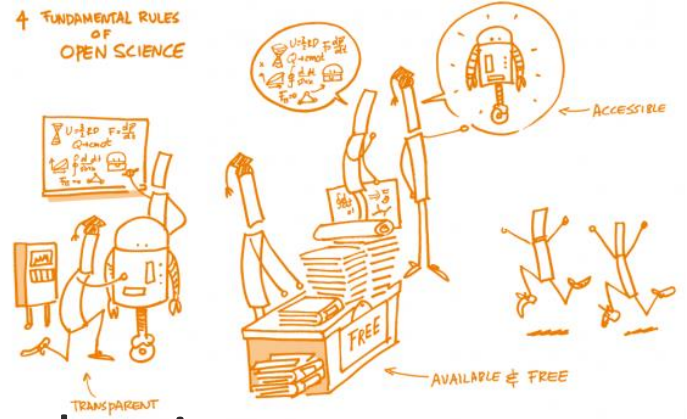
Open Science and Reproducibility

Iryna Kuchma, EIFL, OpenAIRE Training & Support Standing Committee

Talking points



- Why open science is an issue that researchers can't afford to ignore
- How to go about making research more open
- What funders expect to see about open access, data sharing and open science when applying for new grants
- How to progress research career through practicing open science
- What reproducibility and replication is and how to practice them; improvement science initiatives on statistics, measurement, teaching, data sharing, code sharing, pre-registration, replication
- Questionable research practices and suggested improvements, good practice advice to early career researchers

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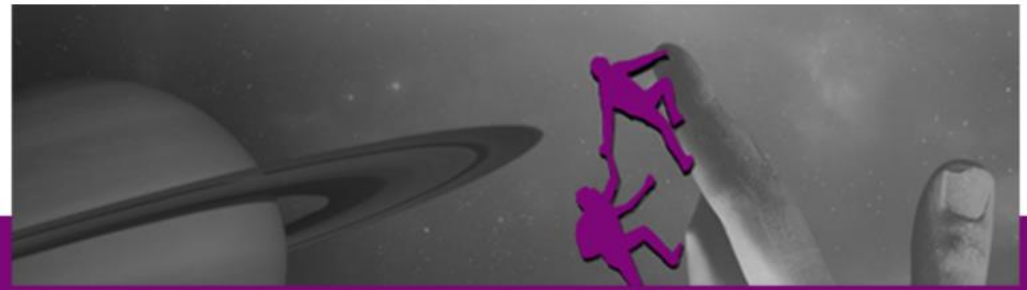


Iryna, three small actions that could give your next paper an extra boost

At PLOS we want your next research paper to maximize its reach, find its audience, and make a difference within its field and to wider society.

Read on to discover the relatively small additions you can build into your publishing process that could have big benefits for your research, the wider scientific community, and society as a whole.

Deposit your research data in a repository

Depositing your data in a repository is a great way to make your research more discoverable, reusable, and easier to cite. Research shows it can boost your papers citation rate by up to 25% compared with articles which do not utilize a data repository*.

Learn More

Post a preprint

A preprint is a version of a scientific manuscript posted on a public server prior to formal peer review. Posting a preprint gets your research into the public domain early, opening your work up at a time when it would otherwise be inaccessible, making it available for your peers to use, reference and build upon.

Learn More

Publish your methods

Methods help readers gain an increased respect for the integrity of your work, and have broad reuse potential, meaning that they tend to be highly cited, and attract

