

# Effective strategies for managing your research data (advanced session)

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**Office of Scholarly Communication  
Research Data Management Facility**

5<sup>th</sup> September 2018



# Some housekeeping information:

1. Today: mixture of activities and us talking
2. Ask questions whenever you want
3. There is no fire alarm testing
4. Rule: everything you say remains confidential
5. Slides will be emailed out

# Aims of today's workshop:

1. Understand why managing data well is important
2. Understand what a DMP is and why you should have one
3. Gain confidence in knowing what makes a good DMP

## Plan for today:

1. The OSC
2. A brief recap on RDM
3. (GDPR if applicable)
4. Why share?
5. How to share well
6. Data management plans





# Advanced session

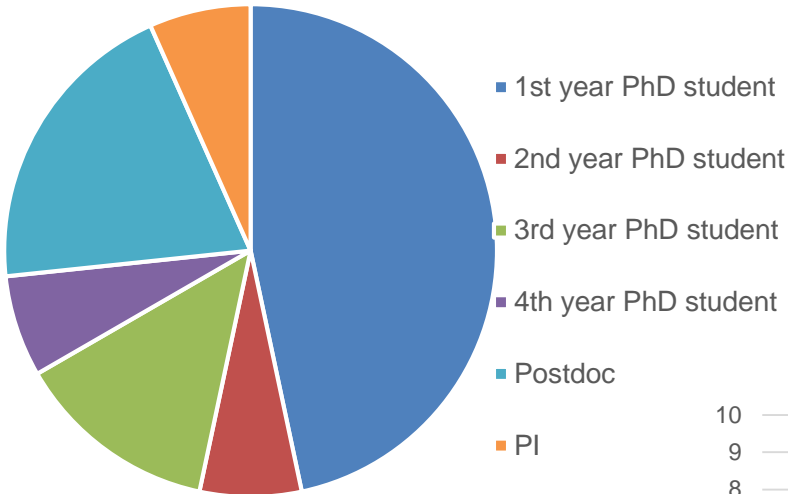
You should already know:

- How to organise your data
- How to back up your data

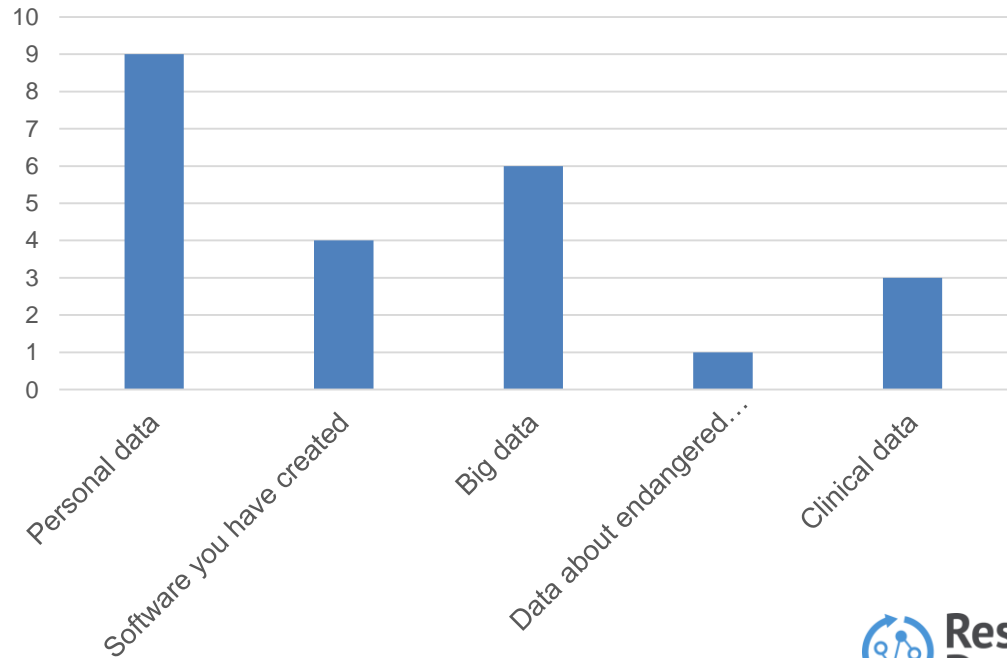
If not, attend our beginners course. Booking for 1<sup>st</sup> November session will open soon...

# To start with...

Participants




**Top 3 funders:**  
BBSRC  
EPSRC  
Wellcome Trust



# The Office of Scholarly Communication Cambridge University Library







The Library is a centre of digital preservation (and full of books).





- Open Access
- Research Data Management
- Apollo
- Thesis Management
- Training

A screenshot of the OSC website homepage. The header is a dark teal bar with the text "Scholarly Communication" in white. Below the header is a navigation menu with items: Home, Scholarly Communication, Open Research, Open Access, Repository, Copyright, Monographs, Theses, Training, and Events. The main content area features a large banner image of a laptop and a hand writing on a tablet. Below the banner is a carousel of four items: "Open Access" with an orange padlock icon, "Research Data" with a blue network icon, "Theses Management" with a green book icon, and "Training" with a white calendar icon. On the right side, there is a "Find us on" section with icons for Newsletters, Twitter, YouTube, and Blog. Below that is a "Tweets" section showing a tweet from @CamOpenAccess dated Oct 5, 2017. At the bottom right, there is an "Events" section with two upcoming events: "Python Training Sessions" on Oct 12 and "An introduction to Open Research" on Oct 17.



The background is a dense field of 3D question marks. Most are dark grey and appear to be floating or scattered. One question mark in the lower-left quadrant is a bright, glowing yellow. Another question mark in the upper-right quadrant is a bright, glowing blue. The lighting creates shadows and highlights on the 3D shapes, giving them a sense of depth and volume.

**What is research data  
management?**



# Research Data Management (RDM)



**ORGANISING**



**STORING**



**ARCHIVING**



**SHARING**





# FAIR data

## Findable

- easily discoverable

## Accessible

- no restriction to access

## Interoperable

- doesn't rely on one specific type of software

## Reusable

- is clearly licensed



# 'Data' can mean a lot...

- Raw instrument readings
- Processed data
- Analysed data
- Genomic data
- Microscopic photos, western blot images and measurement
- Spreadsheets
- Videos
- Surveys and interviews
- Field notes
- Maps
- Lab books
- Physical samples
- Protocols

It's basically anything you produce in the course of your research!

# And personal data is...?

“Information relating to an identified or identifiable natural person” GDPR Article 4(1)

- i.e. any information about a living person that can be linked directly or indirectly to that person.
- Does not include data anonymised to the extent that a motivated third party could not reidentify the individual
- Includes pseudonymised data (i.e. where identifiers are physically split from the data, but kept in the same organisation).



# What does data protection legislation require of researchers?

The legislation imposes a range of requirements for use of personal data, but most research will be subject to an exemption:

- Research purposes – used where:
  - The standard provisions would seriously impair research
  - No damage or distress to data subjects
  - No individual decision-making about data subjects
  - Safeguards are in place
- Academic expression - used where:
  - Complying with the standard provisions would be incompatible with the academic purpose
  - There will be a publication in the public interest



# What does data protection legislation require of researchers?

- Know and communicate your legal basis (research)
- Be transparent with data subjects (research)
- Process accurately and only what you need (research)
- Keep personal data secure (research)
- Process fairly, considering any ethical risks to the data subject (research)
- Comply with institutional accountability processes, e.g. ethical review (research and academic expression)






# Storage & back-up

- Personal data may only be used under the research exemption if appropriate security measures are taken.
- Ideally this will be prompt anonymization or pseudonymisation.
- Ensure that portable systems or devices are fully encrypted.
- Ensure physical security for hard copy data.
- See the [UIS website](#) for appropriate University storage solutions.

