FOSTER

Training for Open Science

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Vårkonferanse 2019
Oslo, March 6th 2019

Project factsheet

- FOSTER Plus - Fostering the practical implementation of Open Science in Horizon 2020 and beyond
- EU H2020 funded (925K€)
- 24 months - May 2017-April 2019
- 11 partners (from 6 countries)

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VISION

Building upon the solid foundation provided by the previous FOSTER project, **support individual researchers and research performing organisations to move beyond simply being aware of them to being able to apply Open Science (OS) approaches in their daily workflows.**

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Facilitating Open Science Training in European Research

“Spread the seeds of Open Access and Open Science”

February 2014 to July 2016

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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	Resear-chers	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	
			Apply OS concepts to your daily research processes	o	o			
			Discuss OS & Reproducibility role in Innovation & Economic Growth		o	o	o	o
	Open Reproducible Research	Define relevance to Reproducibility	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	o
		Justify Openness as a Reproducibility Tool	Apply OS concepts to your daily research processes	o	o			
			Discuss OS role in Peer-Review Process	o	o			
			Discuss OS & Reproducibility role in Innovation &					

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

http://fosteropenscience.eu

MOTIVATION / CONTEXT

The adoption of OS approaches has been quite limited to date

General awareness of OS approaches has greatly improved among EU researchers…

… but there is still a lack of practical guidance and training to help researchers learn how to open up their research processes and results.

General Objectives

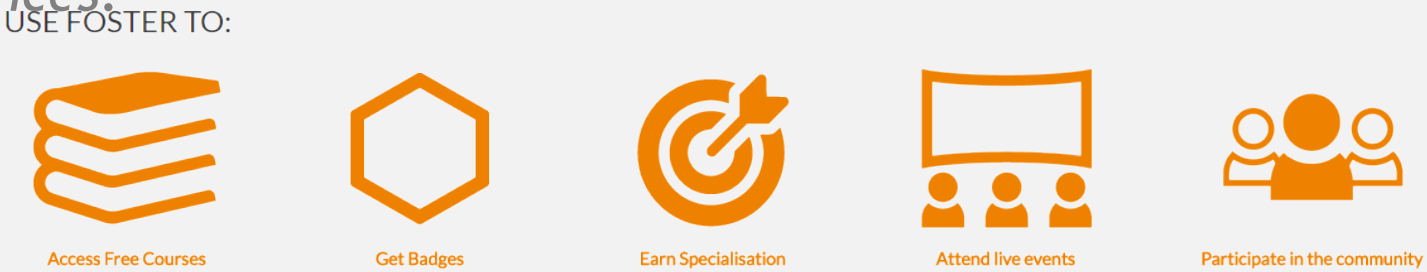
Contribute to a **real and lasting shift in the behavior of European researchers to ensure that OS becomes the norm** in Horizon 2020 and beyond

Provide **high quality training materials and events**, addressing the current skills and content gaps, both at community/discipline and institutional levels

Reach all relevant stakeholders in the European Research Area (ERA), with a focus on researchers, in particular young scientists. They will be targeted directly and via intermediaries (e.g. research support staff including librarians, research administrators, lab technicians)

FOSTER Strategy

- *Creation of high quality and advanced-level **training resources** including a multi-module Open Science toolkit and an Open Science training handbook;*
- *Delivery of face-to-face **training events**, blended and e-learning courses;*
- *Consolidation of an Open Science **trainers network** involving the disciplinary communities of humanities, social sciences and life sciences.*



EXPLORE OUR TRAINING MATERIALS:

Open Science

- Open Access
- Open Data
- Open Science Policies
- Open Science Tools
- Open Reproducible Research
- Open Science Evaluation
- Open Science Definition
- Open Science Projects
- Open Science Guidelines

Text and Data Mining

- TDM In Information Retrieval
- Knowledge Acquisition
- Text Categorisation/document
- Classification
- Summarisation
- Sentiment Analysis/opinion Mining
- Question/answering
- Computational Argumentation

Research Data Management

- Research Data Management Plans
- Research Data Management Tools
- Research Data Management Policies
- Research Data Management Standards
- Research Data Management Services

Responsible Research and Innovation

- Ethics
- Public Engagement
- Governance
- Science Education
- Gender

CHECK TRAINING MATERIALS FROM OUR PROJECTS:

