

Library Faculty Fellow Report DUL and Research Data Management Practices and Needs of Faculty

Christopher Sales
Spring/Summer 2018

Goals

- I. Aid in the interpretation of information collected by DUL on current state of RDM practices and needs of Drexel Researchers
- II. Collect information on RMD practices and needs of faculty in Biomed
- III. Assess DUL's webpages on RDM Support Services

I. Faculty Response to 2017 RDM Survey

- Major Takeaways

1. The need to improve education on agency requirements and best practices for RDM
2. Low number of faculty that use archival repositories
 - 11% (n=13) of respondents according to Question 13 and 25% (n=29) according to Question 14

II. DMPs and RDM Practices of Biomed Faculty

- Received two DMPs
 - Gail Rosen, affiliate faculty of Biomed and Assoc. Prof. in ECE
 - Gregory Fridman, Asst. Research Prof. in Biomed
- Interviewed Gregory Fridman regarding his RDM practices and needs

II. DMPs and RDM Practices of Biomed Faculty

- Gail Rosen's DMP (submitted to NSF NRT in 2016)

II. DMPs and RDM Practices of Biomed Faculty

- Gail Rosen's DMP (submitted to NSF NRT in 2016)
 - Clear sections for
 - Research Data, Assessment Data, Format/Content Standards, Access/Sharing, Reuse/Redistribution, Data Storage and Preservation, and Investigator Roles
 - Info on archival repositories, use of Proteus computing cluster, sharing of source codes for analyses

II. DMPs and RDM Practices of Biomed Faculty

- Gregory Fridman's DMP (submitted to NSF PFI-RP)

II. DMPs and RDM Practices of Biomed Faculty

- Gregory Fridman's DMP (submitted to NSF PFI-RP)
 - Detailed sections on
 - Expected Data to be Managed, Data Formats, Period of Retention, Data Storage and Preservation, and Sharing and Access of Primary Data
 - Contained description of types of data, materials, and collections that would not be managed by DMP
 - E.g., preliminary data, raw data, trade secrets, physical samples

III. Assessment of DUL's RDM Webpages

How easily is it to find the RDM
webpages?



DREXEL UNIVERSITY LIBRARIES

[Site Home](#)[Contact](#)[RESEARCH SUPPORT](#)[ARCHIVES](#)[SERVICES](#)[NEWS & EVENTS](#)[ABOUT](#)

Search: Summon for eBooks, journal articles, and more

[Articles and More](#)[All Formats](#)[Go](#)

FEATURED

Academic Video Online
ArtStor
Engineering Village
Google Scholar
JSTOR
ProQuest Research Library
SAGE Research Methods Online
Web of Science

HEALTH SCIENCES

AccessMedicine
CINAHL
Clinical Key
Cochrane Library
DynaMed
PsycINFO
PubMed
More Resources

OTHER

Articles and More
Article Lookup
Books and More
Databases A - Z
eJournals
IDEA (Drexel Digital Collections)
Library Guides
Tutorials

QUICKLINKS

- [Hours](#)
- [My Library Account](#)
- [Reserve a Room](#)
- [Course Reserves](#)
- [Policies](#)
- [Borrow from other libraries](#)

GET HELP

- [CHAT OFFLINE](#)
- [CONTACT US](#)
- [BROWSE LIBRARY GUIDES](#)

SHARE YOUR FEEDBACK

Help us improve our service by understanding you better.

UPCOMING EVENTS

- REFRESH: Information Skills for Health Sciences Research and Practice**
Friday, August 10, 2018
9:00am - 11:00am
- REFRESH: Information Skills for Health Sciences Research and Practice**

NEWS

- [Dean's Update: Crafting Cool New Evidence in the Heat of Summer](#)
- [Staff Challenged to Find New Ways of Telling the Story of the Libraries' Transformation](#)

COMING SOON: NEW & IMPROVED SEARCH

In August, the Libraries will replace its current library catalog with Summon, a powerful yet simple search tool that allows users to search across *all* the Libraries' physical collections and licensed information resources.

[LEARN MORE ABOUT WHAT THIS CHANGE MEANS FOR YOU.](#)



DREXEL UNIVERSITY LIBRARIES

[Site Home](#)[Contact](#)[RESEARCH SUPPORT](#)[ARCHIVES](#)[SERVICES](#)[NEWS & EVENTS](#)[ABOUT](#)

Search: Summon for eBooks, journal articles, and more

[Articles and More](#)[All Formats](#)[Go](#)

FEATURED

Academic Video Online
ArtStor
Engineering Village
Google Scholar
JSTOR
ProQuest Research Library
SAGE Research Methods Online
Web of Science

HEALTH SCIENCES

AccessMedicine
CINAHL
Clinical Key
Cochrane Library
DynaMed
PsycINFO
PubMed
More Resources

OTHER

Articles and More
Article Lookup
Books and More
Databases A - Z
eJournals
IDEA (Drexel Digital Collections)
Library Guides
Tutorials

QUICKLINKS

- [Hours](#)
- [My Library Account](#)
- [Reserve a Room](#)
- [Course Reserves](#)
- [Policies](#)
- [Borrow from other libraries](#)

GET HELP

- [CHAT OFFLINE](#)
- [CONTACT US](#)
- [BROWSE LIBRARY GUIDES](#)

SHARE YOUR FEEDBACK

Help us improve our service by understanding you better.

