

Let's build the skills!

Lille 2018 LIBER

Wed 4th of July, 9-12 am – Room C



Facilitating Open Science Training

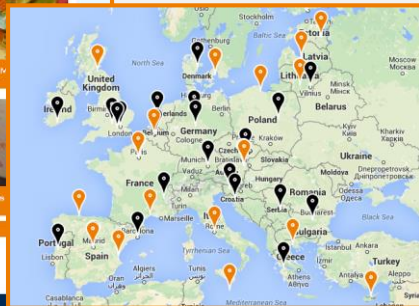
Helene Brinken

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[@helenebrinken](#)

‘Facilitate Open Science Training for European Research’

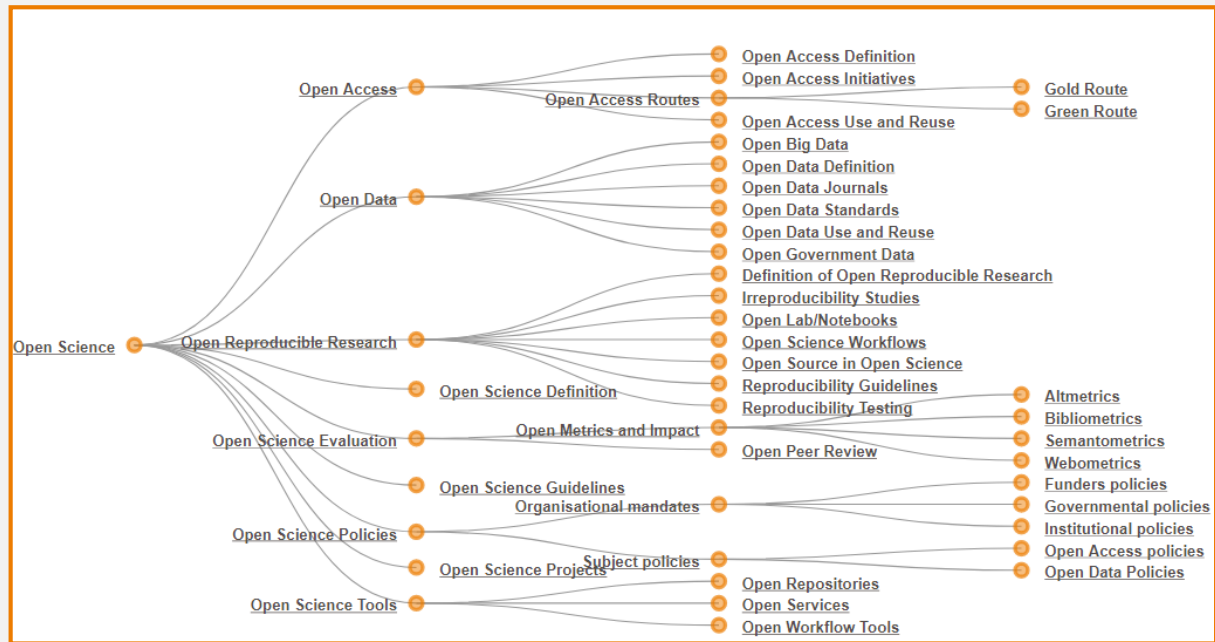


- Raise awareness about Open Science
- Facilitate Open Science training for <6300 participants
 - More than 100 f2f trainings in 28 countries
 - 25 online courses
- Creation of the **FOSTER portal**

