



**University
of Manitoba**

2019-2020

Research Support Fund

Public Acknowledgement, Objectives & Outcomes

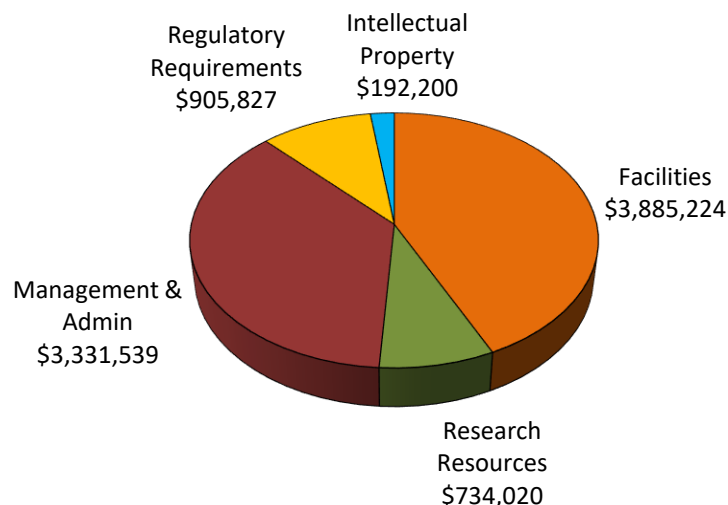
Office of the VP (Research & International)

Accountability & Public Acknowledgment

2019-2020 Research Support Fund Outcomes Report

The University of Manitoba received **\$9,048,810** in Federal RSF support.

The following chart provides an overview of how the funds were allocated under each of the five expenditure categories (including the affiliated institutions):



Research Facilities

- Maintains cutting edge research activities of over 60 principal investigators across the Max Rady College of Medicine and the Rady Faculty of Health Sciences by supporting various Core Facilities. These Core Facilities are: a Lentiviral Viral Vector Production Facility, a Histology, Histomorphology and Ultrastructural Imaging Facility, a Flow Cytometry Core Platform, a Core Platform in Massspectrometry, a Central Animal Care Facility and a Central Animal Core Imaging and Transgenic Core Facility.
- Renovations to Dr. Jacob Burgess laboratory in Physics and Astronomy improved the functionality of his research. Dr. leads the Ultrafast Microscopy and Magnetism Research Group in studies on spin and carrier dynamics in magnetic thin films, nanomagnetic elements, and correlated electron systems using time-resolved scanning tunneling microscopy in concert with optical measurements including magneto-optical magnetometry and THz spectroscopy.

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- The Department of Biosystems Engineering undertakes basic and applied research relevant to the strategic priorities of the Faculty of Agricultural and Food Sciences and Manitoba Agriculture and Resource Development (MARD). The Department has hired a technician specifically to provide technical support for the “Sustainable Northern Food Production System” that is being developed at the site of the Alternative Village and for ongoing maintenance and operation of the “Grain Storage Research Laboratory”. Both of these facilities received significant CFI funding and are home to a large number of CFI-funded equipment. They support research that is funded through NSERC Programs (Discovery Grants, Alliance Grants), agricultural producer groups and industry
- The annual maintenance, service contracts of research equipment and the technical support in the research laboratories are required across the University of Manitoba. These investments are vital for researchers to maintain their ongoing research programs by preventing irreversible damage to state-of-the-art equipment, enhance their knowledge and expertise to sustain research productivity and maximize the success of faculty members.

Research Resources

- Upgrades to the Manitoba Centre for Health Policy computer servers. This province-wide administrative research database is extensively used by health policy researchers and is a major centre to the Department of Community Health Sciences. The maintenance is vital for maintaining confidentiality and providing researchers with timely information.
- Renewal of the Elsevier Inc. SciVal research evaluation tool. It offers quick, easy access to the research performance of 9,400 research institutions and 230 nations worldwide. SciVal is a ready-to-use solution with unparalleled power and flexibility to visualize research performance, benchmark relative to peer institutions, develop strategic partnerships, identify and analyze new, emerging research trends, and create uniquely tailored reports.
- Document Delivery provides research material, not owned by the University of Manitoba, at no cost to the University faculty and graduate students who are the majority users. The Document Delivery is very dependent on the number of requests for material received from researchers and equally dependent on the Libraries being able to fulfill those requests from within its own collections. Libraries received

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9,539 requests for materials not held in our collections and 2.1 million successful article requests for electronic resources.