UPCOMING EVENTS

- REFRESH: Information Skills for Health Sciences Research and Practice**
Friday, August 10, 2018
9:00am - 11:00am
- REFRESH: Information Skills for Health Sciences Research and Practice**

NEWS

- [Dean's Update: Crafting Cool New Evidence in the Heat of Summer](#)
- [Staff Challenged to Find New Ways of Telling the Story of the Libraries' Transformation](#)

COMING SOON: NEW & IMPROVED SEARCH

In August, the Libraries will replace its current library catalog with Summon, a powerful yet simple search tool that allows users to search across *all* the Libraries' physical collections and licensed information resources.

[LEARN MORE ABOUT WHAT THIS CHANGE MEANS FOR YOU.](#)



Libraries / Search

research data management

SEARCH

[Advanced Search](#)

Results 1 - 10 of about 2010 for **research data management site:www.library.drexel.edu**.

[Sort by date](#) / [Sort by relevance](#)

[Research Data Management Support | Drexel University](#)

... **Research Data Management** Support. **Research Data Management** Support serves **researchers** in managing and publishing **research data**. ...
www.library.drexel.edu/services/research-data-management-support/

[Drexel University Libraries Selected for Research Data ...](#)

... **research data management** services, including a **data** interview template with guidelines for outreach and engagement with **researchers**, a ...
www.library.drexel.edu/news-and-events/news/libraries-news/2017/September/RDM%20Pilot/

[Data Management Plans | Drexel University](#)

... **Research Data Management** Support assists **researchers** with developing these DMPs through individual consultation and guidance in identifying ...
www.library.drexel.edu/services/research-data-management-support/data-management-plans/

[Dean's Update: Organizing for Data Management | Drexel ...](#)

... **data** resources; from preparing **data management** plans required ... Library experts and **researchers** will have ... to curate Drexel **research data**, and for ...
www.library.drexel.edu/.../news/libraries-news/2016/April/deans-update-organizing-data-management/

[Dean's Update: Research Data Management: Summer ...](#)

... and information dissemination to **data** that simply do ... requires tremendous learning about **research** and **researchers'** behaviors, designing new ...
www.library.drexel.edu/news-and-events/news/libraries-news/2017/September/Deans%20Update/

WEB SITES

This Site (2010)

All Sites (4700)

DIRECTORIES

All (0)

Faculty & Staff (0)

Students (0)



DREXEL UNIVERSITY LIBRARIES

[Site Home](#)[Contact](#)[RESEARCH SUPPORT](#)[ARCHIVES](#)[SERVICES](#)[NEWS & EVENTS](#)[ABOUT](#)

Search: Summon for eBooks, journal articles, and more

[Articles and More](#)[All Formats](#)[Go](#)

FEATURED

Academic Video Online
ArtStor
Engineering Village
Google Scholar
JSTOR
ProQuest Research Library
SAGE Research Methods Online
Web of Science

HEALTH SCIENCES

AccessMedicine
CINAHL
Clinical Key
Cochrane Library
DynaMed
PsycINFO
PubMed
More Resources

OTHER

Articles and More
Article Lookup
Books and More
Databases A - Z
eJournals
IDEA (Drexel Digital Collections)
Library Guides
Tutorials

QUICKLINKS

- [Hours](#)
- [My Library Account](#)
- [Reserve a Room](#)
- [Course Reserves](#)
- [Policies](#)
- [Borrow from other libraries](#)

GET HELP

- [CHAT OFFLINE](#)
- [CONTACT US](#)
- [BROWSE LIBRARY GUIDES](#)

SHARE YOUR FEEDBACK

Help us improve our service by understanding you better.

UPCOMING EVENTS

- REFRESH: Information Skills for Health Sciences Research and Practice**
Friday, August 10, 2018
9:00am - 11:00am
- REFRESH: Information Skills for Health Sciences Research and Practice**

NEWS

- [Dean's Update: Crafting Cool New Evidence in the Heat of Summer](#)
- [Staff Challenged to Find New Ways of Telling the Story of the Libraries' Transformation](#)

COMING SOON: NEW & IMPROVED SEARCH

In August, the Libraries will replace its current library catalog with Summon, a powerful yet simple search tool that allows users to search across *all* the Libraries' physical collections and licensed information resources.

