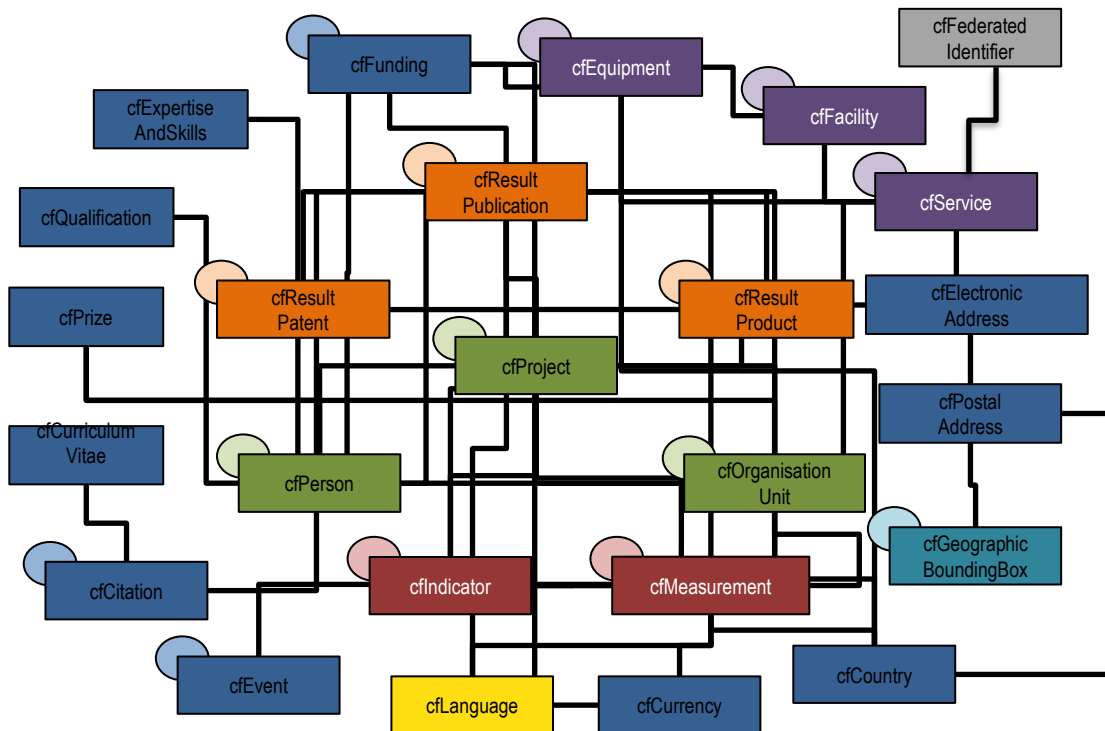


CERIF Tutorial



Dragan Ivanović

May 14th, 2024

CRIS 2024, Vienna, Austria

*This deck of slides is based on the CERIF Tutorial by **Brigitte Jörg**, CERIF TG Leader 2004–2012, and contains slides by **Jan Dvořák**, CERIF TG Leader 2013–2023, and **Valérie Brasse**, euroCRIS Executive for projects 2011–2015.*

Dragan Ivanović

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euroCRIS

- CERIF TG Deputy Leader since 2020
- euroCRIS board member since 2023

University of Novi Sad, Faculty of Technical Sciences

- Researcher & Lecturer & Research software engineer (<http://dosird.uns.ac.rs>)

Lyrasis

- VIVO tech lead since 2021

RESEARCH INFORMATION

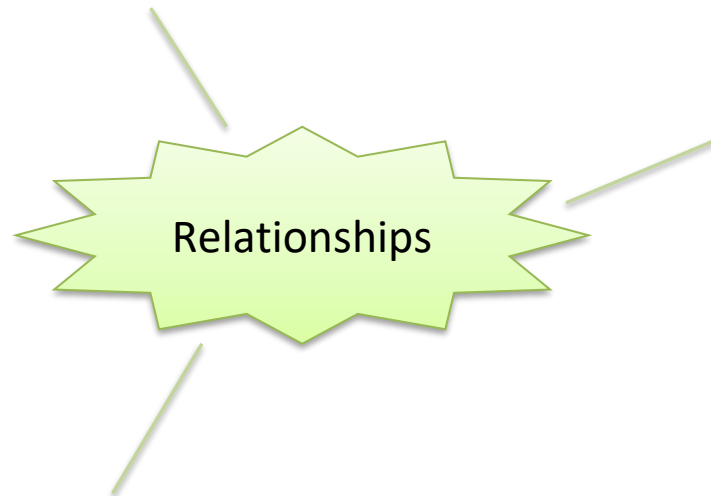
Research Information

The process of research

- Research projects
- Funding
- Research infrastructures

The research actors

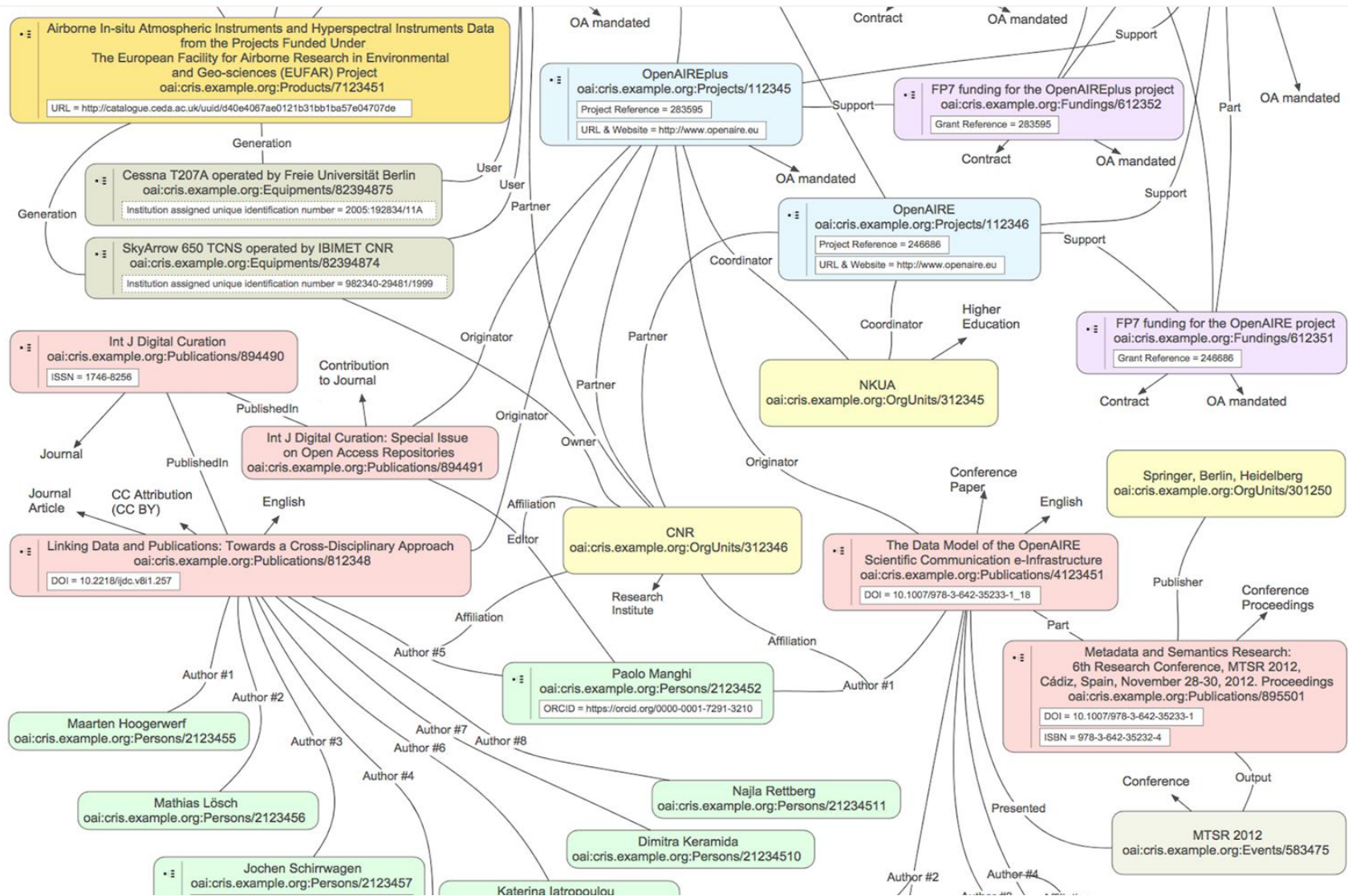
- Researchers
- Institutions
- Funders
- Publishers
- Facility operators
- Associations