Open Science Taxonomy

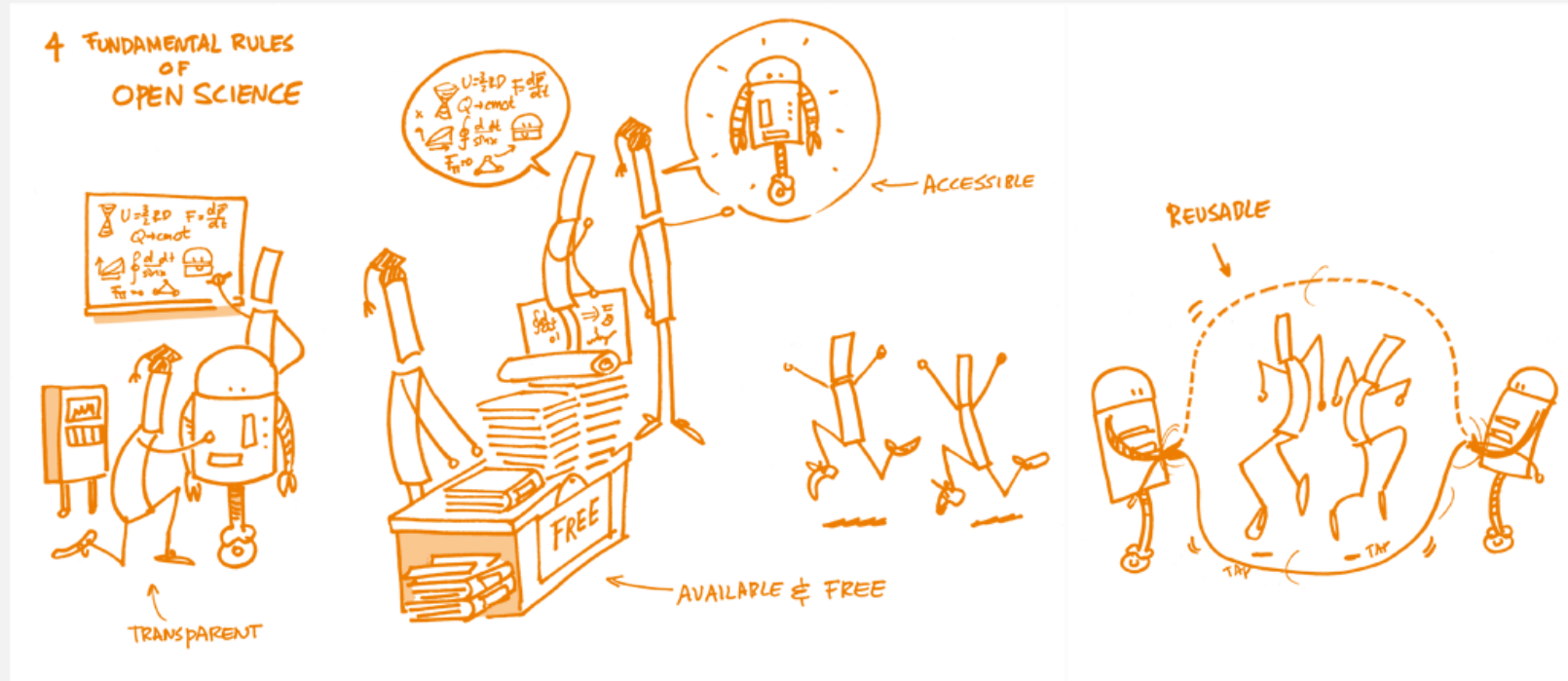
Definition of Open Science

2000+ training materials,
categorized in the **FOSTER**
portal according to the
taxonomy



Paper available at <http://oro.open.ac.uk/44719/>. Image available at <http://oro.open.ac.uk/47806/>

What is Open Science?



Open Science Training Handbook. <https://book.fosteropenscience.eu/>

What is Open Science?



Open Science is the practice of science in such a way that others can **collaborate** and **contribute**, where research data, lab notes and other **research processes** are **freely available**, under terms that enable **reuse**, **redistribution** and **reproduction** of the research and its underlying data and methods.