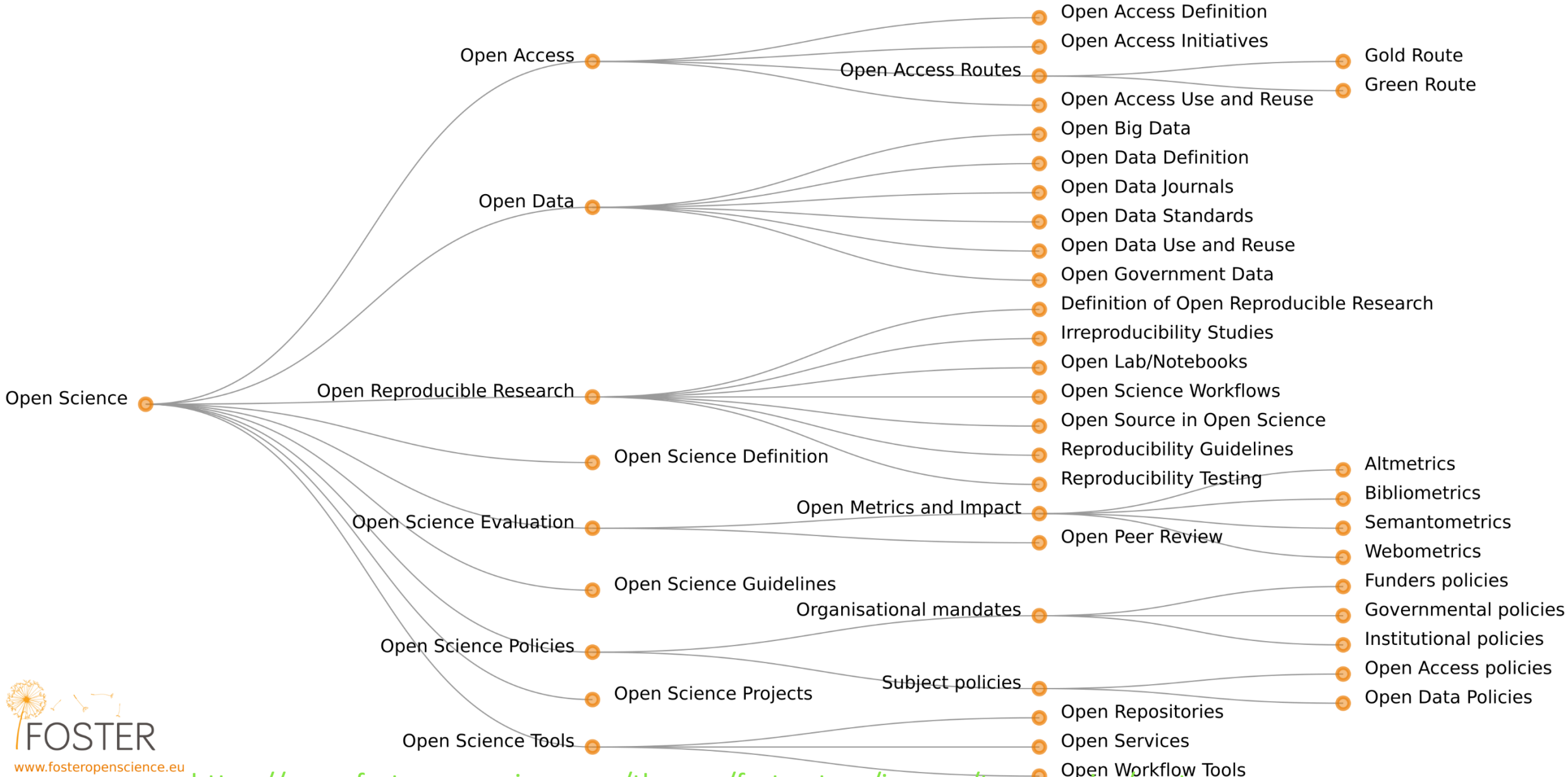
'open science' means an approach to the scientific process based on open cooperative work, tools and diffusing knowledge

REGULATION (EU) 2021/695 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination

open science is defined as an inclusive construct that combines various movements and practices aiming to make multilingual scientific knowledge openly available, accessible and reusable for everyone, to increase scientific collaborations and sharing of information for the benefits of science and society, and to open the processes of scientific knowledge creation, evaluation and communication to societal actors beyond the traditional scientific community. It comprises all scientific disciplines and aspects of scholarly practices, including basic and applied sciences, natural and social sciences and the humanities, and it builds on the following key pillars: open scientific knowledge, open science infrastructures, science communication, open engagement of societal actors and open dialogue with other knowledge systems