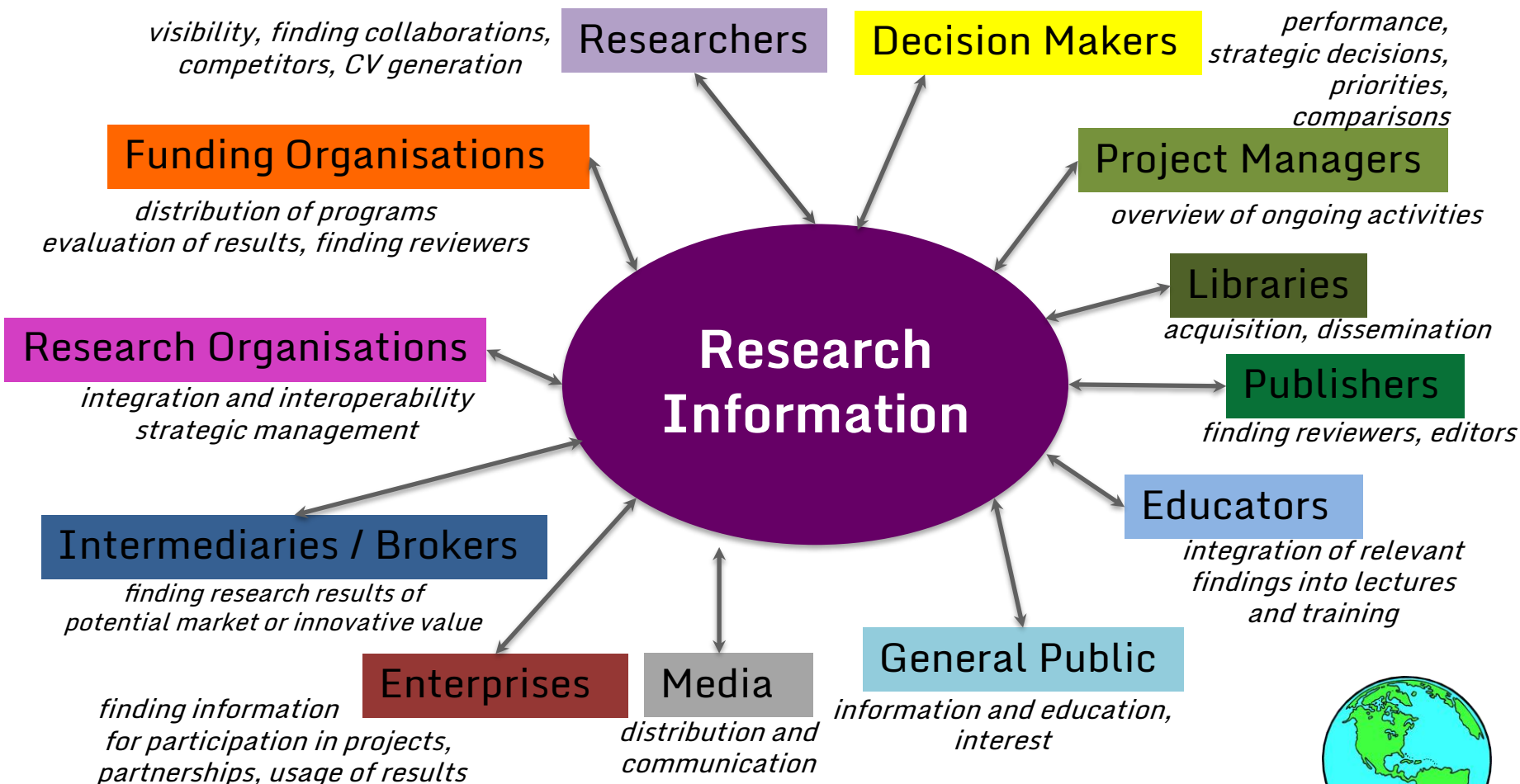
Research results

- Outputs (Publications, Research Datasets, Patents, ...)
- Outcomes, Impacts

Research Information is heavily interlinked



Who needs Research Information?



Different viewpoints on Research Information

Information perspective	Useful for
Researcher , his/her activities, results, ...	Researcher profile / CV system
Research Project , its consortium, team, funding, results, ...	Project webpage / report
Organisational Unit , its activities, results, ...	Unit webpage / report / evaluation report
Publication	Bibliometrics / panel evaluations
Research Facility	Tracking & reporting usage

Project webpage

A code (identifier), for ex a Grant number

A name or title

A (planned) start date

A (planned) end date or duration

[A source of funding]

A short or long description (abstract)

[A few scientific publications]

[A project coordinator]

[A research domain]

A web page (URI)

Source: http://cordis.europa.eu/project/rcn/106635_en.html

An acronym


SEQSEL
 Project reference: 317697
 Funded under: [FP7-PEOPLE](#)

Global cooperation to develop next generation whole genome SEQUENCE SElection tools for novel traits  

From 2012-05-01 to 2016-04-30, ongoing project

Project details	
Total cost: EUR 126 000	Topic(s): • FP7-PEOPLE-2012-IRSES - Marie Curie Action "International Research Staff Exchange Scheme"
EU contribution: EUR 126 000	Call for proposal: FP7-PEOPLE-2012-IRSES
Coordinated in: Ireland	Funding scheme: MC-IRSES - International research staff exchange scheme (IRSES)

Objective

"The objective of this project, SEQSEL, is to build upon, solidify, formalise and condense the recently initiated, but as yet informal, relationships between several world-leading research partners in the EU (Ireland, The UK, and the Netherlands) and Oceania (i.e., Australia and New Zealand) in order to conduct joint research and participate in knowledge exchange and to identify regions of the bovine genome associated with feed intake and efficiency. The study will be undertaken in dairy cattle..."

Related information

Result In Brief

- [Mining the genome of dairy cattle](#)

Report Summaries

- [Periodic Report Summary 1 - SEQSEL \(Global cooperation to develop next generation whole genome SEQUENCE SElection tools for novel traits\)](#)

Open Access

via 

- [Imputation of genotypes from low density \(50,000 markers\) to high density \(700,000 markers\) of cows from research herds in Europe, North America, and Australasia using 2 reference populations](#)
 Pryce, J. E.; Johnston, J.; Hayes, B. J.; Sahana, G.; Weigel, K. A.; Mcparland, S.; Spuri, D.; Krattenmacher, N.; Spelman, R. J.; Wall, E.; Calus, M. P. L.
 2014

Coordinator

TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY Ireland 

Participants

THE SCOTTISH AGRICULTURAL COLLEGE United Kingdom 

STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK Netherlands 

Subjects

[Life Sciences](#)

[Home](#)
[About this system](#)
[Case Studies](#)
[Contact us](#)



RESEARCH COUNCILS UK

Gateway to Research



Innovate UK
Technology Strategy Board

A name or title

Social Media Analysis for Social Geography

Lead Research Organisation: [Newcastle University](#)
Department Name: Computing Sciences

[A project coordinator]

[Go back](#)

[A source of funding]

Overview Organisations People Outcomes

Abstract

Many believe that social media data has the potential to give real insights into communities. However, there is a real challenge in unlocking this knowledge due to the enormous size and speed with which the data is generated, and a lack of understanding of issues such as ethics and the validity of conclusions drawn from the skewed sample of the population that social media users represent.

"Tweet My Street" is tackling these problems with the overall goal of understanding how the knowledge gained can benefit socially excluded communities. It is a multi-disciplinary collaboration involving social geographers, computer scientists and statisticians, which aims to:

- design a scalable system for social media data analysis
- create a tool that makes it easy for social scientists to ask questions and visualise results
- explore the use of modern statistical techniques to derive understanding from the data
- drive and evaluate the system through case studies, including the use of the new tools to augment existing social science methods, and to understand the way third sector organisations can make effective use of social media
- explore how the use of the tools can help the private and public sector to make key decisions.

Funded Value:
£449,388

Funded Period:
Feb 14 - Feb 16

Funder:
ESRC

Project Status:
Active

Project Category:
Research Grant

Project Reference:
ES/M001636/1

Principal Investigator:
[Paul Watson](#)

Research Subject:
Human Geography

Research Topic:
Social Geography
Urban Geography

[A research domain]

A few keywords

A (planned) start date
A (planned) end date or duration

A code (identifier), for ex a Grant number

A short or long description (abstract)

A web page (URI)

