

# Assiniboine Community College

## Research Data Management Institutional Strategy

### Background:

The *Tri-Agency Research Data Management (RDM) Policy* was formalized and launched in March 2021 by the Canadian Tri-Agencies (NSERC, SSHRC and CIHR). The purpose of the federal agencies is to promote and support research, research training, knowledge transfer and innovation within Canada. The policy applies to post-secondary institutions eligible to administer Canadian Tri-Agency funding.

The policy contains three main components:

- The development of an Institutional RDM Strategy (March 2023)
- The requirement for researchers to complete Data Management Plans for specific grants (anticipated to start 2022); and,
- That institutions provide infrastructure for Data Deposit (TBD)

In 2017 Assiniboine Community College (ACC) launched its Institutional Applied Research Strategic Plan. The ACC Strategic Research Plan focuses on the following five core objectives:

- Increasing and enhancing opportunities for students to gain real-world professional experiences through applied research projects, providing exceptional learning experiences,
- Increase the number of faculty engaged in research activities and creating opportunities for applied research experiences within college programs,
- Increase engagement with community partners (business, industry, government, aboriginal communities, and community groups as well as other post-secondary institutions) to further the college's contribution to economic prosperity through applied research, work integrated learning, and innovation,
- Contribute to academic infrastructure development,
- Ensure effective dissemination and application of innovation at the college to our communities, contributing to advance the state-of-practice in business and industry.

To achieve these objectives, ACC aims to:

- Develop sector-based research strategic plans and build capacity in five key priority sectors (agriculture and environment, health care, business, trades and technology, and public safety), as well as the ongoing important scholarship of teaching and learning,
- Encourage and support faculty researchers to develop their research interests, goals, and fundable research plans,
- Increase earned funding and develop funding partnerships to foster research,
- Enhance research infrastructure and support through securing increased external funding,
- Recognize innovation and accomplishments within the college community,
- Collaborate with other academic, employer and community partners.

Applied research is relatively new to the college community and the Russ Edwards School of Agriculture and Environment is the first school to develop sector-based strategic plans and build capacity.

## **Importance of Research Data and Research Data Management**

Research Data Management (RDM) is a systematic and strategic approach to handling and overseeing all aspects of the data lifecycle within the context of academic and scientific research. It involves the planning, organization, documentation, storage, sharing, and preservation of research data to ensure its integrity, accessibility, and long-term usability. The goal of RDM is to facilitate efficient and ethical research practices, enhance collaboration, and comply with legal and ethical standards governing data use. RDM encompasses the development of data management plans, the adoption of standardized protocols for data collection and analysis, the implementation of secure and scalable storage infrastructure, and the establishment of policies for data sharing and access. Effective RDM not only safeguards against data loss but also promotes transparency, reproducibility, and the responsible conduct of research, contributing to the overall advancement of knowledge in academia and beyond.

Applied research at the college is mostly funded in part by external industry partnerships and the college respects that these partners often own any resulting intellectual property. ACC recognizes the importance of confidentiality, and the college supports researchers' ability to use data collected during research projects and preserve the data for potential future use. Given that ACC collaborates with many external partners our Legal Services supports the research efforts through advice on confidentiality, non-disclosure, data sharing and all research agreements.

RDM plays a pivotal role in fostering academic excellence by ensuring the responsible and effective handling of research data throughout the entire research process. Several key aspects underscore the importance of RDM in advancing academic excellence:

- Enhanced Research Reproducibility and Transparency,
- Facilitation of Collaborative Research,
- Compliance with Ethical Standards and Regulations,
- Optimization of Resource Utilization,
- Support for Data-Driven Decision-Making,
- Promotion of Open Science Initiatives,
- Prevention of Data Loss and Security Risks, and
- Long-Term Preservation of Research Assets.

In essence, Research Data Management is integral to academic excellence as it promotes integrity, transparency, collaboration, and efficiency in research practices, ultimately advancing the quality and impact of scholarly endeavors.

The college is committed to research excellence and strong RDM practices align with our applied research strategy across the college. RDM will support college researchers in achieving scientific rigor, build on existing strengths and realize our vision of industry and external partners that turn to the expertise, facilities and research talent available within ACC to solve problems and innovate with new technologies.

### **Scope**

This strategy applies to all ACC researchers, students and staff in all disciplines across the college. At ACC our research and innovation environment extend beyond only Tri-Agency-funded projects. While a broad application of RDM best practices is our goal, the initial focus will be to ensure our researchers

funded with Tri-Agency funding will have the resources and service supports in place to implement and demonstrate a high standard of RDM best practices.