FOSTER

For open science

openM1N7ED

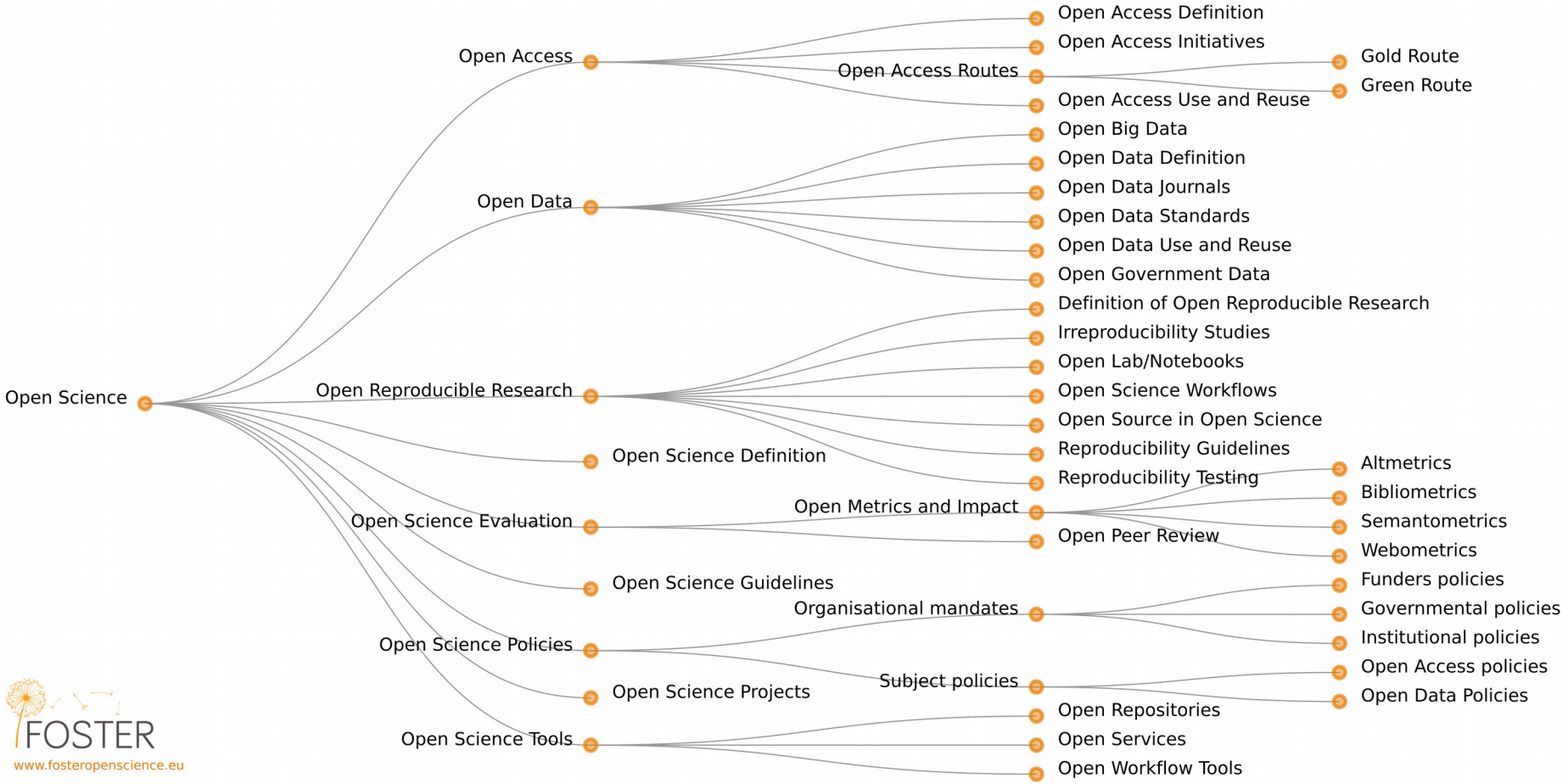
For text and data mining

FIT4RRI

For responsible research and innovation

https://www.fosteropenscience.eu

Open Science Taxonomy



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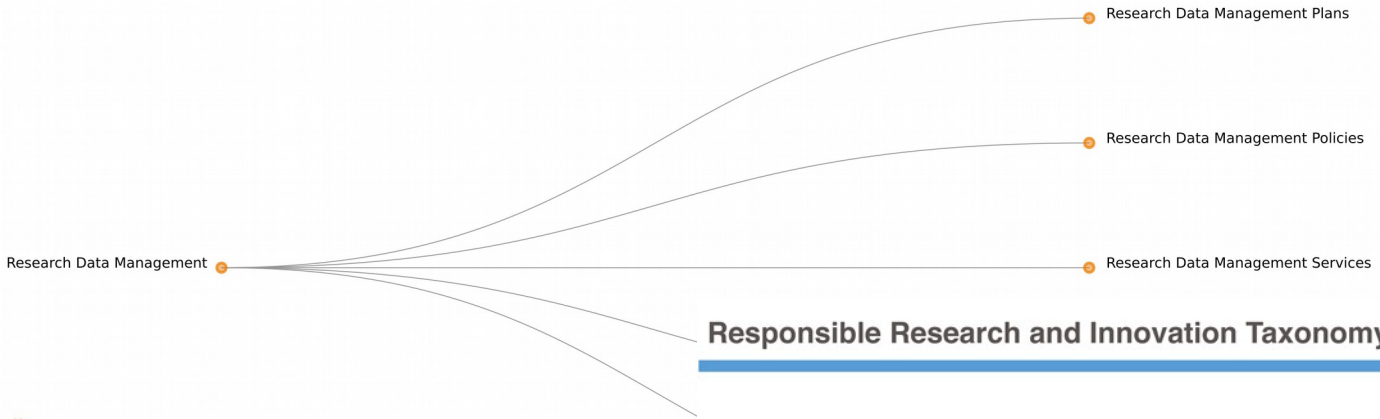
Research Data Management Taxonomy



