Creating Research Data Management Plans Using DMPTool

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University Libraries| Texas State University

GOALS FOR TODAY

1. Understand the basic principles of research data management;
2. Be aware of data management planning tools, support and guidance which are available to academic researchers;
3. Be able to use DMPTool to develop a data management plan, and maintain it through the course of your research.

DMPTool
Build your Data Management Plan

OVERVIEW

1. Why is data management important?
2. What is a data management plan?
3. Use the DMPTool

DMPTool
Build your Data Management Plan

OVERVIEW

1. **Why is data management important?**
2. What is a data management plan (DMP)?
3. The DMPTool

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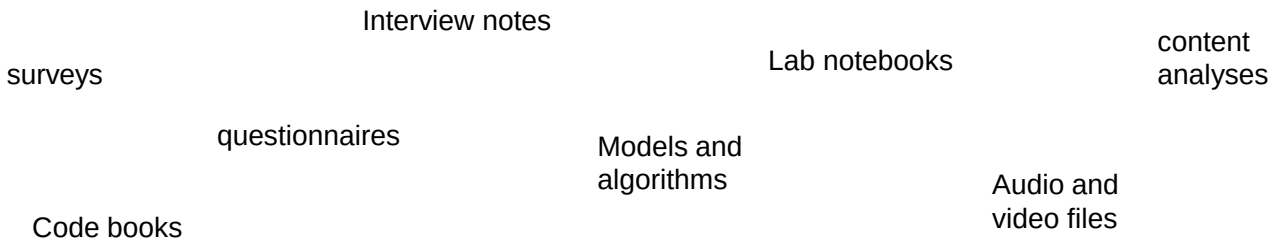
WHAT IS RESEARCH DATA?

- Research Data is recorded, factual material commonly accepted in the scientific community as necessary to validate research findings (Awasthi & Tripathi, 2019)



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RESEARCH SCENARIO

- You have achieved global recognition with your groundbreaking study on genetic mutations and neurological disorders, resulting in two widely-cited papers. However, your life in the scientific community was disrupted three years later when another researcher accused you of data falsification, alleging statistical improbabilities and missing critical details in your research.

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WHAT IS RESEARCH DATA MANAGEMENT

- Research data management (RDM) is about handling research data effectively and appropriately throughout **the life of a research project and beyond**.
- RDM refers to all aspects of creating, storing, sharing and archiving data and is an essential aspect of conducting responsible research.

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WHY IS DATA MANAGEMENT IMPORTANT?

- Data management is a set of practices across the research lifecycle

Mandate	Facilitate	Reuse	Impact
Meet requirements and expectations set by funding agencies, publishers and domain associations	Ensure that your data is complete, documented, and accessible to you and to future researchers	Encourage the discovery and reuse of your data to further discoveries in your field of research	Receive credit for your data and increase its impact and visibility

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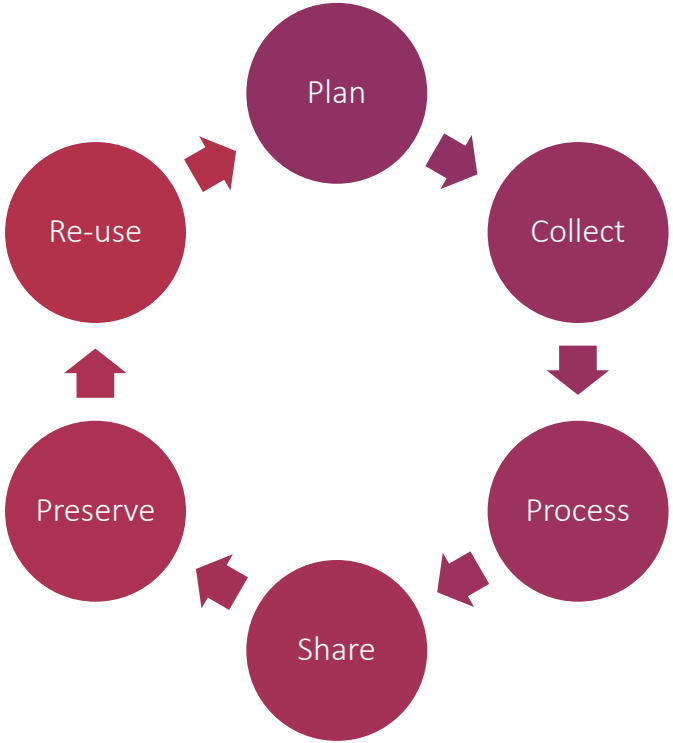
RESEARCH DATA LIFE CYCLE



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OVERVIEW

1. Why is data management important?
2. **What is a data management plan?**
3. The DMPTool

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DATA MANAGEMENT & SHARING MANDATES

- Journals – PLOS, Nature, JDAP partners
- Funders – NSF, NIH…
- The White House OSTP memo (2003) – Federal agencies with over $100 million/year in R&D must develop a plan to support public access to research

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START WITH A DMP

- Funder requirements
- Institutional policy
- Mitigate error and loss
- Avoiding unforeseen costs
- Be able to return the data
- Getting a handle on the complexity of data

COMPONENTS OF A BASIC DMP

1. Describing the Research Data
2. Data Standards and Metadata
3. Ethic Issue and legal Compliance
4. Intellectual Property and Re-use
5. Data Storage and Backup
6. Data Publishing, Sharing, and Preservation

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DESCRIBING THE RESEARCH DATA

- Give a brief description of the data. Outline and justify your choice of format and consider the implications of data format and data volumes in terms of storage, backup and access.

What data will you collect or create?

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

How will the data be collected or created?

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

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DATA STANDARDS AND METADATA

- Describe the types of documentation that will accompany the data to help other users to understand and reuse it.
- Metadata is the information that describes and documents research data. Metadata will make your datasets searchable in an archive or repository, easily located from a citation, and easily understood by people who might want to use your data.

What documentation and metadata will accompany the data?

