

UNIVERSITY  
OF OSLO

# Data Management Planning

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Digital Scholarship Centre | University of Oslo Library

November 6, 2023



# **Agenda**

**Research data management**

**Data Management Plan (DMP)**

**Write a Data Management Plan (DMP)**

**Example**

**Q & A**

# **What are Research Data?**

**“Information, especially facts and numbers,  
collected to be examined and considered and used  
to help decision-making...”**

(Cambridge online dictionary)

**“Data collected or produced in the course of scientific  
research activities and used as evidence in the research  
process, or commonly accepted in the research  
community as necessary to validate research findings  
and results. ”**

(European Open Science Cloud - EOSC)

# Data classification

## **Observational data**

**Recognising, noting, recording facts, occurrences of phenomena**

## **Experimental data**

**Procedures in controlled conditions to test or establish hypotheses or to discover or test new laws**

## **Computational data**

**Products of executing computer models, simulations, or workflows**

## **Records**

**Any phenomenon or human activity, can be treated as data for research**

# Data classification

**Qualitative or Quantitative**

**Primary (new) or Secondary (existing)**

**Personal data**

- **General (non-sensitive) personal data**
- **Sensitive personal data**

# Digital revolution

Data “deluge”

Big Data

AI

Increasing opportunities and  
prioritization of interdisciplinary  
research



# Changing Research Environments

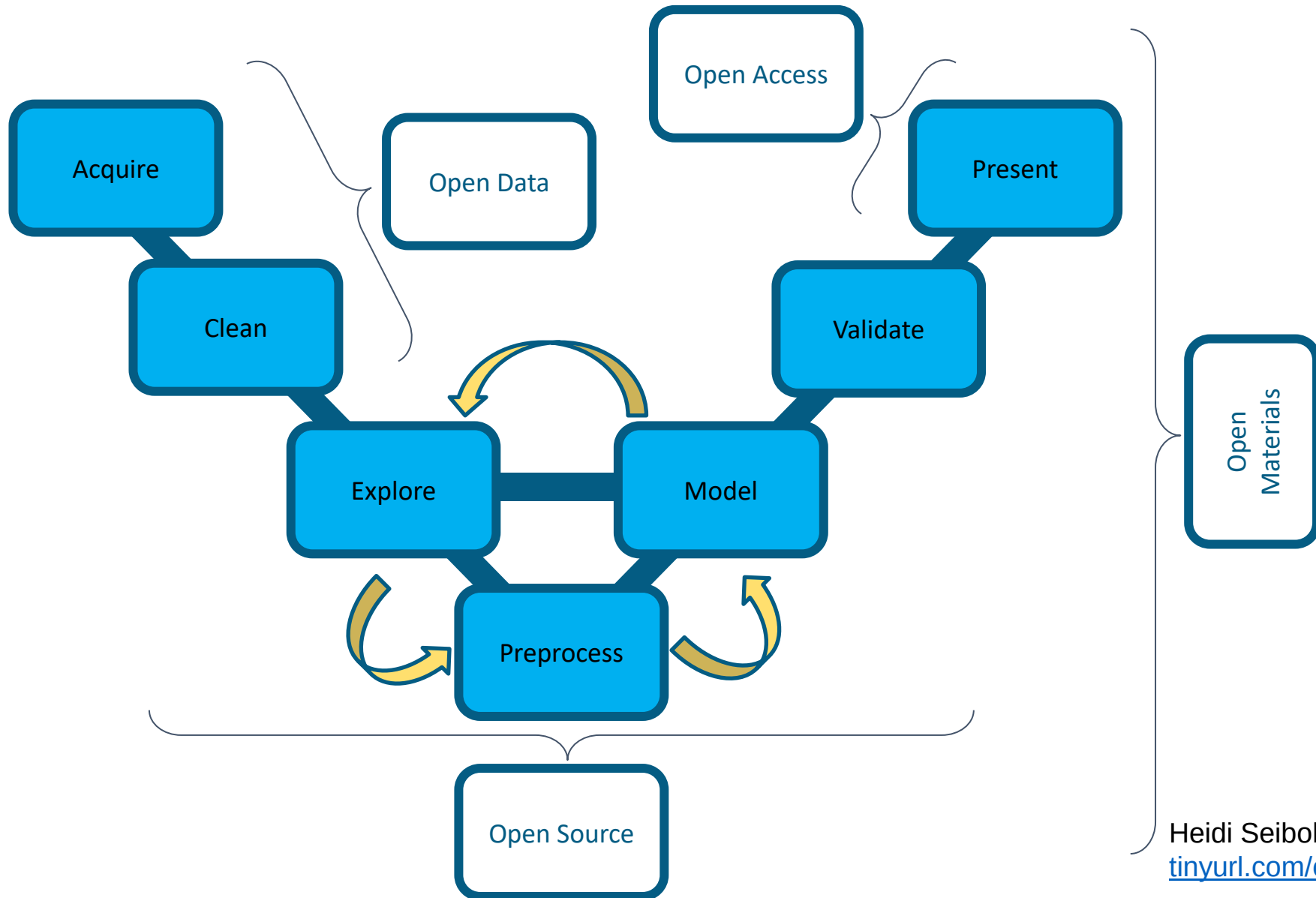
**A number of issues are changing the way we think/talk/govern research**

