Opening up the 'treasure chests': the use of Research Information Management Systems for Open Science implementation at research libraries

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Speaker’s affiliation/recent background

University of Strathclyde in Glasgow

- Established 1796 as “the place for useful learning”
- 21,470 FTE Students and 3,200 staff
- Research: research grants and contracts income of £59,921m in 2016
- Among the 20 top research-intensive universities in the UK

Previously

- OpenAIRE2020 WP coordinator at LIBER (Assoc of European Research Libraries) in The Hague, the Netherlands
- EDINA National Data Centre, University of Edinburgh, UK
- Consejo Superior de Investigaciones Científicas (CSIC), Spain
Prosthetics project

The department of biomedical engineering, University of Strathclyde, Glasgow, has been working with the Mukti clinic in Chennai since 2011. The Mukti clinic is a charity which helps people who need artificial limbs, who otherwise couldn't afford, to receive them free. "It is thought that there may be around six million amputees in India, many of whom have to rely on clinics like Mukti," said Anthony McGarry, a senior teaching fellow with the department and who was a part of the of the recent visit to the clinic with students.

"Strathclyde faculty and students have worked together with Mukti staff in clinics treating those in need of prosthetic and orthotic rehabilitation for seven years. We have seen many changes and improvements taking place," he added.

Among the improvements, Mukti has established an appointment system, allowing patients to have adequate time to be seen properly. Also, follow-up appointments and note-taking. Projects to redesign knee joints for trans-femoral amputation. Assessment beds to ensure correct facility for functional assessment. The staff conducts seminars to educate local clinicians. The trips are funded by donations from Strathclyde alumni and fundraising by students and staff.
Index for today’s talk

— What is Research Information Management (RIM)?
— euroCRIS: an introduction
— Joint OCLC/euroCRIS survey on RIM practices: some findings
— The role of libraries (a case study from the University of Strathclyde): CRIS-mediated workflows
What is research information management?

Let’s start with a publication –

http://dx.doi.org/10.1136/bmjgh-2017-000636
Metadata for a journal article is kept in the institutional Research Information Management System (CRIS) for reporting purposes – including plenty of contextual information not usually available.
Research information management systems

This may include information on affiliations, funded projects, associated datasets and research facilities.
The quest for research information

Abstract: Nowadays, there is full consensus that the promotion of Science, Technology and Innovation (STI) has a positive impact on the economic growth of a country. In Peru, the National System of STI doesn’t have enough information for decision-making, because it doesn’t have an information system to manage (collect, systematize, store and communicate) the data generated during execution of each activity carried out. In this context, CONCYTEC (public body in charge of the development of policies, regulations and promotion of activities related to the STI) is planning to build a tool to cover this need, project that has financial support from the World Bank. To fulfill this task in order to cover the needs of all the actors involved in STI in the country, a study was carried out at a national level to know the current state of the processes and the computer supports of the research centers, research institutes and universities of the country to know their needs, and be able to pursue a common goal.
euroCRIS: fostering collaboration

Mission
"To promote collaboration within the research information community and advance interoperability through CERIF"

Members outside Europe:
Australia - Brazil - Canada - China - Colombia - India - Iran - Israel - Malaysia - Nigeria - Pakistan - Peru - South Korea - US

200+ members from 45 countries (mainly Europe)
euroCRIS: promoting the use of CERIF

Mission
"To promote collaboration within the research information community and advance interoperability through CERIF"

Main features of CERIF

CERIF (the Common European Research Information Format) is:

- A concept about research entities and their relationships – Specification (Conceptual Level)
- A description of research entities and their relationships – Model (Logical Level)
- A formalization of research entities and their relationships – Database Scripts (Physical Level)

https://www.eurocris.org/cerif/main-features-cerif
There was wide participation from the community, and we collected 84 full responses from 20 different countries.

The two main questions the Survey tried to answer were: are CRISs gradually replacing IRs? Are the two systems overlapping in their functionalities? From the results we have collected, both questions seem to get a negative answer. The two systems are clearly complementary: while IRs are the preferred choice for managing research publications and dissertations and thesis, CRISs are regularly chosen for managing the institutional research information as a whole including metadata for research papers.

http://www.eunis.org/blog/2016/03/01/crisir-survey-report/
euroCRIS: mapping the RIM landscape

Survey on Research Information Management Practices

OCLC Research and euroCRIS have been working collaboratively on an international survey on Research Information Management Practices.

