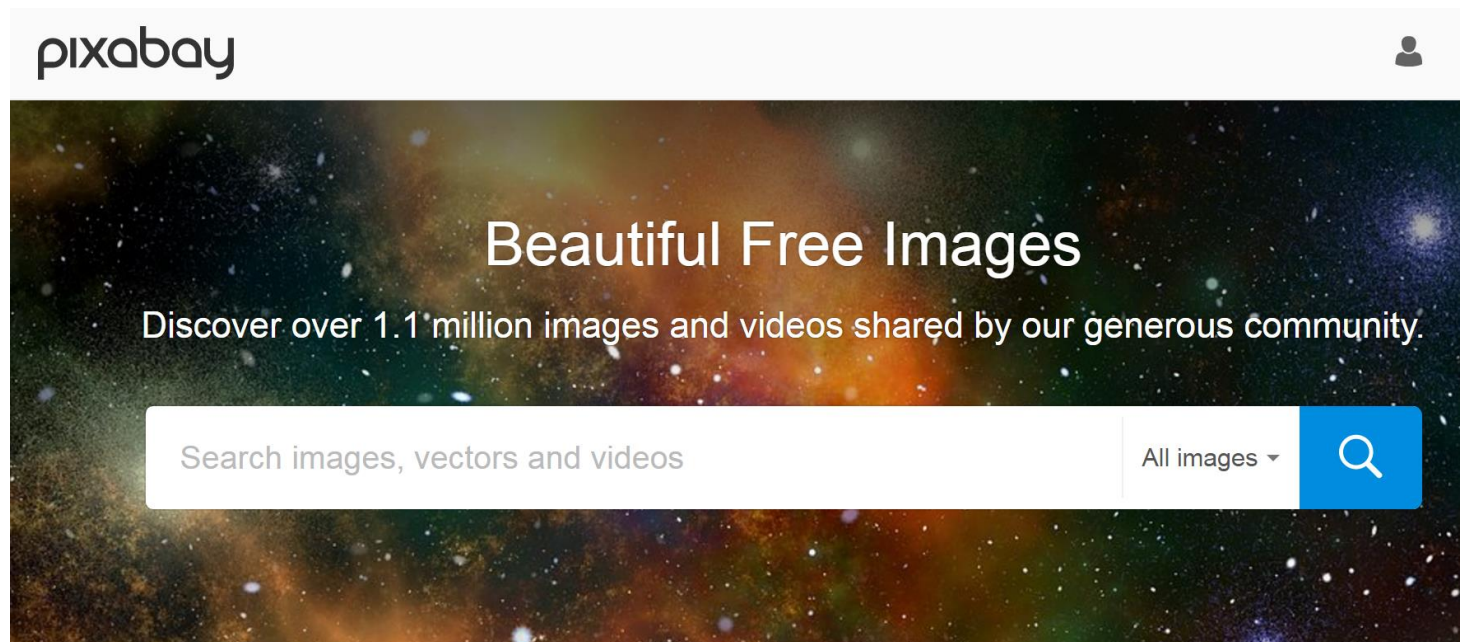


Data Management: Why would I bother?...



First things first...

- All sources under CC0, unless indicated



<https://pixabay.com/>

First things first...

- Slides are available

LINK

All slides are available under CC BY licence,
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Structure of this talk

- About me
- About (TU) Delft
- About the bigger picture
- About you
- Why should you bother
- ... back to the bigger picture

Take out your mobiles!

- Go to [slido.com](https://www.slido.com) and join **#DataMan**

About me



About TU Delft

- Who has heard about Delft before?



Delft on a map:



Delft on a map:



TU Delft = Delft University of Technology

Strong emphasis on the “open”



The screenshot shows the TU Delft website header. On the left is the TU Delft logo. To the right are links for 'TU Delft Studentenportal', 'English', and 'Contact', along with social media icons for Facebook, Twitter, YouTube, and Instagram. A search bar contains the text 'zoek' and has radio buttons for 'onderwerp' and 'persoon'. Below the header is a large banner for 'TU Delft Year of Open' with a stylized sunburst logo and the text 'TU Delft year of OPEN 2017'. A navigation bar below the banner contains the following items: 'Year of Open', 'Open Science', 'Open Research', 'Open Publishing', and 'Open Education'.

TU Delft Open Science

“The world is facing challenges that our university of technology alone cannot meet.”

