University of Manitoba | Faculty of Science

154th Meeting of the Faculty Council of Science
March 19, 2021 at 2:30pm
Virtual (Zoom)

MINUTES

1.0 Research Administration System (J. Doering, M. LeBar, C. Buonpensiere, J. Harder to present)

Dr. Doering presented to Faculty council members. Launch estimated to be late June 2020 in Human Ethics.

2.0 Approval of Revised Agenda

MOVED: T. Booth
SECONDED: A. Kumar
The Motion CARRIED

3.0 Approval of Minutes – 153rd meeting, February 5, 2021

MOVED: J. Boisvert
SECONDED: M. Gericke
The Motion CARRIED

4.0 Business Arising from Minutes

None

5.0 Faculty Senate Election Results

- A. Bunt – Elected
- P. Blunden Re-Appointed
- M. Shaw Re-Appointed

6.0 Wawatay Updates (S. Safi-Harb)

Dr. Safi-Harb presented and reviewed Wawatay initiatives

7.0 Dean's Report

a) Application for a temporary cessation of the Biotechnology Programs

Submitted a 2 year temporary cessation for the Biotechnology program
Will pass through Senate April 2021

b) Undergraduate Report and Updates (B. Li)

Review of 2021 online survey of current/former students of four year Science program. 460 respondents (40% current, 60% alumni)
Presentation will be distributed

c) Research Report (B. Mark)
Presented Faculty of Science Funding Overview from 2011-2020

d) Space updates (S. Baum)
Infrastructure updates

- Research
- Teaching / Students
- Meeting and General Access

8.0 Other Business

9.0 In Camera Session – Professor Emeriti nominations *(not Voting Faculty Council members to depart at this time)*
Presentation made to voting members of Faculty Council

10.0 Adjournment
Meeting adjourned at 3:45 pm

***Please send regrets to: Tracy.Foster@umanitoba.ca*

Join Zoom Meeting
https://zoom.us/j/99891752993
Meeting ID: 998 9175 2993

The RAS Project

[**R**esearch **A**dministration **S**ystem]

Faculty Council Presentation

University of Manitoba

Overview

- The Need
- Objectives of the Project
- The Solution
- Advisory Board
- Timeline
- RITHiM
- RAS & RITHiM

The Need

- handling of grants, contracts, and protocols (human, animal, biosafety) has been paper-based
  - > 100 forms on ORS website
  - for the uninitiated the form(s) required for approval and the process can be overwhelming
- difficulty collecting (physical) signatures
- not leveraging technology

Objectives of Project

- ease of use
  - one set of login credentials
  - context sensitive software (implications)

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- ease of use
  - one set of login credentials
  - context sensitive software (implications)
- reduction in effort, errors, and process
  - enter once, use many, field validation
  - linked to VIP
  - electronic workflow with configurable ”to do list”

Objectives of Project

- ease of use
  - one set of login credentials
  - context sensitive software (implications)
- reduction in effort, errors, and process
  - enter once, use many, field validation
  - linked to VIP
  - electronic workflow with configurable “to do list”
- increased transparency
  - ability to view where submissions and related tasks are within the process [date and time stamp]

The Solution

- survey of U15 showed no more than two institutions used the same software; some had developed their own software system
- looked at 4 vendors [only 2 had context sensitive software]
- awarded to IDΣATE™ in 2019
  - product of EnterpriseWeb®
- Senior team
  - Project Executive: Jay Doering, AVP (Partnerships)
  - Senior User: Gary Glavin, AVP (Research)
  - Senior Supplier: Mario Lebar, CIO

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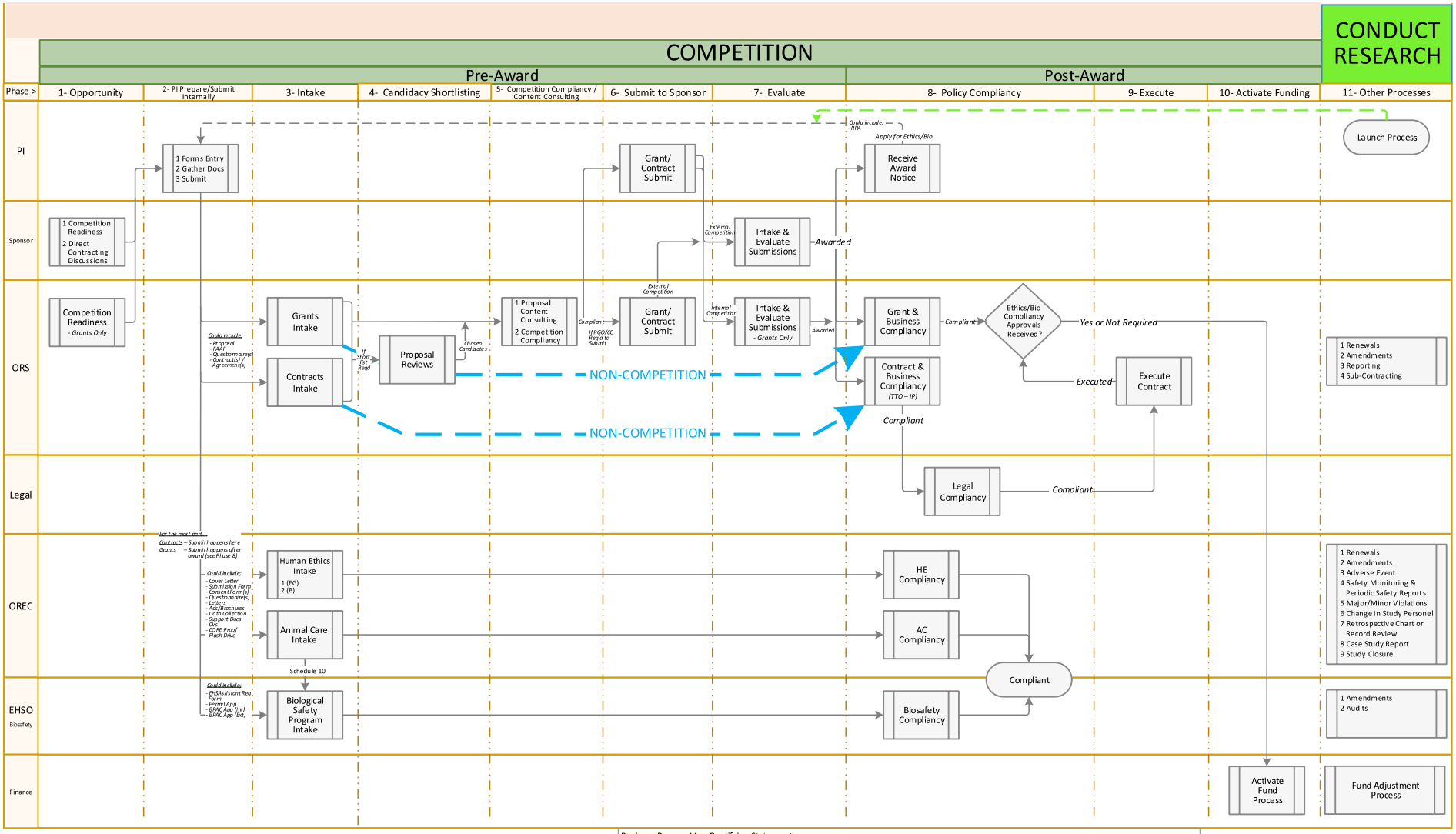
Advisory Board

