



**University  
of Manitoba**

**2018 - 2019**

# Research Support Fund

Public Acknowledgement, Objectives & Outcomes

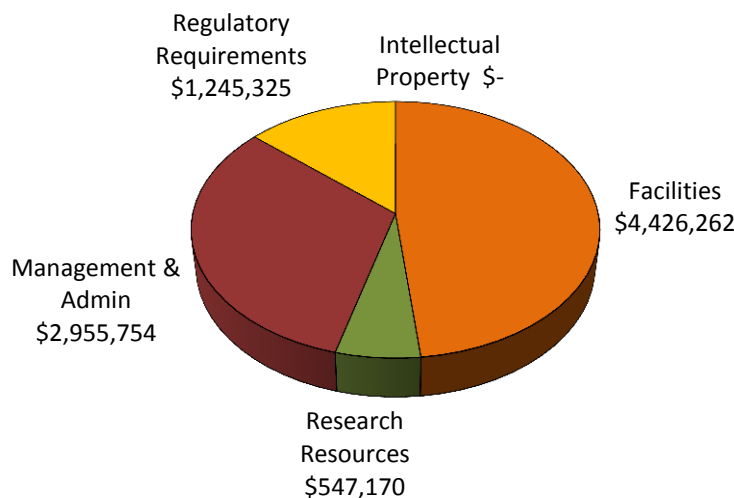
**Office of the VP (Research & International)**

## Accountability & Public Acknowledgment

### 2018 - 2019 Research Support Fund Outcomes Report

The University of Manitoba received **\$9,174,511** 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*

- Ventilation upgrade in Animal Science where the Indirect Calorimeter System is located and used to support the energy metabolism research program of Dr. Martin Nyachoti. The indirect calorimetry measurements depend on air quality to ensure accurate measurements of gaseous exchanges, a critical piece in net energy determination. The improved air quality in the room makes for a safe and comfortable working space for researchers and students as well as the research animals.
- Renovations to Dr. Can Ming Hu's laboratory in Physics and Astronomy improved the functionality of his research. Dr. Hu's research involves spin dynamics in spintronic & magnetic materials, contemporary magnetism, spintronic technologies and microwave technologies.
- Renovations in the Faculty of Science to transform space into a functional Wet Lab for the Aquatic or Ecological Physiology Research Lab.

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- 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 in 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 supply those requests from within its own collections. Libraries received 9,724 requests for materials not held in our collections (4% increase) and 2.2 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.

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- 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 4 CIHR applications in the fall 2018, (three of which was led by the College of Nursing), 1 NSERC Discovery Renewal, 1 SSHRC Connection grant and a CIHR Rewarding Success Phase 2 grant.
- The continued management and administrative support in the Office of Research Services, Office of Legal Counsel, Central Administration and the Technology Transfer Office 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 & Food Sciences, Science, Arts and the Central Animal Care Services in the Rady Faculty of Health Sciences.

These upgrades included:

- Improving the Swine facilities by replacing heat lamps in the farrowing rooms, the ultrasound machine to assist with better animal health monitoring and the breeding crates with Free Access stalls.
- 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
- Modifying the Delta System to store temperature & humidity data long term without human input & allow for remote monitoring. Plus renovating the largest aquatic rooms to meet CCAC guidelines.
- Provided free flight cages for Jays enrichment.

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- The conversion of mouse housing to Individually Ventilated Cage (IVC) systems in the Genetic Models Centre (GMC).

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 & Compliance, the Environment, Health & 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 Technology Transfer Office has been critical to the high quality prudent management of the university's intellectual property.

This year, support from the RSF Incremental Project Grant (IPG) was provided to this category.

### **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](http://www.cancercare.mb.ca)
- St. Andrew's College (MB) [https://www.umanitoba.ca/colleges/st\\_andrews/](https://www.umanitoba.ca/colleges/st_andrews/)
- St. John's College [http://umanitoba.ca/colleges/st\\_johns/](http://umanitoba.ca/colleges/st_johns/)
- St. Paul's College [http://umanitoba.ca/colleges/st\\_pauls/](http://umanitoba.ca/colleges/st_pauls/)
- University College (UofM) <http://umanitoba.ca/colleges/uc/>

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- St. Boniface General Hospital <https://www.saintboniface.ca/>
- Winnipeg Regional Health Authority <http://www.wrha.mb.ca/>

