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Universidade do Minho

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Dados Abertos e Planos de Gestão de Dados no H2020

Webinar OpenAIRE Portugal

03/05/2018

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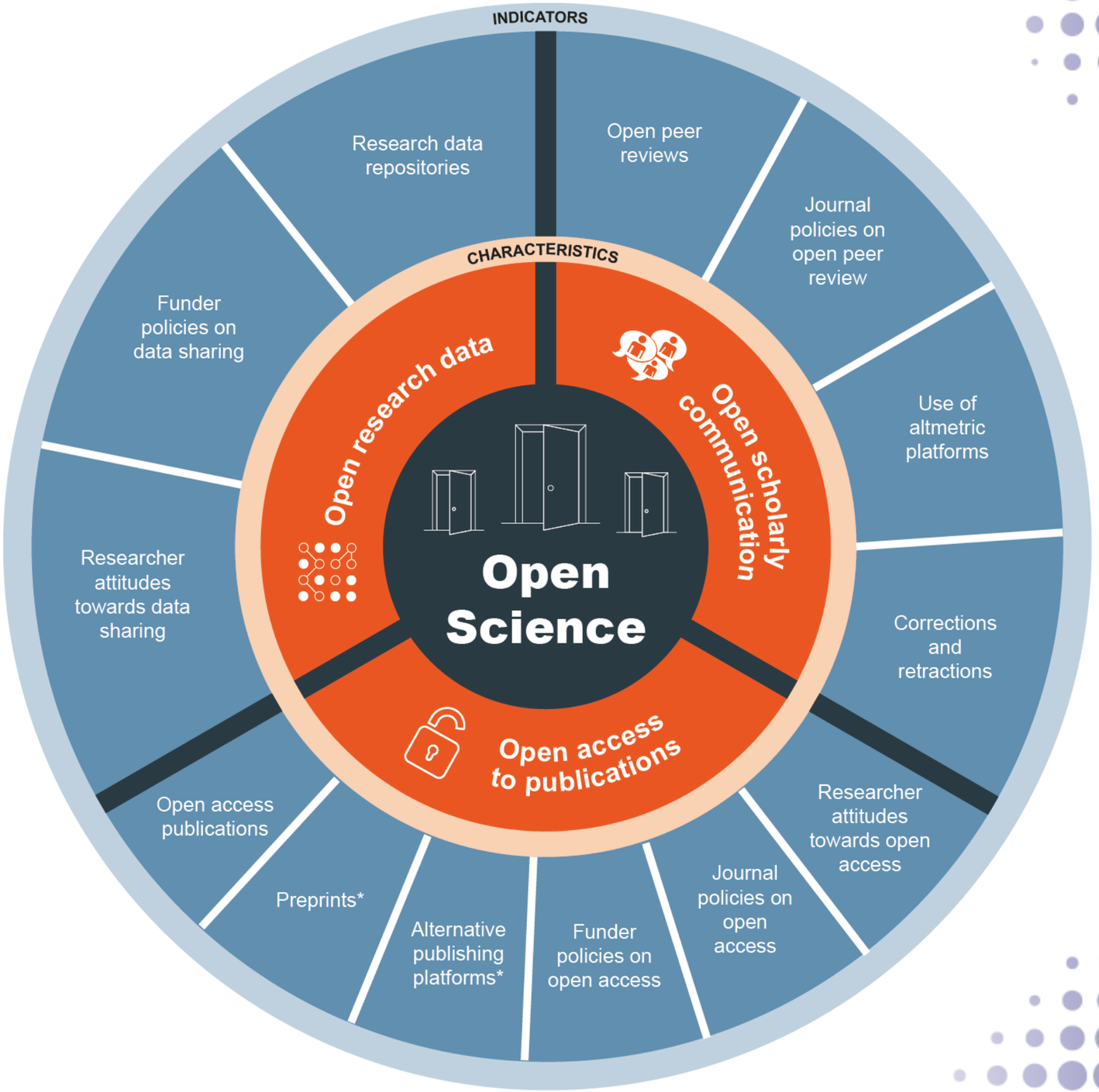
AGENDA

1. Ciência Aberta aos resultados e nos métodos.
2. Requisitos dos dados abertos no Horizonte 2020.
3. Elaboração de Plano de Gestão de Dados para projetos H2020.
4. Requisitos na prática.


INDICATORS
CHARACTERISTICS
Open Science
Open research data
Open scholarly communication
Open access to publications
Research data repositories
Open peer reviews
Journal policies on open peer review
Use of altmetric platforms
Corrections and retractions
Researcher attitudes towards open access
Journal policies on open access
Funder policies on open access
Alternative publishing platforms*
Preprints*
Open access publications
Researcher attitudes towards data sharing
Funder policies on data sharing

CIÊNCIA ABERTA

Nos resultados

Publicações

Dados

Processos

Ferramentas

Infraestruturas

Nos métodos

Para tornar a ciência mais eficiente, transparente, confiável e reprodutivel.

“

Responsible data management is part of good research.

NWO – Introduction to the pilot Data Management

Data management is a part of good research practice.

RCUK Policy and Code of Conduct on the Governance of Good Research Conduct

”

Image: https://www.flickr.com/photos/dmh650/4031607067/in/gallery-wlef70-72157633022909105/

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OPEN RESEARCH DATA IN HORIZON 2020

CHALLENGE

Wider access to scientific facts and knowledge helps researchers, innovators and the public find and re-use data, and check research results:

- offers better value for EU research funds
- encourages research across scientific fields
- a public benefit
- essential for solving today's complex societal challenges

SOLUTION

Horizon 2020 already mandates open access to **all scientific publications**

From 2017, **research data** is **open by default,** with possibilities to **opt out**

RESEARCH DATA - OPEN BY DEFAULT

FAIR DATA!

Accessible · Interoperable · Findable · Re-usable

RESEARCH COUNCILS UK

Home | Funding | Research | Innovation | Skills | Public Engagement

RCUK Common Principles on Data Policy

Home > Research > RCUK Common Principles on Data Policy

Making research data available to users is a core part of the Research Councils' remit and is undertaken in a coherent approach across the research base. These RCUK common principles on data policy provide an ove data policy.

Principles

- Publicly funded research data are a public good, produced in the public interest, which should be mad and responsible manner.
- Institutional and project specific data management policies and plans should be in accordance with rel acknowledged long-term value should be preserved and remain accessible and usable for future resea
- To enable research data to be discoverable and effectively re-used by others, sufficient metadata shou researchers to understand the research and re-use potential of the data. Published results should alwa
- RCUK recognises that there are legal, ethical and commercial constraints on release of research data. inappropriate release of data, research organisation policies and practices should ensure that these ar
- To ensure that research teams get appropriate recognition for the effort involved in collecting and analy may be entitled to a limited period of privileged use of the data they have collected to enable them to p varies by research discipline and, where appropriate, is discussed further in the p
- In order to recognise the intellectual contributions of researchers who generate, p acknowledge the sources of their data and abide by the terms and conditions und
- It is appropriate to use public funds to support the management and sharing of pu from limited budgets, the mechanisms for these activities should be both efficient

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THE ROYAL SOCIETY

Home | Fellows | Events | Grants, Schemes & Awards | Topics & policy | Journals | Collections

Data sharing and mining

Open data policy

To allow others to verify and build on the work published in Royal Society journals, it is a condition of publication that authors make available the data, code and research materials supporting the results in the article.

Datasets and code should be deposited in an appropriate, recognised, publicly available repository. Where no data-specific repository exists, authors should deposit their datasets in a general repository such as Dryad or Figshare.

To encourage best practice in data sharing, *Biology Letters*, *Proceedings B* and *Royal Society Open Science* have Dryad data deposition integrated into the journal submission system. For all its science journals, the Society will cover the cost of depositing up to 20GB of data with Dryad. In addition, we deposit all supplementary material into the Figshare repository on the author's behalf.

Exceptions to the sharing of data, code and materials may be granted at the discretion of the editor, especially for sensitive information such as human subject data or the location of endangered species. Authors must disclose upon submission of the manuscript any restrictions on the availability of data, code and research materials.

Where possible, deposit should be made prior to publication under embargo until publication of the article.

