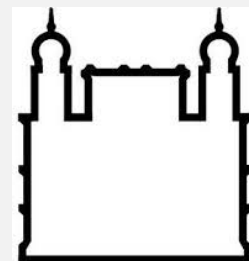




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*Os dados abertos no H2020 e o  
projeto FOSTERPlus*

Eloy Rodrigues - [eloy@sdum.uminho.pt](mailto:eloy@sdum.uminho.pt)



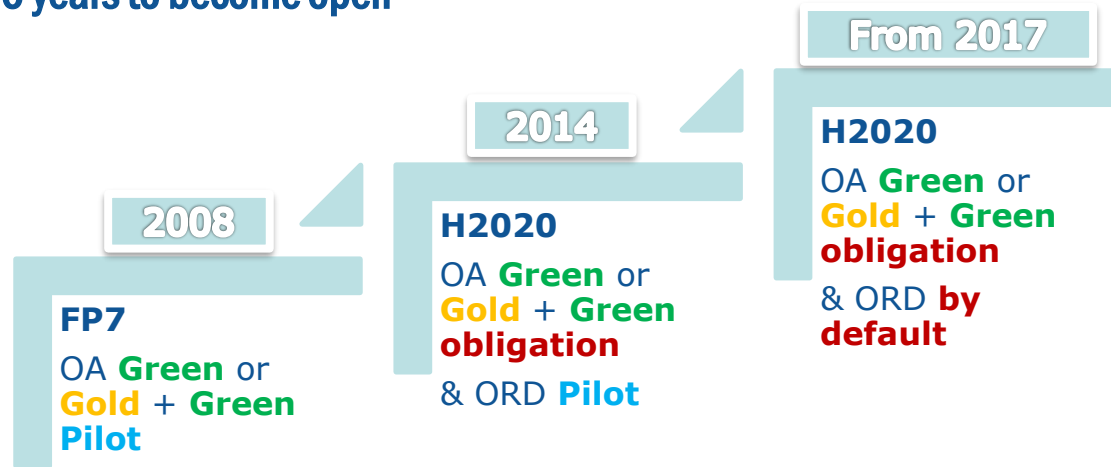
FIOCRUZ

15 Junho 2018

# Os dados abertos no H2020



## 10 years to become open



Slide by Jean-Claude Burgelman and Daniel Spichtinger (DG RTD EC) presented at the OpenAIRE workshop - Legal issues in Open Research Data, April 4 2107, Barcelona.

# Requisitos dos dados abertos no H2020



## 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



a public  
benefit

encourages  
research across  
scientific fields



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

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



# DADOS ABERTOS NO H2020 - GUIAS

## **EC Guidelines on Open Access and Research Data in Horizon 2020**

Documento com orientações para os beneficiários dos projetos financiados que estão abrangidos pelos requisitos dos dados abertos

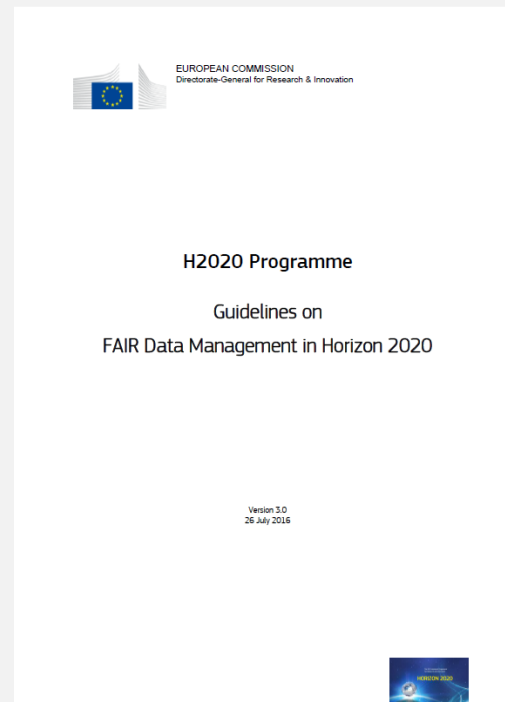


[http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-pilot-guide\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf)

# DADOS ABERTOS NO H2020 - GUIAS

## **EC Guidelines on FAIR Data Management in Horizon 2020**

Documento com  
orientações para os  
beneficiários dos projetos  
financiados tornarem os  
seus dados FAIR



[http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-data-mgt\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf)



# *Desde janeiro de 2017 é a prática padrão...*



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

---

Projects must have



DATA  
MANAGEMENT  
PLAN  
(DMP)

