

University of Victoria Research Data Management Strategy

Current version: February 2023

The UVic Research Data Management Strategy is mandated under the [Tri-Agency Research Data Management Policy](#) and must be finalized and publicly available by March 1, 2023.

Principles

UVic recognizes data as an important research output and is committed to fostering excellence in research data management (RDM).

UVic is committed to the highest standards of RDM through the research data lifecycle and to providing our researchers with an environment that enables and supports world-class RDM practices. These include:

- Creating a data management plan to describe how research data will be managed and documented throughout a research project
- Ensuring that the data management plan is executed or modified over the course of a research project
- Storing data in secure, reliable networks with strong back-up and redundancy
- Describing and documenting data in ways that can be understood beyond a given research team
- Understanding legal and ethical obligations related to private data, cultural data, and intellectual property
- Developing clear and comprehensive agreements regarding the ownership and sharing of data
- Publicly sharing research data for reuse, where possible

Scope

The University of Victoria (UVic) RDM Strategy acknowledges UVic's responsibility to support our researchers so that they can successfully implement good research data management practices. The strategy describes institutional supports to ensure that UVic Researchers have information and resources to develop and execute data management plans as required to meet the conditions of Tri-Agency or other research agreements, compliance requirements, cultural considerations, or retention requirements.

The UVic RDM Strategy provides a roadmap to create an environment that enables and supports research data management practices consistent with ethical, legal and commercial obligations, and as described in UVic and Tri-Agency policies and requirements, including the [Tri-Agency Research Data Management Policy](#), [Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans](#), the [Tri-Agency Framework: Responsible Conduct of Research](#) and other relevant policies.

Responsibilities of Researchers and Institutional Supports

This section of the strategy: elaborates on the specific requirements and best practices that are contained in the Tri-Agency RDM Policy; indicates which UVic units are responsible for providing support in each of these areas; and offers links to more information about available services.

Data Management Plans

Tri-Agency Requirement: For certain funding opportunities, the agencies will require data management plans (DMPs) to be submitted to the appropriate agency at the time of application, as outlined in the call for proposals; in these cases, the DMPs will be considered in the adjudication process. In June 2022, the Tri-Agencies identified the [initial set of funding opportunities that are subject to DMP requirements](#).

Researchers should create DMPs as an essential step in research project design and should ensure DMPs are kept up-to-date throughout the project. Researchers are encouraged to use standardized tools to develop their DMPs, including the national [DMP Assistant](#) tool that has been endorsed by the Tri-Agency.

For research conducted by and with First Nations, Métis and Inuit communities, collectives and organizations, DMPs must be co-developed with these communities, collectives and organizations, in accordance with RDM principles or DMP formats that they accept, and respecting principles underlying Indigenous data sovereignty (e.g. [OCAP Principles](#), [CARE Principles](#)). DMPs in the context of research by and with First Nations, Métis and Inuit communities, collectives and organizations should recognize Indigenous data sovereignty and include options for renegotiation of the DMP.

Institutional Support: UVic Libraries will provide DMP training and support for UVic researchers and research teams, including instruction on using the national [DMP Assistant](#) tool. UVic Libraries will offer DMP workshops for graduate students, and will create custom workshops on request. For more information see the UVic Libraries' [RDM Guide](#).

Data Storage

Tri-Agency Requirement: Researchers must store working data in secure, reliable networks that conform to ethical and legal requirements.

Institutional support: University Systems - Research Computing Services will offer support in finding appropriate data storage solutions on national or local infrastructure and will provide the cost estimates associated with the specific service. For more information see the University Systems [Service Catalogue](#).

Data Curation

Tri-Agency Requirement: Researchers should describe, organize, and document data in ways that can be understood beyond a given research team. Data Curation is the documentation, description, and management of research data that adds value by optimizing datasets for current use and future discovery and reuse.

Institutional support: UVic Libraries will provide curation training for research teams, including guidance on file naming, file organization, file versioning, and discipline-specific metadata schemas. When depositing research data into Dataverse, the Data Curation Librarian will curate and review the dataset according to the [Dataverse Deposit Guidelines](#). For more information, see the UVic Libraries' [RDM Guide](#).

Data Deposit

Tri-Agency Requirement: CIHR-funded researchers must continue to comply with limited data deposit requirements included in the Tri-Agency Open Access Policy on Publications (requirement in place since January 1, 2008). Requirements for SSHRC and NSERC-funded researchers will be phased in after the agencies review institutional strategies.

Researchers are required to deposit into a digital repository all digital research data, metadata and code that directly supports the research conclusions in journal publications and pre-prints that arise from agency-supported research. Whenever possible, these data, metadata and code should be linked to the publication with a persistent digital identifier.

Researchers are not necessarily required to share their data. Depositing data is not equivalent to sharing research data; when researchers deposit data they can choose to keep the data private or set sharing permissions. The Tri-Agency expectation is that researchers will provide appropriate access to the data where ethical, cultural, legal and commercial requirements allow, and in accordance with the FAIR principles and the standards of their disciplines.

