

Open Science for Early-Career Researchers

- Anne de Vries
- EOSCpilot WP 7, 26 September 2018 in Delft

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This talk

- Eurodoc=early-career researchers
- Open Science
- Open Science Skills for Researchers
- Open Science Training for Researchers

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Eurodoc=early-career researchers



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Open Science Policy and Practices

OPEN ACCESS Green Route Publishing Gold Route Publishing	OPEN DATA Findable Accessible Interoperable Reusable	OPEN EDUCATION Student materials Teacher materials
CITIZEN SCIENCE Citizen Engagement Science Communication	OPEN SCIENCE Gareth O'Neill [CC-BY]	OPEN EVALUATION Open Peer Review Alternate Metrics
OPEN SOURCE Open Hardware Open Software	OPEN METHODOLOGY Preregistration Open Notebook	OPEN LICENSING Attribution Share-Alike Commercial Derivative



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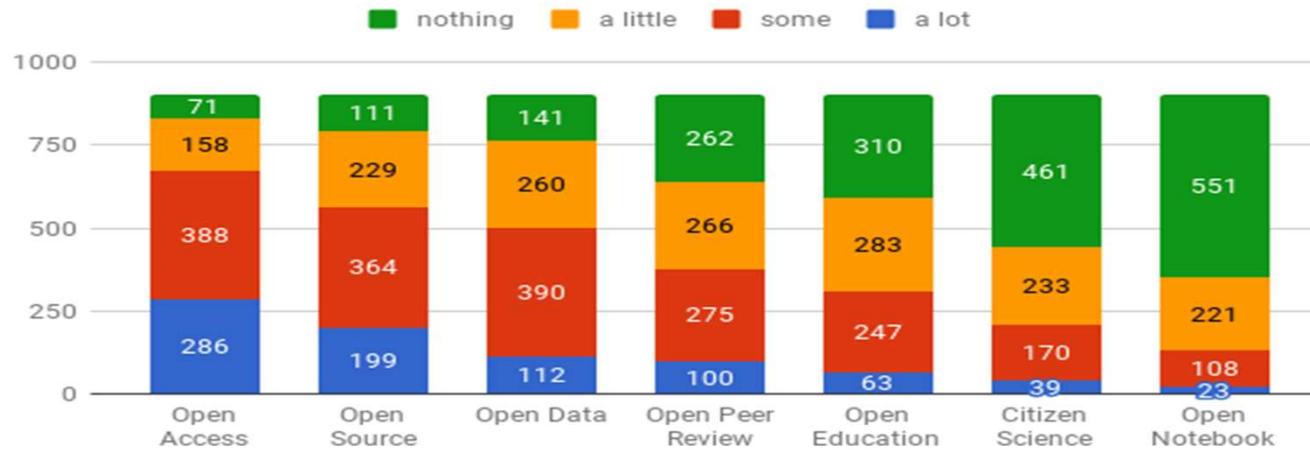
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Open Science Policy and Practices



R1-R2 Responses on 'How much Do you Know about Open Science'? (n=903)
Survey on Open Science and Career Development for Researchers 2017



[O'Neill et al \(2017\)](#)

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Open Science Skills for researchers

- Simple language!
- Pick your battles
- Differentiate between disciplines
- What does not exist (yet), cannot be taught
- Also educate senior staff



Open Science Skills for Researchers

Communication	<ul style="list-style-type: none">• Academic writing• Formal correspondence• Oral presentation• Science for non-technical audiences• Science for policy making• Social media and webinar usage
Digital	<ul style="list-style-type: none">• Information accessing and retrieval• Information presentation and visualisation• Information processing and exchange• Programming• Software usage and development

Eurodoc Skills Report (due 2018)

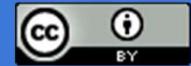


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Open Science Skills for Researchers

Career Development	<ul style="list-style-type: none">● Career planning and assessment● CV writing● Interview techniques● Job application● Job searching● Skills documentation and verification● Skills gap identification and development
Enterprise	<ul style="list-style-type: none">● Commercialisation● Entrepreneurship● Innovation● Intellectual Property Rights (IPR)● Knowledge transfer within and across sectors● Legal and business standardisation● Patenting

Eurodoc Skills Report (due 2018)

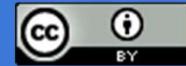
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Open Science Skills for Researchers

<p>Research (research intensive and non-research intensive)</p>	<ul style="list-style-type: none">• Citizen Science• Data analysis• Disciplinary knowledge and terminology• Ethics and integrity• Grant application writing• Interdisciplinarity• Literature use and management• Open Access publishing• Open Data management• Open Education• Open Evaluation• Open Licensing• Open Methodology• Open Source• Project management• Time management
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Eurodoc Skills Report (due 2018)

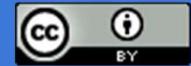
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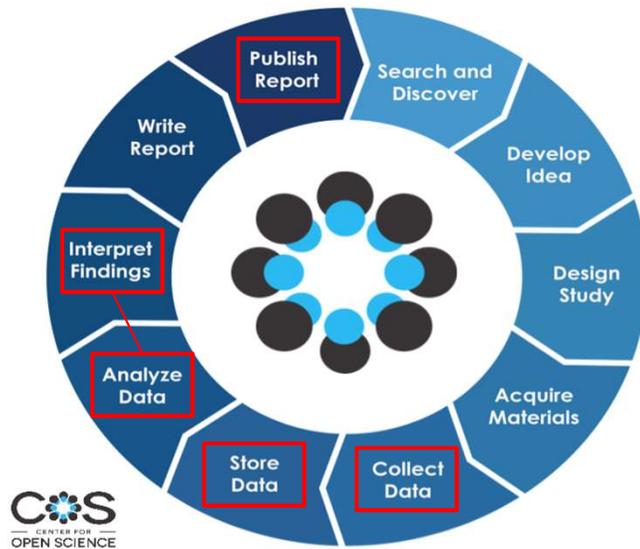
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Example: FAIR data



- collect data
- store data
- analyse and logically interpret data
- open up data and research outcomes

Open Science Framework

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Example: FAIR data

Digital Curation Centre: DCC Template

Data Collection

What data will you collect or create?

Guidance:

Questions to consider:

- What type, format and volume of data?
- Do your chosen formats and software enable sharing and long-term access to the data?
- Are there any existing data that you can reuse?

Guidance:

Give a brief description of the data, including any existing data or third-party sources that will be used, in each case noting its content, type and coverage. Outline and justify your choice of format and consider the implications of data format and data volumes in terms of storage, backup and access.

How will the data be collected or created?

Guidance:

Questions to consider:

- What standards or methodologies will you use?
- How will you structure and name your folders and files?
- How will you handle versioning?
- What quality assurance processes will you adopt?

Guidance:

Outline how the data will be collected/created and which community data standards (if any) will be used. Consider how the data will be organised during the project, mentioning for example naming conventions, version control and folder structures. Explain how the consistency and quality of data collection will be controlled and documented. This may include processes such as calibration, repeat samples or measurements, standardised data capture or recording, data entry validation, peer review of data or representation with controlled vocabularies.

[DMP Online](#)

- ## Data Management:
- Data plans (DMPs)
 - Before project
 - During project
 - After project
 - Data training
 - Data support
 - FAIR principles



Open Science training for Researchers



- train and support
- Different modules
- DMPs for projects
- Online training

[Open Science Training Handbook](#)

et



Open Science Training for Researchers

Through Graduate Schools/ PhD training:

- [Delft: online course](#)
- [Trial and error](#)
- Discipline specific?
- Offline?
- Compulsory?



Open Science for Early-Career Researchers

Thank you for listening!

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