OpenAIRE compatibility for DSpace repositories
www.slideshare.net/OpenAIRE_eu

www.openaire.eu
@openaire_eu
facebook.com/groups/openaire
linkedin.com/groups/OpenAIRE-3893548

info@openaire.eu
1. Overview of the OpenAIREplus project & the OpenAIRE guidelines

2. Presentation of the OpenAIRE guidelines for Literature Repositories: Aim, versions and specifications
   - OpenAIRE compatibility status: levels and OAI sets

3. How to make the repository OpenAIRE compatible: DSpace repository platform
   - OAI Extended & OpenAIRE Authority Control
   - OAI 2.0 concepts – XOAI Core Library

4. Demo RepositóriUM: OpenAIRE compatibility in practice

5. OpenAIRE validator and registration process
Overview of the OpenAIREplus project and the OpenAIRE guidelines

Eloy Rodrigues
eloy@sdum.uminho.pt
What is OpenAIRE

• A Participatory European Open Access infrastructure to manage scientific publications and associated scientific material via repository networks.

• Supports discovery, sharing and re-use of Open Access publications and EC funded research results.

• Enhances publications by interconnecting them with data sets, funding information, related publications, institutional affiliation, metrics...
A participatory approach
Capitalizing on previous investment

- Better sustainability
- Facilitated advocacy and adoption
- Deeper understanding of requirements and contrainsts
OpenAIRE implements the OPEN ACCESS EC requirements
EC OA Mandate Progression

**FP7 OA Pilot (2008)**
- Grant agreement SC39
- 20% programme areas
- Deposit in Repositories
- ERC’s OA Guidelines: Deposit in discipline (or institutional) repositories. Cap embargo.

**Horizon 2020 (2014)**
- All grant agreements
- 100% programme areas
- Deposit in Repositories
- Open Data Pilot
OpenAIRE is about
LINKING
publications to projects
OpenAIReplus

• OpenAIRE is moving from a publication infrastructure to a more comprehensive infrastructure that covers all types of scientific output.
  • To put this into practice an integrated suite of guidelines were developed with specific requirements supporting the goal of OpenAIRE and the European Commission.
  • Managers of scholarly communication systems across Europe will be able to support authors to fulfill the EC Open Access requirements, as well as the requirements of other (national or international) funders with whom OpenAIRE cooperates.
OpenAIRE Guidelines

What are the...

• OpenAIRE has collaborated with key stakeholders and has produced three sets of guidelines for its data providers, all based on existing well-established standards.

• Provide additional support for OAI Aggregators and Open Access Journals to maintain provenance on the record or at journal level.

• Best practices for the use of transfer protocol (OAI-PMH), metadata formats, controlled vocabularies.
How do they work?

• Assist heterogeneous e-infrastructures like repositories, data archives and CRIS to interoperate in one common information space.

• Validation / Registration of OpenAIRE compatible data sources.

• Metadata is aggregated through simple OAI-sets: for thematic and institutional repositories.
How do they work?

• Identification of Open Access and funded research results by OAI-Sets:
  • ‘openaire’ – expose Open Access publications and/or Funded publications
  • ‘openaire_data’ – only expose datasets fulfilling at least one of the following criteria:
    • The dataset is outcome of a funded research project
    • The dataset is linked with a publication in the OpenAIRE information space
  • ‘openaire_cris’ – Different OAI-PMH sets need to be made available: for each entity type (e.g. get all records of cfProject), for the entire CERIF XML graph
• Regular harvesting from the data sources.
• Latest schema guarantees backwards-compatibility with previous versions (‘ec_fundedresources’).
OpenAIRE Guidelines

1. Guidelines for Literature Repository managers version 3.0
2. Guidelines for Data Archive Managers
3. Guidelines for CRIS - CERIF-XML

http://guidelines.openaire.eu
OpenAIRE Guidelines

How to get involved?

• Find and discuss the guidelines at: guidelines.openaire.eu
• Test and register the repository at: validator.openaire.eu
• Find support and more info at: www.openaire.eu

Wiki: http://guidelines.openaire.eu
Q&A
OpenAIRE guidelines for Literature Repositories

Aim, versions & specifications

Pedro Príncipe
pedroprincipe@sdum.uminho.pt
Literature Guidelines – versions

1. AUGUST 2010
   initial document
   NOVEMBER 2010
   (V. 1.1)

2. OCTOBER 2012
   (V. 2.0)
   Compatibility for
   aggregators.
   Extended
   Namespace for
   Project id.

3. DECEMBER 2012
   (3.0 beta)
   APRIL 2013
   (3.0)
   OAI set has been renamed
   from ec_fundedresources to
   openaire.
   New relation elements for
   indicating external identifiers,
   references and connections to
   datasets.