- What information is needed for the data to be to be read and interpreted in the future?
- How will you capture / create this documentation and metadata?
- What metadata standards will you use and why?

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ETHICS AND LEGAL COMPLIANCE

- Ethical issues affect how you store data, who can see/use it and how long it is kept. Managing ethical concerns may include: anonymization of data; referral to departmental or institutional ethics committees; and formal consent agreements.

How will you manage any ethical issues?

- Have you gained consent for data preservation and sharing?
- How will you protect the identity of participants if required? e.g. via anonymization
- How will sensitive data be handled to ensure it is stored and transferred securely?

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INTELLECTUAL PROPERTY AND RE-USE

- State **who** will own the copyright and IPR of any data that you will collect or create, along with the licence(s) for its use and reuse.
- Consider any **relevant** funder, institutional, departmental or group policies on copyright or IPR.
- Consider **permissions** to reuse third-party data and any **restrictions** needed on data sharing.

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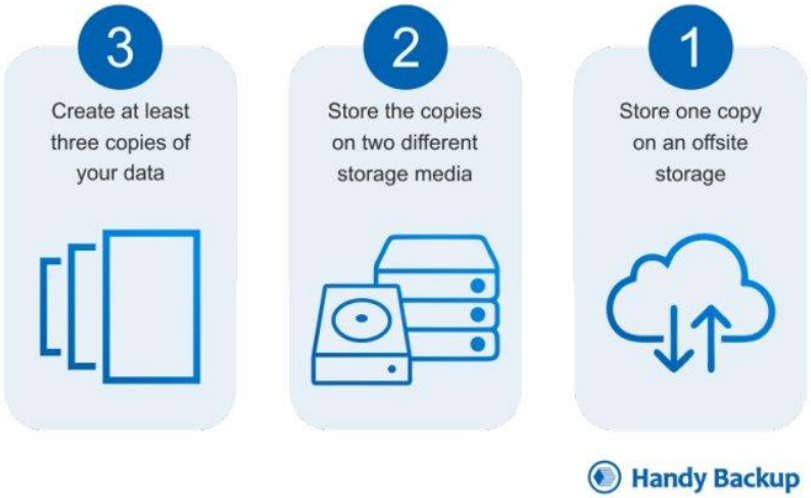
DATA STORAGE, ACCESS AND BACKUP

- Consider where data will be stored and backup during the research and how you will control access to the data.
- Consider how will you manage access and security



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DATA PUBLISHING, SHARING AND PRESERVING

- Consider how datasets that have long-term value will be preserved and curated beyond the lifetime of the project.
- Consider who will be responsible for data management.
- Consider how people might acknowledge the reuse of your data.
- Outline the plans for preparing and documenting data for sharing and archiving.

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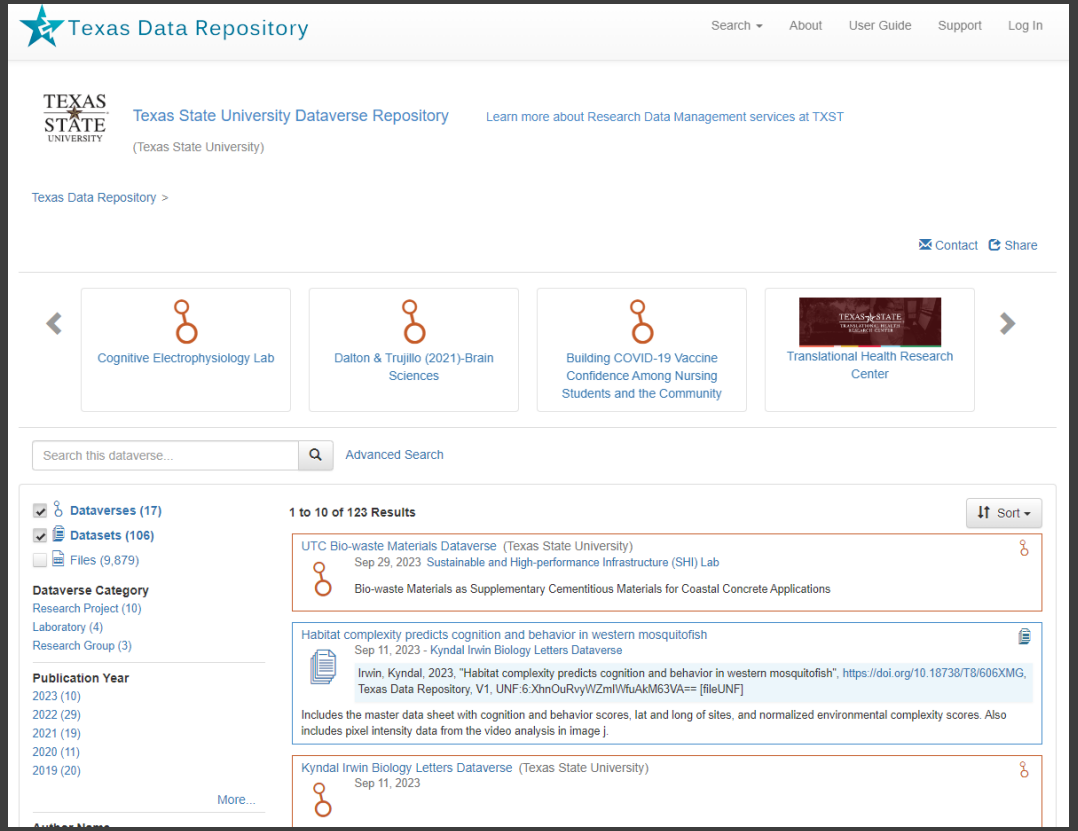
TXST DATAVERSE REPOSITORY

Data will be published in Texas State University Dataverse Repository under a Creative Commons CC0 public domain dedication, so that others may freely access, use, and build upon the work.



OVERVIEW

1. Why is data management important?
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WHAT IS DMPTOOL

- The DMPTool is an online platform guiding DMP development according to the requirements of specific funding agencies.
- Texas State University researchers log in with their NetID and passwords.