## **Oversite and Review**

ACC will establish an RDM Advisory Committee, and the goal will be to review on an annual basis. Annual reporting on the progress will be provided to the VP Academic, VP Advancement, Chief Information Officer and CFO.

## **Institutional Support**

To support the adoption of ACC's RDM Institutional Strategy and the implementation of RDM practices amongst researchers, the college will actively work towards executing our RDM strategy. Over the next two years (until March 2026) we have committed to focus on the following Strategic Priorities and activities (specific dates and timelines will be included in the Implementation Plan):

### **I. Enhance Awareness of RDM across ACC:**

- Implementation of communications plan, and development and dissemination of RDM education products (Tips Sheets, FAQs) to the ACC community
- Develop a targeted faculty and student engagement strategy.

### **II. Enhance RDM Training and Capacity-building for Faculty and Staff:**

- Develop and disseminate "RDM Wise Practice Guidelines."
- Provide internal training and education:
  - Workshops, Lunch and Learns and other training for faculty, students and staff on aspects of RDM (e.g. DMP Assistant training; data sharing deposit and preservation, etc.)
  - Provide access to external Professional Development:
  - Specifically build capacity of college librarian and library staff to be able to support faculty and staff in good data management practices, discoverability, and access.
  - OCAP<sup>®</sup> (ownership, control, access, and possession) training to enhance understanding and competency for participation in research and data collection with Indigenous peoples.
  - Build access to tools and supports to enhance strong data management practice.

### **III. Strengthen RDM Governance:**

- Evolve RDM Advisory Committee to formalize implementation of the College's RDM Strategy, including engaging other stakeholders across the college.
- Update or create other College policies as required to reflect RDM practices.
- Establish more streamlined RDM communications and processes with external research partners.
- As applied research expands, consider dedicated staff capacity to support RDM in accordance with data privacy legislation.

### **IV. Provide and/or Support Access to RDM Tools, Resources, and Infrastructure:**

- Identify repository storage option for college faculty and staff for data deposit use with appropriate access controls.

- Implement data management planning, discovery and access tools, including offering training on such tools as the DMP Assistant Tool offered by the Digital Research Alliance of Canada.

## Stakeholders

Success of the ACC RDM strategy Institutional Strategy rely on a number of internal and external partners. Key internal stakeholders are represented on the RDM Advisory Committee. As well other departments of the college that will be important to engage include:

- Russ Edwards School of Agriculture and Environment Research Committee – a committee comprised of faculty and staff members to provide advice to the Dean and VPA on matters relating to research, innovation and partnerships.
- Centre for Learning Innovation
- ACC Indigenous Affairs Office
- ACC students
- Industry and community organizations
- Learning Leadership Council

Our priorities over the next 3-5 years will be to develop an engagement strategy to enable stakeholders to contribute to the efforts to build a strong RDM environment at the college.

## Ethics Considerations

The College is committed to safeguarding the rights and well-being of human participants of research activities in which the College is involved. Respect for human dignity has been an underlying value of the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (TCPS) since its inception. Respect for human dignity requires that research involving humans be conducted in a manner that is sensitive to the inherent worth of all human beings and the respect and consideration that they are due. Researchers, the College, and the College's Research Ethics Board (REB) are jointly responsible for safeguarding the rights and well-being of human participants of research activities in which the College is involved. In the future, any REB submission will include an ethical review of RDM strategies.

## Indigenous Data Considerations

First Nations, Inuit and Métis communities have unique histories, cultures and traditions. They also share some core values such as reciprocity – the obligation to give something back in return for gifts received – which they advance as the necessary basis for relationships that can benefit both Aboriginal and research communities. Research involving Aboriginal peoples in Canada has been defined and carried out primarily by non-Aboriginal researchers. The approaches used have not generally reflected Aboriginal world views, and the research has not necessarily benefited Aboriginal peoples or communities. As a result, Aboriginal peoples continue to regard research, particularly research originating outside their communities, with a certain apprehension or mistrust. The landscape of research involving Aboriginal peoples is rapidly changing. Growing numbers of First Nations, Inuit and Métis scholars are contributing to research as academics and community researchers. Communities are becoming better informed about the risks and benefits of research. Technological developments allowing rapid distribution of information are presenting both opportunities and challenges regarding the governance of information. In the spirit of respect, the RDM strategy will that research involving

Aboriginal peoples is premised on respectful relationships. It will encourage collaboration and engagement between researchers and participants.