Karel Luyben, Rector Magnificus, TU Delft

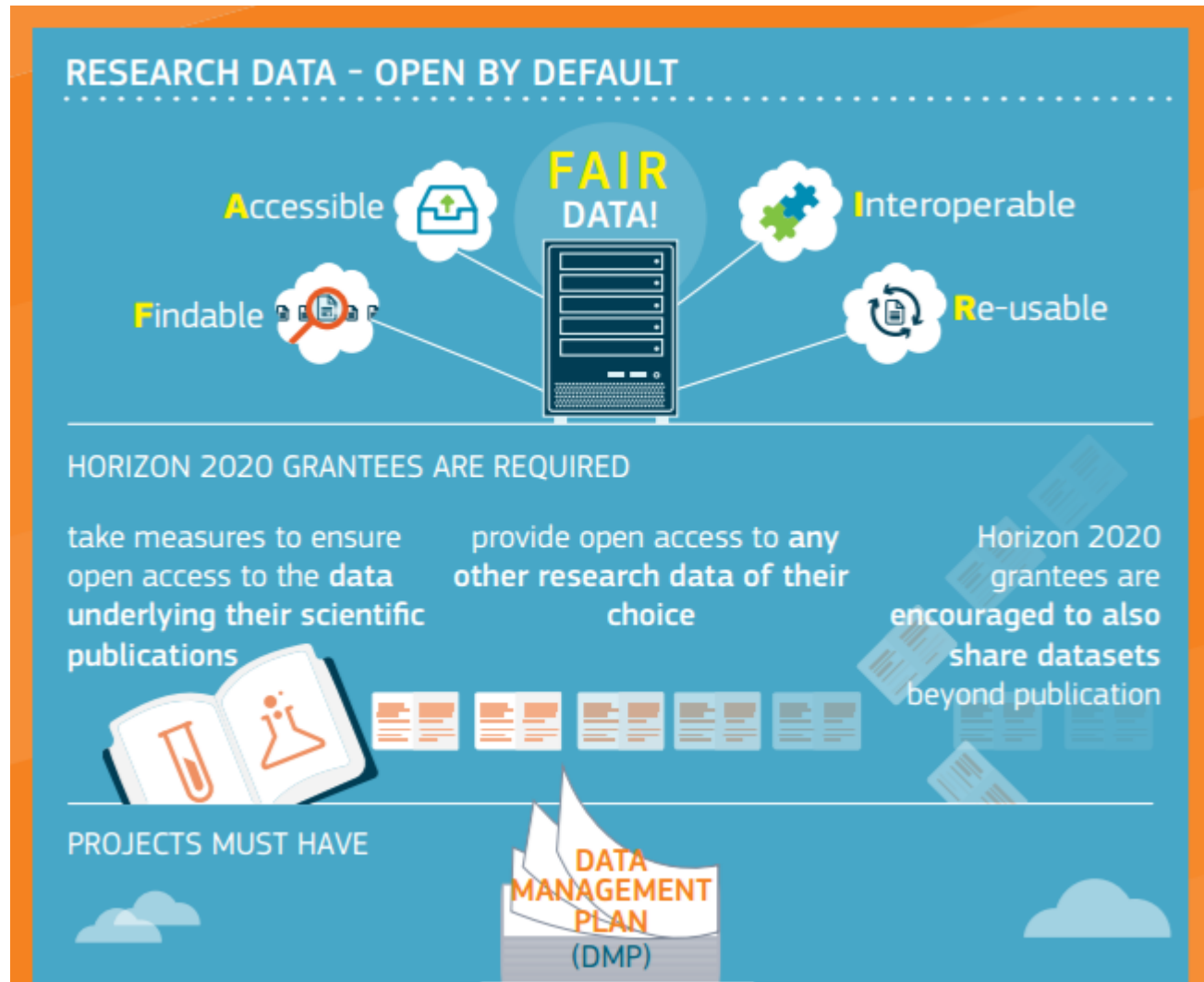


<http://open.tudelft.nl/>

The bigger picture



The bigger picture – Open Data now mandatory in H2020 grants



Journals now also require supporting data...

MENU ▾ nature.com

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authors & referees

Search go Advanced search

[authors & referees](#) > [Policies](#) > Availability of data, material and methods

Site content

- Homepage
- Policies
 - Publication ethics
 - Bioethics & Biosecurity
 - Availability of data & materials
 - Peer-review policy
 - Embargo
 - Corrections
 - License to publish
 - Feedback
- Author resources
- Peer review
- Open access

Availability of data, material and methods

An inherent principle of publication is that others should be able to replicate and build upon the authors' published claims. A condition of publication in a Nature journal is that **authors are required to make materials, data, code, and associated protocols promptly available to readers without undue qualifications**. Any restrictions on the availability of materials or information must be disclosed to the editors at the time of submission. Any restrictions must **also** be disclosed in the submitted manuscript.

After publication, readers who encounter refusal by the authors to comply with these policies should contact the chief editor of the journal. In cases where editors are unable to resolve a complaint, the journal may refer the matter to the authors' funding institution and/or publish a formal statement of correction, attached online to the publication, stating that readers have been unable to obtain necessary materials to replicate the findings.

See sections below for details on:

- [reporting requirements](#)
- [availability of data](#)
- [availability of materials](#)
- [availability of computer code](#)
- [experimental protocols](#)
- [clinical trials](#)
- [further reading](#)