Source: <http://gtr.rcuk.ac.uk/project/A49CA721-687A-4D55-8FDF-9B60375B6EA8>

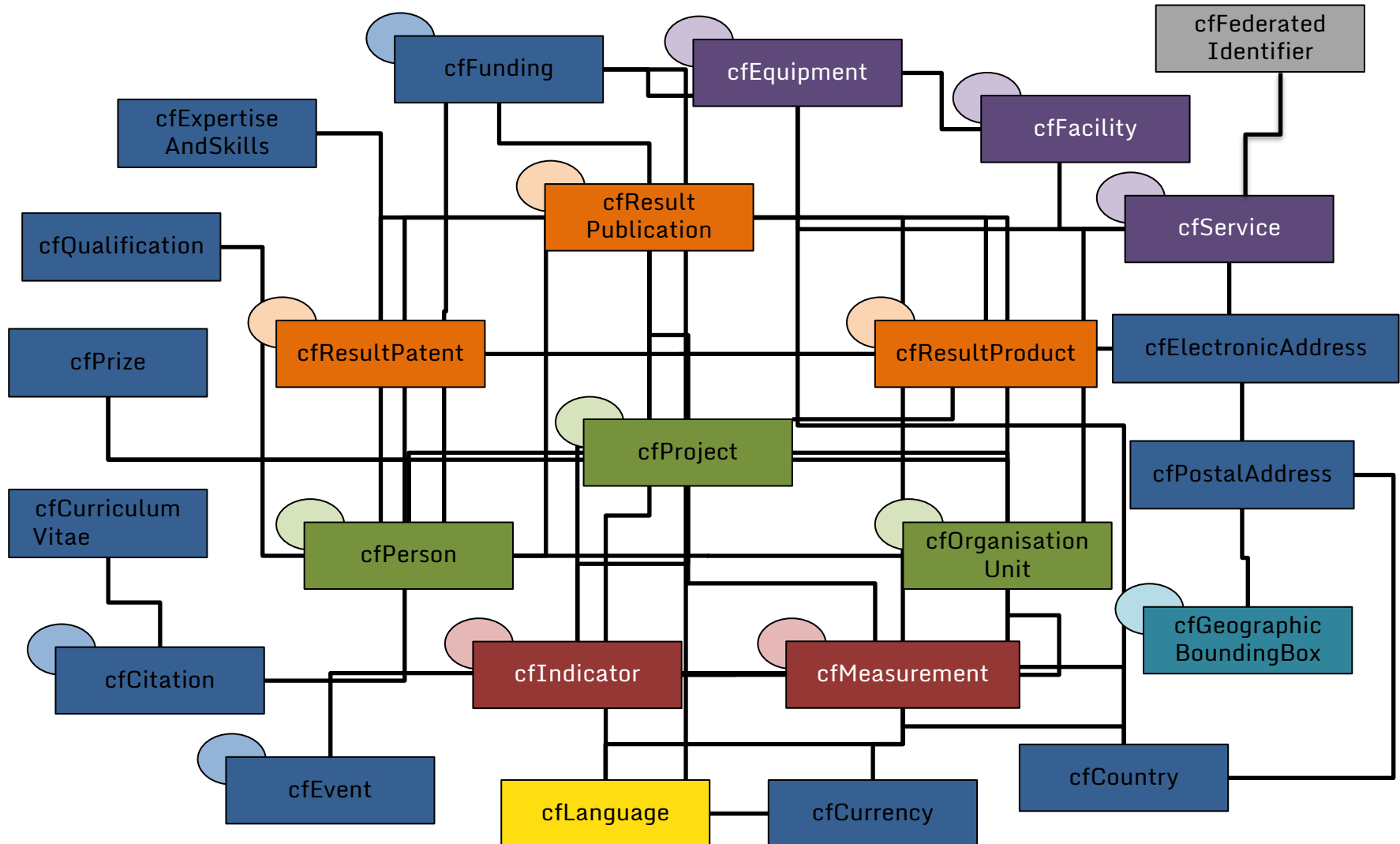
CERIF 1.x

Common European Research Information Format

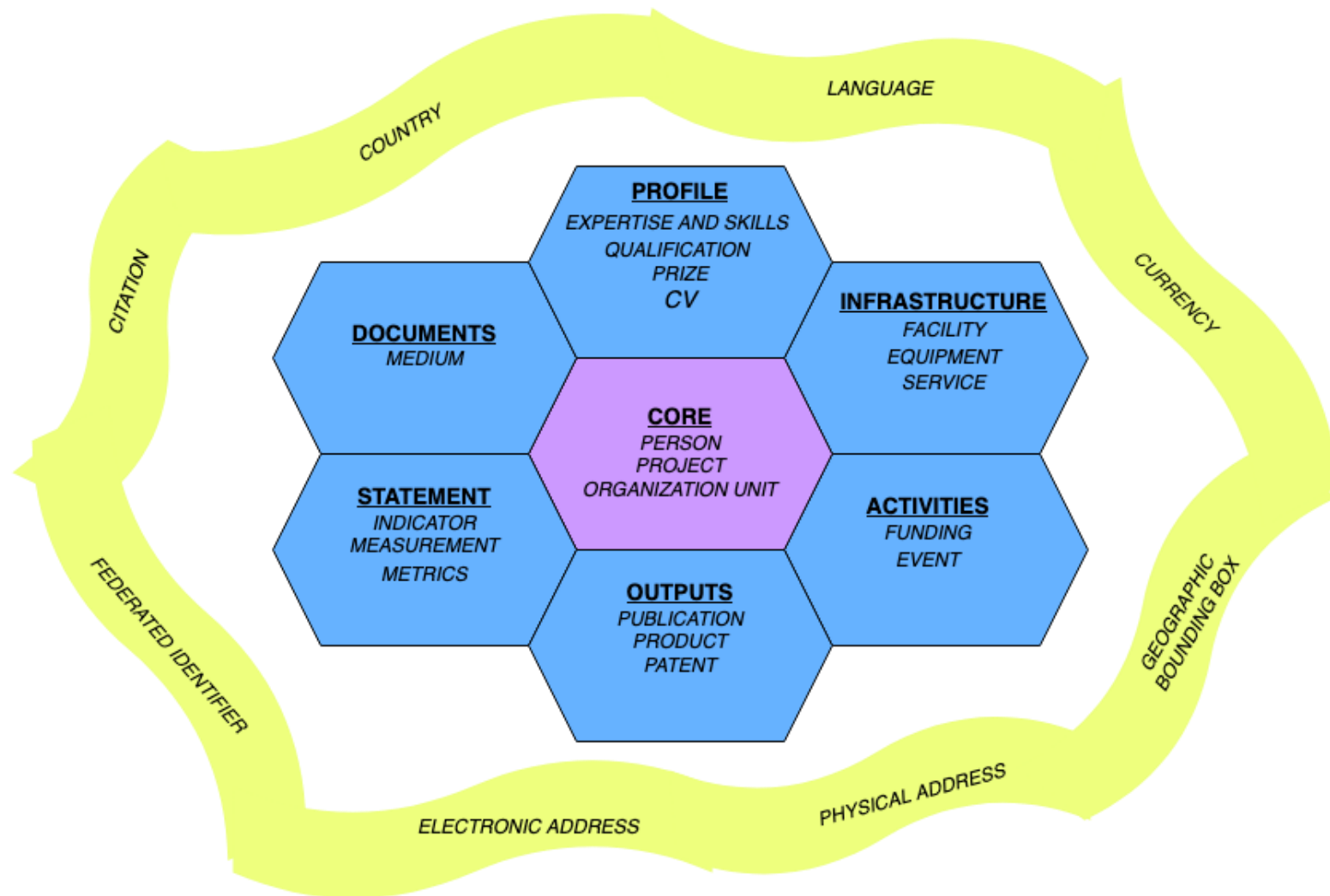
- CERIF is an EU Recommendation to Member States
- The European Commission (EC) has authorised euroCRIS to maintain and develop CERIF and its usage

<http://cordis.europa.eu/cerif/>

CERIF 1.x



CERIF 1.x



CERIF 1.x

- CERIF is:
 - A conceptual model
 - A set of exchange formats (XML, Linked Data)
- CERIF supports multilingual data, storing the original value of a literal attribute, and for any other language, a translated value
- As an example we will present CERIF Entity “PROJECT” (cfProj)



Common
European
Research
Information
Format

CERIF development

By the CERIF Task Group of euroCRIS

Adopting open-source software projects
tools & best practices:

- ☐ <https://github.com/EuroCRIS/CERIF-DataModel>
- ☐ <https://github.com/EuroCRIS/CERIF-Vocabularies>
- ☐ CC BY license

Two branches:

- master: latest official release (1.6.1)
- develop: on-going development

Model Info

Model Info

ER Diagram

Entities

Attributes

Keys

Relationships

Domains

Basic Information

Project	CERIF: the Common European Research Information Format
Model	CERIF Data Model
Version	CERIF current development DM
Company	euroCRIS
Author	CERIF Task Group
Created	30.6.2014
Last Modified	22.12.2017

Statistic Information

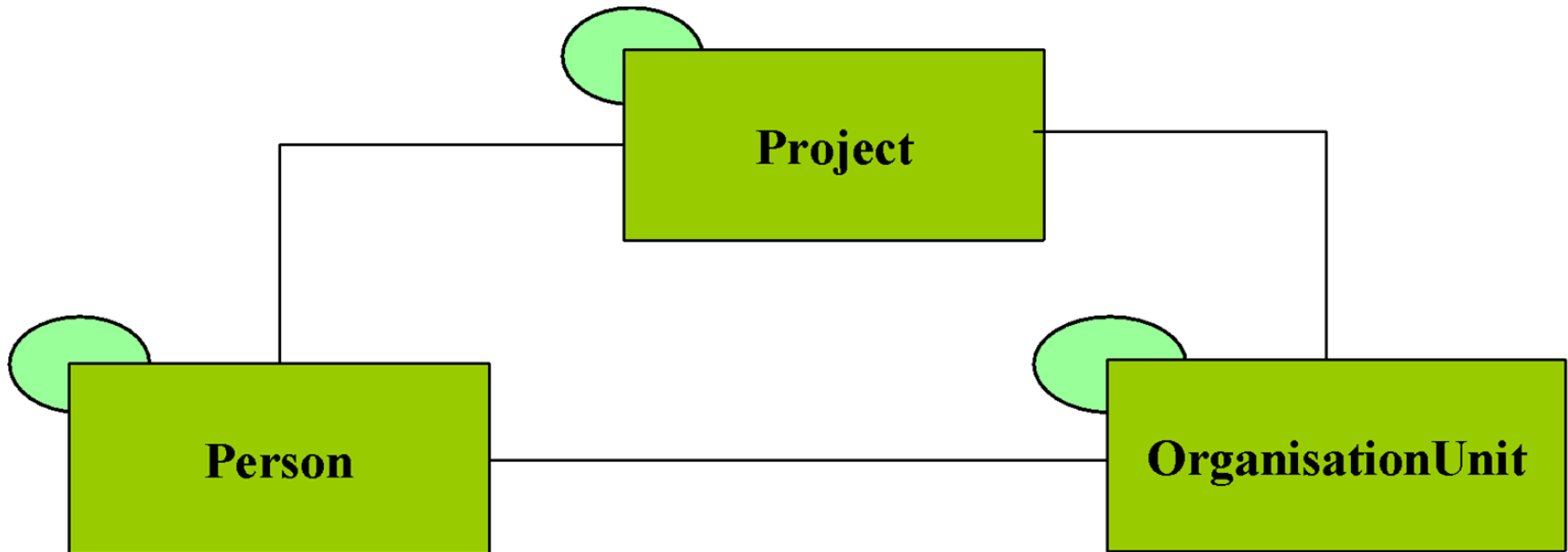
Entities	295			
Attributes	1829			
Domains	1			
User Data Types	0			
Relationships	671	Identifying	638	Non-identifying 33
Indexes	0			
Keys	298	Primary Keys	295	Alternate Keys 3
Views	0			
View Relationships	0			
Procedures	0			
Defaults	0			
Schemas	0			
Users	0			
User Groups	0			
Notes	0			

CERIF General Pattern

A typical CERIF entity has:

- Identifier (internal)
- Attributes
 - the basic ones
 - the multi-lingual ones
- Links
 - to other entities
 - recursive, a.k.a. self-referential
- External Identifiers
- Classifications (semantic layer)
 - Type
 - Status
 - Subject area
 - + other

CERIF Base Entities



Project webpage

A code (identifier), for ex a Grant number

A name or title

A (planned) start date

A (planned) end date or duration

[A source of funding]

A short or long description (abstract)