[LEARN MORE ABOUT WHAT THIS CHANGE MEANS FOR YOU.](#)



DREXEL UNIVERSITY LIBRARIES

[Site Home](#)[Contact](#)[RESEARCH SUPPORT](#)[ARCHIVES](#)[SERVICES](#)[NEWS & EVENTS](#)[ABOUT](#)

Search: Summon for eBooks, journal articles, and more

[Articles and More](#)

FEATURED

[Academic Video Online](#)
[ArtStor](#)
[Engineering Village](#)
[Google Scholar](#)
[JSTOR](#)
[ProQuest Research Library](#)
[SAGE Research Methods Online](#)
[Web of Science](#)

HEALTH SCIENCES

[AccessMedicine](#)
[CINAHL](#)
[Clinical Key](#)
[Cochrane Library](#)
[DynaMed](#)
[PsycINFO](#)
[PubMed](#)
[More Resources](#)

[Overview](#)[Borrowing Privileges](#)[Course Reserves](#)[Printing, Scanning & Computing](#)[Borrow from other Libraries](#)[Reserve a Room](#)[Services for ...](#)[Theses, Dissertations, and Projects](#)[Faculty Portfolios](#)[Research Data Management Support](#)[eResource Access](#)[Go](#)

QUICKLINKS

- [Hours](#)
- [My Library Account](#)
- [Reserve a Room](#)
- [Course Reserves](#)
- [Policies](#)
- [Borrow from other libraries](#)

GET HELP

- [CHAT OFFLINE](#)
- [CONTACT US](#)
- [BROWSE LIBRARY GUIDES](#)

SHARE YOUR FEEDBACK

Help us improve our service by understanding you better.

UPCOMING EVENTS

- [REFRESH: Information Skills for Health Sciences Research and Practice](#)
Friday, August 10, 2018
9:00am - 11:00am
- [REFRESH: Information Skills for Health Sciences Research and Practice](#)

NEWS

- [Dean's Update: Crafting Cool New Evidence in the Heat of Summer](#)

[Story of the Libraries' Transformation](#)



SERVICES

Overview

[Borrowing Privileges](#)

[Course Reserves](#)

[Printing, Scanning & Computing](#)

[Borrow from other Libraries](#)

[Reserve a Room](#)

[Services for ...](#)

[Theses, Dissertations, and Projects](#)

[Faculty Portfolios](#)

[Research Data Management Support](#)

[eResource Access](#)

SERVICES



The Libraries offers a variety of services to the Drexel community, these include:

- [Borrowing of Books, DVDs, Laptops and other Equipment](#)
- [Course Reserves for efficient access to course related materials](#)
- [Access to printers, scanners, copiers and computers](#)
- [Reservation of spaces and equipment for meetings or group work](#)
- [Thesis & Dissertation Binding](#)
- [Data Management services for faculty & researchers](#)

The Libraries provides a variety of different services which vary based on an individual's University affiliation. For more information about how you can use the Libraries, please use the appropriate link listed below.

Overview

[Borrowing Privileges](#)[Course Reserves](#)[Printing, Scanning & Computing](#)[Borrow from other Libraries](#)[Reserve a Room](#)[Services for ...](#)[Theses, Dissertations, and Projects](#)[Faculty Portfolios](#)[Research Data Management Support](#)[eResource Access](#)

The Libraries offers a variety of services to the Drexel community, these include:

- [Borrowing of Books, DVDs, Laptops and other Equipment](#)
- [Course Reserves for efficient access to course related materials](#)
- [Access to printers, scanners, copiers and computers](#)
- [Reservation of spaces and equipment for meetings or group work](#)
- [Thesis & Dissertation Binding](#)
- [Data Management services for faculty & researchers](#)

The Libraries provides a variety of different services which vary based on an individual's University affiliation. For more information about how you can use the Libraries, please use the appropriate link listed below.

- [Students](#): Information for students at any Drexel campus or institution that partners with Drexel University as well as online learners and Drexel College of Medicine residents.
- [Faculty](#): Information for current faculty, both on campus and online, and retired and emeritus faculty.
- [Staff](#): Information for current staff and non-employee associates
- [Alumni](#): Information for graduates of Drexel University
- [Affiliates and Guests](#): Information for Tenet staff, Faculty and Students from other universities, and visitors

SERVICES

Overview

Borrowing Privileges

Course Reserves

Printing, Scanning & Computing

Borrow from other Libraries

Reserve a Room

Services for ...

Alumni

Staff

Faculty

Affiliates, Guests, and Visitors

Information for Parents

Students

Theses, Dissertations, and Projects

Faculty Portfolios

Research Data Management Support

eResource Access

FACULTY

Press **F11** to exit full screen



Overview of Services

Adjunct Faculty

Faculty Assistants

Distance Faculty

Emeritus and Retired Faculty

The Libraries provides many services to facilitate the teaching and research needs unique to Drexel faculty:

- **Course Reserves** - Various types of material can be placed on reserve including: library owned materials, personal copies of books, journal articles, videos or handouts. [Click here](#) to learn more about Course Reserves at Drexel.
- **Workshops** - The Libraries provides a variety of workshops to educate individuals on resources, services and research. All members of the campus community are invited to attend library workshops. [Click here](#) to view upcoming workshops or contact your liaison librarian to request a workshop or specific instruction in your classroom.
- **Library Guides** - [Library Guides](#) are compiled by liaison librarians and identify particularly valuable research resources in specific subject areas. They are primarily aimed at beginning researchers and can serve as a valuable resource for students. They also serve as valuable pointers to unfamiliar resources, particularly for interdisciplinary projects.

