St. Thomas UNIVERSITY

Research Data Management Institutional Strategy
2023 – 2026

DRAFT – SEPTEMBER 2023

Background

In 2021, SSHRC, NSERC, and the CIHR introduced the [Tri-Agency Research Data Management Policy](#) to promote the importance of research data management (RDM) to the Canadian research enterprise in the form of sound data stewardship practices. The policy has three principal requirements:

- The development of an institutional RDM strategy by each institution eligible to administer Tri-Agency funds by March 1st 2023 (STU received an extension until September 1st 2023); to post that institutional strategy on the institution's website; and to notify the agencies when it has been completed.
- The inclusion of data management plans (DMPs) with grant proposals submitted to the agencies; the agencies identified an initial set of funding opportunities in the spring of 2022 and will subsequently assess their effectiveness before requiring them for other funding opportunities.
- The deposit by grant recipients into a digital repository of all research data, metadata, and code that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research. This requirement will be phased in subject to the readiness of the Canadian research community.

Importance of Research Data and Research Data Management

St. Thomas University has a strong commitment to the creation of new knowledge, and to the dissemination of that knowledge within and beyond the academic community. Research data, and best practices in relation to research data management, are essential components of our institutional commitment to independent, critical, and informed inquiry. We recognize that the research data life cycle, from ideation, through data collection and analysis, to publication and knowledge mobilization, requires careful consideration of data stewardship. STU also recognizes the importance of the [FAIR Guiding Principles for Scientific Data Management and Stewardship](#) (Findability, Accessibility, Interoperability, and Reuse), as well as principles of Indigenous data governance including the [CARE Principles for Indigenous Data Governance](#) (Collective Benefit, Authority to Control, Responsibility, and Ethics) and the [First Nations Principles of OCAP](#) (Ownership, Control, Access, and Possession).

St. Thomas University also recognizes the particular issues and challenges pertaining to sensitive data, especially because of the high number of STU researchers conducting qualitative research with vulnerable or marginalized communities. Not all research data can be shared for a variety of ethical, legal, or commercial reasons, and the Tri-Agency Policy recognizes this reality. Secure storage of sensitive data is a particular concern that will need to be addressed, and STU supports national initiatives currently underway at the Federated Research Data Repository (FRDR) in developing a pilot project to provide secure data storage.

Scope and Purpose

This institutional strategy applies to all research and research-creation undertaken by faculty at St. Thomas University, in order to assist the members of our research community to develop and maintain best practices in RDM and to comply with Tri-Agency policies. As a living document, this strategy will be subject to periodic review and assessment to ensure that we are able to track our progress and respond to new and evolving needs, opportunities, and challenges.

This strategy is not a formal policy, and does not require that all STU researchers develop a data management plan or deposit their research data into an open access repository. The purpose of this strategy is to raise awareness of RDM issues, highlight RDM best practices, describe the current state of RDM culture and resources on campus, identify gaps and challenges, and envision an ideal future state in which all research data management needs of STU's research community are recognized and addressed. This strategy is currently in its earliest phase, and will continue to be evaluated and updated based on feedback from the STU community and the latest developments in the field.

Oversight

The implementation and management of this strategy will be led by the Associate Vice-President (Research) and staff in the Office of Research Services, with support from the Research Data Management Working Group, the Office of Information Technology Services, the STU Research Ethics Board, and the Senate Research Committee.

The Research Data Management Working Group currently consists of:

- Peter Toner, Associate Vice-President (Research)
- Lauren Eagle, ORS Administrative Coordinator
- Helene Noddin, Research Services Officer
- Clive Baldwin, REB Chair
- Dan Crabbe, Director of Information Technology Services
- Gary Hansen, Director of Institutional Research
- Sarah Vannier, Department of Psychology
- Andrew Klein, Department of English Language and Literature

This strategy will be reviewed every six months to ensure that adequate progress is being made, to identify emerging issues that need to be addressed, and to ensure alignment with broader university policies, procedures, and agreements.