EC funded content
EC and/or other funded content
Open Access and EC and/or other funded content
Guidelines 1.0 >> 2.0

• Provide the OpenAIRE compatibility for repositories and aggregators.

• Introduces two main changes:
  • Support for **aggregators** to become OpenAIRE compatible in order to expose their metadata to the OpenAIRE infrastructure.
  • **Extended namespace for project identification.**
    • Support a generic way of expressing project information, allowing its use not only for EC/FP projects, but ideally for any funder and project (national or international).
    • Repositories that are already OpenAIRE compatible will remain compatible with no additional work.
    • The mandatory parts are the same as in the Guidelines 1.1.
Versions – useful links


Why specific guidelines needed to...

FUNDING INFORMATION
ACCESS RIGHTS AND LICENSE INFO

REFERENCED DATASETS & RELATED PUBLICATIONS
EMBARGO DATE INFORMATION
OpenAIRE Guidelines

• The OpenAIRE guidelines are supplementary and built on top of the DRIVER Guidelines
  • Plus fields: projectID, accessRights, embargoEndDate.
• All aspects of the DRIVER Guidelines are valid, with a very few exceptions.
• Guidelines with specific requirements supporting the goal of OpenAIRE and the EC.
OpenAIRE Set

• Content definitions:
  • The content to be inserted in the OpenAIRE set must be (EC) funded content (1st only EC, after Oct. 2012 for any funder (national or intern.)).

• Set naming

<table>
<thead>
<tr>
<th>setName</th>
<th>setSpec*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The OpenAIRE set</td>
<td>EC_funded_resources set</td>
</tr>
<tr>
<td>ec_fundedresources</td>
<td></td>
</tr>
</tbody>
</table>
OpenAIRE elements

projectID

access_rights

embargo_end_date
<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</td>
</tr>
<tr>
<td>Usage instruction</td>
<td>A vocabulary of projects will be exposed by OpenAIRE through OAI-MPH, and available for all repository managers. Values will include the 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>
</tbody>
</table>
  • info:eu-repo/semantics/closedAccess  
  • info:eu-repo/semantics/embargoedAccess  
  • info:eu-repo/semantics/restrictedAccess  
  • info:eu-repo/semantics/openAccess |

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>Recommended</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:

```
<dc:date> info:eu-repo/date/embargoEnd/2011-05-12 </dc:date>
```
It was SIMPLE by intention
OpenAIRE Guidelines

For Literature repositories 3.0

Aim

Provide orientation for repository managers to define and implement their local data management policies according to the requirements of the OpenAIRE.

These guidelines are intended to guide repository manager to expose to the OpenAIRE infrastructure not only EC funded publications, but also other Open Access publications, regardless of their funding.

Merger of the DRIVER Guidelines into the context of OpenAIRE Guidelines.

Part of a set of OpenAIRE Guidelines...
OpenAIRE Guidelines

For Literature repositories 3.0

What’s new:

• The OpenAIRE OAI set has been renamed from ‘ec_funded_resources’ to ‘openaire’.
• New elements for indicating external identifiers, relations to other publications (references), and relations to research datasets have been defined.
Metadata field - Contents

1. Field Name
2. DC Field
3. Usage
4. Usage Instruction
5. Do Not Confuse With
6. Since
7. Examples
8. Comments
# 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>Recommended</td>
</tr>
<tr>
<td>Usage instruction</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**

```xml
```
<table>
<thead>
<tr>
<th>Element name</th>
<th>Referenced Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DCMI definition</strong></td>
<td>dc:relation</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td>Recommended</td>
</tr>
<tr>
<td><strong>Usage instruction</strong></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;scheme&gt;/&lt;identifier&gt; where &lt;scheme&gt; must be one of the following: ark, arxiv, doi, hdl, isbn...</td>
</tr>
</tbody>
</table>