For research conducted by and with First Nations, Metis and Inuit communities, collectives and organizations, these communities, collectives, and organizations will guide and ultimately determine how the data are collected, used and preserved, and have the right to repatriate the data.

Institutional support: Digital repositories are information systems that ingest, store, manage, preserve, and provide access to digital research data. UVic Libraries will provide, or support, access to a range of recognized repository services or other platforms that securely store and provide continued access to research data. [UVic Dataverse](#) is our institutional data repository, and is available for use by all UVic researchers. For more information, see the UVic Libraries' [RDM Guide](#).

Data Licensing and Data Sharing Agreements

Tri-Agency Requirement: Researchers should have clearly documented agreements stipulating the rights and responsibilities related to data that are used and produced in a research project.

Institutional Support: The [UVic Research Partnerships](#) coordinates the development, review, negotiation, and finalization of research contracts and agreements for a wide range of funded and non-funded research. The UVic Research Partnerships team can support the development of data licensing and sharing agreements for researchers who are working in collaboration with industry, government, business, and not-for-profit organizations.

Sensitive Data

Tri-Agency Requirement: The collection, analysis, use and reuse of sensitive research data takes place in a complex ethical, legal, policy and societal context involving privacy, national security and intellectual property rights.

Researchers must store sensitive data in a secure location that is accessible only to authorized personnel. There must be a plan for the retention and/or disposition of sensitive data. Researchers are responsible for ensuring that sensitive data is disposed of according to the disposition plan.

Institutional support: The [Human Research Ethics Board](#), and the UVic [Privacy Office](#) will provide support and guidance for UVic researchers who are collecting or using personally identifiable information (PII).

The [UVic Research Partnerships](#) team supports the protection of intellectual property and the development of data licensing and sharing agreements for researchers who are working in collaboration with industry, government, business, and not-for-profit organizations.

Indigenous Data

Tri-Agency Requirement: We recognize that data created in the context of research by and with First Nations, Metis, and Inuit communities, collectives and organizations will be managed in partnership with them, according to the principles developed and approved by those communities, collectives and organizations and that a distinctions-based approach is needed to ensure the unique rights, interests and circumstances of the First Nations, Metis and Inuit are acknowledged, affirmed and implemented.

For research conducted by and with First Nations, Métis and Inuit communities, collectives and organizations, DMPs must be co-developed with these communities, collectives and organizations, in accordance with RDM principles or DMP formats that they accept, and respecting principles underlying Indigenous data sovereignty (e.g. [OCAP Principles](#), [CARE Principles](#)). DMPs in the context of research by and with First Nations, Métis and Inuit communities, collectives and organizations should recognize Indigenous data sovereignty and include options for renegotiation of the DMP.

For research conducted by and with First Nations, Métis and Inuit communities, collectives and organizations, these communities, collectives or organizations will guide and ultimately determine how the data are collected, used and preserved, and will have the right to repatriate the data. This could result in exceptions to the data deposit requirement.

Institutional support: More consultation is required to understand how UVic processes and infrastructure could be improved to support the storage and curation of data that is co-created with First Nations, Metis, and Inuit communities to forward the goal of Indigenous data sovereignty.

Compliance

Tri-Agency requirement: By accepting Agency funds, institutions and researchers accept the terms and conditions as set out in the agencies' policies, agreements and guidelines.

In the event of an alleged breach of Agency policy, agreement, or guideline, UVic and the Agency may take steps in accordance with the Scholarly Integrity Policy A or B and the Tri-Agency Framework: Responsible Conduct of Research – please see Relevant Policies section.

Institutional support: The [UVic Office of Research Services](#) will provide guidance and support related to compliance. University Systems will support compliance with policies related to research cybersecurity

Glossary

Data management plan (DMP): A formal statement describing how research data will be managed and documented throughout a research project and the terms regarding the subsequent deposit of the data with a data repository for long-term management and preservation. (from CASRAI)

Data repository: Repositories preserve, manage, and provide access to many types of digital materials in a variety of formats. Materials in online repositories are curated to enable search, discovery, and reuse. There must be sufficient control for the digital material to be authentic, reliable, accessible and usable on a continuing basis. (from CASRAI)

FAIR: Findable, Accessible, Interoperable and Reusable (from [FAIR](#))

Research data: Data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or artistic activity, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results. All other digital and non-digital content have the potential of becoming research data. Research data may be experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data. (from [RDC Glossary](#))

Research data management (RDM): Data Management refers to the storage, access and preservation of data produced from a given investigation. Data management practices cover the entire lifecycle of the data, from planning the investigation to conducting it, and from backing up data as it is created and used to long-term preservation of data deliverables after the research investigation has concluded. Specific activities and issues that fall within the category of Data Management include: file naming (the proper way to name computer files); data quality control and quality assurance; data access; data documentation (including levels of uncertainty); metadata creation and controlled vocabularies; data storage; data archiving & preservation; data sharing and re-use; data integrity; data security; data privacy; data rights; notebook protocols (lab or field). (from [RDC Glossary](#))

Researcher: In the context of the Tri-Agency Data Management Policy “researcher” can be read to mean grant recipient. In the UVic context, however, this high-level strategy aims to address the needs of both funded and non-funded researchers at all levels of the organization. While some of the specific requirements will apply only to Tri-Agency funded researchers, the institutional supports are available to all.