Provides information on:



the data the research  
will generate



how to ensure its  
curation, preservation and  
sustainability

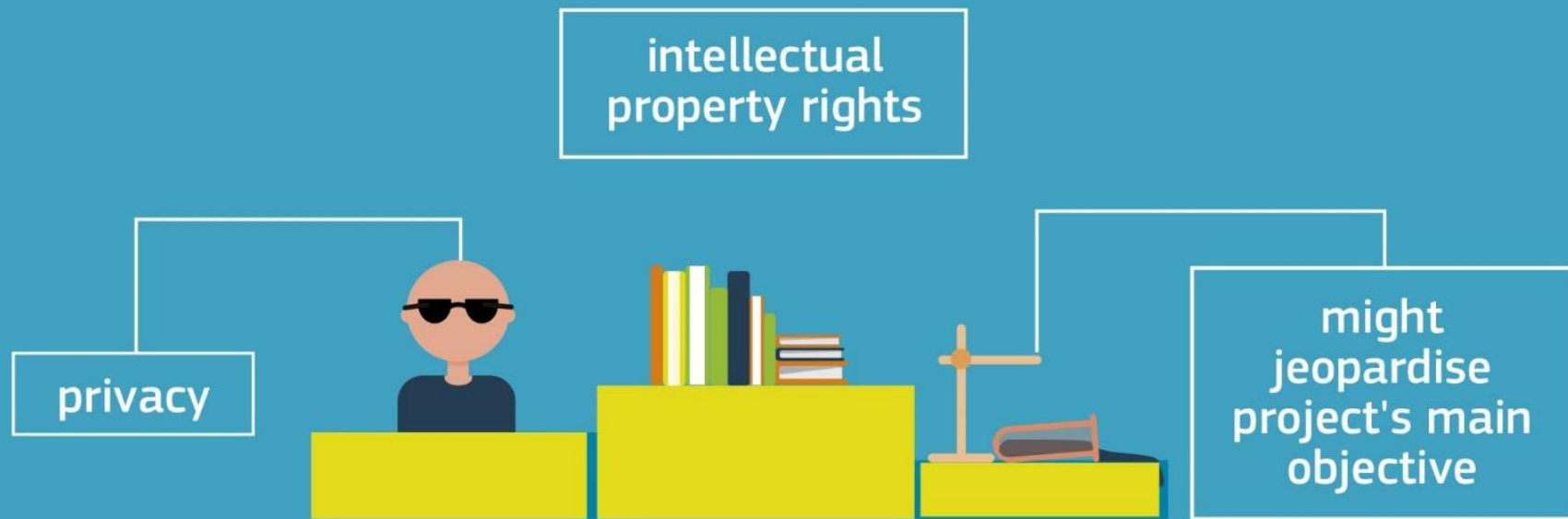


what parts of that data  
will be open (and how)

# AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY

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



# RESEARCH DATA - OPEN BY DEFAULT

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# Requisitos na prática (simplificados)



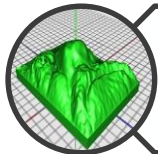
Criar um plano de gestão dos dados



Assegurar o depósito num repositório



Associar licenças CC



Documentar e providenciar informação sobre ferramentas



**Fostering the practical implementation of  
Open Science in Horizon 2020 and beyond**



# VISÃO

Expandindo o trabalho do projeto FOSTER anterior, apoiar os pesquisadores individuais e as organizações de pesquisa a passarem de estar simplesmente conscientes delas, para serem capazes de aplicar as metodologias de Ciência Aberta no seu dia-a-dia.





Facilitating Open Science Training in  
European Research

**“Spread the seeds of Open Access and Open Science”**



**Fevereiro de 2014 a Julho 2016**







# 2000+ Training materials, categorized in the FOSTER Portal

## Open Science Taxonomy

### Learning Objectives for Target Groups/Stakeholders

TOPICS (following the Research Lifecycle)	CORE LEARNING ELEMENTS	LEARNING OBJECTIVES (as basis for a LEARNING PLAN)	STAKEHOLDER				
			Doctoral Students	Researchers	Research Project Managers	Knowledge Managers & Librarians	Funding Agencies
Open Science Definition	Define the concept of Open Science	Define relevance of OS tools to Reproducibility/Integrity of Research	o	o	o	o	o
		Identify OS tools for each step of the Research Lifecycle	o	o	o	o	o
		Apply OS concepts to your daily research processes	o	o			
Open Reproducible Research	Define relevance to Reproducibility	Discuss OS & Reproducibility role in Innovation & Economic Growth		o	o	o	o
		Identify OS tools for each step of the Research Lifecycle	o	o	o	o	
		Define relevance of OS tools to Reproducibility/Integrity of Research	o	o	o	o	
		Apply OS concepts to your daily research processes	o	o			
		Justify Openness as a Reproducibility Tool	o	o			



More than **100 face2face training events** in **28 countries** and **25 online courses**, totalling more than **6300 participants**

<http://fosteropenscience.eu>

# Plano de trabalho

**Ano 1 (Maio 2017-Abril 2018)** foco no desenvolvimento do Open Science Toolkit, atualização do Portal FOSTER para dar suporte a aprendizagem moderada, *badging* e *gamification*, realização do Open Science Bootcamp e formação presencial inicial.