UNESCO Recommendation on Open Science

Open Science Taxonomy



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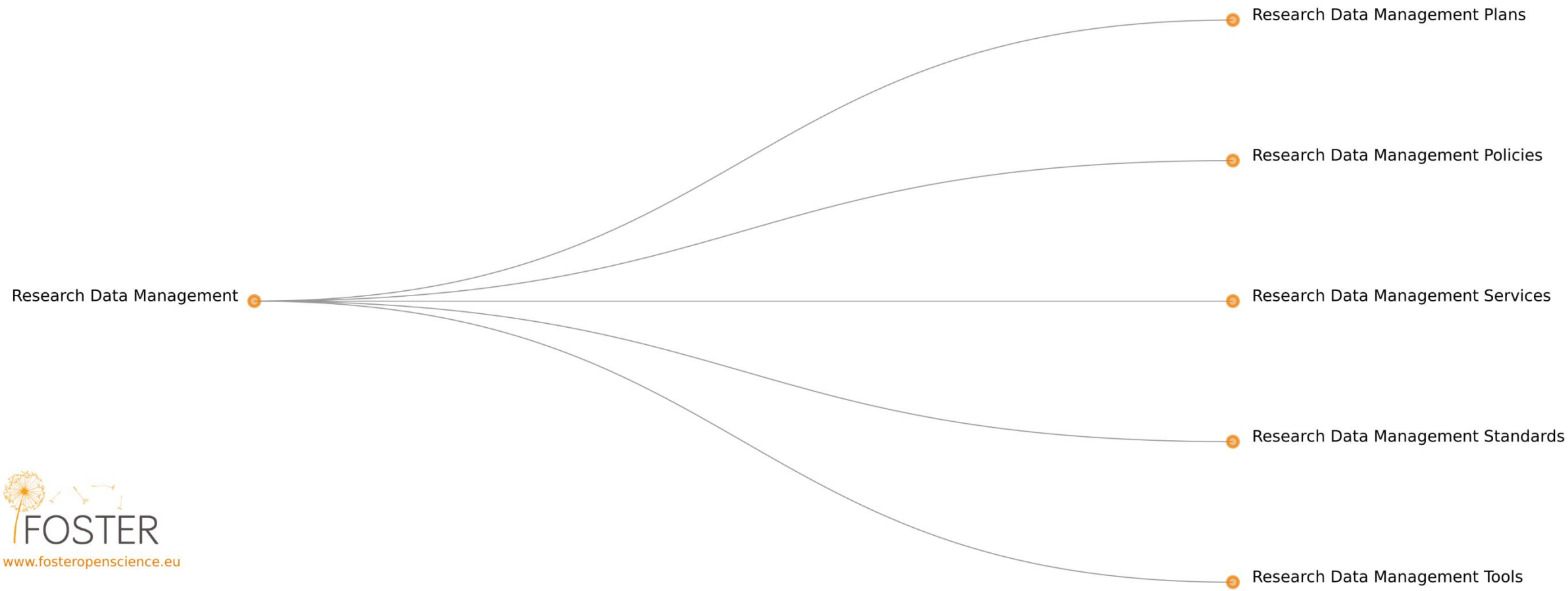
www.fosteropenscience.eu

https://www.fosteropenscience.eu/themes/fosterstrap/images/taxonomies/os_taxonomy.png

Research Data Management Taxonomy



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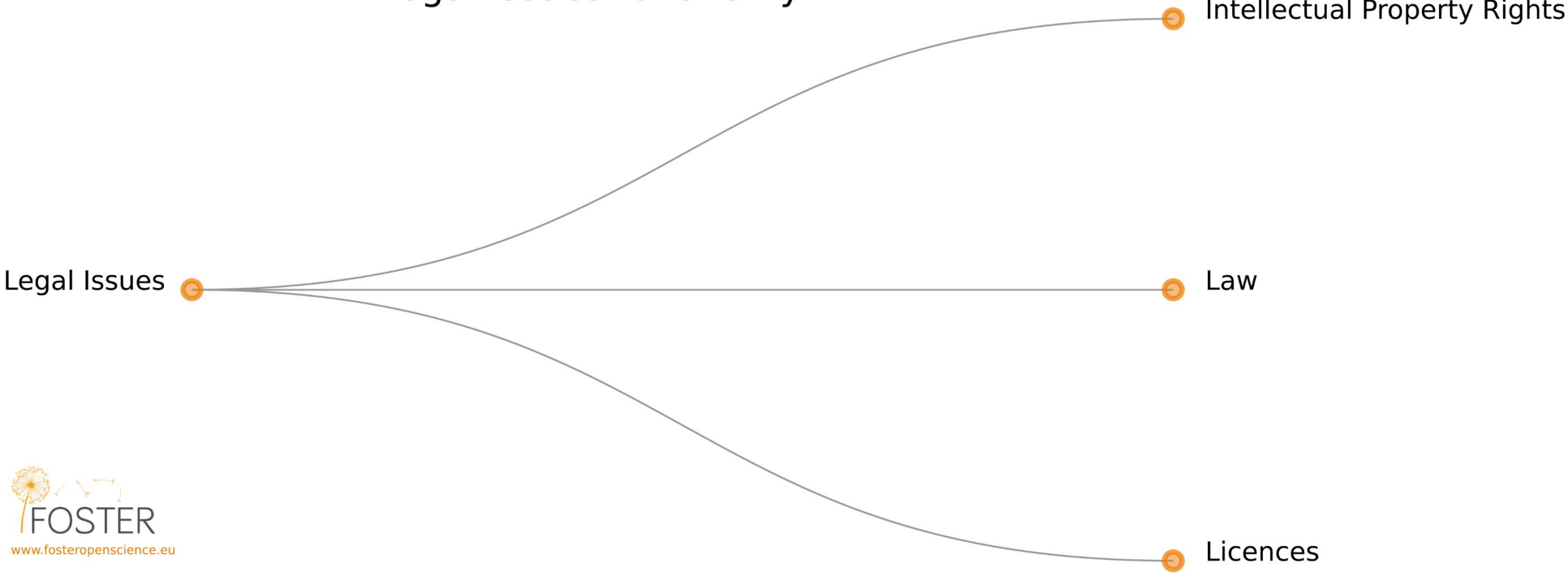
Legal Issues Taxonomy



