

Module 2 - High-Level Policies

This second module introduces the most important RDM policies and principles

- [Open Science](#)
- [Good Scientific Practice](#)
- [Open Access](#)
- [FAIR Principles](#)



Open Science (OS)

OS is a policy priority of EU as standard research best practice to enhance knowledge dissemination, innovation.

EU OS policy ambitions:

- Open Data
- European Open Science Cloud (EOSC)
- Metrics and rewards OS engagement
- Knowledge and science dissemination (Open Access)
- Research integrity and reproducibility
- Citizen science



Good Scientific Practices

It implements the Code of Conduct of the DFG and the Guidelines of the Leibniz Association

Rule 1

- 1b) *...fully document all steps and results of a study...*
- 1c) *...reproducibility of all experimental results...*
- 1i) *...give precedent to originality and quality over quantity...*
- 4) *...research data must be stored in an accessible format for at least ten years... ...data publicly accessible... ...as well as methods, software...*



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Regional Development

Rules to safeguard good scientific practice at the Leibniz Institute of Ecological Urban and Regional Development, Dresden

Preamble

The Leibniz Institute of Ecological Urban and Regional Development (IOER) as a whole, as well as all persons entrusted with personnel management and project management in the field of scientific research, are required to comply with and communicate the principles of good scientific practice as set out in the respective current versions of the Code of Conduct of the Deutsche Forschungsgemeinschaft (DFG – German Research Foundation)¹ and the Guidelines of the Leibniz Association². Every scientist is responsible for ensuring that their own conduct complies with the standards of good scientific practice. The basis of scientific work at the IOER is the honesty of scientists towards themselves and others. Scientists at all career levels must regularly update their knowledge of the standards of good scientific practice as well as the current state of research.

<https://doi.org/10.5281/zenodo.5959949>



DRESDEN
concept



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Open Access (OA)

Originally OA is a publishing model used by scientific journals.
(The [golden/green](#) route)

OA are a set of principles for free dissemination of scholarly and academic knowledge, independently from the output type.

Requirements for OA

- Free of charge to access it
- Free to use it ([Open Licenses](#))

OA means using “open” license such as the **CC BY** 



Open Access Environment

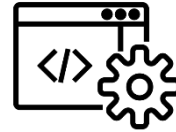
OA Workflow
(Costs)



*Peer review
publication*



Algorithms



Software



Workflows

OA Workflow
(Free)

*Typical in peer
review journals*



*Peer review
Data Paper*

Open Access
For all the Research Results



Data

*Typical for Data and
other research outputs*

*Journal hosting
peer-review*



*Peer review
Software Paper*



*Scientific
Reports*



Posters



Documentation



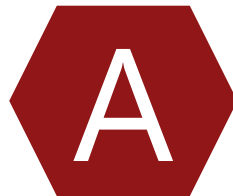
*Designs
Artworks*

*Self-archiving
no peer-review*

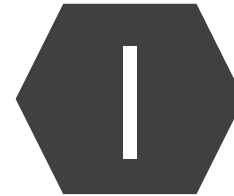
FAIR Principles



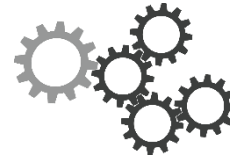
Findable



Accessible



Interoperable



Reusable



Icons from pixabay.com



DRESDEN
concept



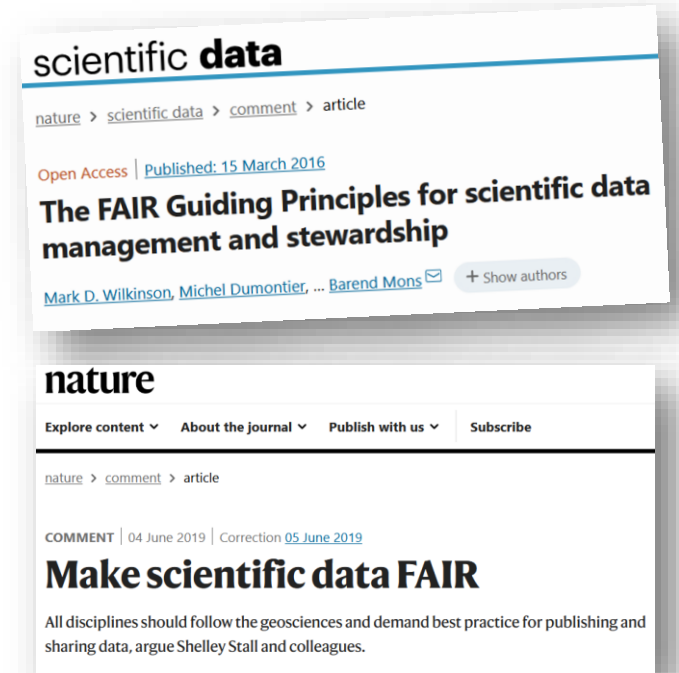
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FAIR Research Output