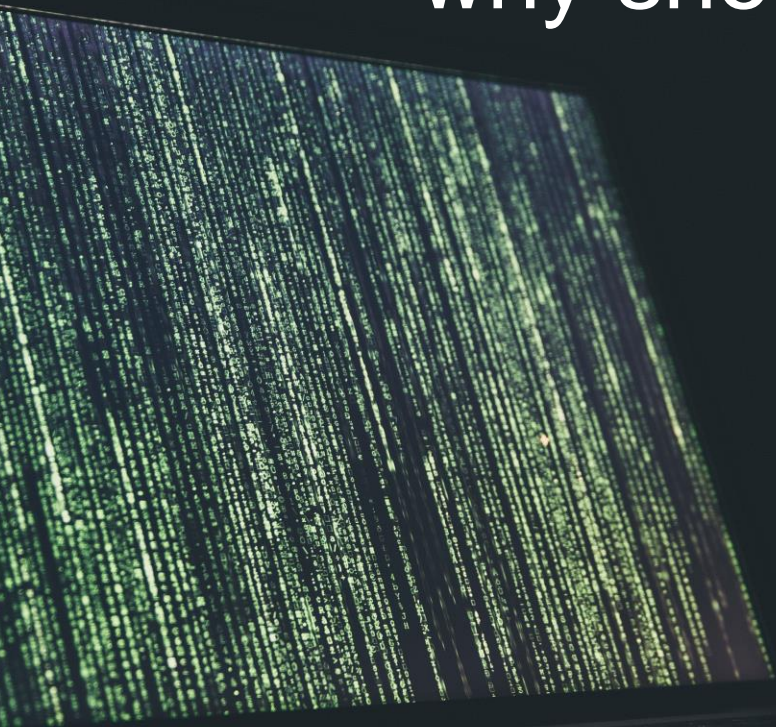


# Cloud storage

- University provided clouds can store 'Level 2' data

			
Space included	1 TB	Unlimited	Unlimited
Price (per annum)	Free	£75 (+VAT)	Free
File history	90 days	30 days	Unlimited
Where are files stored?	Within UK	Within EU	Anywhere

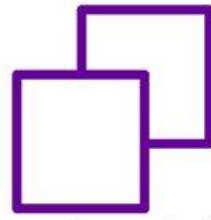
Data sharing:  
why should you bother?