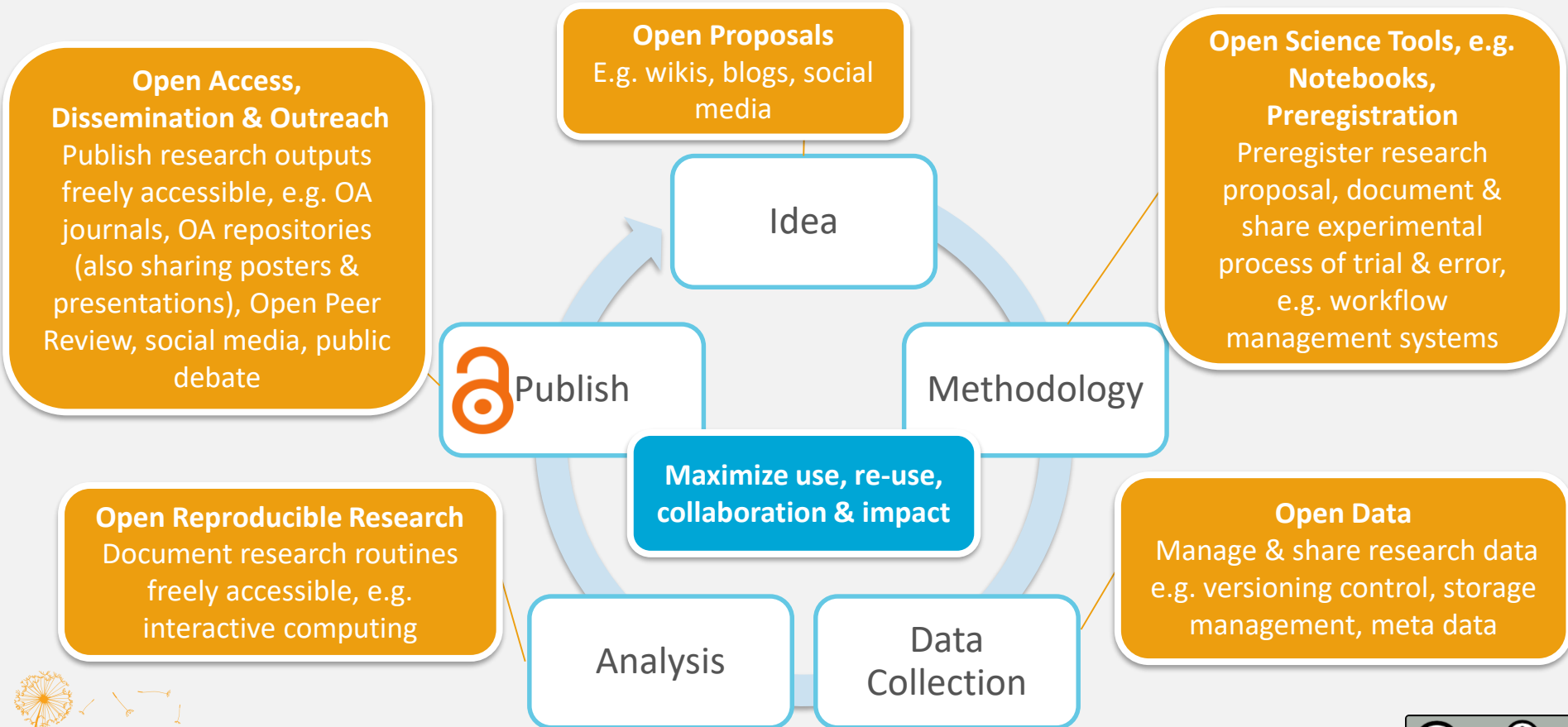
[FOSTER, Open Science Definition: <https://www.fosteropenscience.eu/foster-taxonomy/open-science-definition>]

The movement to make scientific **research, data and dissemination accessible to all levels** of an inquiring society.

[FOSTER, Open Science Definition <https://www.fosteropenscience.eu/taxonomy/term/7>]



Opening up the research life cycle



‘Fostering the practical implementation of Open Science’



Activities

- **Train researchers** in Open Science with focus on practical implementation & discipline specific content
 - f2f training & online courses
- Strengthen the **training capacity**