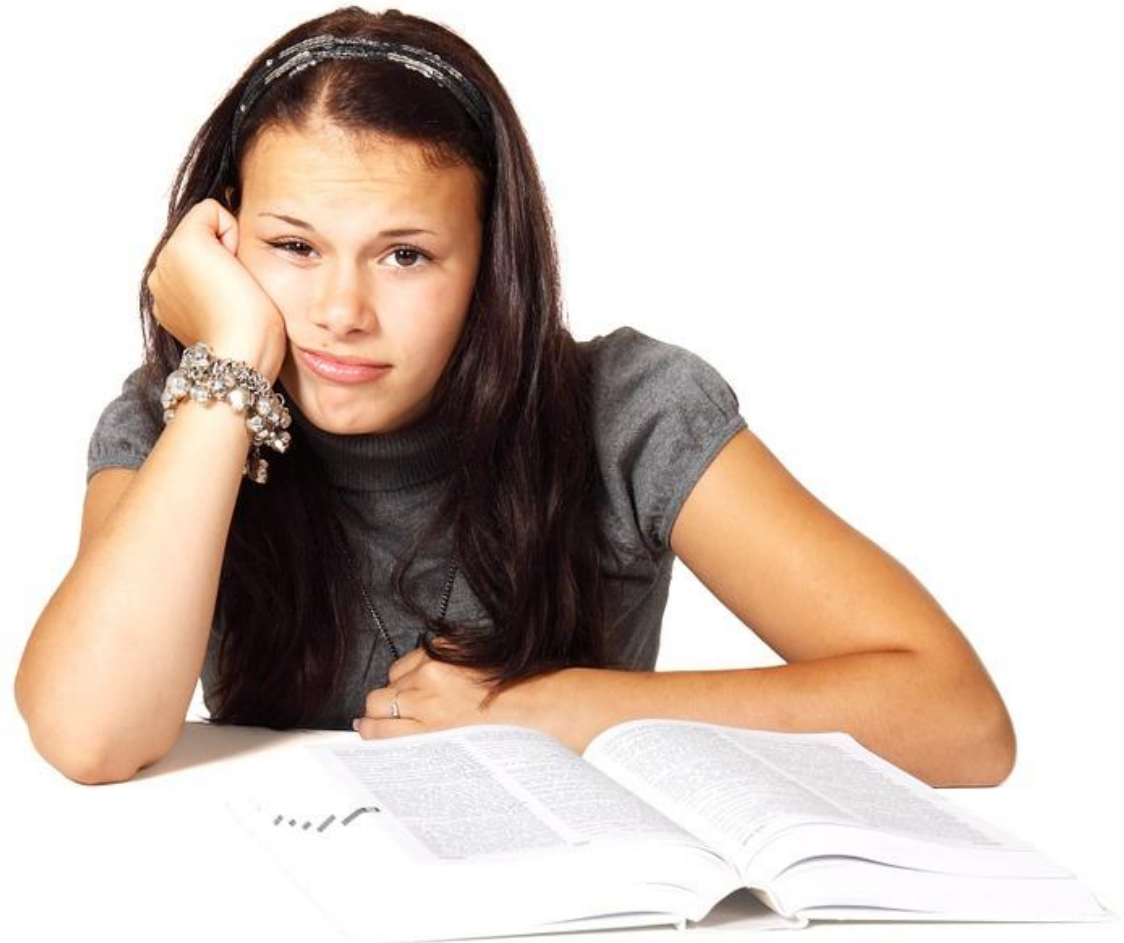
SUBMIT NOW

All these new requirements are sometimes met with immediate reactions

- This is not my priority
- People will steal my results!
- My data is not interesting
- The person who had the data left
- Data management is a waste of time (and money)
- It would take me 5 years to find all my data!



Yet another requirement?...
Why would you bother?



Who are you?

- 1st year PhD
- 2nd year PhD
- 3rd year PhD +
- Postdoc
- Support staff

What if I stolen your laptop now?



How much data would you lose if I stole your laptop?

- Nothing – everything is backed up
- Less than 1 day of work
- 1 day – 7 days of work
- 1 week – 1 month of work
- Prefer not to think about it...

This things really happen...



Department of Chemistry,
University of Cambridge

<http://blogs.ch.cam.ac.uk/pmr/2011/08/01/why-you-need-a-data-management-plan>

This things really happen...

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sport | football | opinion | culture | business | lifestyle | fashion | environment | tech | travel | [browse all sections](#)

on | media | society | law | scotland | wales | northern ireland

Manchester cancer hospital fire 'may have destroyed vital research'

Cancer Research UK institute likely to have lost millions of pounds of life-saving equipment in blaze, says its director



More than 100 firefighters and 16 fire engines tackled the blaze at Christie hospital. Photograph: Paul

Most popular



Chelsea 3-0 Middlesbrough: Premier League - as it happened



Eating cheese does not raise risk of heart attack or stroke, study finds



Donald Trump's ignorance is becoming more evident with each passing day | David Cay...



Irish beach washed away 33 years ago reappears

https://www.theguardian.com/uk-news/2017/apr/28/manchester-christie-cancer-hospital-fire-research-equipment-destroyed?CMP=Share_iOSApp_Other

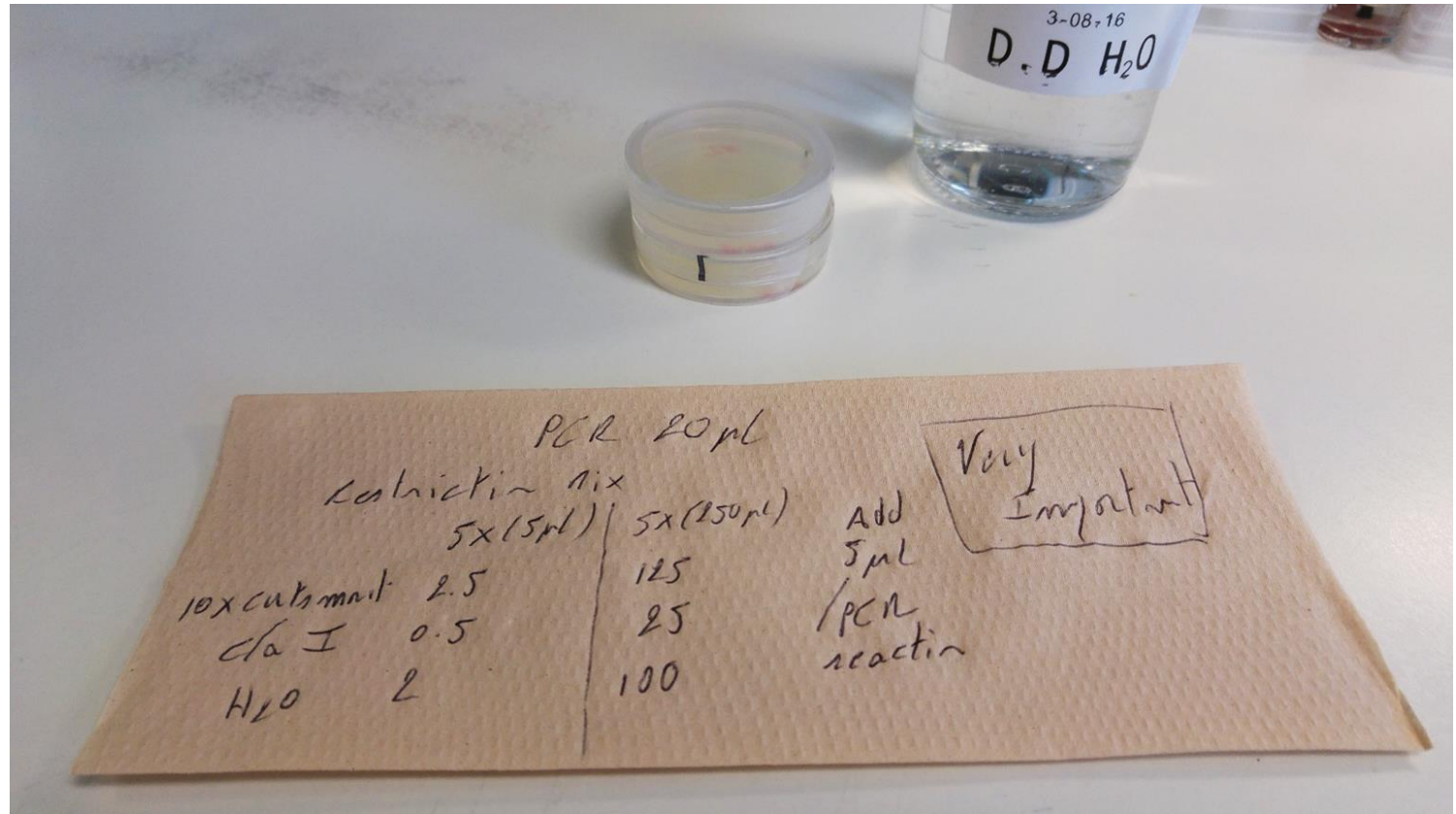
How frequently do you have problems finding a specific research data file in your collection?