**Examples:**

```
```
OpenAIRE compatibility status

levels and OAI sets
OpenAIRE literature content

IR

Open Access content

EC funded content

National or other funded content
Compatibility status

OpenAIRE basic
- Only Open Access content

OpenAIRE 2.0
- EC funded content

OpenAIRE 2.0 +
- Open Access and EC funded content

OpenAIRE 3.0
- Open Access and/or EC funded and/or National/other funded content
Compatibility status

OpenAIRE basic
- Only Open Access content
  - via driver oai set

OpenAIRE 2.0
- EC funded content
  - via ec_funded_resources oai set

OpenAIRE 2.0 +
- Open Access and EC funded content
  - via driver and ec_funded_resources oai set

OpenAIRE 3.0
- Open Access and/or EC funded and/or National/other funded content
  - via openaire oai set
<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Documents (updated)</th>
<th>Institution</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>PADIS</td>
<td>Italy</td>
<td>1609 (17/12/2013)</td>
<td>Università degli studi La Sapienza di Roma</td>
<td>OpenAIRE basic (DRIVER OA)</td>
</tr>
<tr>
<td>Padua@research</td>
<td>Italy</td>
<td>3436 (17/12/2013)</td>
<td>University of Padua</td>
<td>OpenAIRE 2.0+ (DRIVER OA, EC funding)</td>
</tr>
<tr>
<td>PORTO Publications Open Repository TOrino</td>
<td>Italy</td>
<td>70385 (04/12/2013)</td>
<td>POLITECNICO DI TORINO</td>
<td>OpenAIRE 2.0+ (DRIVER OA, EC funding)</td>
</tr>
<tr>
<td>PUMA</td>
<td>Italy</td>
<td>42731 (21/10/2013)</td>
<td>Institute of Information Science and Technology &quot;A. Faedo&quot;</td>
<td>OpenAIRE 3.0 (OA, funding)</td>
</tr>
<tr>
<td>RCR</td>
<td>Italy</td>
<td>67384 (06/12/2013)</td>
<td>UNIVERSITA DEGLI STUDI DI PALERMO</td>
<td>OpenAIRE 2.0 (EC funding)</td>
</tr>
</tbody>
</table>

https://www.openaire.eu/search/openaire-data-providers
457 OpenAIRE compatible data sources

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Documents</th>
<th>Institution</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe PubMed Central</td>
<td>United Kingdom</td>
<td>28000000</td>
<td>Europe PMC Funders Group</td>
<td>OpenAIRE basic (DRIVER OA)</td>
</tr>
<tr>
<td>CDS</td>
<td>Switzerland</td>
<td>1340746</td>
<td>Organisation Européenne pour la Recherche Nucléaire</td>
<td>OpenAIRE 2.0 (EC funding)</td>
</tr>
<tr>
<td>Biblioteca Virtual de Prensa Histórica (Virtual Library of Historical Newspapers)</td>
<td>Spain</td>
<td>1086800</td>
<td>Ministerio de Cultura</td>
<td>OpenAIRE basic (DRIVER OA)</td>
</tr>
<tr>
<td>arXiv.org e-Print Archive</td>
<td>United States</td>
<td>939874</td>
<td>Cornell University</td>
<td>OpenAIRE basic (DRIVER OA)</td>
</tr>
</tbody>
</table>
Q&A
How to make the repository OpenAIRE compatible

DSpace repository platform

José Carvalho
jcarvalho@sdum.uminho.pt
Topics

• OpenAIRE compatibility for Dspace versions
• OAI Extended Addon
• XOAI addon
• OAI 2.0
• Specific metadata values
• Authority Control Addon
OpenAIRE compatibility for different Dspace versions

**Dspace 1.8.2**
Via OAIextended Addon and also via XOAI addon
- Compatibility with OpenAIRE 2.0 guidelines

**DSpace 3**
OAI 2.0 is a standard part of DSpace 3.0
- Compatibility with OpenAIRE 2.0 guidelines via XOAI.
- (fix ‘info:eu-repo/grantAgreement/EC/FP’ on the filter ‘openairerelationFilter’)

**DSpace 4**
OAI 2.0 is a standard part of DSpace 4.0
- OpenAIRE 2.0 compatibility via XOAI and will be partially compatible with OpenAIRE 3.0 guidelines via patch (to be presented briefly).

**DSpace 5**
OpenAIRE compatible version
- Compatibility with OpenAIRE 3.0 and OpenAIRE data 1.0
OAI extended Addon

OAI Extended Addon (or a patch to be more precise):

• Extends the base functionality of the OAI-PMH interface and delivers repository administrators more flexibility and functionalities to select and filter the information.