BORROWING

Equipment and print and audiovisual materials are available for loan at the Libraries. In addition, faculty may take advantage of reciprocal borrowing privileges to borrow items directly from neighboring libraries. See [Borrowing Privileges](#) to learn more.

> **DONATE ONLINE**

FACULTY LINKS

- [Course Reserves](#)
- [Borrowing Information](#)
- [Faculty Portfolios](#)
- [Liaison Librarians by Subject](#)
- [Library Guides](#)
- [Records Management Services](#)
- [Thesis & Dissertation Binding](#)

?

DUL's RDM Support Services Webpages

SERVICES

Overview

Borrowing Privileges

Course Reserves

Printing, Scanning & Computing

Borrow from other Libraries

Reserve a Room

Services for ...

Theses, Dissertations, and Projects

Faculty Portfolios

Research Data Management Support

Data Management Plans

DMPTool

DOI Services

Sharing Data

Training

eResource Access

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas:

- Guidance on data management plans required for funded research
- Support in using the DMPTool
- Assistance in acquiring persistent identifiers for publications (such as DOIs)
- Consultation on how to share data to meet publication requirements
- Training on research data management
- Engagement with communities of practice
- Expert knowledge to meet regulatory requirements in efficient ways

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers

Closer look at Data Management
Plans Webpage

SERVICES

[Overview](#)

[Borrowing Privileges](#)

[Course Reserves](#)

[Printing, Scanning & Computing](#)

[Borrow from other Libraries](#)

[Reserve a Room](#)

[Services for ...](#)

[Theses, Dissertations, and Projects](#)

[Faculty Portfolios](#)

Research Data Management Support

[Data Management Plans](#)

[DMPTool](#)

[DOI Services](#)

[Sharing Data](#)

[Training](#)

eResource Access

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas

- [Guidance on data management plans required for funded research](#)
- [Support in using the DMP Tool](#)
- [Assistance in acquiring persistent identifiers for publications \(such as DOIs\)](#)
- [Consultation on how to share data to meet publication requirements](#)
- [Training on research data management](#)
- [Engagement with communities of practice](#)
- [Expert knowledge to meet regulatory requirements in efficient ways](#)

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers



SERVICES

[Overview](#)[Borrowing Privileges](#)[Course Reserves](#)[Printing, Scanning & Computing](#)[Borrow from other Libraries](#)[Reserve a Room](#)[Services for ...](#)[Theses, Dissertations, and Projects](#)[Faculty Portfolios](#)[Research Data Management Support](#)[Data Management Plans](#)[DMPTool](#)[DOI Services](#)[Sharing Data](#)[Training](#)[eResource Access](#)

DATA MANAGEMENT PLANS

Researchers are faced with increasingly complex requirements to submit competitive research data management plans. Research Data Management Support assists researchers with developing these DMPs through individual consultation and guidance in identifying digital data formats, quality standards, tools to create content, metadata standards and structures, ways to facilitate widespread discovery and use of digital content, and digital workflow and asset management/preservation. Help is also offered in using the California Digital Library's online [DMPTool](#), and understanding specific requirements from funding agencies such as NSF, NIH, DOE, and NEH.

ASSISTANCE FROM THE LIBRARIES

Libraries staff can assist you in exploring options for data management and curation.

Please contact datamanagement@drexel.edu to request assistance.

AMBITION
CAN'T
WAIT



Suggestions for DMP Page

- Add info/links on RDM requirements of agencies
- Include explanations and reasons for DMPs
- Include examples of DMPs

Funder Requirements

Templates for data management plans are based on the specific requirements listed in funder policy documents. The DMPTool maintains these templates, however, researchers should always consult the program officers and policy documents directly for authoritative guidance. Sample plans are provided by a funder or another trusted party.

Template ^	Download	Funder ↕	Last Updated ↕	Funder Links	Sample Plans (if available)
Alfred P. Sloan Foundation	DOCX PDF	Alfred P. Sloan Foundation	04-18-2018	Sloan Grant Proposal Guidelines	
Arctic Data Center: NSF Polar Programs [DRAFT]	DOCX PDF	National Science Foundation (NSF)	07-19-2018	NSF Arctic Data Center DMP Resources	
BCO-DMO NSF OCE: Biological and Chemical Oceanography	DOCX PDF	National Science Foundation (NSF)	04-24-2018	NSF OCE Sample and Data Policy NSF GEO Directorate Guidance	
Department of Defense (DOD)	DOCX PDF	Department of Defense (DOD)	04-11-2018	DOD Public Access Plan	
Department of Energy (DOE): Generic	DOCX PDF	Department of Energy (DOE)	04-25-2018	DOE Policy for Digital Research Data Management DOE Suggested Elements for a Data Management Plan	
Department of Energy (DOE): Office of Science	DOCX PDF	Department of Energy (DOE)	04-10-2018	DOE Office of Science Statement on Digital Data Management DOE Suggested Elements for a Data Management Plan	
Digital Curation Centre	DOCX PDF	Digital Curation Centre (DCC)	05-29-2018		
Digital Curation Centre (português)	DOCX PDF	Digital Curation Centre (DCC)	07-11-2018		
Gordon and Betty Moore Foundation	DOCX PDF	Gordon and Betty Moore Foundation (GBMF)	04-10-2018	Moore Data Sharing Philosophy	Moore Sample Plan 1 Moore Sample Plan 2 Moore Sample Plan 3 RIO Journal Sample Plan (2016)
Gulf of Mexico Research Initiative	DOCX	Gulf of Mexico Research Initiative	04-11-2018	Gulf of Mexico Research Initiative Gulf of Mexico Research Initiative	

Data Management Planning: Data Management Plans for Grants

Information on best practices and standards for data management planning.