More collaborations



Improved reproducibility



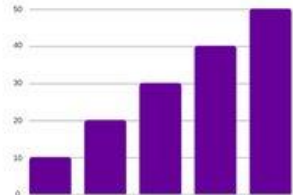
Use in education



Improved efficiency



Applied by practitioners



Higher citations



Better value for money



Increased visibility



Comply with grant rules



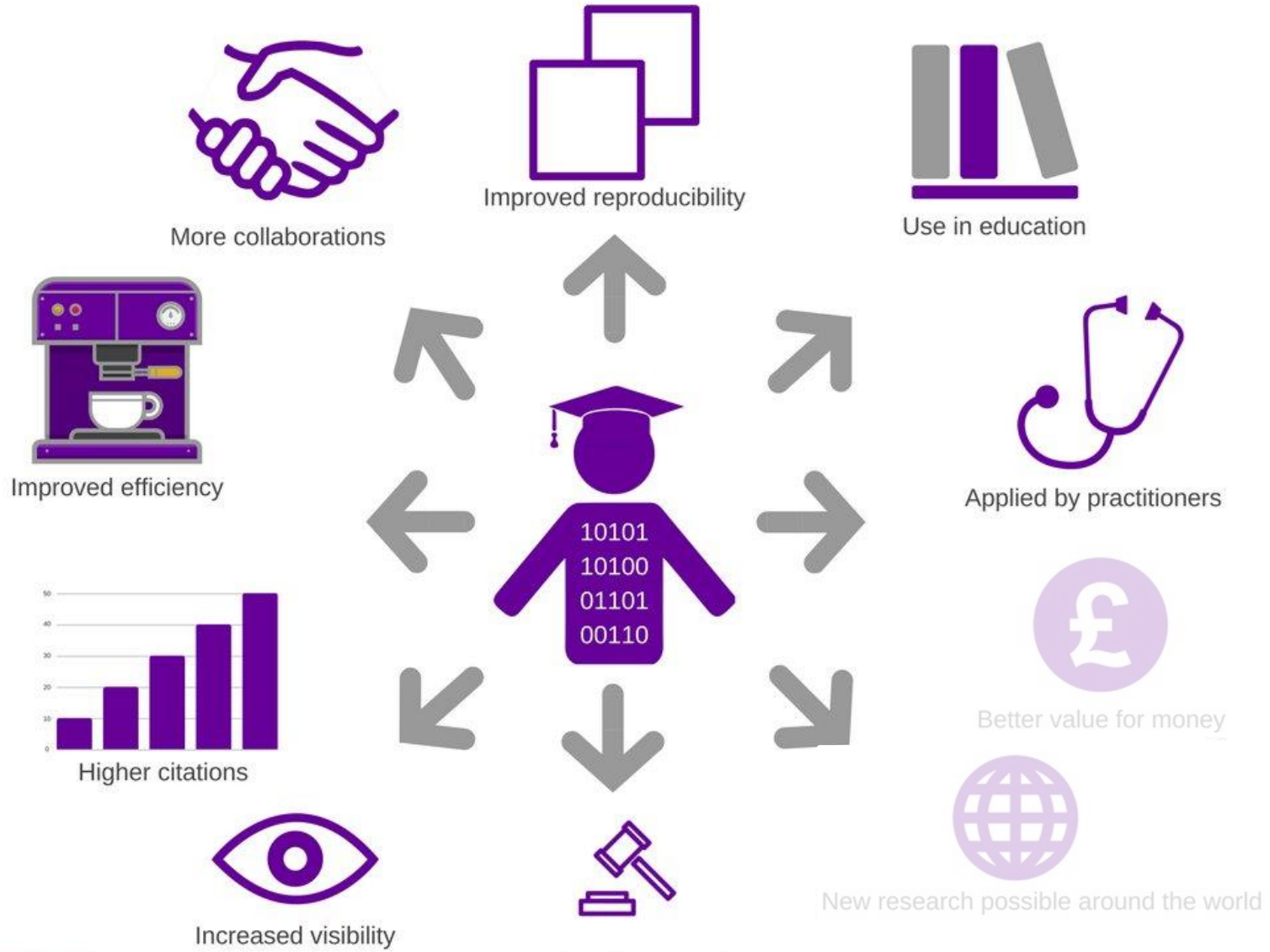
New research possible around the world



Rosie Higman

Inspired by Danny Kingsley and Sarah Brown

# Sharing your research is A Good Thing - **For you**



Rosie Higman

Comply with grant rules

Inspired by Danny Kingsley and Sarah Brown

# Sharing your research is A Good Thing - For others



Rosie Higman

Comply with grant rules

Inspired by Danny Kingsley and Sarah Brown



# Sharing is part of the job

Ideas and results need to be shared to move human knowledge forward

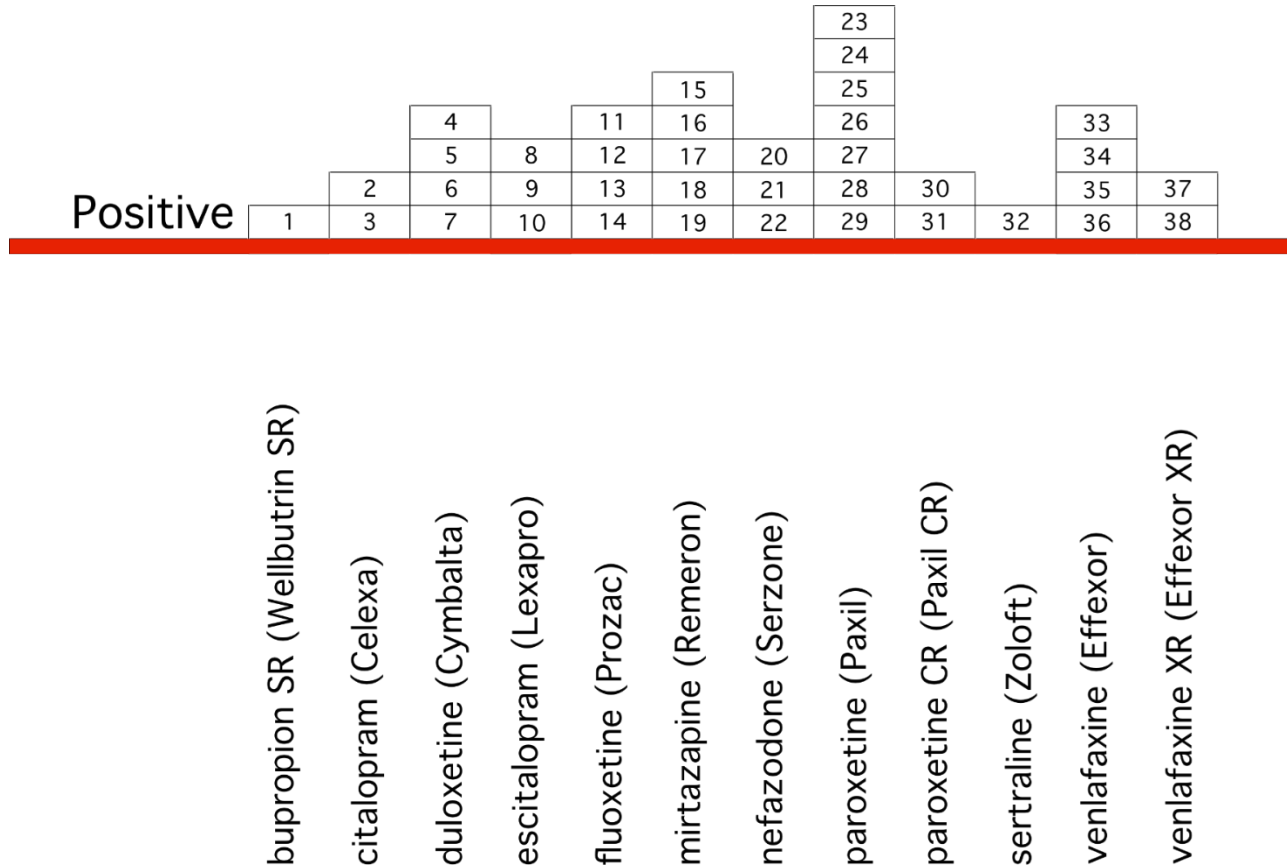
Publications without supporting data (and code!) are just claims



Credit: [icantbefamous.com](http://icantbefamous.com)

# Science relies on the principle that we share ALL our findings

FDA record of clinical trials with 12 antidepressants:  
Only positive results published

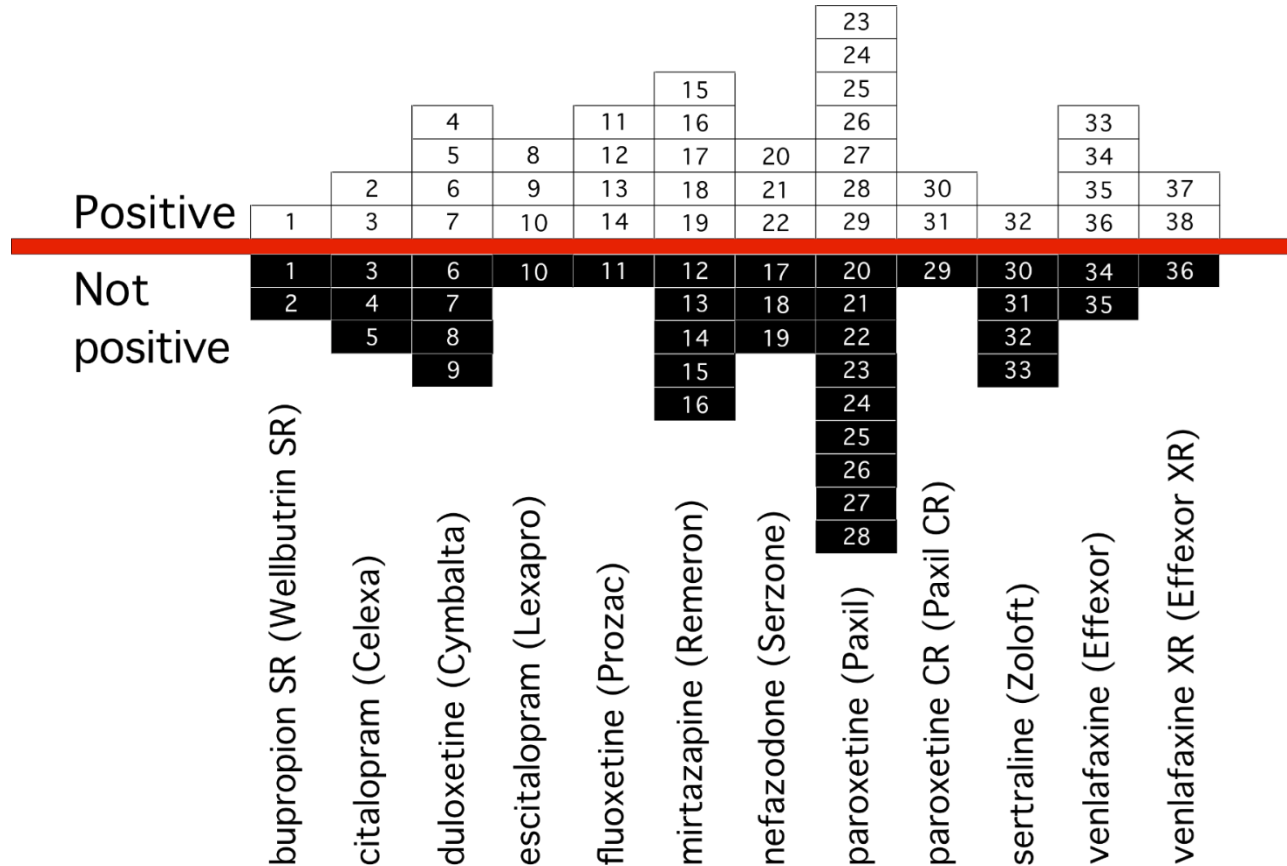


From Dr Eric Turner:

[https://figshare.com/articles/Peer\\_review\\_After\\_Results\\_are\\_Known\\_Are\\_we\\_PARKing\\_the\\_Cart\\_Before\\_the\\_Horse\\_/3381379](https://figshare.com/articles/Peer_review_After_Results_are_Known_Are_we_PARKing_the_Cart_Before_the_Horse_/3381379)

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# Open Access to research data

*“Publicly funded research data are a public good (...), which should be made openly available with as few restrictions as possible...”*



[www.rcuk.ac.uk/research/datapolicy](http://www.rcuk.ac.uk/research/datapolicy)



Funder names arranged alphabetically. Click on the hyperlink to see the full-length policy.

