GLOBAL EXPECTATIONS AND LOCAL SUPPORT – HOW TO NAVIGATE AS A RESEARCHER

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OUTLINE OF TALK

- Open science is FAIR science
- Dataspaces and a European "apple store"
- EU and national requirements
- AU strategic goals and local support
- Key take-away messages
OPEN SCIENCE AND GDPR CAN CO-EXIST

**Licenses**

- **Attribution (BY)**: Others can copy, distribute, display, and perform remix your work if they credit your name as requested by you.
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**Terms**

- **Findable**
- **Persistent Identifiers (PIDs)**
- **Rich metadata**
- **Indexed data repositories**
- **PID in metadata**
- **Accessible**
- **Standard communications protocol**
- **Open, free protocol**
- **Authentication, where necessary**
- **Metadata is always available**
- **Interoperable**
- **Vocabularies**
- **Vocabularies are FAIR**
- **Linked metadata**
- **Reusable**
- **Metadata have multiple attributes**
- **Usage license**
- **Provenance**
- **Community standards**

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Figure 1. Data Use Ontology permissions and modifiers
DUO is a hierarchical vocabulary of data use terms most often used to denote secondary usage conditions for controlled access datasets. DUO does not aim to represent all possible data use terms, consent phrases, or complex logical permutations of permissions, limitations, or requirements. As of June 2021, DUO contains 25 terms representing two types of data use terms, permissions and modifiers. Permissions such as General Research Use (GRU), Health or Medical or Biomedical use (HMB), Disease Specific research (DS), and Population Origins and Ancestry Research (POA) standardize allowed usage of the datasets. Modifiers are used to further qualify main categories of controlled access.
EU’S IMPLEMENTATION - TO STIMULATE DIGITAL ECONOMY (B2G)

Common European data spaces

- Rich pool of data (varying degree of accessibility)
- Free flow of data across sectors and countries
- Full respect of GDPR
- Horizontal framework for data governance and data access

- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)
- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services
EU’S IMPLEMENTATION - TO STIMULATE OPEN SCIENCE RESEARCH

European Open Science Cloud

EU’S IMPLEMENTATION - TO STIMULATE OPEN SCIENCE RESEARCH

European Open Science Cloud

EOSC – IS BASED ON EXTERNAL PROVIDERS

DeiC Dataverse Sandbox

This Sandbox installation of DeiC Dataverse is intended solely for testing and training. Please be aware that any assigned DOIs won’t be active and won’t resolve. Furthermore, any content you upload may be removed or modified without prior notice. To create a new dataset, choose a Dataverse collection from the list below to associate it with. Use the left and right arrows to view additional Dataverse collections.

EOSC – IS BASED ON EXTERNAL PROVIDERS

In Horizon Europe, beneficiaries must manage the digital research data generated in the action (‘data’) responsibly, in line with the FAIR principles, and should at least do the following:

- Prepare a Data Management Plan (DMP) and keep it updated throughout the course of the project
- Deposit data in a trusted repository and provide open access to it (‘as open as possible, as closed as necessary’)
- Provide information (via the same repository) about any research output or any other tools and instruments needed to re-use or validate the data
A data management plan is a formal document that outlines how data will be handled during and after a research project.

- Types of data
- Contextual details (metadata)
- Storage, backup, and security
- Provisions for protection/privacy
- Policies for re-use
- Access and sharing
- Archiving and providing access
- Roles and plan oversight

NATIONAL STRATEGY FOR DATA MANAGEMENT

Find the National Strategy for Research Data Management FAIR Principles here.

The strategy targets research institutions and research funding foundations number of principles and associated areas of action that can strengthen the financing of good data management practices, resulting in more FAIR research (Findable, Accessible, Interoperable, Reusable) in Denmark.

The strategy is part of the implementation of the EU directive on open data implementation of this in the PSI Act. It must thus contribute to meeting the research and society for increasing accessibility of publicly funded research.

https://doi.org/10.48715/ea59-tp35

National strategy for data management based on the FAIR principles

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AU STRATEGIC GOALS FOR OPEN SCIENCE

All researchers at AU must:

1. Consider the FAIR principles for data as well as for other forms of research output, such as code and method
2. Integrate data management into the research process and thereby ensure the transparency and integrity of research results
3. Contribute to good practice and clear standards for handling both data and metadata throughout the entire research lifecycle, including a.o. data collection, curation, and storage both during and after project completion, including choice of licenses and use of persistent identifiers

Aarhus University supports these goals by ensuring that:

A. The necessary technical infrastructure is available
B. The necessary expertise is available and courses and further training is offered at relevant levels (including phd)
C. The work related to sharing data and other relevant output is recognised as research relevant activity
D. Criteria are defined for the value of data in relation to reusability and long-term storage, and a strategy is developed for long-term storage of data that is not in their entirety handed over to the Danish National Archives
PROPER DATA MANAGEMENT REQUIRES THE AVAILABILITY OF MANY COMPETENCES

- Data Managers and Stewards
  - Data Management Plan
  - Use and Re-use of Data
  - Where and how to publish
- Legal
  - GDPR
  - Contracts
  - IP etc.
- Local IT support
  - How and where to analyse
  - Direct support
- Information security

Law and Human Rights
- Economy
  - career
  - actual cost
- Technology
- Security
  - use
  - sharing
  - collaboration
DATA MANAGEMENT WEBSITE
OS/DATA SUPPORT AT AARHUS UNIVERSITY

"Research Data and Administration"
AU Forskning
askOS@au.dk
datamanagement@au.dk

Health Support
askOS.health@au.dk

BSS Support
bss.it@au.dk

NAT Support
dm.support@nat.au.dk

Tech Support
askOS.tech@au.dk

ARTS Support
datamanagement.arts@au.dk

Research Community
KEY TAKE-AWAY MESSAGES

- Open Science agenda is here – from global to local – so make it your friend
- Early sharing may lead to new opportunities
- Adhering to the Open Science agenda does not mean that all results have to be open
- Data management is key to proper handling of research output
- A support organisation to assist you is being build
QUESTIONS