currently sufficient for what is a relatively small collection of around 10,000 items.

The number of records harvested from each repository has been growing. This does not necessarily reflect an increase in research output; rather, all the repositories are in early stages of implementation and many have active advocacy programmes to encourage uptake by researchers as well as retroconversion projects for existing departmental databanks. Thus new additions to a repository may be from old research. It is not possible to even guesstimate how many items might constitute total Scottish research output, because there is no consensus on defining 'research' or what comprises research output.
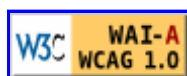
The pilot cross-repository search service interface is similar to the CAIRNS cross-library search interface, allowing the user to select a search type or index, to choose any combination of repositories to include in the search, and to enter a single search word or phrase. The repository collections are recorded in the Scottish Collections Network (SCONE), allowing repositories to be identified by institution and subject coverage (in the case of virtual sub-repositories based on departmental research output). The SCONE records are linked to the cross-repository interface to give users some information about the scope and content of each repository.

Discussions on sustaining and developing this showcase of Scotland's research activity are underway; in the meantime, the pilot continues to be maintained by CDLR, and all comments and suggestions are welcome.
Gordon Dunsire is Depute Director, Centre for Digital Library Research.

**Information**
The IRI-Scotland project was funded for two years by the Joint Information Systems Committee. The principal partners were the Universities of Edinburgh and Glasgow, the National Library of Scotland, and the Centre for Digital Library Research (CDLR), with support from the Scottish Confederation of University and Research Libraries (SCURL) and the Scottish Library and Information Council. For more about the development of the service see the project report (PDF format).

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