



2021-2022 Research Support Fund Incremental Project Grants

Public Acknowledgement, Objectives & Outcomes

Accountability & Public Acknowledgment

The University of Manitoba received **\$1,403,854** in Federal RSF-IPG support.

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

Innovation & Commercialization	Facilities Renewal	Information Resources	Equity, Diversity & Faculty Renewal
\$334,300	\$580,646	\$488,908	\$0

Innovation & Commercialization

- Sustain the Office of Partnership & Innovations

The University of Manitoba Office of Partnership & Innovations manages the innovations, commercialization and intellectual property generated by research activities.

By maintaining the support of Tech Transfer Specialists and dedicated marketing resources, UM continues to increase awareness and opportunities for Manitoba businesses by exposing them to post-secondary expertise, technologies and assets.

Facilities Renewal

- Medical Physics Lab Renovations – Allen 505, 506 and 507

The Faculty of Science requested renovation to three rooms encompassing ~ 2600 sq ft research laboratory for developing Medical Physics research group. This is essential for the research performed in the facility involving the physics of the human body and medical therapies.

The renovations comprised of:

- Relocating the Magnetic Resonance Imaging (MRI) and the microwave-based systems to the renovated laboratory location.
- Developing an imaging room to house the servers and monitors used for medical imaging

Its success will be determined as exciting and award-winning research are carried out in such diverse areas such as: breast imaging using MR, microwaves and x-ray

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scattering, portal image dosimetry and treatment verification, image processing, radiation therapy treatment delivery optimization, spectroscopic MRI, stereotactic radiosurgery, and the modeling, simulation and analysis of radiation transport.

- MMID Containment Level 3 Lab Renovations – Rm 516

The Max Rady College of Medicine, Department of Medical Microbiology and infectious Diseases (MMID) requested the renovations of their lab to a Contamination Level 3 (CL3) Aerosol Lab to allow the support of COVID-19 based research.

Due to supply chain delays, portions of the renovations were postponed with a goal of completion by March 2023.

The aerosol CL3 laboratory is not a minor undertaking and will:

- Allow researchers to work with a wide range of "Risk Group 3" agents making them more competitive for the research funding
- Attract infectious disease scientists and students
- Provide regional CL3 lab support to organizations such as Cadham Provincial Laboratory
- Provide training in high containment biosafety to the region
- Maintain its reputation as a national leader in infectious disease teaching and research

Its success will be determined when the new recruit(s) and current researchers are conducting their research in the updated lab space which meets the current safety requirements for a laboratory and increased opportunities for training and research collaborations for COVID-19 based research.

The University of Manitoba and Faculty of Health Sciences remain committed financially to ensure the facilities meet current safety standards and enhance the recruitment of researchers.

- Transgenic Facility Retrofit Electron Microscopy Renovations – Rms 7 & 8

The Dept. Human Anatomy and Cell Science (HACS) requested critically important renovations of a room at HACS to house the new JOEL-1400 TEM to ensure high-resolution TEM imaging of samples prepared at the Ultrastructural Imaging platform

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at HACS. This is expected to provide superior image quality and enhanced cutting-edge research output.

The renovations were initiated in 21-22 due to other IPG project delays and will comprise of:

- Modify existing structure to reduce vibrations
- Provide filtered air supply to eliminate airborne contaminants
- Provide sound insulation to the air supply ducts
- Provide power supply for the new microscopes independent from other building services

The main objective for the renovations is to boost TEM capabilities for all researchers interested in cell/tissue ultrastructure.

This work benefits a total of 41 research groups using the EM services, including users at the RFHS Colleges of Medicine (n=24), Pharmacy (n=1), Dentistry (n=2), Health Science Centre (n=1), Faculties of Science (n=1), Engineering (n=1), Kinesiology and Recreation Management (n=1), CHRIM (n=2), and SBRC (n=8).

Our goal at the Ultrastructural Imaging platform is to offer comprehensive EM services for the research community in all of Manitoba. Ultrastructural imaging of biological samples and nanoparticles is a critically important gold standard technology across a range of different biological and health-related research fields.

