Open Science
Challenges and opportunities for IR

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Turkish National Open Access Workshop
Hacettepe University Conference Center
Ankara, November 8-9, 2012.

Who we are?

The World Confederation of Open Access Repositories uniting and representing more than 100 institutions worldwide (Europe, Asia, Latin America, the U.S. and Canada)

http://www.coar-repositories.org/

Most recent new members:

- Most recent new members:
- May 2012: University of Toronto Libraries, CA
- June 2012: Cornell University Library, U.S.
- August 2012: The Vilnius University of Lithuania, LT;
- The Izmir Institute of Technology Library of Turkey, TR

Opportunity: Global Collaboration

- The **digital revolution** offers undreamed-of possibilities to realize the right "to share in scientific advancement and its benefits"
- The grand challenges of the 21st century transcend borders, and **science will be an increasingly global affair.**
- Global collaboration on Data Access and Interoperability

Open Science

Open Science means optimal **sharing** of **research results and tools** such as publications, research data, software, educational resources and infrastructures across institutional, disciplinary and national boundaries.

Making science and research more efficient, transparent, trustworthy and valued through the tools and collaboration models made possible by ICT

Open Science

- Publications and data resulting from publicly funded research should be **openly made available and preserved for reuse.**

- Research activities need reliable, high-performance and economically efficient **infrastructures** that are able to manage the expected scale of future data resources.

COAR
Confederation of Open Access Repositories

OPEN ACCESS TO PUBLICATIONS

Open access

"OA is part of a larger revolution in knowledge generation and distribution, but it's ***specific to peer-reviewed scholarly literature****. The goal of the OA movement is a knowledge distribution model where scholarly, peer-reviewed journal articles are made freely available to anyone, anywhere over the Internet, with no copyright constraints beyond attribution and no costs beyond those involved in connecting to the Internet"*

BOAI10 Recommendations

http://www.opensocietyfoundations.org/openaccess

Open Access repositories

"A complete version of the work [...] is deposited [...] in at least one online repository using suitable technical standards [...] to seek the implementation of open access [...] interoperability [...]" – ***Green Road- selfarchiving-***

Institutional Repositories

A wide variety of intellectual outcomes produced at universities and other institutions are the core element in the construction of "global representation of human knowledge" and need to be shared and utilised in society as valuable assets contributive to the country's future growth.

2.311 open access repositories

deposition+inmediate access rates of max. 20% in Institutional Repositories

Key challenge : the researchers

- Researchers sympathise with Open Access, with differences in discipline
- BUT majority doesn‘t see implementation / deposit as their task
- Prestige/promotion still trumps visibility
- Without strong mandates (like at e.g. Minho, Liege, QUT) we have deposition+immediate access rates of max. 20% in Institutional Repositories

We need a strategy

- Develop a promotional plan for repository and Open Access in general.
- Develop value-added services for authors.
- Become further engaged in the international community, i.e., to proactively participate in the Open Access, institutional repositories and DSpace communities worldwide.
- Define a self-archiving policy and link it to incentives.

A COAR activity: Sustainable Best Practices for Populating Repositories

Some preliminary conclusions:

- ✓ Populating repositories remains a challenge and as a result many institutions are using a multi-faceted strategy to actively recruit content.
- ✓ Most content recruitment practices are fairly resource intensive and involve staff resources.
- ✓ OA mandates do not result in high deposit rates without support for depositing content.
- ✓ So far, there are no "magic bullets" for fast and easy populating of repositories.

COAR Preliminary Report – Summary of sustainable practices for populating repositories

1. Researcher advocacy
2. Using usage statistics to encourage deposits
3. Rights checking and submission services

4 Linking repositories with Research Assessment Exercises (RAEs) and Research databases (CRIS)

6. Full text harvesting
7. Direct deposit by publisher

http://tinyurl.com/coar-repository-content

Researchers training and advocacy

COAR has compiled several training materials for repository managers.