Management and Administration

- The RSF contributes towards the considerable amount of salaries, maintenance of information systems, financial and auditing costs and research planning. We use RSF to support promotional costs of sharing research and knowledge mobilization activities with external and internal communities, and to support costs of development of grant applications and research proposals for the University's research enterprise as a whole.
- The Research Life Magazine is a publication of the Office of the Vice-President (Research & International). The magazine highlights the quest for knowledge that artists, engineers, scholars, scientists and students at the University of Manitoba explore every day. It is published twice annually with winter (January) and summer (July) issues. RSF supports the costs associated with its publication.
- The Manitoba Centre for Nursing and Health Research (MCNHR) is the key infrastructure supporting nursing research in the College of Nursing. RSF provided partial support of two highly qualified research associates to assist faculty members in the development of competitive research grant proposals. The College of Nursing was successful in a total of 39 grants (\$3.6 million) in new research funding. This included a total of 8 tri-agency grants (6 CIHR; 1 SSHRC and 1 NSERC grant). In addition, a total of 7 provincial, 21 internal and 3 other (non-UofM transfer grants from other universities) were awarded. This represents a significant growth in tri-agency grants awarded over the past three years.
- The continued management and administrative support in the Office of Research Services, Office of Legal Counsel, Central Administration and the Office of Partnership & Innovations along with the efforts of the Research Facilitators are part of the success at securing large collaborative contracts and research grants.

Regulatory Requirements and Accreditation

- Research Support funding was used to perform animal facility upgrades to various areas in the Faculties of Agricultural and Food Sciences, Science, Arts and the Central Animal Care Services in the Rady Faculty of Health Sciences.

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These upgrades included:

- Improving the Swine facilities by installing automated sow brush and anti-laying bars in gestation area, relocate new creep feed feedline, and replacement of rubber mats in breeding pens
- Improving the internal environment and biosecurity of the Poultry Unit Layer Barn.
- Improving the safety for animal holding and feed quality in the Dairy Barns with enrichment toys for calves, cart for moving newborn calves and enrichment brushes.
- Modifying the Delta System to store temperature & humidity data long term without human input and allow for remote monitoring. Plus renovating the largest aquatic rooms to meet CCAC guidelines.
- Replace the dechlorinating charcoal from the pre-filter tanks (Tank A) for fish water and refurbished the steel tank and fittings.
- Installation of a cooling system for the Biosciences and Psychology cleaning room.
- Upgrade the Fish Housing Facility from standalone tanks to more efficient multi-rack system as recommended by ACC.

These upgrades were performed to ensure the University meets or exceeds standards set by the Canadian Council on Animal Care, their Codes of Practice and national and provincial worker safety regulations.

- The continued management, technical and administrative support in the Offices of Research Ethics and Compliance, the Environment, Health and Safety Office and other animal facilities are all part of the success in securing large collaborative contracts and research grants.

Intellectual Property

- The continuous support towards the salary and operating costs of the Office of Partnership and Innovations (OPI) and an employee in the Office of Fair Practices and Legal Affairs has been critical to the high quality prudent management of the university's intellectual property.

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The OPI oversees an Intellectual Property estate of over 400 patents covering 300 university developed technologies. They manage over one-hundred technology-based alliances with local and global partners.

The Office of Fair Practices and Legal Affairs drafts technology commercialization agreements in consultation with the OPI. The University receives royalties for inventions and works with OPI to prepare and negotiate technology commercialization agreements and incorporate start-up companies.

Metrics 2019-2020:

- 52 Invention Disclosures
- 23 Patents filed; 4 issued patents
- 6 exclusive licenses issued
- 158 Agreements signed
- \$1.55M in Royalty Revenue

Affiliated Institutions

The University of Manitoba and the network of affiliated institutions have a mutual interest in achieving excellence in research activities.

This integration establishes the basic principles and objectives of an affiliation regarding the administration, regulation and accountability of research carried out by various groups of individuals with University appointments, and by others associated with the University, including students.

A comprehensive list of affiliated institutions includes:

- Cancer Care Manitoba www.cancercare.mb.ca
- St. Andrew's College (MB) https://www.umanitoba.ca/colleges/st_andrews/
- St. John's College http://umanitoba.ca/colleges/st_johns/
- St. Paul's College http://umanitoba.ca/colleges/st_pauls/
- University College (UofM) <http://umanitoba.ca/colleges/uc/>
- St. Boniface General Hospital <https://www.saintboniface.ca/>

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- Winnipeg Regional Health Authority <http://www.wrha.mb.ca/>