<b>BBSRC</b> <a href="#">Read the policy</a>	<p>Adherence to data management plan will be monitored and built into the Final Report score, which may be taken into account for future proposals.</p> <p>Research data that supports publications must be stored for 10 years.</p> <p>Grantholders are requested to capture and record data sharing activities, including details of where and how data have been shared, in the appropriate places on ResearchFish.</p> <p>Detailed guidelines about BBSRC requirements are available <a href="#">here</a>.</p> <p>We have also discussed BBSRC policy directly with Michael Ball from the BBSRC. Our discussion and resulting clarifications of the BBSRC policy are <a href="#">published here</a>.</p>	June 2018
<b>British Heart Foundation</b> <a href="#">Read the policy statement</a>	<p>"Safeguards should be in place to respect the confidentiality of patients, while also ensuring that medical researchers can gain access to patient data within a secure environment."</p>	June 2018
<b>Cancer Research UK</b> <a href="#">Read the policy</a>	<p>Any applicants who consider that the data arising from their proposal will not be suitable for sharing must provide clear reasons for not making it available.</p> <p>Investigators carrying out research involving human participants must ensure that consent for data sharing is obtained from participants; research data should be anonymised prior to sharing.</p> <p>Research data should be available for sharing for a minimum period of five years from the end of a research grant.</p> <p>CRUK also issued <a href="#">a list of FAQ on data sharing</a>.</p> <p>We have also invited JCRUK to discuss their data sharing requirements with researchers at Cambridge. We have published blog posts</p>	June 2018

Key policy highlights

Date the policy was last checked or updated.



Data sharing:  
how do you share it well?



# How to share data

1. **Describe** your data
2. **Licence** your data clearly
3. **Deposit** data for (at least) 10 years
4. **Add a link** to your data in your publication

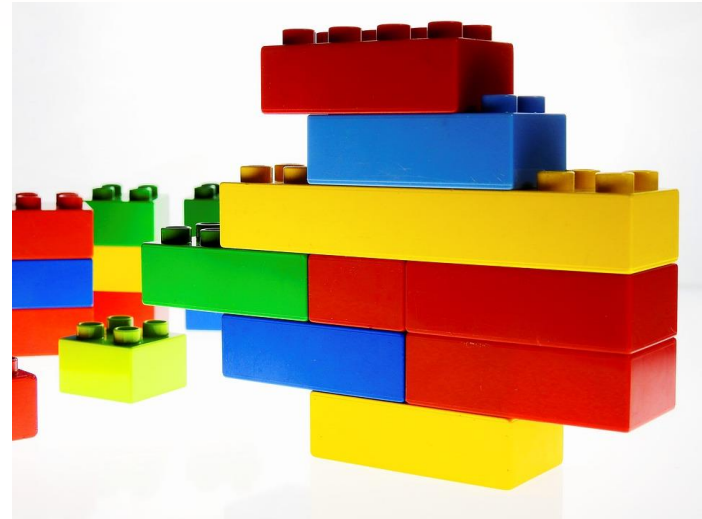
# 1) The importance of data description



# Data description activity

1. Build a model of something.
2. Write a description of your model (NOT step by step instructions)
3. Exchange the model description with the next group and rebuild their model

How easy is to recreate the model?





# Data description

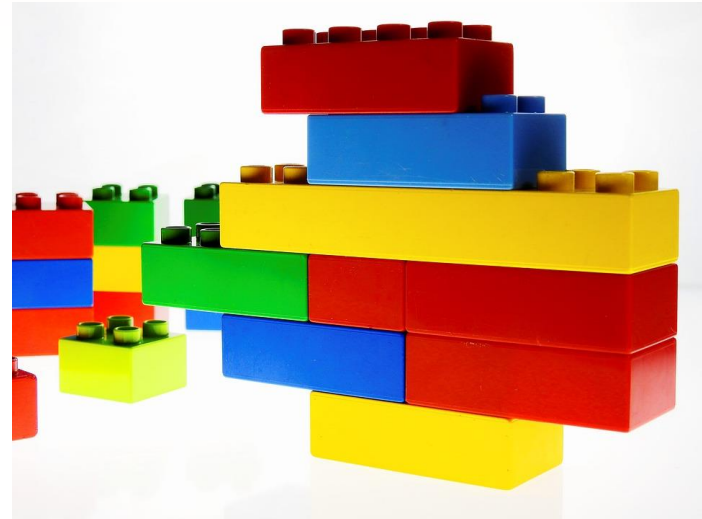
Descriptions of your data are important.

They help others understand what your data is and how it was generated.

They can then work out if it is useful for their research.

Description or information is another word for

**metadata**



# Writing metadata - examples

## Description

This contains supporting **data needed to reproduce the DNS simulations reported in the accompanying paper**. The files include source code (in Fortran 90/MPI) and input files.

## Description

Onchip Andreev devices and Ballistic Josephson junctions fabricated, and **measured by the authors at the Cavendish Laboratory, University of Cambridge UK, in the period Jan 2016 to April 2017. The measurements were done at low temperature (50 to 800 mK)**. The experimental methods are described in the associated publication.

## Description

This data contains the corresponding MATLAB©-code for the numerical examples in the conference proceedings paper 'Gradient descent in a generalised Bregman distance framework'. **Download the zip-file and extract it to a folder of your choice. Execute the 'setpath.m' file to add all relevant files to the MATLAB© path**, and switch to the folder 'Examples'. This folder contains a script named 'phasereconstruction.m' that will compute the numerical examples as presented in the paper. **A detailed explanation of the script can be found in terms of the HTML-file 'phasereconstruction.html' in the sub-folder 'Manual'**.

## Software

All calculations performed using the **development version of HANDE QMC (homepage: <http://www.hande.org.uk/>)**. This will be reproducible using the publically available version of the HANDE QMC code after the next update (public github version: <https://github.com/hande-qmc/hande>)

## 2) Licensing your data

The licence you select defines how others can:

- Use your data
- Share your data
- Publish their own data
- Make money off your data
- Patent the code

Funders require data is **as open as possible and as closed as necessary**. This includes the licence.

There are lots of licences out there. Some common ones for data are:

- Creative Commons
- Apache
- GNU General Public Licence

The [License Selector Tool](#) can help you decide.



## Software Licensing Workshop recording & slides

# AN INTRODUCTION TO SOFTWARE LICENSING

Slides:

<https://softwaresaved.github.io/software-licensing-workshop>

Materials:

<https://github.com/softwaresaved/software-licensing-workshop>

These materials are licensed under the CC-BY 4.0 license.

Suggest improvements using [GitHub Issues](#)

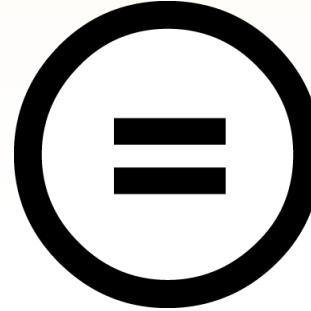
Recording: <https://www.youtube.com/watch?v=3bfA0E-VCl0>

# Creative Commons Licenses



## **Attribution**

Must acknowledge the author of the work



## **No-derivatives**

Cannot change/remix the work



## **Non-commercial**

Only the original author can make money



## **ShareAlike**

New creations must be shared under the same rules

# Apache & GNU

## Apache License 2

A license that allows you much freedom with the software, including an explicit right to a patent. "State changes" means that you have to include a notice in each file you modified.



gnu.org

## GNU General Public License 3 (GPL-3.0)

You may copy, distribute and modify the software as long as you track changes/dates of in source files and keep modifications under GPL. You can distribute your application using a GPL library commercially, but you must also provide the source code.

## MIT License

You may use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software subject to the following conditions: the copyright notice and permission notice shall be included in all copies or substantial portions of the Software.



Massachusetts  
Institute of  
Technology

<https://opensource.org/licenses/MIT>



# What licence would you use if...?

- 1) You generated your own data and wanted to share it as freely as possible but still get credit for it.
- 1) You generated your data in collaboration with an industry partner and they are happy to share it publicly but don't want anyone to use it commercially.
- 1) You've created your own software and you want to share it so anyone can use it.



### 3) Deposit your data

#### BEST PRACTICE:

- Use a subject specific repository

#### OR

- Use an institutional repository

#### OR

- Use a general purpose repository

#### OR

- Put the data in the supplementary information (not recommended)



[www.data.cam.ac.uk/repository](http://www.data.cam.ac.uk/repository)

# Find a repository



<http://www.re3data.org/>



## Discipline-specific

UK Data Service



## General purpose



# Repositories for software



**GitHub**



**zenodo**



# Repositories for software

## Choosing a repository for your software project

By Neil Chue Hong.

