

TOOLS IN RESEARCH DATA MANAGEMENT (RDM)

DATA MANAGEMENT

[DS-Wizard](#) Create Smart Data Management Plans for FAIR Open Science

[OpenRefine](#) Data curation tool for working with messy data

[Renamer4Mac](#) File renaming software for Mac

CODE SHARING

[GitHub](#) Versioning system, used for sharing code, as well as for sharing of small data

[Integration](#) of GitHub with Zenodo to get DOIs for code and make it citable

[Jupyter](#) Jupyter notebooks allow to share code, documentation

DATA SEARCH

[FAIDARE](#) Research data across distinct databases

[OpenAire Explore](#) Meta search-engine for discovery of data from trusted repositories, maintained by the EU.

[Google Datasetsearch](#) Search-engine for datasets mainly from Open Government repositories

METADATA STANDARDS

[Data Curation Centre Metadata list](#) Metadata standards
<https://www.dcc.ac.uk/guidance/standards/metadata/tools>

<https://metadatacenter.org/> [Tool for generating exportable sets of metadata](#)

[International Compilation of Human Research Standards](#) The International Compilation of Human Research Standards enumerates over 1,000 laws, regulations, and guidelines (collectively referred to as standards) that govern human subject protections in 133 countries, as well as standards from a number of international and regional organizations

[International Society for the Advancement of Cytometry \(ISAC\)](#) Data standards and formats for reporting flow cytometry data

[ISA-tools](#) Open source framework and tools helping to manage a diverse set of life science, environmental and biomedical experiments using the Investigation Study Assay (ISA) standard

[IUPAC-IUBMB Joint Commission on Biochemical Nomenclature \(JCBN\)](#) A collaborative resource from IUPAC and IUBMB for naming standards in biochemistry

[MCPD](#) The Multi-Crop Passport Descriptor is the metadata standard for plant genetic resources maintained ex situ by genbanks.

[RDA Standards](#) Directory of standard metadata, divided into different research areas

[Research Object Crate \(RO-Crate\)](#) RO-Crate is a lightweight approach to packaging research data with their metadata, using schema.org. An RO-Crate is a structured archive of all the items that contributed to the research outcome, including their identifiers, provenance, relations and annotations.

[FAIR sharing](#) A curated, informative and educational resource on data and metadata standards, inter-related to databases and data policies.

[Loterre](#) a linked open terminology resources platform developed by the Inist-CNRS, for multidisciplinary terminological scientific resources sharing, complying with the linked open data standards and the FAIR principles.

VOCABULARY

[Linked Open Vocabularies \(LOV\)](#)

DATA SECURITY

[VeraCrypt](#) ist eine Software zur Datenverschlüsselung, insbesondere zur vollständigen oder partiellen Verschlüsselung von Festplatten und Wechseldatenträgern.

[GA4GH data security toolkit](#) Principled and practical framework for the responsible sharing of genomic and health-related data.

[ISO/IEC 27001](#) International information security standard

DATA MANAGEMENT PLANS

[DMPTool](#) Build your Data Management Plan

[DMPOnline](#) A free tool to write, share and export a data management plan. Built-in data management plan templates for many major funders.

[DMP Canvas Generator](#) Questionnaire, which generates a pre-filled a DM

[DMPTuuli Finland](#) Data management planning tool

[DMPOnline Belgium](#) A free tool to write, share and export a data management plan. Instance aimed at Belgian researchers with built-in data management plan templates for the major funders.

[DMPlanner](#) Semi-automatically generated, searchable catalogue of resources that are relevant to data management plans.

[DMP OPIDoR](#) Online questionnaire for the development of data management plans - repository of DMPs

[EasyDMP](#) DMP creation, versioning and sharing

[maDMP - Research Bridge](#) Machine-Actionable Data Management Plan | Webinar (2016) on making a good data management plan

[Research Management Plan](#) Machine actionable DMPs

LEGAL ISSUES

[DMLawTool](#)

ETHICS

[Consent Form Wizard](#)

[Informed Consent Ontology](#)

[MONARC](#) A risk assessment tool that can be used to do Data Protection Impact Assessments

[Tryggve ELSI Checklist](#) A list of Ethical, Legal, and Societal Implications (ELSI) to consider for research projects on human subjects

Ethics – [RRI Tool](#)

ANONYMISATION

[Amnesia](#) tool für sensiblen Daten. Amnesia is a GDPR compliant high accuracy data anonymization tool

[Arx anonymization tool](#)

Anonymisierungstool [QualiAnon](#)

PSEUDONYMISATION TOOL

[Pseudonymisation tool](#) – recommended by the European Commission

PATIENT IDENTITY MANAGEMENT

[Privacy Impact Assessment Tool](#) Privacy Impact Assessment Tool is a software, that allows you to carry out Privacy Impact Assessment (PIA) independently (prevent duplicate registration of patients, provide distinct pseudonyms for patients in different contexts, keep a protected link between the different pseudonyms, preserve the possibility for re-identification by a trusted third party).

LICENSING

Digital Curation Center: [How to License Research Data?](#)

Common [license types](#)

[EUDAT license selector wizard](#) EUDAT's wizard for finding the right licence for your data or code.

SOFTWARE

[DATAVERSE](#) Open source research data repository software

[Docker](#) Docker is a software for the execution of applications in virtualized environments called containers. It is linked to DockerHub, a library for sharing container images

[GitLab](#) GitLab is an open source end-to-end software development platform with built-in version control, issue tracking, code review, CI/CD, and more. Self-host GitLab on your own servers, in a container, or on a cloud provider

[R Markdown](#) R Markdown documents are fully reproducible. Use a productive notebook interface to weave together narrative text and code to produce elegantly formatted output. Use multiple languages including R, Python, and SQL.

Note-taking software

[Microsoft OneNote](#) → [Guide to using OneNote as a Research Notebook](#)

[Evernote](#)

[Notion](#)

[Standard note](#) → open source

[Boostnote](#) → open source

[Turtl](#) → open source, cross-platform, client-side encryption

[Joplin](#) → open source, supports end-to-end encryption, cross-platform

[Zim](#) → desktop wiki application, open source, Linux, Windows

[TiddlyWiki](#) → wiki application, open source

[ELN comparison grid](#) using the ELN Matrix, researchers can compare and contrast the numerous tools available today, and also explore individual options in-depth.

INTELLECTUAL PROPERTY RIGHTS

[Federal Act on Copyright and Related Rights](#)

[Patents Act, PatA](#)

[Trade Marks and Indications of Source](#)

Act on the UniBE [UNIG](#) Art. 70 und [PG](#) Art. 60

[European IP Helpdesk](#), SME

Copyright (protection of works in literature, arts and computer programmers) [Federal Act on Copyright and Related Rights](#)

Commercial protection rights (patents, brands, designs) Federal Act [Patents Act, PatA](#)

Patent [Ordinance](#)

Federal Act on the Protection of [Trade Marks and Indications of Source](#)