Survey goals

This survey will help us understand and report on the state of RIM activities worldwide, and it seeks answers to the following questions:

- Why have institutions adopted—or are considering adopting—RIM infrastructures?
- What are the principal drivers?
- How are institutions using RIM functionality? What are the principal uses?
- Who are institutional stakeholders, and what, in particular, is the role of libraries?
- What processes and systems are in use? How do they interoperate with internal and external systems? What is the scope?
- What are regional and international differences in drivers, uses, and processes?

When will the results be published?

- The survey is now closed and survey results will be published in 2018 as an OCLC Research report and made openly available to the community.
- Survey data will be published CC-BY.

http://oc.lc/rim
OCLC/euroCRIS RIM Survey 2018

• Online survey data collection: Oct 2017 – Jan 2018

• Survey promotion through:
  – OCLC and euroCRIS communications channels and events worldwide
  – Communications by CRIS vendors and user communities

  380+ responses

• Results summarised in a report “Practices and Patterns in Research Information Management: Findings from a Global Survey”
  – Plus presented at events worldwide

OCLC/euroCRIS RIM survey report (released Dec’18), http://oc.lc/rimsurvey
RIM survey report

Practices and Patterns in Research Information Management: Findings from a Global Survey

Rebecca Bryant
OCLC Research

Anna Clements
University of St Andrews and euroCRIS

Pablo de Castro
University of Strathclyde and euroCRIS

Joanne Cantrell
OCLC

Annette Dortmund
OCLC

Jan Fransen
University of Minnesota, Twin Cities

Peggy Gallagher
OCLC

Michele Mennielli
DuraSpace and euroCRIS
Survey goals and scope

In our survey, we explored some key areas of interest, each with regional distinctions, where applicable and possible, including:

- the status of RIM system implementations, proprietary and open source solutions in use, and levels of satisfaction with systems
- the incentives for pursuing RIM and important functions of RIM
- the use of RIM systems as a scholarly communications repository
- the roles of institutional stakeholders, including the library
- the growing importance of interoperability and integration with internal and external systems, and the adoption of persistent identifiers, standards, and vocabularies

OCLC Research and euroCRIS plan to repeat this survey in future years, developing longitudinal data and knowledge about evolving practices in order to inform the research community about the changing goals, purposes, and scope of RIM practices. The survey dataset is published and available CC-BY as a companion to this report.
RIM survey findings: Geographies

The OCLC Research-euroCRIS Survey of Research Information Management Practices received 381 survey responses from 44 countries, which demonstrates the global nature of research information management activities.

**FIGURE 1.** Total number of survey respondents, by broad region. EMEA = Europe, Middle East, Africa; AMER = Americas; APAC = Asia-Pacific.
(Broad) RIM Landscape in India

- Indian RIM landscape very poorly captured in the survey snapshot
- There will be further survey iterations in order to explore identified trends in RIM evolution
- Joining the euroCRIS DRIS (Directory of Research Information Systems) can be considered in the meantime
RIM survey findings: drivers for RIM adoption
Important Functions of RIM (n=203)

Base: Institutions with a *live* RIM system

- Registry of institutional research outputs: 77% extremely important, 16% important, 4% somewhat important, 1% not important, 1% N/A or Not sure
- External (e.g., National) research assessment: 56% extremely important, 19% important, 11% somewhat important, 7% not important, 7% N/A or Not sure
- Internal reporting: 52% extremely important, 37% important, 8% somewhat important, 1% not important, 2% N/A or Not sure
- Publicly available researcher profiles: 44% extremely important, 34% important, 11% somewhat important, 8% not important, 3% N/A or Not sure
- Compliance and open access to publications: 45% extremely important, 29% important, 14% somewhat important, 7% not important, 5% N/A or Not sure
- Annual academic activity reporting workflows: 35% extremely important, 31% important, 15% somewhat important, 7% not important, 11% N/A or Not sure
- Reporting scholarly impact: 32% extremely important, 42% important, 20% somewhat important, 3% not important, 3% N/A or Not sure
- Awards/grants management workflows: 29% extremely important, 26% important, 15% somewhat important, 14% not important, 16% N/A or Not sure
- Reuse (in CVs, biosketches, other web pages): 27% extremely important, 39% important, 19% somewhat important, 5% not important, 10% N/A or Not sure
- Compliance and open access to research datasets: 28% extremely important, 26% important, 21% somewhat important, 13% not important, 13% N/A or Not sure
- Identifying collaborators or expertise: 22% extremely important, 36% important, 26% somewhat important, 5% not important, 10% N/A or Not sure
- Reporting societal impact: 20% extremely important, 33% important, 29% somewhat important, 6% not important, 12% N/A or Not sure
RIM survey findings: role of libraries