- Never
- Almost never
- Sometimes
- Frequently

Why do we have problems finding data?



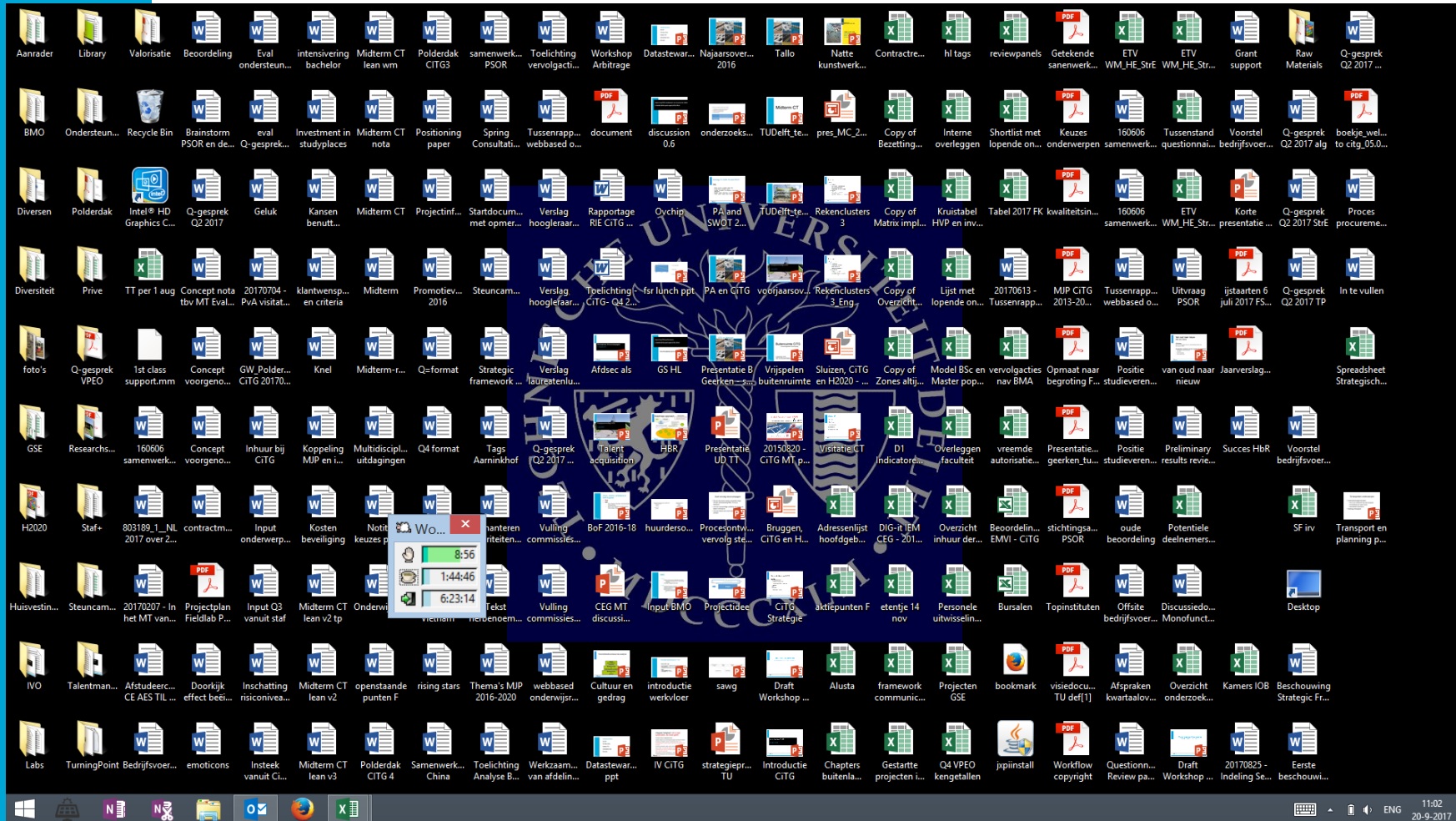
How do you organise your data?



How do you organise your data?



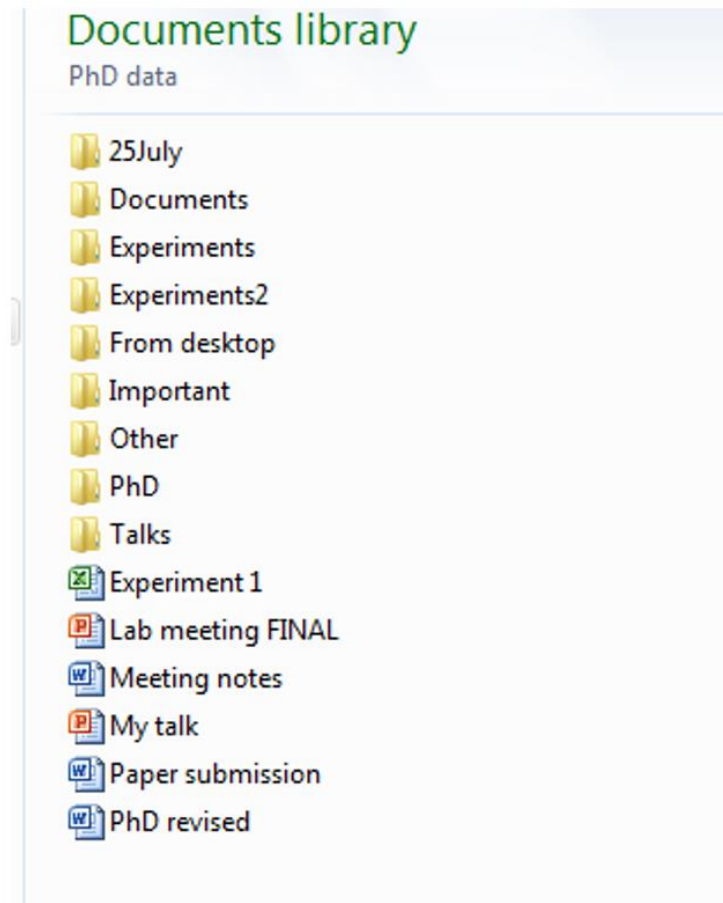
How do you organise your data?



