

You and your research data

Reinder Radersma | NWO-I Digital Competence Center



NWO-I Digital Competence Center

- NWO-I
 - 9 national research institutes
- NWO-I DCC
 - Open data and software management
 - Provide training, advice and support

<https://nwo-i.nl/dcc>

nwo-i-dcc@cw.nl



You and your research data

- Why care about your data?
 - Legal perspective
 - Moral perspective
 - Code of conduct
- How care for your data?
 - Standards
 - FAIR principles
 - Metadata
- Conflict of interests
 - Collaborations
 - Moving job

Why care about your data?



Legal perspective

- You are not the owner or rightsholder of the data
 - Nikhef > NWO-I > NWO foundation
 - International consortium (*e.g.* CERN)
 - Funder

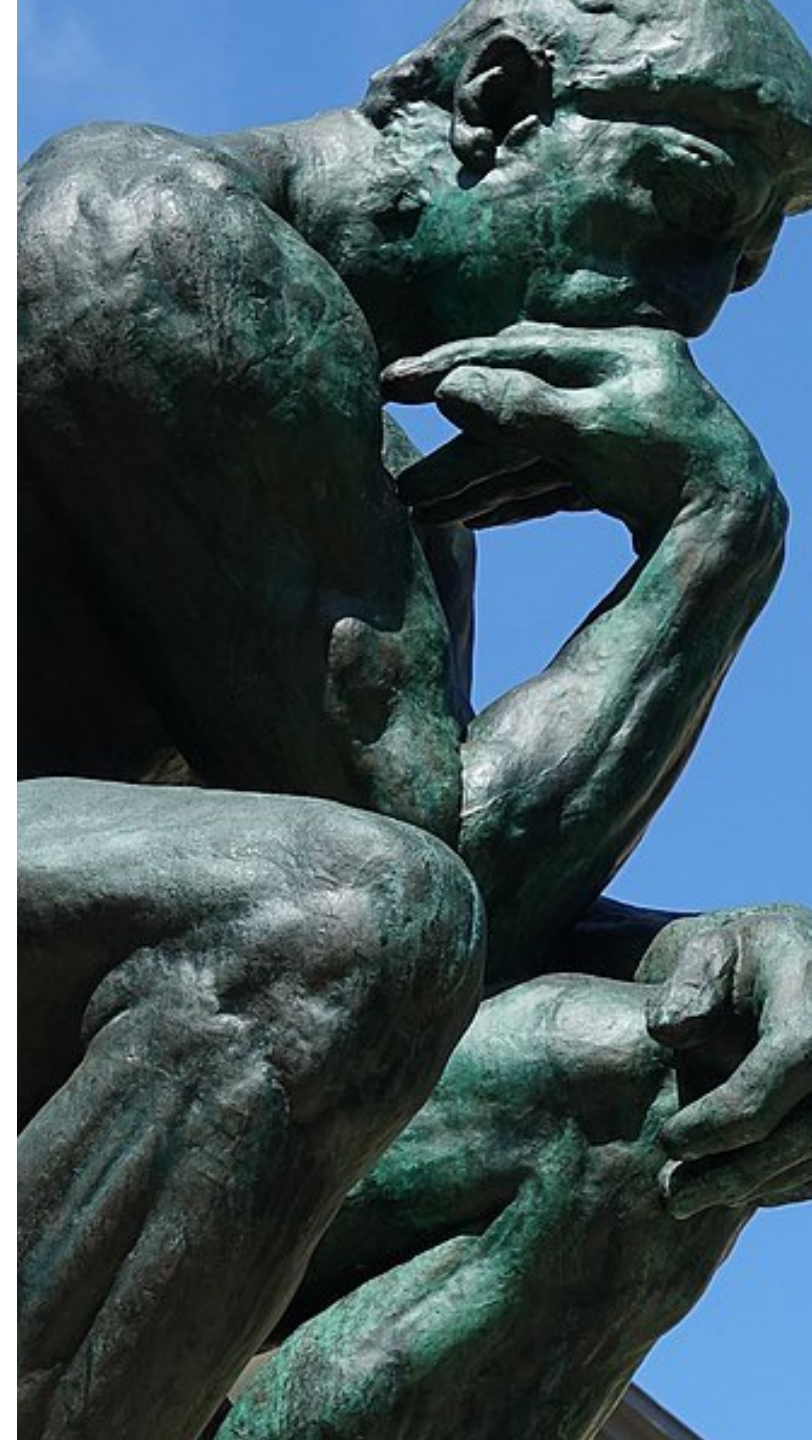
Image: CC-BY: Governo do Estado de São Paulo



Moral considerations

- You are (most likely) publically funded, so you work for society
- Others should be able to use your findings and data

Image: CC-BY: CrisNYCa



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- You are (most likely) publically funded, so you work for society
- Others should be able to use your findings and data
- Science works on trust
- Others should be able to check and reproduce your work
 - More careful
 - Prevent motivated perception
 - Make yourself credible
 - Prevent fraud

Image: CC-BY: CrisNYCa



Moral considerations

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 - Make yourself credible
 - Prevent fraud
- You are a custodian
 - Take good care of data
 - Able to transfer data

Image: CC-BY: CrisNYCa



Netherlands Code of Conduct for Research Integrity

- Adopted by NWO institutes
- Five principles
 - Honesty
 - Scrupulousness
 - Transparency
 - Independence
 - Responsibility

<https://www.nwo.nl/en/netherlands-code-conduct-research-integrity>



Netherlands Code of Conduct for Research Integrity

2018

How care for your data?