**Stakeholders with "Primary Responsibility" for 14 Specific RIM Activities**
by number of mentions

- **Research Office**
- **Library**
- **IT/Systems**
- **Provost/Chancellor**
- **Academic Units**
- **Other**
- **External Agency/Vendor**
- **Human Resources**

**FIGURE 30.** Primary stakeholders based on total number of mentions across all responses for all areas of activity, in aggregate. Note that multiple primary stakeholders could be selected per area of activity.
RIM Activities for which the Library Plays a Role (n=172)

- Open access, copyright and deposit: Primary Role 129, Secondary Role 14
- Metadata validation workflows: Primary Role 92, Secondary Role 12
- Research data management: Primary Role 84, Secondary Role 16
- Metadata entry: Primary Role 73, Secondary Role 44
- Training and support: Primary Role 70, Secondary Role 36
- Outreach and communications: Primary Role 54, Secondary Role 25
- System configuration: Primary Role 37, Secondary Role 25
- Proposing, initiating or driving adoption: Primary Role 37, Secondary Role 47
- Strategic development, management and planning: Primary Role 35, Secondary Role 26
- Creating internal reports for units: Primary Role 33, Secondary Role 29
- Impact assessment and reporting: Primary Role 29, Secondary Role 21
- Project management: Primary Role 29, Secondary Role 10
- Financial support for RIM: Primary Role 22, Secondary Role 14
- Maintaining or servicing technical operation: Primary Role 20, Secondary Role 24
Abstract

CRIS systems are playing an increasingly relevant role in the implementation of Open Access and Research Data Management (RDM) policies at research-performing organisations. This is not just because of the deep insight these systems provide into the workflows that underpin the institutional research activity, but also because they allow an effective teamworking across institutional research support units, which critically include research libraries.

This article describes the way the institutional Pure CRIS is used at the University of Strathclyde in Glasgow to support the implementation of Open Science in collaboration with the researchers themselves and with the institutional Research Office. In terms of training, which is in itself an important and often challenging part of the effort towards Open Science implementation, the key objective is to make researchers aware that all the seemingly independent processes they’re being asked to carry out on top of their research activity are interconnected and are part of the same drive towards openness and digital science.

Finally, the paper describes the international collaboration networks for the realisation of Open Science that the University of Strathclyde is involved in and some of the areas where this cross-institutional collaboration is taking place.

Keywords

Open Science; Research Information Management; Open Access; Research Data Management; Scholarly Communications; Current Research Information Systems (CRIS); Institutional case studies
Open Access

- About Open Access
- Research Data Management
- Funding Gold Open Access
- Research Funder Policies
- REF Measurement
- Frequently Asked Questions

https://www.strath.ac.uk/professionalservices/openaccess/
## UK Open Access policy (Strathclyde)

<table>
<thead>
<tr>
<th>Research funder</th>
<th>OA flavour</th>
<th>Brief policy description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education Funding Council for England (HEFCE)</td>
<td>Green</td>
<td>In operation since 01/04/2016 (implemented since 2014 at Strathclyde). Mandatory deposit of full-text accepted author manuscript no longer than three months since manuscript acceptance. Linked to the UK Research Excellence Framework (REF2021)</td>
</tr>
<tr>
<td>Research Councils UK (UK Research and Innovation since 01/04/2018)</td>
<td>Green &amp; Gold</td>
<td>Mandatory OA availability of funded outputs via either the Green or the Gold OA routes. Block grants delivered to research-intensive HEIs to fund Open Access fees for eligible publications (those that acknowledge RCUK-funded projects)</td>
</tr>
<tr>
<td>Charity Open Access Fund (COAF): coalition of UK charities led by the Wellcome Trust</td>
<td>Green &amp; Gold</td>
<td>Mandatory OA availability of funded outputs via either the Green or the Gold OA routes. Block grants delivered to research-intensive HEIs to fund Open Access fees for eligible publications (those that acknowledge RCUK-funded projects). Green OA publications need to be deposited in EuropePMC</td>
</tr>
<tr>
<td>European Commission – FP7 programme</td>
<td>Green &amp; Gold</td>
<td>Mandatory deposit of full-text accepted author manuscript for projects under Clause 39. Gold Open Access funding available for finished FP7 projects under the OpenAIRE FP7 Post-Grant OA Pilot</td>
</tr>
<tr>
<td>European Commission – H2020 programme</td>
<td>Green &amp; Gold</td>
<td>Mandatory deposit of full-text accepted author manuscript for all H2020 projects (plus associated datasets). Gold Open Access funding may be claimed from project grant</td>
</tr>
</tbody>
</table>

Table 1.— Main Open Access policies by research funders at the University of Strathclyde
Snapshot on funding sources at Strathclyde