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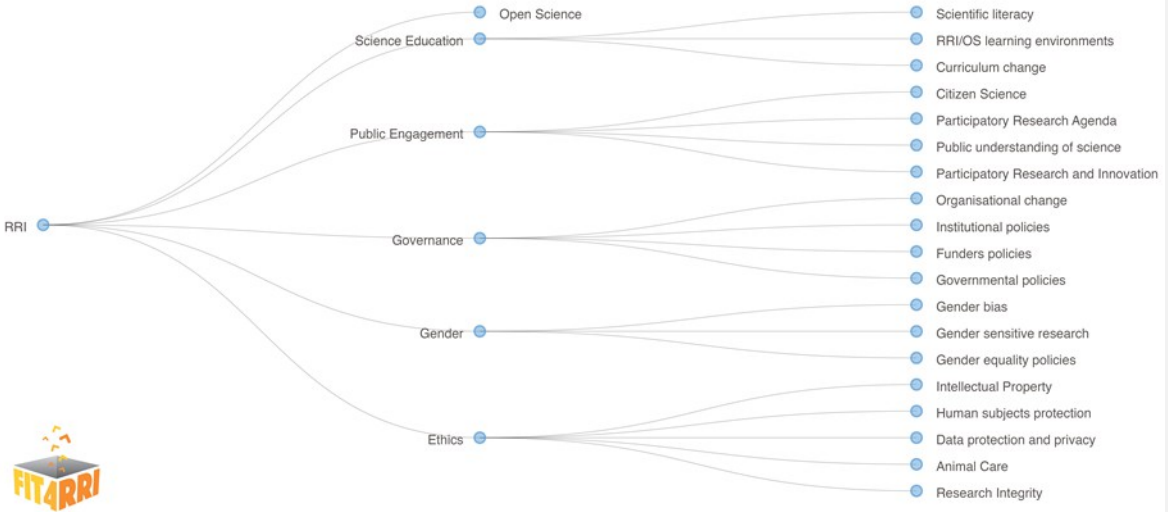
Responsible Research and Innovation Taxonomy



FIT4RRI

Resources

Resources by relevance

FAIR data and trusted repositories

By Marjan Grootveld

Publication year: 2018 | Research Data Management | Open Repositories

Responsible Research and Innovation in Practice

By RRI-Practice Project

Publication year: 2018-2021 | RRI | Governance | Institutional policies | Organisational change

Le plan de diffusion et de valorisation des résultats et la notion d' "impact" dans les projets H2020

By Mariama Cottrant

Publication year: 2015 | Open Science | Open Data | Open Science Evaluation | Open Access policies

OpenAIRE Guides

By OpenAIRE Project

Publication year: 2016 | Open Science | Open Science Policies | Funders policies | Open Access policies

Open Science Training Handbook

- Book sprint: 1 week, 14 experts, 200 pages produced
- Beta version for public comment: +140 comments







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Open Science Training Handbook

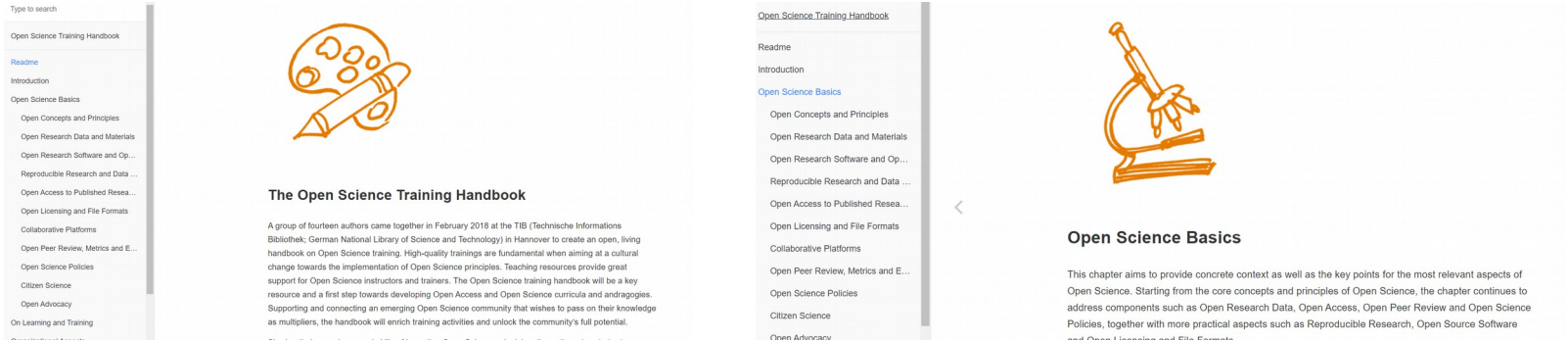
- Open Science Basics
  - Open Concepts & Principles
  - Open Research Data & Materials
  - Open Research Software & Open Source
  - Reproducible Research & Data Analysis
  - Open Access to Published Research Results
  - Open Licensing & File Formats
  - Collaborative Platforms
  - Open Peer Review,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

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

Open Science Training Handbook

- Available as GitBook and for download (PDF, epub, mobi)
- CC 0 license to enable simple re-use
- Portuguese and Spanish versions completed (French and Greek ongoing)

book.fosteropenscience.eu



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

FOSTER

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

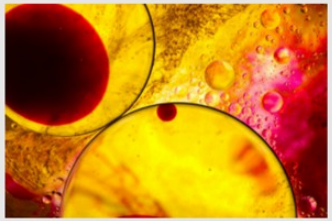
This module helps you to get to grips with responsible data sharing.

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

Open Science Toolkit aims and audience

"Move from being aware of OS to being able to put OS into practice in their daily workflows"

- Targeted towards researchers
- Focus on practical content
- Disciplinary examples via CRG, GESIS, DARIAH
- Around 1 hour to work through each of the 10 courses
- Quizzes assess competence
- Badges are issued on successful completion

Open Peer Review module example

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 eme
Science.