NIH National Institutes of Health — Office of Extramural Research

Grants & Funding — NIH's Central Resource for Grants and Funding Information

Entire Site | Search this S

eRA | Glossary &

HOME | ABOUT GRANTS | FUNDING | POLICY & COMPLIANCE | NEWS & EVENTS

Home » Policy & Compliance » Policy & Guidance » NIH Data Sharing Policy and Implementation Guidance

Policy & Compliance

- NIH Grants Policy Statement
- Notices of Policy Changes
- Compliance & Oversight
- Select Policy Topics +

NIH Data Sharing Policy and Implementation Guidance

(Updated: March 5, 2003)

This guidance provides the National Institutes of Health (NIH) policy statement on data sharing and additional information o this policy.

- Goals of Data Sharing
- Applicability
- Implementation
  - Timeliness of Data Sharing
  - Human Subjects and Privacy Issues
  - Proprietary Data

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wellcome

Funding | What we do | About us | News

Scheme finder | Managing a grant

Policy on data, software and materials management and sharing

As a charity, Wellcome works to ensure that the results of the research we fund are applied for the public good. This includes creating an environment that enables and incentivises researchers to maximise the value of their research outputs, including data, software and materials.

We expect our researchers to manage research outputs in a way that will achieve the greatest health benefit. This may involve making outputs widely available or using intellectual property (IP) as a tool to help protect and

---

"80% of research is publicly funded"

Source: "Academic Publishing: Survey of funders supports the benign Open Access outcome priced into shares, HSBC Global Research," February 11, 2013

FCT Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

Política sobre a Disponibilização de Dados e outros Resultados de Projetos de I&D Financiados Pela FCT

(adotada em 5 de maio de 2014)

1. Introdução

Tem sido reconhecido em várias instâncias que a disponibilização aberta dos resultados da investigação realizada com financiamento público tem significativos benefícios sociais e económicos. Em sintonia com o que vem sendo crescentemente adotado por agências públicas de financiamento de I&D de outros países e com as recomendações da Comissão Europeia de 17 de Julho de 2012[1], a FCT – Fundação para a Ciência e a Tecnologia, IP – adota a presente política sobre a disponibilização de resultados de Investigação e Desenvolvimento (I&D) que financia.

https://www.fct.pt/documentos/PoliticaAcessoAberto_Dados.pdf

2.

Requisitos dos dados abertos no H2020

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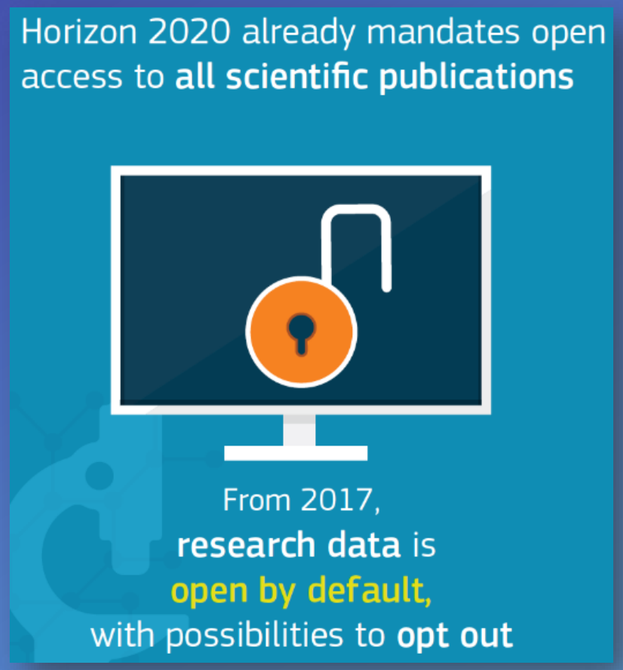
DADOS ABERTOS NO H2020

Requisitos que visam melhorar e maximizar o acesso e a reutilização dos dados de investigação gerados por projetos financiados pela CE.



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OPEN RESEARCH DATA
IN HORIZON 2020

CHALLENGE

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offers better value for EU research funds

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with possibilities to **opt out**

Multi-beneficiary General Model Grant Agreement

29.2 Open access to scientific publications

29.3 Open access to research data

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

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Excerto do “Model Grant Agreement”

29.3 Acesso aberto aos dados de investigação

29.3 Open access to research data

***[OPTION for actions participating in the open Research Data Pilot**: Regarding the digital research data generated in the action (‘**data**’), the beneficiaries must:*

(a) deposit in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the following:

(i) the data, including associated metadata, needed to validate the results presented in scientific publications as soon as possible;

(ii) other data, including associated metadata, as specified and within the deadlines laid down in the data management plan (see Annex I);

(b) provide information — via the repository — about tools and instruments at the disposal of the beneficiaries and necessary for validating the results (and — where possible — provide the tools and instruments themselves).

This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

*As an exception, the beneficiaries do not have to ensure open access to specific parts of their research data if the achievement of the action's main objective, as described in Annex I, would be jeopardised by making those specific parts of the research data openly accessible. In this case, the data management plan must contain the reasons for not giving access.**]***

[OPTION:** not applicable**]

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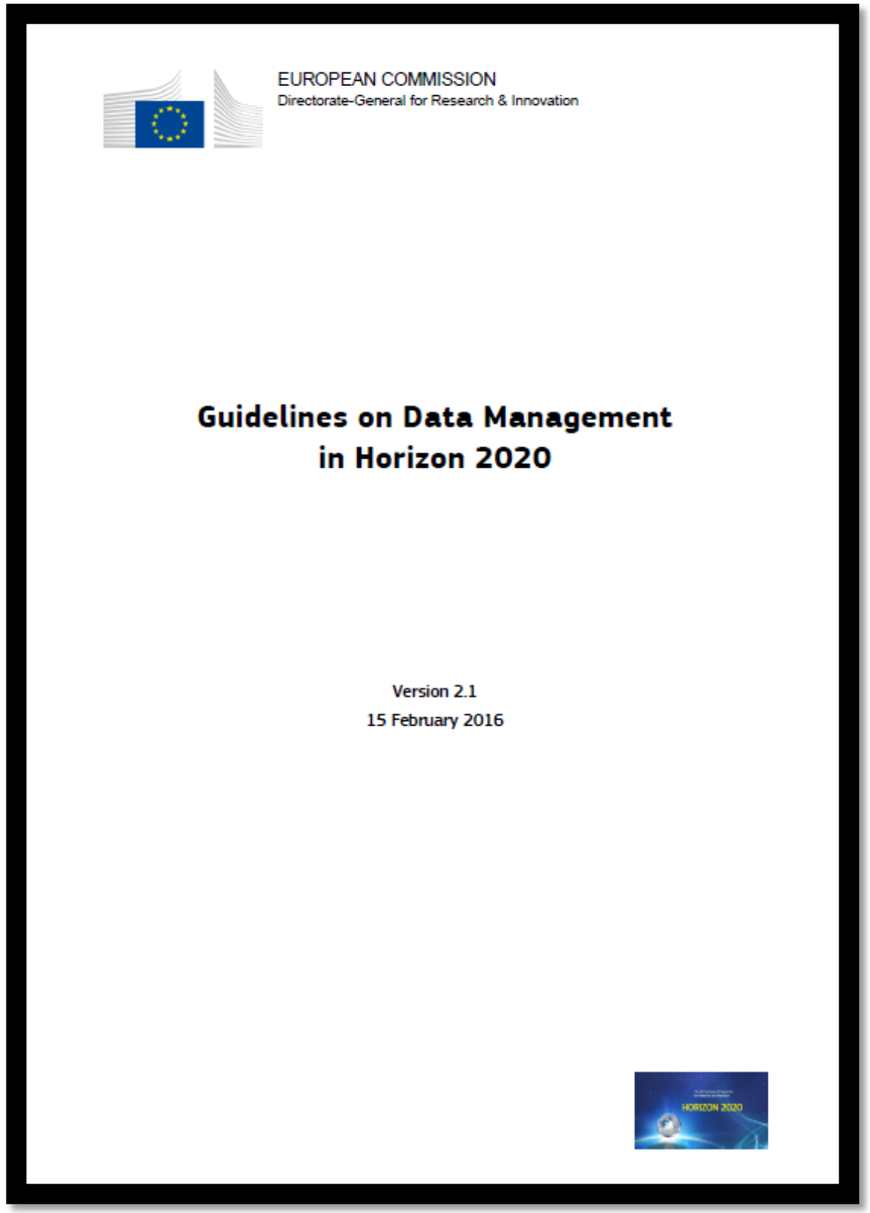
http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

