

University of Virginia Library

Linking Open Data cloud diagram, by Richard Cyganiak and Anja Jentzsch. http://lod-cloud.net/



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Motivations for sharing data...

There are many reasons for sharing your data

- Enabling others to replicate and verify results as part of the scientific process
- Powering future research and discovery by allowing researchers to ask new questions & conduct new analyses
- Linking to research products like publications & presentations, creating a more complete understanding of the study
- Meeting expectations of sponsors, funders, publishers and institutions
- Receiving credit for research for career advancement, even if no publications resulted from it
- Preserving for future use and research
- Lowers barrier of entry into research for non-scientists



Who owns my research data?



"Data and notebooks resulting from sponsored research are the property of the University of Virginia. It is the responsibility of the principal investigator to retain all raw data in laboratory notebooks (or other appropriate format) for at least five years after completion of the research project (i.e., publication of a paper describing the work, or termination of the supporting research grant, whichever comes first) unless required to be retained longer by contract, law, regulation, or by some reasonable continuing *need to refer to them."* – UVA Policy RES-002 https://policy.itc.virginia.edu/policy/policydispl ay?id=RES-002



Can I share my data?

That depends on many factors

- Requirements from sponsors, publishers, collaborators
- Institutional concerns such as IRB, data ownership
- Documentation on your research data
- Risks to sharing or not sharing the data
- Privacy and confidentiality issues with your data
- Commercial value of the data
- Intended uses of the data
- Method of sharing the data

The Associate VPR and your Dean will have to approve your request to share research data. You will need to identify an appropriate repository or archive before seeking permission.



Selecting a data repository

Why you shouldn't just put your data on a website

Probably no...

- Persistent identification
- Persistent access
- Provision for future preservation
- Professional backup
 You will waste time...
- Managing requests for access
- Preserving the data for reuse

An archive or repository can provide these, and more!



http://blogs.plos.org/mfenner/files/2013/06/figure2.png



Data Repository Advantages

Why you should put your data in a repository or archive

Services provided:

- Persistent Identifiers -- unique and citable
- Access controls
- Terms of Use & Licenses
- Repository guidelines for deposit
- Data preservation -- migrating to new formats or emulating old formats
- Professional backup & documentation
- Repository Standards ensure commitment and quality



http://blogs.plos.org/mfenner/files/2013/06/figure2.png



Selecting a data repository

Questions to consider when selecting a repository or archive

- Does your funder specify a specific location or facility?
- Does your discipline recommend a specific repository or archive?
- Does your publisher require placement of data in support of an article in a specific location?
- Does your institution have specific requirements?

Data redundancy is important, so consider placing your data in at least two repositories or archives.



Selecting a data repository

Best Practices

- Choose early: There will be fewer surprises at the end of your research when you deposit your data.
- Metadata: Knowing the requirements at the start will enable you to design your data collection materials for easier metadata creation and facilitate your support documentation creation.
- Persistent Identifiers: Be sure the repository supplies one so your data is findable, citable, and can be linked to your publication(s).
- Data embargo: If you want to embargo your data be sure it is allowable, and learn about any restrictions before you submit.
- Data access: Identify any barriers that may limit or restrict data reuse.



Locating a data repository

International registries for data repositories

- Databib http://databib.org/
- Re3data <u>http://re3data.org</u>

You can start with these directories, or use them after determining if the funder, publisher, discipline, or institution have specific requirements.

Simmons College hosts the Open Access Directory – a compendium of factual lists about open access. They have a list of data repositories by discipline.

http://oad.simmons.edu/oadwiki/Data_repositories



Exercise: Identifying a repository

Chose which registry you wish to search in: **Databib** or **re3data**. Re3data has a more granular subject search than Databib. Databib contains more North American repositories. You will probably want to search both registries.



Subjects

- Agriculture (11)
- Area, Ethnic, and Gender
- Studies (9)
- Biological Sciences (147)
- Business (2)
- Communications and
- Information Sciences (3)
- Ecosystem Sciences (15)
- Education (5)
- Environmental Sciences (78)
- Fine and Performing Arts (3)
- Geosciences (62)

Browse the subject list to find your research discipline, enter the discipline in the search box, or select search or advanced search.