- review and provide feedback on the “look”, ”feel”, and functionality of RAS
- ensure all relevant interfaces meet user/approver needs
- members
  - Hope Anderson [ADR Pharmacy]
  - Annemieke Farenhorst [ADR Agriculture]
  - Rob Hoppa [ADR Arts]
  - Brian Mark [ADR Science]
  - Jude Uzonna [ADR Medicine]
  - Leisha Strachan [ADR Kinesiology]

Project Scope

- 3200 users:
  - PIs, delegated users, authorize/advise users, ORS, OREC, and EHS staff
- 25 processes to build
- 1600 data fields to capture
- 24 MRT modules affected/replaced
- 125 reports to automate
- 9 interfaces with existing UM systems:
  - Banner, EHS, HRIS, …

Project is a significant undertaking!



Business Process Map Qualifying Statements:

- The 11 Phases of the map represent the breadth of work and standard processing path for Grants and/or Contracts. Alternate processes that stray from the standard workflow will be documented either within a more detailed mapping or within a specific workflow narrative
- Phase 11 processes are similar to 1 through 10 with some deviations. The specific process deviations have been identified within the specific Grant, Contract, Human Ethics, Animal Care or Biosafety detailed narratives and models

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Stakeholder Engagement

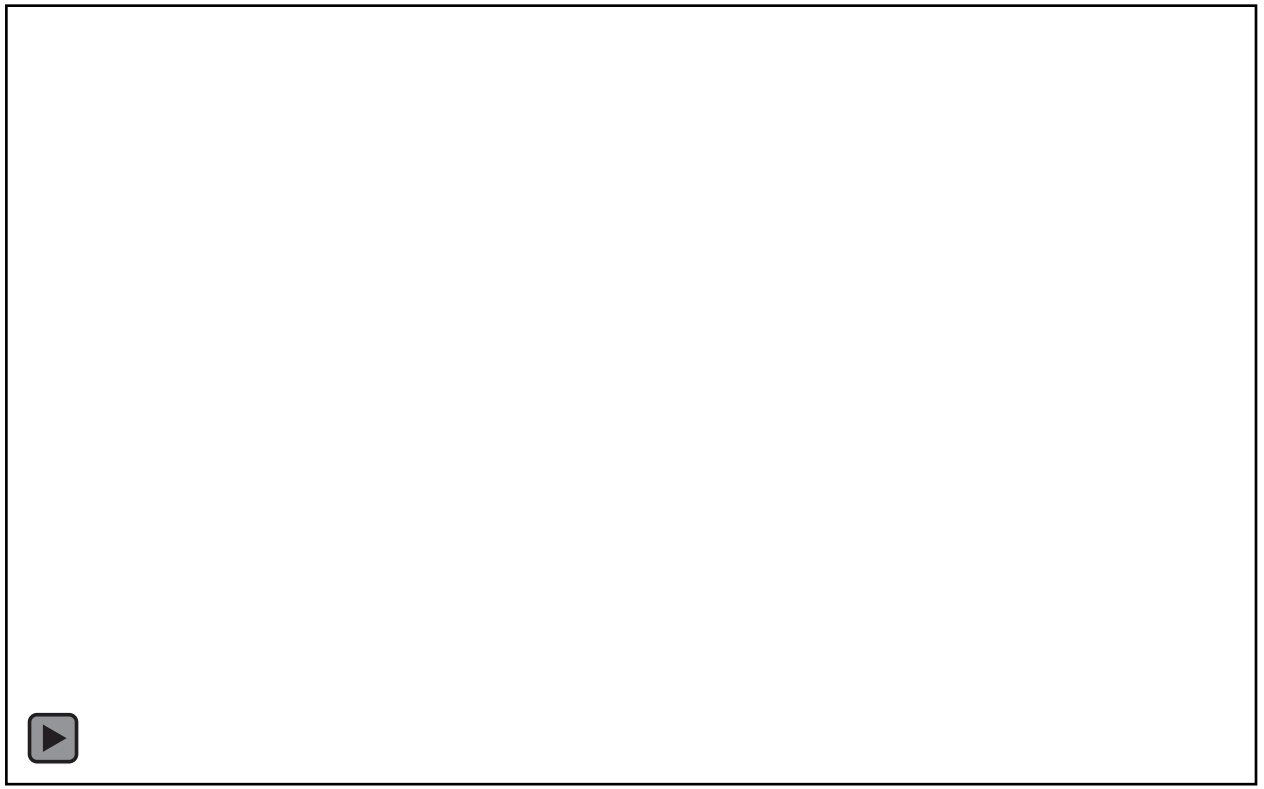
Goals for Stakeholders

- Understand the reasons for the change
- Understand the impact on day-to-day activities
- Motivated to be part of the change
- Users have the skills, knowledge & ability to be successful - using and adopting software
  - Training opportunities to adequately prepare user
  - IST Help Desk
  - RAS email for support

Impacts

- Submission, tasks, notifications and review approval process all electronic
- Researchers' staff will have access to approved protocols in system
- Automatic workflows – protocol submissions flow to correct role
- 3 to 2 HE FG Boards (ENREB dissolves)