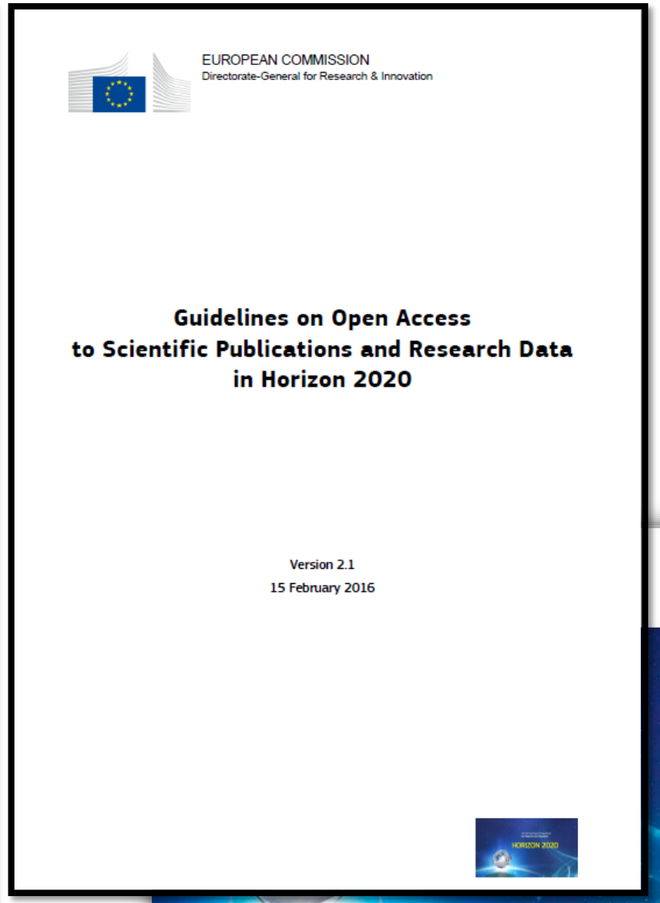
EC Guidelines on Open Access and Research Data in Horizon 2020

Documento com orientações para os benificiários dos projetos financiados que estão abrangidos pelos requisitos dos dados abertos (piloto de dados)


EUROPEAN COMMISSION
Directorate-General for Research & Innovation

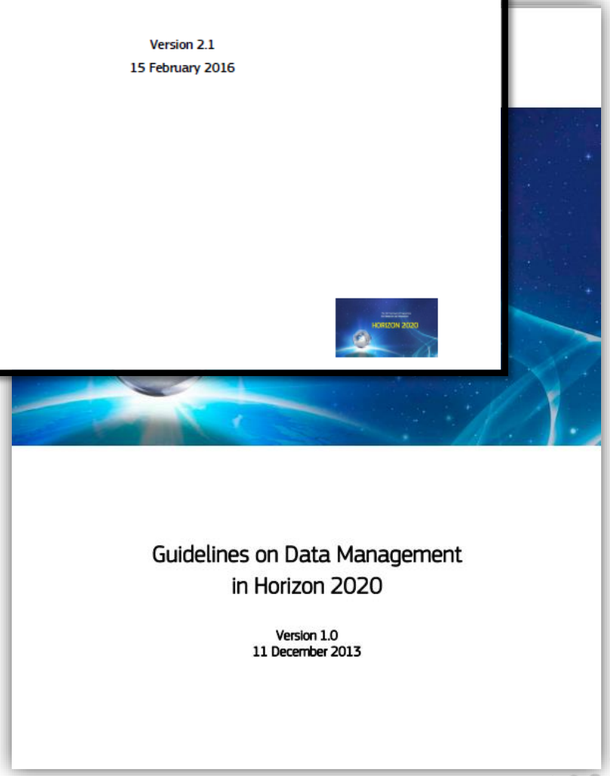
Guidelines on Data Management in Horizon 2020

Version 2.1
15 February 2016


EUROPEAN COMMISSION
Directorate-General for Research & Innovation

Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020

Version 2.1
15 February 2016


Guidelines on Data Management in Horizon 2020

Version 1.0
11 December 2013

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

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PARTICIPATE SEARCH MONITOR SUPPORT OPEN ACCESS

Open access to research data: the Open Research Data Pilot

Updated on 03 April 2017

A NOVELTY IN HORIZON 2020 IS THE OPEN RESEARCH DATA PILOT WHICH AIMS TO IMPROVE AND MAXIMISE ACCESS TO AND RE-USE OF RESEARCH DATA GENERATED BY PROJECTS. IT WILL BE MONITORED WITH A VIEW TO DEVELOPING THE EUROPEAN COMMISSION POLICY ON OPEN RESEARCH DATA IN FUTURE FRAMEWORK PROGRAMMES.

ARE YOU SUPPOSED TO DEPOSIT? > WHAT TO DEPOSIT > WHERE TO DEPOSIT > WHEN TO DEPOSIT

ARE YOU SUPPOSED TO DEPOSIT?

Projects participating in the core areas of Horizon 2020 that are part of the Open Research Data Pilot:

- Future and Emerging Technologies
- Research infrastructures (including e-Infrastructures)
- Leadership in enabling and industrial technologies – Information and Communication Technologies
- Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology: 'nanosafety' and 'modelling' topics
- Societal Challenge: Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy - selected topics in the calls H2020-SFS-2016/2017, H2020-BG-2016/2017, H2020-RUR-2016/2017 and H2020-BB-2016/2017, as specified in the work programme
- Societal Challenge: Climate Action, Environment, Resource Efficiency and Raw materials – except raw materials
- Societal Challenge: Europe in a changing world – inclusive, innovative and reflective Societies
- Science with and for Society
- Cross-cutting activities - focus areas – part Smart and Sustainable Cities.

OpenAIRE Fact Sheet about Zenodo (NEW)

OpenAIRE Fact Sheet for Funders (NEW)

OpenAIRE Fact Sheet for Research Administrators

Open Access

BACKGROUND
- Overview
- Policies and Mandates
- Open Access in FP7
- Open Access in H2020
- OA for publications
- OA for data

IN PRACTICE
- EU Member States

PROJECTS
- OpenAIRE-Advance
- OpenAIRE-Connect

PILOTS
- FP7 Post-Grant OA Pilot
- Open Research Data Pilot

EC about Open Access

EC general information about OA
EC factsheet about OA

https://www.openaire.eu/open-access-to-research-data-the-open-research-data-pilot-2

Desde janeiro de 2017 é a prática padrão...

Projeto piloto
2014-2016

Prática padrão
2017-2020

...

Requisitos do Open Research Data no H2020
QUE DADOS?

DADOS para validar os resultados apresentados em publicações científicas.

Outros dados, conforme especificado no plano de gestão de dados.

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Requisitos do Open Research Data no H2020
COMO?

Criar e manter atualizado um plano de gestão dos dados

Assegurar o depósito dos dados num repositório

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RESEARCH DATA – OPEN BY DEFAULT

Projects must have

Provides information on:

the data the research will generate

how to ensure its curation, preservation and sustainability

what parts of that data will be open (and how)

AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY

Grantees have the right to **opt-out**, but need to say **why**

intellectual property rights

privacy

might jeopardise project's main objective

Dados abertos no H2020 - OPT OUT

Os projetos podem optar por sair, na fase de proposta ou durante a execução (devidamente justificado no plano de projeto), com base em:

- **Se o projeto não gerar/recolher dados.**
- **Em caso de conflito com a obrigação de proteção dos resultados** (se é esperado que os resultados sejam comercial ou industrialmente explorados).
- **Se a realização do objetivo principal do projeto (ação) ficar comprometido com a disponibilização aberta dos dados.**
- **Em caso de conflito com as obrigações de confidencialidade.**
- **Em caso de conflito com as obrigações nacionais de segurança.**
- **Em caso de conflito com as regras em matéria de proteção de dados pessoais.**

"opt out does not affect the evaluation...
Proposals will not be penalised for opting out"

RESEARCH DATA – OPEN BY DEFAULT

Abordagem prática dos princípios FAIR

- **Findable**

  Registar identificadores persistentes (PIDs), providenciar metadados, registar num recurso pesquisável, repositório...

- **Accessible**

  Recuperável pelo PID usando o protocolo standard, metadados devem permanecer acessíveis mesmo que os dados não...

- **Interoperable**

  Usar linguagens formais e amplamente aplicáveis, usar vocabulários padrão, referências qualificadas...

- **Reusable**

  Metadados com qualidade, licença e proveniência claras, utilização de padrões da comunidade disciplinar...

www.force11.org/group/fairgroup/fairprinciples

Requisitos na prática (simplificados)

Criar um plano de gestão dos dados

Assegurar o depósito num repositório

Associar licenças CC

Documentar e providenciar informação sobre ferramentas

O foco deve ser o **planeamento** >> para a disponibilização dos dados, facilitando o depósito e a licença para permitir a **reutilização**.

