Open Science in Austrian research funding policies and the supporting role of the TU Wien

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Status quo in Austria

- First Member State to adopt a national Open Innovation Strategy
- Citizen Science Network Austria founded in 2017
- Open Access to publications: 16 institutions have a registered Open Access Policy and 25 institutions have signed the Berlin Declaration on Open Access
- Support for Plan S
- Open Data: at present (2018) no mandatory national and regional policies and guidelines
Activities at research institutions

- 3 Austrian universities have published an **RDM policy**, 9 are in the process of development
- The **funding pool** (Hochschulraumstrukturmittel HRSM) of the Austrian Federal **Ministry** of Education, Science and Research is being used as seed funding for cooperation projects across Austrian Universities, e.g.
  - Austrian Transition to Open Access
  - Open Education Austria
  - e-Infrastructures Austria Plus (GOFAIR, RDM Policies, DMPs)
- OpenAIRE NOAD
- RDA Austria
1. PREAMBLE

The TU Wien recognizes the fundamental importance of research data, and the management of research data and records as sustaining quality research and scientific integrity, and is committed to one-of-a-kind handling and management of research data. RDM policies are highly valuable to current and future researchers.

The TU Wien acknowledges that current and newly-relevant research data are the foundations of and support to research. They are necessary to verify and validate the processes and results of research. Research data have long-term value for research and academia, with the potential for widespread use in society.

2. SCOPE

This policy is for the management of research data solely within theTU Wien. The policy was approved by the Executive on 06.07.2018. In case when research is funded by a third party, any agreements made with that party concerning intellectual property rights (IPR), access rights, exploitation rights and the release of research data abide.

5. HANDLING RESEARCH DATA

5.1. Research data should be organized and maintained in appropriate systems and made available to users in a suitable manner (see 5.3). Research data must be protected with persistent identifiers within the system.

5.2. It is important to preserve the integrity of research data and to comply with the FAIR principles. Research data must be made accessible, machine-actionable, persistent, and reusable. They must be validated, identifiable, accessible, transmissible, interoperable and reliable for use.

5.3. In compliance with applicable property rights and taking into account third party rights, access requirements, storage requirements, or property laws, persistent identifiers should be assigned to open access data.

5.4. Access and management of data requires policies and processes to be established. Data access should be explicitly defined in order to determine the regulation of data management.

5.5. Research data and metadata should be stored and made accessible in accordance with intellectual property laws and the requirements of third party funders as well as to meet legal requirements (e.g. EU regulations). Research data that are not of fifth-harmonic interest nor the records incorporating them should be digitized.

5.6. The maximum retention period for research data and records is 15 years after the assignment of a permanent identifier or the publication of the related work following research completion, whichever is later.

5.7. In the event that research data and records are to be deleted or destroyed, either after expiration of the required retention period or the legal retention period, such access is to be controlled and subject to consideration of all legal and ethical perspectives. The following access must be taken into consideration when data are made available for the examination or destruction of research data: access and confidentiality of third parties, funders and other stakeholders, employees or partners, and public and private interests, as well as the protection of research and research data.

6. RESPONSIBILITIES, RIGHTS AND DUTIES

6.1. Researchers are responsible for:

(a) Managing research data in accordance with the principles and requirements expressed in this policy. This includes preserving responsibilities for joint research;
(b) Collecting, documenting, codifying, providing access to, or ensuring the proper destruction of research data and records;
(c) Completing and updating data management plans (DMPs) that explicitly define the approach to matters of research data collection, collaboration, data management, data access and preservation;
(d) Ensuring compliance with:
   (i) all organizational, regulatory, and other contractual and legal requirements with regard to both research data and records;

6.2. The TU Wien is responsible for:

(a) Providing the means and resources for research support, ensuring access to services, software, and infrastructure, and providing employee education and training according to financial possibilities.
(b) Supporting work that scientific progress from the beginning through e.g. DMPs, providing training, workshops and support for applicants in compliance with regulations, third party agreements, research plans, academic advice, standards, conduct and other guidelines, ensuring the integration of practices of research data management in education to improve the research data management expertise of early stage researchers.
(c) Designing and implementing mechanisms and services for the export, upload, replication, and disposition of research data to support national and international access to data during and after the completion of research activities.
(d) According to the financial possibilities providing infrastructure, or access to services, software, and other means for the export, handling, and archiving of research data and records, and help researchers to exercise their responsibilities (in addition) said to comply with obligations to third-party funders or other legal entities.
(e) Communicating their commitment to the principles of research ethics and scientific integrity and ensuring their implementation in the TU Wien, giving emphasis to the importance of research data management.
(f) Ensuring compliance of this policy with data protection regulations.

7. VALIDITY

This policy was approved and updated as required by the Executive of the TU Wien every three years. In case of legal or regulatory changes, the review of this policy can take place at an earlier point in time.