### 2018 - 2019 Performance Indicators and Outcomes

Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
<b>Research Facilities</b>	<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 &amp; equipment.</p> <p>Efficient and productive research activities.</p> <p>Attraction of potential research funding</p>	<ul style="list-style-type: none"> <li>• Faculty of Science Dr. Can Ming Hu's lab renovations – increase functionality for Spin Dynamic research.</li> <li>• Transform space into a functional Wet Lab for the Aquatic or Ecological Physiology Research Lab</li> <li>• Faculty of Agricultural &amp; Food Sciences ventilation upgrade to enhance the Indirect Calorimeter System used to support the energy metabolism research program of Dr. Martin Nyachoti.</li> </ul>
<b>Research Resources</b>	<p>Improve and manage research data information &amp; 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"> <li>• Library data usage annual comparison                             <ul style="list-style-type: none"> <li>○ 62% increase in page views &amp; 140% increase in users on the UM Digital Collections Site - Access to Historical Canadian Documents</li> <li>○ 2.21M successful article requests from electronic resources (10% decrease)</li> </ul> </li> <li>• 3 year renewal of Scival Research metrics tool used to identify potential collaborators nationally and internationally who publish in specific research areas.</li> </ul>

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Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
<p><b>Management and Administration</b></p>	<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"> <li>• # grants</li> <li>• # contracts</li> <li>• # industry partners</li> </ul>	<p>Maintain success rates in research grants, contracts and industry partners</p>	<ul style="list-style-type: none"> <li>• Grants               <ul style="list-style-type: none"> <li>○ 1,457 Applications</li> <li>○ 751 Awards</li> <li>○ 51.5% success rate</li> </ul> </li> <li>• Contracts               <ul style="list-style-type: none"> <li>○ 253 Applications</li> <li>○ 181 Awards</li> <li>○ 71.5% success rate</li> </ul> </li> <li>• Industry Partners               <ul style="list-style-type: none"> <li>○ 112 Potential Partners</li> <li>○ 79 Participating Partners</li> <li>○ 70.5% success rate (3.9% increase)</li> </ul> </li> </ul>
<p><b>Regulatory Requirements and Accreditation</b></p>	<p>Comply with regulatory requirements</p> <ul style="list-style-type: none"> <li>• Upgrade and maintain research facilities</li> <li>• Train faculty and other research personnel in health &amp; safety, animal care, ethics review, handling radiation &amp; biohazards and environmental assessments</li> <li>• Ongoing support for staff &amp; technician salaries</li> </ul>	<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 &amp; equipment meet regulatory requirements</p> <p>Trained faculty and research personnel</p> <p>Fewer incident investigations</p>	<ul style="list-style-type: none"> <li>• Animal Care               <ul style="list-style-type: none"> <li>○ 268 new Protocols and renewals (32% increase)</li> <li>○ 115 Wet labs were delivered</li> <li>○ 233 people completed the animal user online training course (3% increase)</li> <li>○ 605 Post Approval Monitoring (PAM) visits (includes follow-ups, lab inspections) 6% increase</li> <li>○ Increasing demands for meeting guidelines and CCAC changes</li> </ul> </li> <li>• Human Ethics Bannatyne Campus               <ul style="list-style-type: none"> <li>○ 658 in new Protocols (11% increase)</li> <li>○ 1,258 Amendments (16% increase)</li> <li>○ 397 Study Closures</li> </ul> </li> <li>• Human Ethics Fort Gary Campus               <ul style="list-style-type: none"> <li>○ 360 new Protocols</li> <li>○ 317 Amendments (18% increase)</li> <li>○ 284 Study Closures (15% increase)</li> <li>○ Increase in protocol deviations &amp; noncompliance</li> </ul> </li> </ul> <p>CCAC full compliance (certificate received)</p>

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Eligible Expense Category	Performance Objectives	Performance Indicators	Target Outcomes	Outcomes Reported at Year End
				<ul style="list-style-type: none"> <li>Maintained the Certificate of Good Animal Practice</li> </ul>
<b>Intellectual Property</b>	Sustain the Technology Transfer Office  Increase the institution's research base by identifying collaborative research opportunities	<ul style="list-style-type: none"> <li># Patents filed</li> <li># Invention Disclosures</li> <li># Licenses</li> <li>% change in Startups</li> <li>\$ in Royalty Revenue</li> </ul>	Value-added growth of new research partnerships  Continued support to researchers in their commercial endeavors and industry linkages	<ul style="list-style-type: none"> <li>42 Invention Disclosures</li> <li>28 Patents filed; 9 issued patents</li> <li>137 Agreements signed</li> <li>1 exclusive License issued</li> <li>\$0.99M in Royalty Revenue</li> </ul> Game Changer Competition- Year 4 <ul style="list-style-type: none"> <li>141 Phase 1 Problem Submissions</li> <li>8 Phase 2 Solutions Submissions</li> </ul> Mitacs <ul style="list-style-type: none"> <li>291 Accelerate Program submissions</li> <li>46 Globalink awarded</li> <li>48 Projects started</li> </ul>