HOW IT WORKS

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3.

Elaboração de Plano de Gestão de Dados para projetos H2020

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O que é um DMP?

É um documento que define:

- Como os dados serão criados;
- Como serão documentados;
- Quem poderá aceder aos dados;
- Onde e como serão guardados;
- Quem fica responsável pelos backups;
- Se e como os dados podem sre partilhados e preservados.

Informação de contexto = permite reutilização

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Benefícios dos DMPs

DMPs are part of good research

- Permitem encontrar e compreender os dados quando precisar de usá-los;
- Garantem continuidade após saída de elementos da equipa do projeto, ou na entrada de novos investigadores;
- Evitam duplicação de trabalho – ex: re-colectar ou trabalhar dados;
- Dados de apoio a publicações são mantidos, permitindo a validação de resultados;
- Promovem a partilha de dados, o que leva a maior colaboração e avanços na investigação;
- A investigação torna-se mais visível e ganha maior impacto;
- Outros investigadores podem citar os seus dados.

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Quando devem ser elaborados?

- No âmbito de um projeto:
  - Primeira versão nos primeiros 6 meses do projeto;
  - Sempre que ocorram mudanças importantes ou novos *datasets* sejam incluídos;
  - No *mid-term*;
  - No final do projeto.

O DMP não é um document fixo, evolui e ganha maior precisão e substância à medida que o projeto se desenvolve, uma vez que nem todos os dados ou usos potenciais são claros desde o princípio

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H2020 template

- Descrição sumária dos dados;
- FAIR data
  - 2.1 Como os dados serão encontráveis, incluindo os metadados gerados;
  - 2.2 Como fazer os dados ficar publicamente acessíveis;
  - 2.3 Como os dados serão interoperáveis;
  - 2.4 Como promover a reutilização (através da clarificação das licenças);
- Alocação de recursos;
- Segurança dos dados;
- Aspetos éticos;
- Outros aspetos.

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

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Ferramentas: DMP Online

Ferramenta web para ajudar os investigadores a elaborar o seu plano de gestão de dados.

- Disponibilizada de forma gratuita pelo DCC
- Inclui um template específico para o Horizonte 2020

https://dmponline.dcc.ac.uk

DMPonline

https://dmponline.dcc.ac.uk/plans/22177/phases/5511/edit

Search

DMP ONLINE

View plans | Create plan | About | Future plans | Help | Change language

Iryna's Plan

0/71 questions answered

Plan details | Initial DMP | **Detailed DMP** | Final review DMP | Share | Export

1. Data summary (7 questions, 0 answered) +

2.1 Making data findable, including provisions for metadata [FAIR data] (6 questions, 0 answered) +

2.2 Making data openly accessible [FAIR data] (5 questions, 0 answered) +

2.3 Making data interoperable [FAIR data] (2 questions, 0 answered) +

2.4 Increase data re-use (through clarifying licenses) [FAIR data] (5 questions, 0 answered) +

3. Allocation of resources (3 questions, 0 answered) +

4. Data security (1 question, 0 answered) +

5. Ethical aspects (1 question, 0 answered) +

6. Other (1 question, 0 answered) +

Export

Exemplos DMP

H2020 disponíveis no Zenodo

- Helix Nebula – High Energy Physics example

https://zenodo.org/record/48171#.WATexnriF40

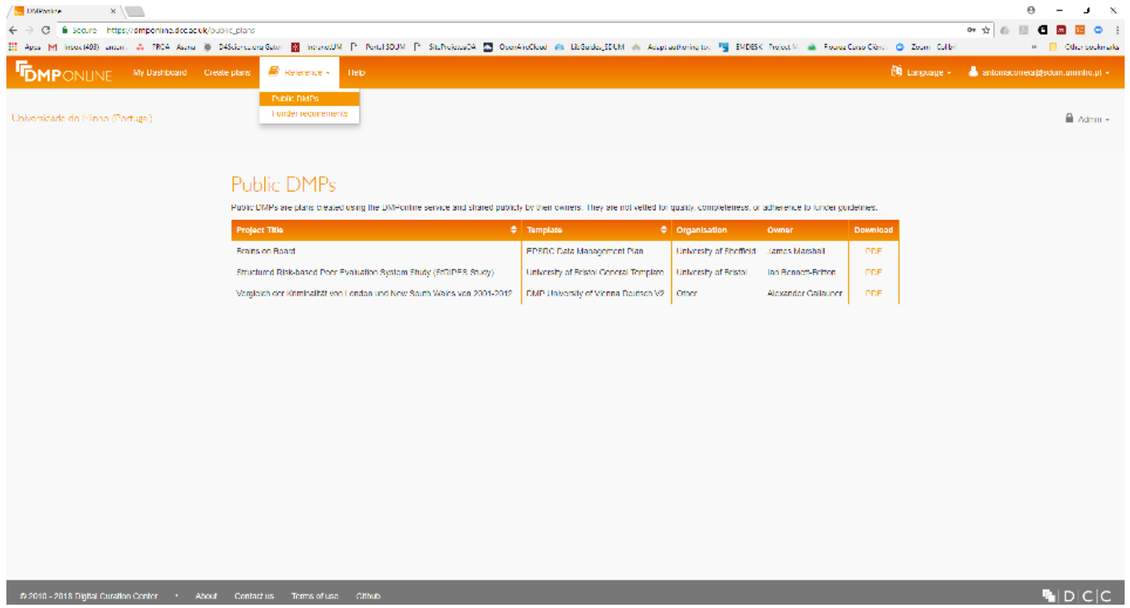
- Tweether – engineering (micro-electronics) example

https://zenodo.org/record/55791#.WATei3riF40

- AutoPost – ICT example

Https://zenodo.org/record/56107#.WATefXriF40

Outros disponíveis no DMP Online



Guias

A Digital Curation Centre
'working level' guide

DCC JISC

How to Develop a Data Management and Sharing Plan

Sarah Jones (DCC)

DCC

Checklist for a Data Management Plan, v4.0

Please cite as: DCC. (2013). *Checklist for a Data Management Plan.* v.4.0. Edinburgh: Digital Curation Centre. Available online: http://www.dcc.ac.uk/resources/data-management-plans

DCC Checklist	DCC Guidance and questions to consider
Administrative Data	
ID	A pertinent ID as determined by the funder and/or institution.
Funder	State research funder if relevant
Grant Reference Number	Enter grant reference number if applicable [POST-AWARD DMPs ONLY]
Project Name	If applying for funding, state the name exactly as in the grant proposal.
Project Description	**Questions to consider:** - What is the nature of your research project? - What research questions are you addressing? - For what purpose are the data being collected or created? **Guidance:** Briefly summarise the type of study (or studies) to help others understand the purposes for which the data are being collected or created.
PI / Researcher	Name of Principal Investigator(s) or main researcher(s) on the project.
PI / Researcher ID	E.g ORCID http://orcid.org/
Project Data Contact	Name (if different to above), telephone and email contact details
Date of First Version	Date the first version of the DMP was completed
Date of Last Update	Date the DMP was last changed
Related Policies	**Questions to consider:** - Are there any existing procedures that you will base your approach on? - Does your department/group have data management guidelines? - Does your institution have a data protection or security policy that you will follow?

http://www.dcc.ac.uk/resources/data-management-plans

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OpenAIRE guidelines on writing DMPs

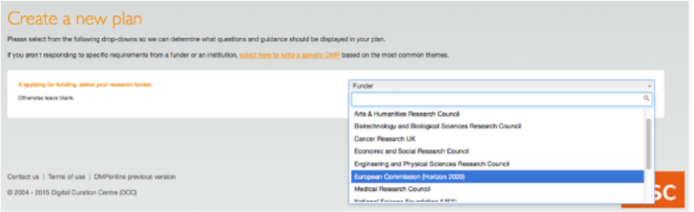
FIRST STEPS

It is recommended to refer the Principal Researcherto the Digital Curation Centre DMPonline tool, which offers DMP templates that match the demands and suggestions of the Guidelines on Data Management in Horizon 2020.

1. Sign up to DMPonline

2. Select *Create plan*

3. Select *European Commission (Horizon 2020)* from the list of research funders:



4. Optionally, select a relevant organisation from the list of organisations to see institutional questions and/or guidance. (Anyone can use DMPonline. If your organisation is not listed, just select *other organisation*.)