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DMPTOOL FOR DATA MANAGEMENT PLANS

- Helps researchers meet requirements of NSF, NIH and other U.S. funding agencies.
- Guides researchers through the process of creating a data management plan.
- Is available to everyone.
- Provides additional help for researchers at DMPTool partner institutions

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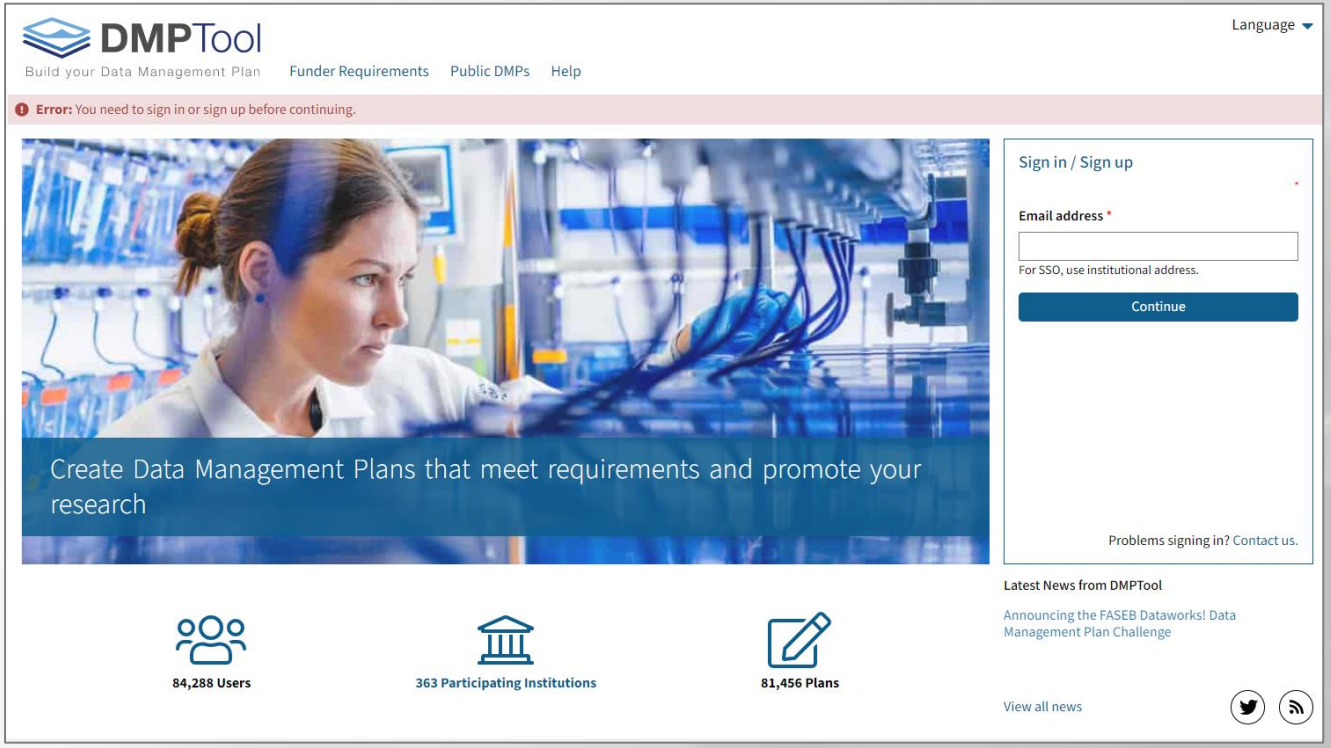
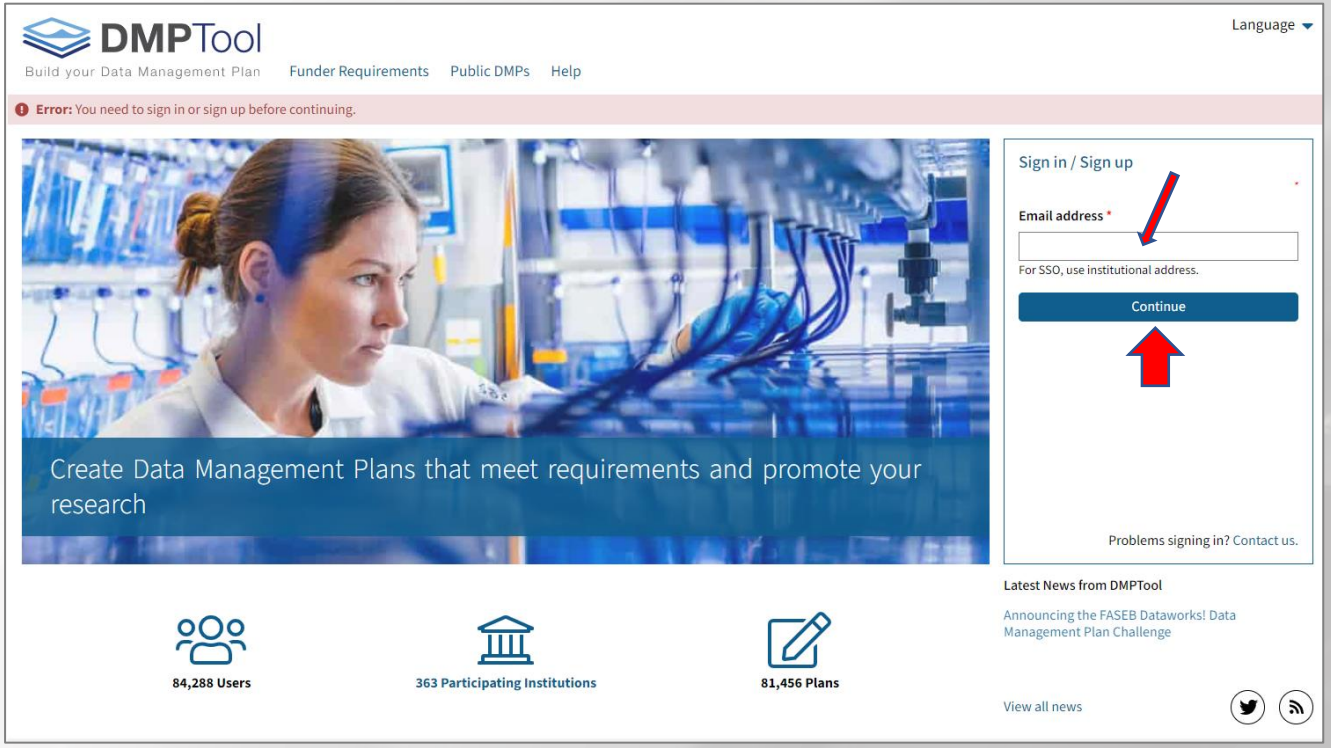
Sign In