**Ano 2 (Maio 2018-Abril 2019)** desenvolver e apoiar a rede de formadores FOSTER, realizar um intenso calendário de formação, incluindo aprendizagem moderada no Portal FOSTER, disponibilizar o Open Science Toolkit e o Open Science training Handbook.

# Estratégia de Formação do FOSTER

- Criar, recolher e disponibilizar recursos e ferramentas de formação
- Criar e apoiar uma rede de formadores em Ciência Aberta
- Conduzir um programa de formação intensivo (elearning e presencial)

USE FOSTER TO:



Access Free Courses



Get Badges



Earn Specialisation



Attend live events



Participate in the community

# Recursos e ferramentas para formação

- Recolher e categorizar conteúdos e recursos de formação no Portal FOSTER
- Criar o Open Science Training Handbook

# Open Science Training Handbook



- Recurso para apoiar formadores de Ciência Aberta
- Organização de um Book Sprint
  - Fevereiro 2018, Alemanha
  - 14 especialistas convidados para serem autores (39 candidatos)

# Open Science Training Handbook



- Book sprint: assegurou um livro completo em alguns dias
- Foram escritas 200 páginas em cinco dias
- No ultimo dias versão beta online para comentário da comunidade



# Open Science Training Handbook



- **Open Science Basics**

- Open Concepts & Principles
- Open Research Data & Materials
- Open Research Software & Open Source
- Reproducible Research & Data Analysis
- Open Access to Published Research Results
- Open Licensing & File Formats
- Collaborative Platforms
- Open Peer Review, Metrics & Evaluation
- Open Science Policies
- Citizen Science
- Open Advocacy

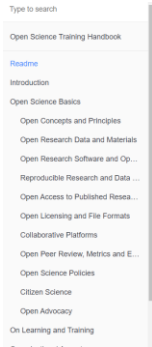
- Introduction
- **On Learning & Training**
- **Organizational Aspects**
- **Examples & Practical Guidance**
- Glossary
- References
- About the Authors & Facilitators

# Open Science Training Handbook



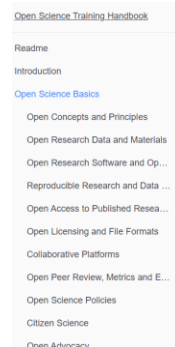
- Disponível como GitBook e para download (PDF, epub, mobi)
- Licença CC 0 para facilitar a reutilização

## book.fosteropenscience.eu



### The Open Science Training Handbook

A group of fourteen authors came together in February 2018 at the TIB (Technische Informationsbibliothek; German National Library of Science and Technology) in Hannover to create an open, living handbook on Open Science training. High-quality trainings are fundamental when aiming at a cultural change towards the implementation of Open Science principles. Teaching resources provide great support for Open Science instructors and trainers. The Open Science training handbook will be a key resource and a first step towards developing Open Access and Open Science curricula and andragogies. Supporting and connecting an emerging Open Science community that wishes to pass on their knowledge as multipliers, the handbook will enrich training activities and unlock the community's full potential.



### Open Science Basics

This chapter aims to provide concrete context as well as the key points for the most relevant aspects of Open Science. Starting from the core concepts and principles of Open Science, the chapter continues to address components such as Open Research Data, Open Access, Open Peer Review and Open Science Policies, together with more practical aspects such as Reproducible Research, Open Source Software and Open Licensing and File Formats.

<https://doi.org/10.5281/zenodo.1212496>



# Recursos e ferramentas para formação

- Recolher e categorizar conteúdos e recursos de formação no Portal FOSTER
- Criar o Open Science Training Handbook
- Desenvolver o Open Science Toolkit

# Open Science Toolkit

- Direcionado para pesquisadores
- Focado em conteúdo prático e de nível intermédio
- Exemplos disciplinares (ciências da vida, ciências sociais e humanidades)
- Questionários avaliarão conhecimentos/competências
- Serão atribuídos *badges* para os que completem os cursos

# Open Science Toolkit

## What is Open Science?

This introductory module will help you to understand what open science is and why it is something you should care about.