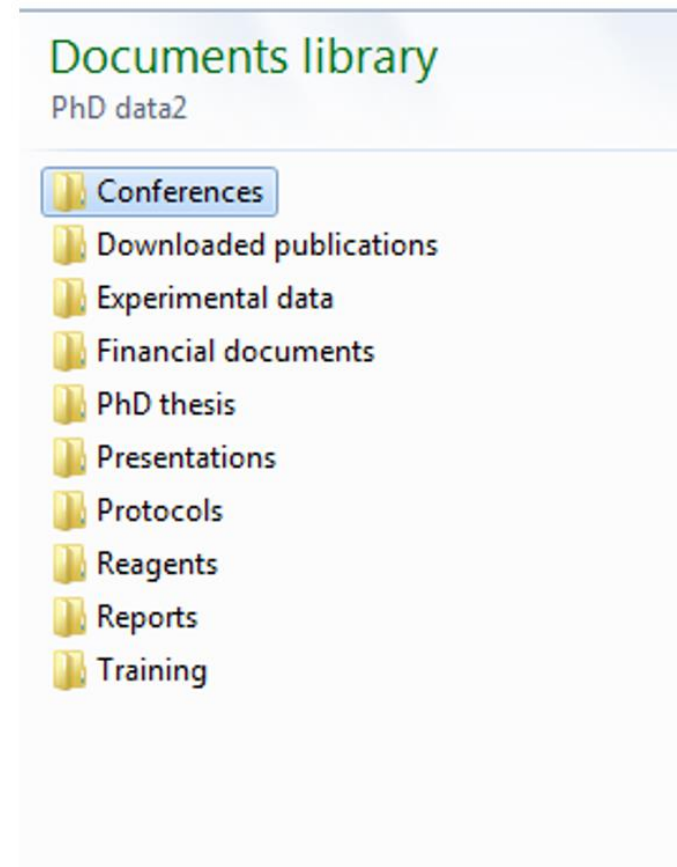
Copyright: Stijn van Boxmeer, CiTG, TU Delft

How do you organise your data?

Example A



Example B



File naming



Copyright: <http://10pm.com/>

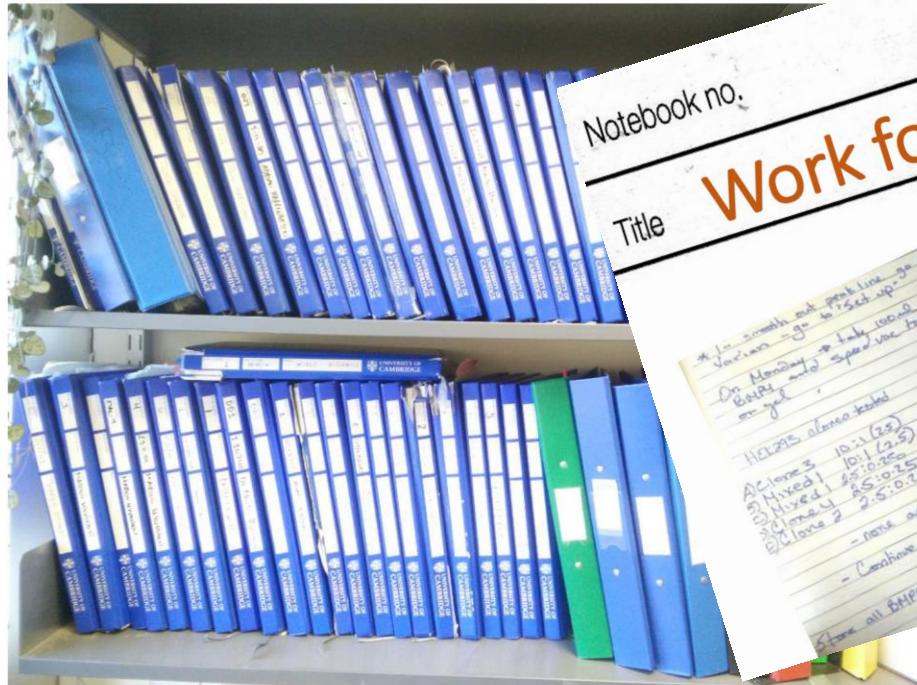
File naming



In 3 years time would you know what these are?

Experimental notes

Notebook no.	Date 13 January 2017	
Title The reality of today		Continue



Notebook no.

Title

Work for Sherlock Holmes

Date 13 January 2017

At 10:30 smooth and speak line go to lamp station set
 Variation - go to set up.
 On Monday → take record of each division of
 entry into speed to solve the puzzle that
 on gel

Holmes always takes
 AC lanes 10:1 (25)
 Mixed 10:1 (25)
 Holmes 1 25:0:25
 Holmes 2 25:0:25

- none appear to have any activity
 - Continue testing classes
 Store all BHP4 students in fridge until Monday

29

MW 17 - 816
 Fructose 18-21 were added
 " 22-26 were added
 This gel was capillary and after
 old the addition of 50 nM PGE
 L & reverse pH 8.0. The dialysis was carried out
 dialysis under 2 changes 0.5 liter vs 5 liter
 exchange occur in BPM Urea - 2.1 nM EDTA

The pellet affected doctor in colour
 old at 25°C then when equated at
 then is thought to compare to the lanes

Presentation by Dr Marko Hyvonen

<https://doi.org/10.17863/CAM.7217>

OK... Maybe data management...
But why sharing?...



Again, think about yourself

- What if someone asks you for data supporting your publication?
- What if someone asks you for data supporting your publication, 5 years later?
- What if the request comes 10 years later?