Open Science training capacity

→ ‘train the trainer’ approach

Open Science
Training Handbook



resource to support Open
Science trainer community

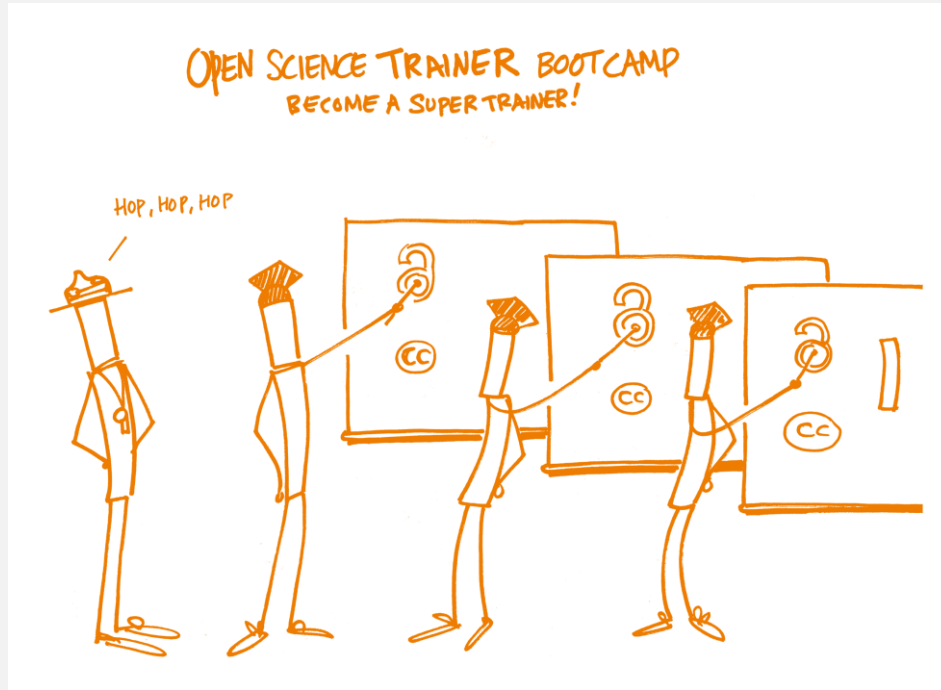
& multiplier effect

Open Science
Trainer Bootcamp



3 day workshop for new
Open Science trainers

Open Science Trainer Bootcamp



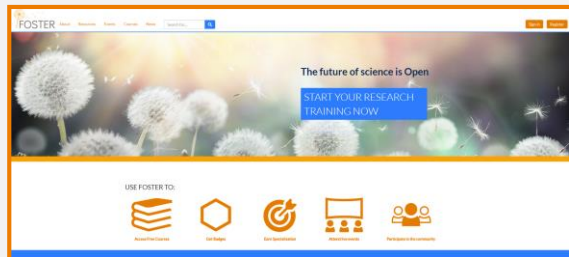
Open Science Trainer Bootcamp



[By Elena Giglia](#)

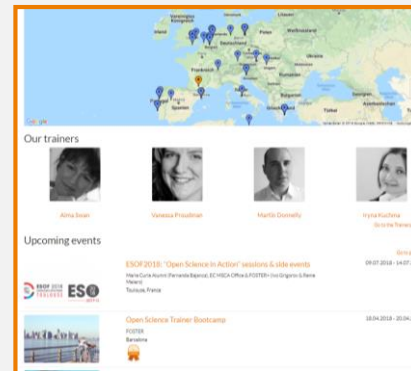


FOSTER Plus resources



www.fosteropenscience.eu

Events calendar & Trainers directory



What does OPR mean?

Definition of OPR

Click the forward arrow to see more.



CC BY DGL images

Why is OPR important?

6 good reasons

OPR helps support the transition to Open Science by making all aspects of the research life cycle open. OPR offers a number of additional benefits.

Click the headings to explore further.

- + Transparency
- + Speed
- + Reliability
- + Consistency
- + Context
- + Motivation

Introduction

Open Peer Review Module

This module introduces you to open peer review (OPR), an emerging practice which is gaining momentum as part of Open Science.

Upon completing this module, you will:

1. Understand what OPR means and how it supports Open Science;
2. Understand OPR workflows and which aspects of the review process can be conducted openly;
3. Know how to write a constructive and responsible peer review; and
4. Be introduced to useful tools and services that support you putting OPR into practice.

Focus: practical implementation & discipline specific content

New courses

www.fosteropenscience.eu/toolkit

FOSTER learning strategy & tools

Learning Scenarios	Self learning	Moderated learning
Tools	Adapt learning	
	Moodle	Moodle
Badging	✓	✓
Learning paths	✓	✓



The banner features a background of dandelions with seeds blowing in the wind. At the top left is the FOSTER logo. The main title 'Open Science Training' is in a large orange box. Below it are four orange buttons with white text: 'Access free online courses', 'Learn about Open Science', 'Choose your learning path', and 'Earn badges & certificates'. At the bottom is the website URL 'www.fosteropenscience.eu'.

Example Course - Adapt tool

Open Peer Review

This module will introduce you to Open Peer Reviewing and let you know

What does Open Peer Review (OPR) mean?

Discipline specific journals, pre-print servers & OPR initiatives

Introduction

This module introduces you to Open Peer Review in Science.

Upon completing this module you will:

- understand what OPR is
- be aware of OPR workflows
- know how to write a response
- know about useful tools



CC-BY-SA AJ Cann

OPR in three

In this short video, Tony Ross-Hellauer strongly needed in the peer review process.

What is Open Peer Review?

Many OPR initiatives exist across some discipline-specific journals, pre-print servers, and the ArXiv.

For a broader overview of OPR, [Learn the Language!](#)

Click

Discipline

+ BioRxiv

+ Open Access

+ digital

Are you ready for Open Peer Review?