HE FG Overview



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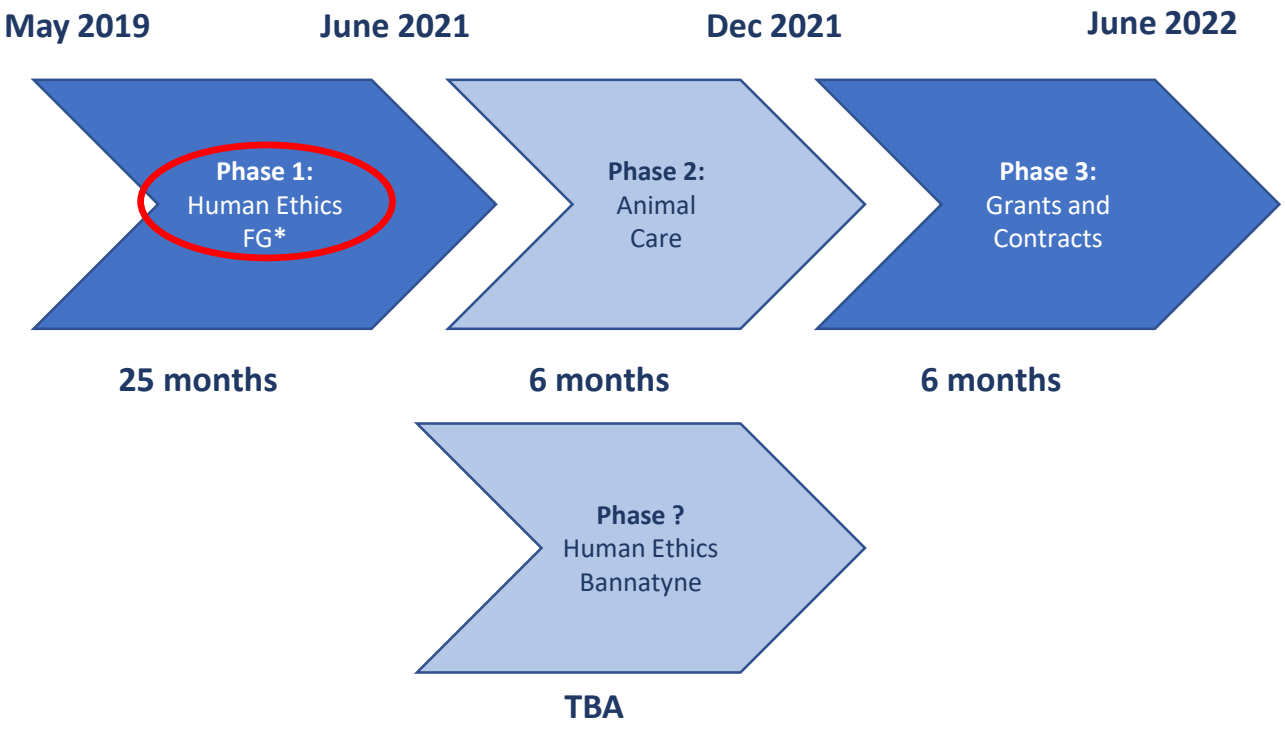
HE FG Testing Team

- ~15 personnel (profs, admin. and research assistants, and a RF) signed up to provide feedback on HE FG functionality
- will be future calls for volunteers to test the other modules [animal care, grants and contracts, health ethics] of RAS

High Level Schedule



*Includes Core software functionality for **all** Phases

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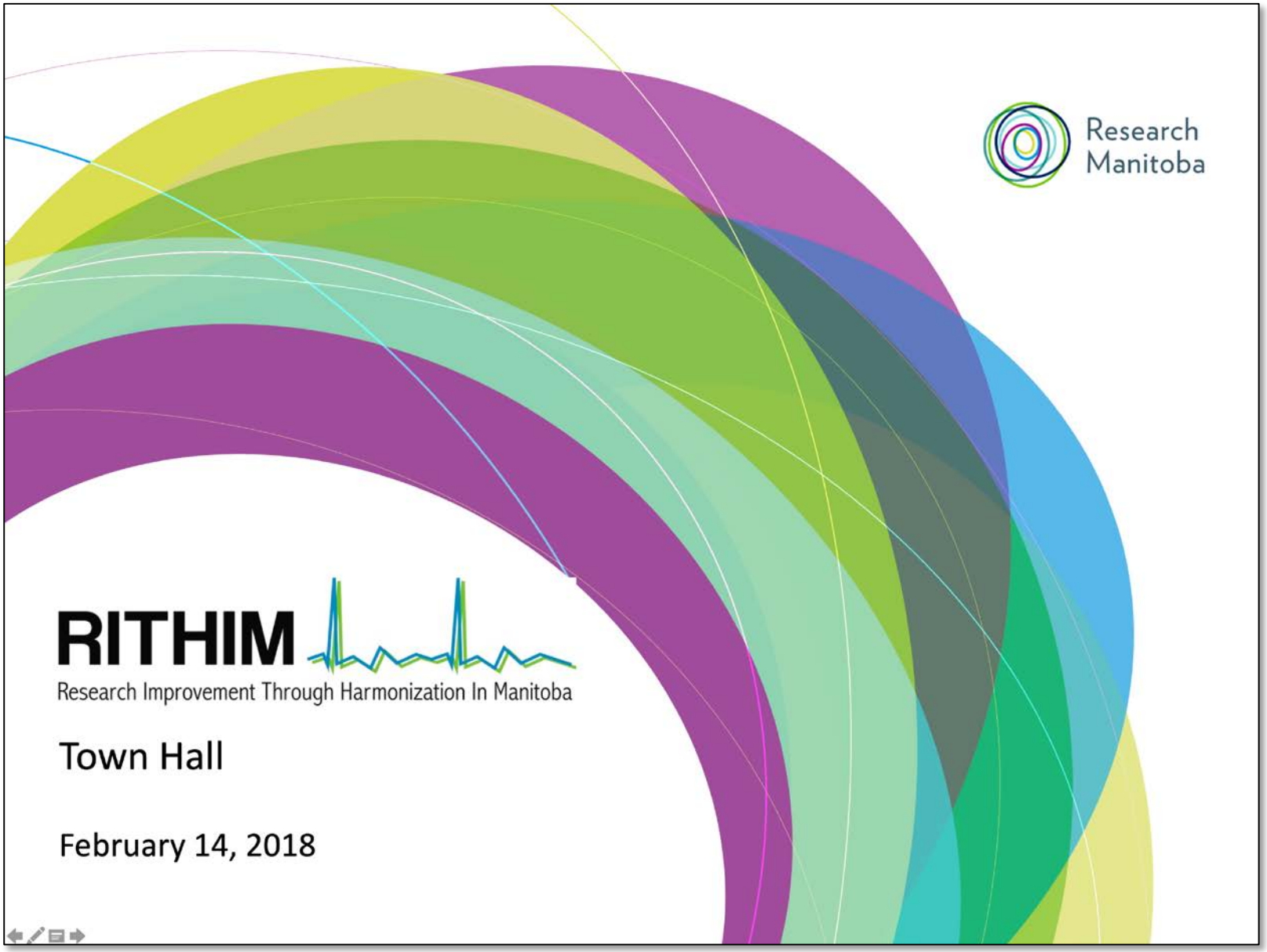