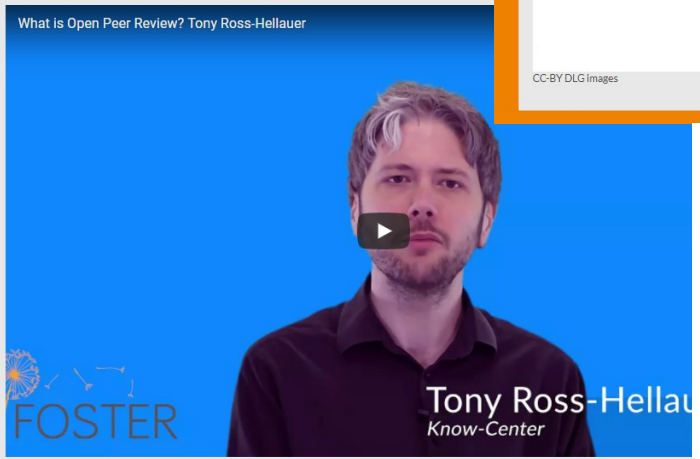
Upon completing this module, you will:

- understand what OPR means and how it supports Open S
- be aware of OPR workflows and which aspects of the revi
- know how to write a constructive and responsible open p
- know about useful tools and services that can support yo

CC-BY-SA AJ Cann

OPR in three minutes

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



What does OPR mean?

Definition of OPR

Click the forward arrow to see more.

CC-BY DLG images

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.

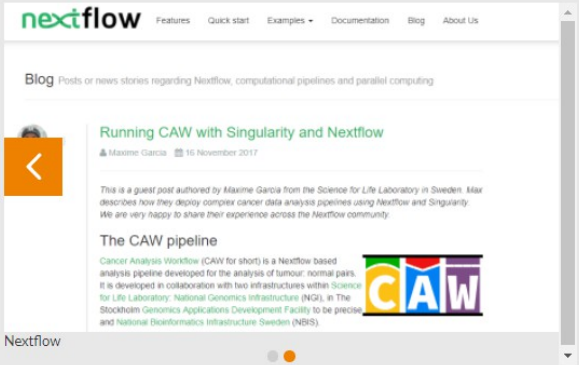
- ☐ It is not biased
- ☐ My results can be published more quickly
- ☐ My review is a citable research output

Submit | Show feedback

Case study approach

Using the EC Open Science Monitor approach to share practical examples of activity from the Life Sciences, Social Sciences and Humanities.

Life Sciences: Nextflow for reproducible in silico genomics



Nextflow

Why?

The analysis of big data in a performant and reproducible manner is an increasing pressing issue in many scientific fields including and mostly in life science disciplines. This problem has been fuelled by the combined reliance on increasingly complex data analysis methods and the exponential growth of biological datasets. When considering the installation, deployment and maintenance of bioinformatic pipelines, an even more challenging picture emerges due to the lack of community standards. Moreover, the effect of limited standards on reproducibility is amplified by the very diverse range of computational platforms and configurations on which these applications are expected to be applied (workstations, clusters, HPC, clouds, etc.). The Nextflow open source technology provides a simple but yet effective solutions to many of these problems.

Open Access

eLIFE

Open Source Licensing

Bioconductor
OPEN SOURCE SOFTWARE FOR BIOINFORMATICS

Open Research Data

Example use of EBI metagenomics

Open Peer Review

bioRxiv
THE PREPRINT SERVER FOR BIOLOGY

Ethics

EUROPEAN GENOME-PHENOME ARCHIVE
10TH ANNIVERSARY

Open Innovation

docker

What is Open Science?

This introductory course will help you to understand what open science is and why it is something you should care about. You'll get to grips with the expectations of research funders and will learn how practising aspects of open science can benefit your career progression. Upon completing this course, you will:

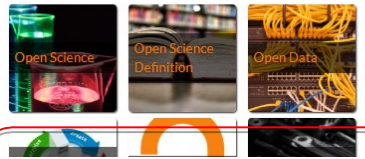
- understand why open science is an issue that you can't afford to ignore
- understand how to go about making your own research more open
- know what funders expect to see about open access and data sharing when applying for new grants
- learn how to progress your career through practicing open science

It is important to remember that Open Science is not different to traditional science. It just means that you carry out your research in a more transparent and collaborative way. Open Science applies to all research disciplines. While Open Science is the most commonly used term, you may also hear people talking about Open Scholarship or Open Research in the Arts and Humanities.

Full details

Level of knowledge: Introductory: no previous knowledge is required

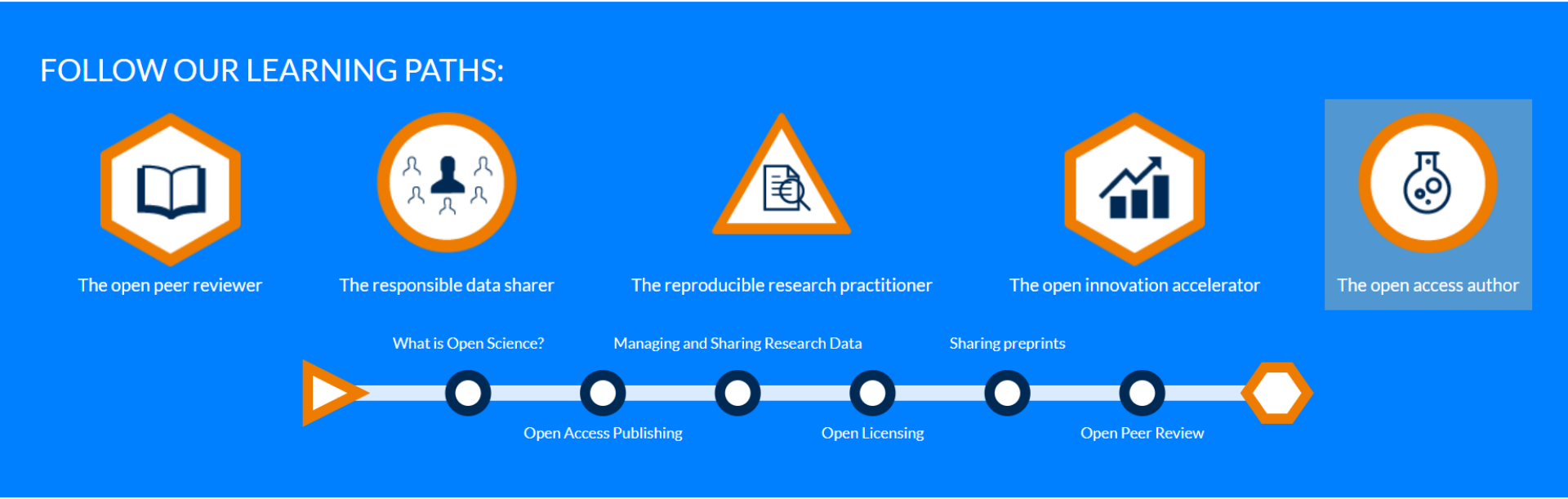
Topics



Use this!

