OpenAIRE Guidelines

Promoting Repositories Interoperability and Supporting Open Access Funder Mandates

1 July 2015

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Jochen Schirrwagen, University of Bielefeld
AGENDA

1. The context: OpenAIRE infrastructure
2. OpenAIRE guidelines for data sources
3. Adoption and mapping with other repository networks
4. Future Directions
5. Tools for repositories compatibility
The context: OpenAIRE infrastructure
OpenAIRE

OPEN ACCESS INFRASTRUCTURE

for research in Europe

www.openaire.eu
Project & Infrastructure

Guided by OA funder policies (European Commission)

Participatory approach (human & e-infrastructure)

Integrated Scientific Information System
Content acquisition policy

Publications in OpenAIRE

IR
- Open Access content
- EC funded content
- National or other funded content

Data in OpenAIRE

DR
- dataset is linked with a publication in the OpenAIRE information space
- EC funded content
- National or other funded content
OpenAIRE Guidelines for data sources
Where we started...

- 'oai_dc' 15 elements based on DCMES schema
  - As established and 'lowest common denominator' OAI format
- Used in numerous interpretations -> interoperability issue
- Requires agreements on syntax (use of OAI-PMH & oai_dc) and semantics (controlled vocabularies)
  - DRIVER Guidelines v2 introduced in 2008
  - info:eu-repo Application Profile for encoding schemes
- Mainly used to describe textual resources
  - Continued in OpenAIRE Guidelines since 2009
In the meantime...

• OpenAIRE scope & requirements have expanded since then
  • By complementary types of data sources
    • For research data and research information
  • Non-textual content
  • Publication and data linking
  • Project contextualization
• New global “authoritative” identifier based infrastructures
  • For authors/contributors
  • funders / projects
  • research outputs
Guidelines Timeline

- **DRIVER: OA (2008)**
  - Text Repositories

- **OpenAIRE: EC-FP7 (2010, 2012)**
  - Text Repos. Aggregators

- **OpenAIRE: EC + OA (2013)**
  - Text Rep. Aggr. *Oai_DC*
  - Data-Rep. *OAI_DATAcite*
  - CRIS *CERIF*
3 Guidelines for Data Providers

1 Literature Repositories (and journal platforms) 
Dublin Core (DRIVER)

2 Data Repositories (and archives/data centres) 
Datacite

3 CRIS systems 
CERIF-XML
Guidelines for Literature based Data Sources

• Continues the DRIVER v2 Guidelines
• Transfer protocol primarily but not limited: OAI-PMH
• Metadata format (so far): oai_dc
• Application Profile (so far): info:eu-repo
• Extended by properties to describe
  • Funder / Project information
  • Embargo Period / Embargo End Date
  • Open Access Status / Access Rights
  • Alternative Identifier
  • Referenced Dataset(s)
  • Referenced Publication(s)
OpenAIRE OAI-Set

- To group metadata relevant for OpenAIRE
  - See [https://www.openaire.eu/content-acquisition-policy/content-acquisition-policy/content-acquisition-policy](https://www.openaire.eu/content-acquisition-policy/content-acquisition-policy/content-acquisition-policy)
- Metadata about Open Access Publications
- Metadata about Publications funded in EC-FP7 / H2020
- Metadata about Publications funded by other funders
  - OpenAIRE provides information about supported funding information

<table>
<thead>
<tr>
<th>setName</th>
<th>setSpec*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The OpenAIRE set</td>
<td>OpenAIRE</td>
</tr>
</tbody>
</table>
## projectID