5. It is recommended to check the box for additional DCC guidance.

6. Select *Create plan*.

7. The first DMP to be written in a project participating in the Open Research Data Pilot would typically be based on the "Initial DMP" template.

A DMP in DMPonline can be saved anytime. It can also be shared and it can be downloaded in various formats. A screencast on how to use DMPonline is available via the home page.

https://www.openaire.eu/opendatapilot-dmp

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Revisão de DMPs no H2020

- DMPs são um *deliverable*, verificado em primeiro lugar pelos *project officers* e em alguns casos pelos revisores externos;
- Estão a ser desenvolvidas diretrizes para os revisores , sobre o que deve ser verificado; estas diretrizes são baseadas no template DMP H2020;
- O revisor tem acesso a toda a documentação do projeto;
- O procedimento ainda está a ser desenvolvido, pelo que o feedback ainda pode ser variável
- *Data management plan: guidance for peer reviewers*

https://esrc.ukri.org/files/about-us/policies-and-standards/data-management-plan-guidance-for-per-reviewers/

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4.

Outros requisitos na prática

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Onde depositar e onde encontrar um repositório?

1. Num arquivo de dados ou repositório externo e de âmbito temático ou disciplinar

2. Num repositório de dados institucional, ou de unidade de investigação devidamente estabelecido e com facilidades de gestão de dados.

- Zenodo.org

- Pesquisar no diretório de repositórios: re3data.org

re3data.org

REGISTRY OF RESEARCH DATA REPOSITORIES

Home | Search | Browse | Suggest | FAQ | About | Schema | API | Contact | Legal notice / Impressum

Search for Repositories (1364 reviewed repositories)

Search

Subject

Add subjects

Epidemiology, Medical Biometry, M...

Content Type

Add content types

Country (of the responsible institutions)

Add countries

Certificates

Open Access

Persistent Identifier

www.re3data.org

re3data.org

REGISTRY OF RESEARCH DATA REPOSITORIES

Home | Search | Browse | Suggest | FAQ | About | Schema | API | Contact | Imprint

Browse by country

Australia
Austria
Azerbaijan
Belgium
Benin
Brazil
Burkina Faso
Canada
China
Costa Rica
Czech Republic
Denmark
El Salvador
Estonia
Ethiopia
Finland
France
French Polynesia
Germany
Greece
Hungary
India
Indonesia
Ireland
Israel
Italy
Japan
Korea, Republic of
Lithuania
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Panama
Poland
Romania
Russian Federation
Senegal
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan, Province of China
Ukraine
United Kingdom
United States

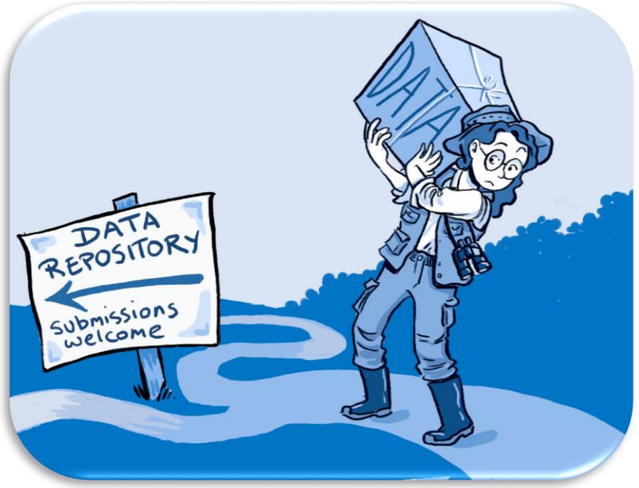
ZENODO

Repositório de Dados Abertos do OpenAIRE & CERN

OpenAIRE

Algumas caraterísticas do Zenodo:

- Repositório *catch-all* para investigação financiada pela CE.
- Aberto a todo o tipo de resultados de investigação e de todas as disciplinas.
- 50 GB por *upload.*
- Dados armazenados no *data center* do CERN.
- Atribuição de identificadores persistentes (DOIs) .
- Serviço livre e gratuito para a *"long tail of Science"*.
- Possui integração com GitHub, possibilitando a citação de código aí armazenado.
- Fácil identificar financiamento do espaço europeu de investigação (H2020, WT, FCT…) OpenAIRE.



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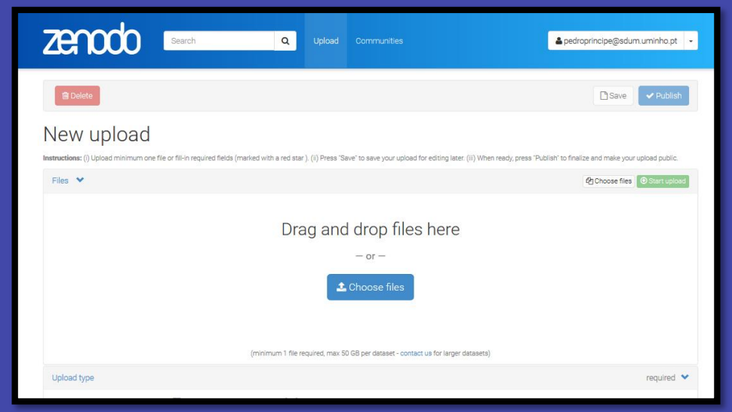

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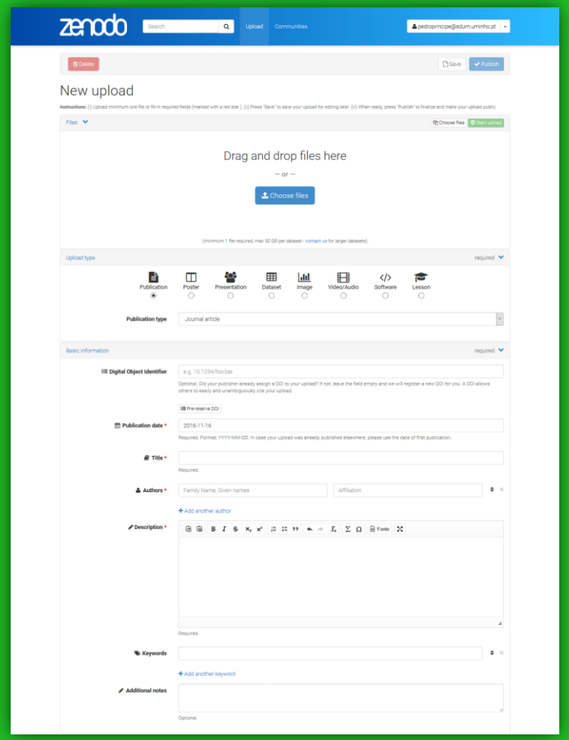

