Interoperability – the IR (COAR) perspective

Friedrich Summann

COAR / Bielefeld University Library
Overview

• COAR – the organization
• Institutional Repositories
• CRIS (from the IR perspective)
• CRIS – IR Interoperability
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COAR

Confederation of Open Access Repositories

• Enhances the visibility of research outputs
• Paves the road to interoperability
• Fosters knowledge exchange on repository issues
• Strengthens international open access implementation

Greater visibility and application of research through global networks of Open Access repositories
COAR members and partners
COAR Members

China

- National Science Library, Chinese Academy of Sciences (CAS)
- Peking University Library
- Xiamen University Libraries

Colombia

- Red Nacional Académica de Tecnología Avanzada (RENATA)
- Universidad del Rosario
- Universidad EAFIT

Cyprus

- Cyprus University of Technology

Denmark

- Denmarks's Electronic Research Library (DEFF) on behalf of the Danish Agency for Libraries and Media

Ecuador
## COAR Partners

<table>
<thead>
<tr>
<th>Partners</th>
<th>Location</th>
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<tr>
<td>Bepress</td>
<td>Berkeley, CA, United States</td>
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</table>
• COAR Working Group 2 Interoperability

• COAR Interest Group “Controlled Vocabularies for Repository Assets”

The Interest Group will be the new maintainer of the (in DRIVER and OpenAire defined) vocabulary and widen its applicability for global use. It will be hosted at COAR and made publicly available as a resource for the global repository community.

Moreover this Interest Group will provide an overview of related controlled vocabularies and open access indicators used in international and regional guidelines that are targeted at repositories. Using this review will allow to update and align controlled vocabulary for repositories at COAR.
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• CRIS – IR Interoperability
The IR – past, present, future

- Started late nineties
- Contents starting with thesis
- OAI-PMH protocol definition 2001
- Open Access movement
- Establishing a global repository network
- Extending
  - Size
  - Quality
  - Services
The IR – past, present, future

• More than 3200 repositories, around 70 Mill. Objects
• World-wide coverage

• But: Institutional Repositories are at a turning-point:
  • More and more overlapping systems
    • local (CRIS, Publishing Platform, etc)
    • external (Subject Repositories, ResearchGate etc.)
  • Scholarly communication process changes
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OpenDOAR Repository platforms

[Image of a dropdown menu showing various repository platforms and their counts]

- PURE (12)
- Prodlirna (1)
- proprietary (1)
- PubMan (2)
- RedHat (2)
- refbase (1)
- Rhaptos (1)
- SciELO (18)
- Sciglo (1)
- SciX (3)
- SDX (1)
- Shunsaku (1)
- SobekCM (4)
- Socionet (3)
- Software fuente abierta LARerencia (1)
- Spire (1)
- STAR Database (1)
- SWB Content (1)
- Symplectic (1)
- TEDE (4)
CRIS OpenDOAR entries

**CURIS - Copenhagen University Research Registration System**

**Organisation:** University of Copenhagen, Denmark  
**Description:** CURIS is the University of Copenhagen's research registration system, where researchers can register their publications and publish open access research articles. The University of Copenhagen encourages open access publishing.

**Software:** PURE  
**Size:** 193638 items (2013-12-06)  
**Subjects:** Science General; Health and Medicine; Arts and Humanities General; Philosophy and Religion; Social Sciences General; Law and Politics  
**Content:** Articles  
**Languages:** Danish; English  
**Policies:** [Not yet analysed]  
**OpenDOAR ID:** 2751, Last reviewed: 2013-12-06, [Suggest an update for this record](http://opendoar.org/id/2751), Missing data is needed for: OAI-PMH & Policies

**Edinburgh Research Explorer**

**Organisation:** University of Edinburgh, United Kingdom  
**Description:** Edinburgh Research Explorer is the portal and discovery layer for PURE, which serves as its main Institutional Repository for publications. The interface is in English and contains an RSS feed.

**Software:** PURE  
**Size:** 83290 items (2014-11-03)  
**Subjects:** Multidisciplinary  
**Content:** Articles; Conferences; Unpublished; Books  
**Languages:** English  
**Policies:** Metadata re-use policy explicitly undefined; Full data item policies explicitly undefined; Content policies explicitly undefined; Submission policies explicitly undefined; Preservation policies explicitly undefined  
**OpenDOAR ID:** 3054, Last reviewed: 2014-06-24, [Suggest an update for this record](http://opendoar.org/id/3054), Missing data is needed for: OAI-PMH & Policies

**Explore Bristol Research**

**Organisation:** University of Bristol, United Kingdom  
**Description:** Explore Bristol Research provides access to the research activities of the institution. The site includes research profiles, publications, and activities. The OAI-PMH feed is limited to include only publications that have associated full text files. It is intended that student theses will be included in the site and OAI-PMH feed by the end of 2014. The interface is available in English.