Development of Our Institutional Strategy

Preliminary work on research data management has been ongoing in the Office of Research Services since 2017, and has been steadily increasing since 2021. The RDM Working Group was founded in 2022 to enable concerted efforts towards the development of the current institutional strategy. Specific activities undertaken have included:

- Discussion of RDM issues at the Senate Research Committee, the Research Ethics Board, and the Senior Academic Advisory Committee
- Presentation of a draft version of this institutional strategy to the St. Thomas University Senate in June 2023, for information, discussion, and feedback
- Participation in a variety of webinars and presentations offered by the Digital Alliance of Canada
- Conducting an RDM survey of STU faculty researchers on their current practices, attitudes, and needs with respect to research data
- Completion of the RDM Maturity Assessment Model in Canada (MAMIC) to identify RDM supports and services, and gaps therein

Institutional Support

The complete implementation of our strategy and our achievement of an ideal future state of RDM will need to proceed over the medium- to long-term. STU lacks its own independent library resources to support research data management, and we are therefore challenged in our capacity and expertise to implement RDM practices and procedures. As our institutional capabilities and resources continue to grow, we can expect to achieve our RDM goals as we move toward our ideal future state of RDM readiness.

Institutional support for research data management at STU will be organized around four principal objectives: (1) awareness of RDM; (2) RDM training and capacity-building; (3) RDM governance; and (4) access to RDM tools, resources, and infrastructure. For each of these broad areas, we envision both the characteristics of our ideal future state, as well as the steps that we intend to take to achieve that ideal future state. Each of these steps is associated with a general timeframe of short-term (within six months), medium-term (six months to two years), medium- to long-term (more than two years), and ongoing. Each step is also associated with key stakeholders who will be primarily responsible for its implementation.

OBJECTIVE: Awareness of RDM

- FUTURE STATE: All STU faculty are aware of the Tri-Agency Research Data Management Policy, Open Science principles, F.A.I.R. principles, Indigenous Data Sovereignty, and have the opportunity to receive RDM training and initiate best practices in RDM.
- FUTURE STATE: All STU faculty are aware of data storage and preservation options available to them, including on-site physical storage, STU cloud-based storage, and off-site storage in an appropriate research data repository.

- Identify and recruit local "data champions" (ORS, SRC; short term)
- Run three focus groups (humanities, social sciences, and professional programs) to better understand RDM challenges and opportunities (ORS; short term)
- Develop a stand-alone website dedicated to RDM (ORS, Communications; medium term)
- Develop and implement a communications plan on RDM (ORS, Communications; medium term)
- Work with departments to understand discipline-specific RDM attitudes, challenges, and issues (ORS; medium term)
- Continue to participate in Tri-Agency RDM consultations (ORS; ongoing)

OBJECTIVE: RDM Training and Capacity-Building

- FUTURE STATE: All STU faculty have the opportunity to learn to develop a Data Management Plan.
- FUTURE STATE: ORS staff are fully trained to support faculty in the preparation of Data Management Plans.
- FUTURE STATE: STU faculty have access to RDM resources, including best practice guidelines, regular RDM training workshops, and in-person consultations.
- FUTURE STATE: ORS staff receive professional development opportunities in RDM.
- FUTURE STATE: ORS staff are able to manage STU research data repositories.

- Develop RDM Best Practice guidelines for faculty members (ORS; medium term)
- Develop capacity in the ORS to support faculty development of Data Management Plans as required under specific funding opportunities (ORS; medium term)
- Develop and implement internal training and education opportunities (ORS, REB; medium term)
  - Workshops
  - Lunch-and-learns
  - Access to external webinars etc.
  - How-to sessions on Data Management Plans
  - Understanding metadata, Digital Object Identifiers (DOIs), ORC IDs, etc.
- Identify and pursue RDM professional development for ORS staff (ORS; medium-long term)

OBJECTIVE: RDM Governance

- FUTURE STATE: STU has high-quality, comprehensive RDM policies and procedures.
- FUTURE STATE: STU has an active and engaged RDM Steering Committee.