- **UKIERI** Big data for sustainable cities – Developing Proof of Concept for Leveraging Big Data Analytics for Sustainable Smart Cities
  Bellingham, R. & Higham, D.
  UK India Education and Research Initiative UKIERI
  Project: Research

- **UKIERI** Compact THz source for Human Health and Diagnostics
  Cross, A. & Phelps, A.
  UK India Education and Research Initiative UKIERI
  Project: Research

- **UKIERI** Research Award 2008 – Ultrafine grained Ti–6Al–4V for low temperature / high strain rate superplastic forming of aerospace components
  Rosochowski, A. & Rosochowska, M.
  UK–India Education and Research Initiative UKIERI
  Project: Research

- **An advanced integrated process for the treatment of sewage plant effluent using bio-based antimicrobial metal biosorbents and photocatalytic materials**
  Lau, K. H. A. & Ivaturi, A.
  UK India Education and Research Initiative UKIERI
  1/04/18 – 31/03/20
  Project: Research

- **Leveraging Knowledge Networks for Enabling Innovations in Higher Education and Research Institutes in India and UK**
  Whalley, J.
  UK India Education and Research Initiative UKIERI
  1/03/12 – 30/06/13
  Project: Research
UK Open Access policy implementation
Some areas where the Strathclyde Research Library plays a relevant role

- Scholarly Communications
  - Open Access implementation
  - Research Data Management
- Monitoring compliance with Open Science policies
- Providing advice on evolution of publishing landscape (Plan S, subscriptions)
- Training (researchers, PhD students)
- Institutional publishing
- Assessing impact via alternative metrics

Big news. India joins cOAlition S #Plan_S. This is great news -- and demonstrates the growing global support for #openaccess and #Plan_S
Snapshot on collaborations with Industry

- **IMPLEMENTING PAT FOR SUCCESSFUL DEVELOPMENT OF BIOPHARMACEUTICALS IN THE UK**
  - McNeil, B. & Harvey, L.
  - DTI
  - 11/08/06 – 31/08/09

- **GlaxoSmithKline MChem Project Initiative**
  - Watson, A. & Redmond, J.
  - 1/10/11 – ...
  - Project: Non-funded project

- **GSK Secondment**
  - Littlejohn, D.
  - GlaxoSmithKline Research & Development Ltd
  - 1/11/11 – 31/10/12
  - Project: Research

- **CMAC : Manufacturing Operations and Supply Chain Management Challenges in Continuous Manufacturing**
  - Bititci, U., Ates, A. & Talati, R.
  - 1/01/12 – 31/03/13
  - Project: Research

- **GSK Industry PhD Program (Attracting and Developing New Chemistry Talent in the UK) / S115664-102**
  - Percy, J.
  - Glaxo Smithkline (UK)
  - 1/07/12 – 31/03/24
  - Project: Research Studentship – Internally Allocated, Research Studentship (Internally Allocated)
By Dr. Savita Ayyar, Research Management Consultant, Jaquaranda Tree

Lead, India Research Management Initiative (IRMI)

Seven Indian research managers from Delhi, Pune, Hyderabad, Vellore and Bangalore packed their bags and boarded long-haul flights on June 2, heading out to an international conference of research managers and administrators. Amidst a flurry of WhatsApp messages, the small Indian group finally met in Edinburgh, all set for INORMS 2018.

The 2018 edition of the biennial congress of the International Network of Research Management Societies (INORMS 2018) was hosted by the Association of Research Managers and Administrators UK (ARMA), and was attended by nearly 1100 delegates from 45 countries. For the team from India, this was a special occasion: the first opportunity for research managers from diverse Indian research institutions to come together as a country-wide team and to connect with and learn from research managers from across the world.

Research management is essential for the optimal delivery of research output at institutions and includes activities such as support with identifying funding opportunities, facilitating grant funding, managing awarded programs, public engagement, research impact analysis, ethics and others. Research management
India Research Management Initiative (IRMI)

02 Feb 2018

The India Alliance is pleased to launch the

India Research Management Initiative (IRMI)

Strengthening research ecosystems in India

The Wellcome Trust/DBT India Alliance announces the launch of IRMI, a new Research Management programme for India, which aims to strengthen institutional ecosystems.

IRMI, or India Research Management Initiative, will provide a mechanism for enabling research management at institutions in India. Effective research management helps institutions navigate the high demands for funding, outreach and governance of research. It spans activities that support research, such as national and international funding opportunities, science communication, policy and regulatory matters and intellectual property.

Take-home message: things are moving in this area and there’s a role for research libraries to play in it!

https://www.indiaalliance.org/news/203
Thanks!

Questions?

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