[Home](#)
[Data Creation](#)
[Storage and Backup](#)
[Metadata](#)
[Data Sharing and Publishing](#)
[Data Management Plans for Grants](#)
[Resources](#)

General Information



NYU LIBRARIES & IT

[Data Services Homepage](#)
[Location](#)
[Staffed Hours: Summer 2018](#)
[Contact Us](#)
[Tell us how we're doing](#)

Getting Started with a DMP

A data management plan (DMP) is a critical part of your grant application which outlines how you will collect, organize, manage, store, secure, backup, preserve, and share your data. But what is data? Read all about how NYU and the federal government defines research data [here](#).

The particular requirements of a DMP will vary among funding agencies, so it is best to always consult the agency's resources for their specific needs. However there are a few common attributes to all data management plans, including:

- An overview of the formats and types of data to be produced.
- Research methodology (data collection, processing, and analyzing).
- Roles & responsibilities in regards to data collection, description, processing, analyzing, and disseminating.
- Standards you will use to describe your data (metadata).
- Storage and backup procedures.
- Long-term archiving and preservation plan.
- Access policies and provisions for secondary uses.
- Security measures taken to protect data and/or participant confidentiality

NYU's [Policy on Retention of and Access to Research Data](#) outlines in some detail NYU's position on the research output of its community members. This policy dictates that NYU must retain research data in enough detail and for a long enough period of time to respond to questions about accuracy, authenticity, primacy, and compliance with laws and regulations governing the conduct of the research and to establish priority for patentable items. This policy also states the PI is responsible for determining what needs to be retained under this policy.

Why a DMP?

Why a Data Management Plan?

questions about accuracy, authenticity, primacy, and compliance with laws and regulations governing the conduct of the research and to establish priority for patentable items. This policy also states the PI is responsible for determining what needs to be retained under this policy.

Why a DMP?

Why a Data Management Plan?

- Make your research process more efficient!
 - standardizing your data organization can save you time & reduced duplicated efforts
 - better version control & can eliminate old files (save on storage!)

What is "Data" ?

NYU defines research data as "any recorded, retrievable information necessary for the reconstruction and evaluation of reported results created in connection with the design, conduct or reporting of research performed or conducted at or under the auspices of the University and the events and processes leading to those results, regardless of the form or the media on which they may be recorded. Research data include both intangible data (statistics, finding, conclusions, etc.) and tangible data (notebooks, printouts, etc.), but not tangible research property, which is subject to a separate NYU policy."

The United States Code of Federal Regulations offers a definition researchers with federal funding should keep in mind. According to the [Code of Federal Regulations](#), research data is, "... defined as the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: Preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues."

You might also want to consider the following as relevant research data:

Lab and field notebooks



Data Planning and Management

The library will help you understand your research materials, plan for projects, and save and archive your data.

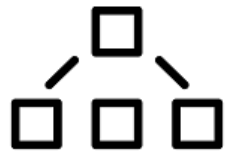
[Ask a data question](#)

You can also search [Research DataQ](#) for answers



Store and Back up Data and Files

[Find out about some storage and backup options for your digital files](#)



Manage Personal Research Materials

[Take a look at this guide from Purdue University about Personal Information Management \(PIM\)](#)



Build a Data Management Plan

[Learn about the DMPTool and other Data Management Plan basics](#)



Resources

[\\$ Funding Agency Public Access Plans](#) (CENDI.gov)

[Funding Agency Public Access Plans](#) (SPARQ)

🔗 Links to Domain Repositories

- Search the [Registry of Research Data Repositories](#) (Re3Data)
- Read the [Wellcome Trust's Repository Suggestions](#)
- [NIH Sharing Repositories](#)
- [ICPSR](#)
- [Dryad](#)

Best Practices in Data Management

The best practice is to have a plan. Ask us for more information about or beyond any of these tips.



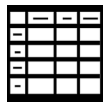
Writing a High Quality Data Management Plan

Read your [funder requirements](#) carefully and address everything they ask you to. Then follow your plan.



File Organization

Have a consistent system and make sure everyone knows it. Don't use spaces or special characters in file names.



Using Spreadsheets

Columns are for variables, rows are for records. Label your columns and use consistent terms between records. Don't use color or leave cells blank.



Documenting Your Data

Using [Codebooks](#), [ReadMe Files](#), and [Data Dictionaries](#), give at least enough information that future you, a new lab member, or another researcher could make sense of your data.