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Open Access

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 2014

Coordinator

TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY Ireland 

Participants

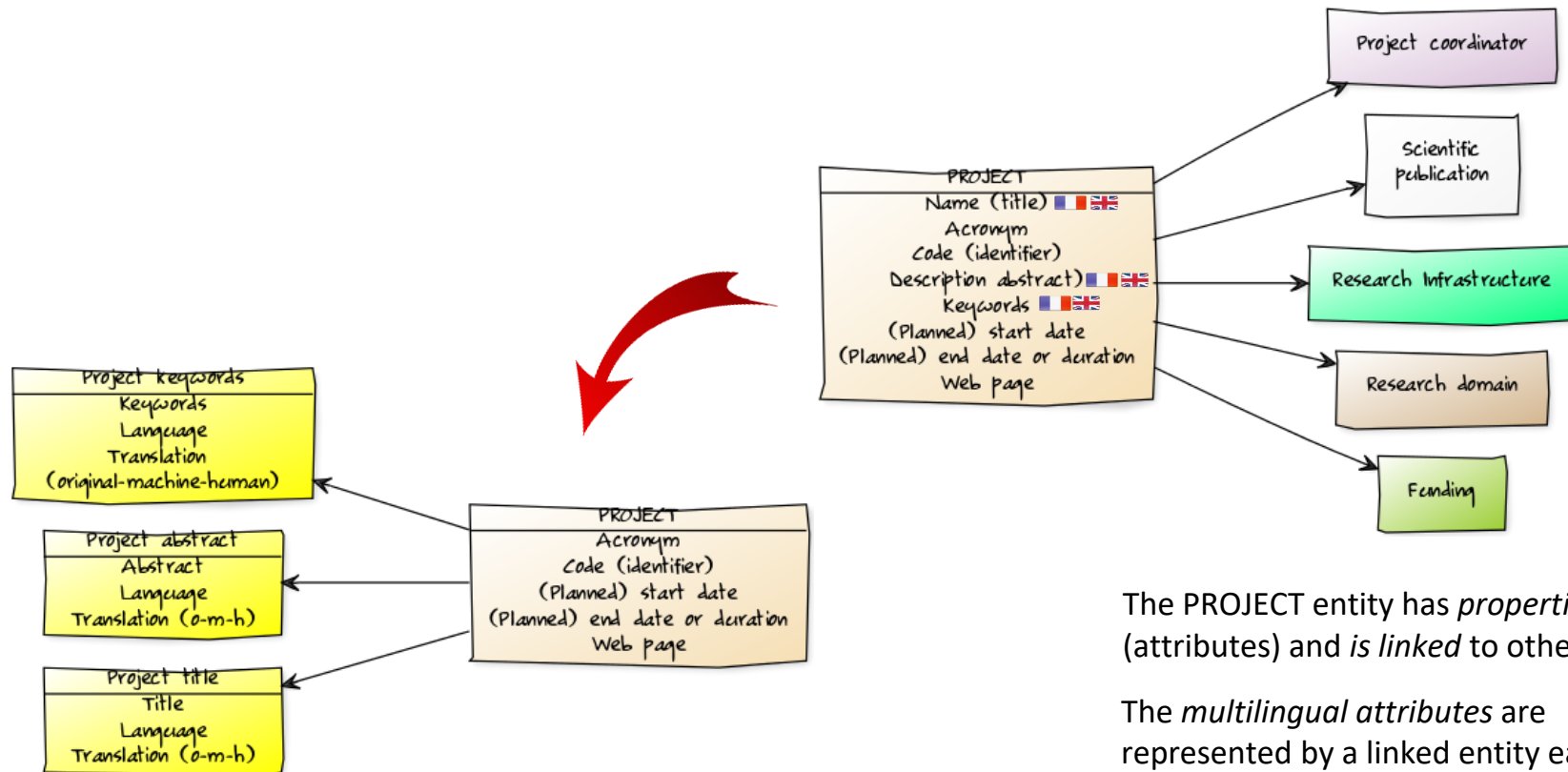
THE SCOTTISH AGRICULTURAL COLLEGE United Kingdom 

STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK Netherlands 

Subjects

[Life Sciences](#)

Metadata for a Research Project



The PROJECT entity has *properties* (attributes) and *is linked* to other entities.

The *multilingual attributes* are represented by a linked entity each.

* "start date" and "end date" are deprecated in v1.6

Metadata for a Research Project

CERIF naming rule: in English, abbreviated, starting with *cf*

Example: Project title = *cfProjTitle*

cfProjKeyw			
cfProjId	ID	NN (PFK)	
cfLangCode	Char(5 BYTE)	NN (PFK)	
cfTrans	NChar(1)	NN (PK)	
cfKeyw	Char(255 BYTE)	NN	

cfPrjAbstr			
cfProjId	ID	NN (PFK)	
cfLangCode	Char(5 BYTE)	NN (PFK)	
cfTrans	NChar(1)	NN (PK)	
cfAbstr	NClob	NN	

cfPrjTitle			
cfProjId	ID	NN (PFK)	
cfLangCode	Char(5 BYTE)	NN (PFK)	
cfTrans	NChar(1)	NN (PK)	
cfTitle	Char(255 BYTE)	NN	

Project keywords
Keywords
Language
Translation (original-machine-human)

Project abstract
Abstract
Language
Translation (o-m-h)

Project title
Title
Language
Translation (o-m-h)

PROJECT
Acronym
Code (identifier)
(Planned) start date
(Planned) end date or duration
Web page

cfPrj			
cfProjId	ID	NN (PK)	
cfStartDate	Date		
cfEndDate	Date		
cfAcro	Char(16 BYTE)		
cfURI	Char(128 BYTE)		

Example in DB

CERIF Project example database record			
Data	Attribute	Table	Type
project-ist-world*	cfProjId	cfProj	base
IST World	cfAcro	cfProj	base
http://www.ist-world.org/	cfURI	cfProj	base
2005-04-01	cfStartDate	cfProj	base
2007-11-30	cfEndDate	cfProj	base
Knowledge Base for RTD Competencies in IST	cfTitle	cfProjTitle	lang[en,o]
Wissensbasis für RTD Kompetenzen im Bereich IST	cfTitle	cfProjTitle	lang[de,h]
IST, Research Information, NMS, Portal,	cfKeyw	cfProjKeyw	lang
The objective of the project is to set up and populate an information portal with innovative functionalities ...	cfAbstr	cfProjAbstr	lang

cfProj

cfProjId (PK)	cfAcro	cfURI	cfStartDate	cfEndDate
project-ist-world	IST World	http://...	2005-04-01	2007-11-30

cfProjTitle, PK = cfProjID + cfLangCode + cfTrans

cfProjID (FK)	cfLangCode	cfTrans	cfTitle
project-ist-world	EN	O	Knowledge Base for RTD Competencies in IST
project-ist-world	DE	H	Wissensbasis für RTD Kompetenzen im Bereich IST

cfProjKeyw, PK = cfProjID + cfLangCode + cfTrans

cfProjID (FK)	cfLangCode	cfTrans	cfKeyw
project-ist-world	EN	O	IST, Research Information, NMS, Portal

cfProjAbstr, PK = cfProjID + cfLangCode + cfTrans

cfProjID (FK)	cfLangCode	cfTrans	cfAbstr
project-ist-world	EN	O	The objective of the project is to set...

Source: http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Specifications/CERIF1.3_FDM.pdf

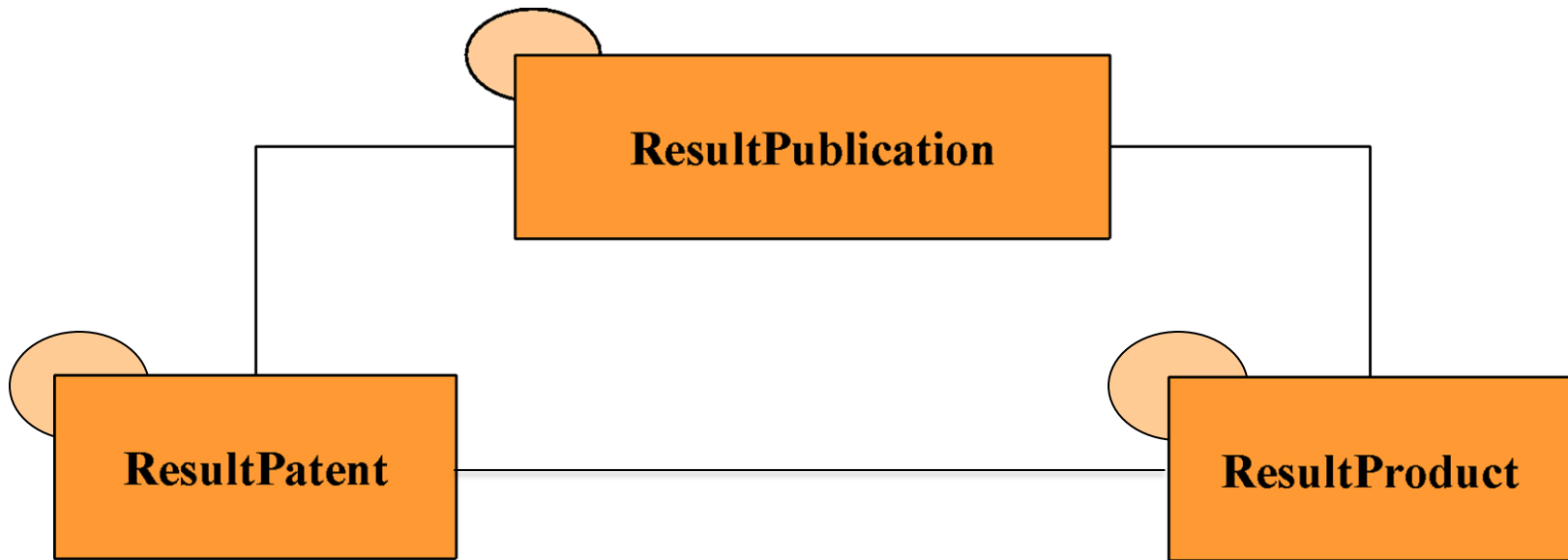
We have seen how to represent, store or exchange metadata about research projects.

