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 PRINCIPLES MEET REALITY

Law and Human Rights
GDPR, Ethics, geopolitics

Security
How to store, use share & collaborate

Economy
- career
- actual cost

Technology

Equity

Integrity

Open Science

Collaboration

Impact

Creating more ways to improve inclusion and access to research and higher education
Research and education are transparent for validation, and all contributions are recognised
Exchanging knowledge and perspectives sooner and in every step, from ideation to implementation
Open work is more visible and can be reused and adapted to build new research and educational materials

https://www.tudelft.nl/open-science

AARHUS UNIVERSITET
OPEN SCIENCE THEMEDAY
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OPEN SCIENCE AND GDPR CAN CO-EXIST

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

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

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**Horizon Europe and Open Science**

- **2008**: FP7 Pilot on open access to publications
- **2014**: H2020 Open access to publications mandatory & Pilot on open research data/DMP
- **2017**: H2020 Open access to publications mandatory & Open research data/DMP by default (exceptions)

**Under Horizon Europe (2021)**
- Open Science embedded across Horizon Europe
- *Evaluation* of proposals (excellence - methodology - quality & efficiency of implementation)
- *Grant Agreement, Work Programmes, guidelines*
- *Reporting*—during the project’s lifetime
- Strengthening of the open access obligations and focus on responsible research data management in line with the FAIR principles
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. It sets a number of principles and associated areas of action that can strengthen the implementation of good data management practices, resulting in more FAIR (Findable, Accessible, Interoperable, Reusable) in Denmark.

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

DeiC (2021): National strategy for data management based on the FAIR principles

https://doi.org/10.48715/ea69-tp35

National strategy for data management based on the FAIR principles

31. August 2021

DeiC

DOI: 10.48715/ea69-tp35

Cultural Change

Data steward-ship

Infra-structure
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
Security
- use
- sharing
- collaboration
Economy
- career
- actual cost
Technology
Open Science
DATA MANAGEMENT WEBSITE

Research Data Management

Understandably, research data management may be perceived as a troublesome task, but it offers many advantages. For example, good data management can:

- help your peers and yourself to understand your research project and its data
- make it easier to collaborate and share data
- make your research more visible, which in turn can lead to more citations
- make your research more transparent, reliable and reproducible
- avoid data loss.

Remember that you must always comply with AU’s ”Regulations for storing and managing research data”.

Management at AU has also adopted 3 strategic goals in relation to researchers:

1. relate to the FAIR data principles as well as to other outputs of research such as codes and methods.
2. Integrate data management into their research processes and thereby ensure transparency and integrity in the results of the research.
3. Contribute to good practice and clear standards for handling data as well as metadata throughout the research process.
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