Security & Privacy

Password protect and/or encrypt sensitive files. [Follow Penn's guidelines for saving sensitive data on PennBox](#) and visit [SAS's pages on sensitive data](#) and [encryption](#).

See also the [University of Oregon's](#) and [Georgia Tech's](#) guidance on data security while develop a page for Penn researchers.



Data Sharing

Share! And share your documentation so the data is useful. Repositories are the most effective way to share. Find an appropriate repository [here](#) or ask us!



Storing and Backing Up Data

Follow the 3-2-1 Rule: 3 copies of your data stored on 2 different types of media with 1 copy in an offsite location. (0 of these copies should be on a flash drive; flash drives are easily lost) Want to know more? Watch one of these videos from [Explaining Computers](#) or [University of Wisconsin Milwaukee's Data Librarian](#)



Archiving data for the long haul

Use [sustainable file formats](#) whenever possible and migrate your data to new media every 3-5 years.

Additional Learning Opportunities

- [Research Data MANTRA](#) - free online course for those who manage digital data as part of their research project
- [Research Data Management and Sharing](#) - Free course offered through Coursera

- [Statistical Software Overview](#)

Workshops

Upcoming Events

- [TEI Collective](#)
2:00pm - 3:00pm Friday, August 10, 2018
- [TEI Collective](#)
2:00pm - 3:00pm Friday, August 17, 2018
- [TEI Collective](#)
2:00pm - 3:00pm Friday, August 24, 2018
- [R Learning Group](#)
11:00am - 12:00pm Wednesday, August 29, 2018
- [TEI Collective](#)
2:00pm - 3:00pm Friday, August 31, 2018



Closer look at DMPTool Webpage

SERVICES

[Overview](#)

[Borrowing Privileges](#)

[Course Reserves](#)

[Printing, Scanning & Computing](#)

[Borrow from other Libraries](#)

[Reserve a Room](#)

[Services for ...](#)

[Theses, Dissertations, and Projects](#)

[Faculty Portfolios](#)

[Research Data Management Support](#)

[Data Management Plans](#)

[DMPTool](#)

[DOI Services](#)

[Sharing Data](#)

[Training](#)

[eResource Access](#)

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas

- [Guidance on data management plans required for funded research](#)
- [Support in using the DMPTool](#)
- [Assistance in acquiring persistent identifiers for publications \(such as DOIs\)](#)
- Consultation on how to share data to meet publication requirements
- Training on research data management
- Engagement with communities of practice
- Expert knowledge to meet regulatory requirements in efficient ways

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers

Comments on DMPTool Page

- Only 1 public DMP shared (Shannon Capp's for NASA proposal)!

Data Management Plan: Assimilating Ammonia Observations to Improve Emissions Impact Estimates

A Data Management Plan created using DMPTool

Creator: Shannon Capps

Affiliation: Drexel University

Template: National Aeronautics and Space Administration (NASA)

Last modified: 09-08-2017

Copyright information:

The above plan creator(s) have agreed that others may use as much of the text of this plan as they would like in their own plans, and customize it as necessary. You do not need to credit the creator(s) as the source of the language used, but using any of the plan's text does not imply that the creator(s) endorse, or have any relationship to, your project or proposal

My Dashboard

Create plan

Welcome

You are now ready to create your first DMP.
Click the 'Create plan' button below to begin.

There are no records associated

Drexel University Plans

The table below lists the plans that users at your organization have created and shared within your organization. This allows you to download a PDF and view their plans as samples or to discover new research data.

	Project Title ^	Template ◆	Owner	Updated ◆	Download
X	Component A: Contextual impacts on diabe ...	NIH-GEN: Generic	ylm23@drexel.edu	02-06-2017	PDF
X	Copy of Data Management Plans for the Un ...	NIH-GEN: Generic	ylm23@drexel.edu	02-06-2017	PDF
X	Data Management Plan for STAR PATHS: Stu ...	NSF-EHR: Education and Human Resources	fontecchio@drexel.edu	05-14-2016	PDF
	Data Management Plan: Assimilating Ammon ...	National Aeronautics and Space Administration (NASA)	shannon.capps@drexel.edu	09-08-2017	PDF
	Test	Alfred P. Sloan Foundation	alexis@drexel.edu	02-22-2015	PDF

Data Management Plan: Assimilating Ammonia Observations to Improve Emissions Impact Estimates

Types of data produced

The data generated in the proposed work includes observational data in the form of CrIS ammonia retrievals suitable for use on a continental-scale CMAQ grid and model results including emissions scaling factors and concentration fields. These data will amount to terabytes of information. Additionally, the four-dimensional variational data assimilation system based on CMAQ will be a software product from this work. Finally, publication of this work will be another product.

Data and metadata standards

The observational and modeled data will be in a compressed format (modified netCDF), which is commonly used on the CMAQ modeling platform. These files contain metadata necessary for employing in CMAQ. The software will be documented on an associated webpage.

Policies for access and sharing

The observational and modeled data, which may be useful to others independently or in the same variational assimilation framework, will be made available by request after publication of the results.