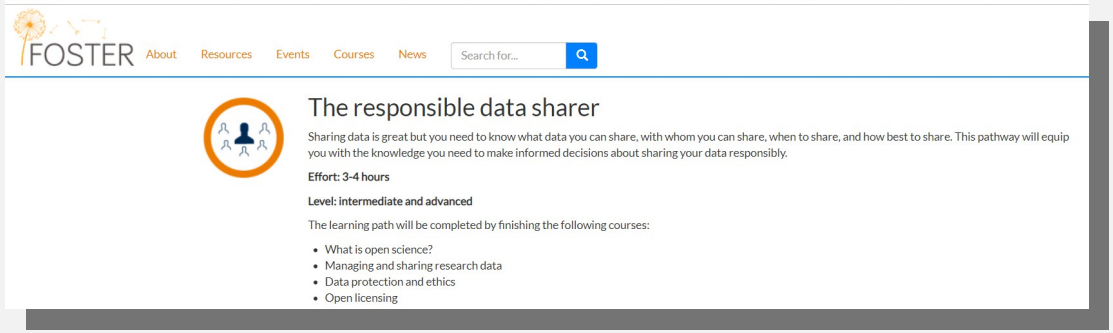
If you want to use this course in your LMS you can download the SCORM package here.

Learning paths



For more information, see www.fosteropenscience.eu/learning-paths

Responsible Data Sharer

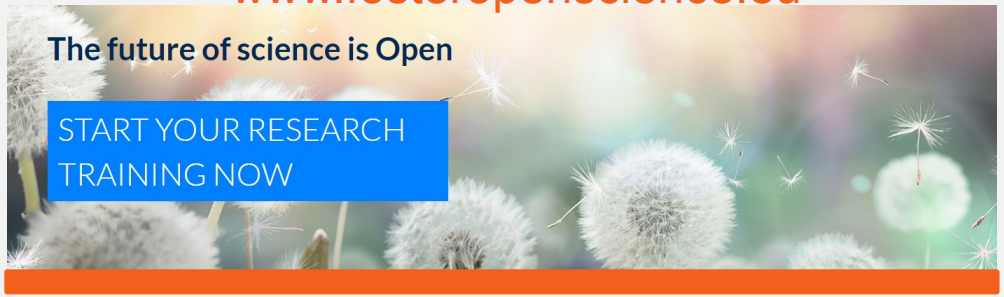


https://www.fosteropenscience.eu/node/2223

Open Science Training

offline & online

www.fosteropenscience.eu



USE FOSTER TO:

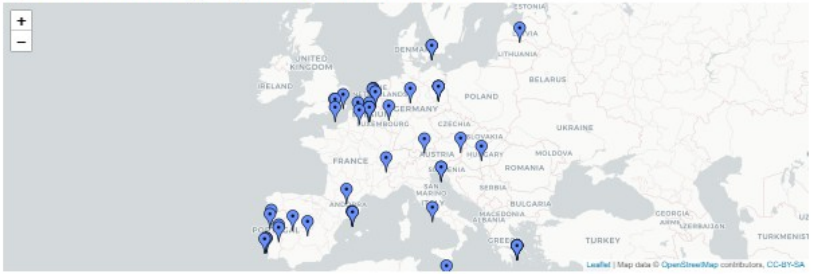
Access Free Courses
Our free courses have been authored by experts and experienced educators.

Earn Badges
Get recognised for taking our courses and follow our learning paths to specialisation.

Participate in the community
Attend our live events, become a trainer and be part of our network.

The FOSTER community

Explore the next events happening around the Open Research world



Our trainers

Birgit Schmidt

Adrian Solomon

Sarah Jones

Magdalena Szuflita-Żurawska

Go to the Trainers Directory

Upcoming events

Go to past events

FOSTER Plus online courses

21.01.2019 - 30.03.2019

FOSTER Plus

Responsible Research & Innovation (RRI) for Researchers

20.02.2019 - 20.04.2019

Universitat Oberta de Catalunya

OSC2019: Open Science Conference 2019

18.03.2019 - 20.03.2019

Leibniz Research Alliance Science 2.0, and ZBW – Leibniz Information Centre for Economics