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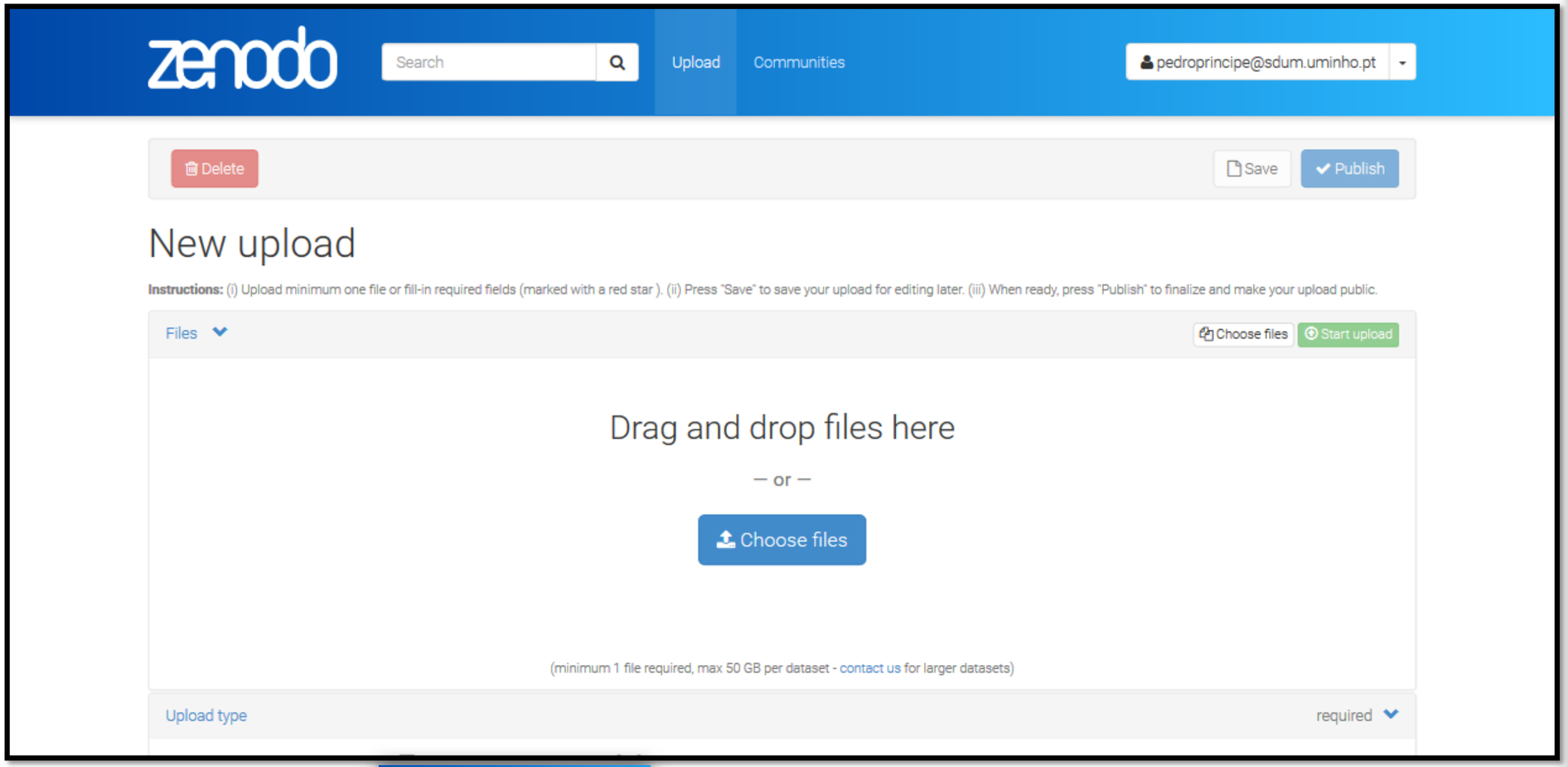

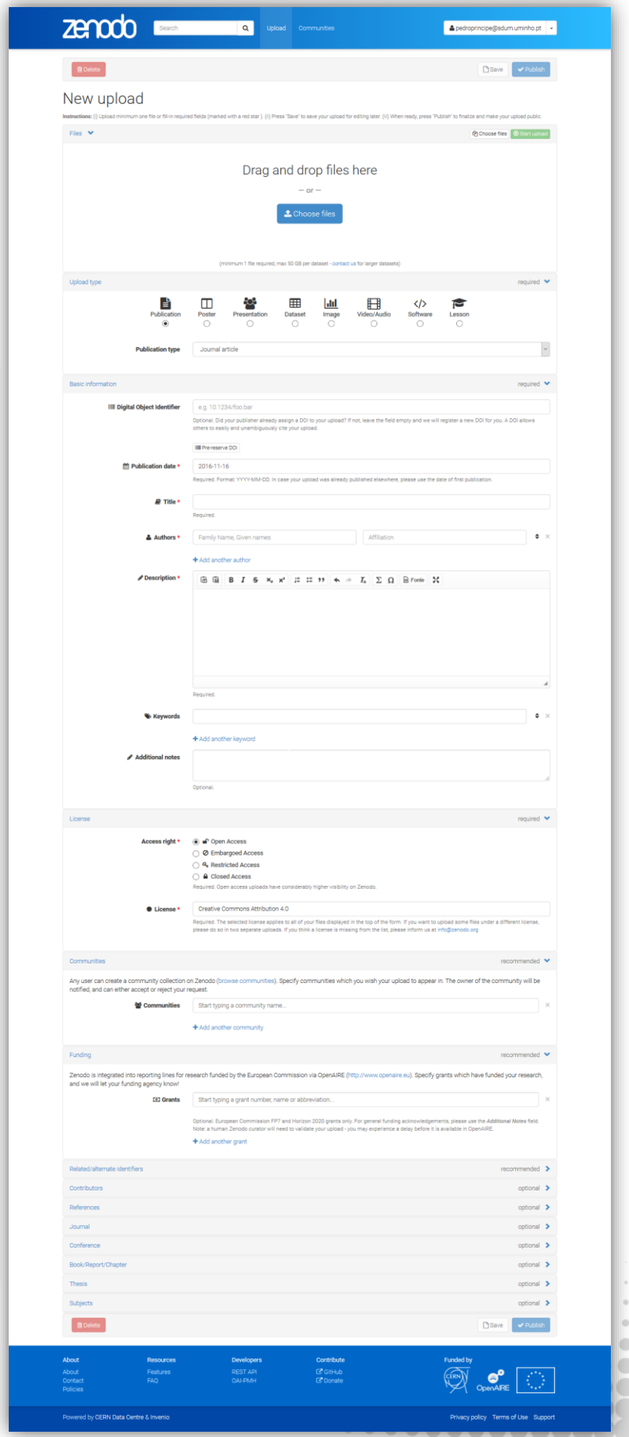

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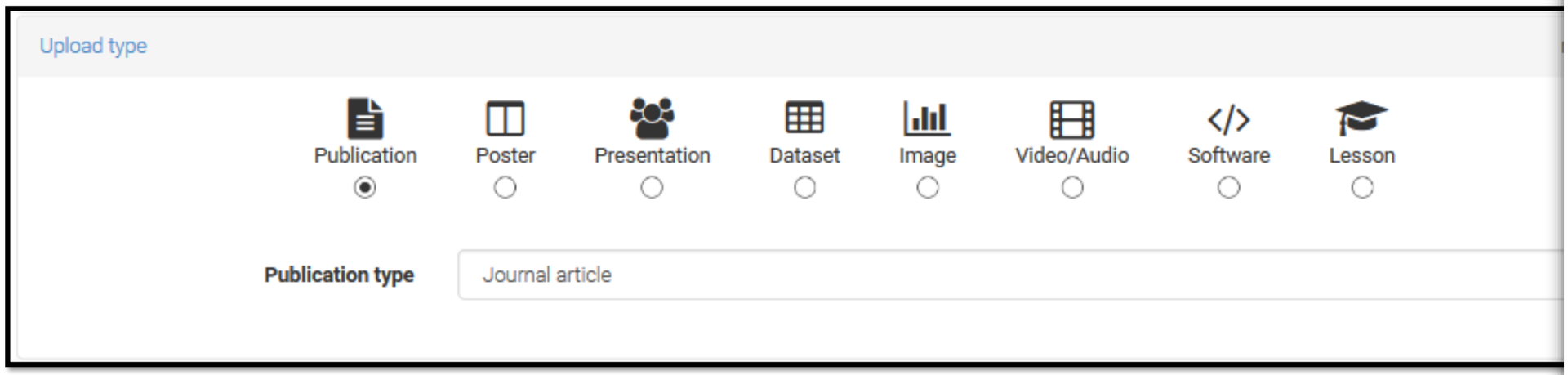