**Once it has left the confines of your own machine, there are four things that are needed for the successful development of your software: a website, a mailing list, an issue tracker and a code repository.**

Although most of the infrastructure needed by your project can be set up on your own systems, there are many tools and services that can help you to develop, maintain and publish your software. This guide provides an overview of the different options for repositories, and looks at some of the decisions you will need to make before choosing a repository. Other SSI [guides](#) take a more detailed look at specific repositories.

We've also written a [blog post](#) about one of our staff member's experiences of choosing a code repository. It provides further information about which repository you should choose.

### Why write this guide?

In September 2010, we received a lot of questions about repositories following the news of the impending closure of NeSCForge (a repository run by the National e-Science centre). We wrote this guide to answer those questions, and to help people choose an appropriate repository for their project. We updated this guide in July 2013 to reflect the increasing popularity of distributed revision control systems, particularly Git. We updated it again following the March 2015 announcement of the closure of Google Code. We updated it again in January 2018 following the closure of CodePlex and to reflect the changing popularity within the research community of different repositories.



## Software and Research Blog

05-February-2018 - [Motivating researchers to develop good software practices](#) - By Sammie Buzzard, University College London; Martin Donnelly, University...

02-February-2018 - [Developing a database to handle dark matter experiment data](#) - By Gillian Law, technology writer The LUX-ZEPLIN project is building the...

01-February-2018 - [Diversity & Inclusion in Scientific Computing Unconference](#) - By Raniere Silva, Software Sustainability Institute. In early 2017,...

30-January-2018 - [Life sciences data needs to be FAIR](#) - By Justin Clark-Casey, Research Software Engineer, Department of Genetics...

29-January-2018 - [useR! 2017 conference report and thoughts on sustainable R package development](#) - By Andy South, Software Sustainability Institute fellow Back in July,...

## Latest News

<https://software.ac.uk/resources/guides/choosing-repository-your-software-project>

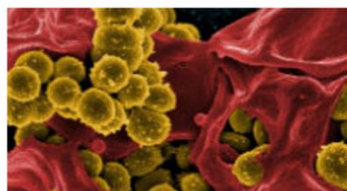
# Apollo, the Cambridge research repository

## Apollo - University of Cambridge Repository

This repository holds the research output of members of the University of Cambridge. It is delivered and managed by the University Library's [Office of Scholarly Communication](#) team.



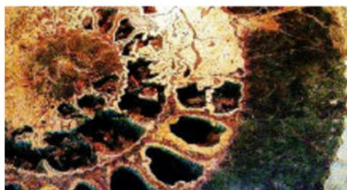
**School of Arts and Humanities**



**School of Clinical Medicine**



**School of Technology**



**School of the Biological Sciences**



**School of the Humanities and Social Sciences**



**School of the Physical Sciences**



**Colleges**



**Other Communities**

Share your  
research

# Easy to upload!

UNIVERSITY OF CAMBRIDGE

Home > Menu > Research Admin > Module Admin > System Admin

## Welcome, Dr Lauren Cadwallader

UL  
lc340@cam.ac.uk  
ORCID: [0000-0002-7571-3502](https://orcid.org/0000-0002-7571-3502)

Edit your profile

Accepted for Publication?  
Deposit your work

### My Actions (2)

1 of 2

Acceptance date missing for 1 journal article in your institutional OA Policy

View journal article

### My Summary

9 publications **+ add**

Year	Publications
2010	1
2012	1
2014	1
2015	2
2016	2

h-index: 2 (Scopus) [How do we calculate this?](#)

0 professional activities **+ add**  
You have no professional activities yet.

0 teaching activities **+ add**  
You have no teaching activities yet.

1 grant  
[1 research grant](#)

<https://elements.admin.cam.ac.uk>

### Essential Information

\* Title of this dataset:



Title of associated publication:



DOI of associated publication:



\* Authors:

No Authors - please add...



Add a person:

Last name (required)

Initials

\* Description:



\* Keywords:

No Keywords - please add...



\* Software / Usage instructions:



\* File formats:



\* External email address:





# Each submission gets its own record

Research data supporting "Doubts about How the Middle Horizon Collapsed (ca. A.D. 1000) and Other Insights from the Looted Cemeteries of the Lower Ica Valley, South Coast of Peru"



## View / Open Files

- README.txt (Text file, 1Kb)
- GPS\_locations\_of\_site\_perimeters.csv (Microsoft Excel, 12Kb)
- Photo\_register\_all\_sites.csv (Microsoft Excel, 16Kb)
- Photographs\_of\_sites.zip (Unknown, 337Mb)

## Authors

Cadwallader, Lauren

## Publication Date

2018-05-10

## Type

Dataset

## Metadata

Show full item record

## Citation

Cadwallader, L. Research data supporting "Doubts about How the Middle Horizon Collapsed (ca. A.D. 1000) and Other Insights from the Looted Cemeteries of the Lower Ica Valley, South Coast of Peru" [Dataset]. <https://doi.org/10.17863/CAM.22272>

Citation

## Description

This dataset contains the GPS locations of the sites discussed in the associated paper and photographs of burial architecture and finds associated with each site. A photo register gives details of the context of the photos. For more information please see the README file. Please be aware that some of the photographs included in this dataset depict human remains.

## Format

No special software needed

## Keywords

south coast Peru, burial archaeology, ceramics, cemetery

## Relationships

### Publication Reference:

<https://doi.org/10.1080/00934690.2018.1464306>

Reference to other outputs

## Sponsorship

AHRC

## Identifiers

### This record's DOI:

<https://doi.org/10.17863/CAM.22272>

## Rights

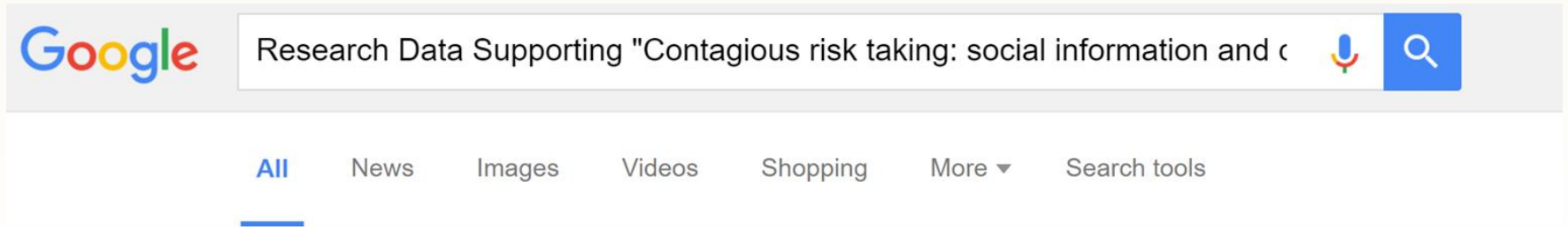
Attribution 4.0 International

### Licence URL:

<http://creativecommons.org/licenses/by/4.0/>

Licence

# Google looks in the repository!



About 180 results (0.78 seconds)

## Contagious risk taking: social information and context ... - Nature

[www.nature.com](http://www.nature.com) › [Scientific Reports](#) › [Articles](#)

by AL Greggor - 2016 - [Cited by 1](#) - [Related articles](#)

10 Jun 2016 - All **data** were analysed in R. Birds were deemed to have access to a .... S. R., Rutter, J. E. & Tonra, C. M. A call for full annual cycle **research** in .... A.T. was **supported** by a BBSRC David Phillips Fellowship (BB/H021817/1).