<table>
<thead>
<tr>
<th>Element name</th>
<th>projectID</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMI definition</td>
<td>dc:relation</td>
</tr>
<tr>
<td>Usage</td>
<td>Mandatory (if applicable)</td>
</tr>
<tr>
<td>Usage instruction</td>
<td>A vocabulary of projects is exposed by the OpenAIRE API: <a href="http://api.openaire.eu/#cha_projects_http">http://api.openaire.eu/#cha_projects_http</a>, and available for all repository managers. Values include funder, project name and projectID. The projectID equals the Grant Agreement number, and is defined by the namespace: info:eu-repo/grantAgreement/Funder/FundingProgram/ProjectNumber/Jurisdiction/ProjectName/ProjectAcronym/</td>
</tr>
<tr>
<td>Element name</td>
<td>accessRights</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>DCMI definition</td>
<td>dc:rights</td>
</tr>
<tr>
<td>Usage</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Usage instruction</td>
<td>Use values from vocabulary Access Rights at <a href="http://purl.org/eu-repo/semantics/#info-eu-repo-AccessRights">http://purl.org/eu-repo/semantics/#info-eu-repo-AccessRights</a></td>
</tr>
<tr>
<td></td>
<td>• info:eu-repo/semantics/closedAccess</td>
</tr>
<tr>
<td></td>
<td>• info:eu-repo/semantics/embargoedAccess</td>
</tr>
<tr>
<td></td>
<td>• info:eu-repo/semantics/restrictedAccess</td>
</tr>
<tr>
<td></td>
<td>• info:eu-repo/semantics/openAccess</td>
</tr>
</tbody>
</table>

Examples:
```xml
<dc:rights>info:eu-repo/semantics/openAccess</dc:rights>
```
<table>
<thead>
<tr>
<th>Element name</th>
<th>embargoEndDate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMI definition</td>
<td>dc:date</td>
</tr>
<tr>
<td>Usage</td>
<td>Mandatory (if applicable)</td>
</tr>
</tbody>
</table>
| Usage instruction | Recommended when accessRights = info:eu-repo/semantics/embargoedAccess  
The date type is controlled by the name space info:eu-repo/date/embargoEnd/, see  
http://wiki.surffoundation.nl/display/standards/info-eu-repo/#info-eu-repo-DateTypesandvalue. Encoding of this date should be in the form YYYY-MM-DD (conform ISO 8601). |

Examples:

```xml
<dc:date>info:eu-repo/date/embargoEnd/2011-05-12</dc:date>
```
# Alternative Identifier

<table>
<thead>
<tr>
<th>Element name</th>
<th>Alternative Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMI definition</td>
<td>dc:relation</td>
</tr>
<tr>
<td>Usage</td>
<td><strong>Recommended</strong></td>
</tr>
<tr>
<td>Usage instruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>List alternative identifiers for this publication that are not the primary identifier (repository splash page), e.g., the DOI of publisher’s version, the PubMed/arXiv ID. The term is defined by info:eu-repo/semantics/altIdentifier info:eu-repo/semantics/altIdentifier/&lt;scheme&gt;/&lt;identifier&gt; where &lt;scheme&gt; must be one of the following: ark, arxiv, doi, hdl, isbn, purl...</td>
</tr>
</tbody>
</table>
### Referenced Dataset

<table>
<thead>
<tr>
<th>Element name</th>
<th>Referenced Dataset</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMI definition</td>
<td>dc:relation</td>
</tr>
<tr>
<td>Usage</td>
<td>Recommended</td>
</tr>
<tr>
<td>Usage instruction</td>
<td>Encodes links to research datasets connected with this publication. The syntax of info:eu-repo/semantics/dataset is: info:eu-repo/semantics/dataset/ &lt;scheme&gt;/ &lt;identifier&gt; where &lt;scheme&gt; must be one of the following: ark, arxiv, doi, hdl, isbn, purl...</td>
</tr>
</tbody>
</table>

**Example**

## Referenced Publication

<table>
<thead>
<tr>
<th>Element name</th>
<th>Referenced Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMI definition</td>
<td>dc:relation</td>
</tr>
<tr>
<td>Usage</td>
<td>Recommended</td>
</tr>
<tr>
<td>Usage instruction</td>
<td>Encode links to publications referenced by this publication. The syntax of info:eu-repo/semantics/reference is: info:eu-repo/semantics/reference/(&lt;\text{scheme})/(&lt;\text{identifier}&gt; where (&lt;\text{scheme}&gt; must be one of the following: ark, arxiv, doi, hdl, isbn...</td>
</tr>
</tbody>
</table>