Building reciprocal, trusting relationships will take time. The RDM strategy will require revision as it is implemented, particularly in light of the ongoing efforts of Aboriginal peoples to preserve and manage their collective knowledge and information generated from their communities.

### **Other Relevant Strategies and Policies**

The college undertakes regular policy review. To ensure consistency with RDM expectations, the internal policies listed below will be considered for updating, as needed.

- Principles & Practices for Research – R01
- Responsible Conduct of Research – R02
- Intellectual Property – R03
- Ethical Conduct for Research Involving Human Participants – R04
- Care of Animals in Teaching & Research – R05
- Use of Biohazards or Radioactive Materials in Research – R06
- Research in The Yukon, Northwest Territories and Nunavut – R07
- Policy on Academic Integrity - A25

Relevant External Policies

- Tri-Agency Research Data Management Policy
- Tri-Agency Framework on the Responsible Conduct of Research
- Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans

### **Timelines**

The strategy will be promoted internally and externally over the next few years and as sector-based research strategic plans are developed the strategy will be updated to move towards an ideal end state.

### **Looking Ahead**

It should be noted that RDM is new in the college context, and it will take time for ACC to establish a level of understanding and capacity amongst staff, researchers and students. In the spirit of continuous improvement, the Strategy outlines planned activities to strengthen our college RDM. As Tri-Agency requirements evolve, the college will be well situated to address any future changes.

### **Definitions**

**Data Management Plan:** A data management plan (DMP) is a comprehensive document outlining the systematic approach and procedures for handling research data throughout its entire lifecycle. Developed at the outset of a research project, a DMP serves as a roadmap, detailing the strategies for data collection, organization, documentation, storage, sharing, and preservation. The plan typically includes information on the types of data to be collected, ethical considerations, data security measures, data sharing and access policies, and plans for long-term preservation. A well-constructed DMP not only ensures the efficient and responsible management of research data but also enhances the transparency, reproducibility, and integrity of the research process. Moreover, it is often a requirement

imposed by funding agencies, institutions, or publishers to ensure that researchers adhere to best practices in data management, contributing to the overall quality and reliability of academic research.

**Research:** It is a methodical and structured approach that typically follows a defined methodology, including the collection and analysis of data, to generate reliable and valid conclusions. Research can take various forms, including scientific experiments, surveys, case studies, literature reviews, and more.

**Research Data:** Research data refers to the information collected, observed, or created during the course of a research project. It can take various forms, including numerical data, textual information, images, audio recordings, video footage, and more. Research data is the raw material from which researchers derive insights, analyze patterns, and draw conclusions to answer specific research questions or test hypotheses.

**Research Data Management:** Research data management is the systematic and organized process of handling research data throughout its lifecycle, from creation or collection to sharing and preservation. It involves planning, organizing, documenting, storing, and safeguarding data to ensure its reliability, accessibility, and long-term usability. Effective research data management is essential for promoting transparency, reproducibility, and the responsible conduct of research.

## References

Sheridan College Research Data Management (RDM): RDM Institutional Strategy:

[https://sheridancollege.libguides.com/c.php?g=720640&p=5261074&\\_gl=1\\*\\_1gl2dwn\\*\\_gcl\\_au\\*MTg0NDc0MjkxMy4xNzAyOTI1NDc2\\*\\_ga\\*MTE0NjU1MjA2NC4xNzAyOTI1NDc3\\*\\_ga\\_29KM0X9FKK\\*MTcwMjkyNTQ3Ni4xLjAuMTcwMjkyNTQ3Ni42MC4wLjA.&\\_ga=2.10739191.2139759173.1702925477-1146552064.1702925477](https://sheridancollege.libguides.com/c.php?g=720640&p=5261074&_gl=1*_1gl2dwn*_gcl_au*MTg0NDc0MjkxMy4xNzAyOTI1NDc2*_ga*MTE0NjU1MjA2NC4xNzAyOTI1NDc3*_ga_29KM0X9FKK*MTcwMjkyNTQ3Ni4xLjAuMTcwMjkyNTQ3Ni42MC4wLjA.&_ga=2.10739191.2139759173.1702925477-1146552064.1702925477)

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>

OLDS College of Agriculture & Technology Institutional Research Data Management Strategy:

<https://www.oldscollege.ca/media/research/olds-college-research-data-management-institutional-strategy.pdf>

Digital Research Alliance of Canada: <https://alliancecan.ca/en/services/research-data-management>

The First Nations Principles of OCAP®: <https://fnigc.ca/ocap-training/>