• The purpose of the OAI Extended Addon was to modify the OAI Interface's output, showing only items that were compliant with the DRIVER Guidelines.

• The Addon provides also the tools to create a set according to the requirements of the OpenAIRE Guidelines, helping European repositories to become OpenAIRE compliant.

• Other features are: hability to show didl schema and ETDMS items... can easily be configured, changed or extended.
OpenAIRE compatibility

OAI Extended Addon – DSpace patch

<table>
<thead>
<tr>
<th>Version</th>
<th>DSpace Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAIextended V 2.0</td>
<td>Dspace 1.6.2</td>
<td>08 Nov. 2010</td>
</tr>
<tr>
<td>OAIextended V 2.4</td>
<td>Dspace 1.7.2</td>
<td>25 Oct. 2011</td>
</tr>
<tr>
<td>OAIextended V 3.0</td>
<td>Dspace 1.8.2</td>
<td>06 Jul. 2012</td>
</tr>
</tbody>
</table>

OAextended

• Initially created for the DRIVER Guidelines
• Since Nov. 2010 enables OpenAIRE compatibility.

How?

• Filter all the records that have a dc.relation with: info:eu-repo/grantAgreement/EC/FP7/??????
• To the EC Funded Resources SET
  ➢ OpenAIRE 2.0 guidelines set
Set EC Funded Resources

- <OAI-PMH xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/ http://www.openarchives.org/OAI/2.0/OAI-PMH.xsd"
  responseDate="2011-09-19T15:59:37Z"/>
- <request verb="ListSets">http://repositorio.ul.pt/oaiextended/request</request>
- <ListSets>
  - <set>
    <setSpec>driver</setSpec>
    <setName>Driver Set</setName>
  </set>
  - <set>
    <setSpec>ec_fundedresources</setSpec>
    <setName>EC Funded Resources Set</setName>
  </set>
  - <set>
    <setSpec>thesis</setSpec>
    <setName>Doctoral and Master Thesis</setName>
  </set>
  - <set>
    <setSpec>hdl_10451_2</setSpec>
    <setName>BUL - Artigos em Revistas Internacionais</setName>
  </set>
What is XOAI Add-on? (for DSpace 1.8.x)

• XOAI is a java implementation of an adaptable OAI-PMH data provider interface.
  • Enabling features like:
    • OpenAIRE and Driver compliance
    • Item filtering and formatting
    • Style Sheet Support
    • Virtual sets
    • Virtual contexts.

XOAI info: https://github.com/lyncode/xoai
OAI 2.0

OAI 2.0 is a standard part of DSpace 3.0

What is OAI 2.0?

OAI 2.0 is a Java implementation of an OAI-PMH data provider interface that uses XOAI, an OAI-PMH Java Library.

Why OAI 2.0?

Projects like OpenAIRE, Driver have specific metadata requirements. As the OAI-PMH protocol doesn't establish any frame to these specifics, OAI 2.0 can have more than one instance of an OAI interface (feature provided by the XOAI core library) so one could define an interface for each project.
OAI 2.0

Concepts: Filter, Transformer and Context

• With a **Filter** is possible to select information from the data source.

• A **Transformer** allows to make some changes in the metadata before showing it in the OAI interface.

• OAI 2.0 also adds a new concept to the OAI-PMH basic specification, the concept of **context**.

  ✓ http://www.example.com/xoai/driver
  ✓ http://www.example.com/xoai/openaire
  ✓ http://www.example.com/xoai/request
OAI 2.0

Contexts could be seen as virtual distinct OAI interfaces

- http://repositorium.sdum.uminho.pt/oai/driver
- http://repositorium.sdum.uminho.pt/oai/openaire
- http://repositorium.sdum.uminho.pt/oai/request