Policy for Research Data Management (RDM) at the TU Wien

Open science related infrastructure

- Combination of public sector information (PSI) repositories (different levels of access) and academic repositories
- Swift development of data repositories in research performing institutions
  - According to OpenDOAR, there are currently 30 open access repositories for publications registered in Austria; 32 repositories for research data by re3data (status January 2018), nearly half of them cross-disciplinary, the other half discipline-specific
The FWF expects grant recipients to provide open access to the research data and similar materials (e.g. source code, software) that they have collected and/or analysed using FWF funds. This is required for data underlying publications and should be done as soon as possible but at the latest together with the related scientific publication. Data should be openly accessible whenever legally, ethically and technically possible.
Criteria for Open Research Data

All research data should be findable, accessible, interoperable and reusable (fulfil the FAIR Principles), and the following criteria need to apply:

✓ The data repository must be certified. While certification in CoreTrustSeal is explicitly recommended, registration in re3data is required.

✓ Data should be deposited in such a way that they can be reused without restrictions (e.g. CC0, CC BY, etc.).

✓ Deposited datasets have to be citable by means of a persistent identifier (e.g. DOI).
FWF approach to research data

**Funding:** Necessary funds covered by FWF projects to ensure the preparation, archiving, open access and later use of research data in repositories

- **Stand-Alone Publications Programme:** Lump-sum funding for innovative digital publication formats (e.g. wikis, apps, videos, databases)

- **Open Data Pilot programme:** 12 funded projects in 2017

- **Acknowledgement:** The production and analysis of research data will receive greater recognition in the evaluation of research proposals

- **Data Management Plan:** From 2019 onwards, all funded projects will draw up a data management plan (FWF provides template)

- **Support of a European-wide "Synthesis Network“ programme:** International networks that bring together existing research data on a specific scholarly problem.
FFG - The Austrian Research Promotion Agency

- Currently no open science strategy for FFG projects
- National Contact Point (NCP) for the European research and innovation programmes

https://www.ffg.at/en/content/about-us-ffg-national-contact-point
ÖAW - The Austrian Academy of Sciences

- Digital humanities programme **GO!DIGITAL** since 2014
- Promotion of data-based and data-driven research in the social sciences and humanities
- Partnerships between representatives of cultural heritage institutions and representatives of research facilities
- DPMs required for applications
WWTF - The Vienna Science and Technology Fund

- Organisation to promote science and strengthen top research in Vienna
- Involved in public sector research: https://www.registerforschung.at/mission
- Short DMPs required for life science/clinical calls
- DMPs regarded as important but
  - Not enough resources available at WWTF and at reviewers‘ side
  - Considered as responsibility of research institutions (internal policies and infrastructures)
Challenges

- Funding mechanisms
- Involvement of reviewers/data management experts
- Monitoring
- Harmonisation of requirements, DMP templates, etc.
- Cooperation with partners from the industry
- **Science Europe** (European funders‘ association):
  - *Important to bring existing eInfrastructures together and efficiently coordinate them*
  - *Inclusion and acceptance of scientific communities*
RDM support at the TU Wien

• Since July 2018, establishment of an institutional Center for Research Data Management (RDM)
  • Team composed of members from Center for RDM, library, research support, ICT, and further related stakeholders at the university
    − to ensure a synchronised development of RDM services
  • Close cooperation with TU Wien researchers
    − to develop services tailored to the scientific communities’ needs
Mission

«The Center for Research Data Management works with other departments at the university to develop tailored services supporting researchers in data management. It is a central contact point for questions regarding the handling of research data along their life cycle. A multidisciplinary team provides information on suitable infrastructures, services and on organisational, legal and ethical framework conditions.»
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Data Management Plans

How to discover these tools?
Which one do I need to use?
Why do I have to provide the same information again?

Why haven’t they consulted us before?
Who is going to pay for this?
We don’t have enough people for that!
Research data lifecycle

Stakeholders involved in research data management

- require information at certain stages
- can provide information if requested at a proper stage

Many problems can be avoided when

- timing is right
- information flow is ensured
Automated Data Management Workflow

1. RESEARCHER
2. START DMP
3. SPECIFY SIZE AND TYPE
4. GET COST
5. GET STORAGE
6. GET LICENSE
7. REVIEW
8. SUBMIT

RDM INFRASTRUCTURE

MANAGEMENT
INFRASTRUCTURE OPERATOR
RESEARCH SUPPORT
FUNDER
Expected results and benefits

Automate data management at the TU Wien

- researchers
  - help comply with funder requirements
  - get access to services for managing data
  - get help and advice on data management
    - e.g. costs or repository selection
- library and research support
  - better serve researchers by being better embedded in the process
  - services to act on their behalf in standard cases (parts of DMP prefilled)
- IT
  - services easier to discover by researchers
  - better estimation of demand for services, storage, etc.
- rectorate
  - better overview on research outputs created by researchers
Contact

Questions regarding research data management:
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