## Research Data Supporting "Contagious risk taking: social information ...

<https://www.repository.cam.ac.uk/handle/1810/256096> ▼

by AL Greggor - 2016

26 May 2016 - **Research Data Supporting "Contagious risk taking: social information and context influence wild jackdaws' responses to novelty and risk"**.

## [PDF] Contagious risk taking - University of Cambridge

[https://www.repository.cam.ac.uk/.../Greggor\\_et\\_al-2016-Scientific\\_Reports-VoR.pdf](https://www.repository.cam.ac.uk/.../Greggor_et_al-2016-Scientific_Reports-VoR.pdf) ▼

by AL Greggor - 2016 - [Cited by 1](#) - [Related articles](#)

10 Jun 2016 - ... of novel food avoidance provide empirical **support** for the suggestion that ... for populations of other passerine species when the **data** is compared .... Guidelines for the Treatment of Animals in Behavioural **Research** and.

# Top 5 most downloaded datasets in July 2018

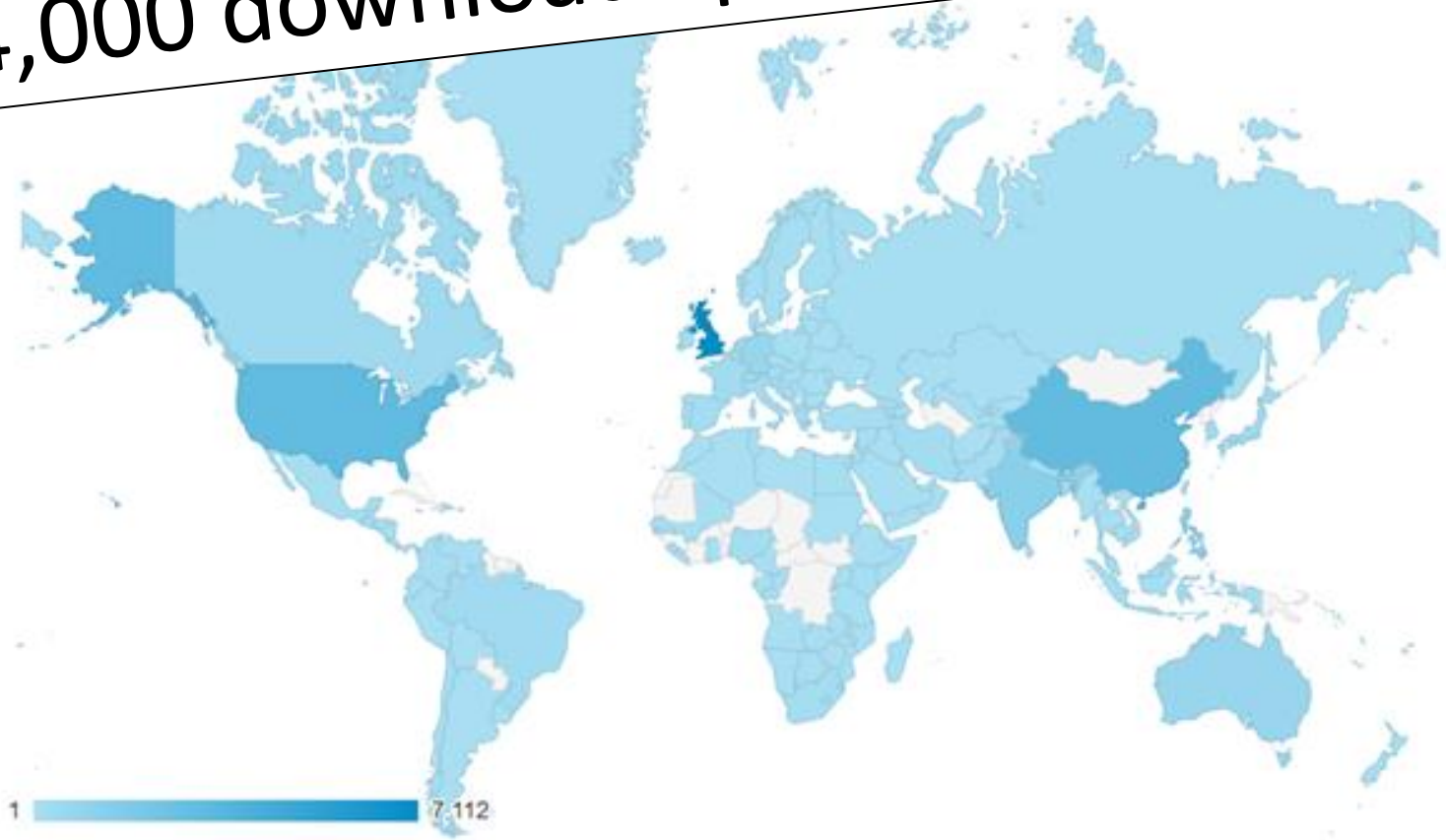
Title	Authors	Year published	Link	Times downloaded
Supporting data for: "The Lifetime of Android API vulnerabilities: case study on the JavaScript-to-Java interface"	Thomas, D. R. <i>et al.</i>	2015	<a href="http://www.repository.cam.ac.uk/handle/1810/247976">http://www.repository.cam.ac.uk/handle/1810/247976</a>	700
Research data supporting "PoseNet: A Convolutional Network for Real-Time 6-DOF Camera Relocalization" Kings College	Kendall, A. <i>et al.</i>	2015	<a href="https://www.repository.cam.ac.uk/handle/1810/251342">https://www.repository.cam.ac.uk/handle/1810/251342</a>	248
Flow Field Results of the Cambridge Stratified Swirl Burner Using Laser Doppler Anemometer	Zhou, R. <i>et al.</i>	2012	<a href="http://www.dspace.cam.ac.uk/handle/1810/243259">http://www.dspace.cam.ac.uk/handle/1810/243259</a>	190
Research data supporting "Creating a Community of Data Champions"	Higman, R. <i>et al.</i>	2017	<a href="https://www.repository.cam.ac.uk/handle/1810/262192">https://www.repository.cam.ac.uk/handle/1810/262192</a>	127
Mammographic Image Analysis Society (MIAS) database v1.21	Suckling, J. <i>et al.</i>	2015	<a href="https://www.repository.cam.ac.uk/handle/1810/250394">https://www.repository.cam.ac.uk/handle/1810/250394</a>	122

Datasets have been downloaded over 27,000 times from our repository in 2017.

That's 1/3 of all datasets download from UK repositories.

Average numbers of visits

84,000 downloads per month!!!



~34,000 visitors per month



# Data management plans



# What is a DMP?

DMP = Data Management Plan

Plan outlining:

Data to be collected during a project

How it will be managed

Covers the whole project ... and beyond

Usually 2/3 pages in length



# What is a DMP?

Contains information about:

- Sources of data
- Data input methods
- Back up strategies
- Plans for data sharing
- Ethical/legal restrictions
- Who is responsible for the data





# Who needs a DMP?

**Anyone** carrying out research

Researcher needs to write a DMP

Needs to be written before a project starts





# Funders requiring DMPs



Arts & Humanities  
Research Council



European Research Council  
Established by the European Commission



National Institutes  
of Health

**wellcome**trust



**NHS**  
*National Institute for  
Health Research*



# Cambridge policy

## University Staff and Students:

13. Retain intellectual property rights where they arise or the right to apply for such rights arise from the results of activities undertaken by University staff in the course of their employment by the University and by students in the course of their study at the University in accordance with Chapter XIII of the [University's Statutes and Ordinances on Finance and Property, subsection Intellectual Property Rights](#)<sup>1</sup>
14. Should be aware when considering whether they may want to commercialise the results of their research that, in respect of patents and similar rights in inventions and new technology, protection for and subsequent commercialisation of such inventions may be jeopardised if information about the inventions is publicly disclosed before all relevant applications for protection have been lodged. A public disclosure would include depositing research data in a publicly accessible discipline-based or institutional repository.
15. Are encouraged to do the following at the design stage of a research project:
  - a. Prepare a Data Management Plan, in accordance with guidance provided by the [University of Cambridge](#)<sup>7</sup> and the [Digital Curation Centre](#)<sup>8</sup> (DCC). If funders require a Data Management Plan, such plan needs to be prepared according to [funders' requirements](#)<sup>4</sup>.
  - b. Ensure that legal, ethical and commercial constraints on release of research data are considered at the initiation of the research process and throughout both the research and data life cycles, which shall be described in the data management plan.
  - c. Allocate appropriate resources (time and financial resources) for data management in their grant proposal.