  - Expand RDM Working Group (AVPR; short term)
  - Develop Research Data Governance Policy and Procedures (ORS, SRC; medium-long term)
  - Update other STU policies in light of RDM requirements (ORS, SRC; medium-long term)
  - Investigate specific RDM needs in relation to sensitive data, Indigenous data, and other specific data needs (ORS, SRC; medium term)
  - Develop enhanced procedures with STU REB that take account of RDM policies (ORS, REB; medium term)

OBJECTIVE: Access to RDM Tools/Resources/Infrastructure

- FUTURE STATE: STU has an established and well-functioning Dataverse provided by Borealis.
- FUTURE STATE: STU researchers have access to FRDR for large/sensitive data deposit.
- FUTURE STATE: STU has robust, secure, and long-term on-site and cloud-based digital storage for research data.
- FUTURE STATE: STU has robust, secure, and long-term storage for non-digital data.
- FUTURE STATE: STU researchers have access to RDM-related software tools.

  - Develop STU "Dataverse" on Borealis (ORS, ITS; medium term)
  - Develop ORS skills to manage/curate STU Dataverse (ORS, ITS; medium term)
  - Secure access to data storage at FRDR for large/sensitive data (ORS, ITS; medium-long term)
  - Develop STU ITS capacity for data storage, preservation, and archiving (ORS, ITS; medium-long term)
  - Develop enhanced capacity for on-site physical storage of non-digital research data (ORS, ITS; medium-long term)
  - Identify and acquire RDM-related software tools to support faculty research (ORS, ITS; medium-long term)

We will continue to reassess our ideal future state regularly, and to adjust the steps to be taken and the relevant timeframes accordingly.

Stakeholders

As a very small institution, St. Thomas University has the advantage of being able to consult effectively with our entire research community. As we develop and implement our RDM institutional strategy, we recognize the valuable contributions of the following stakeholder groups:

- All STU faculty members
  - Humanities
  - Social sciences
  - Professional programs
- Senate Research Committee
- Dean of Humanities, Dean of Social Sciences, and Vice-President (Academic & Research)
- STU Research Ethics Board
- STU Office of Information Technology Services
- STU Office of Institutional Research
- STU Office of Communications
- STU Data Governance Committee
- External research partners

Ethics Considerations

All STU research projects that involve human participants are subject to approval and oversight by the STU Research Ethics Board (REB). The activities of the REB are governed by the [St. Thomas University Research Ethics Board Policy](). Research activities at STU are subject to the [Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2018)]() and the [Tri-Agency Framework: Responsible Conduct of Research]().

The STU REB is currently examining the Tri-Agency Policy on Research Data Management, and will make any required adjustments in REB policies and procedures. The REB will also provide guidance to the ORS on RDM ethics considerations, especially in relation to sensitive data.

Indigenous Data Considerations

We recognize that St. Thomas University is located on the traditional *territory* of the Wolastoqiyik, Wəlastəkewiyik / Maliseet whose ancestors, along with the Mi'Kmaq / Mi'kmaw and Passamaquoddy / Peskotomuhkati Tribes / Nations, signed Peace and Friendship Treaties with the British Crown in the 1700s. St. Thomas University is committed to the principles of Indigenous data governance including the [CARE Principles for Indigenous Data Governance]() (Collective Benefit, Authority to Control, Responsibility, and Ethics) and the [First Nations Principles of OCAP]() (Ownership, Control, Access, and Possession). These principles provide

guidance for best practices in relation to the collection, protection, and stewardship of indigenous and First Nations data and information.

We also note the importance of Chapter 9 of TCPS2 in outlining the specific considerations for research involving First Nations, Inuit, and Métis peoples in Canada, and the importance of applying these provisions in any relevant research undertaken by STU researchers.