- ✓ Introduction
- ✓ Setting up open access repositories
- ✓ Running open access repositories
- ✓ Copyright clearance and digital rights management
- ✓ Advocacy: advocating to different stakeholders, introducing open access policies and mandates

http://www.coar-repositories.org/working-groups/repository-and-repository-networks-support-and-training/training-materials/

Licensing and Open Access Task Force

Purpose

The purpose is to monitor, evaluate and promote the implementation of effective open access agreements and licenses

Background

The Open Access landscape is evolving rapidly making it difficult for organizations to keep abreast of the changes. As a part of this landscape, a number of research institutions and consortia around the world are looking into how they can support open access through direct agreements with publishers.

Task Force Activities

- ✓ Document the variety of institutional and consortia OA agreements with publishers.
- ✓ Assess the value of these various agreements and make recommendations regarding their efficiency.
- ✓ Develop strategies that will promote the use of recommended agreements and clauses.
- ✓ Gather evidence that would support the acceptance of OA agreements by publishers.
- ✓ Identify tools, workflows and procedures for the implementation of clauses or OA agreements.
- ✓ Summarize recommendations and make available to the public.

Mandates

- Deposit number and rate is significantly correlated with mandate strength (classified as 1-12): The stronger the mandate, the more the deposits. The strongest mandates generate deposit rates of 70%+ within 2 years of adoption, compared to the un-mandated deposit rate of 20%.

Gargouri, Yassine, Lariviere, Vincent, Gingras, Yves, Brody, Tim, Carr, Les and Harnad, Stevan (2012) Testing the Finch Hypothesis on Green OA Mandate Effectiveness. *Open Access Week 2012*

Open Access in FP7 and H2020

- **OA Pilot in FP7**
  - "Best effort" to provide OA
  - 7 research areas
  - Peer-reviewed publications
  - Allowed embargos: 6 / 12 months (for social sciences & humanities)

Green OA

- **OA mandate in H2020**
  - Obligation to provide OA
  - All research areas
  - Peer-reviewed publications
  - Allowed embargos: 6 / 12 months
  - Plus: Possibility for research data

- **OA publishing costs**
  - Eligible while project runs

Gold OA

- **OA publishing costs**
  - Eligible while project runs
  - New financial tool to cover later publications under discussion

Mandates

The Immediate-Deposit/Optional-Access (ID/OA) mandate + evaluation

Université de Liège (University of Liege)
http://roarmap.eprints.org/56/

OA policy + finnacial incentive:

"99.000 euros would be distributed to departments and research centres as a reward for their commitment in the implementation of the policy. The policy also established the criteria for the awarding system. For example, the reward would only be handed to departments and research centres, never directly to individual researchers"

Universidade do Minho

Mandates

Good practices for university open-access policies

The guide is written and edited by Stuart Shieber and Peter Suber.

http://cyber.law.harvard.edu/hoap/Good_practices_for_university_open-access_policies

Our repositories may be (or contain) treasures of our institutions…

But they should not be treasure islands…

Passive open access to content only do not reach the researchers needs

"But face up to it, subject repositories, such as the superb UKPMC do present so much more in terms of usability, interoperability, internet connectivity, than most institutional repositories […] that scepticism with regard to the latter as the preferred venue for open access is understandable".

Jan Velterop

"In the internet age, the real value of open access is the full conectivity of ALL available electronic resources and their efficient exploitation with the powerful energy software tools and not just posting articles for passive display"

NIH's Public Access Policy. Elias A. Zerhouni, M.D. Director
Subcommittee on Courts, the Internet, and Intellectual Property. 145th Meeting of the National Cancer Advisory Board February 5, 2008

Global Co-laboratories…

…to express digital objects relationships in a machine understandable way, allowing machines to create sophisticated services over the global representation of knowledge distributed across repositories and other systems, to make cross-discipline connections, and to combine disparate findings to arrive at new insights.

Exploring Correspondence and Intellectual Community in the Early Modern Period (1500-1800), University of Stanford
https://republicofletters.stanford.edu/

Confederation of Open Access Repositories

The power of repositories

CONNECTIVITY

Research in the digital world is global, collaborative, networked, distributed... How can repositories allow researchers to use open publications and data on their work?