Researchers will be compliant  
with funder requirements



# Better planning = better research

**DRINKING TEA with me**

**OKTOBER**

M	D	W	D	V	Z	Z
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

4 PLAN WITH ME | oktober scr-up

- \* tekst
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- \* foto's

11 boost je zelf

- \* tekst
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- \* foto's

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25 20 dingen die hup nog leuker maken

- \* tekst
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- \* banner
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31 drinking word

- \* tekst
- \* spelling
- \* banner
- \* foto's

**Mon** 2

- o maar de winkel
- o 13:45 engels
- o insa foto
- o ramen ritten
- o 19:45 morellen

**di** 3

**woe** 4

**m** 12

ONNAAR BERLIJN

**w** 14

**t** 13

VIDEO + BLOG

**s** 17

ONNAAR KOT

**t** 15

**inpaklijst**

- o camera
- o laptop
- o orcadus
- o ipad

**s** 16





Living document which can help  
researchers stay on track







Increased awareness of the support available



# What are funders looking for?

1. Administrative data
2. Data collection
3. Documentation and metadata
4. Ethics and legal compliance
5. Storage and back-up
6. Selection and preservation
7. Data sharing
8. Responsibilities and resources



# What are funders looking for?

- Do you actually know what data you are going to generate/collect/use?
- How will you document your data so it is useful for others?
- Do you know how you will store and back it up?
- Are your plans appropriate for the size/type of the data?
- Do you have a proper plan for looking after the data in the long term?
- Have you really thought about how you can share your data?





## Activity time!

Critique the example plan referring to the funder's guidance of your choice:

Biotechnology and Biological Sciences Research Council (BBSRC)

Engineering and Physical Sciences Research Council (EPSRC)

Economic and Social Research Council (ESRC)

Wellcome Trust

A close-up photograph of two hands, one on the left and one on the right, both wearing yellow knitted sleeves. The hands are held palm-up, holding a small green leaf in the left hand and a larger, vibrant orange autumn leaf in the right hand. The background is a soft-focus field of fallen autumn leaves in various shades of brown and orange.

Compare your critique to the person sitting next to you.

Does the plan cover all the points it should?

Is the strategy reasonable?

Do you have any concerns?

Have you picked up things the other person hasn't because the funder guidance differs?



Now it's time to start writing your plan.







S<sub>1</sub>

U<sub>1</sub>

P<sub>3</sub>

P<sub>3</sub>

O<sub>1</sub>

R<sub>1</sub>

T<sub>1</sub>



# Data management plan support service


The screenshot displays the DMPonline website interface. At the top left is the 'DMP ONLINE' logo. A navigation menu includes 'Home', 'About', 'Future plans', 'Help', and 'Change language'. The main content area features a 'Welcome.' message, a brief description of the service, and a 'Screencast on how to use DMPonline' video player. On the right, a 'Sign in' panel contains input fields for 'Email address' and 'Password', a 'Remember me' checkbox, a 'Sign in' button, and a link for 'Or, sign in with your institutional credentials (UK users only)'. Below this is a 'Create account' panel with a '+' icon and the text 'New to DMPonline? Create an account today.' At the bottom, there are links for 'Contact us' and 'Terms of use', a copyright notice for 2004-2017 Digital Curation Centre (DCC), and logos for DCC and UC3.

<https://dmponline.dcc.ac.uk/>

# Data management plan support service

+  
guidance  
+ example  
plans

**Funder's name \***

**Deadline for the submission of the grant proposal \***  
   

**Your name \***

**Your e-mail address \***

Please enter your e-mail address carefully – we will use it to get in touch with you.

**Upload your draft plan \***  
 No file selected.

[www.data.cam.ac.uk/DMPsupport](http://www.data.cam.ac.uk/DMPsupport)

# Software Management Plans



- About
- Blog
- Community
- Policy
- Software
- Training
- Resources

## Software Management Plans

### Why write a Software Management Plan?

It is easy to concentrate on short-term issues when developing research software. Getting publications, collaboration with others and the demands of a daily research routine can all conspire to prevent proper planning for the development of research software. A Software Management Plan can help us to define a set of structures and goals to help us to understand what we are going to write, who it is for, how we will get it to them, how will it help them, and how we will assess whether it has helped them. They also help us to understand what processes, resources and infrastructure we need and how we can use these to meet our own goals, in the short, medium and long term. They also encourage us to think about the future of our software once our project or funding period ends, and what our plans for its long-term sustainability are.

As a Software Management Plan is principally for our project's own use, it is important that we develop our plan in conjunction with our project team and partners, as we are all responsible for following the plan.

### What software can they be used for?



## Software and Research Blog

05-February-2018 - **Motivating researchers to develop good software practices** - By Sammie Buzzard, University College London; Martin Donnelly, University...

02-February-2018 - **Developing a database to handle dark matter experiment data** - By Gillian Law, technology writer The LUX-ZEPLIN project is building the...

01-February-2018 - **Diversity & Inclusion in Scientific Computing Unconference** - By Ranieri Silva, Software Sustainability Institute. In early 2017,...

30-January-2018 - **Life sciences data needs to be FAIR** - By Justin Clark-Casey, Research Software Engineer, Department of Genetics...

29-January-2018 - **useR! 2017 conference report and thoughts on sustainable R package development** - By Andy South, Software Sustainability Institute fellow Back in July,...

<https://www.software.ac.uk/software-management-plans>





# Cambridge support for data management and sharing



# Research data services provided by the Cambridge data team:

- Data repository
- Data Management Plan checking
- Advice on funders' policies
- Training on research data management
- Online information
- On demand data management consultancy

[www.data.cam.ac.uk](http://www.data.cam.ac.uk)

# Research Data Management

Home

Data Management Guide

Support

Data Repository

Research Data Policies

FAQ

News

EV



UPLOAD YOUR DATA

Have a question? E-mail [info@data.cam.ac.uk](mailto:info@data.cam.ac.uk)



# Training and support

**10**  
SEP

**Understanding peer review (for librarians)**

**Monday, 10 September, 2018 at 14:00-16:30**  
**8 Mill Lane, Lecture Room 7**

**11**  
SEP

**Getting started with peer review (for early career researchers and third and fourth year PhD students)**

**Tuesday, 11 September, 2018 at 14:30-17:00**

**Postdoc Centre @BioMedicalCampus, Newman Library**

**11**  
SEP

**Reproducing and reusing research code: lunch and learn with Code Ocean**

**Tuesday, 11 September, 2018 at 12:30-13:30**

**Postdoc Centre, Newman Library @ Biomedical Campus**

**10**  
OCT

**An introduction to Open Research (for PhD students in Humanities, Arts and Social Sciences)**

**Wednesday, 10 October, 2018 at 10:00-11:00**

**17 Mill Lane, Seminar Room G**

**22**  
OCT

**Managing your digital information workshop (for PhD students in Humanities, Arts and Social Sciences)**

**Monday, 22 October, 2018 at 14:00-16:00**

**17 Mill Lane, Seminar Room G**

**24**  
OCT

**Getting started with peer review (for early career researchers and third and fourth year PhD students)**

**Wednesday, 24 October, 2018 at 10:00-12:30**

**8 Mill Lane, Lecture Room 7**

**20**

**Books: Publishing your Research Effectively (For PhD Students in**

# Policy on RDM

## University of Cambridge Research Data Management Policy Framework

### University of Cambridge Research Data Management Policy Framework

Last updated: 23 April 2015

#### Background

1. The University of Cambridge is committed to disseminating its research and scholarship as widely as possible. In keeping with that commitment, it supports the principle that the results of its research that have been publicly funded should be freely accessible, and therefore supports its staff in making their research available.
2. University staff and students are responsible for managing and curating data in accordance with Chapter XIII of the [University's Statutes and Ordinances on Finance and Property, subsection Intellectual Property Rights](#)<sup>1</sup>, the [University's Research Policies](#)<sup>2</sup>, the [University's Research Integrity and Ethics guidelines](#)<sup>3</sup> and in accordance with the [policies of their research funders](#)<sup>4</sup>.