**Examples:**

```xml
```
Meet H2020 OA Guidelines


<table>
<thead>
<tr>
<th>Property</th>
<th>DC Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU funding acknowledgment</td>
<td>dc:contributor</td>
<td>“controlled” terms: [&quot;European Union (EU)&quot; and &quot;Horizon 2020&quot;] [&quot;Euratom&quot; and &quot;Euratom research and training programme 2014-2018&quot;]</td>
</tr>
<tr>
<td>Peer reviewed</td>
<td>dc:type</td>
<td>info:eu-repo/semantics/publishedVersion</td>
</tr>
<tr>
<td>Embargo period</td>
<td>dc:date</td>
<td>info:eu-repo/date/embargoEnd/&lt;YYYY-MM-DD&gt;</td>
</tr>
<tr>
<td></td>
<td>dc:_rights</td>
<td>&lt;YYYY-MM-DD&gt; (as publication date)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>info:eu-repo/semantics/embargoedAccess</td>
</tr>
<tr>
<td>Project information</td>
<td>dc:relation</td>
<td>info:eu-repo/grantAgreement/EC/H2020/[ProjectID]/[Jurisdiction]/[ProjectName]/[ProjectAcronym]/</td>
</tr>
<tr>
<td>Persistent identifier</td>
<td>dc:identifier or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dc:relation</td>
<td></td>
</tr>
<tr>
<td>License</td>
<td>dc:rights</td>
<td>URL of license condition</td>
</tr>
<tr>
<td>Persistent IDs for authors and contributors</td>
<td>dc:creator</td>
<td>&lt;Lastname, Firstname; id_orcid 0000-0000-0000-0000&gt;</td>
</tr>
<tr>
<td></td>
<td>dc:contributor</td>
<td></td>
</tr>
<tr>
<td>Reference to related research outcome</td>
<td>dc:relation</td>
<td>info:eu-repo/semantics/dataset/&lt;scheme&gt;/&lt;id&gt;</td>
</tr>
</tbody>
</table>
Guidelines for Research Data based Data Sources

• Based on DataCite metadata scheme
  • Proven standard for heterogeneous data sources and cross-disciplinary archives
  • Maintained by a trusted and sustainable organization
  • Support of data citation
  • Metadata Format: oai_datacite
  • OAI-Set: openaire_data
  • Zenodo as reference implementation for OpenAIRE Data Repository Guidelines
Guidelines for Research Data based Data Sources

- Adaptations for OpenAIRE:
  - Incl. additional **PID schemes** to DOI, e.g. URN, ARC ...
  - Recommends **links to related** publications & datasets
  - Recommends **Contributor** prop. to relate dataset to funding information
  - **Date and Description** prop. are mandatory
  - Enforces (info:eu-repo) encoding scheme on **Rights** property
Guidelines for CRIS Managers based on CERIF-XML

• CERIF as de facto standard for CRIS data model
  • Entities for organization, person, project, output, data ..

• CERIF-XML as data exchange standard (in the CRIS world)

• Maintained by euroCRIS as sustainable organization
Relevant CERIF Entities for OpenAIRE
Guidelines for CRIS Managers based on CERIF-XML

• Adaptations for OpenAIRE:
  • Subset of CERIF entities relevant for OpenAIRE

• Semantic Interoperability
  • Reuse of CERIF Semantics vocabularies for classification and definition of relationships between entities
  • Consistency with the other OpenAIRE Guidelines
    • E.g. resource types, access rights
Guidelines for CRIS Managers based on CERIF-XML

• Syntactic Interoperability
  • Distinct namespace for OpenAIRE CERIF schema
  • Nesting only of multi-lingual attributes, federated identifiers, linked entities

• System Interoperability:
  • Transfer Protocol: OAI-PMH
  • OAI-PMH sets for
    • Each type of entity
    • The entire CERIF graph
OpenAIRE Compatibility
Status: Levels and OAI Sets