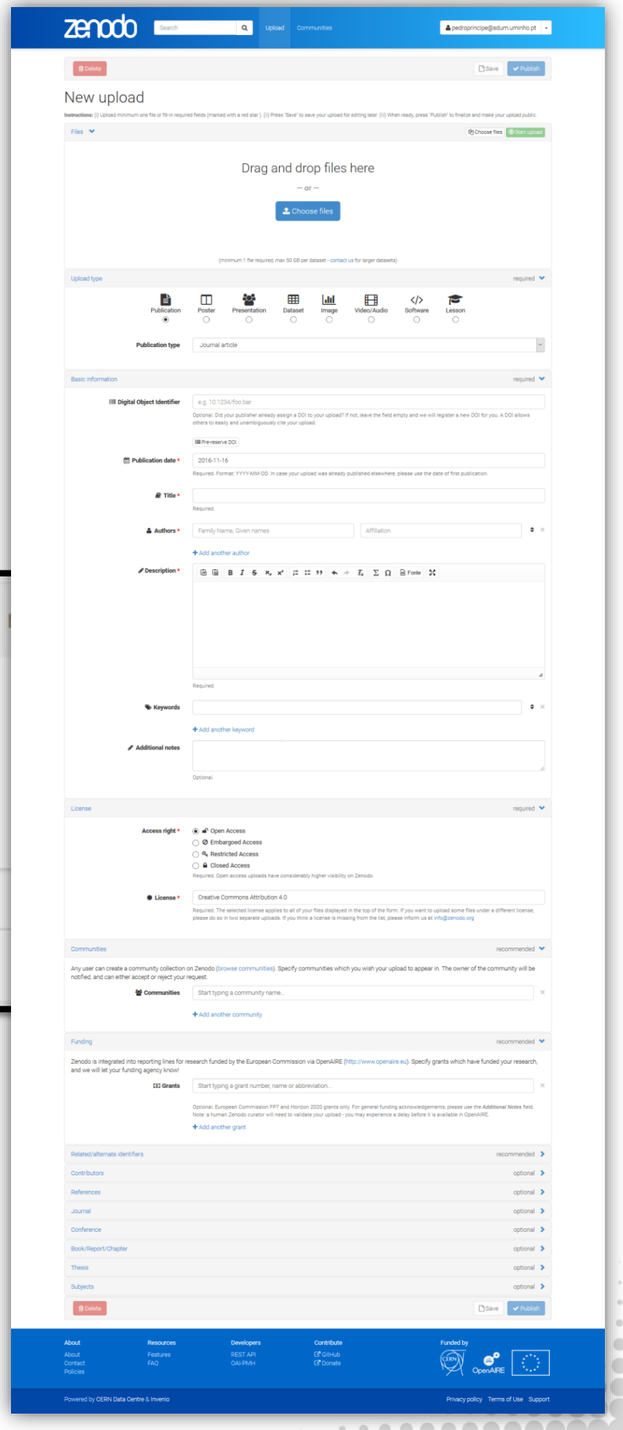

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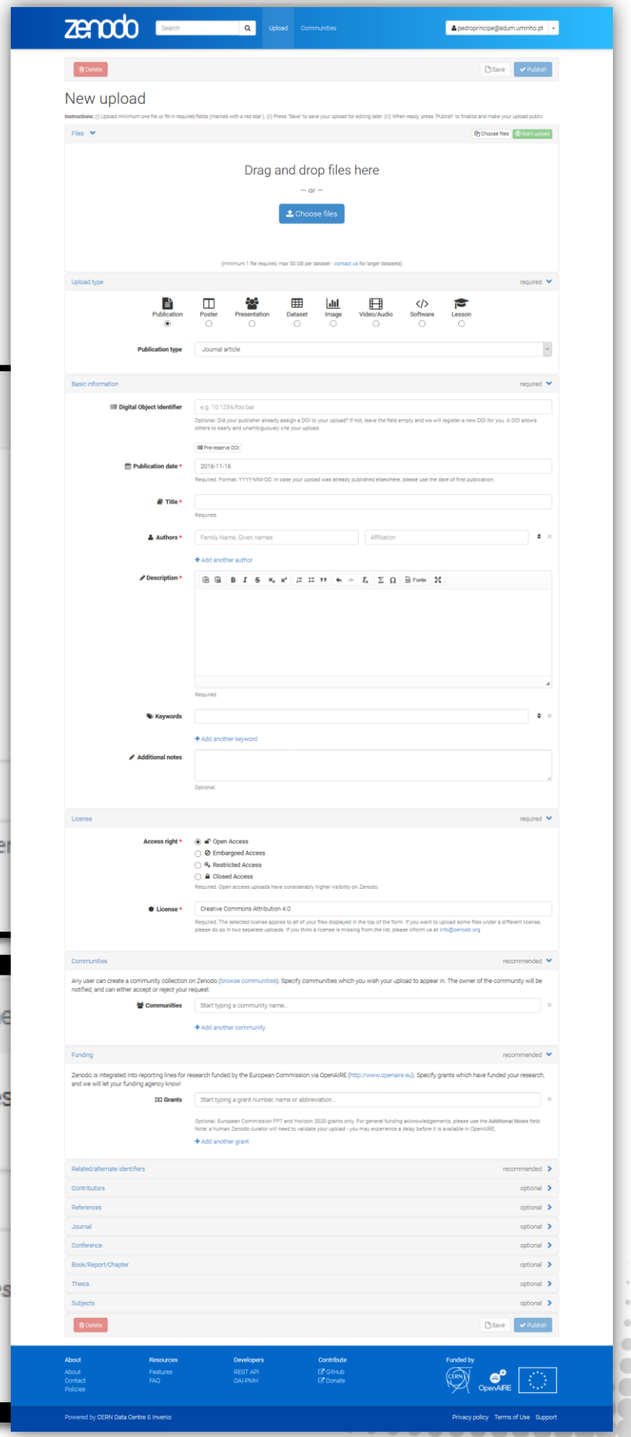

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Storing single photons emitted by a quantum memory on a highly excited Rydberg state - Figure data

Distante, Emanuele; Farrera, Pau; Padrón-Brito, Auxiliadora; Paredes-Barato, David; Heinze, Georg; de Riedmatten, Hugues

The files contain the data associated with the paper Distante, Farrera et al. "Mapping single photons emitted by a quantum memory on a highly excited Rydberg state".

The name of each file corresponds to the figure number (e.g. figure2a, figure3b, etc.) and the first element in each file (the first row) is the date in which the data has been taken. The data is the result of a pre-processing of histogram and time-stamping files in the experiment. On reasonable request, we can provide the raw data.

The fits in the figures are referenced throughout the open-access paper, and can be found in the Supplementary Information of the publication.

We acknowledge financial support by the ERC starting grant QuLIMA, by the Spanish Ministry of Economy and Competitiveness (MINECO) through grant FIS2015-69535-R (MINECO/FEDER) and Severo Ochoa SEV-2015-0522, by AGAUR via 2014 SGR 1554 and by Fundaci\'{o} Privada Cellex. DPR has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 658258. P.F. acknowledges the International PhD-fellowship program "la Caixa"-Severo Ochoa @ ICFO. G.H. acknowledges support by the ICFOnest+ international postdoctoral fellowship program

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Pw [mW]	dg(2)r1,r2
3.89E+00	5.62E-02
1.00E+00	5.10E-02
2.64E-01	3.66E-02
6.08E-02	2.60E-02
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Keyword(s):
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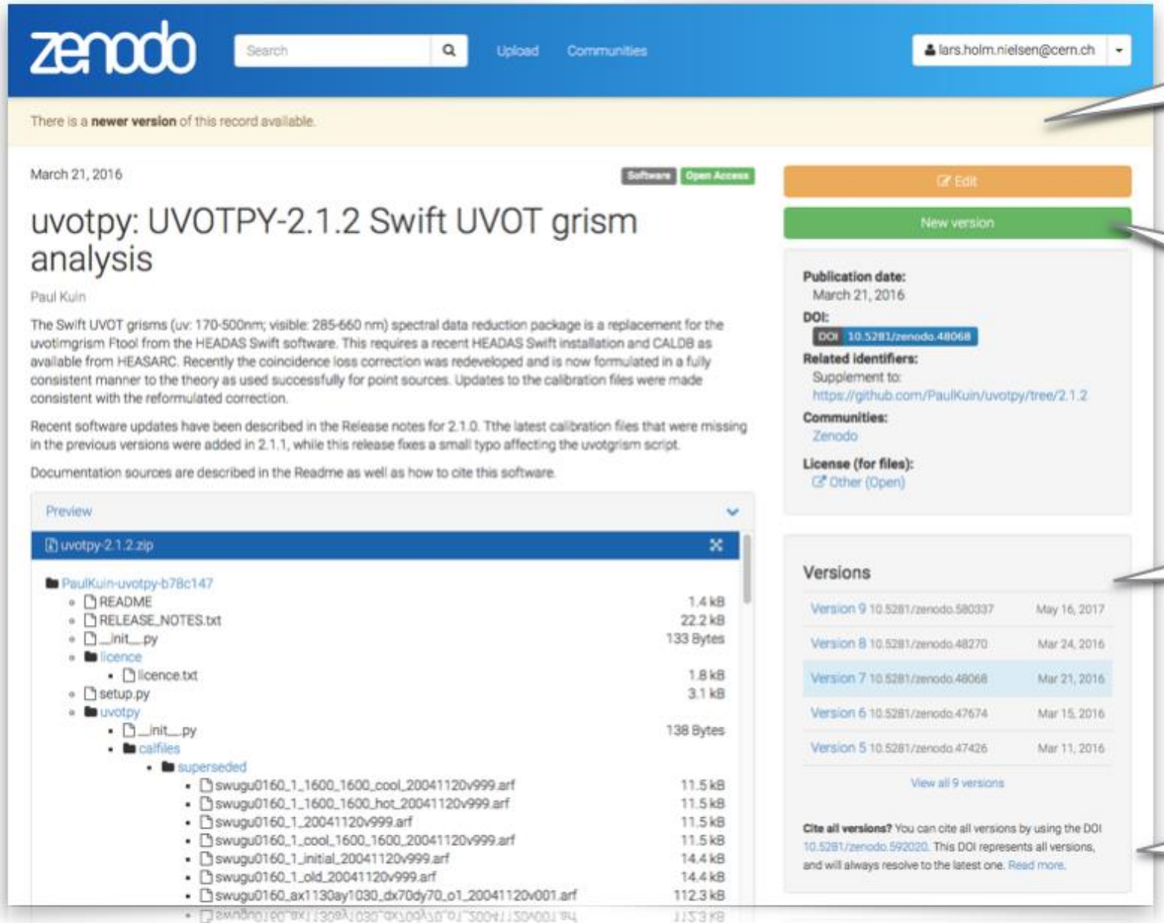