OA Repositories around the globe, need to operate similar policies, terms & conditions, data schemas etc. to build a (seamless) content resource based on a worldwide repository network

Broad understanding of and approach to Open Access

- The cost arguments of the "serials crisis" of course do matter…
- …but the thrust for OA comes even more so from "eResearch" and the requirements for the emerging new ways of scholarly communication
- "full exploitation of the internet" (Berlin Declaration)

The value of repositories

The real value of repositories lies in the potential to interconnect them to create a network of repositories, a network that can provide unified access to research outputs and be (re-) used by machines and researchers. However, in order to achieve this potential, we need interoperability.

(The Case for Interoperability for Open Access Repositories - COAR Briefing Paper)

The value of repositories

- But to fulfill this potential to create a unified body of scholarly materials , we need a “technical glue” that makes this integration possible …

Interoperability

Interoperability

- Interoperability is the ability for systems to communicate with each other and pass information, metadata, and digital objects between each other back and forth in a usable format .

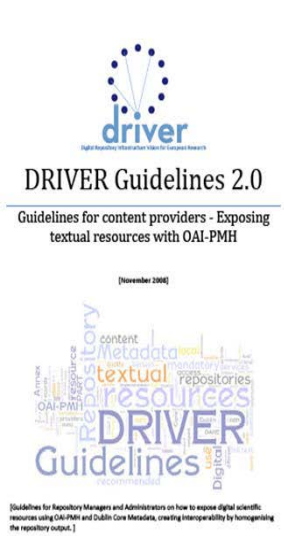
Interoperability to…

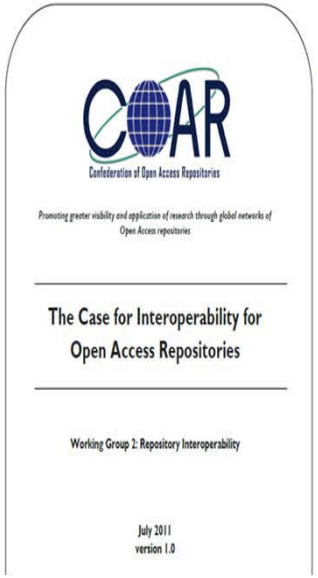
- CONECT
  - Between different Repositories
  - Repositories with other information systems(CRIS, LMS, VRE, VLE, etc.)
  - And transfer metadata and/or digital objects

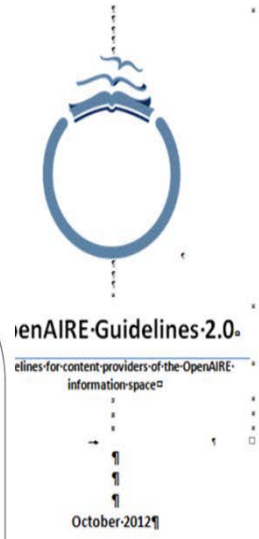
- CREATE NEW SERVICES AND TOOLS
  - “On top” of repositories, based on contents aggregatedfrom repositories…
  - using today’s computational power to datamine and process them, and generate new information and knowledge

Interoperability framework

- National
- Europe: DRIVER =>OpenAIRE
- Global (OA repositories): COAR
- Upcoming Global (Data): Research Data Alliance, RDA







Confederation of Open Access Repositories

COAR AND INTEROPERABILITY

COAR GLOBAL VISION

A global knowledge infrastructure, based on worldwide networked open access digital repositories