Other Relevant Strategies and Policies

Other policies at STU can be expected to intersect with our institutional RDM strategy, and we will ensure that all relevant policies and strategies are aligned with each other. The following policies and procedures will be examined in relation to RDM considerations:

- Integrity in Research Policy
- Research Ethics Board Policy
- Policy Statement on Privacy and Protection of Information
- Records Management Policy
- Guidelines for Data Use
- St. Thomas University Strategic Plan
- Strategic Research Plan 2019-2024
- Internal research funding application procedures
- Full-Time Faculty Collective Agreement
- Part-Time Faculty Collective Agreement

Definitions

Research: "An undertaking intended to extend knowledge through a disciplined inquiry and/or systematic investigation."[1]

Research data: "Research data are data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or creative practice, 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. Research data may be experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data. What is considered relevant research data is often highly contextual, and determining what counts as such should be guided by disciplinary norms."[2]

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[1] TCPS 2 (2022) - Glossary
[2] Tri-Agency Research Data Management Policy – Frequently Asked Questions.

Metadata: "Metadata can be defined as data that defines and describes other data and it is used to aid the identification, description, location or use of information systems, resources and elements."[3]

Research data management: "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 and preservation; data sharing and reuse; data integrity; data security; data privacy; data rights; notebook protocols (lab or field)."[4]

Sensitive data: "Information that must be safeguarded against unwarranted access or disclosure."[5]

Data management plan: "A data management plan (DMP) is a living document, typically associated with an individual research project or program that consists of the practices, processes and strategies that pertain to a set of specified topics related to data management and curation. DMPs should be modified throughout the course of a research project to reflect changes in project design, methods, or other considerations."[6]

Research data lifecycle: "The research data lifecycle refers to the process of conducting research, from the initial planning, funding, and designing of a project to publishing and disseminating the conclusions or scholarship."[7]

Data deposit: "Data deposit refers to when the research data collected as part of a research project are transferred to a research data repository. The repository should have easily accessible policies describing deposit and user licenses, access control, preservation procedures, storage and backup practices, and sustainability and succession plans. The deposit of research data into appropriate repositories supports ongoing data-retention and, where appropriate, access to the data. Ideally, data deposits will include accompanying documentation, source code, software, metadata, and any supplementary materials that provide additional information about the data, including the context in which it was collected and used to inform the research project. This additional information facilitates curation, discoverability, accessibility and reuse of the data."[8]

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[3] Government of Canada Information Management.
[4] International Science Council Committee on Data – Research Data Management Terminology.
[5] Portage Network, Sensitive Data Toolkit for Researchers.
[6] Tri-Agency Research Data Management Policy – Frequently Asked Questions.
[7] Harvard University, Research Support at Harvard.
[8] Tri-Agency Research Data Management Policy – Frequently Asked Questions.

Acknowledgements

The following materials helped to guide the development of STU's RDM Institutional Strategy:

Borealis, The Canadian Dataverse Repository (https://borealisdata.ca)

Brandon University, Research Data Management Strategy (https://www.brandonu.ca/research/files/Research-Data-Strategy.pdf)

Cape Breton University, Research Data Management Strategy (https://libguides.cbu.ca/ld.php?content_id=36632755)

Dalhousie University, Institutional Research Data Management Strategy (https://cdn.dal.ca/content/dam/dalhousie/pdf/library/ResearchDataManagement/Dalhousie%20Institutional%20RDM%20Strategy%20V7.pdf)

Digital Research Alliance of Canada, Research Data Management (https://alliancecan.ca/en/services/research-data-management)

Federated Research Data Repository (https://www.frdr-dfdr.ca/repo/)

King's University College at Western University, Institutional Research Data Management Strategy (https://www.kings.uwo.ca/kings/assets/File/research/rdm/Kings_Institutional_RDM_Strategy_v1_1_20230213.pdf)

Mount Allison University, Research Data Management (RDM) Institutional Strategy, RDM@MtA (2023-2026), (https://mta.ca/sites/default/files/2023-03/RDM%20at%20MtA%20v1%20Draft.pdf)

Mount Saint Vincent University, Research Data Management (RDM) Institutional Strategy (https://www.msvu.ca/wp-content/uploads/2022/05/Research-Data-Management-Strategy-Final.pdf)

Thomson Rivers University, Data Management Institutional Strategy (https://www.tru.ca/__shared/assets/data-management-institutional-strategy57413.pdf)

Tri-Agency Research Data Management Policy (https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy)

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