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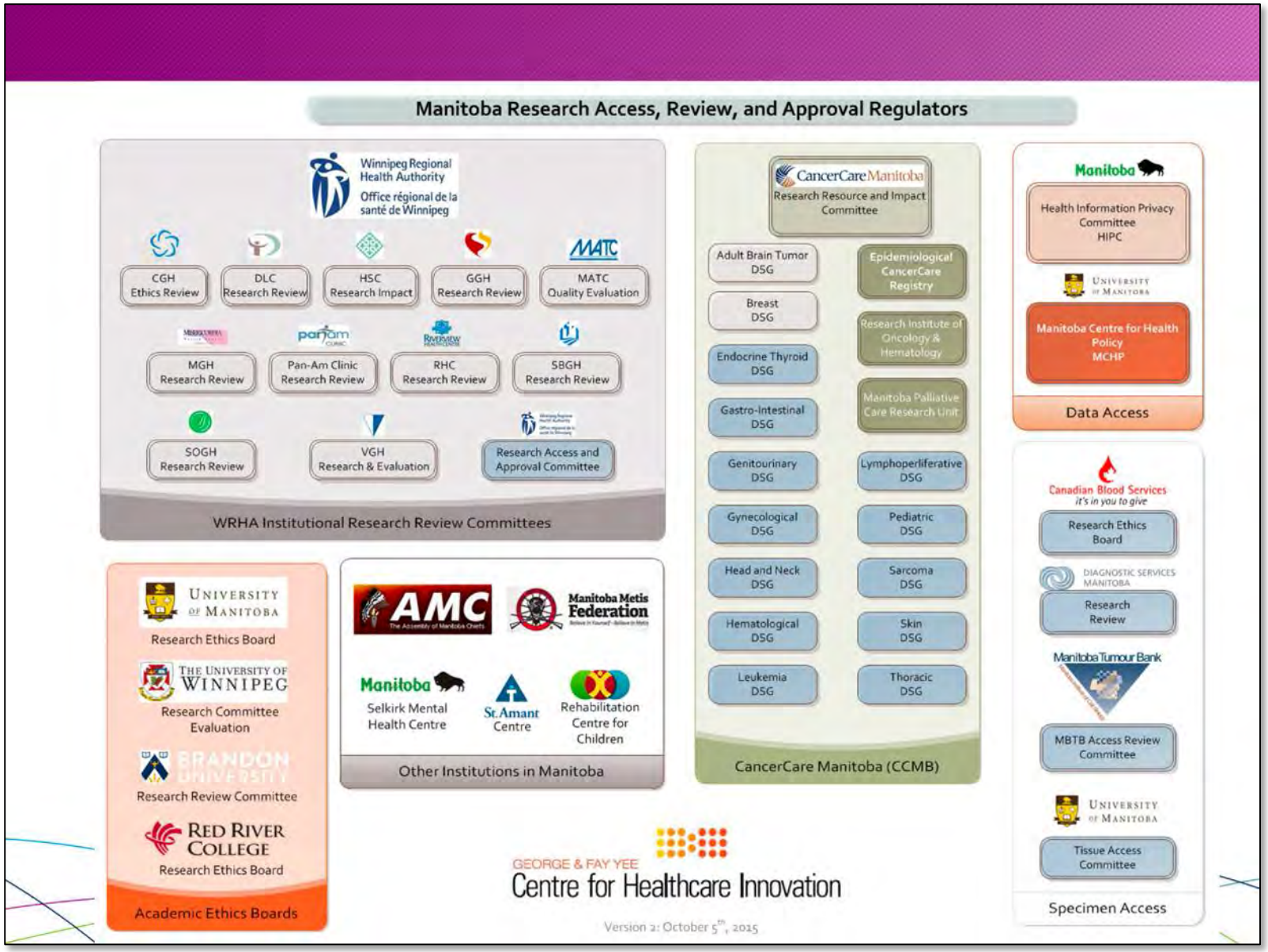
RITHiM

Government Directive

"*Develop recommendations to improve time-to-conduct for human clinical and data intensive research in Manitoba through process improvement and inter-agency harmonization, while considering privacy protection, and to establish the best mechanisms for increasing industry investment and partnership potential.*"



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RITHiM

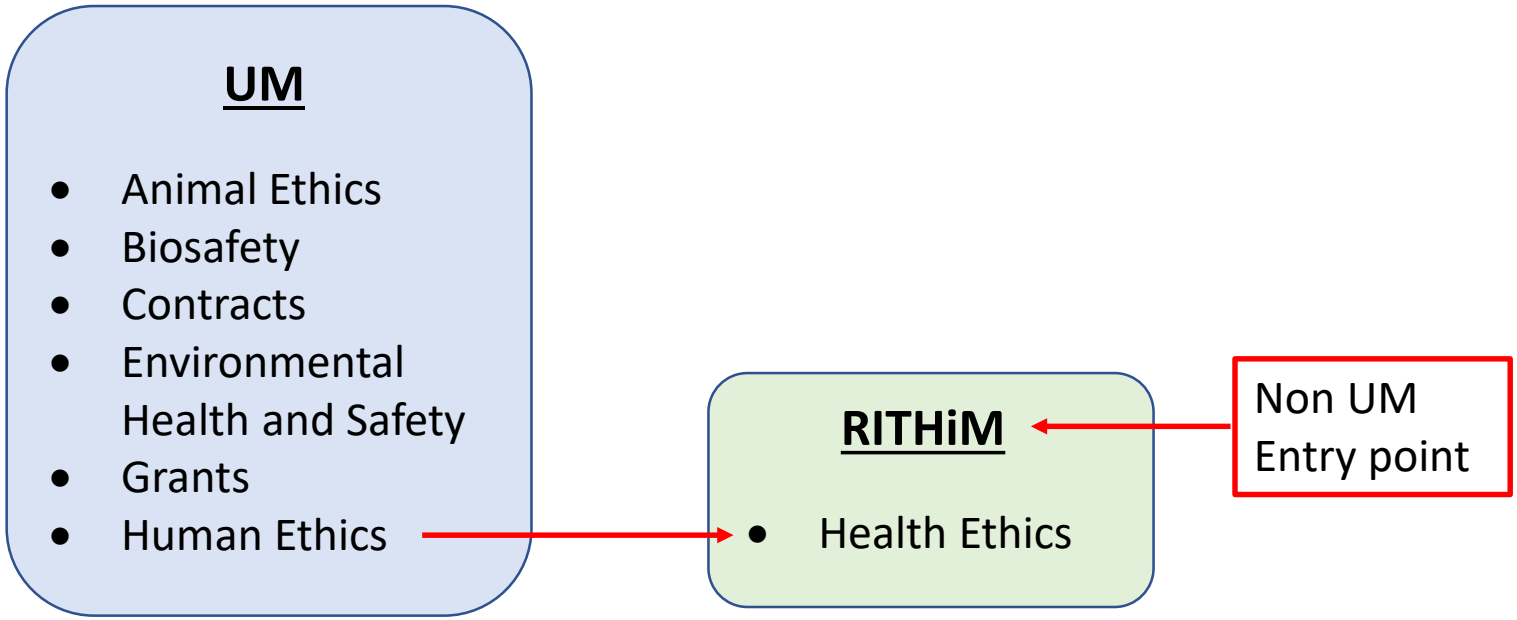
Recommendations [1 to 3 of 5]

- Establish a single amalgamated research review committee, which encompasses ethics, impact, and privacy reviews of clinical and data intensive research done at any relevant institution in Manitoba - using one application form.
- Designate an organizational delegate that facilitates the timely review of feasibility of data request and contract process at the approver's institution.
- Invest in the establishment of an electronic, web accessible, research administration and information system.