The software will be distributed incrementally as it is developed through a GitLab interface.

The publications resulting from this work will be added to PubSpace for the public to access.

Policies for reuse, redistribution, and derivatives

The observational data will be available by request in order to ensure that the information is used accurately. The software will be available through a git-based version control system, which is accessible only through an individual account, so that issues in the software will be traceable and to facilitate contributions from the community.

Plans for access to data used in publications

The data used in publications will be made available by request at the time of final publication. The method of access will be detailed in the publication.

Plans for archiving and preservation

The data will be stored on Dropbox for the three years of the grant. Then, the input to the models, the key results fields, and the observational data will be maintained on hard drives for five more years. Researchers working on the project will be instructed in how to set up the Dropbox synchronization client to maintain data integrity.

The software will be maintained and developed through the GitLab interface for the life of the modeling platform.

Closer look at DOI Services Webpage

SERVICES

[Overview](#)

[Borrowing Privileges](#)

[Course Reserves](#)

[Printing, Scanning & Computing](#)

[Borrow from other Libraries](#)

[Reserve a Room](#)

[Services for ...](#)

[Theses, Dissertations, and Projects](#)

[Faculty Portfolios](#)

[Research Data Management Support](#)

[Data Management Plans](#)

[DMPTool](#)

[DOI Services](#)

[Sharing Data](#)

[Training](#)

[eResource Access](#)

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas

- Guidance on data management plans required for funded research
- Support in using the DMPTool
- Assistance in acquiring persistent identifiers for publications (such as DOIs)
- Consultation on how to share data to meet publication requirements
- Training on research data management
- Engagement with communities of practice
- Expert knowledge to meet regulatory requirements in efficient ways

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers

Closer look at Data Sharing Webpage

SERVICES

[Overview](#)

[Borrowing Privileges](#)

[Course Reserves](#)

[Printing, Scanning & Computing](#)

[Borrow from other Libraries](#)

[Reserve a Room](#)

[Services for ...](#)

[Theses, Dissertations, and Projects](#)

[Faculty Portfolios](#)

[Research Data Management Support](#)

[Data Management Plans](#)

[DMPTool](#)

[DOI Services](#)

[Sharing Data](#)

[Training](#)

[eResource Access](#)

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas

- Guidance on data management plans required for funded research
- Support in using the DMPTool
- Assistance in acquiring persistent identifiers for publications (such as DOIs)
- Consultation on how to share data to meet publication requirements
- Training on research data management
- Engagement with communities of practice
- Expert knowledge to meet regulatory requirements in efficient ways

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers



SERVICES

[Overview](#)[Borrowing Privileges](#)[Course Reserves](#)[Printing, Scanning & Computing](#)[Borrow from other Libraries](#)[Reserve a Room](#)[Services for ...](#)[Theses, Dissertations, and Projects](#)[Faculty Portfolios](#)[Research Data Management Support](#)[Data Management Plans](#)[DMPTool](#)[DOI Services](#)[Sharing Data](#)[Training](#)[eResource Access](#)

SHARING DATA

DATA REPOSITORIES

Research data repositories are a common solution to sharing research data. There are multidisciplinary, subject-based, and special purpose repositories available to researchers worldwide.

[Re3data.org](#) is a global registry of research data repositories that can help you narrow down to repositories that are relevant to you and your research. The [Research Data Repositories guide](#) provides additional information for finding repositories, as well as descriptions of some popular multipurpose data repositories.

If there is not a subject or multipurpose data repository available, your datasets may be eligible to deposit in Drexel's institutional repository, IDEA. For help finding a repository, or for more information about depositing datasets in IDEA, contact library staff at datamanagement@drexel.edu



Comments on Data Sharing Page

- Move info on Figshare, Dryad, Harvard Dataverse, etc. that is found in guide to this page
- Include information on what resources are available at Drexel for data sharing internally and externally

RESEARCH DATA REPOSITORIES: HOME

Locating research data repositories and features of popular research data repositories

What is a Research Data Repository?

A research data repository is a virtual place to store and preserve research data. Depositing research data in a repository increases data transparency and exposure and promotes research collaboration opportunities. There are multidisciplinary, subject-based, and special purpose repositories available to researchers worldwide. For example, [iDEA](#) houses digital resources produced by the Drexel University community.

Finding Repositories

As the number of research data repositories increases, so do registries and directories of repositories. The following registries are useful for locating a repository for your research data:

- [re3data.org](#): global registry that includes data repositories from a variety of different academic disciplines
- [DataONE](#): DataONE is a community driven project providing access to data across multiple member repositories, supporting enhanced search and discovery of Earth and environmental data.
- [NIH](#): These repositories include NIH-supported data accessible for reuse. Most accept submissions of appropriate data from NIH-funded investigators (and others), but some restrict data submission to only those researchers involved in a specific research network.
- [PLOS Recommended Repositories](#): PLOS has identified a set of established repositories that are trusted and recognized within their respective communities
- [Scientific Data Recommended Data Repositories](#): repositories recommended by *Scientific Data*. Repositories on this list have been evaluated by *Scientific Data*, to ensure that they meet their requirements for data access, preservation, and stability.