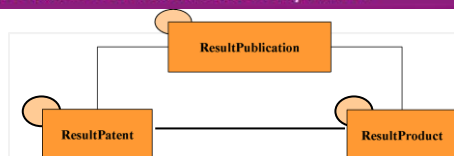
Similarly:

- What characterises a person (researcher, Ph.D.,...)?
- What characterises an organisation (research laboratory, institute,...)?

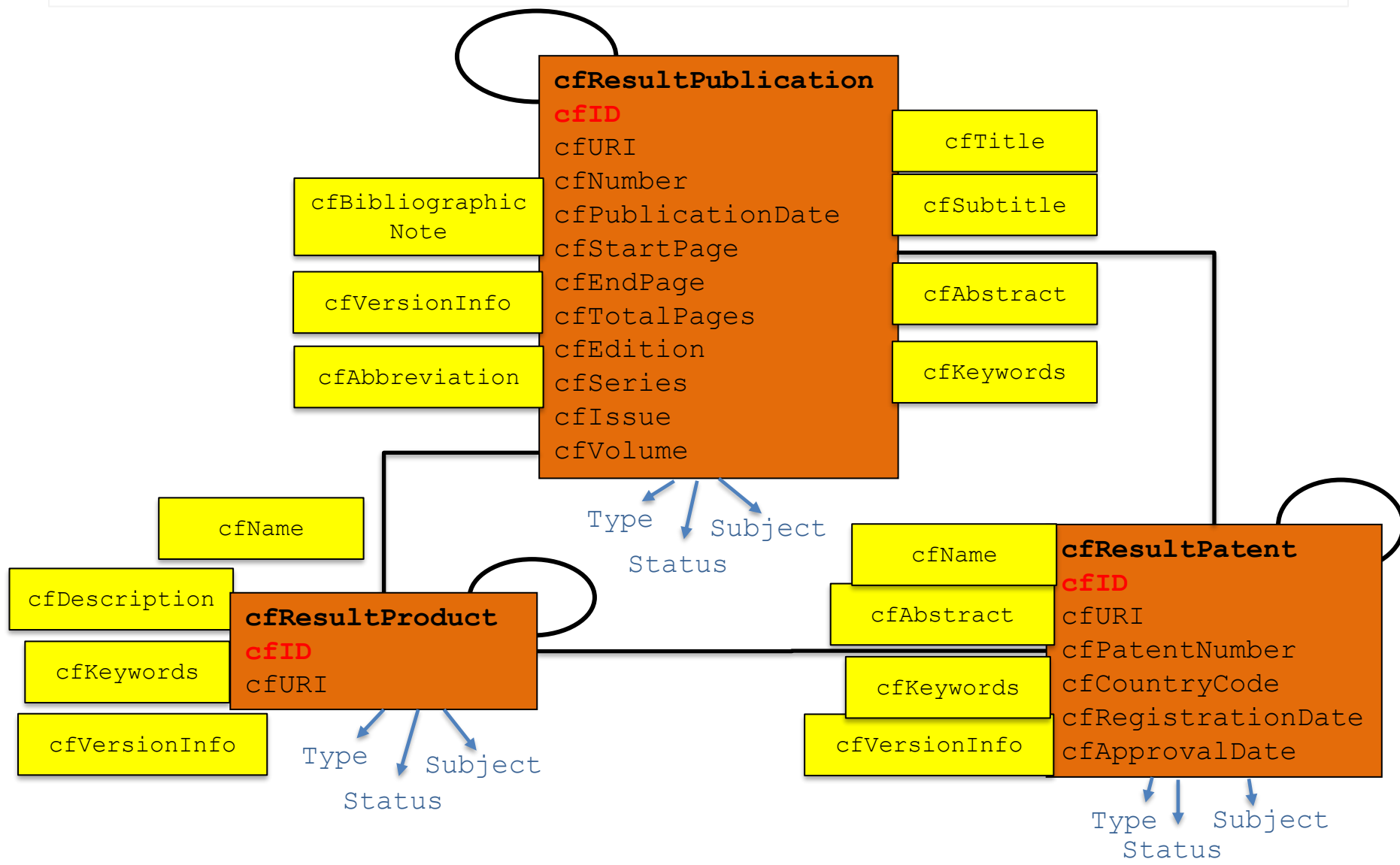


CERIF Result Entities

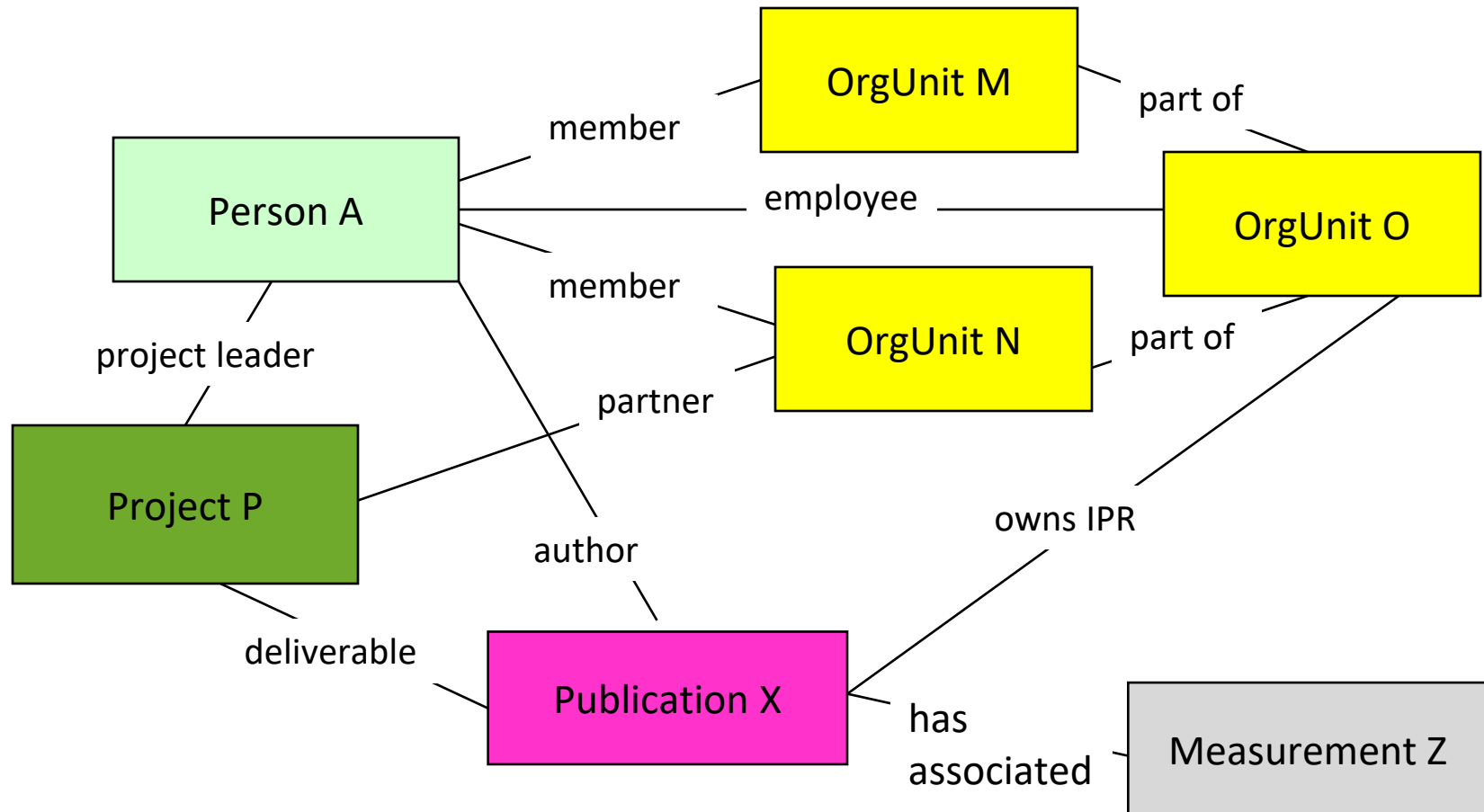




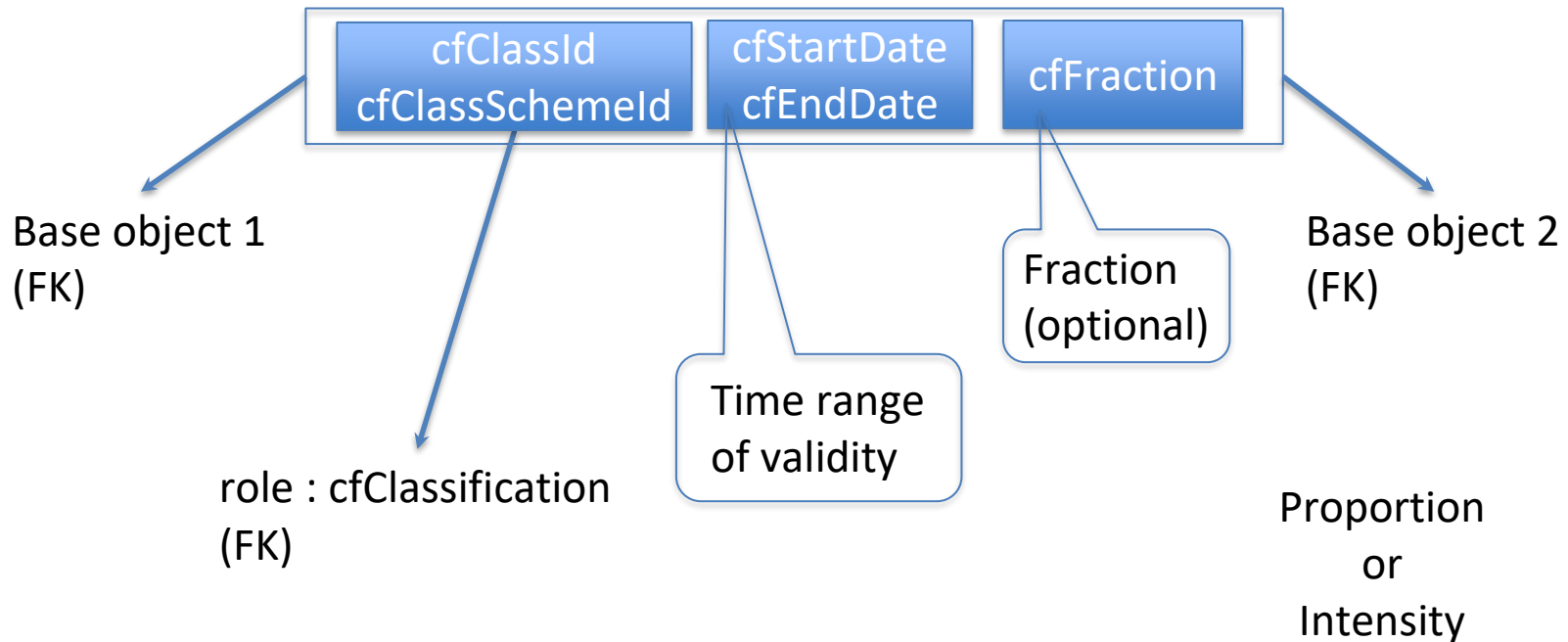
CERIF Result Entities



CERIF link entities (slide by Keith Jeffery)