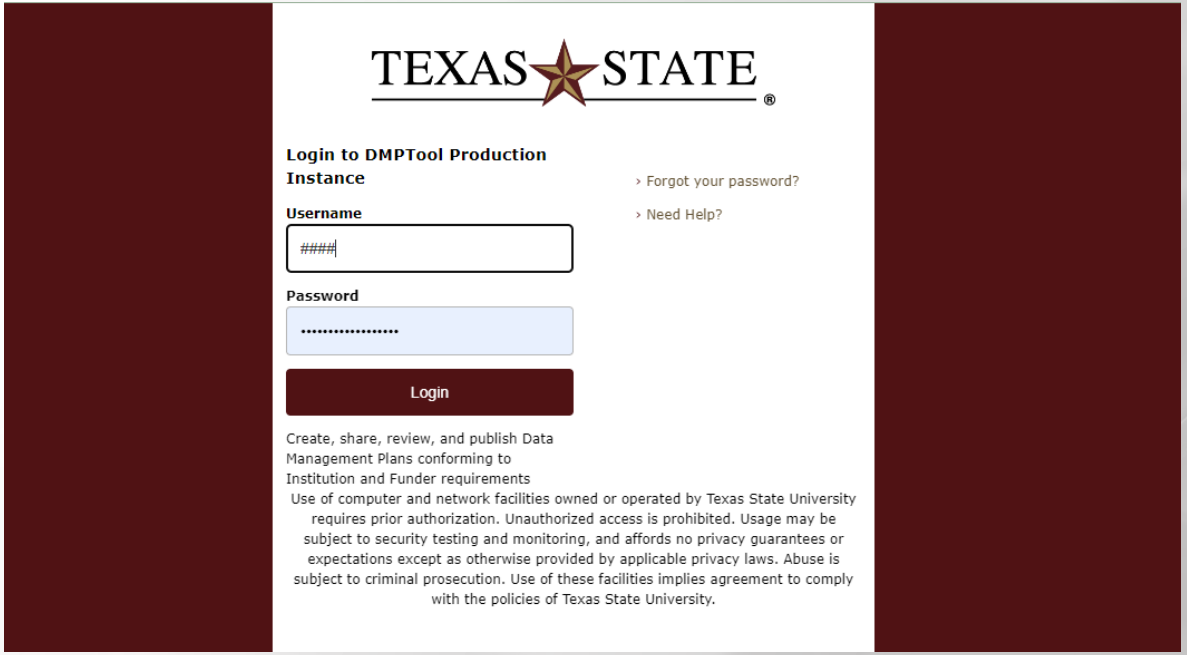
To get started, go to DMPTool.org

Sign In



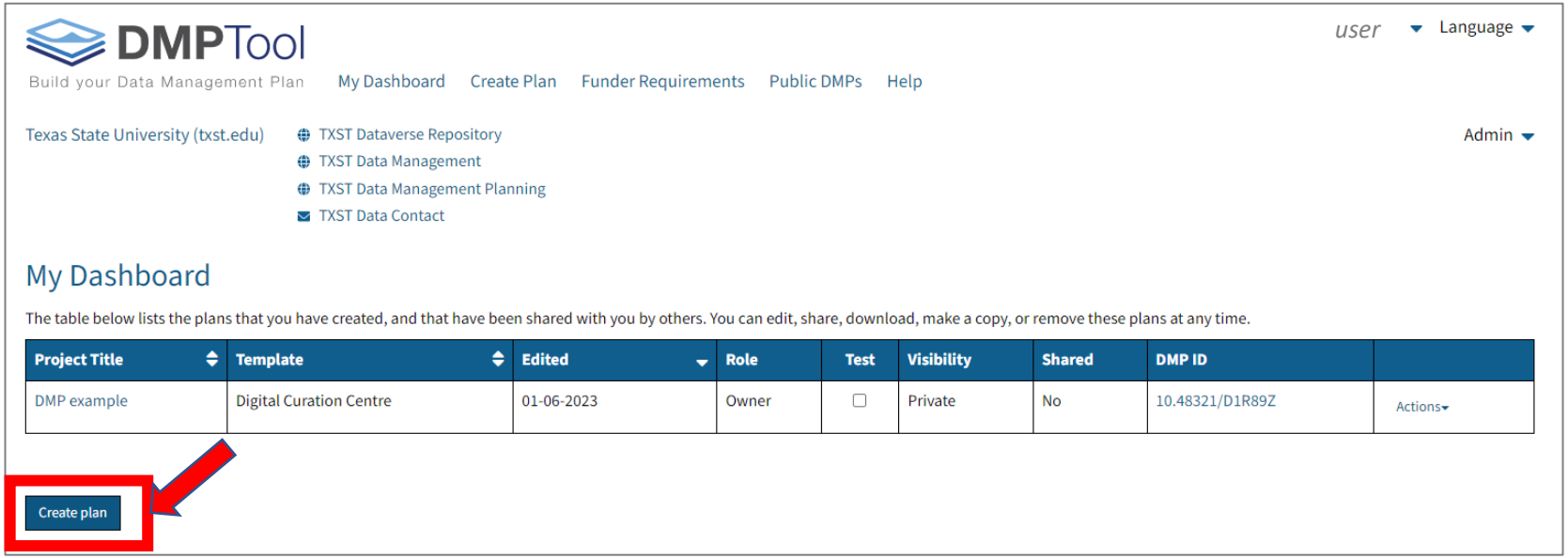
- Use your **Texas State** email address
- Click **Continue**