## Best Practice

This module introduces policies and other environmental factors that influence good practice in open research.



## Open Peer Review (OPR)

This module will introduce you to OPR and let you know how you can get started with it.



## Data Protection and Ethics

This module helps you to get to grips with responsible data sharing.



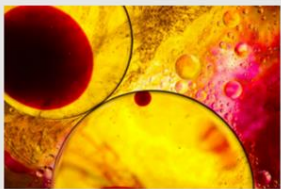
## Licensing

This module helps you to find the best license for your open research outputs.



## Open Data

In this module, you'll focus on which data you can share and how you can go about doing this most effectively.



## OSS and Workflows

This module introduces Open Source Software (OSS) and workflows as an emerging but critical component of Open Science.



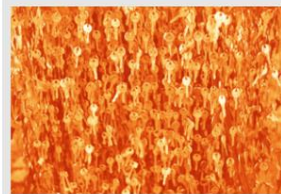
## Open Innovation

This module will show you how Responsible Research and Innovation is accelerated through Open Science.



## Open Access Publishing

This module will help you become skilled in Open Access publication in the wider context of Open Science.



## Preprints

This module introduces the practice of sharing preprints and helps you to see how it can support your research.



[www.fosteropenscience.eu/toolkit](http://www.fosteropenscience.eu/toolkit)






# Especializações

2-4 horas de conteúdos

- The reproducible research practitioner
- The responsible data sharer
- The Open Access Author
- The open peer reviewer
- The open innovator

**Specialisms**

Interested in delving more deeply into some areas of Open Science? Consider working through one of our five Open Science specialisms below.

<p>The Open Innovator</p> 	<p>The H2020 OA Author</p> 
<p>The Open Peer Reviewer</p> 	<p>The Responsible Data Sharer</p> 
<p>The Reproducible Research Practitioner</p> 	

Para mais informação, ver [www.fosteropenscience.eu/learning-paths](http://www.fosteropenscience.eu/learning-paths)

# Exemplo: Curso Open Peer Review

## Open Peer Review

This module will introduce you to Open Peer Reviewing and let you know how you can get started with it.

### Introduction

This module introduces you to open peer review (OPR), an emerging practice in Open Science.

Upon completing this module, you will:

- understand what OPR means and how it supports Open Science
- be aware of OPR workflows and which aspects of the review process are strongly needed in the peer review process.
- know how to write a constructive and responsible open peer review
- know about useful tools and services that can support you



CC-BY-SA, AJ Cann

### OPR in three minutes

In this short video, Tony Ross-Hellauer introduces the concept of open peer review, a practice strongly needed in the peer review process.

What is Open Peer Review? Tony Ross-Hellauer



### What does OPR mean?

#### Definition of OPR

Click the forward arrow to see more.



#### Transparent & accountable

Open peer review is an umbrella term for various alternative review methods that seek to make classical peer review more transparent and accountable (cf. Ross-Hellauer, 2016).

### Quiz - Are you an Open Peer Reviewer?

Transparency can be added to peer review through:

Tick all that apply

Accessible evaluation reports

Platforms that allow interaction

Revealed identities of reviewers

Submit

Show feedback

What are the benefits of open peer review?