RITHiM + RAS

- RITHiM will run from the University's RAS server, but with its own customized separate install
- 98% of all the Province's human health clinical trials are by UM employees (includes GFTs)
- a series of questions will determine whether ethics will be undertaken by UM (i.e, HE FG) or RM's RITHiM
- HE B will continue as is (*i.e.*, paper-based) until RITHiM is ready to launch

RAS + RITHiM



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Wawatay

updates

Samar Safi-Harb
for the Wawatay team

Dennis Ballard (Lead)* dennis.ballard@umanitoba.ca
Stefi Baum, Teri DeKievit, Roger Dube, Krystyna Koczanski,
Carrie Selin, Kate Yee & Christine Adams

Faculty Council, March 19 (2021)

https://sci.umanitoba.ca/wawatay/

Wawatay*

Goals

- Dramatically **grow** the number of Indigenous science graduates
- Develop **closer ties** to Indigenous communities
- Infuse Indigenous **science approaches and perspectives** into science education and strengthen mutual **research**

*** Northern Lights (Anishinaabe)**

Summer 2021 and beyond

Summer 2021 session (July 12, 6 weeks)

- ~12 students: "Wawatay Scholars" (being recruited)
- In-person summer session (approved by the University)
- Lodging secured (St Johns College)
- Wawatay space: 108 Allen Bldg.
- Program planning: in progress

Summer 2021 and beyond

Summer 2021 session (July 12, 6 weeks)

- **GOALS:**
  - Cohort spirit
  - Assessment
  - Exposure to research
  - Professional development skills
  - Tailored plan for advising and support
  - Familiarize students with the University environment

- **Beyond summer:** project-based pilot course, research for credit, continued cultural/social and academic support; peer mentorship

- **External Advisory Board** (being formed)

Stay tuned!

https://sci.umanitoba.ca/wawatay/

FOUR-YEAR PROGRAM SURVEY ANALYSIS

University of Manitoba Faculty of Science

March 2021

HANOVER RESEARCH

TABLE OF CONTENTS

INTRODUCTION

INTRODUCTION

OVERVIEW

KEY OBJECTIVES

- Understand four-year degree program current student and alumni perceptions of their educational experience.
- Assess the level of student satisfaction with the four-year programs and identify opportunities that they would like to have/ to have had while pursuing their studies.
- Identify the strengths of the four-year degree.
- Understand what current students plan to do /and alumni have done after graduation..
- Identify the ways that current students and alumni think that the four-year degree has supported their professional goals.

SURVEY ADMINISTRATION & SURVEY SAMPLE

- The survey was administered online in January and February 2021 using the Qualtrics platform.
- Respondents were recruited via an open link on University of Manitoba Faculty of Science social media and email appeals.
- The analysis includes a total of 460 respondents following data cleaning.
- Results are segmented in the report by relationship to Manitoba Science (i.e., current student, alumna/us) and graduation year. Additionally, the data supplement includes segmentation by primary major and participation in the Science Co-op program.

RESPONDENT QUALIFICATIONS

- Must be a current undergraduate student or alumni of the University of Manitoba Faculty of Science.
- Must be enroled in or alumni of the three-year Bachelor of Science General program or one of three four-year programs: the Bachelor of Computer Science Honours program, the Bachelor of Science Honours program, or the Bachelor of Science Major program.

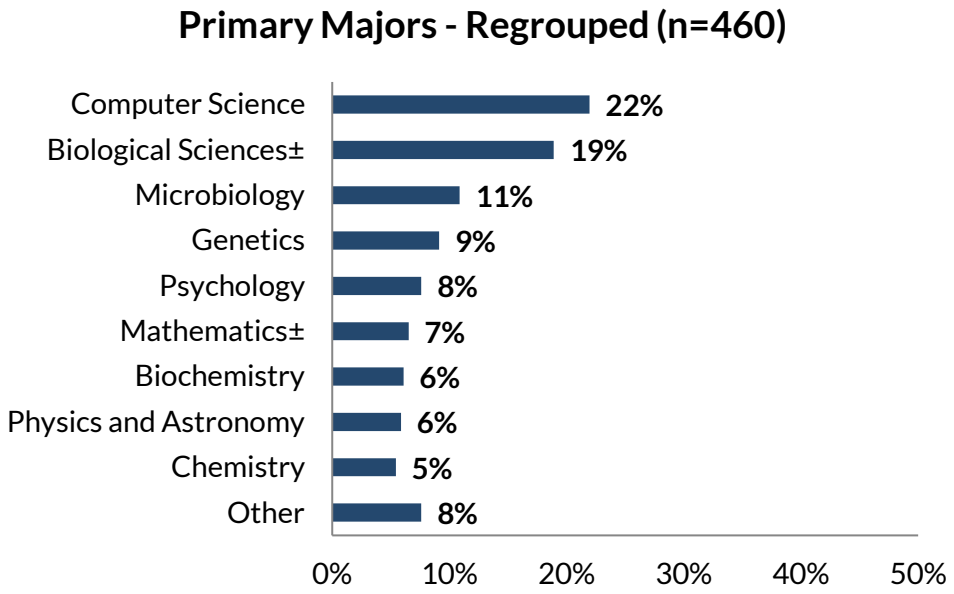
METHODOLOGY

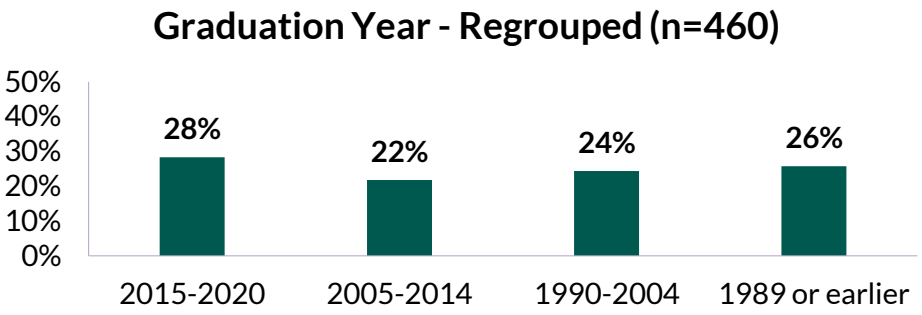
- Sample sizes vary across questions as some questions only pertain to a subset of respondents.
- Conclusions drawn from a small sample size (n<20) should be interpreted with caution. Some questions, including all of the questions addressed to alumni of Mathematics and alumni of Physics & Astronomy, have been excluded from the report due to small sample sizes.
- For full aggregate and segmented results, please consult the accompanying data supplement.
- Statistically significant difference (95% confidence level) between groups are noted with an asterisk (*).
- After data collection, Hanover identified and removed low-quality respondents.
- “Don’t Know or Not Applicable” responses, and equivalent, are often excluded from the figures and analysis in order to focus on respondents who did express an opinion.