Our mission

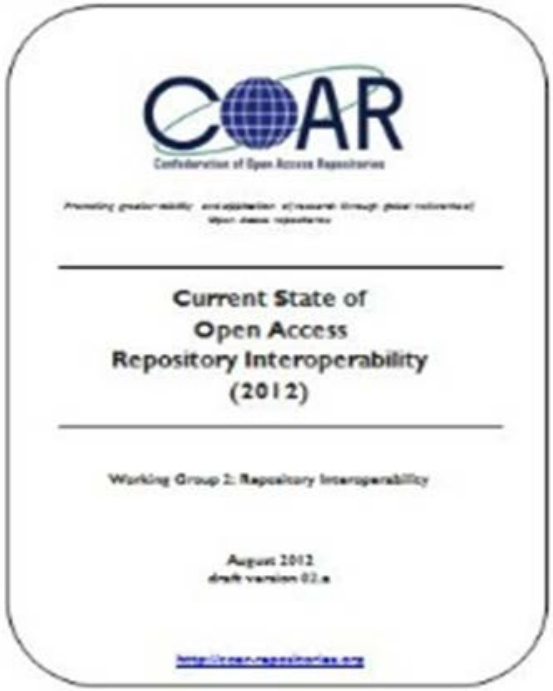
To facilitate greater visibility and application of research outputs through global networks of open access repositories based on interoperability and international cooperation

COAR and Interoperability

- Interoperability was always one of the strategic issues for COAR
- A Working Group on Interoperability was established
- COAR Strategic directions 2012-2015

  3. To define and promote interoperability, standards, and infrastructure policies

Current State of Open Access Repository Interoperability (2012)



The COAR Roadmap for Open Access Repository Interoperability

Goal: to provide clarity and guidance for the interoperability landscape by:

- Presenting an overview of the current and emerging services that interoperability initiatives make possible
- Presenting interoperability standards/protocols in connection to these services
- Provide guidance and recommendations on future directions and solutions for enhancing repository interoperability in the context of OA and e-infrastructure

http://bit.ly/CSOASRI

Current state of open access repositories interoperability

Intended Audience: Institutions, and repository managers, operating at different points in terms of infrastructure, resources, and institutional support

- For institutions new to OA and repositories: Roadmap will provide guidance in getting started – providing ideas on the types of services repositories can offer
  - Which interoperability standards and protocols are necessary to implement in order to provide those services

- For institutions and repository managers already involved in OA and repositories: ideas for additional functionality, services possible to provide

Areas and Associated Initiatives

Areas	Associated Repository Initiatives
Metadata Harvesting	OAI-PMH
Repository Networks	DRIVER OpenAIRE UK RepositoryNet+
Usage Statistics	COUNTER KE Usage Statistics OA-Statistik PIRUS/IRUS-UK SURE
Cross-System Content Transfer	SWORD Open Access Repository Junction CRIS-OAR Metadata Interoperability
Author Identification	AuthorClaim ORCID
Persistent Identifiers	PersID DOI Handle System DataCite
Managing Compound Objects	OAI-ORE

Example of In-Depth Coverage of an Initiative

CRIS-OAR

http://bit.ly/cris-oar

Knowledge Exchange
CRIS-OAR interoperability project
publication metadata

CRIS-OAR aims to increase the interoperability between CRIS and repositories through metadata exchange

Area: Cross-System Content Transfer
Geographic Focus: Europe

Current status: project has been completed

Sponsoring Organization: Knowledge Exchange

Other Projects in this Area:
- OA-RJ
- SWORD
- UK RepositoryNet+

Global Collaboration is very important

- Development of regional partnerships through MoUs and projects
  - RedClara, Latin America, LIBER, Europe, EU projects
- Initiate strategic partnerships with other eInfrastructure stakeholders
  - Data Infrastructures
  - EuroCRIS

Challenges for repositories

- Fulfill their potential to support the vision of Open Access and be an essential part of the e-infrastructures for science and research.

In the present time, that means:

- Maintain the focus on getting more Open Access content (journal articles, etc.) into repositories
- Using all the opportunities to connect to, interoperate with, or embed in other systems (institutional or disciplinary) or components of e-infrastructures for research.

If you are engaged in the development of repositories, their networks and want to exploit their full potential as research infrastructure…

we will be delighted to welcome you as a new COAR member!

Become active in the global COAR community!

Contact:
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