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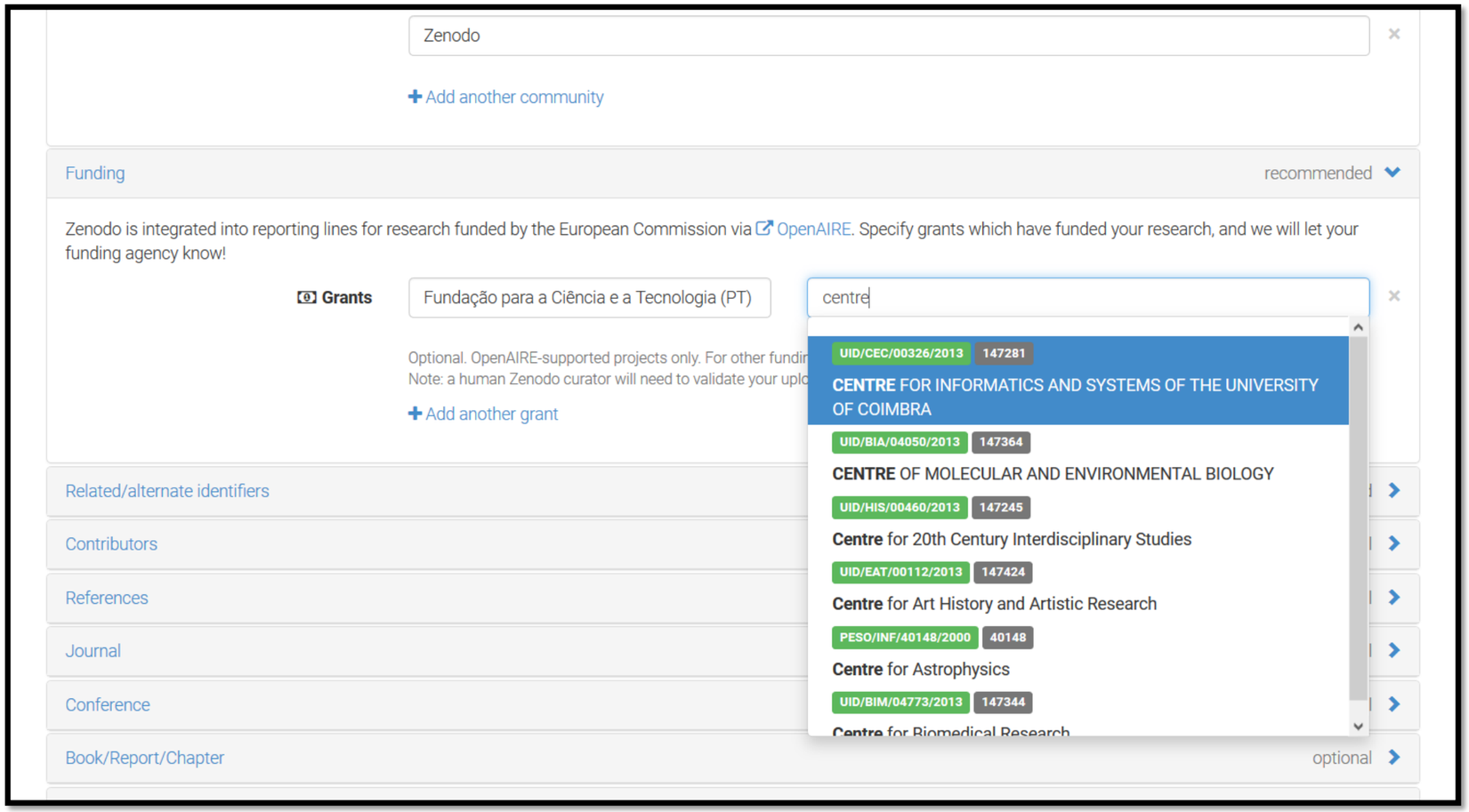

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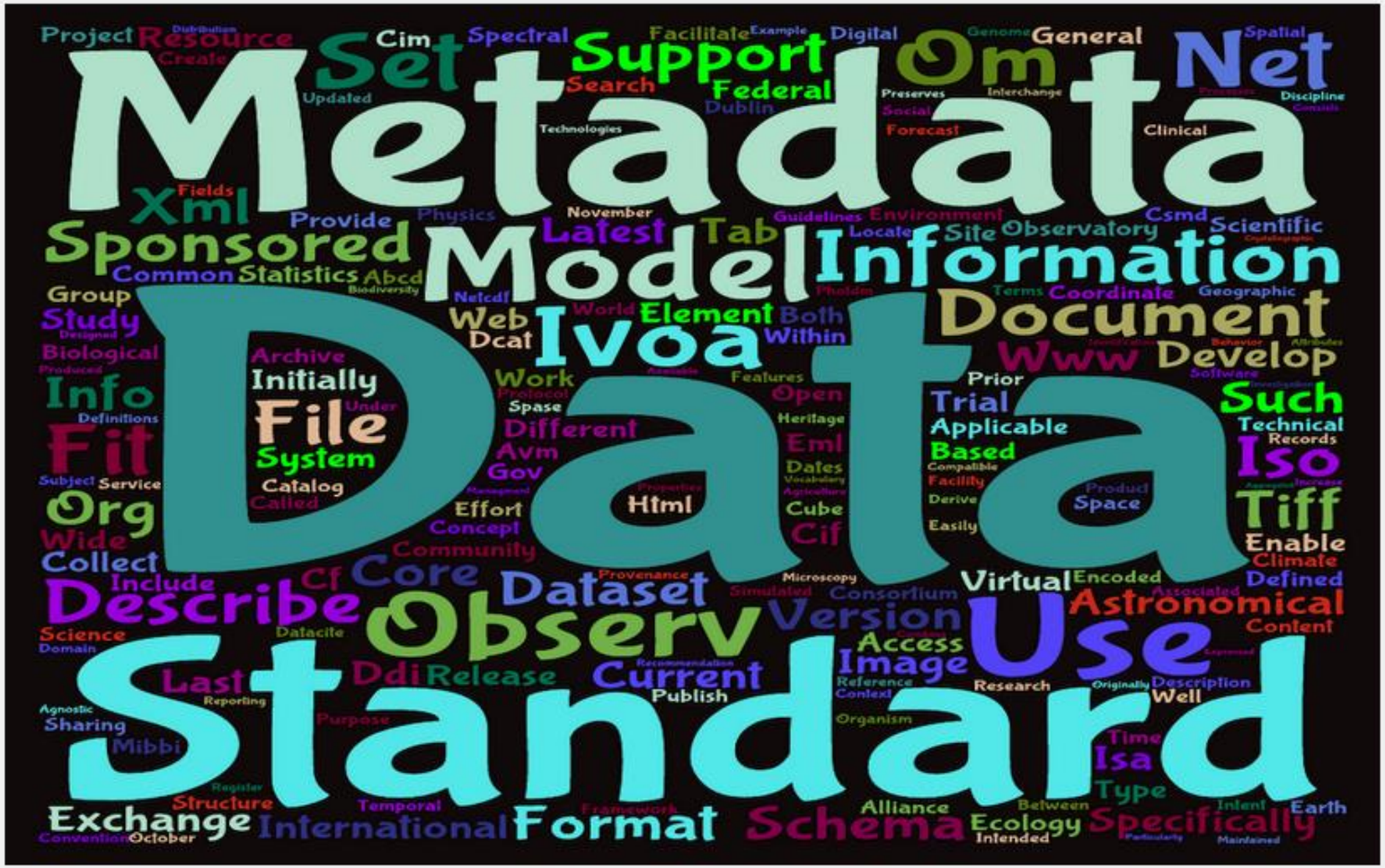

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