THE SAMPLE

The sample is comprised of 460 respondents, 40% of whom are currently enroled in programs at the University of Manitoba Faculty of Science and 60% of whom are alumni.

- 28% of the alumni are recent graduates (2015-2020), 46% are early- to mid-career (1990-2014), and 26% are late-career or retired (1989 or earlier).
- The most common primary majors are Computer Science (22%) and Biological Sciences (19%).
- 51% of respondents are/were enroled in the four-year Bachelor of Science Major program; 38% are/were enroled in four-year Bachelor of Science Honours program, 12% are/were enroled in the four-year Bachelor of Computer Science Honours program, and 3% are/were enroled in the three-year Bachelor of Science General program.
- 21% of respondents are participating in or participated in the Science Co-op Program.





±Text was abbreviated for the chart. Full text is available in the data supplement.
‡Mathematics includes the mathematics major as well as applied math and actuarial math.

RECOMMENDATIONS & KEY FINDINGS

RECOMMENDATIONS

- **Expand career guidance and professional skills development opportunities.** Pursuing career goals is the most common objective of students entering the Bachelor of Science degree program, and 53% of respondents strongly agree that the program helped them to meet this goal. Nevertheless, four-fifths of all respondents agree that Manitoba could improve in career guidance (83%), professional skills development (82%), and opportunities for internships (79%). The proportion of respondents who would like to see improvements in these areas is even higher among current students and recent alumni.
    - **Continue promoting the Science Co-op program.** Satisfaction with the Science Co-op program is quite high. 75% of alumni participants and student participants who have completed three work terms are completely satisfied with the program, and 82% believe that it was very or extremely useful to their career. Yet only one-fifth of respondents participate/participated in the program, and 17% of respondents had not heard of it. 59% of alumni respondents who did not participate in the Co-op program would choose to participate if they could go back and make a different decision.
- **Introduce greater flexibility where possible.** Flexibility is of greater concern to current student and recent alumni respondents than it was to more senior alumni. 86% of current students and 72% of recent alumni would like to see more flexibility in course choices, 64% of current students and 53% of recent alumni would like to see more online courses, and 71% of current students and 64% of recent alumni would like to see different class scheduling . Only 18% of current students and 29% of recent alumni are very satisfied with course scheduling.
- **Expand advising resources.** Only 47% of current students and 38% of recent alumni are somewhat or very satisfied with Manitoba's advising. Only 13% of current students are very satisfied. If they could go back and do it again, 87% of honours alumni respondents would make the same choice. However, among major program alumni respondents, only 48% would do the same again, while 33% would choose the honours program, and 17% would choose something other than a Bachelor of Science degree.

APPLICATION & ENROLMENT

The four-year Bachelor of Science at the University of Manitoba is a top option for most applicants. Four-fifths of respondents indicate that the University of Manitoba was the only school to which they applied (70%) or it was their first choice (10%).

The Manitoba Science honours programs appeal to students who would like to pursue graduate studies and to those who have an interest in research. Overall, half of honours program respondents (51%) chose this program as the best route to graduate school, and one-third of respondents (34%) thought that the honours program would help them to gain valuable research experience.

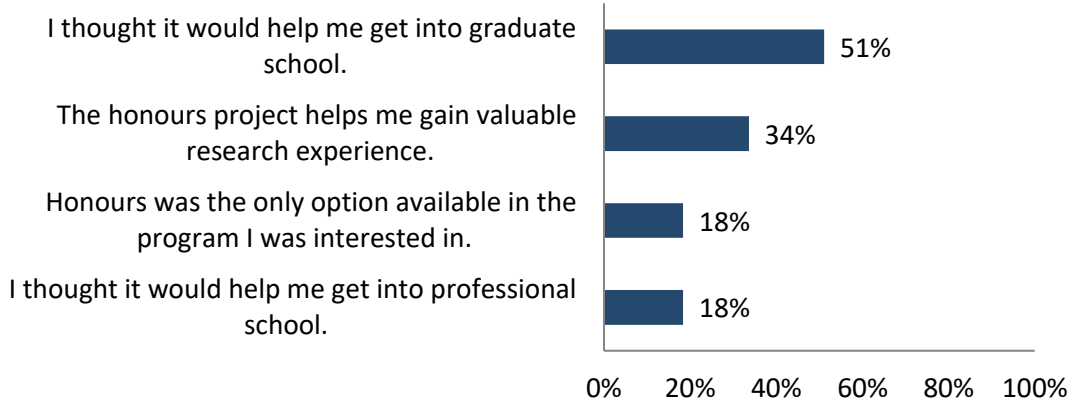
The pursuit of graduate education is a more common motivation among current students than it was among alumni. 62% of current student respondents cite an interest in graduate school compared with 46% of alumni respondents.

The major program appeals to students who lack interest in the honours program requirements.

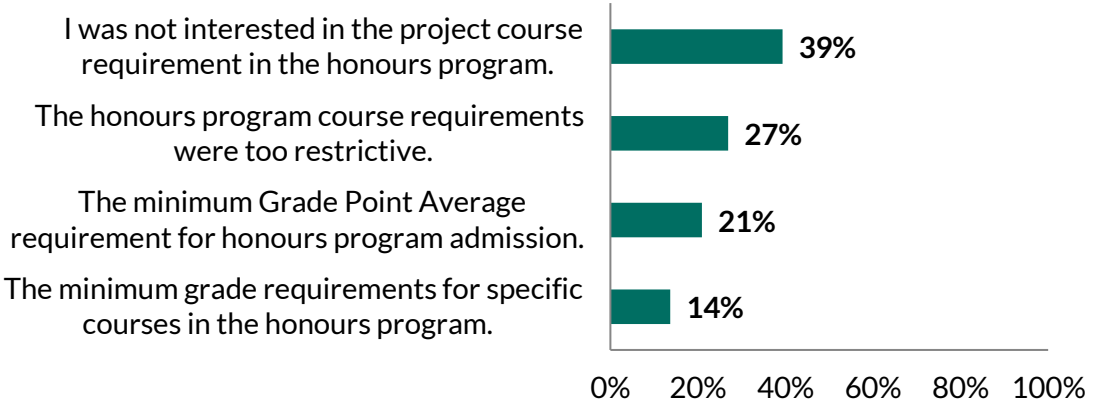
If they could go back and do it again, 87% of honours alumni respondents would make the same choice. Among major program alumni respondents, only 48% would do the same again, while 33% would choose the honours program, and 17% would choose something other than a Bachelor of Science degree.

