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The European Council of Doctoral
Candidates and Junior Researchers

Open Science Identifiers – Identifying Open Science

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Aims

After this talk, you should:

- know of possible open science practices that you could adopt yourself
- know what a persistent identifier is and how it contributes to Open Science
- have an ORCID

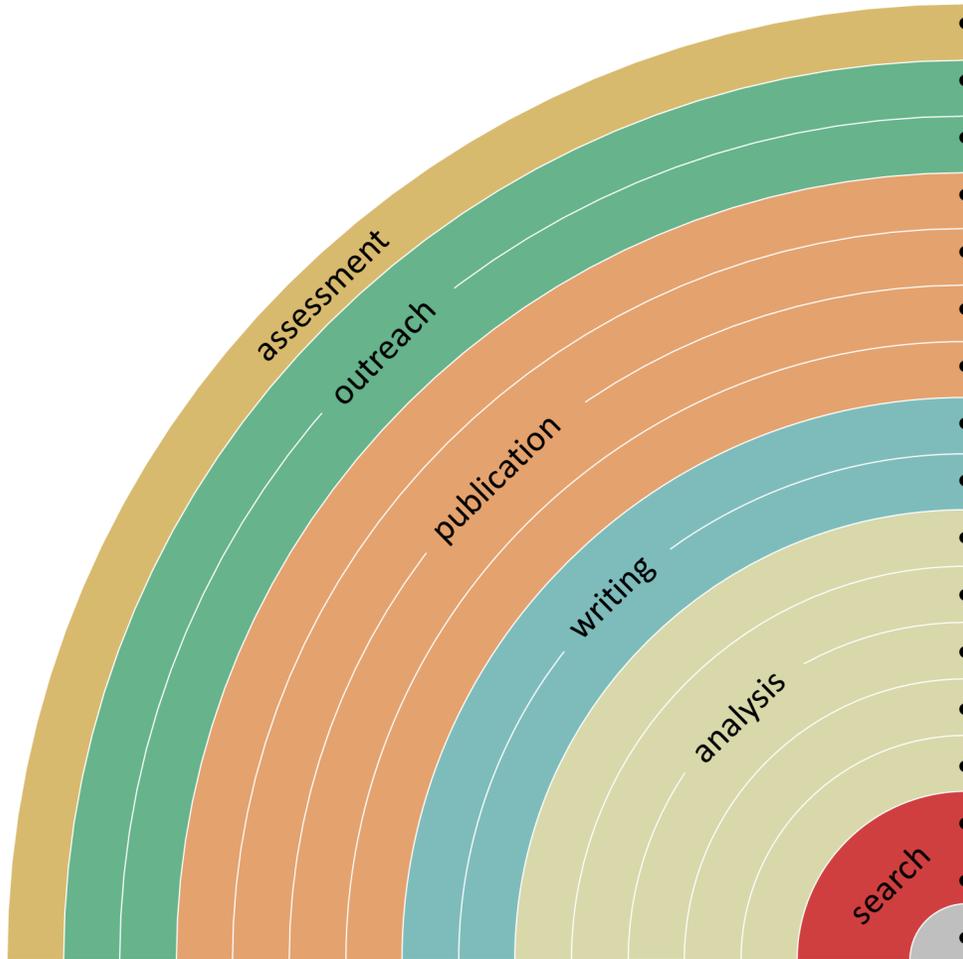


Today

1. Identifying open science practices in the research workflow
2. Open Science Identifiers (PIDs) as part of FAIR data



Identifying Open Science



How can you identify open science practices?



Task (15'):

Go to <https://tinyurl.com/os-identifier>

and add practical examples of how you could / did **open up** your research workflow.

- Work with your neighbour
- introduce yourself by name and research area
- keep one chair between you while talking + mask

• See: https://bmkramer.databox.me/Public/Wheel_of_Open_Science/ for more inspiration on open science practices



Search

- Use pre-existing datasets (e.g. open data repositories)
- Use shared reference libraries (e.g. Zotero)
- Share grant proposals (e.g. at RIO)
- Read and search in OA journals
- Pre-register your research
- Use online platforms that have GWAS or RNA data instead of doing the same study again
- Involve citizen science organizations (if possible)
- Make use of wikimedia projects (e.g. wikipedia, wikidata, etc.)