- 1. Reproducibility crisis**
- 2. Siloing of research resources**
- 3. Increased scrutiny of public investment in research**
- 4. Sustainable Development Goals (SDGs)**
- 5. Blurred boundaries between academia, commerce and government**
- 6. Increased pressure for public access to research resources**
- 7. Citizen science movement**

**Driving forward new models of research practice**



# Openness Throughout The Research Lifecycle



# Research Data Management (RDM)

Activities and practices that support long-term,  
preservation, access, and use of data





Protection  
Organization  
Documentation (and metadata)  
Classification  
Short-term storage  
Licensing  
Sharing  
Long-term preservation  
Dissemination (publishing)  
Reusing

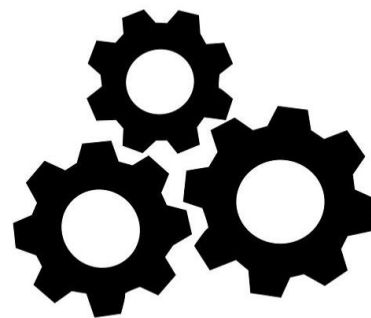
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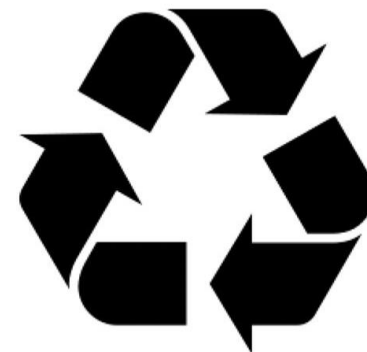
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I  
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R  
eusable



**Openness is not an Absolute**

**As Open As Possible, As Closed As Necessary**

# **Data Management Plan (DMP)**

**LIVING** document

Specifies the **TYPES** of data

Describes how you plan to **MANAGE** your data

**Organize, Document, Classify, Store, License**

Conveys whether and how the data can be **SHARE**  
**AGREEMENT** between project members  
Keep **OVERVIEW** over data