Tri-Agency: The three Canadian funding agencies CIHR, NSERC, SSHRC

Relevant Policies: External

Tri-Agency Research Data Management Policy

https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

Tri-Agency Statement of Principles on Digital Data Management:

https://www.science.gc.ca/eic/site/063.nsf/eng/h_83F7624E.html

Tri-Agency Framework: Responsible Conduct of Research

<https://rcr.ethics.gc.ca/eng/framework-cadre.html>

Tri-Agency Policy Statement: Ethical Conduct for Research involving Humans

https://ethics.gc.ca/eng/policy-politique_tcps2-eptc2_2018.html

Tri-Agency Open Access Policy on Publications

<https://cihr-irsc.gc.ca/e/32005.html>

CIHR Health Research and Health-Related Data Framework

<https://cihr-irsc.gc.ca/e/50182.html>

SSHRC Research Data Archiving Policy

https://www.sshrc-crsh.gc.ca/about-au_sujet/policies-politiques/statements-enonces/edata-donnees_electroniques-eng.aspx

Relevant Policies: UVic

Scholarly Integrity A

https://www.uvic.ca/universitysecretary/assets/docs/policies/AC1105_1160_A.pdf

Scholarly Integrity B

https://www.uvic.ca/universitysecretary/assets/docs/policies/AC1105_1160_B.pdf

Research involving Humans

https://www.uvic.ca/universitysecretary/assets/docs/policies/RH8105_1250_.pdf

Information Security

<https://www.uvic.ca/universitysecretary/assets/docs/policies/IM7800.pdf>

Consultation Process

Survey to Assess UVic Data Management Practices (Nov 2019) [Report available](#)
Consultation with Research Computing Advisory Committee (Dec 2021)
Consultation with Research Advisory Committee (Jan 2022)
Consultation with Research Computing Advisory Committee (Mar 2022)
Town Hall for RDM Strategy consultation (May 2022)
Consultation with Faculty Grants Officers (Dec 2022)

UVic Research Computing Advisory Committee: RDM Strategy Sub-Committee Membership

Lisa Goddard, Associate University Librarian for Advanced Research Services
Rachael Scarth, Associate Vice-President Research Operations (2018 – 2022)
Fraser Hof, Associate Vice-President Research
Wency Lum, Associate Vice-President University Systems & Chief Information Officer
Eugenie Lam, Manager Human Research Ethics
Ryan Enge, Associate Director Research Computing
Shahira Khair, Data Curation Librarian
Michelle Manning, Chief Privacy Officer
Nicole Kitson, Manager Research Grants
Ryan McDonald, Security Analyst, Research Computing Services
Lisey Mascarenhas, Executive Director Research

Appendix 1: Recommendations for Building RDM Capacity at UVic

1. Researchers need resources and guidance related to protocols, agreements, and infrastructure that are appropriate for managing research data that are co-created with Indigenous communities, which respect the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the rights of First Nations, Métis and Inuit to data sovereignty, as articulated in statements such as OCAP® and CARE. **We recommend that the VPRI and the VP Indigenous work together to lead the implementation of structures and processes to improve support and clarity for researchers working with Indigenous data, and to forward the goals of Indigenous Data Sovereignty.**
2. **The UVic DMP Template in the DMP Assistant should be updated regularly to contain current and specific guidance about UVic institutional resources to assist faculty in answering questions about the ways in which they will create, store, and manage their data.** We recommend that the Libraries work with other campus service providers to create and maintain clear and accurate guidance within the DMP Assistant, and to develop resources (e.g. templates and examples) for training and awareness relevant to the needs of communities and disciplines represented on campus. Where applicable, these DMP resources should be aligned to other research applications (e.g. REB application, grants forms, etc.) to reduce administrative burden on researchers.
3. **We recommend that Research Computing ensure that clear guidance is available to help faculty easily understand the data storage options available to them through UVic and our provincial and national partners.** Research Computing should seek to expand access to storage services appropriate to the stages of the research data lifecycle. Infrastructure needed for supporting the storage and responsible use of sensitive data should be expanded.
4. Many researchers will face a steep learning curve as they learn how to securely manage, store, describe, and share research data sets. **We recommend that research officers and the libraries work closely to explore how to improve communication and awareness of RDM services in order to connect researchers with service providers and experts across campus.** This may include the development of a shared communication plan or single resource portal to connect researchers to multiple campus services. Opportunities for shared training should also be explored.
5. **We recommend that the UVic Research Data Management Strategy be reviewed and revised annually by the Research Computing Advisory Committee.**
6. All service providers named in the UVic RDM Strategy are responsible for ensuring that there is sufficient capacity to respond to researcher requests within a reasonable time period, and that staff in service units are aware of their responsibilities in this area.