Datasets available 'on request' are not available

Current Biology 24, 94–97, January 6, 2014 ©2014 Elsevier Ltd All rights reserved <http://dx.doi.org/10.1016/j.cub.2013.11.014>

Report

The Availability of Research Data Declines Rapidly with Article Age

- Data availability decreases by **17% per year**
- Chance of email address working decreases by **7% per year**

<http://dx.doi.org/10.1016/j.cub.2013.11.014>

Selfish reason: share once and don't be bothered

Institution: Technische Universiteit Delft

Proceedings of the National Academy of Sciences of the United States of America

PNAS

CURRENT ISSUE // ARCHIVE // NEWS & MULTIMEDIA // AUTHORS // ABOUT // COLLECTED ARTICLES // BROWSE BY TOPIC // EARLY EDITION // FRONT MATTER

🏠 > Current Issue > vol. 114 no. 30 > Hélène de Paoli, 8035–8040, doi: 10.1073/pnas.1619203114

 Check for updates

Behavioral self-organization underlies the resilience of a coastal ecosystem

Hélène de Paoli^a, Tjisse van der Heide^{b,c,1}, Aniek van den Berg^a, Brian R. Silliman^{d,1}, Peter M. J. Herman^{a,c,e,1}, and Johan van de Koppel^{a,b,1}

This Issue

 July 25, 2017
vol. 114 no. 30
Masthead (PDF)
Table of Contents

◀ PREVIOUS ARTICLE NEXT ARTICLE ▶

Data deposition: The data reported in this paper, including R scripts for the analysis and the figures, has been deposited in the 4TU database, doi.org/10.4121/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f.

Selfish reason: share once and don't be bothered

Dataset | Data presented in the Paper "Behavioral self-organization underlies the resilience of a coastal ecosystem" by De Paoli et al (PNAS 2017)

▶▶▶▶▶ [Link/cite as https://doi.org/10.4121/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f](https://doi.org/10.4121/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f) | [full citation](#)

▼ go to DATA section ▼

title	?	Data presented in the Paper "Behavioral self-organization underlies the resilience of a coastal ecosystem" by De Paoli et al (PNAS 2017)
creator	?	orcid van de Koppel, J. (Johan)
creator	?	de Paoli, H. (Hélène)
contributor	?	orcid Herman, P.M.J. (Peter)
contributor	?	NIOZ Royal Netherlands Institute for Sea Research, Department of Estuarine and Delta Systems, and Utrecht University
contributor	?	orcid Silliman, B.R. (Brian)
contributor	?	van den Berg, A. (Aniek)
contributor	?	van der Heide, T. (Tjisse)
date accepted	?	2017-06-12
date created	?	2017-04-11
date published	?	2017
description	?	This dataset contains the experimental data that is published in the paper "Behavioral self-organization underlies the resilience of a coastal ecosystem", with the above contributors as authors, published in the Proceedings of the National Academy of Science of the USA. The data was obtained during the Waddensleutels and Mosselwad projects. The current dataset contains the raw data and R scripts for analysis and for the figures in that manuscript.
language	?	en
publisher	?	NIOZ Royal Netherlands Institute for Sea Research
spatial coverage	?	Intertidal flats inc. oyster/mussel reefs south of Schiermonnikoog, Netherlands ▶ The experiments were conducted on mussel beds situated at land-bound intertidal flats to the south of Schiermonnikoog, the Netherlands (location: 53.455, 6.147 DD)
subject	?	Mussel beds • Mussels • Restoration • Spatial ecology • Spatial patterns
▲ in collection	?	General collection of datasets
time coverage	?	years 2012-2013
related publication	?	Behavioral self-organization underlies the resilience of a coastal ecosystem (article, 2017)
licence	?	General terms of use

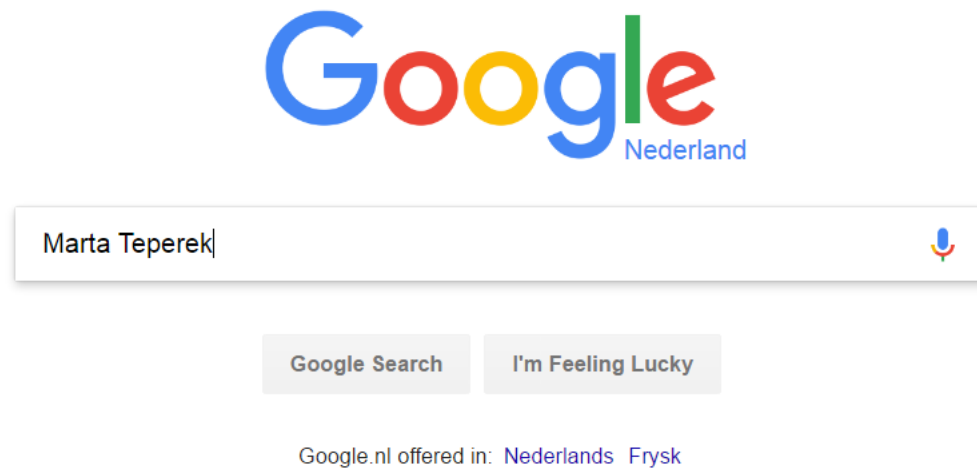
DATA

- Dataset files (80.9 KiB) >> [download complete dataset \(zip\)](#) | [download separate files](#)
- + bag-info
 - + contents of this dataset, 13 files

People can self-service instead of bothering you

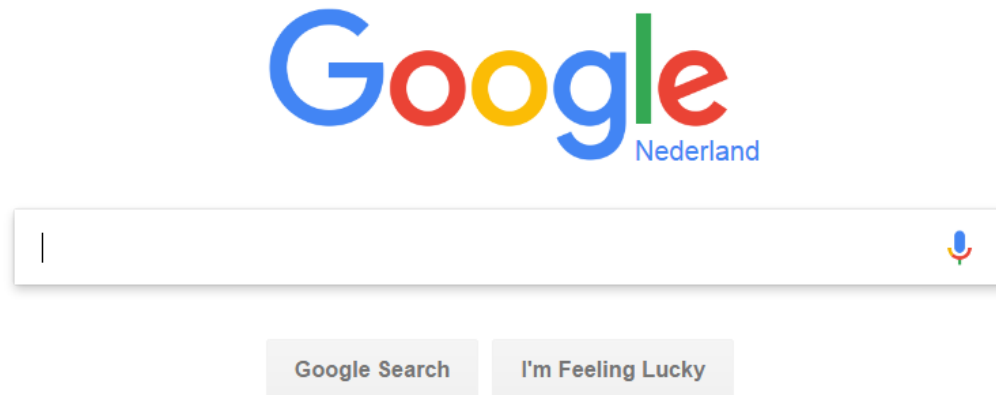
Selfish reason: increase your impact and boost your online presence