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

CC-BY Joe The Goat Farmer

What are the benefits of open peer review?

Tick all that apply.

It is not biased

Additional resources

- OpenUp Toolbox www.openuphub.eu
- Görög, Edit et al. (2017): Open Up Open Peer Review landscape scan http://openup-h2020.eu/wp-content/uploads/2017/01/OpenUP_D3.1_Peer-review-landscape-report-1.pdf
- Ross-Hellauer, Tony (2016): OpenAIRE Blog entry: Defining OPR <https://blogs.openaire.eu/?p=1371>; Aspects of OPR <https://blogs.openaire.eu/?p=1410>
- 10 simple rules for OPR (to be published soon)
- Stafford Noble, William (2017): Ten simple rules for writing a response to reviewers <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005730>
- Peer Review Week resources page where you can find How-tos & Tutorials, Best Practices & Guidelines and Research related to peer review. <http://www.pre-val.org/prw/>
- Masuzzo, Paola; Martens, Lennart (2017): Do you speak open science? Resources and tips to learn the language. <https://peerj.com/preprints/2689/>
- McKiernan, Erin: Why is open peer review important to me? Presentation UCLA https://s3-eu-west-1.amazonaws.com/gpshare-u-files/1801875/OpenEd_peerReview.pdf
- Hooper, Mark (2017): History of Journal Peer Review. <https://vimeo.com/216091379>
- Schmidt, Birgit et al. (2016): Peer Review on the Move from Closed to Open
- Ross-Hellauer, Tony; Schmidt, Birgit; Deppe, Arvid (2017): OpenAIRE Survey on Open Peer Review: Attitudes and experience amongst editors, authors and reviewers
- COPE Guidelines for authors, peer reviewers and editors: <https://publicationethics.org/resources/guidelines-icmje-responsibilities-to-the-submission-and-peer-review>



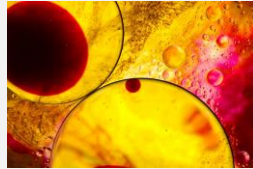
New courses: topics



What is
Open Science?



Best
Practices



Managing & Sharing
Research Data



Licensing



Open Peer
Review



Sharing
Preprints



Open Access
Publishing



OSS &
Workflows



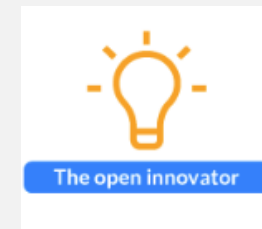
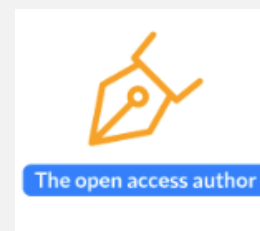
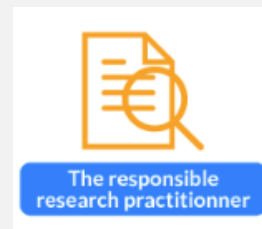
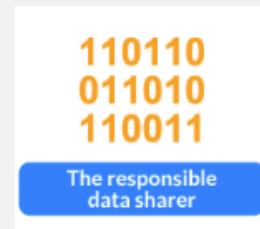
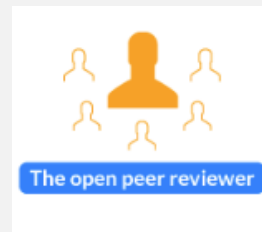
Data
Protection
& Ethics



Open Science
& Innovation

New courses: learning paths & badges

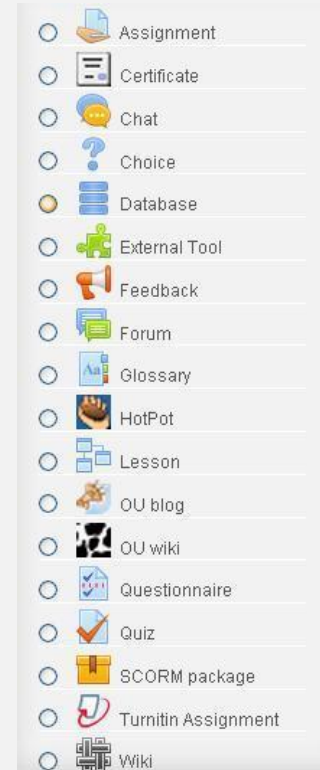
Learning path	Content
The Reproducible Research Practitioner	What is Open Science? Best Practices Open Access Publishing Managing & Sharing Research Data OSS and workflows
The Responsible Data Sharer	What is Open Science? Managing & Sharing Research Data Ethics and Data Protection Licensing
The Open Peer Reviewer	What is Open Science? Open Peer Review Managing & Sharing Research Data OSS and Workflows
The Open Access Author	What is Open Science? Open Access Publishing Managing & Sharing Research Data Licensing
The Open Innovator	What is Open Science? Open Science & Innovation Managing & Sharing Research Data Licensing