<table>
<thead>
<tr>
<th>OpenAIRE</th>
<th>OpenAIRE</th>
<th>OpenAIRE</th>
<th>OpenAIRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>basic</td>
<td>2.0</td>
<td>2.0 +</td>
<td>3.0</td>
</tr>
<tr>
<td>Only Open Access content</td>
<td>EC funded content</td>
<td>Open Access and EC funded content</td>
<td>Open Access and/or EC funded and/or National/other funded content</td>
</tr>
<tr>
<td>via driver oai set</td>
<td>via ec_funded resources oai set</td>
<td>via driver and ec_funded resources oai set</td>
<td>via openaire oai set</td>
</tr>
</tbody>
</table>
Adoption and Mapping
with other repository networks
LA Referencia aligned with OpenAIRE Guidelines

- Latin America Open Access Repositories Network
- Central metadata elements and use of vocabularies
  - Access rights: openAccess; embargoedAccess
  - Use of Creative Commons licenses recommended
- Considers regional aspects compared to OpenAIRE regarding
  - Mandatory, mandatory if applicable and recommended use of metadata fields
- Collaboration between LA Referencia and OpenAIRE ensures future compatibility of the guidelines
OpenAIRE Guidelines, RIOXX and the case in UK

• RIOXX to support UK repositories for compliancy with funder OA policies (RCUK, HEFCE)
• Introduction of element / attributes to encode project / funder information
• Based on oai_dc + rioxx terms and rioxx attributes
• Supports NISO-ALI
• Support of EC-H2020 OA mandate is (currently) done via agreed mapping between RIOXX and OpenAIRE Lit. Guidelines
Future Directions

Next steps
Innovative Scholarly Services – Need of Improved Metadata Quality

• **Features**
  - Disambiguation by identifiers for authors / contributors, funders / project grants, research outputs
  - Explicit links to landing pages and fulltext files
  - Explicit links between publications and other research outputs
  - Detailed bibliographic citation information
  - Explicit and machine readable license information

• **Future proof**
  - Compatible with linked data principles
  - Extensibility towards Open Science properties

• **Backward compatibility and low-barrier upgrade**
  - Following DCMI Guide on Publishing Metadata (dcterms)
  - COAR IG Controlled Vocabularies
Innovative Scholarly Services – Need of Network Alignment

• Alignment & collaboration needed between major repository initiatives
  • LA Referencia, SHARE, RIOXX, OpenAIRE, ...
  • COAR-CASRAI OA Interoperability WG
    • Alignment on metadata elements and vocabularies
  • COAR IG Controlled Vocabularies
    • Community driven effort to supersede info:eu-repo application profile
    • Working on an up to date technological standard
    • Editorial Board to ensure expertise and long-term support
Tools for Repositories Compatibility

Validator, API, software add-ons

5/5
Join OpenAIRE today!

The OpenAIRE services provide you with an easy way to validate your repository/journal and register it into the OpenAIRE network. To begin, read these instructions.

1. Test the compatibility of your repository/journal or aggregator to the OpenAIRE guidelines for:
   - Publication Repositories / Journals / Aggregators
   - Data Archives/Repositories

2. Register your literature repository, data repository, journal or aggregator in OpenAIRE

For more information check the FAQ.
If you need further assistance please contact us through the OpenAIRE Helpdesk.
The OpenAIRE provides its validator service: www.openaire.eu/validator

Users can:

• Verify if the repository is truly compatible with the guidelines.

• Run a compatibility test (enter the OAI-PMH base URL).

Run Compatibility Test

1. Select repository/journal
   - Base URL(*)
     Please choose existing Base URL...
   - Or Manually Enter a Base Url(*)

Next
### Run Compatibility Test: View/Select Rules

#### for Usage

- **Use of OAI-DC (M)**
- **Use of OAI-PMH:**
  - 'openaire' or
  - 'ec_fundedresources' or
  - 'driver' set must exist (M)

#### for Content

- **Field Access Level (M)**
- **Field Alternative Identifier (R)**
- **Field Audience (R)**
- **Field Contributor (R)**
- **Field Coverage (R)**
- **Field Creator (M)**
- **Field Date of Publication (M)**
- **Field Description (MA)**
- **Field Embargo End Date (MA)**
- **Field Format (R)**
- **Field Language (R)**
- **Field License Condition (R)**
- **Field Project Identifier for ecfundedresources (M)**
- **Field Project Identifier for openaire (MA)**
- **Field Publication Type (M)**
- **Field Publication Version (R)**
- **Field Publisher (MA)**
- **Field Referenced Dataset (R)**
- **Field Referenced Publication (R)**
- **Field Resource Identifier (M)**
- **Field Source (M)**
- **Field Subject (MA)**
- **Field Title (M)**
Data Provider Registration

Via validator tool

Add your repository

Please make sure your repository is registered in OpenDOAR. Then select it from the list below and fill in the form.