Tick all that apply

It is not biased

My results can be published more quickly

My review is a citable research output

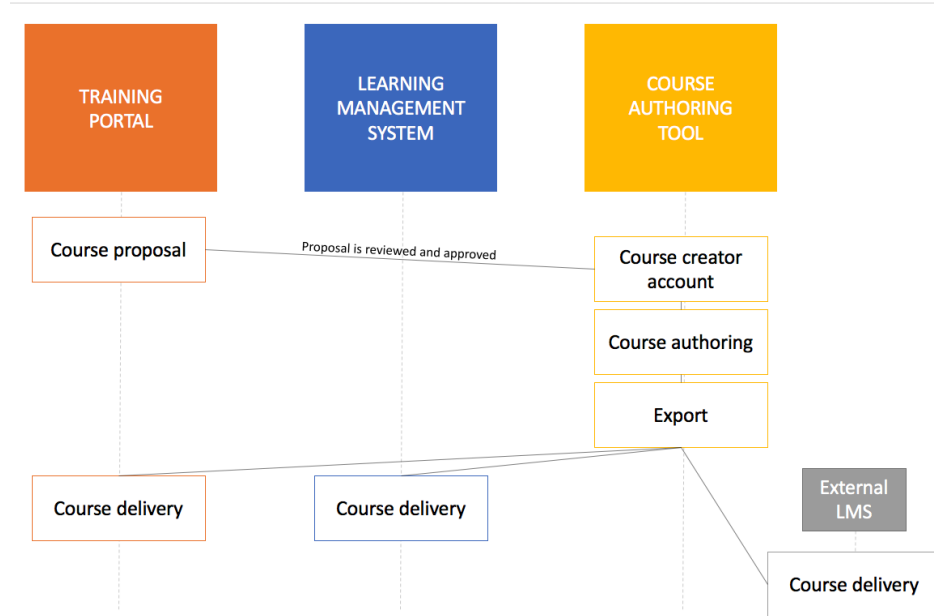
Submit

Show feedback

# Recursos e ferramentas para formação

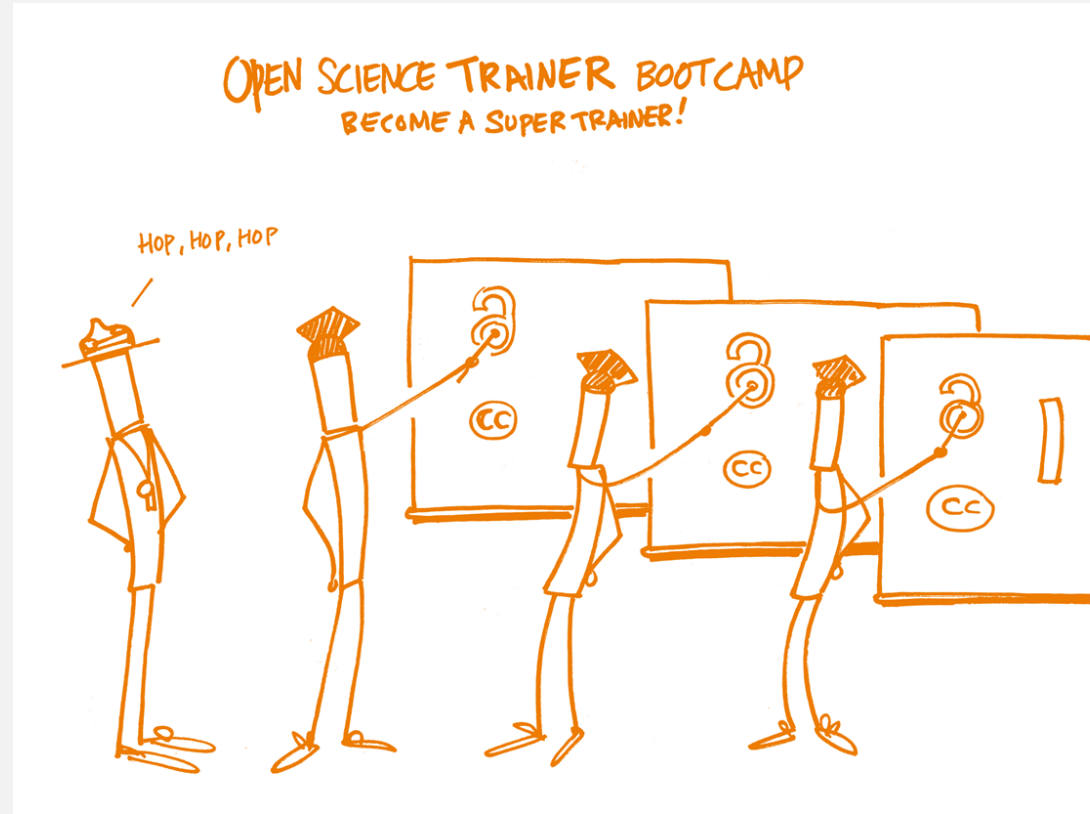
- Recolher e categorizar conteúdos e recursos de formação no Portal FOSTER
- Criar o Open Science Training Handbook
- Desenvolver o Open Science Toolkit
- Disponibilizar plataformas de autoria (Adapt) e elearning (Moodle)

# 0 “ecosistema” FOSTER



# Criar e apoiar uma rede de formadores de Ciência Aberta

- OS Trainer Bootcamp





# OS Trainer Bootcamp

- 18-20 Abril, 2018 no CRG em Barcelona
- 31 participantes (28 financiados) de 16 países (57 candidatos)
  - 40% pesquisadores, 60% pessoal de suporte (gestores de projeto, bibliotecários, etc.)
  - Desde a astronomia e bioinformática às humanidades e ciência da informação
- Cada participante irá conduzir eventos de formação de Maio de 2018 a Abril de 2019





# FOSTER

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Obrigado! Questões?

[www.fosteropenscience.eu](http://www.fosteropenscience.eu)

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