OR2014 @ Helsinki
OAI 2.0 (openaire set)
**OAI 2.0 (filter)**

```xml
<CustomCondition id="driverAccessCondition">
  <Class>org.dspace.xoai.filter.DSpaceAtLeastOneMetadataFilter</Class>
  <Configuration>
    <string name="field">dc.rights</string>
    <string name="operator">contains</string>
    <list>
      <string>open access</string>
      <string>openAccess</string>
    </list>
  </Configuration>
</CustomCondition>

<CustomCondition id="bitstreamAccessCondition">
  <Class>org.dspace.xoai.filter.DSpaceAuthorizationFilter</Class>
</CustomCondition>

<CustomCondition id="openaireRelationCondition">
  <Class>org.dspace.xoai.filter.DSpaceAtLeastOneMetadataFilter</Class>
  <Configuration>
    <string name="field">dc.relation</string>
    <string name="operator">starts_with</string>
    <string name="value">info:eu-repo/grantAgreement</string>
  </Configuration>
</CustomCondition>

<Sets>
  <Set id="driverSet">
    <Spec driver/>
    <Name>Open Access DRIVERset</Name>
  </Set>
  <Set id="openaireSet">
    <Spec>ec_fundedresources</Spec>
    <Name>EC_fundedresources set</Name>
  </Set>
</Sets>
```
OAI 2.0 (ec_fundedresources set)

Webinars on OpenAIRE compatibility for repositories – March/April 2014

http://repositorium.sdum.uminho.pt/oai/openaire?verb=ListSets
Angiogenic potential of gellan gum-based hydrogels for application in nucleus pulposus regeneration.

Creator:
- Correia, Joana Silva
- Gonçalves, Vera M.
- Salgado, A. J.
- Sousa, Nuno
- Oliveira, Joaquim M.
- Reis, R. M.
- Reis, R. I.

Relation:
- http://dx.doi.org/10.1089/ten.tea.2011.0632
- info:eu-repo/grantAgreement/EC/FP7/213904

Rights:
- info:eu-repo/semantics/openAccess
Specific metadata values

How do you easily add... dc:relation with the project ID

• Have a dc:relation field in input-forms.xml to projects.
• You can also use the OpenAIRE Authority Control Addon to facilitate the search process of the project identification.
Specific metadata values

How do you easily add... dc:rights and embargo end date

• Just use a combo-box for dc:rights to input the 4 options:
  • info:eu-repo/semantics/closedAccess
  • info:eu-repo/semantics/embargoedAccess
  • info:eu-repo/semantics/restrictedAccess
  • info:eu-repo/semantics/openAccess

• Use a input-box for dc:date to insert the embargo end date:
  • <dc:date> info:eu-repo/date/embargoEnd/2014-05-12 <dc:date>

+ info: https://wiki.duraspace.org/pages/viewpage.action?pageId=33238567
http://colab.mpdl.mpg.de/mediawiki/ESciDoc_Application_Profile_OpenAIRE
Addon OpenAIRE Authority Control

• This Addon use Dspace “Authority Control” functionality:
  • provides a way to list and verify OpenAIRE projects (FP7);
  • the list of projects is maintained as a web-service
  • a local cache is created in order to be queried by users
  • only adds the correct value in dc.relation field

• Main goals:
  • Simplify and standardize the projects (ID) identification in the deposit process;
  • Facilitates compliance with the OpenAIRE guidelines
OpenAIRE Authority Control

Add-on for:
Dspace 3.2
http://goo.gl/cEPTZN

Dspace 1.8.2

Dspace 1.7.2
Dspace 1.6.2
OpenAIRE Authority Control Addon

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

*Needs the OAIextended Addon to create the set (ec_fundedresources)*
OpenAIRE Authority Control Addon

Projetos FP7 contendo o termo pesquisado

Results 1 to 6 of 6 for "neco"

1. 230583 - NECOBELAC - Network of collaboration between Europe an...
2. 220639 - CRENECO - The role of mesophilic crenarchaea in soil n...
3. 237443 - HINECOP - Hydrodynamic interactions in non-equilibrium...
4. 236079 - MarinEcosyStability - Complexity, stability and chaos ...
5. 213651 - STONECORE - Stone conservation for the refurbishment o...
6. Projecto não identificado

Introduza o título principal do registo.

Título

Data de Embargo

Mês: (Sem Mês)  ▼Dia:   Ano:

Introduza o identificador do Projecto OpenAIRE.

OpenAIRE info:eu-repo/grantAgreement/EC/FP7/230583
Edit record

- Metadata

```
 dc.relation  info:eu-repo/grantAgreement/EC/FP7/230583
 dc.rights    openAccess
 dc.title     Teste OpenAIRE
```
Q&A
Demo RepositóriUM
OpenAIRE compatibility in practice
OAI 2.0 is a standard part of DSpace 3.0

OAI 2.0 is a Java implementation of an OAI-PMH data provider interface that uses XOAI, an OAI-PMH Java Library.