Sign In

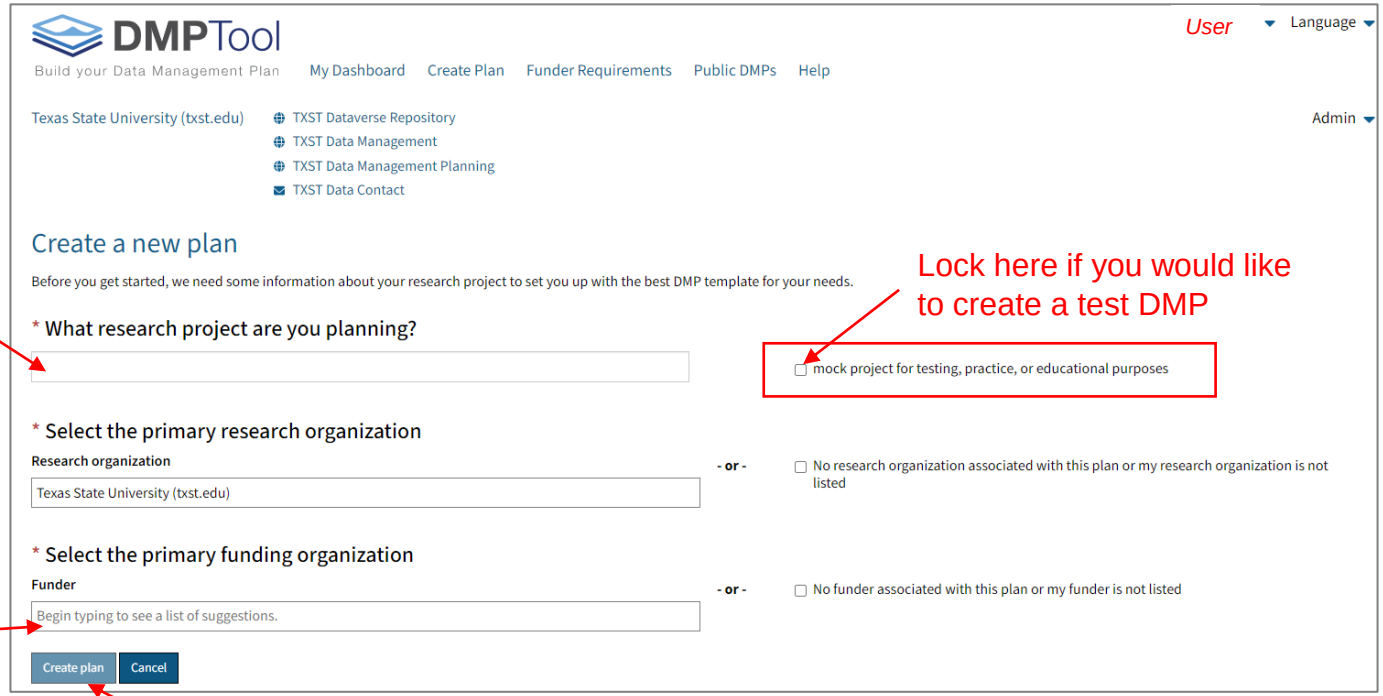


- Use your **Texas State NetID** and password to login

Create a Plan



Start developing DMP



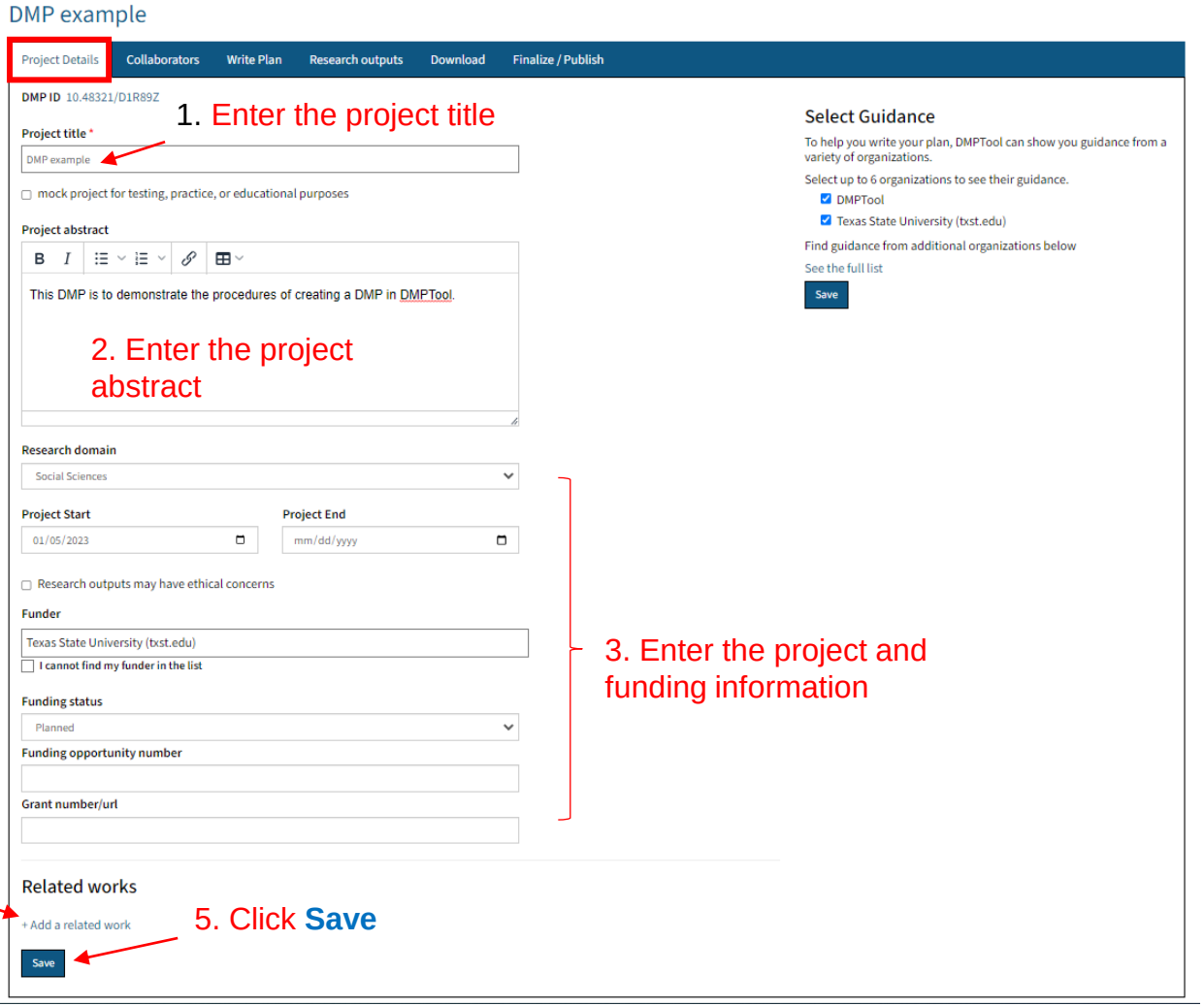
1. Enter the project title

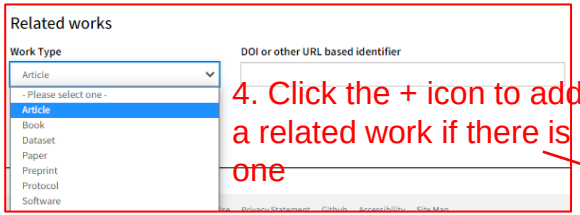
Lock here if you would like to create a test DMP