**Why use a DMP?**

**Comply with sponsor requirements**

**Save time during and after project**

**Easier to share and publish data**

**Make your data reusable and reproducible**

**Ensures security and quality of data**

**Helps identify resource requirements, time dependencies or problems**

**Which template to choose?**

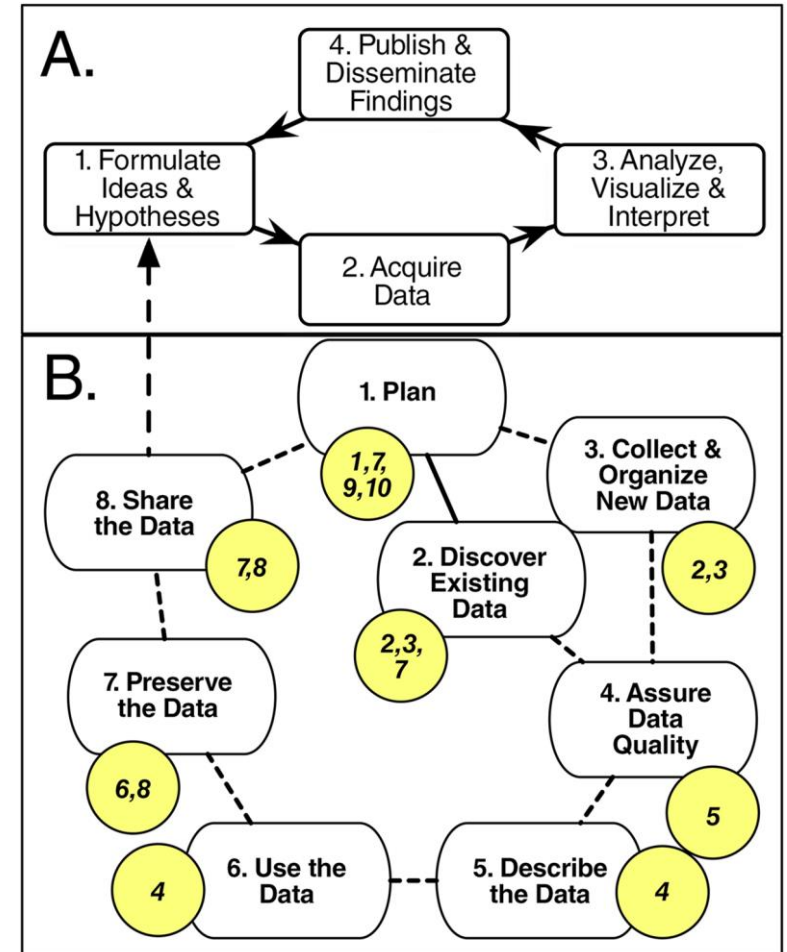
| If you:                               | Consider using:                                                                                    |
|---------------------------------------|----------------------------------------------------------------------------------------------------|
| Want a simple and text-based template | <a href="#">UiO's template</a>                                                                     |
| Have life science data (ELIXIR)       | <a href="#">Data Stewardship Wizard</a> / <a href="#">ELIXIR Data Stewardship Wizard</a> / General |
| Are working in an EU project          | <a href="#">Digital Curation Center's DMPOnline</a>                                                |
| Have human and society data*          | <a href="#">Sikt's DMP tool</a>                                                                    |
| Use Sigma2's resources*               | <a href="#">Sigma2's easyDMP</a>                                                                   |

# How to write a DMP?

# **Ten Simple Rules for Creating a Good Data Management**

**Michener, W. K. (2015)**

1. Determine research sponsor **requirements**
2. Identify **data** to be collected
3. Define how data will be **organized**
4. Explain how data will be **documented**
5. Describe how **quality** will be maintained
6. Develop a strong **storage** and **preservation** strategy
7. Define project's data **policies**
8. Describe how data will be **disseminated**
9. Assign **roles** and **responsibilities**
10. Prepare a realistic **budget**



# **1. Determine research sponsor requirements**



HORIZON EUROPE

# Open Science across the programme

Open  
Science

Mainstreaming of open science practices for improved quality and efficiency of R&I, and active engagement of society

**Mandatory immediate Open Access to publications:** beneficiaries must retain sufficient IPRs to comply with open access requirements;

**Data sharing as 'open as possible, as closed as necessary':** mandatory **Data Management Plan** for FAIR (Findable, Accessible, Interoperable, Reusable) research data

- Work Programmes may incentivize or oblige to adhere to **open science practices** such as involvement of citizens, or to use the **European Open Science Cloud**
- Assessment of open science practices through the **award criteria** for proposal evaluation
- Dedicated support to **open science policy actions**
- **Open Research Europe** publishing platform