“Academia, industry, funding agencies, etc., have come together to design and jointly endorse a concise and measurable set of principles”

“The FAIR principles are the culmination of more than 20 years of agreements and actions...”

“Research data not yet used widely to realize their potential”



FAIR Principles



The first step in (re)using data is to find it.

F1. (Meta)data are assigned a globally unique and **persistent identifier (PIDs)**

F2. Data are described with sufficient **metadata**

F3. Metadata clearly and explicitly **include the identifier** of the data they describe

F4. (Meta)data are **registered or indexed** in a searchable resource



Findable



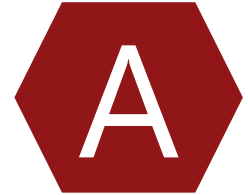
FAIR Principles



How can be data accessed

A1. (Meta)data are retrievable by their identifier using a standardised communications protocol

A2. Metadata are accessible, even when the data are no longer available



Accessible

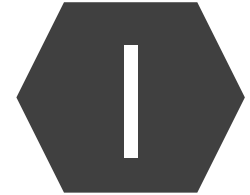


FAIR Principles

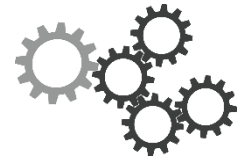


Data and Metadata need to be integrated with other data

1. (Meta)data use a **formal**, accessible, shared, and broadly applicable language for **knowledge representation**.
2. (Meta)data use **vocabularies** that follow FAIR principles
3. (Meta)data include qualified **references to other (meta)data**



Interoperable



FAIR Principles



The ultimate goal of FAIR is to optimise the reuse of data.

R1. (Meta)data are **richly described** with a plurality of accurate and relevant attributes

R1.1. (Meta)data are released with a clear and accessible **data usage license**

R1.2. (Meta)data are associated with detailed **provenance/lineage**

R1.3. (Meta)data meet domain-relevant **community standards**



Reusable



Some FAIR examples

By publishing your research output in a Repository you make your data “99%” FAIR.

Although **Repositories** are heterogeneous in terms of their Domain and Standard adopted, are all **designed to be FAIR compliant**.



Complex long-term dynamics of pollinator abundance in undisturbed Mediterranean montane habitats over two decades

Herrera, Carlos M., Estación Biológica de Doñana
herrera@ebd.csic.es
Publication date: November 30, 2019
Publisher: Dryad
<https://doi.org/10.5061/dryad.5hq26p1>

The screenshot shows a Zenodo dataset page. At the top, there is a blue header with the Zenodo logo, a search bar, and links for 'Upload' and 'Communities'. Below the header, the date 'January 12, 2022' is displayed on the left, and 'Dataset' and 'Open Access' buttons are on the right. The main title is 'Urban Green Raster Germany 2018', followed by a list of authors: Krüger, Tobias; Eichler, Lisa; Meinel, Gotthard; Tenik, Julia; Taubenböck, Hannes; Wurm, Michael. Below the authors, there are two lines of text: 'Collaborative Research Centre 990 (CRC990): Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)' and 'Göttingen Research Online / Data - Collaborative Research Centre 990 (CRC990): Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)'. The main title of the dataset is 'Meteorological data from plot and reference locations EFFurTS CRC990 Landscape Assessment'. Below this, there is a 'Download' button and a 'Share' button. A citation box contains the following text: 'Steger, Christian; Kivik, Alexander: 2022. "Meteorological data from plot and reference locations EFFurTS CRC990 Landscape Assessment". <https://doi.org/10.25655/VCP/EP>. Göttingen Research Online / Data, V1. URL: <https://nbn-resolving.org/urn:nbn:de:hbz:5-64888-p0001-7> [fileURL]'. Below the citation box, there are links for 'Cite Dataset' and 'Learn about Data Citation Standards'. On the right side of the page, there are links for 'Contact Owner', 'Share', 'Dataset Metrics', and '44 Downloads'.