Berlin, Germany

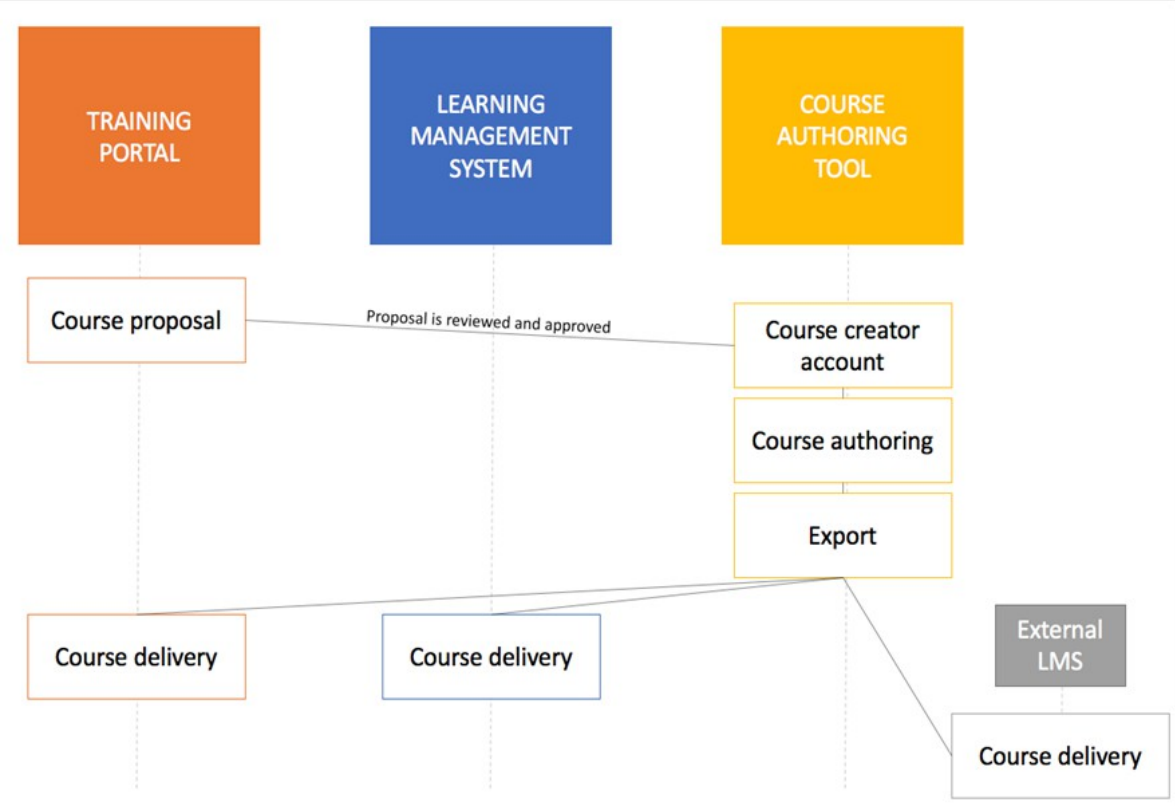
Open Science Trainer Bootcamp in Salamanca, Spain

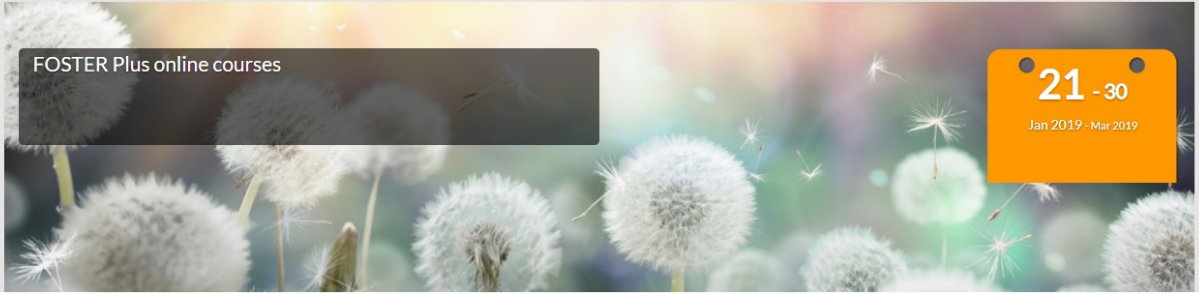
25.03.2019 - 26.03.2019

FOSTER Plus

University of Salamanca

FOSTER Ecosystem





FOSTER is conducting a series of e-learning courses in which you can learn more about Open Science topics.

Most of the courses last one week. We offer courses in different languages and different modes. Meaning, that some of them are moderated courses, in which you get tasks to solve and can exchange with other participants. In other courses you learn and complete the content in your own pace.

Schedule

- **Using the toolkit - badged course for trainers**
  - Start date: 21st January, 2019
  - en, moderated
- **Open Access to Publications in Horizon 2020**
  - Start date: 4th February, 2019
  - en, moderated
  - please register here: https://goo.gl/xrdZMF
- **Assessing the FAIRness of data**
  - Start date: 5th March, 2019
  - en, moderated
- **Planos de Gestão de Dados no Horizonte 2020**
  - Start date: 4th March
  - pt, moderated, 2019
  - please register here: https://goo.gl/WbVNzF

Where

Google Maps Platform rejected your request.
Invalid request. Invalid 'q' parameter.

Full details

Organisers: **FOSTER Plus**
Language: **English, Portuguese**

Topics

Audience

Research Administration
Researchers and Students
PHD Students

FOSTER

Site announcements

Subscribe to this forum

(No announcements have been posted yet.)

Available courses

Assessing the FAIRness of research data

In this short course, you'll learn how to go about assessing the FAIRness of research data using freely accessible tools and resources.