Top factors influencing respondents' decision to enrol in…

… an honours program instead of a major program† (n=223)



… a major program instead of an honours program†(n=234)



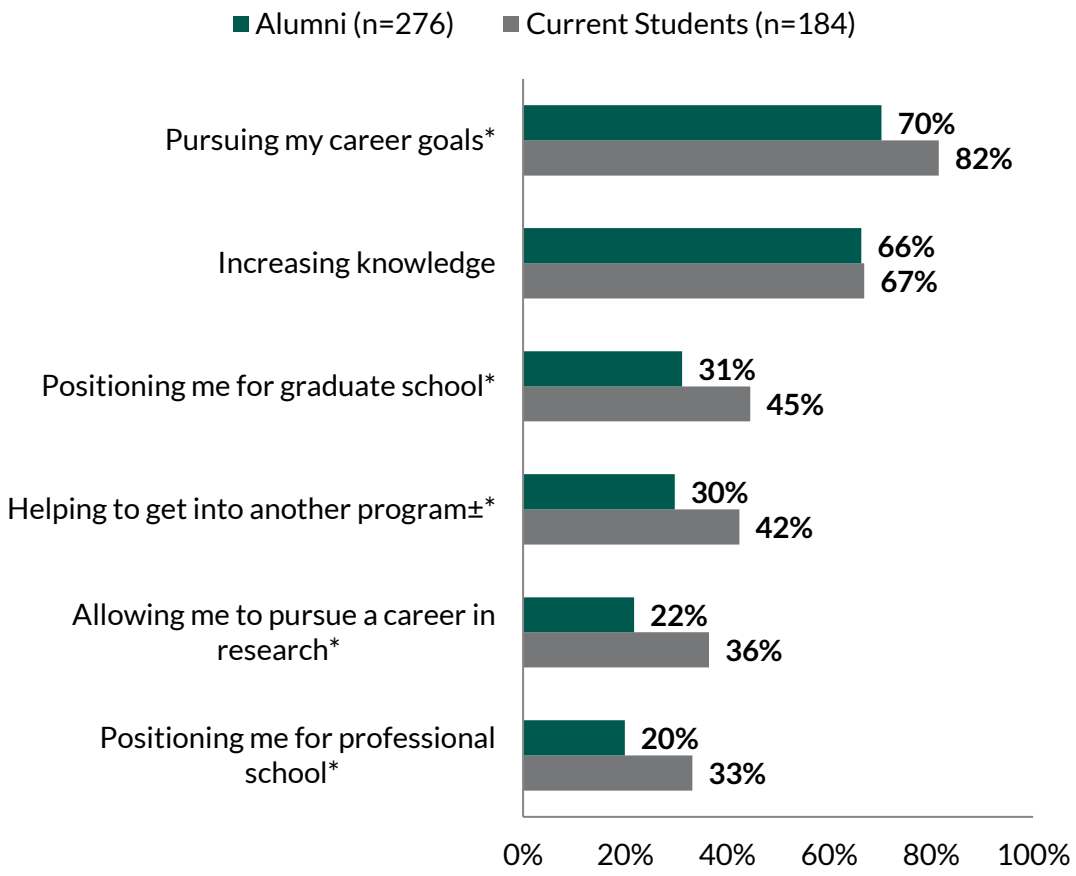
†Respondents were asked to select all that apply. Percentages sum to more than 100.

EDUCATION GOALS

Respondents report that the Bachelor of Science program helps students to achieve their goals.

- Overall, three-quarters of respondents (75%) report that they chose the Bachelor of Science program to pursue their career goals, and 87% of these respondents somewhat (33%) or strongly agree (53%) that the program helped them to achieve that goal.
- Two-thirds of respondents (67%) hoped to increase their knowledge, and 95% of those respondents somewhat (34%) or strongly agree (62%) that the program helped them to achieve that goal.
- Fewer respondents report that they were motivated to choose the Bachelor of Science degree to help them get into graduate school (37%), another program (35%), or professional school (25%), or to pursue a career in research (28%). However, among respondents with these goals, more than 80% somewhat or strongly agree that the program helped them to achieve their goal.

Which of the following goals were important in helping you decide to enter a Bachelor of Science degree program?†



†Respondents were asked to select all that apply. Percentages sum to more than 100.
±Text is abbreviated in chart. The full text is available in the data supplement.

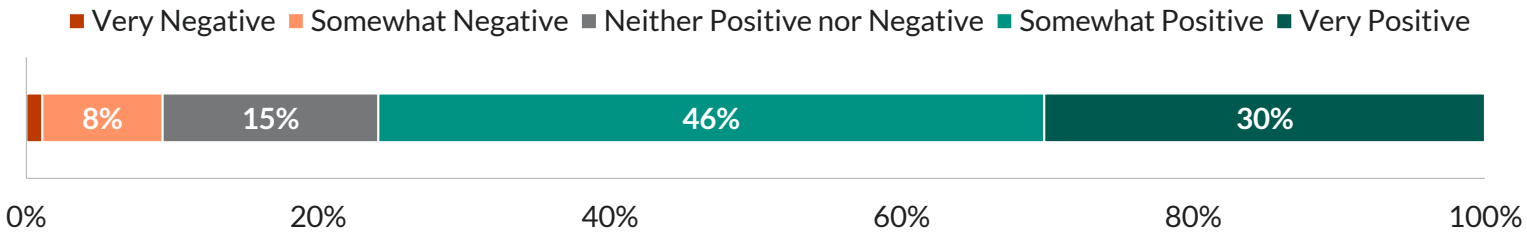
PERCEPTIONS

Overall, student and alumni perceptions of the Bachelor of Science programs at the University of Manitoba Faculty of Science are positive. Three-quarters of all respondents (76%) indicate that their perception is somewhat (46%) or very positive (30%).

A higher proportion of alumni hold very positive views of the Bachelor of Science programs than current students.

- 39% of alumni report that their impression of the programs is very positive compared with 17% of current students.
- 28% of alumni would recommend the Bachelor of Science programs to a friend, family member, or colleague compared with 13% of current students.

Overall, what is your perception of the Bachelor of Science programs at University of Manitoba Faculty of Science? (n=460)



PROGRAM SATISFACTION

Overall satisfaction with classes, instructors, the curriculum, the rigor of the program, and the structure of the program is also quite high. Three-quarters of all respondents are somewhat or very satisfied with each of these elements of the program.