2. Enter the funder information

3. Click **Create Plan**

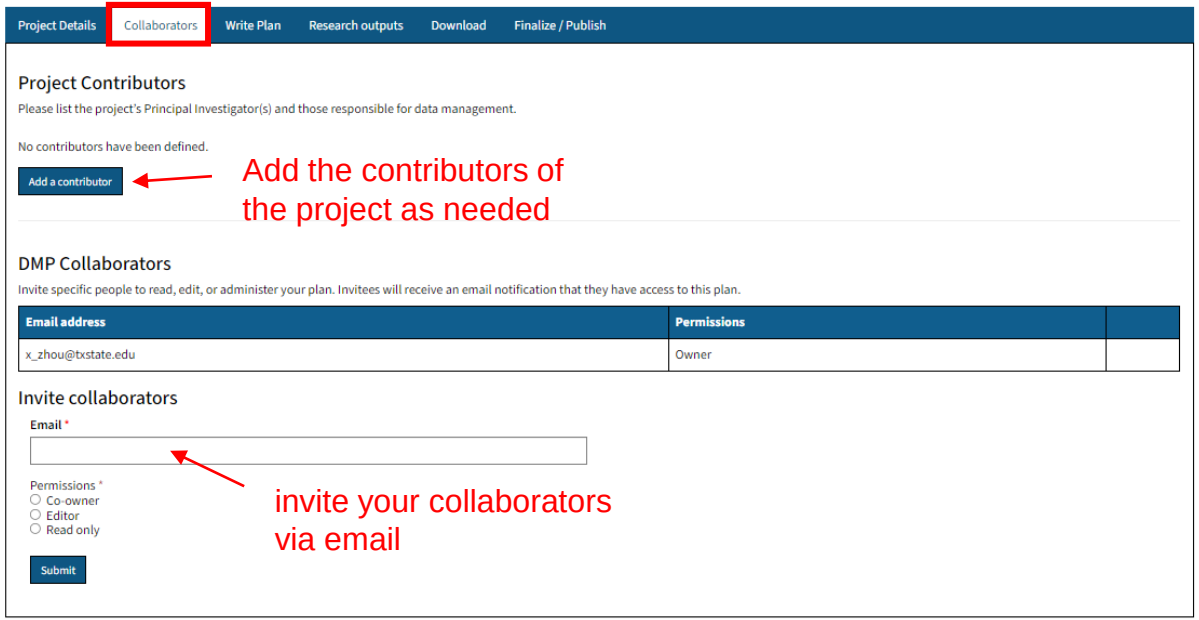
Project details





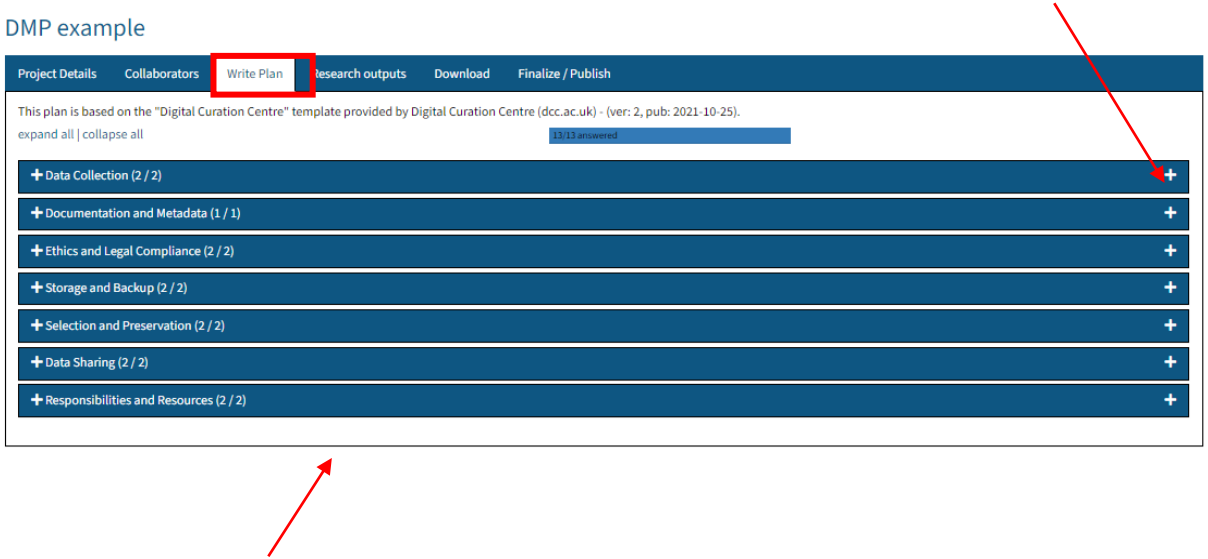
Collaborators

DMP example



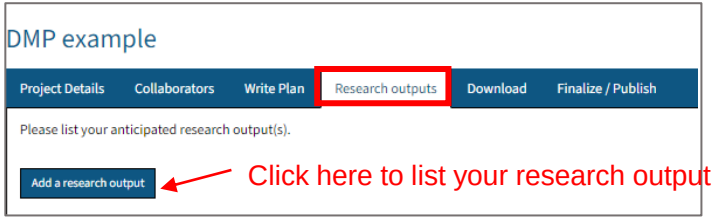