Analysis

- Pre-register your research (e.g. Registered Reports, or OSF)
- Share protocols and workflows (e.g. at protocols.io)
- Share notebooks (e.g. OpenNotebookScience)
- Share code, (e.g. via Github, as Jupyter notebooks)
- Share data (e.g. via Dryad, Zenodo, or Dataverse; see re3data.org for repositories)
- Make a data management plan
- Use open source software (e.g. R)



Writing

- Open XML-drafting (e.g. Overleaf or Authorea)
- Use actionable formats with Jupyter or Markup / Latex
- Make use of tools such as wikidata, open refine, etc.
- Correct citations for software / datasets used
- Discuss findings outside of institute before publishing



Publication

- Open access (green / gold / diamond) – make it free to publish, free to read!
- Publish your data along with the paper (e.g. Open Data Badges by *Psychological Science*)
- Use open licenses (CC-BY or CC0)
- Share posters and presentations (e.g. via repository or figshare)
- Share preprints (e.g. PsyArXiv)
- Publish null-results (e.g. *Journal of Trial and Error*)



Outreach

- Advocate for open science
- Collaborate with researchers who practice open science
- Use social media or other platform to talk about your work
- Use **open science identifiers** for all your work including data!
- Publish summaries of your work on OASIS (for linguistics)
- Inform the wider public / community about your research (e.g. conferences)
- Involve Citizen Science organizations



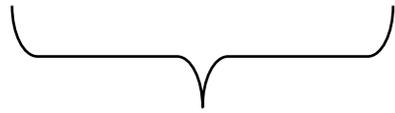
Assessment

- Use the CRediT taxonomy to indicate who did what for your publication (including statistical analysis, conceptualization, etc.) (<https://casrai.org/credit/>)
- Evaluate the work of others not by the venue of publication but by the quality of work
- Open peer review
- Push for change in evaluation criteria at universities and funding bodies: take open science practices into account



Open Science Identifiers

Persistent



an organization made a
promise to keep it alive

Identifiers



globally unique string

or PIDs.

PIDs in a nutshell:

- PIDs are usually backed by an organization / registry that indicates what item is being identified.
- PIDs today are often expressed as **URLs**, and the registry indicates where that URL should ultimately resolve. That PID will always point to the correct item even if the item's location changes.



What gets a PID?

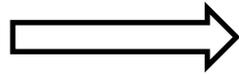
- **(Journal) articles**, via Crossref (<https://crossref.org>) → DOI
- **People**, via ORCID. (<https://orcid.org>)
- **Data, software, and other stuff**, e.g. via DataCite (<https://datacite.org>)
- **Research organizations**, e.g. via ROR. (<https://ror.org>)
- And others (e.g. presentations via your institutional repository)



What do they do?

1. PIDs make research FAIR:

- **F**indable: any data (!) / object should be uniquely and persistently identifiable
- **A**ccessible: data can always be accessed by humans and machines (see 2.)
- **I**nteroperable
- **R**eusable



See Program on Tuesday

2. PIDs link to the object (person, journal article, dataset)

3. PIDs disambiguate (e.g. two researchers with the same name)



What can you do?

1. Give PIDs to your stuff and yourself
 - Get an ORCID
 - Give DOIs to your data and software (e.g. via zenodo, datacite) (cf. Ball & Duke 2015)
 - Put your reports and manuscripts into a repository that gives out PIDs
2. Tell your PIDs about your other PIDs: connect your research
 - e.g. add relevant PIDs in the metadata for your dataset/software
 - e.g. add relevant PIDs in the repository, e.g. when archiving your publication, („related PIDs“)

NOTE: an object can have several PIDs (e.g version controlled) but avoid creating superfluous PIDs



Get an ORCID.



Why get an ORCID?

- Each researcher gets one unique number that is linked to their list of publications, contributions, grants, etc.
- It disambiguates between researchers who have the same name
- It disambiguates and solves issues when there is variation in your name (or when you have changed your name)
- It's free and anyone can get one
- ORCID can be linked to existing databases (e.g. ZORA)
- You can include it in your manuscript submission process
- You can sign-up with your personal email (but link the account to your institution)



Task

Go to <https://orcid.org> and register with your email (personal or institutional – your choice)



(Res)Sources

- https://bmkramer.databox.me/Public/Wheel_of_Open_Science/
- Ball, A., & Duke, M. (2015). 'How to Cite Datasets and Link to Publications'. *DCC How-to Guides*. Edinburgh: Digital Curation Centre. Available online: <http://www.dcc.ac.uk/resources/how-guides>
- Slides will be available at <http://melanie-roethlisberger.ch/experience/open-science>



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