Moderator: José Carvalho
Moderator: Joy Davidson

Open Access to Publications in Horizon 2020

Moderator: José Carvalho
Moderator: Antonia Correia

Open Access to Publications in Horizon 2020 - Enroll the Course!

https://lms.fosteropenscience.eu

Assessing the FAIRness of research data

Your progress

Announcements

Course overview and objectives

The term 'FAIR' data is used a lot these days and you might be wondering what exactly is meant by this term. FAIR data are those that are **F**indable, **A**ccessible, **I**nteroperable and **R**eusable. Sounds simple enough, but what do each of these terms mean in a practical sense and how can you tell if your own research data is FAIR? This short course will:

- introduce you to the key terms and explain what they mean in a practical sense
- tell you how data management planning can help to make data FAIR from the very start of research projects
- show you how you can use freely available tools to help assess the FAIRness of data
- provide you with the chance to FAIRify your own data and get feedback from your peers on its potential reusabiilty

The course will run over a four week period and employ a mix of self-paced, online learning with a moderated assignment. During this time, participants will need to allocate between 2-3 hours to complete all of the course tasks. Upon successful completion of the course, participants will be awarded with a 'FAIR Data Assessor' badge. The course is open to both researchers and research support staff.

Syllabus

Week 1: March 5-8, 2019

Participants should work through the online course **Assessing the FAIRness of Data** course. The course should take between **30-45 minutes**.

Weeks 2: March 11-15, 2019

During the second week of the course, participants will work independently to complete Assignment 1 - Assessing the FAIRness of your data.

Week 3: March 18-22, 2019

During the third week of the course, participants will work independently to complete Assignment 2 - Assessing the FAIRness of others' data.

Week 4: March 28, 2019

Following the completion of the online course, you are welcome to attend a drop-in session on March 28, 2019 with the Research Data Team from the Office of Scholarly Communication to discuss your experiences in assessin problems you encountered. We invite you to bring further examples of your data to this session to further develop your skills.

Assignments and key dates

March 5-10, 2019 - participants to take online course Assessing the FAIRness of Data (Lesson 1).

March 11-17, 2019 - participants to work independently on assessing the FAIRness of a dataset and summarising how it might be improved (Assignment 1)

March 18-24, 2019 - participants to work independently on assessing the FAIRness of others' data (Assignment 2)

March 28, 2019 - optional drop-in session with Cambridge Research Data Team

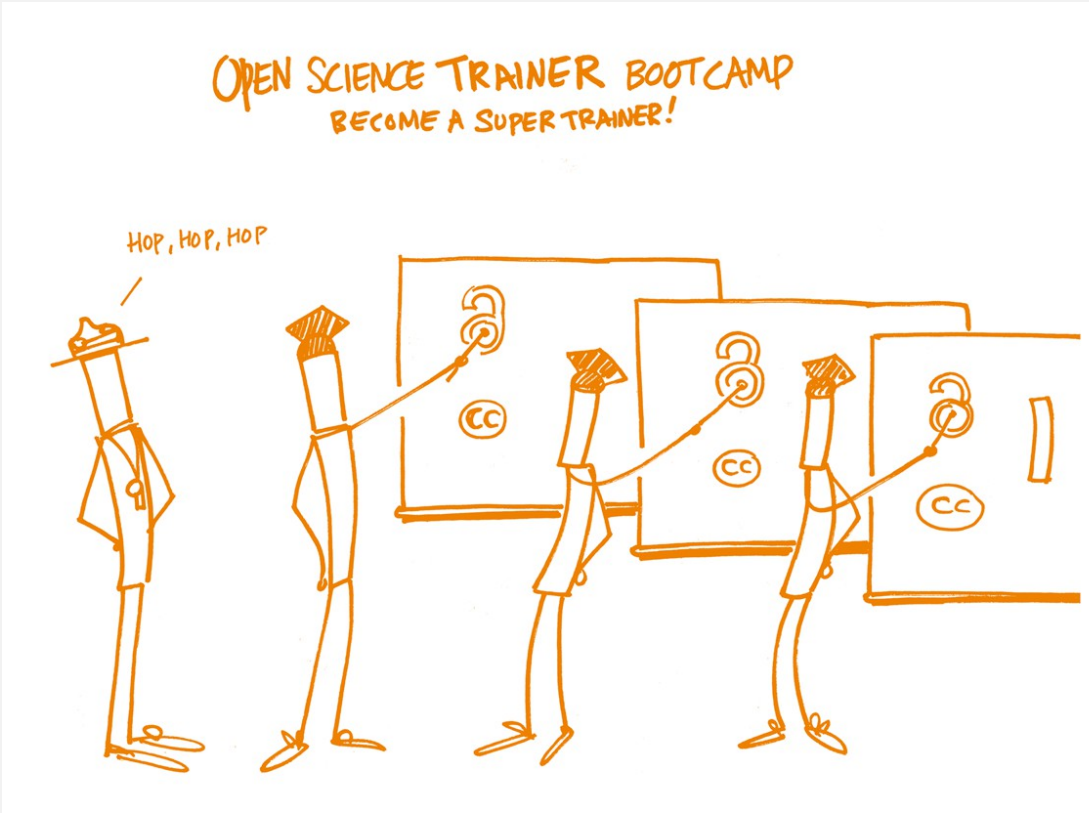
Complete 'Assessing the FAIRness of Data' online course

Assignment 1 - Assessing the FAIRness of your data

Assignment 2 - Assessing the FAIRness of others' data

Open Science trainers network

- OS Trainer Bootcamp
  - Barcelona, 18-20 April
  - 31 participants
  - 40% researchers, 60% support staff



Train Trainers – Feb. – April 2019

- Open science train the trainer bootcamps in:
  - Netherlands (with DANS and CESSDA);
  - Portugal/Spain (with REBIUN);
  - Lithuania
  - Serbia

FOSTER

Open Science trainers network & Advocacy

Advocacy Toolkit

- Poster template
- Standard presentations
  - Why OS?, What is OS?, FOSTER Plus
- Advocacy stickers & moo cards
- Open Science Café Card game
  - Manual, materials & card deck available for download
- Reusable illustrations

Trainers directory

Are you planning an event in Open Science and looking for speakers? Take a look at the FOSTER Trainers Directory and find the right speaker for your event. If you want to organise an event please contact us.