**OAI-PMH:** [http://research-information.bristol.ac.uk/ws/oai](http://research-information.bristol.ac.uk/ws/oai)  
**Software:** PURE  
**Size:** 3503 items (2014-03-10)  
**Subjects:** Science General; Arts and Humanities General; Business and Economics; Law and Politics  
**Content:** Articles; Books; Conference Papers; Reports; Theses  
**Languages:** English  
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**OpenDOAR ID:** 1767, Last reviewed: 2014-06-24, [Suggest an update for this record](http://opendoar.org/id/1767), Missing data is needed for: OAI-PMH & Policies
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CRIS Systems in the OAI-PMH perspective

- CERIF as metadata format is not visible in OAI-PMH context
- Currently only PURE systems offer OAI-PMH interfaces in production
- The public PURE OAI-PMH interface has different deficits in the DC data delivery but is operable
- The OAI-PMH interface of Repository installations with PURE in the background looks very similar to other repositories of this type (DSpace, EPrints)
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COAR Interoperability Project

- Phase 1: The Case for Interoperability for Open Access Repositories
- Phase 2: Open Discussion
- Phase 4: COAR Roadmap for Future Directions for Repositories Interoperability
Interoperability issues and use cases

• Visibility (google metrics, webometrics, statistics)
• Data issues (Formats, quality, enhanced publications, linked data, research data)
• Sustainability (services, documents)
• Add-on services and features (embedding, publication lists, export, bibliometrics)
• Technical basics (architecture, protocols)
Promoting greater visibility and application of research through global networks of Open Access repositories

COAR Roadmap
Future Directions for Repository Interoperability

Working Group 2: Repository Interoperability

November 2014
Supporting Visibility in Repository Registries

Relevance

Complexity

Immediate  Future

Low  Medium  High
IR Interoperability

• The special case: CRIS-IR interoperability

• The common intersection: Publications

• The challenges:
  – The format question (CERIF – DC/MODS/MARC)
  – Related Services
## The alleged CRIS/IR dichotomy

<table>
<thead>
<tr>
<th>CRIS</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Externally-orientated</td>
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<tr>
<td>Research Office</td>
<td>Library</td>
</tr>
<tr>
<td>Research Information Mgt.</td>
<td>Open Access</td>
</tr>
<tr>
<td>Metadata</td>
<td>Fulltext</td>
</tr>
<tr>
<td>Automatic Harvesting</td>
<td>Self/Archive/Mediate Deposit</td>
</tr>
<tr>
<td>CERIF</td>
<td>DC METS MODS</td>
</tr>
<tr>
<td>Proprietary Software</td>
<td>Open Source</td>
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</table>
CRIS – IR models of interoperability

• **CRIS-as-IR**
  CRIS replaces repository and by becoming OAI-PMH-compliant it's able to perform its role (at a basic level now, but evolving)

• **IR-as-CRIS**
  IR data model and architecture is extended to cover additional aspects (projects, grants, funder programmes, awards, reporting information)

• **CRIS-IR-Interop**
  Coupled systems exchanging information
Not quite a dichotomy – interoperability is the key feature

• Interlinked CRIS/IR system, with CRISs covering RIM and IRs offering access to full-text outputs

• CERIF/DC mapping will allow metadata transfer (usually CRIS --> IR)

• OpenAIRE CERIF-XML schema will allow CRIS/IR interoperability

• OJS-managed institutional journals often published via the IR

• 'New' worklines such as Altmetrics (and anything related to usage) easier to test on IRs – more mature, more flexible network

• However, many HEIs wonder about maintaining two platforms

• Research Data Management an interesting use case
The key challenges (from the IR perspective):

• Relationship CERIF – bibliographic metadata formats
• Integration of Services (via Interoperability)

The conclusion:

Communication to exchange experiences and to foster the activities
“Not quite a dichotomy – interoperability the key feature”
De Castro, Pablo, Shearer, Kathleen, Summann, Friedrich: The gradual merging of repository and CRIS solutions to meet institutional research information management requirements.
[http://dspacecris.eurocris.org/handle/11366/197]

De Castro, Pablo, Summann, Friedrich : CRIS Systems and Institutional Repositories – Models and Chances of Interoperability at European Higher Education Institutions
[http://www.opus-bayern.de/bib-info/volltexte/2014/1650/]

COAR Talks: IR-CRIS interoperability
Thank you!

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