#### Principles

3. In seeking to extend the principle of disseminating research and scholarship as widely as possible from research publications to all forms of research data (defined as materials to validate published research findings), the University is committed to implementing procedures that are discipline-appropriate, proportionate, evidence-based, practical, cost-effective and sustainable, and in the best interests of enhancing its mission.
4. The University is committed to achieving compliance with the data policies of its external research sponsors, publishers and governmental agencies, and requires its staff and students to abide by terms and conditions agreed with third parties. The University also recognises that such third parties' policies are evolving and that they may require higher levels of data accessibility and dissemination in the future.
5. The University affirms respect for disciplinary and sub-disciplinary norms and for each individual's intellectual investment, recognising that data underpinning research varies from the creation of new data through experimentation or survey through to the extraction of information from sources where the copyright is externally held, such as from published and unpublished texts, archives, works of art, musical manuscripts etc.
6. The University recognises that there is a balance between openness and duties under professional codes and legal obligations.
7. The University acknowledges that a full implementation of this policy framework will be a long-term process.
8. This policy framework will be regularly reviewed by the [Open Access Project Board](#)<sup>5</sup> and may therefore be subject to change.

#### Events

**16**  
MAY  
[Managing your Digital Information: Workshop \(for PhD students in Humanities, Arts and Social Sciences\)](#)

**23**  
MAY  
[Copyright: A survival guide \(for PhD students in Humanities, Arts and Social Sciences\)](#)

**30**  
MAY  
[Journals: Publishing your Research Effectively \(for PhD Students in Humanities, Arts and Social Sciences\)](#)

**06**  
JUN  
[Books: Publishing your Research Effectively \(For PhD Students in Humanities, Arts and Social Sciences\)](#)

**13**  
JUN  
[Post-Publication Sharing: Publishing your Research Effectively \(For PhD Students in Humanities, Arts and Social Sciences\)](#)

[View all events >](#)

#### Newsletter sign-up

Email Address \*

First Name

Last Name

<https://www.data.cam.ac.uk/university-policy>

# Research Integrity

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## Research Misconduct

Research Integrity

Research Misconduct

Research Integrity

Research Ethics

Training

Contacts



Allegations of misconduct in research are rare but the University takes them very seriously. The University is committed to ensuring that allegations of misconduct in research are investigated with all possible thoroughness and vigour. A Statement of policy and procedure to be followed in the University for dealing with an allegation of misconduct in research against an officer, member of the unestablished staff or assistant staff of the University is available here:

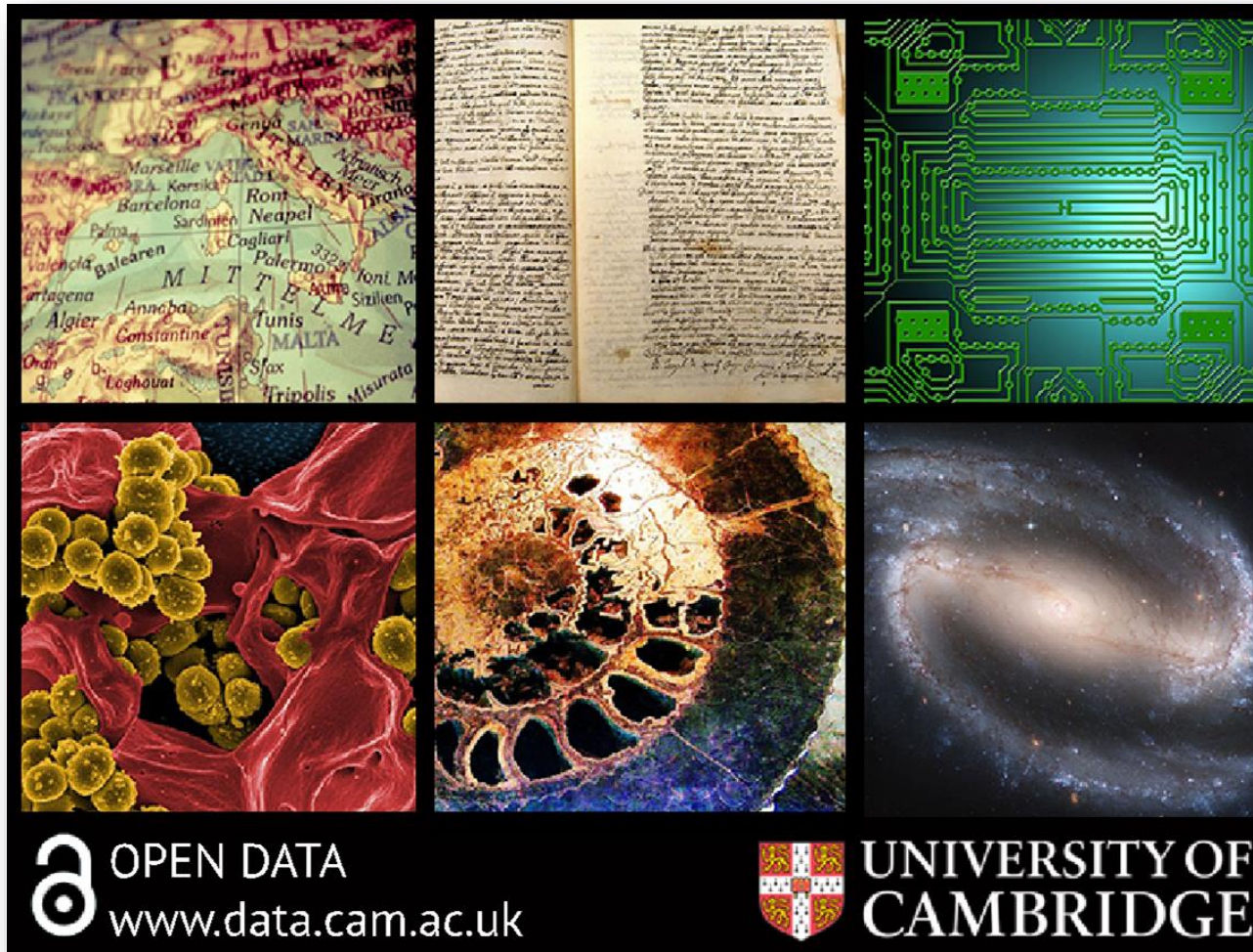
- [University Misconduct in Research Policy](#)

The University's 'Statement on Dealing with Allegations of Research Misconduct Under United States Public Health Service Research-Related Activities for Foreign Institutions' can be found here:

- ['Statement on Dealing with Allegations of Research Misconduct Under United States Public Health Service Research-Related Activities for Foreign Institutions'](#)



# Take-home message:



[www.data.cam.ac.uk](http://www.data.cam.ac.uk)  
[info@data.cam.ac.uk](mailto:info@data.cam.ac.uk)

# Thank you

Enquiries about research data: [info@data.cam.ac.uk](mailto:info@data.cam.ac.uk)

[www.data.cam.ac.uk](http://www.data.cam.ac.uk)



@CamOpenData