OpenDOAR

OpenDOAR Repositories

AFGHANISTAN | ALBANIA | ALGERIA | ARGENTINA | ARMENIA | AUSTRALIA | AUSTRIA | AZERBAIJAN | BANGLADESH | BELARUS | BELGIUM | BOLIVIA | BOSNIA AND HERZEGOVINA | BOTSWANA | BRAZIL | BULGARIA | CAMEROON | CANADA | CAPE VERDE | CHILE | CHINA (PEOPLE'S REPUBLIC OF) | COLOMBIA | COSTA RICA | CROATIA | CUBA | CYPRUS | CZECH REPUBLIC | DENMARK | DOMINICAN REPUBLIC | ECUADOR | EGYPT | EL SALVADOR | ESTONIA | ETHIOPIA | FIJI | FINLAND | FORMER YUGOSLAV REPUBLIC OF MACEDONIA | FRANCE | GREECE | GUATEMALA | GEORGIA | GERMANY | GHANA | HONDURAS | HONG KONG | HUNGARY | IRAQ | ICELAND | INDIA | INDONESIA | IRAQ (IRISLAMIC REPUBLIC OF) | IRELAND | ISRAEL | ITALY | JAMAICA | JAPAN | KAZAKHSTAN | KENYA | KOREA (REPUBLIC OF) | KYRGYZSTAN | LAO (PEOPLE'S DEMOCRATIC REPUBLIC) | LATVIA | LEBANON | LESOTHO | LITHUANIA | LUXEMBOURG | MALAYSIA | MEXICO | MOLDOVA (REPUBLIC OF) | MOROCCO | MOZAMBIQUE | NAMIBIA | NEPAL | NETHERLANDS | NEW CALEDONIA | NEW ZEALAND | NICARAGUA | NIGERIA | NORWAY | PARAGUAY | PUERTO RICO | PAKISTAN | PERU | PHILIPPINES | POLAND | PORTUGAL | QATAR | ROMANIA | RUSSIAN FEDERATION | RWANDA | SAUDI ARABIA | SENEGAL | SERBIA | SINGAPORE | SLOVENIA | SOUTH AFRICA | SPAIN | SRI LANKA | SUDAN | SWEDEN | SWITZERLAND | TAIWAN | TANZANIA (UNITED REPUBLIC OF) | THAILAND | TRINIDAD AND TOBAGO | TUNISIA | TURKEY | UNKNOWN | UGANDA | UKRAINE | UNITED KINGDOM | UNITED STATES | URUGUAY | VENEZUELA | VIET NAM | WITHOUT COUNTRY | ZAMBIA | ZIMBABWE
Chapter 3. Bulk access to projects

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DSpace/ePrints
Projects in TSV file

The APIs offer custom access to metadata about projects funded by a selection of international funders for the DSpace and EPrints platforms and as TSV file.

The currently supported funding streams and relative codes are:

- FP7: The 7th Framework Programme funded by the European Commission
- WT: Wellcome Trust funding programme

Coming soon:

- H2020: Horizon2020 Programme funded by the European Commission
- FCT: the funding programme of Fundação para a Ciência e a Tecnologia, the national funding agency of Portugal

DSpace/ePrints

DSpace endpoint: http://api.openaire.eu/projects/dspace/$fundingStream/ALL/ALL

ePrints endpoint: http://api.openaire.eu/projects/eprints/$fundingStream/ALL/ALL
Need to integrate project and funding information into your institutional repository based on DSpace or ePrints?