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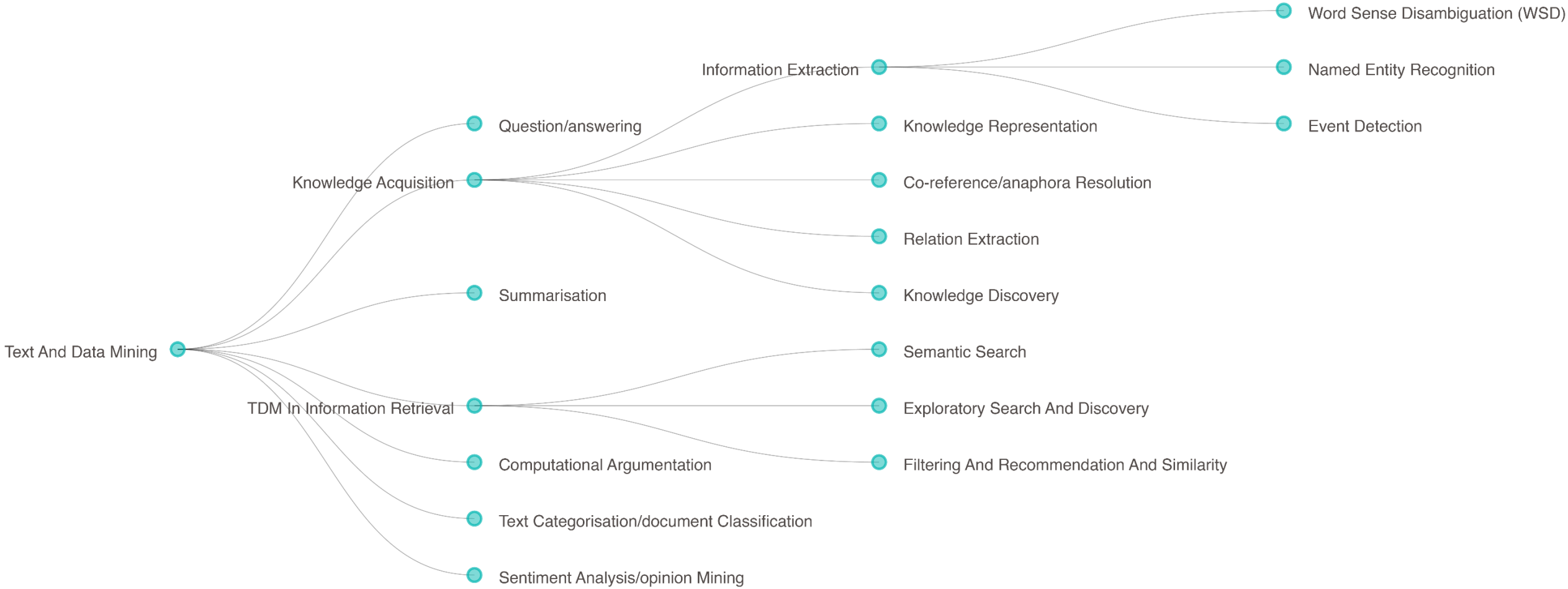
Text and Data Mining Taxonomy