Learning Management System - Moodle

Tailor courses

- Possible course activities:
 - Lessons, assignments, forum, questionnaires, quiz, wiki etc.
 - Include links, documents, videos or SCORM packages, e.g. FOSTER online courses made with Adapt tool



Moodle



The screenshot shows a Moodle course interface. At the top, the course name is 'Module 3 - Structure of a a Module' by John Doe, running from June 11 to June 25. The left sidebar contains a navigation menu with sections for 'tc1' (Participants, Badges, Competencies, Grades, Course Introduction, Module 1-4) and 'Site administration'. The main content area is divided into sections: 'Online Session' (June 24), 'Activities' (Activity 1 and 2), 'Contents' (Activity 2, Activity 1, Submission of Activity 1 and 2, Link to website, Files, SCONUL report, Page of content), and 'Final Assessment' (Final Test, Module Survey). A 'Mod 3 - Discussion Forum' link is highlighted with a mouse cursor.

The screenshot shows a Moodle course page for 'Adapt SCORM Package'. The course is titled 'Course Template' and is part of a series of modules. The main content area features a video player with a thumbnail showing several people standing in a line. Below the video, there is a text block titled 'Data management planning' which discusses data management policies and funding body requirements. The video player interface includes a 'FOSTER' logo and a 'Data management in Research Proposals' title.

Feedback & discussion



- What is your general knowledge about **Open Science topics**?
- Have you ever attended a **course** about these?
- What **type of training** have you received in your institution?
- Is there a **training programme established** in your institution (online & f2f)?
- Do you **give training** yourself?

Feedback & discussion



Group 1



Explore the Open Access course & think about how to use it in your context.

Group 2

Look at all courses & think about what librarians need.



What is your interest, what might be opportunities or difficulties?



Draw your training & skills development priorities.

www.fosteropenscience.eu/toolkit

Your Open Science training ideas



- What is needed in terms of courses?
- Get in touch with FOSTER, send us your plans & will assist you in creating and moderating courses
 - Via [feedback form](#)
 - Or via email



Discover the Open Science
Training Handbook



The Open Science Training Handbook



- Idea: bring experienced Open Science trainers together to write a book
- Organisation of Book Sprint in February 2018, Germany
- August 2017: Call for applications (39 applications)
- Selection based on:
 - Open Science expertise, training experience, scientific background & motivation
 - balance of gender, region, disciplines & expertise

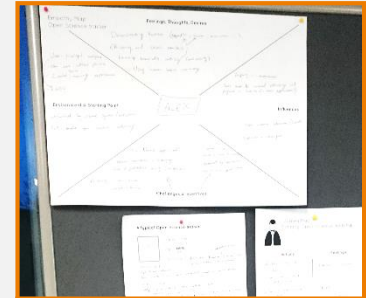


14 experts invited as authors

The Open Science Training Handbook



- Guide on **how to** forward knowledge on Open Science
- Book Sprint format
 - ensured a finished book in only a few days
 - FOSTER provided writing environment (room, food, tools, moderation, author guide, methods etc.)



FOSTER Book Sprint - Author Guide

MISSION

- Create an educational handbook focused on practical teaching of Open Science in order to support trainers in organising their own sessions.
- The handbook will be supportive, easy to read & entertaining.

CONTENT/OBJECTIVES OF THE HANDBOOK

- Guide trainers how to spread the idea of Open Science most effectively.
- Instruct & inspire trainers how to create high quality & engaging trainings.
- Address challenges & give solutions.
- Bring together methods, techniques & practices.
- Include best practices, background information & exemplary training outlines.
- Present possibilities on how to organise trainings.
- Add checklists & glossaries.