OAI 2.0 can have more than one instance of an OAI interface (feature provided by the XOAI core library) so one could define an interface for each project with specific metadata:

- \texttt{http://repositorium.sdum.uminho.pt/oai/oai?verb=ListSets}
- \texttt{http://repositorium.sdum.uminho.pt/oai/driver?verb=ListSets}
- \texttt{http://repositorium.sdum.uminho.pt/oai/openaire?verb=ListSets}
RepositóriUM

OpenAIRE Currently running DSpace V3.2

Bug fix: ‘info:eu-repo/grantAgreement/EC/FP’ on the filter ‘openairerelationFilter’
Assuming the variables `$DSPACE_SRC`, `$ADDON_SRC` and `$DSPACE_BIN` to identify the locations of the following directories: DSpace sources, OpenAIRE Authority Control Add-on source and DSpace deployment directory (same as dspace.dir at dspace.cfg file).

**Steps**

**Step 1 : Copy Source**

```
cp -r $ADDON_SRC/data/dspace-source/* $DSPACE_SRC/
```

**Step 2 : Add messages**

```
cat $ADDON_SRC/data/Messages.properties >> $DSPACE_SRC/dspace-api/src/main/resources/Messages.properties
```

In the package it's also provided the portuguese message translation

```
cat $ADDON_SRC/data/Messages_pt_PT.properties >> $DSPACE_SRC/dspace-api/src/main/resources/Messages_pt_PT.properties
```
OpenAIRE Authority Control

Installing openaireauthoritycontrol_v3.0 (for Dspace 3.2)

Step 3 : Configure DSpace

Uncomment the authority control plugins and add the new one (suppose installation over a clean DSpace 3.2), so at $DSPACE_SRC/dspace/config/dspace.cfg change:

```
plugin.named.org.dspace.content.authority.ChoiceAuthority = org.dspace.content.authority.OpenAIREAuthority = OpenAIRE
```

Also add:

```
choices.plugin.dc.relation = OpenAIRE
choices.presentation.dc.relation = lookup
authority.controlled.dc.relation = true
```

to DSpace Authority Control Manager, and also add:

```
openaire.projects.filename = ${dspace.dir}/config/openaire-cache.list
openaire.projects.url = "http://api.openaire.research-infrastructures.eu:8280/is/mvc/openaire/export/FP7/ALL/ALL/project/dspace.do"
# Minimum of chars to start searching on the list (default >= 4)
openaire.projects.suggest.minchar = 4 # Maximum of projects listed (default <= 10)
openaire.projects.suggest.max = 20
```
Step 4: Configure `input-forms.xml`

At `$DSPACE_SRC/config/input-forms.xml` after `'</page number="1">' add:

```xml
<field>
  <dc-schema>dc</dc-schema>
  <dc-element>relation</dc-element>
  <dc-qualifier></dc-qualifier>
  <repeatable>false</repeatable>
  <label>OpenAIRE Project Identifier</label>
  <input-type>onebox</input-type>
  <hint>Enter the search term (number, name or acronym) of the European project (EC / ERC) and click on the magnifying glass to select the project. &lt;a href=&quot;http://www.openaire.eu/open-access/open-access-in-fp7&quot; &gt;More Information&lt;/a&gt;</hint>
</field>
```
OpenAIRE Authority Control

Installing openaireauthoritycontrol_v3.0 (for Dspace 3.2)

Post Installation

After building DSpace (mvn & ant - see the DSpace Documentation), configure cron to refresh the openaire project list, for example:

```
0 0 * * * $DSPACE_BIN/bin/openaire-refresh-list
```

It's also recommended to execute the same script just after deploying the add-on (after building DSpace) for the first time, this will download the list of OpenAIRE projects, this is required for the add-on to work properly.

```
$DSPACE_BIN/bin/openaire-refresh-list
```
Submission workflow

Searching by the name or the project id number
Submission workflow

Select the project and accept... the necessary namespace will be filled
By editing the item metadata

Add the field **dc.relation** if it doesn’t exist in the item...
By editing the item metadata

Unlock the key authority value for manual editing...
By editing the item metadata

Search by the name or the project id number...