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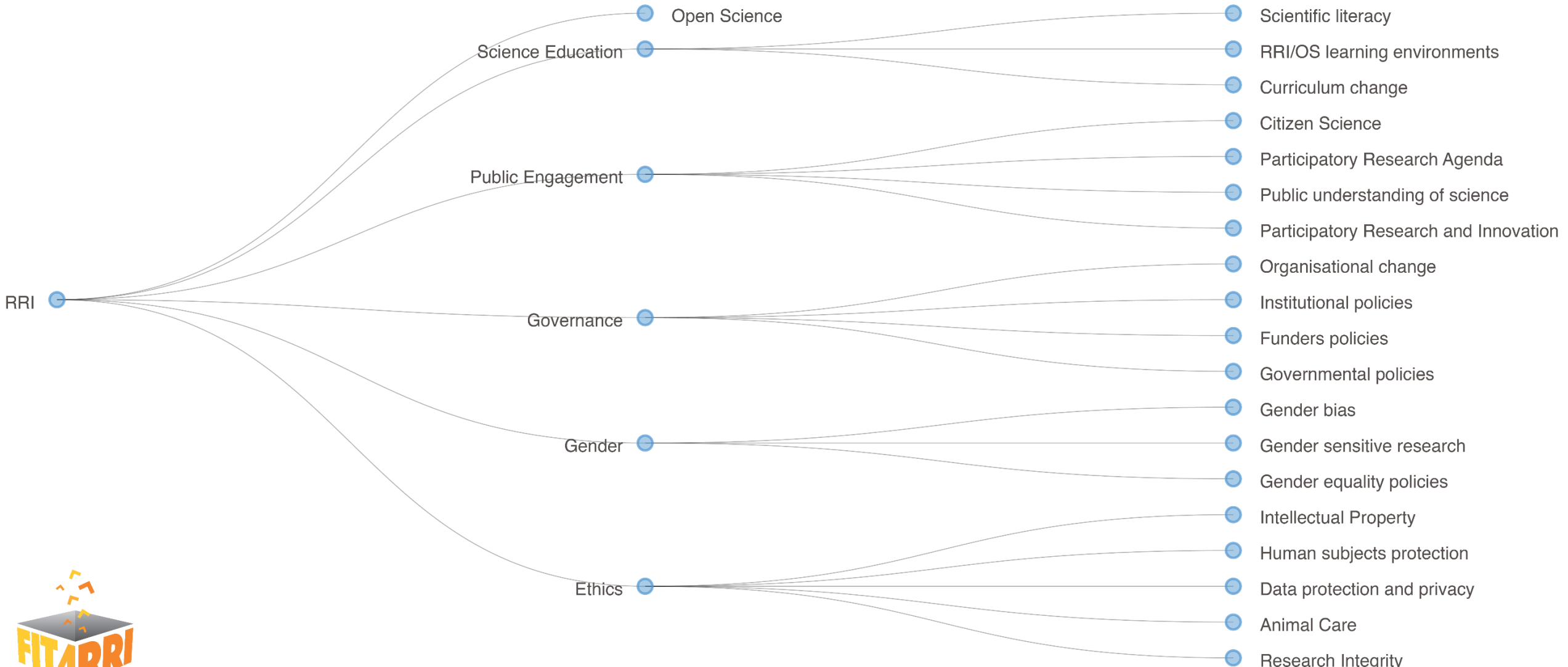
Responsible Research and Innovation Taxonomy



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The open access author

The open innovation accelerator

The reproducible research practitioner

The responsible data sharer

The open peer reviewer

Open Responsible Research Innovator

Responsible Research Communicator

Open Responsible Researcher

Ethical Research Data Scientist

What is Open Science?

Managing and Sharing Research Data

Data Protection and Ethics

Open Licensing

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Open science training as community building

OpenAIRE

What’s your favourite open science story?

Please use the Forum

OpenAIRE

COVID-19 research freely accessible, but research data sharing and preprinting are low

For release: 13.00 CET 06 December 2021

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Services Support Open Science In Europe About SIGN IN

Open Science overview in Europe

By country

OpenAIRE's National Open Access Desks (NOADs) are gathering and updating information on open science POLICY-INFRASTRUCTURE-TRAINING on a periodic basis, ensuring an up-to-date feed.