Write Plan

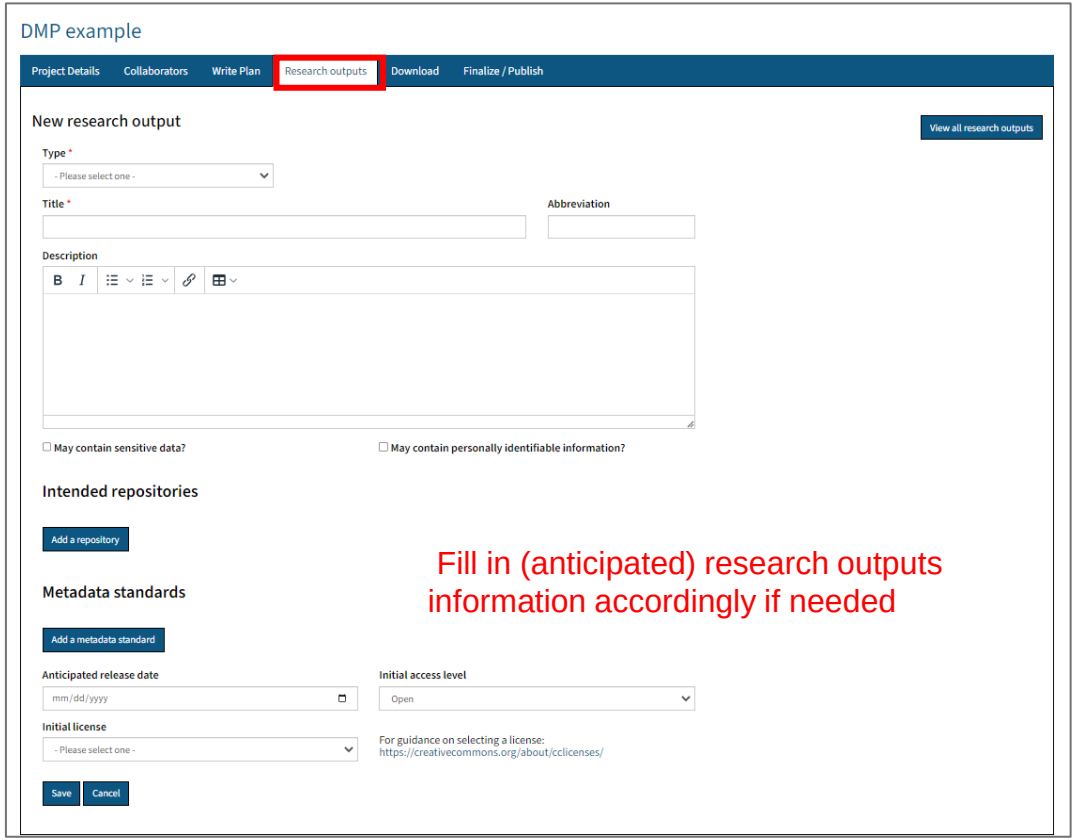
Click the **+** icon to see detailed instructions for each section and enter text .



Expandable sections for each topic covered in a DMP.