---

<table>
<thead>
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<th>deoig</th>
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<th>relation</th>
<th>Switchbox</th>
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---

**Bitstream**

Note também que se o campo "Descrição de Formato" não estiver vazio, o formato será sempre usado, mesmo que o formato "Text" esteja selecionado.

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<thead>
<tr>
<th>Primário</th>
<th>Nome</th>
<th>Fonte</th>
<th>Descrição</th>
<th>Formato</th>
</tr>
</thead>
<tbody>
<tr>
<td>17658-Understanding the</td>
<td>Written by FormatFilter</td>
<td>Extracted text</td>
<td>5</td>
<td>(Text)</td>
</tr>
</tbody>
</table>

---

Projetos FP7 contendo o termo pesquisado

Results 1 to 2 from 2 for the term "Switchbox"

- 259772 SWITCHBOX - Switchbox: Maintaining health in old age...

Identificador do projeto (Se aceitar este valor ser colocado na cabeca do texto do projeto)

- Aceptar | Ver mais resultados | Cancelar
By editing the item metadata

Block the dc.relation field manual edition and update the item
Recommendations

- Promote awareness and disseminate the OpenAIRE compliance regularly within your academic & researchers community;

- Provide the OpenAIRE compatibility of your repository through the OAIextend or the XOAI Add-ons;

- Install on your repository the OpenAIRE authority control Add-on for facilitating the publications submission and the correct filling of the necessary information;

- Monitor periodically your repository in search for EC & ERC funded publications and update the necessary metadata whenever needed.
Q&A
Registration Steps

1. **Register your repository in OpenDOAR**
   OpenDOAR is an authoritative worldwide directory of academic open access repositories.

2. **Test compliance with OpenAIRE**
   Make your repository OpenAIRE complaint – by implementing the OpenAIRE Guidelines

3. **Add your repository in OpenAIRE**
   OpenAIRE in collaboration with OpenDOAR provides you an easy web tool to help you register the repository.
1. OpenDOAR

- The first step is to register your repository in OpenDOAR.
- If you are already registered in OpenDOAR:
  - Check if the information is update
  - Attention to the URL and admin email
2. Test the OpenAIRE compliance

• After you have made some progress in implementing the guidelines you should run a compliancy test.
• The OpenAIRE provides a validator where you can verify if the repository is truly compatible with the guidelines.
  • Enter the OAI-PMH base URL of your repository and choose to test your repository against the OpenAIRE rule set.
  • After running the test you can browse the results.
• The results are updated periodically, and the whole test might take some time to finish.
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 repository or journal in OpenAIRE

For more information check the FAQ. If you need further assistance please contact us through the OpenAIRE Helpdesk.

http://validator.openaire.eu
Your repository/journal and register it into the OpenAIRE database.

Submit your journal or aggregator to the OpenAIRE guidelines for

- Run compatibility tests
- Browse test results
- Score information
Interfaces and publishing protocols

• Compatibility level "OpenAIRE 3.0" corresponds to run a validation test on "openaire" set.

• Compatibility level "OpenAIRE 2.0" corresponds to run a validation test on "ec_fundedresources“ set.

• Compatibility level "Driver“ corresponds to run a validation test on “driver“ set.
Run compatibility test (1)

Select repository/journal
Select from the list, or enter the base OAI URL of the repository/journal. The repository’s/journal’s published sets are exposed in a later stage and you may select one for the compatibility tests.

Select guidelines
You may apply two types of compatibility tests on your repository:

1. Select repository/journal
   - Base URL (*)
   - Please choose existing Base URL...
   - Or Manually Enter a Base Url (*)
     - http://repositorium.sdum.uminho.pt/oai/openaire

Next
Run Compatibility Test

1. Selected repository: http://repositorium.sdum.uminho.pt/oai/openaire

2. Select guidelines
   - OpenAIRE For Literature Repositories
   - OpenAIRE For Data Archives

   View/Select Rules
   - for Content
   - for Usage

3. Select parameters
   - Number of records: 10
   - Set: All Sets

   Would you like to group your results by a specific record’s field?
   - No
   - Yes: -XPATH-

   XPath Examples:
   1. //header/setSpec
   2. //record/metadata
   3. //*[name()='dc:language']
## 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)

**Use of OAI-PMH**:
- 'openaire' set must exist (M)
- Driver set must exist (R)
- ec_fundedresources set must exist (openaire2.0)