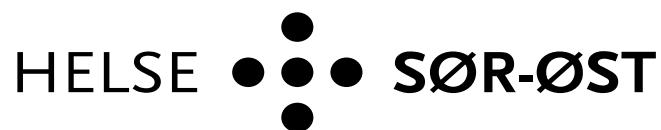


## **Data Management Plans (DMP)**

**Assess the need to develop a data management plan in relation to all projects awarded funding.**

**If you decide that a data management plan is not needed, you must provide an explanation.\***

**Final version of the DMP delivered with the final report of the project.**



**DMP template or content requirements?**

**Storage requirements?**

**Metadata and documentation requirements?**

**Publishing data openly?**

**Archiving requirements?**

**Which repositories are approved?**

**Licensing requirements?**

**Other legal requirements?**

## **2. Identify data to be collected**

## **Origin of Data**

**Existing data or new data?**

**If data is reused: What is the scope, volume, format?**

**How are different data sources integrated?**

## **Types of Data**

**What type(s) of data will be collected?**

**What is the scope, quantity and format of the material?**

**What is the total amount of data collected (MB/GB/TB/PT)?**

## **Data Collection**

**How, where and when will data be collected?**

**What resources are required?**

**Who is responsible for data collection?**

# Example dataset description

**Type:** accelerometer output

**Sensor:** AX3 Axitivity

**Protocol:** see SOP-123 in protocol folder

**Purpose:** measure head movement of audience and musicians

**File format:** .csv

**File size:** ~ 15 x 1 MB

**Classification:** green

**Setting:** musical performance at a music festival on (date)

# Administrative and Physical Data

Important to think about how non-digital or administrative data will be managed.

Examples can include:

