



Coffee Lectures

# Research Data sharing – duties and benefits

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29 June 2022, Webinar via Zoom

# Learning Goals

- You know the potential benefits that come with sharing your research data.
- You know the requirements and rules for good practice in sharing your research data.



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# What is research data sharing?

Does it mean ...

- ... sharing with collaborators?
- ... sharing with team colleagues or lab members?
- ... sharing data on request via link to a personal cloud?



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# What is research data sharing?

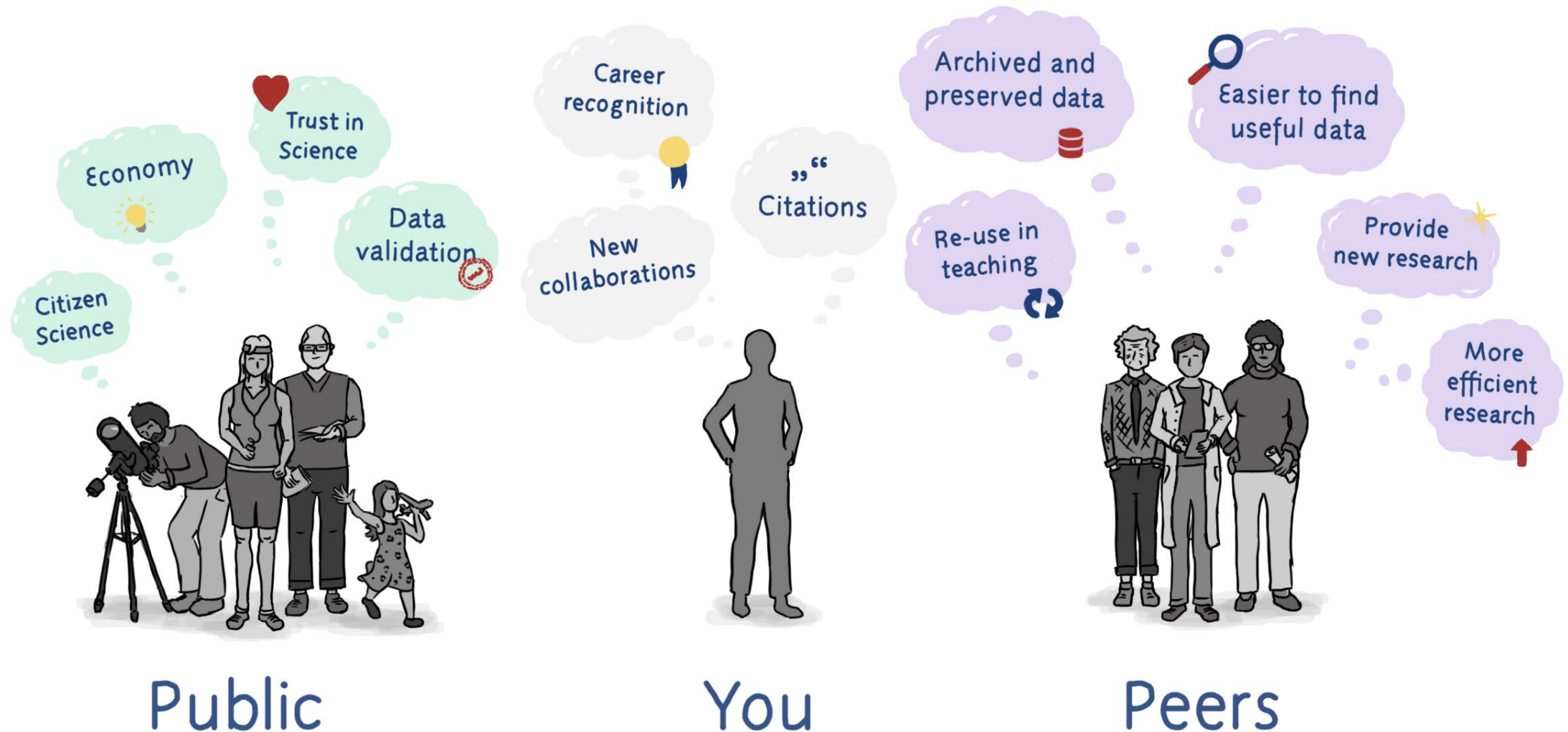
Does it mean ...

- ... sharing with collaborators?
  - ... sharing with team colleagues or lab members?
  - ... sharing data on request via link to a personal cloud?
- 
- Research ***data sharing*** in an Open Science context mostly refers to open ***data publishing!***



***“Data sharing” =  
publishing research data in a suitable data repository,  
openly accessible and findable for everyone***

# Benefits of data sharing...





Colavizza G, Hrynaszkiewicz I, Staden I, Whitaker K, McGillivray B (2020) The citation advantage of linking publications to research data. PLoS ONE 15(4): e0230416. [doi.org/10.1371/journal.pone.0230416](https://doi.org/10.1371/journal.pone.0230416)

# Good scientific practice for publishing data



# ETH Guidelines: Major points related to data publishing



- “To **ensure reproducibility, reliability and accuracy**, the relevant research data and key materials on which the results of a publication are based, shall **follow the FAIR principles** [...]”<sup>1,2</sup>
- Relevant research data and key materials on which the results of a publication are based
  -  a. “are **documented in an appropriate manner** (including [methods, software, and work processes]) and according to the applicable regulations or specifications of research funding organisations;
  -  b. are **securely stored in repositories and data archives** during an appropriate period of time relevant to the subject area [...];
  - c. are **accessible, unless there are reasons of confidentiality**, data protection, protection of personality, protection of intellectual property or security to the contrary.”<sup>1</sup>