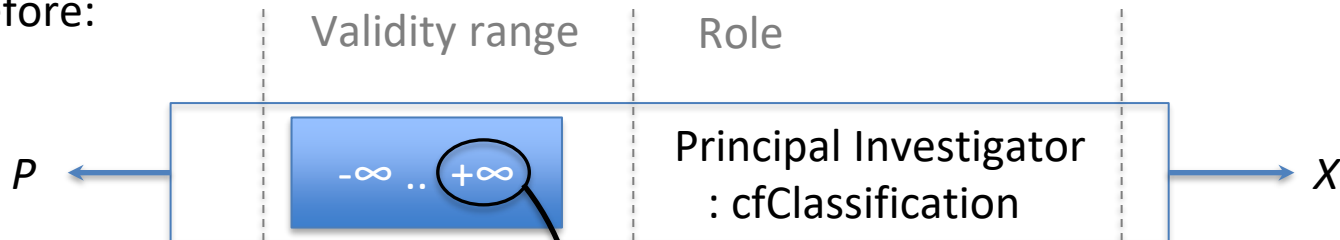
Generic Linking Entity Structure



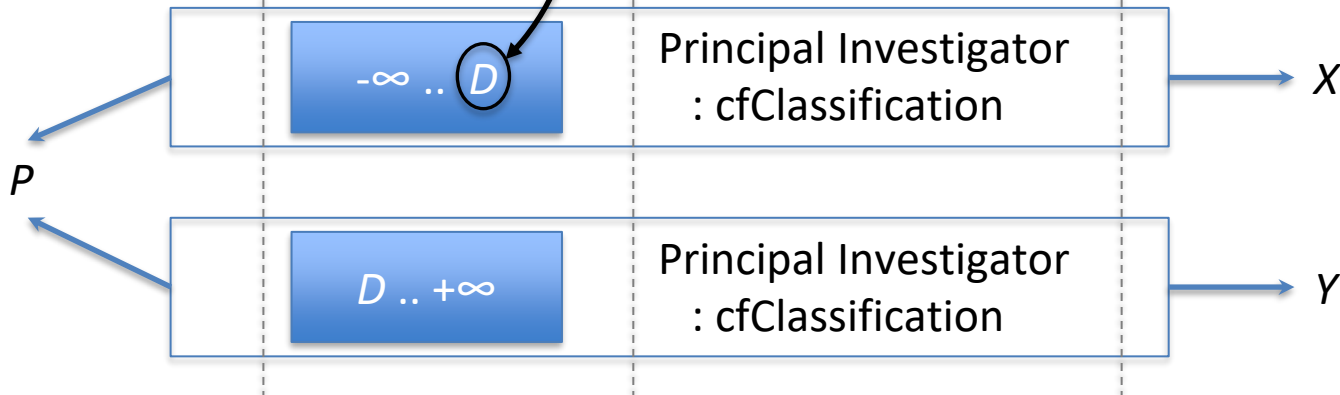
Recording Change in CERIF

Example: The Principal Investigator of project P changes: X is replaced by Y effective date D .

Before:



After:



CERIF Federated Identifiers

- Records the “tag” by which an object is known elsewhere
- For any CERIF research entity
- “Identifier Types” classification scheme
- (optionally) Connects to a Service representing the issuer of the identifier
 - Usually an information system

CERIF Federated Identifiers: Examples

Publication

- DOI
- PubMed Central ID
- WoS UT, Scopus EID
- ISBN, ISSN

Person

- ORCID iD
- ISNI
- ResearcherID, Scopus Author ID
- IdRef, DAI, Número Lattes
- Social Security Number or another administrative identifier
- Staff Id in an HR system

Project/Grant

- Funder's reference number
- Organisation's reference number

Organisation

- ROR ID
- FundRefID
- Wikidata reference
- ISNI
- RingGold number
- Org Enhanced (WoS)
- VAT Identification Number or another administrative identifier

Classifications: External Codes

CERIF Semantic Layer

Central place to store declared semantic classifications

Allows to capture any Schema or Structure

- Flat Lists
- Thesauri
- Classification Systems (e.g. SKOS, ...)
- Taxonomies
- Ontologies

Open / Extensible in all directions

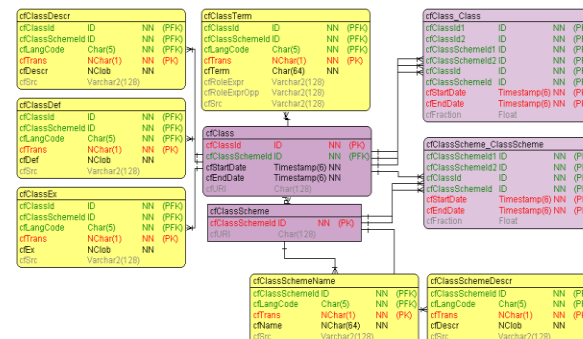
- New Schemas
- New Concepts / Terms
- New Relationships

Enables to manage

- Roles, Types, Statuses, ... Semantics
- Subject Headings
- Versioning and archiving (start+end dates)

Allows for Mappings between Schemes

- skos:closeMatch, skos:exactMatch or any other mapping you need



CERIF PROFILES

Interoperability

1. Agreed Semantics
2. Agreed Format
3. Agreed Protocol

CERIF-XML exchange formats (based on XML Schema)

Original

1:1 with the ER structure

Only uses embedding for multilingual texts

→ Many foreign key relationships

→ Takes several API requests to get a presentable form of an object

2nd Generation

Template XML Schema → adaptation

Profiles: Useful subsets of CERIF for specific research information exchange scenarios

1. Specify a subset of CERIF entities & attributes
2. Fix semantic vocabularies to use
3. Add integrity constraints

Ex.: OpenAIRE Guidelines for CRIS Managers 1.0.

DOI [10.5281/zenodo.17065](https://doi.org/10.5281/zenodo.17065)

Ex.: OpenAIRE Guidelines for CRIS Managers 1.1.

DOI [10.5281/zenodo.1298649](https://doi.org/10.5281/zenodo.1298649)

CERIF Profiles

Useful subsets of CERIF
for specific research information
interchange scenarios

- Entities & attributes:
 - Profile $\subset$ CERIF
- Semantic vocabularies:
 - Profile – specific choices
 - Sources: CERIF & beyond
- Integrity constraints:
 - Profile $\supset$ CERIF

Profile data is
CERIF

CERIF Profiles

Producers know
what to include



Consumers know
what to expect

OpenAIRE Guidelines for CRIS Managers 1.2

- Dvořák, Jan, Andreas Czerniak, & Dragan Ivanović. (2023). OpenAIRE Guidelines for CRIS Managers 1.2 (Version 1.2.0). Zenodo. DOI [10.5281/zenodo.8050936](https://doi.org/10.5281/zenodo.8050936)
- Document on the web <https://openaire-guidelines-for-cris-managers.readthedocs.io/en/latest/index.html>
 - Introduction
 - CRIS Information elements relevant for OpenAIRE
 - CERIF, CERIF XML
 - Technical implementation guidelines
 - CERIF XML as payload of OAI-PMH 2.0

Version 1.2: Aligned vocabularies

- COAR Resource Types (v. 3.1)
- COAR Access Rights
- ISSN Media List

OpenAIRE Guidelines for CRIS Managers
latest

Search docs

Introduction

CRIS information elements relevant for OpenAIRE

Publication

- Internal Identifier
- Type
- Language
- Title
- Subtitle
- PublishedIn
- PartOf
- PublicationDate
- Number
- Volume
- Issue
- Edition

Read the Docs v: latest

Type

Description: The type of the publication

Use: mandatory (1)

Representation: XML element `Type` from namespace https://www.openaire.eu/cerif-profile/vocab/COAR_Publication_Types

CERIF: the ResultPublication_Classification (https://w3id.org/cerif/model#ResultPublication_Classification)

Vocabulary: Publication types extracted from the COAR Resource Types concept scheme: Types of publications as extracted from the COAR Resource Types concept scheme (http://vocabularies.coar-repositories.org/documentation/resource_types/), the term 'text' and its descendants in the hierarchy except 'patent'.