With the new Ultrastructural Imaging platform and new equipment in place, we anticipate a significant uptake in capacity and an increase in from the current 41+ users of this EM service. The new EM platform enables researchers to be more competitive with their research grant applications. It also enables new immunoelectron- and cryo-EM services to our clients.

Information Resources

- Research Administration Software (RAS) Project

The University of Manitoba continue to implement a new Research Administration Software (RAS) to track grant applications, contracts, certifications and awards more efficiently and electronically thus eliminating the current paper-based system.

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Due to delays with data migration, the Phase 1 – Human Ethics launch was postponed from February 2021 to September 2022, increasing costs in consulting, licensing and project management.

This project requires resources from various areas to design, develop and deploy the target state. The areas of impact are:

- Offices of Research Services, Research Ethics & Compliance, Environment Health & Safety for their expertise in current state and assist with documenting, conversion, testing and training
- Information Service & Technology to manage & lead design meetings and assist with communication, hardware setup, conversion and testing
- Additional system users required to input information into the new system (researchers, research admin staff) and the approval flows (VPs, AVPs, Senior Admin, Grant/Contract Officers, Affiliates and Finance Staff)
- Additional hardware for setup and maintenance
- Service Desk for additional support

The University remains committed to the implementation both financially and through in-kind support as it aligns to the Strategic Plan to “champion excellence in research, scholarly work and other creative activities and increase our position within the top fifteen research-intensive universities in Canada.”

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2021-2022 Performance Indicators and Outcomes

Project Title	IPG Priority Area	\$ IPG Actual Investment	Performance Objectives	Performance Indicators	Target Outcomes	Reported Outcomes
Medical Physics Lab Renovations – Allen 505, 506 and 507	Facilities Renewal	314,898	Accommodate the recruitment of researchers with a safe and usable space	Laboratory meeting the current safety requirements and availability for research	New recruits conducting their research and space meets current safety requirements	Developing the Medical Physics research group with Dr. Stephen Pistorius and newly hired Jessica Rodgers
MMID Containment Level 3 Lab Renovations – Rm 516	Facilities Renewal	107,096	Provide a Containment Level 3 (CL3) Aerosol Lab to allow the support of COVID-19 based research	Renovate top lab in the Department of Medical Microbiology & Infectious Diseases	Complete renovations by March 2022	Experienced supply chain delays to 22-23; new completion date March 2023
Transgenic Facility Retrofit Electron Microscopy Renovations – Rms 7 & 8	Facilities Renewal	158,652	To boost Transgenic Electron Microscopy (TEM) capabilities for all researchers interested in cell/tissue ultrastructure	Modify existing structure & power supply, eliminate airborne contaminants and sound insulation to the air supply ducts	Offer comprehensive Electron Microscopy services for the research community in Manitoba in the fall of 2022	Continue to invest in training staff & students; Project Initiated sooner (21-22) due to other IPG project delays

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Project Title	IPG Priority Area	\$ IPG Actual Investment	Performance Objectives	Performance Indicators	Target Outcomes	Reported Outcomes
Sustain the Office of Partnership and Innovations	Innovation and commercialization	334,300	Increase industry requests for expertise, negotiate IP terms and graduate students & post-docs creating companies based on their research	Salary for Tech Transfer Specialists	Maintain the management and administration of intellectual properties generated by research activities	Increased awareness and opportunities for Manitoba businesses of post-secondary expertise, technologies and assets
Research Administration Software (RAS) Project	Information Resources	488,908	Implement new software to track grant applications, contracts, certifications and awards more efficiently & electronically	Phase 1 - Human Ethics	Phase 1 - Human Ethics tentative go live scheduled Feb 2021	Delays with data migration postponed Phase 1 - Human Ethics launch to Sept 2022
				Phase 2 - Animal Care		Phase 2 – Animal Care replanned for Sept 2022 to March 2023
				Phase 3 – Grants and Contracts		Phase 3 – replanned for Sept 2022 to March 2023
				Phase 4 – Human Ethics Bannatyne		Phase 4 – pending key deliverables – ETA 2024
				Regular status reports from Project Management Team		