*Applications*

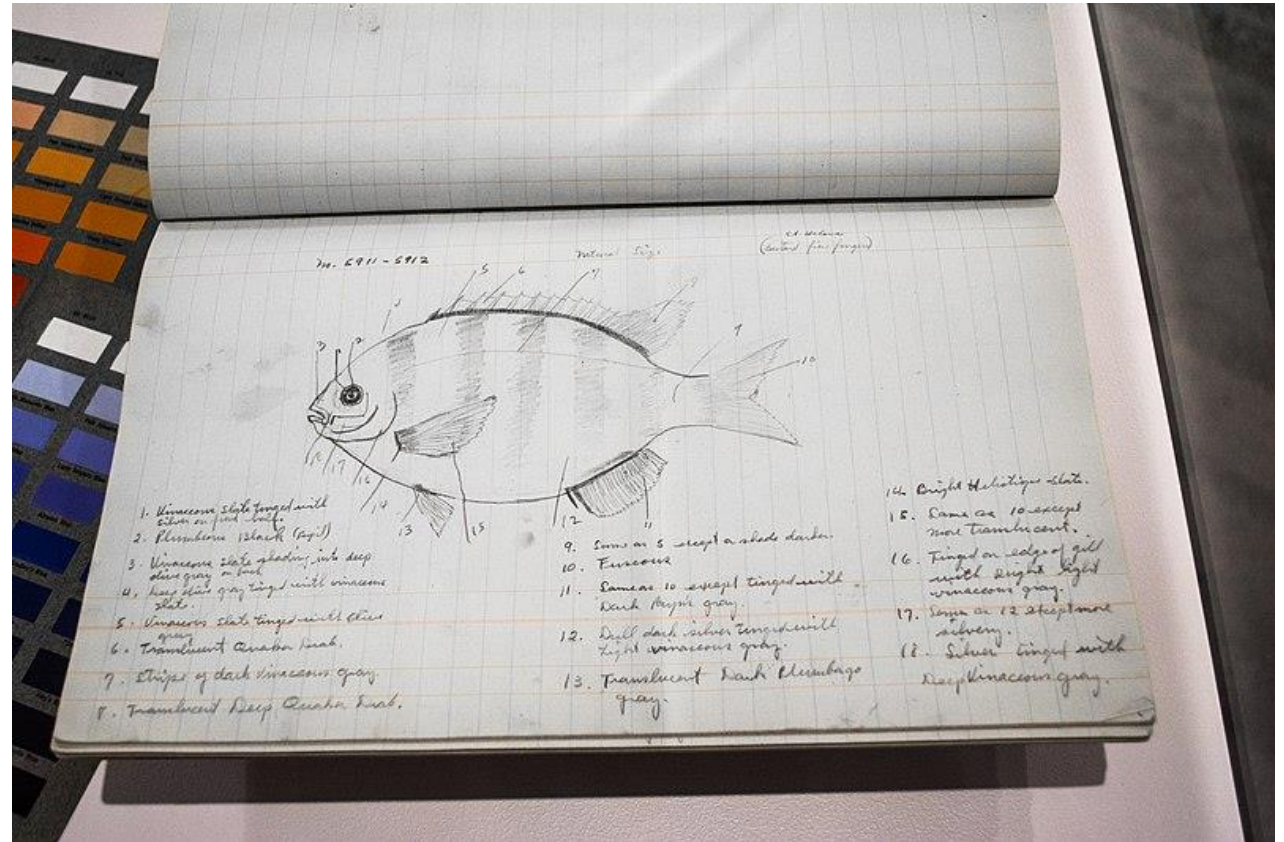
*Forms*

*Field notebooks*

*Lab notebooks*

*Physical artifacts*

*Protocols*



by Tim Evanson, CC-BY-SA

# **3. Define how data will be organized**

# **4. Explain how data will be documented**

# **5. Describe how quality will be maintained**

## **6. Develop a strong storage and preservation strategy**

# **7. Define project's data policies**

# **8. Describe how data will be disseminated**

# Courses in research data management and sharing

November 6<sup>th</sup> – 17<sup>th</sup> 2023

Time and place: Nov. 8, 2023 9:00 AM – 10:30 AM, Zoom

## Data organization, metadata, and documentation

Learn about best practices for data organization and documentation.

Time and place: Nov. 10, 2023 9:00 AM – 10:30 AM, Zoom

## Data classification and storage selection

In this course we will introduce you to the UiO Data Classification and Data Storage guides.

Time and place: Nov. 13, 2023 9:00 AM – 10:30 AM, Zoom

## Copyright and licensing

Learn about what copyright is, who owns data, and what types of licenses we can use for research data.

Time and place: Nov. 16, 2023 9:00 AM – 10:30 AM, Zoom

## Sharing and archiving research data

Are you keen on sharing your research data? Or does your publisher or funder require that your dataset is available?

Time and place: Nov. 17, 2023 9:00 AM – 10:30 AM, Zoom

## Finding and reusing research data

There are lots of data out there to find and reuse. In this course we will introduce you to the concept of data discovery and show you the basics of how to work with secondary data.

## **9. Assign roles and responsibilities**

**What are each participant's project roles?**

**Who else outside the project will contribute?**

**Who manages data during the project?**

**Who manages data after the project?**

**Who ensures compliance with the DMP?**

**Who updates the DMP and how frequently?**

# **10. Prepare a realistic budget**

**“A data management plan is an effective means of identifying costs associated with data management and storage and can also help you to plan how to cover these costs.”**

**(Research Council of Norway)**

**“Costs for providing open access to (...) data are eligible and should be budgeted in the proposal.”**

**(EC Horizon Europe)**

Are there costs associated with purchase of **software** or hiring a **data manager**?

Will you need to purchase new **hardware** or equipment?

**Storage and maintenance** costs: How much will it cost during the project (and after!)

Is there a cost for **archiving**?

What other resources are required? (e.g. HPC, licenses, ELN, etc.)