Citing Data from Research Data Repositories

Data should be cited within a publication just as other literature are cited. Use the appropriate format based on the citation style you're using (eg. APA, Chicago, Turabian, etc.). The minimum amount of information that should be included in a dataset citation is the following:

1. Author(s)
2. Title
3. Date published
4. Universal, persistent identifier (PID)
5. Some way to resolve the PID (DOIs and ARKs both have resolution services)
6. Date accessed

Source:

<https://libguides.utk.edu/dataservices/citation>

Many data repositories have specific guidelines on how the data they host should be attributed. These citation guidelines are often included in the dataset's metadata or linked from the repository's web site.

Example of citing data from the Dryad repository:

- [Citation Style Manuals](#)
- by [Larry Milliken](#) Last Updated Jun 22, 2018 492 views this year

Popular Research Data Repositories

Listed below are some popular research data repositories and details regarding each one.

Dryad

Dryad <https://www.datadryad.org/>

- **Subject/Discipline:** multidisciplinary, initially biosciences
- **Data Types/Data Status:** Unstandardized file types found in most research. Final, from accepted peer-reviewed journal articles, or dissertations & books.
- **File Format/File Size:** any that follow accepted community standards and follow preservation-friendly file formats.
- **Deposit Size Limitations:** excess storage fees for data packages totaling over 20GB
- **Accepted Metadata Schemas:** any, so long as relevant details about data collection, processing, and analysis are included in a README document.
- **Persistent Identifiers provided:** DOI
- **Levels of Access to Deposited Data:** Unpublished, Published
- **Fees:** yes, base charge per data package is \$120
- **Data Curation Services (yes/no):** yes
- **Where Indexed:** [DCI](#), [OAD](#), [OpenDOAR](#), [re3data](#)
- **Supports OAI (yes/no):** yes
- **API available (yes/no):** yes

Figshare

Figshare <https://knowledge.figshare.com/> <https://figshare.com/features> <https://knowledge.figshare.com/articles/item/how-can-figshare-help-my-research>

- **Subject/Discipline:** [multidisciplinary](#)
- **Data Types/Data Status:** quantitative/any status
- **File Format/File Size:** [File formats](#), Figures, [videos](#), [posters](#), [peer reviewed papers](#), [diagrams](#), [preprints](#), [codes](#), scripts, slides, thesis
- **Deposit Size Limitations:** [Upload files](#) up to 5 GB, 20 GB of free private space, unlimited free public space
- **Accepted Metadata Schemas:** [Dublin Core](#), Datacite, RDF
- **Persistent Identifiers provided:** [DOI](#)
- **Levels of Access to Deposited Data:** [Embargoed](#), confidential, private public, unpublished, published
- **Data Curation Services (yes/no):** yes with subscription
- **Where Indexed:** [DCI](#), [OAD](#), [OpenDOAR](#), [re3data](#)
- **Supports OAI (yes/no):** yes
- **API available (yes/no):** yes

Harvard Dataverse

Harvard Dataverse <https://dataverse.harvard.edu/>

- **Subject/Discipline:** multidisciplinary



Closer look at Training Webpage

SERVICES

Overview

Borrowing Privileges

Course Reserves

Printing, Scanning & Computing

Borrow from other Libraries

Reserve a Room

Services for ...

Theses, Dissertations, and Projects

Faculty Portfolios

Research Data Management Support

[Data Management Plans](#)

[DMPTool](#)

[DOI Services](#)

[Sharing Data](#)

[Training](#)

eResource Access

RESEARCH DATA MANAGEMENT SUPPORT



Research Data Management Support serves researchers in managing and publishing research data. Drexel University Libraries provides Drexel researchers consultation in data management planning to:

- meet funding agency requirements
- guidance on data repositories to meet curation and publication requirements
- metadata and data organization training and support for curating research data.

Drexel's Research Data Management Support increases research productivity and raises Drexel's research profile through collaborative development among campus experts. All researchers at Drexel University, including faculty members, research staff, and graduate students are eligible to receive support in the following major areas

- [Guidance on data management plans required for funded research](#)
- [Support in using the DMPTool](#)
- [Assistance in acquiring persistent identifiers for publications \(such as DOIs\)](#)
- [Consultation on how to share data to meet publication requirements](#)
- [Training on research data management](#)
- [Engagement with communities of practice](#)
- Expert knowledge to meet regulatory requirements in efficient ways

DREXEL UNIVERSITY ASSISTANCE

Research data management is an aspect of research activity that is found in all stages of the research lifecycle, beginning with idea conception, proposal writing, active engagement in the generation of results, the publication process, and curation of research data for public access. Drexel offers

Comments on Training Page

- Change title to “Best Practices in RDM”
- Add faces/names to datamanagement@drexel.edu – makes the support services seem more personable

Concluding Remarks and Suggestions

- Definitely a need to educate faculty and students on RDM best practices and what services are available for RDM through the Libraries
- DUL should be actively involved in developing workshops, classes, or courses for graduate students on RDM, as it would complement their Reproducible Research course