<sup>1</sup> *ETH Zurich Guidelines on scientific integrity* (Integrity Guidelines), 1 Jan 2022 (status as of 29 June 2022), <https://rechtssammlung.sp.ethz.ch/Dokumente/414en.pdf> (own emphasis in bold)

<sup>2</sup> On FAIR principles, see *Wilkinson, Mark D et al. (2016). “The FAIR Guiding Principles for scientific data management and stewardship.” Scientific data. 3 160018. doi:10.1038/sdata.2016.18*

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# RDM Guidelines at ETH Zurich (RDMG)

*(effective as of July 2022)*





# RDM Guidelines at ETH Zurich (RDMG)

(effective as of July 2022)

- **RDMGs require research data and programming code directly relevant for a result publication to be published and deposited in a FAIR repository, including metadata**
  - publication of research data and code simultaneously with the associated results
  - this can mean a selected subset of the overall dataset of the project
  - in case of ethical or legal limitations, metadata-only entries are considered suitable
- Results publications must include a **Data Availability Statement**
  - for example: *The data underlying this article are available in the [repository name] at [persistend link to dataset].* (more info: <https://documentation.library.ethz.ch/x/o4TvB>)
- “If a recognised ETH-external FAIR repository is used for depositing Research Data or Programming Code, it is recommended to register a **metadata-only item in the [ETH Research Collection](#)** linking to the dataset.” (RDMGs)
- “ETH Zurich supports the publication of **Research Data and Programming Code as independent and citable academic achievements.**” (RDMGs)



Disclaimer: ETH Zurich, Research Data Management Guidelines, forthcoming, effective as of July 2022, subject to changes, for official documentation see <https://rechtssammlung.sp.ethz.ch>

# HOW to publish data?

- At minimum, funders and ETH Zurich expect that **data underlying a results publication are published** (e.g., replication data for a journal article) *if(!) no ethical or legal restrictions apply*.
- Additional data (raw data, un-exploited parts of the collected data) can be shared, too.
- Compliance with **FAIR** data principles\*
- Data repository is **public** and **metadata** must be openly available
- Assigning a **persistent identifier** (e.g., DOI) to your research data
- Applying common, open licenses such as **CC0** or **CC-BY**
- A **long-term preservation plan** for the deposited data must exist
- **Non-commercial** data repositories preferred



## Resources:

- **Step-by-step guide** on data publication: <https://documentation.library.ethz.ch/x/04LvB>

\* On FAIR principles, see *Wilkinson, Mark D et al. (2016). "The FAIR Guiding Principles for scientific data management and stewardship." Scientific data. 3 160018. doi:10.1038/sdata.2016.18*

# WHERE to publish data?

- Discipline-specific or “catch-all” repositories
- If you use a data repository which is operating in accordance with the **FAIR principles**, you can be sure that you did a lot right!
- A GitHub or GitLab “repository” is NOT a FAIR data repository

## Resources:

### FAIR Data repositories can be found ...

**A:** at your research institution: ETH’s Research Collection (<https://www.research-collection.ethz.ch>)

**B:** elsewhere, e.g. Zenodo (CERN-based “catch-all” repository <https://www.zenodo.org>)

**C:** on <https://www.re3data.org> or <https://fairsharing.org>



# WHEN to publish?

- Funders and ETH Zurich require that data underlying a publication are made available **at the same time as the results publication (e.g. journal paper)**.
- **Publishers** often require that research data / supplementary materials are **not published earlier than the research publication**.

## Recommendations:

- Pre-register a DOI: <https://documentation.library.ethz.ch/display/RC/Reserving+a+DOI> (link concerns ETH Research Collection)
- Include the DOI in your publication manuscript, and upload data prior or after the publisher's review process
- Do NOT easily submit your research data and the accompanying rights to the data to the research publisher for publication on its website. This might limit re-usability (depending on license)



# Get recognition for your research (data) output!

- **Nature calls for recognizing authorship of Open Research Data (ORD)**
  - [Time to recognize authorship of open data \(nature.com\)](#) (accessed 19/4/2022)
  - "The open data revolution won't happen unless the research system values the sharing of data as much as authorship on papers." [#researchdata](#)
- **Springer Nature and Figshare announce pilot to improve data sharing:**
  - <https://group.springernature.com/gp/group/media/press-releases/springer-nature-and-figshare-announce-data-sharing-pilot/20301098> (accessed 19/4/2022)



# Services and further training

## Contact & Support

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Coffee Lectures

[www.library.ethz.ch/coffee-lectures](http://www.library.ethz.ch/coffee-lectures)



GUIDES



FAQ



SUPPORT

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## What we offer:

- (individual) **trainings** on research data management
- **consultation** on data publishing (check [www.library.ethz.ch](http://www.library.ethz.ch))
- **support material:**  
<https://documentation.library.ethz.ch/display/DD/Instructions+and+downloads>



# Thanks for your attention!

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6 July 2022, Webinar via Zoom  
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