**for Content**

<table>
<thead>
<tr>
<th>for Usage</th>
<th>for Content</th>
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<tbody>
<tr>
<td>Use of OAI-DC (M)</td>
<td>Field Access Level (M)</td>
</tr>
<tr>
<td>Use of OAI-PMH:</td>
<td>Field Alternative Identifier (R)</td>
</tr>
<tr>
<td>'openaire' or</td>
<td>Field Audience (R)</td>
</tr>
<tr>
<td>'ec_fundedresources' or</td>
<td>Field Contributor (R)</td>
</tr>
<tr>
<td>'driver' set must exist (M)</td>
<td>Field Coverage (R)</td>
</tr>
<tr>
<td>Use of OAI-PMH:</td>
<td>Field Creator (M)</td>
</tr>
<tr>
<td>'openaire' set must exist (M)</td>
<td>Field Date of Publication (M)</td>
</tr>
<tr>
<td>Driver set must exist (R)</td>
<td>Field Description (MA)</td>
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<td>ec_fundedresources set must exist (openaire2.0)</td>
<td>Field Embargo End Date (MA)</td>
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<tr>
<td>OAI Usage Validation</td>
<td>finished</td>
</tr>
<tr>
<td>OAI Content Validation</td>
<td>finished</td>
</tr>
</tbody>
</table>
Run Compatibility Test: Score information

How the score is computed

Each rule is assigned a weight. The score is estimated as the weighted average of the percentage of errors for each rule.

For example, for rules r1, r2, r3 with corresponding weights w1, w2, w3, if the percentage of errors is p1, p2, p3, then the score is calculated by the following formula:

\[
\text{score} = \frac{w_1 \cdot p_1 + w_2 \cdot p_2 + w_3 \cdot p_3}{w_1 + w_2 + w_3}
\]

You can find the weights of the various rules used in a test inside its report.
3. Join OpenAIRE

1. Add and correct any details in the form and click submit. After a short compatibility test against the OpenAIRE rule set, your repository will be ready to join OpenAIRE.

2. An email will be sent to the repository administrator to confirm this request. Please make sure you have contacted them before registering.

3. If the compatibility test does not succeed, you will be unable to join OpenAIRE until you correct all the errors that are found. Then you must re-submit your request.
Join OpenAIRE

- Add new repository
- Add new journal
- Add new aggregator
- Manage your datasources

Validate your repository/journal or aggregator to the OpenAIRE guidelines for journals/aggregators.
Join OpenAIRE

Interfaces and publishing protocols

Compatibility level "OpenAIRE 3.0" corresponds to run a validation test on "openaire" set. Compatibility level "OpenAIRE 2.0" corresponds to run a validation test on "ec_fundedresources" set and will soon be obsolete. Please upgrade to OpenAIRE 3.0 Guidelines. Compatibility level "Driver" is now obsolete.

<table>
<thead>
<tr>
<th>Base OAI-PMH Url</th>
<th>Desired Compatibility Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://repositorium.sdum.uminho.pt/oai/openaire">http://repositorium.sdum.uminho.pt/oai/openaire</a></td>
<td>OpenAIRE 2.0</td>
</tr>
<tr>
<td><a href="http://repositorium.sdum.uminho.pt/oai/driver">http://repositorium.sdum.uminho.pt/oai/driver</a></td>
<td>Driver</td>
</tr>
</tbody>
</table>

Add new interface

Current compatibility status

<table>
<thead>
<tr>
<th>Driver</th>
<th>OpenAIRE 2.0</th>
<th>OpenAIRE 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
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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.
OpenAIRE API documentation

6 June 2014

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1. Overview
2. Bulk access via OAI-PMH
3. Bulk access to FP7 projects
4. Selective access with HTTP API
   - Common API parameters
   - Publications
   - Datasets

Chapter 1. Overview

The OpenAIRE API allows developers to access the information space of OpenAIRE programmatically.

- Bulk access:
  - OAI-PMH
  - FP7 projects export for DSpace and EPrints
- Selective access via HTTP Search API
  - Search HTTP API for metadata about publications
  - Search HTTP API for metadata about datasets
• Find and discuss the guidelines at: guidelines.openaire.eu
• Test and register the repository at: validator.openaire.eu
• Find support and more info at: www.openaire.eu
• Access the OpenAIRE API documentation: api.openaire.eu

Wiki: http://guidelines.openaire.eu
Q&A

OpenAIRE compatibility for repositories

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