Filter on topic: Open Access (28) | Open Data (27) | Open Science (23) | Research Data Management (15) | Open Science Policies (12) | Open Metrics and Impact (11) | 49 more...

Filter on audience: Researchers and Students (52) | PHD Students (42) | Librarians and Repository managers (37) | Policy makers and Funders (33) | 8 more...

Filter on spoken language: English (EN) (46) | German (DE) (11) | Spanish (ES) (10) | French (FR) (7) | Dutch (NL) (6) | Portuguese (PT) (5) | 10 more...

Gwen Franck

Languages: English (EN), French (FR), Dutch (NL)

Topics of interest: Open Science | Open Access | Intellectual Property Rights | Institutional policies | Open Access policies | Gold Route | Green Route | Open Science Policies

Audience: Policy makers and Funders | Librarians and Repository managers | Researchers and Students

Martin Donnelly

Languages: English (EN)

Topics of interest: Research Data Management | Open Science Policies | Open Access | Open Data | Open Government Data | Funders policies | Governmental policies | Institutional policies | Open Access policies | Open Data Policies

Audience: Policy makers and Funders | Librarians and Repository managers | Project Managers | Researchers and Students

Remedios Melero

Languages: English (EN), Spanish (ES), Catalan (CA), Italian (IT)

Topics of interest: Open Access | Open Data | Open Science Policies | Intellectual Property Rights

Audience: Librarians and Repository managers | PHD Students | Policy makers and Funders | Researchers and Students

Katarzyna Biernacka

Languages: Polish (PL), German (DE), English (EN), Spanish (ES)

Topics of interest: Research Data Management | Open Data | Open Science

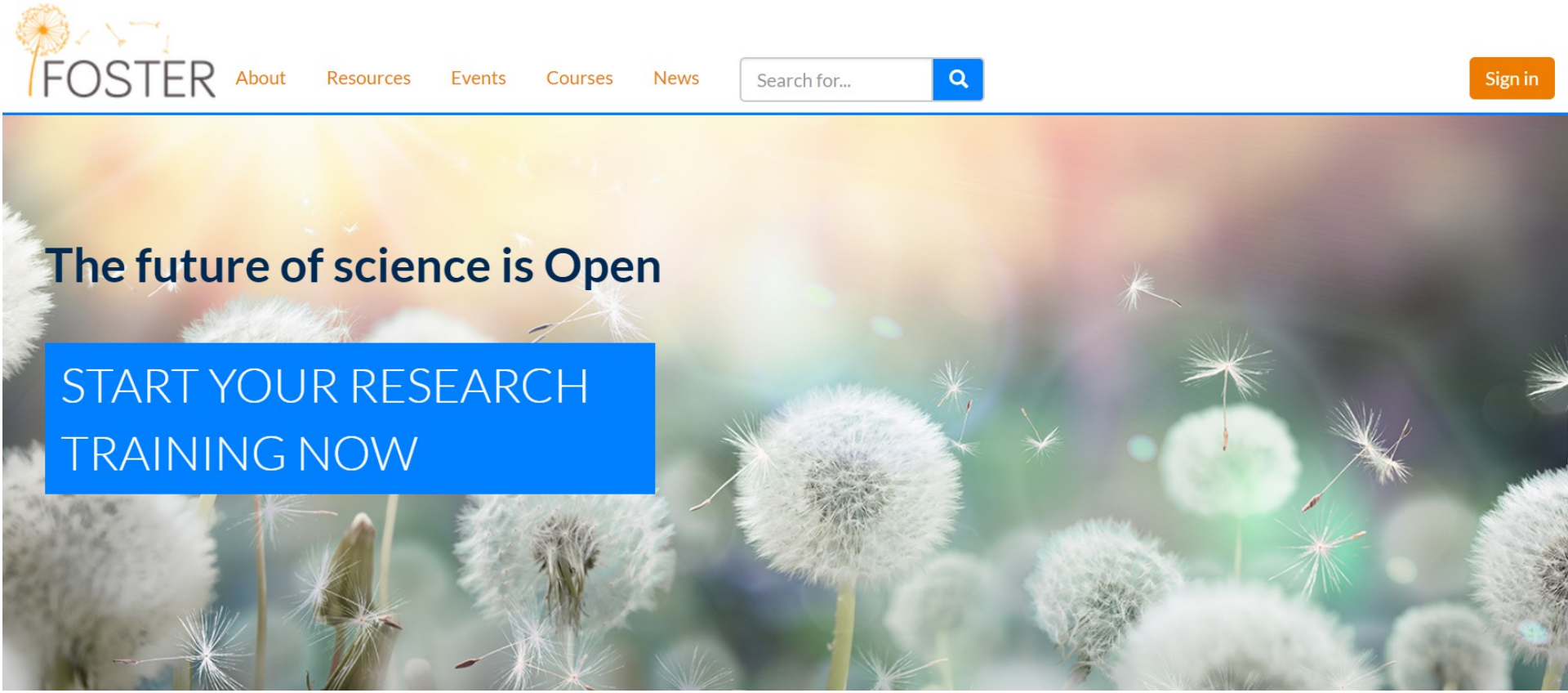
Audience: Education | Librarians and Repository managers | PHD Students | Project Managers | Researchers and Students

Helene Brinken

Languages: English (EN), German (DE)

Topics of interest: RRI | Open Science | Open Data

Audience: Civil Society | Librarians and Repository managers | PHD Students | Researchers and Students



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Thank you! Questions?

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