Exercise:



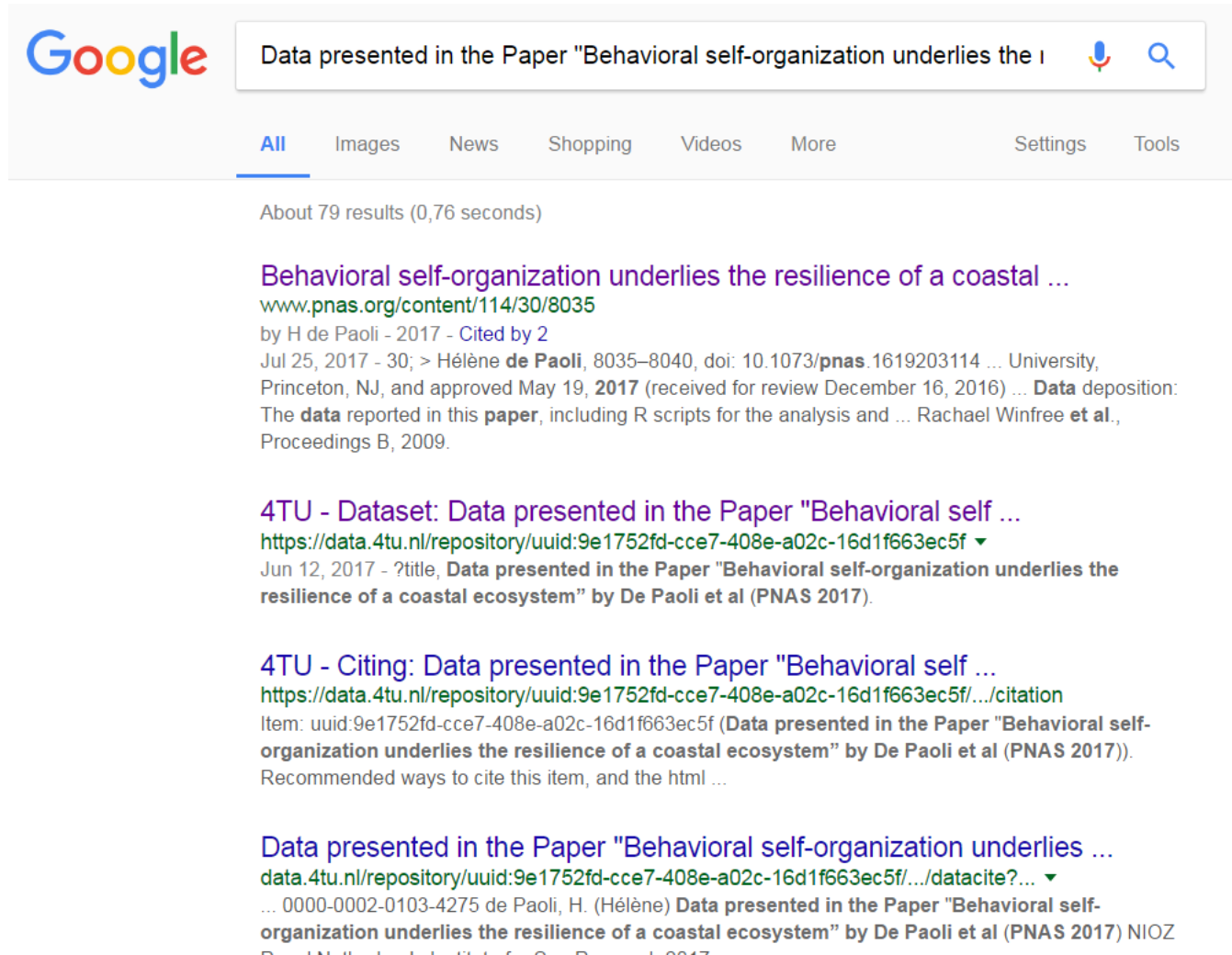
Google yourself.
What do you find?

But who looks in the repository?



Google does!!!

Google searches the repository



The screenshot shows a Google search interface with the following elements:

- Search Bar:** Contains the text "Data presented in the Paper Behavioral self-organization underlies the r".
- Navigation:** Includes tabs for "All", "Images", "News", "Shopping", "Videos", "More", "Settings", and "Tools".
- Results:** Shows "About 79 results (0,76 seconds)".
- Result 1:**
 - Title:** Behavioral self-organization underlies the resilience of a coastal ...
 - URL:** www.pnas.org/content/114/30/8035
 - Author:** by H de Paoli - 2017 - Cited by 2
 - Text:** Jul 25, 2017 - 30; > H el ene de Paoli, 8035–8040, doi: 10.1073/pnas.1619203114 ... University, Princeton, NJ, and approved May 19, 2017 (received for review December 16, 2016) ... Data deposition: The data reported in this paper, including R scripts for the analysis and ... Rachael Winfree et al., Proceedings B, 2009.
- Result 2:**
 - Title:** 4TU - Dataset: Data presented in the Paper Behavioral self ...
 - URL:** <https://data.4tu.nl/repository/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f>
 - Text:** Jun 12, 2017 - ?title, Data presented in the Paper Behavioral self-organization underlies the resilience of a coastal ecosystem by De Paoli et al (PNAS 2017).
- Result 3:**
 - Title:** 4TU - Citing: Data presented in the Paper Behavioral self ...
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 - Text:** Item: uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f (Data presented in the Paper Behavioral self-organization underlies the resilience of a coastal ecosystem by De Paoli et al (PNAS 2017)). Recommended ways to cite this item, and the html ...
- Result 4:**
 - Title:** Data presented in the Paper Behavioral self-organization underlies ...
 - URL:** data.4tu.nl/repository/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f/.../datacite?
 - Text:** ... 0000-0002-0103-4275 de Paoli, H. (H el ene) Data presented in the Paper Behavioral self-organization underlies the resilience of a coastal ecosystem by De Paoli et al (PNAS 2017) NIOZ ...