Browse by subject

Acoustics

Agricultural Economics and Sociology Agricultural and Food Process Engineering Agriculture, Forestry, Horticulture and Veterinary Medicine Analytical Chemistry, Method Development (Chemistry) Anatomy Ancient Cultures



UVa Institutional Repository: Libra

Article (851)

Doctoral Dissertation (296)

more »

more »

Master's Thesis (111)

Department or

Academic Plan

Department of Computer Science (872)

Department of Electrical and

Computer Engineering (38)

Department of Systems

Peer Reviewed (36)

Engineering (37)

Libra

UVa Institutional Repository

- Opened in 2011
- Thesis and dissertations
- Articles
- Conference paper, posters
- Article preprint
- Book
- Chapter in an edited collection
- Datasets



Faculty scholarly works available for research, scholarship, teaching and learning in a central, stable location. Learn more...

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Datasets

Datasets may now be deposited into Libra. Additional features will become available in the future. Please send us your <u>feedback</u>. <u>Learn</u> <u>more...</u>





A Web Application for Sharing, Citing, Analyzing and Preserving Research Data

DVN hosts multiple, individually-branded Dataverses

- Researchers control the design, content, dissemination of their Dataverse, and can embed it in their own webpage
- DVN assigns handles (persistent id) and Universal Numerical Fingerprint (data fixity/verification)
- Extracts metadata for discovery, imports/exports metadata in multiple XML formats (DDI, Dublin Core, FGDC); data across DVNs searchable within one DVN
- Accepts data in multiple formats (Stata, SPSS, CSV), converts to preservation format
- Data can be subset, recoded, analyzed online
- Data sharing on DVN:

http://thedata.org/files/thedata_new2/files/gettingstartedguidefinal.pdf



Humanities & Digital Humanities Archives & Repositories







Bodleian Electronic Archives and Manuscripts **Bodleian** Libraries UNIVERSITY OF OXFORD



Welcome to the UK Data Service

Your resource for guality social research data

A unified point of access to data from ESDS, Census Programme, Secure Data Service and others







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Other options

Open Science Framework: <u>https://openscienceframework.org/</u> "The Open Science Framework (OSF) is part network of research materials, part version control system, and part collaboration software." Scientists can use OSF for free to archive, share, find, register research materials and data.

figshare: http://figshare.com/

"figshare is a repository where users can make all of their research outputs available in a citable, shareable and discoverable manner." Researchers can upload research in any format, and can include negative data.

GitHub: https://github.com/

"GitHub is the best place to share code with friends, co-workers, classmates, and complete strangers."



We're available to help

- The Data Management Consulting Group provides consulting and training services to UVA researchers and graduate students in all aspects of data sharing.
- We can help you navigate and negotiate through the tricky issues and many approvals in order to responsibly share your research data.
- Contact us at <u>dmconsult@virginia.edu</u>.





Additional links

- Data Management Consulting Group website <u>http://dmconsult.library.virginia.edu</u>
- "Data Rights and Responsibilities Guidance 1.0" developed jointly by the Data Management Consulting Group, Office of General Counsel, and Office of the Vice President for Research -<u>http://dmconsult.library.virginia.edu/data-rights-and-</u> <u>responsibilities-guidance-1-0/</u>
- "Institutional Data Protection Standards" provided by the Information Security, Policy, and Records Office (ISPRO) -<u>http://www.virginia.edu/informationsecurity/dataprotection/</u>



RESEARCH DATA SERVICES

Offering expert data assistance at every stage of the research process.

1: PLANNING

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We can assist you with developing a data management plan and designing your planned data analysis, including:

- Implementing plans, using tools, and creating workflows for managing research data
- Advising on study design, power analysis, and choice of statistical methods
- Helping to meet increasingly stringent criteria from funding agencies

2: FINDING & COLLECTING

We have access to thousands of sources of data and experts who will help you:

- Locate, evaluate and format data
- Create metadata and data documentation
 protocols for new data collection
- Capture data using best practices and appropriate technology





3: ANALYZING

Get expert assistance from statistical, spatial, or media specialists to analyze your data and present your research:

- Learn to use cutting-edge tools and methods
- Experiment with high-resolution visualization technologies
- Develop graphical representations that bring impact to your analysis

4: SHARING & ARCHIVING

We can consult with you on strategies to help others discover or access your research by:

- Adhering to data sharing policies and norms
- Selecting a data-sharing repository
- Making your data easier to discover and reuse



Workshops • 1:1 Consultations • Class Presentations Contact us at researchdataservices@virginia.edu