Netherlands Code of Conduct for Research Integrity

- Standards for good research practices
 - Design
 - Conduct
 - Reporting results
 - Assessment and peer review
 - Communication

<https://www.nwo.nl/en/netherlands-code-conduct-research-integrity>



Netherlands
Code of Conduct
for Research
Integrity

2018

FAIR Principles

F A I R



Findable



Accessible



Interoperable



Reusable

Image: National Library of Medicine

<https://www.go-fair.org/fair-principles/>

Make your data findable

- Add rich metadata
 - Dublin Core
- Add unique identifier
- Metadata in searchable source

<https://www.dublincore.org>

https://en.wikipedia.org/wiki/Dublin_Core



Contributor	Format	Rights
Coverage	Identifier	Source
Creator	Language	Subject
Date	Publisher	Title
Description	Relation	Type

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Example:



<https://zenodo.org>

Upload type required

Publication Poster Presentation Dataset Image Video/Audio Software Lesson Physical object

Workflow Other

Publication type Publication type.

Basic information required

Digital Object Identifier
Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

Publication date
Required. Format: YYYY-MM-DD. In case your upload was already published elsewhere, please use the date of first publication.

Title
Required.

Authors
Optional.

[+ Add another author](#)

Description
Required.

Version
Optional. Mostly relevant for software and dataset uploads. Any string will be accepted, but semantically meaningful strings are recommended.

Make your data accessible

- Data and metadata retrievable via the identifier
 - Standardized open communication protocol
- Metadata are accessible, even when the data are no longer available

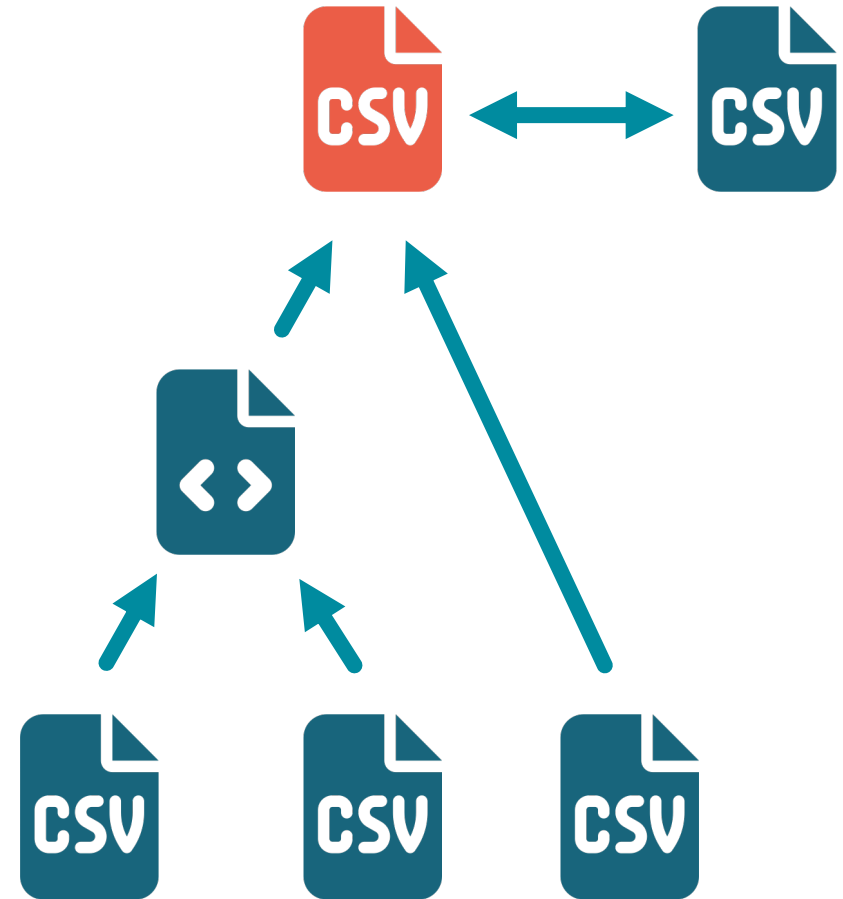
This means for you:

- Choose a good place to store your data
 - Certified (<https://www.coretrustseal.org>)
 - Trusted in your community



Make your data interoperable

- Use broadly applicable language
- Use good keywords
- Describe relationships



Make your data reusable

- Clear license
 - Plan S: Creative Commons Zero / Attribution
 - <https://creativecommons.org/choose/>
- Detailed provenance
- Meet community standards

<https://www.coalition-s.org>



Conflict of interests



Collaborations

- Clear agreements over results and data
 - Rightholders
 - Access to data
 - Storage
- International collaborations
 - Laws and regulatory frameworks

Moving job

- Data is not moving with you
- You might want to keep using data
 - Finishing up
 - Continuation of work
 - Commercialisation
- Make agreements with supervisor / director
- Open data
 - Be clear about intentions



Resources

- NWO-I Digital Competence Center
 - <https://nwo-i.nl/dcc>
- Netherlands Code of Conduct for Research Integrity
 - <https://www.nwo.nl/en/netherlands-code-conduct-research-integrity>
- FAIR principles
 - <https://www.go-fair.org/fair-principles/>
- DublinCore
 - https://en.wikipedia.org/wiki/Dublin_Core
- The Turing Way handbook to reproducible, ethical and collaborative data science
 - <https://the-turing-way.netlify.app>

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