2019-2020 Performance Indicators and Outcomes

Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
Research Facilities	<p>Strengthen researcher retention and quality of research by upgrading and maintaining research facilities and equipment</p> <p>Ongoing technical support for laboratories, offices and other facilities.</p>	<p>Specific lab renovations to attract potential research funding</p> <p>Annual research equipment maintenance and service contracts</p>	<p>Modern and dependable research facilities & equipment.</p> <p>Efficient and productive research activities.</p> <p>Attraction of potential research funding</p>	<ul style="list-style-type: none"> • Faculty of Science Dr. Jacob Burgess' lab renovations – increase functionality for Spin Dynamic research. • Max Rady College of Medicine and the Faculty of Health Sciences maintenance of various Core Facilities used by over 60 principal investigators.
Research Resources	<p>Improve and manage research data information & analysis by upgrading databases and access to electronic resources</p>	<p>% change of data usage and downloads for research purposes</p> <p>Purchase of electronic resources, databases, online access to journals and upgrades to cables and wireless technologies</p>	<p>Enhance research with up-to-date data management systems and information</p>	<ul style="list-style-type: none"> • Library data usage <ul style="list-style-type: none"> ○ 1.3M page views & 9.5K in users on the UM Digital Collections Site - Access to Historical Canadian Documents ○ 2.1M successful article requests from electronic resources • Renewal of Scival Research metrics tool used as identifying potential collaborators nationally and internationally who publish in specific research areas. • Maintain a province-wide research database used by health policy researchers in the Department of Community Health Sciences and the Manitoba Centre for Health Policy

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Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
Management and Administration	<p>Provide research administrative support for processing new grants and contracts</p> <p>Monitor expenses and review processes to ensure research compliances are meeting external agency guidelines</p>	<ul style="list-style-type: none"> • # grants • # contracts • # industry partners 	Maintain success rates in research grants, contracts and industry partners	<ul style="list-style-type: none"> • Grants <ul style="list-style-type: none"> ○ 1,366 Applications ○ 753 Awards ○ 55.3% success rate • Contracts <ul style="list-style-type: none"> ○ 310 non-funded ○ 361 funded (60% increase) ○ 272 Mixed ○ 119 proposals/LOI/NIH applications • Industry Partners <ul style="list-style-type: none"> ○ 97 Potential Partners ○ 79 Participating Partners ○ 81.4% success rate (5.6% increase)
Regulatory Requirements and Accreditation	<p>Comply with regulatory requirements</p> <ul style="list-style-type: none"> • Upgrade and maintain research facilities • Train faculty and other research personnel in health & safety, animal care, ethics review, handling radiation & biohazards and environmental assessments • Ongoing support for staff & technician salaries 	<p>Improved compliance with regulatory requirements as measured by laboratory inspections, incident investigations and regulator’s audits.</p> <p># of certificates issued to trained faculty and research personnel</p>	<p>Research facilities & equipment meet regulatory requirements</p> <p>Trained faculty and research personnel</p> <p>Fewer incident investigations</p>	<ul style="list-style-type: none"> • Animal Care <ul style="list-style-type: none"> ○ 259 new Protocols and renewals (32% increase) ○ 213 Wet labs were delivered (28% increase) ○ 142 people completed the animal user online training course (15% increase) ○ 473 Post Approval Monitoring (PAM) visits (includes follow-ups only, no lab inspections) ○ Maintaining demands for meeting guidelines and CCAC changes • Human Ethics Bannatyne Campus <ul style="list-style-type: none"> ○ 648 in new Protocols ○ 1,419 Amendments (13% increase) ○ 517 Study Closures (30% increase) • Human Ethics Fort Gary Campus <ul style="list-style-type: none"> ○ 399 new Protocols (11% increase) ○ 338 Amendments (7% increase) ○ 266 Study Closures

Accountability & Public Acknowledgment

Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
Intellectual Property				CCAC full compliance (certificate received) <ul style="list-style-type: none"> Maintained the Certificate of Good Animal Practice
	Sustain the Technology Transfer Office Increase the institution's research base by identifying collaborative research opportunities	<ul style="list-style-type: none"> # Patents filed # Invention Disclosures # Licenses % change in Startups \$ in Royalty Revenue 	Value-added growth of new research partnerships Continued support to researchers in their commercial endeavors and industry linkages	<ul style="list-style-type: none"> 52 Invention Disclosures (24% increase) 23 Patents filed; 4 issued patents 158 Agreements signed (15% increase) 6 exclusive Licenses issued \$1.55M in Royalty Revenue (57% increase) Partnering with North Forge on RampUp type events to replace Game Changers Competition Mitacs <ul style="list-style-type: none"> 367 Accelerate Program submissions (26% increase) 76 Globalink awarded (65% increase) 65 Projects started (35% increase)