Track citations of your data

DOI to link/cite your data

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Dataset | Data presented in the Paper "Behavioral self-organization underlies the resilience of a coastal ecosystem" by De Paoli et al (PNAS 2017)

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related publication	?	Behavioral self-organization underlies the resilience of a coastal ecosystem (article, 2017)
licence	?	General terms of use

DATA

[?](#) Dataset files (80.9 KiB) >> [download complete dataset \(zip\)](#) | [download separate files](#)

bag-info

contents of this dataset, 13 files

<< more info...

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» Search in "info"

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<https://doi.org/10.4121/uuid:9e1752fd-cce7-408e-a02c-16d1f663ec5f>³⁸

Track citations of your data

Behavioral self-organization underlies the resilience of a coastal ecosystem

H de Paoli, T van der Heide... - Proceedings of the ..., 2017 - National Acad Sciences

Abstract Self-organized spatial patterns occur in many terrestrial, aquatic, and marine ecosystems. Theoretical models and observational studies suggest self-organization, the formation of patterns due to ecological interactions, is critical for enhanced ecosystem resilience. However, experimental tests of this cross-ecosystem theory are lacking. In this study, we experimentally test the hypothesis that self-organized pattern formation ...

Cited by 2 All 6 versions Web of Science: 1 Cite Save

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Measure your impact

Choose differently!

RESEARCH DATA AT EPFL

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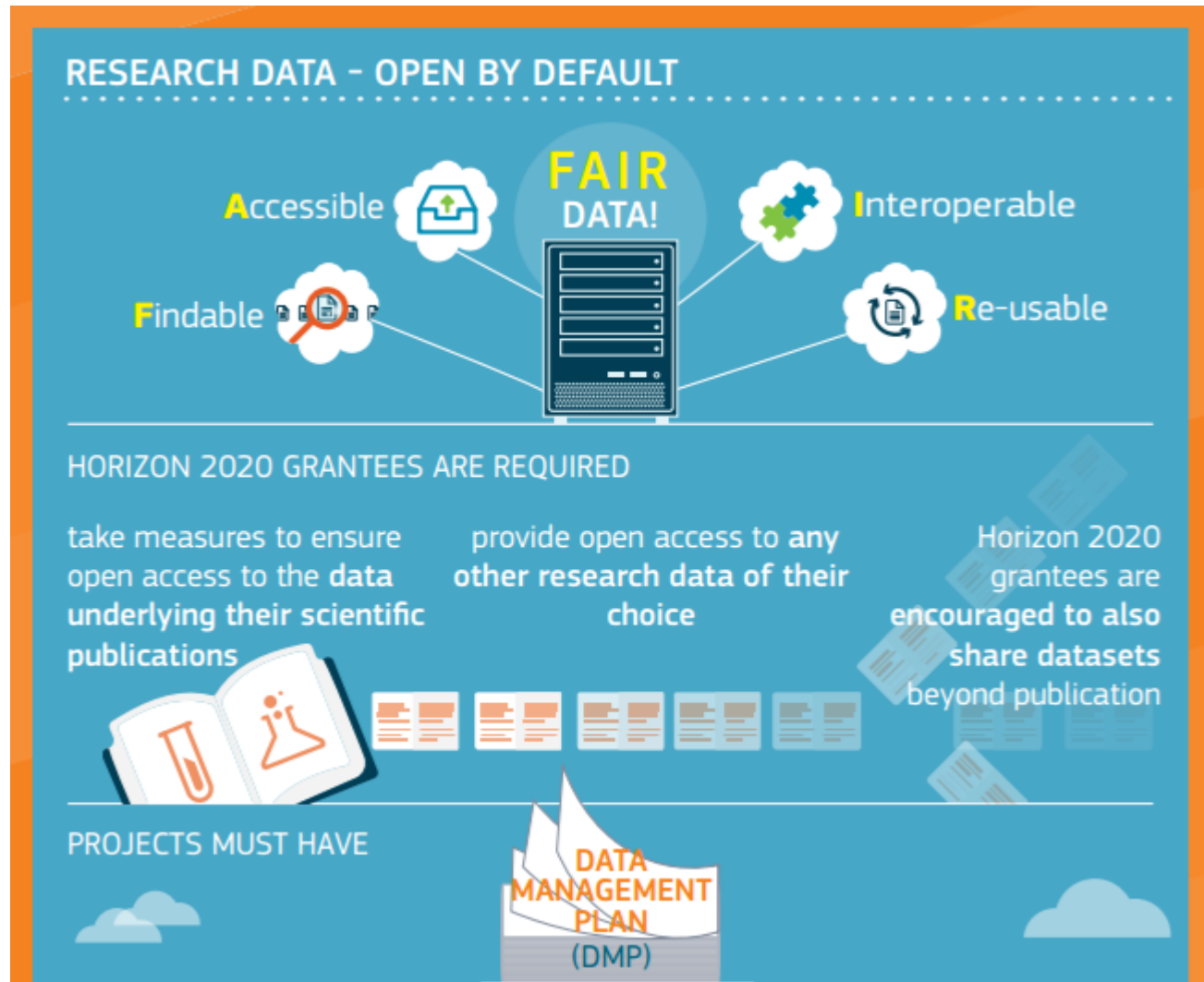
- Enhance research int
- Higher research visibl
- Increased citation rate
- Easier own data reuse
- Reduced data loss ris

<https://researchdata.epfl.ch/>

Coming back to the bigger picture...



What's changing?...



Decision makers realised that rewards system needs to change



Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

Funding going preferentially to those who manage data well?

Open Science Career Assessment Matrix (OS-CAM)

<i>Open Science activities</i>	<i>Possible evaluation criteria</i>
RESEARCH OUTPUT	
Research activity	Pushing forward the boundaries of open science as a research topic
Publications	Publishing in open access journals Self-archiving in open access repositories
Datasets and research results	Using the FAIR data principles Adopting quality standards in open data management and open datasets Making use of open data from other researchers
Open source	Using open source software and other open tools Developing new software and tools that are open to other users
Funding	Securing funding for open science activities

Be the front-runner!

Be the one eligible for grants in the future!

Thank you Questions?



m.teperек@tudelft.nl
@martateperек

LINK