PRACTICAL ADVICE FOR WRITING

- Use simple language.
- Write short texts.
- Structure chapters with subheadings & short paragraphs.
- You are writing the handbook together, feel confident to comment & edit everything.
- You are free to take notes in a separate tool or on paper, but our appeal is that you just directly write in the collaborative tool and share your drafts and first thoughts with your colleagues. This is how everyone can add ideas and the process gets truly collaborative.
- We have the unique chance to take the time and write a book together. Let's focus on writing during the day and try to move all other noises (e.g. emails, work, social media) to the evenings.
- Last but not least, it's your book you are the ones who decide.



The Open Science Training Handbook



- Authors brought
 - time, knowledge, experience, writing skills, motivation & endurance with them
- Within five days: a book of 200 pages was written



The Open Science Training Handbook



Roadmap

- **Writing the OSTH** - Feb. 2018
- **Pre-release** available for comments & suggestions - Feb. 2018
- **Discussing & including suggestions by community** - March 2018
- **Moving the OSTH to Github**
- **Finalizing everything for version 1.0**
- **Release of OSTH 1.0 as Gitbook** - April 2018

- **Now:**
 - **Living handbook open for contributions**
 - **Complementing the OSTH with webinars**

OSTH - Structure



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

Open Science Training Handbook



Open Science Basics

- What is it?
- Rationale
- Learning objectives
- Key components: Knowledge & skills
- Questions, obstacles, & common misconceptions
- Learning outcomes
- Further reading



Open Science Training Handbook



On Learning and Training

- Training vs. teaching
- Strategies
- Expectations
- Target audiences
- Motivations
- Practical Guidance
- Designing a course
- Advice for before, during and after the training
- Further reading



Open Science Training Handbook



Organizational aspects

- Training format
- Audience, guest speakers, and partners
- Venue
- Timing
- Budget
- Equipment & media
- Marketing & advertising strategy
- Registration
- Communication
- Catering
- Code of conduct
- Certification of attendance
- Signs
- Social Media & notes
- Event closure
 - Venue
 - Debrief
 - Evaluation
 - Dissemination
- Check list



Open Science Training Handbook



Examples & Practical Guidance

- Example training structures
- Types of exercises
- 24 example exercises:
 - Format, time needed
 - Topic
 - Learning objectives
 - Exercise description
 - Materials and tools needed
 - Level of prior knowledge needed
 - Things to bear in mind
 - How to adapt for other purposes



Open Science Training Handbook



- Now available as GitBook
- CC 0 license to enable simple re-use

A screenshot of the Open Science Training Handbook homepage. On the left is a navigation menu with items like 'Open Science Training Handbook', 'Readme', 'Introduction', 'Open Science Basics', 'Open Concepts and Principles', 'Open Research Data and Materials', 'Open Research Software and Op...', 'Reproducible Research and Data ...', 'Open Access to Published Resea...', 'Open Licensing and File Formats', 'Collaborative Platforms', 'Open Peer Review, Metrics and E...', 'Open Science Policies', 'Citizen Science', 'Open Advocacy', and 'On Learning and Training'. The main content area features an illustration of a paint palette and a pencil, followed by the title 'The Open Science Training Handbook' and a paragraph of introductory text.

Type to search

Open Science Training Handbook

Readme

Introduction

Open Science Basics

Open Concepts and Principles

Open Research Data and Materials

Open Research Software and Op...

Reproducible Research and Data ...

Open Access to Published Resea...

Open Licensing and File Formats

Collaborative Platforms

Open Peer Review, Metrics and E...

Open Science Policies

Citizen Science

Open Advocacy

On Learning and Training

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.

A screenshot of the 'Open Science Basics' chapter page. The left navigation menu is similar to the homepage but highlights 'Open Science Basics'. The main content area features an illustration of a microscope, followed by the title 'Open Science Basics' and a paragraph of introductory text.

Open Science Training Handbook

Readme

Introduction

Open Science Basics

Open Concepts and Principles

Open Research Data and Materials

Open Research Software and Op...

Reproducible Research and Data ...

Open Access to Published Resea...

Open Licensing and File Formats

Collaborative Platforms

Open Peer Review, Metrics and E...

Open Science Policies

Citizen Science

Open Advocacy

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.

book.fosteropenscience.eu

Contribute and cite the OSTH

- Contribute via Github (e.g. example exercises, translations)
- Please consider citing the handbook referring to
www.book.fosteropenscience.eu
- <https://doi.org/10.5281/zenodo.1212496>, a citable DOI for an archived dump of the book

Thanks!



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