- **text** (http://purl.org/coar/resource_type/c_18cf): A resource consisting primarily of words for reading. Examples include books, letters, dissertations, poems, newspapers, articles, archives of mailing lists. Note that facsimiles or images of texts are still of the genre Text.
 - **annotation** (http://purl.org/coar/resource_type/c_1162): An annotation in the sense of a legal note is a legally explanatory comment on a decision handed down by a court or arbitral tribunal.
 - **bibliography** (http://purl.org/coar/resource_type/c_86bc): A systematic list or enumeration of written works by a specific author or on a given subject.
 - **book** (http://purl.org/coar/resource_type/c_2f33): A non-serial publication that is complete in one volume or a designated finite number of volumes. (adapted from CITO; EPrint Type vocabulary)

Information scope of the OpenAIRE Guidelines for CRIS Managers 1.2

The Core:

- The CRIS as a Service
- Organisations
- Researchers

Activities:

- Projects
- Funding
- Events

Outputs:

- Publications
- Datasets, Software & other Products
- Patents

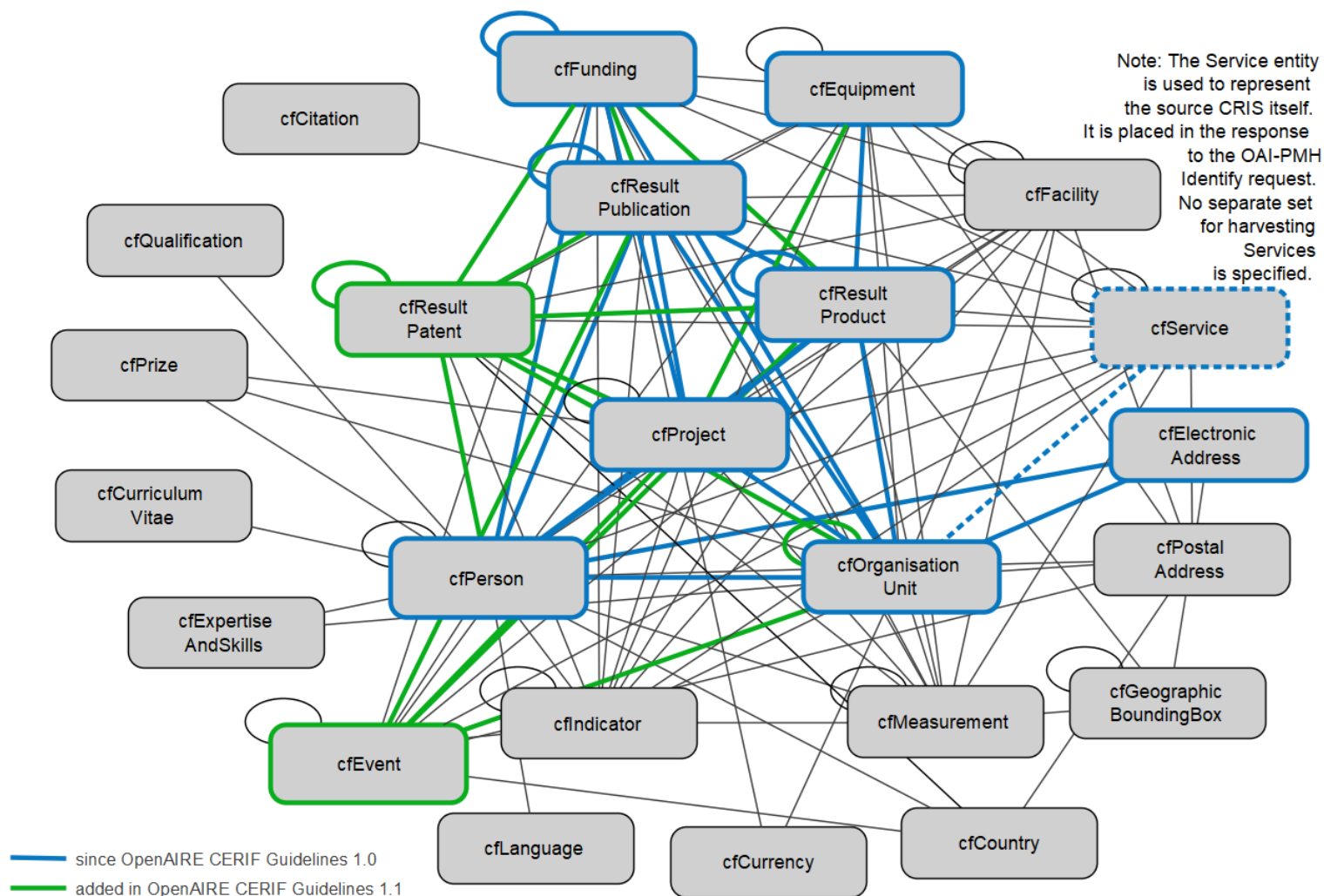
Infrastructure:

- Equipment

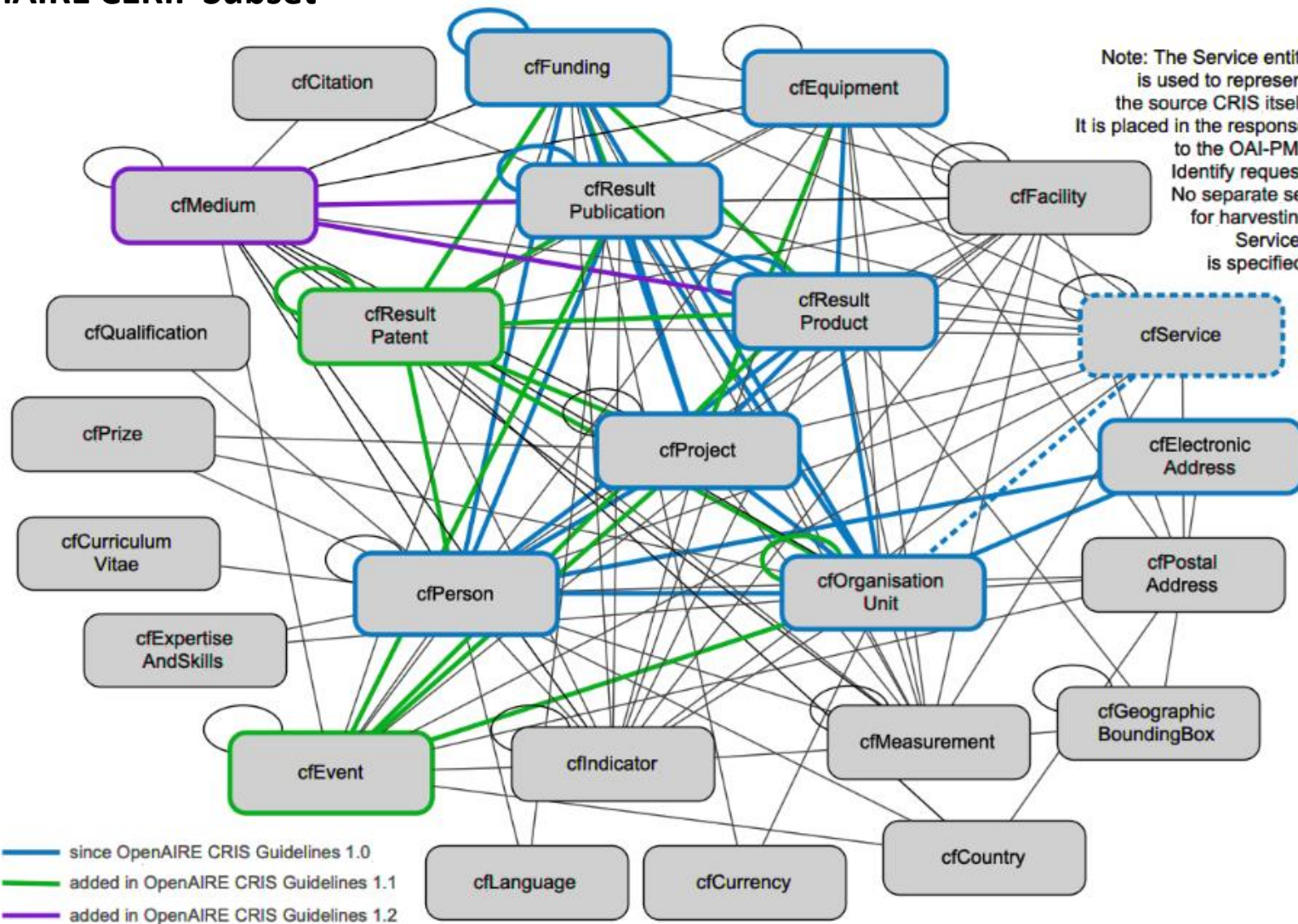
Two non top entities:

- Medium
- Electronic Address

OpenAIRE CERIF Subset



OpenAIRE CERIF Subset



Note: The Medium and the ElectronicAddress entities are not supported as top-level entities, no OAI-PMH sets are defined for them. They also do not expose their internal identifiers .