- Go for the DSpace/ePrints endpoints.

Do you prefer a TSV with the list of projects by funding?

- TSV endpoint is meant for

Chapter 3. Bulk access to projects

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DSpace/ePrints
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- WT: Welcome Trust funding programme

Coming soon:

- Horizon2020 Programme funded by the European Commission
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DSpace endpoint: http://api.openaire.eu/projects/dspace/fundingStream/ALL/ALL
Addons, patches or plugins for Repositories & Journals software

- **Dspace add-ons and versions compliance**
  
  https://wiki.duraspace.org/pages/viewpage.action?pageId=33238567

- **OpenAIRE Plug-in (OpenAIRE 2.0)**
  
  http://files.eprints.org/649/
  
  EPrints - OpenAIRE compliance example (3.0)
  
  https://gist.github.com/alenkovich/9596992

- **OAI_DC_OpenAIRE implementation for Zenodo**
  

- **OJS Plugin: OpenAIRE**
  
  
  + OJS DRIVER-Plug-In

https://www.openaire.eu/rep-managers/rep-man-toolkit/repository-managers
### OpenAIRE compatibility for different Dspace versions

<table>
<thead>
<tr>
<th>Dspace 1.8.2</th>
<th>Via <strong>OAlextended</strong> add-on and also via <strong>XOAI</strong> add-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Compatibility with OpenAIRE 2.0 guidelines</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DSpace 3</th>
<th><strong>OAI 2.0</strong> is a standard part of DSpace 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Compatibility with OpenAIRE 2.0 guidelines via XOAI.</td>
<td></td>
</tr>
<tr>
<td>• (fix ‘info:eu-repo/grantAgreement/EC/FP’ on the filter ‘openairerelationFilter’)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DSpace 4</th>
<th><strong>OAI 2.0</strong> is a standard part of DSpace 4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• OpenAIRE 2.0 compatibility via XOAI</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DSpace 5</th>
<th><strong>OAI 2.0</strong> is a standard part of DSpace 5.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• OpenAIRE 2.0 compatibility via XOAI and will be partially compatible with OpenAIRE 3.0 guidelines via patch (to be presented briefly).</td>
<td></td>
</tr>
</tbody>
</table>
Dsphere Add-ons for project ids

Using the projects list provided by the OpenAIRE API

• OpenAIRE Authority Control
  • Dspace 3.2
    • http://goo.gl/cEPTZN (updated March 2014)
  • Dspace 1.8.2

• OpenAIRE funders projects list addon (NEW)
  • In use on the RCAAP Project (PT repositories)
    • https://gitlab.fccn.pt/dev-rcaap/addon-openaire/tree/OpenAIRE5.X

Allows users to search and include EC (+ WT + FCT) projects ID in the metadata of the records disposed in accordance with OpenAIRE
Submission Workflow

Searching by the name or the project id number
Select the project and accept... the necessary namespace will be filled
OpenAIRE Authority Control Add-on

- Allows users to search and include FP7 project IDs in the metadata of the records disposed in accordance with the guidelines.

*Needs the OAIextended Add-on to create the set (ec_fundedresources)*
OpenAIRE Funders Projects List Add-on
Useful Links:

Find and discuss the guidelines at: https://guidelines.openaire.eu
Test and register the repository at: http://validator.openaire.eu
Find support at: https://www.openaire.eu/support/helpdesk
Access the OpenAIRE API documentation: http://api.openaire.eu
About COAR Repository Interoperability:
http://coar-repositories.org/activities/repository-interoperability

Find the guide for Repository Managers at:
https://www.openaire.eu/rep-man-toolkit/repository-managers
Search for OpenAIRE data providers at:
https://www.openaire.eu/search/openaire-data-providers
See the OpenAIRE Content Acquisition policy at:
https://www.openaire.eu/openaire-s-content-acquisition-policy/download
Pedro Principe, pedroprincipe@sdum.uminho.pt
Jochen Schirrwagen, jochen.schirrwagen@uni-bielefeld.de

Q&A

Find and discuss at: https://guidelines.openaire.eu
Contact us: guidelines@openaire.eu