# DMP Examples and Templates

# Horizon Europe template

## 1. Data Summary

## 2. FAIR data

- 2.1. Making data findable, including provisions for metadata
- 2.2. Making data accessible
- 2.3. Making data interoperable
- 2.4. Increase data re-use

## 3. Other research outputs

## 4. Allocation of resources

## 5. Data security

## 6. Ethics

## 7. Other issues



**Horizon Europe**

**Data Management Plan Template**

Version 1.0  
05 May 2021

# DCC template (DMPonline)

Data Collection

Documentation and Metadata

Ethics and Legal Compliance

Storage and Backup

Selection and Preservation

Data Sharing

Responsibilities and Resources

[Project Details](#)[Contributors](#)[Plan overview](#)[Write Plan](#)[Share](#)[Download](#)

## DCC Template

This plan is based on the "DCC Template" template provided by Digital Curation Centre.

The default DCC template

**Template version 0, published on 15 June 2020**

Instructions

The DCC default template

Data Collection

- What data will you collect or create?
- How will the data be collected or created?

Documentation and Metadata

- What documentation and metadata will accompany the data?

Ethics and Legal Compliance

- How will you manage any ethical issues?
- How will you manage copyright and Intellectual Property Rights (IPR) issues?

Storage and Backup

- How will the data be stored and backed up during the research?
- How will you manage access and security?

Selection and Preservation

- Which data are of long-term value and should be retained, shared, and/or preserved?
- What is the long-term preservation plan for the dataset?

Data Sharing

- How will you share the data?
- Are any restrictions on data sharing required?

Responsibilities and Resources

- Who will be responsible for data management?
- What resources will you require to deliver your plan?

# Let's see an example!

## [DCC template \(DMPonline\) example](#)

Find more examples in Public DMPs service from DMPonline:

[https://dmponline.dcc.ac.uk/public\\_plans](https://dmponline.dcc.ac.uk/public_plans)

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# Sikt (NSD) template



## Project information:

Research responsible institution

Project duration

Purpose

Utility

Funding

Ethical guidelines

Intellectual property rights

Related resources

Description

## Dataset information:

Data type

Data about people?

Categories of personal data

Security classification

Data collection period

Collection devices

Data quality

Method

Size

Format

Software

Metadata standard

Naming conventions

Storage

Transfer

Archiving

Degree of openness

License

Archive

Costs

Project information

Research responsibility

Funding

Ethical and legal issues

Related resources

Data packages

XX



Classification

Collection

File management

Metadata

Storage and transfer

Archiving

# Let's see an example!



<https://dmp.sikt.no/>

Project information

Research responsibility

Funding

Ethical and legal issues

Related resources

Data packages

XX



Classification

Collection

File management

Metadata

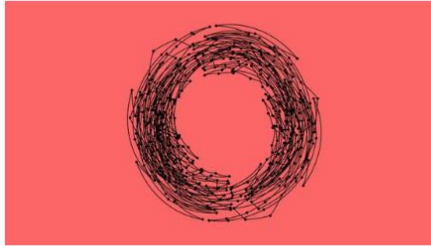
Storage and transfer

Archiving

# Examples

- Digital Curation Centre [Example DMPs and guidance](#)
- DMPOnline [Public DMPs](#)
- Publicly available [Horizon 2020 Data Management Plans](#)
- Liber [DMP Catalogue](#)

# Data Management Planning Workshops



Time and place: Nov. 20, 2023 12:00 PM – 1:30 PM, [Georg Sverdrups hus: DSC-Oasen](#)

## Workshop on Data Management Plans

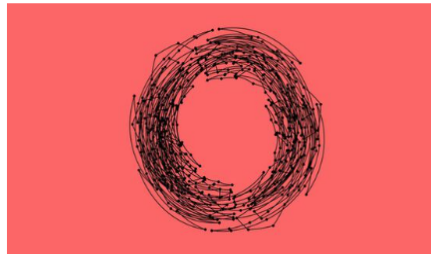
Join us for this practical and interactive workshop on writing data management plans (DMPs) and learn how to create a DMP for your research project!