Armenia
Austria
Belgium
Bulgaria
Latvia
Lithuania
Luxembourg
Malta


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Staff
Alumni
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Open Practices, Transparency and
Integrity for Modern Academia (OPTIMA)
https://lpnu.ua/en/optima

The Open Science Training Handbook

A group of fourteen authors came together in February 2018 at the TIB (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

ty that wishes to pass on their knowledge as multipliers, the handbook will enrich

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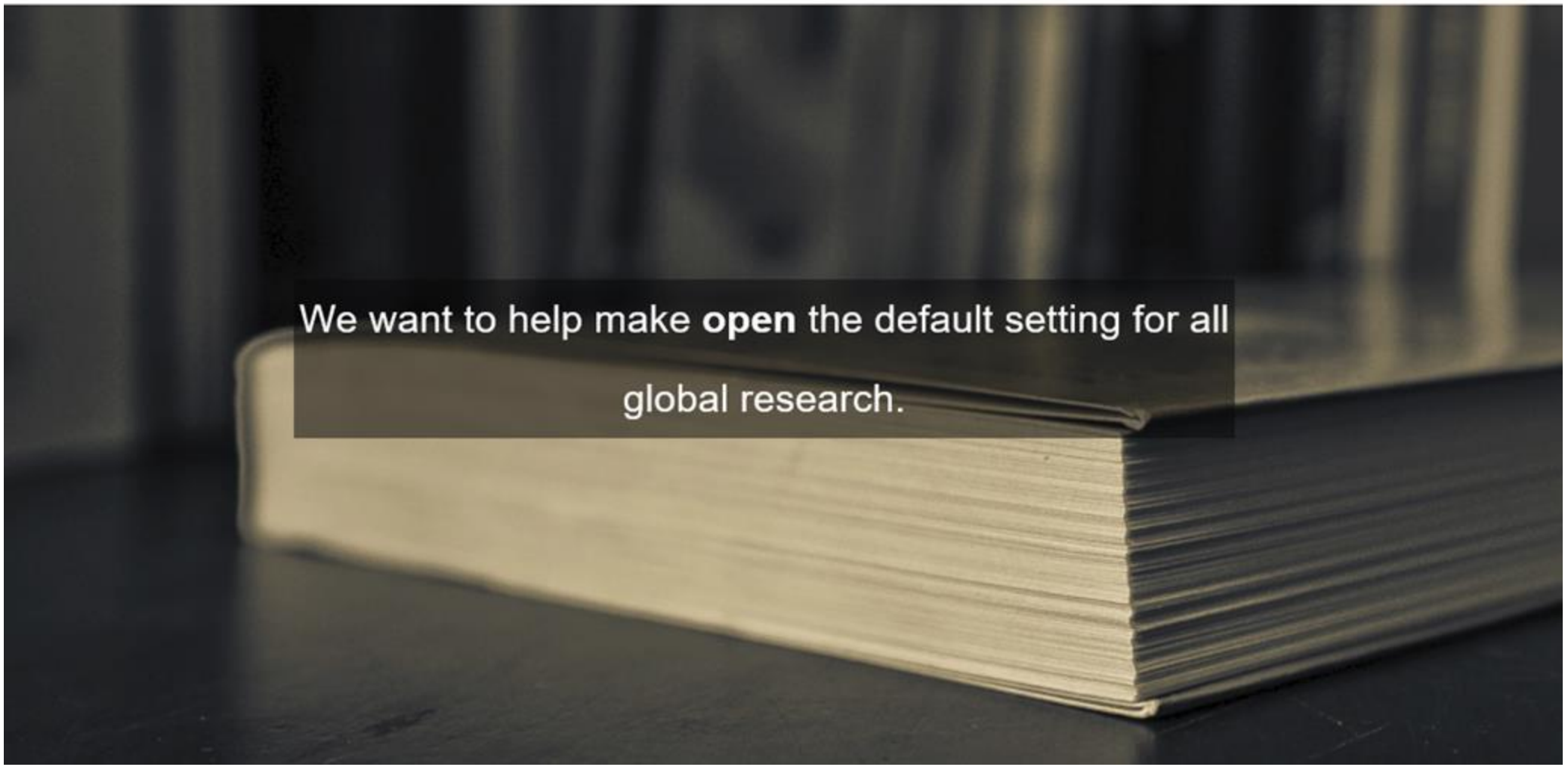

Guide for Reproducible Research

This guide covers topics related to skills, tools and best practices for research reproducibility.

The Turing Way defines reproducibility in data research as data and code being available to fully rerun the analysis.

There are several definitions of reproducibility in use, and we discuss these in more detail in the Definitions section of this chapter. While it is absolutely fine for us each to use different words, it will be useful for you to know how *The Turing Way* defines *reproducibility* to avoid misunderstandings when reading the rest of the handbook.

Which resources do you reuse for your open science training?

Please use the Forum

THANKS

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