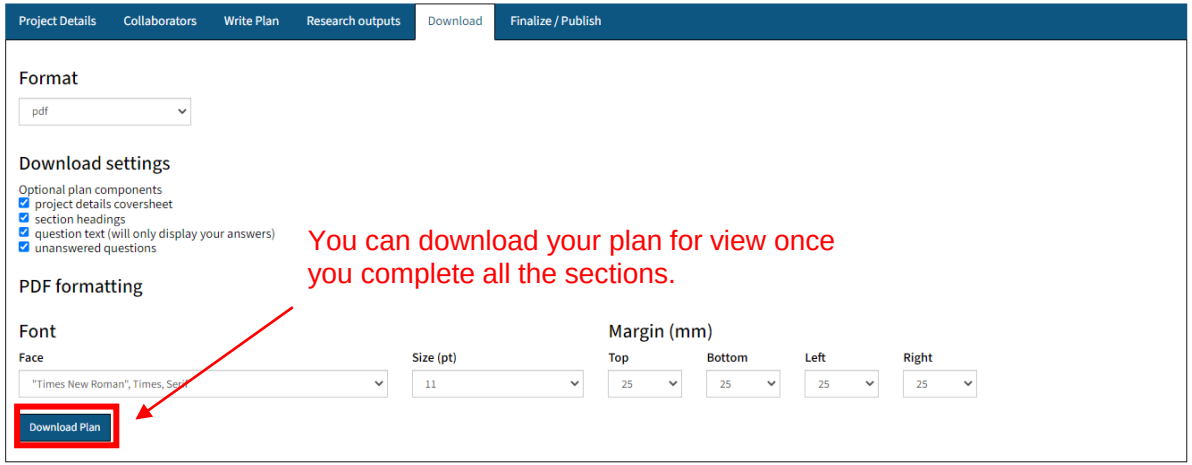
Research Output





Download

DMP example



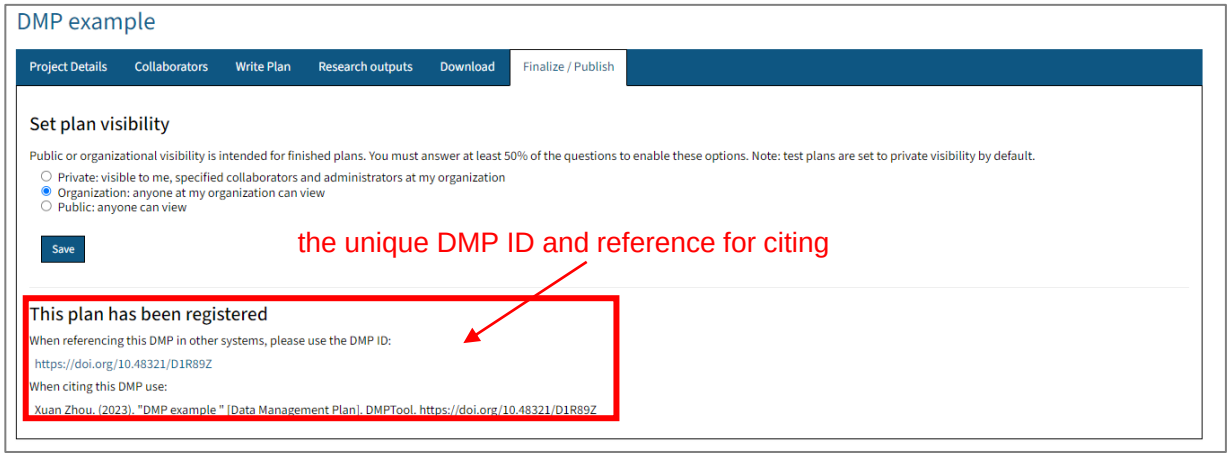
When you have completed all sections of your plan, you can publish your DMP when you are ready and decide the visibility of the plan

Finalize / Publish

You can register your plan for a unique DMP ID and link it to your ORCID

ORCID stands for Open Researcher and Contributor ID

Finalize / Publish



DMP ID

Given a DMP ID, you can access the ID to view a DMP landing page that includes details about the plan.

View an example of a DMP ID landing page

University Libraries: Researcher Support

Search this Guide

Guidance on support and resources through the University Libraries for researchers at all stages of the research lifecycle process.

- Home
- Research Data Management
- Data Management Plan Templates
- Sharing Research Work
- Digital Publishing Services
- Teaching and Learning
- Open Education
- Technologies and Micro-Credentials
- Special Collections and Exhibits

Texas State University Template Language for DMPs

Applicants for Federal funding requiring Data Management Plans (DMP) may incorporate or adapt the following language in their plans if they intend to use the Texas State University Research Data Repository to host their research data. Principal Investigators who intend to use the Data Repository can start the process by contacting Research Data Services Department at UL-RDS@txstate.edu.

Texas State University provides Data Management Plan development support with the DMPTool at dmptool.org.

Data Sharing and Access: Template Text

The online Texas State University Research Data Repository (https://dataverse.tdl.org/dataverse/txst) will be used to share datasets through the Texas Digital Library and managed by local Texas State University librarians. The Texas Digital Library (TDL) is a consortium of academic libraries in Texas with a proven history of providing shared technology services to support secure, reliable access to digital collections of research and scholarship. The Texas Data Repository is a project of the TDL and its member institutions to develop a consortial statewide research data repository for researchers at Texas higher education institutions.

Data will be curated in the repository following accepted standards (NISO Framework Advisory Group, 2007). A persistent identifier, a DOI, is created for each data set published. Datasets in the repository will be maintained for long term use.

The project team will work with Texas State University Research Data Service Department as necessary in assigning appropriate metadata and in determining appropriate embargo periods for the individual digital resources. For data sources that are embargoed for some period of time, the metadata records will be available to allow discovery of the resources. All project-related materials, such as technical reports, presentations, and publications, will be made accessible through the Texas State University Institutional Repository (digital.library.txstate.edu) and linked with the dataset in TXST Research Data Repository accordingly.

Metadata for Data Management: Template Text

Metadata records will be created to describe each of the project's digital resources. Metadata for the project data will provide information on subject, provenance, authorship, methods and post-processing, and a Creative

Templates For TXST Researchers

- Template Text: Data Sharing and Access
- Template Text: Metadata for Data Management

FUTURE LIBRARY WORKSHOP

OPENtxst: TXST Dataverse Data Repository: Preserve, Publish, and Share Your Research Data

Upcoming Sessions

Tuesday, November 14, 2023, 2:00PM - 3:00PM (1 / 25 registered) Online

Topic Details

Description:

The Texas State University Dataverse Repository is hosted on the Dataverse platform, developed and used by Harvard University. It offers researchers a trusted repository to deposit, share, manage, and publish their research datasets. Researchers can also find and cite data across all research fields. In the workshop, you will be able to recognize appropriate data sharing practices in order to minimize data loss and maximize efficiency. You will also be able to use the TXST Dataverse Repository in order to manage, preserve, publish, and share data in an open access repository.

Tags:

data-management, dataverse, faculty, faculty-commons, graduate, library, open-access, open-txst, principle-investigators, repository, research, staff, workshops

Duration:

60 minutes

Department:

University Library

Additional Info:

https://www.library.txst.edu/services/research-services/research-data-management.html

THANK YOU!

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References

Awasthi, S., & Tripathi, M. (2019). A Selective Review of Literature on Research Data Management in Academic Libraries. *DESIDOC Journal of Library & Information Technology*, *39*(6).

The University of Edinburgh. (2020, September). *MANTRA: Research Data Management Training*. Available at: https://mantra.edina.ac.uk/index.html