Time and place: Nov. 23, 2023 9:00 AM – 10:30 AM, [Georg Sverdrups hus: DSC-Oasen](#)

## Workshop on Data Documentation

Join us for a hands-on workshop on **writing documentation for your data collection**, and learn how to **create a structured README-file** for your research project!



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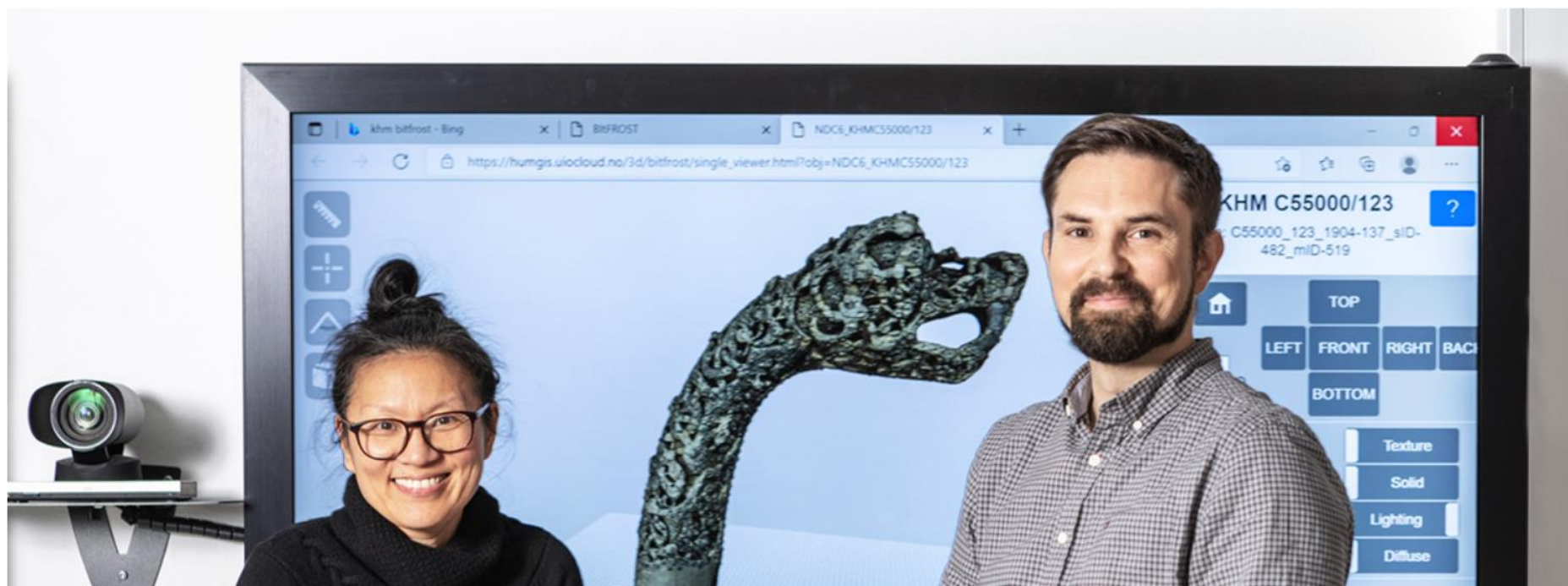
# Services and tools for RDM support:

- Research support and IT staff at your faculty/institute
- Subject librarian for your discipline
- [Research data management](#) website
- Digital Scholarship Center (DSC)  
[research-data@uio.no](mailto:research-data@uio.no)
- Norwegian Centre for Research Data (NSD, now Sikt)

# Digital Scholarship Centre

[Norwegian  
version of this  
page](#)

At the Digital Scholarship Centre (DSC) you get guidance on how you can make the best possible use of digital tools and methods in your research and communication activities.





Materials developed as a part of the *Skills development for research data* project:  
<https://www.ub.uio.no/english/about/projects/rdm-skills/>

# Thank you!

Contact us at:

[research-data@uio.no](mailto:research-data@uio.no)

# A simple argument for good RDM