Identifiers

- Publication:
 - DOI
 - Handle
 - PMCID
 - ISI Number (WoS Accession Number)
 - SCP Number
 - ISSN
 - ISBN
 - URL
 - URN
 - ZDB-ID
 - Persons:
 - ORCID iD
 - ISNI
 - ResearcherID
 - Scopus Author ID
 - Funding:
 - GrantDOI
 - Products:
 - DOI
 - ARK
 - Handle
 - URL
 - URN
- Plus a generic option

Supporting artifacts

- XML Schema
 - Namespace
 - <https://www.openaire.eu/cerif-profile/1.2/>
 - A few Schematron integrity rules embedded
- A comprehensive set of examples
- Prototype validator

```
<Publication xmlns="https://www.openaire.eu/cerif-profile/1.2/" id="Publications/852734">
<!-- Linking Data and Publications: Towards a Cross-Disciplinary Approach -->
  <Type xmlns="https://www.openaire.eu/cerif-profile/vocab/COAR_Publication_Types">
    http://purl.org/coar/resource_type/c_6501<!-- journal article --></Type>
  <Title xml:lang="en">Strong selection against hybrids maintains a narrow contact zone between morphologically cryptic
    lineages in a rainforest lizard</Title>
  <PublishedIn>
    <Publication id="Publications/893204"><!-- Evolution -->
      <Type xmlns="https://www.openaire.eu/cerif-profile/vocab/COAR_Publication_Types">
        http://purl.org/coar/resource_type/c_0640<!-- journal --></Type>
        <Title xml:lang="en">Evolution</Title>
        <ISSN>1558-5646</ISSN>
        <Publishers>
          <!-- [ ... ] -->
        </Publishers>
      </Publication>
    </PublishedIn>
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    <Issue>5</Issue>
    <StartPage>1474</StartPage>
    <EndPage>1489</EndPage>
    <DOI>10.1111/J.1558-5646.2011.01539.X</DOI>
    <!-- [ ... ] -->
  </Publication>
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        <PersonName>
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          <FirstNames>Sonal</FirstNames>
        </PersonName>
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California, Berkeley</Name>
            </OrgUnit>
          </PartOf>
        </OrgUnit>
      </Affiliation> <!-- [ ... ] -->
    </Author> <!-- [ ... ] -->
  </Authors>
  <!-- [ ... ] -->
</Publication>
```

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<Publication xmlns="https://www.openaire.eu/cerif-profile/1.1/" id="852734">
  <!-- [ ... ] -->
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  <Keyword xml:lang="en">phylogeography</Keyword>
  <Abstract xml:lang="en">Phenotypically cryptic lineages comprise an important yet understudied part of
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  <References>
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contact zone between morphologically cryptic lineages in a rainforest lizard</Name>
      <VersionInfo xml:lang="en">1</VersionInfo>
      <DOI>10.5061/DRYAD.4GH6HF5G</DOI>
      <!-- [...] -->
    </Product>
  </References>
</Publication>
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CERIF 2.X

CERIF Refactoring

- Address shortcomings of current CERIF
- Modernize CERIF
 - Take away the perceived complexity of CERIF
 - Involve the community in further development of CERIF
 - New modelling approach (and tool), modularity, modern serialization formats
- Ongoing project started 2021

CERIF Refactoring Goals

1. Keep the strong features of current CERIF
 - a. Multilinguality
2. Take away the perceived complexity of CERIF
 - a. Emphasize the conceptual model
 - b. Improve documentation
3. Modernize CERIF
 - a. Change the modeling notation
 - b. Adapt CERIF for usage in APIs and for Linked Open Data
 - C.** Modern serialization formats
 - d. Allow for systematic provenance tracking and verifiable credentials
4. Involve the community in further development of CERIF
 - a. Modularity
 - b. Open source sw development practices

CERIF Refactoring Means

1. New modelling approach (and tool)
 - a. Improved documentation
 - b. Element addressability
2. Modularity ($\Rightarrow$ scalability of further CERIF development)
 - a. The Core and pluggable modules
 - b. Datatypes to represent reusable functional groups
 - c. Developed in a decentralized way
3. Modern serialization formats (with appropriate schema expressions)
 - a. JSON-LD (JSON Schema, SHACL) for APIs
 - b. RDF (RDF Schema, SHACL) for LOD
 - c. previously: XML (XML Schema, Schematron)

CERIF Core

Contains:

- common data types
- abstract entities
- commonly used entities
- common constructs

The basis for:

- Particular research information interchange scenarios
- Extensions in terms of coverage

A prototype
CERIF Core
repository at
[https://github.com/
EuroCRIS/
CERIF-Core](https://github.com/EuroCRIS/CERIF-Core)

The screenshot shows the GitHub interface for the repository **EuroCRIS / CERIF-Core**. The repository is public and has 2 stars, 4 watchers, and 1 fork. The main branch is selected. The repository description states: "The CERIF Refactoring Pilot project started in 2021 by euroCRIS." The repository contains several folders and files, including `.github/workflows`, `datatypes`, `diagrams`, `entities`, `examples`, `guidelines`, `serializations/RDF`, `tools`, and `README.md`. The `README.md` file is open, showing the title **CERIF Core** and the description: "CERIF (=Common European Research Information Format) covers the domain of research information with a focus on the administrative and organizational aspects. It aims to provide machine-processable". The contributors section lists **jdvorak001** (Jan Dvorak), **chenejac** (Dragan Ivanovic), and **actions-user**.

← → ↻ 🔒 https://github.com/EuroCRIS/CERIF-Core

EuroCRIS / CERIF-Core Public

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main 2 branches 0 tags Go to file Add file <> Code

actions-user adding generated diag... d1e218d on Aug 26 350 commits

.github/workflows	Update plantuml.yml	17 months ago
datatypes	Aligning md files with example for UC1	5 months ago
diagrams	adding generated diagrams	3 months ago
entities	Add Person_Identifier as an entity	3 months ago
examples	link correction	13 months ago
guidelines	Let Attributes and Relationships sections ...	3 months ago
serializations/RDF	Rename Affiliation Statement -> Affiliation	5 months ago
tools	Correct the links to the parent entity	4 months ago
README.md	Fix the links to entities	3 months ago

☰ README.md

CERIF Core

CERIF (=Common European Research Information Format) covers the domain of research information with a focus on the administrative and organizational aspects. It aims to provide machine-processable

About

The CERIF Refactoring Pilot project started in 2021 by euroCRIS.

Readme 2 stars 4 watching 1 fork

Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)

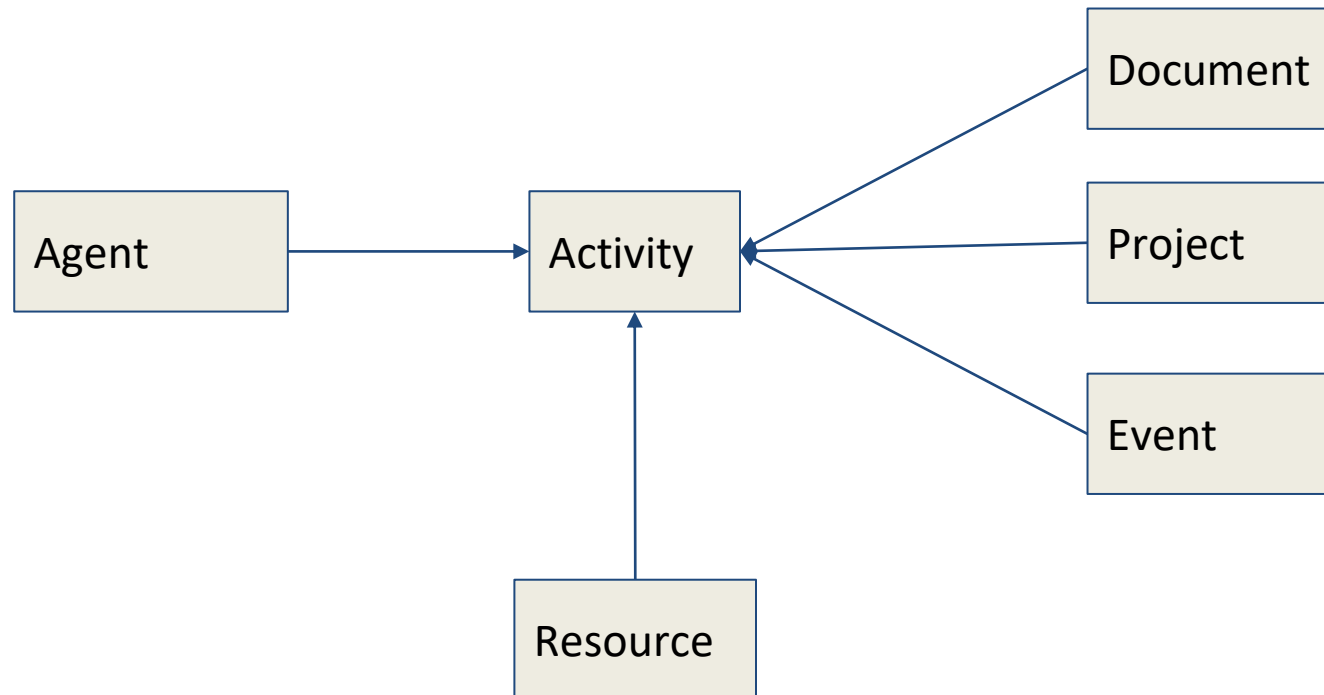
Contributors 3

jdvorak001 Jan Dvorak

chenejac Dragan Ivanovic

actions-user

CERIF Core “View from the Top”



CERIF Modules

Add functionality

- E.g. the Scholarly publication module

Customize the model for a specific scenario

- E.g. institutions to report publications produced with Horizon Europe funding to the EC (tentative)

Contributed by another group of people

Reuse & Extend stuff from the Core and other modules

Candidate modules:

- Dataset metadata
- Funding agency
- Research software metadata
- Bibliometric indicators
- Research Infrastructure description

CERIF Scholarly Publication Module

1st module started along with the Core

Scope:

- Journal Article
- Journal
- Monograph
- (Book Chapter)
- (Proceedings Paper)

←

→

↺

https://github.com/EuroCRIS/CERIF-ScholarlyPublicationsModule

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EuroCRIS / CERIF-ScholarlyPublicationsModule

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Unwatch 3

Fork 0

Star 0

<> Code

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main 1 branch 0 tags

Go to file

Add file

Code

jdvorak001

Add human-readable anchors to the journal-articles relationship

✓ 7fe3b7a on 10 Mar 87 commits

.github/workflows	Update plantuml.yml	6 months ago
datatypes	The initial creation of datatypes ISBN and ISSN, and update of Editor...	10 months ago
diagrams	adding generated diagrams	2 months ago
entities	Add human-readable anchors to the journal-articles relationship	2 months ago
examples	link correction	6 months ago
serializations/RDF	adding examples directory	6 months ago
README.md	The Development section now references the Core	6 months ago

☰ README.md

CERIF Scholarly Publications Module

A module to represent scholarly publications in the refactored CERIF. Its secondary purpose is to demonstrate the liason between the [CERIF Core](#) and a module.

Status

About

No description, website, or topics provided.

Readme

0 stars

3 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

Contributors 3

chenejac

Dragan Ivanovic

jdvorak001

Jan Dvorak

Thank you!