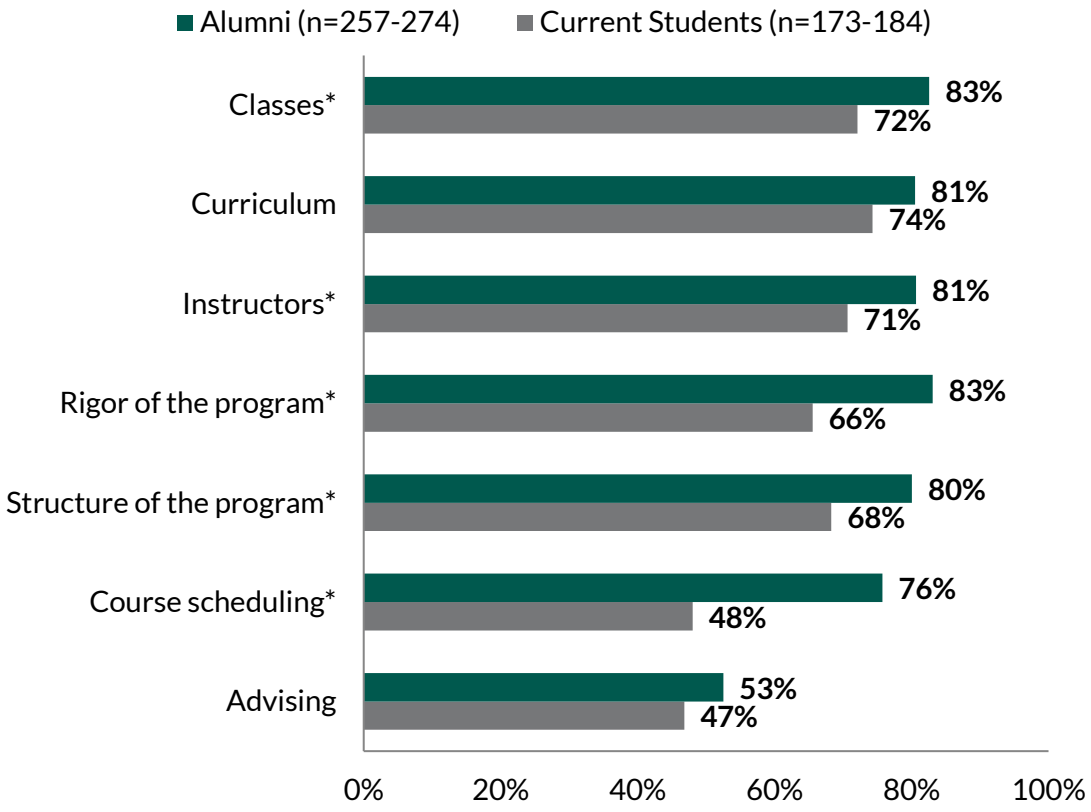
Satisfaction is consistently higher among alumni than among current students.

- For each element of the program, the statistically significant difference between alumni and current student respondent views is among the proportion of respondents who are very satisfied. The proportion of respondents who are somewhat satisfied is similar for both alumni and student respondents.

Fewer respondents are satisfied with course scheduling and advising, including fewer than half of current student respondents.

Please indicate your level of dissatisfaction or satisfaction with the following elements of the Bachelor of Science degree programs.±

% Somewhat or Very Satisfied



±Text edited for clarity. Original text is available in the data supplement.

THE SCIENCE CO-OP PROGRAM

Satisfaction with the Science Co-op program is quite high.

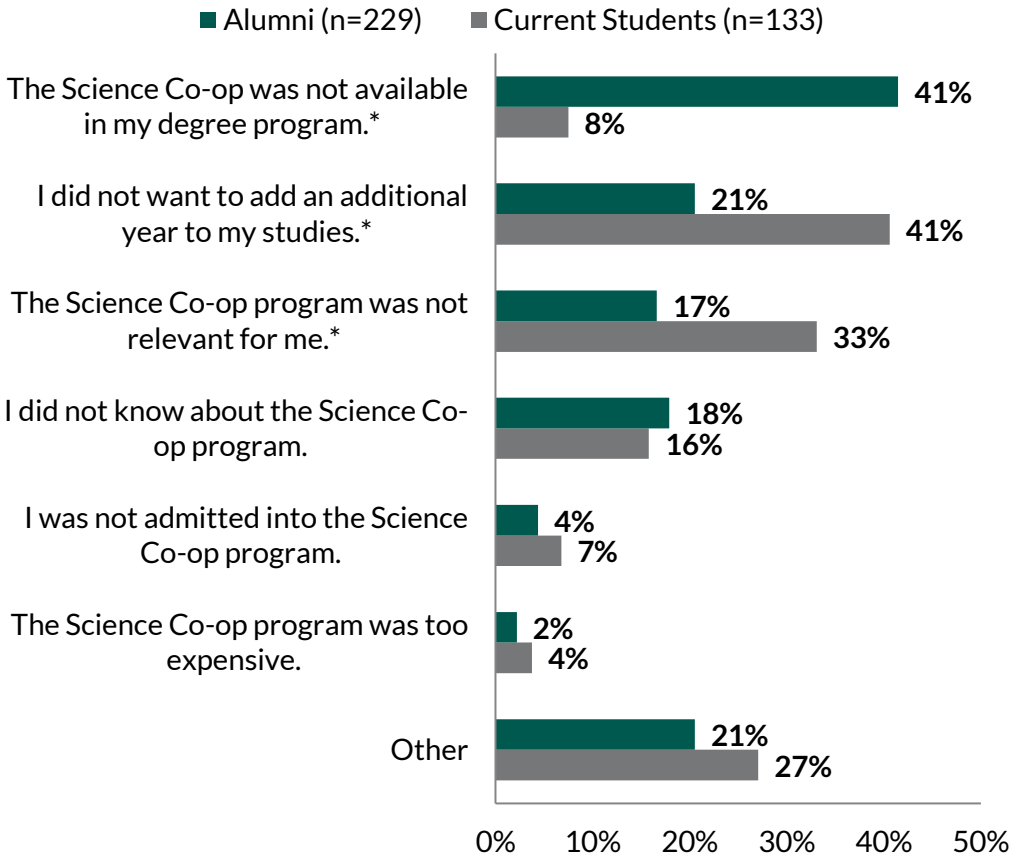
- Among the 21% of respondents who participate/participated in the Science Co-op program and have completed all three co-op work terms, 75% are completely satisfied and another 15% are somewhat satisfied.
- 82% of these respondents believe that participating in the program was very or extremely useful to their future career.

The top reason that alumni did not participate in the Science Co-op program is that it was not available in their degree program (41%). If they could go back and do the degree again, 59% of alumni respondents who did not participate in the Co-op program would choose to participate.

The top reasons that current students do not participate in the Co-op program is that it adds additional time to the program (41%) or they don't believe that it is relevant to them (33%).

17% of respondents were not aware of the Science Co-op program.

Which of the following reasons best describe why you [are not participating/did not participate] in the Science Co-op program?†



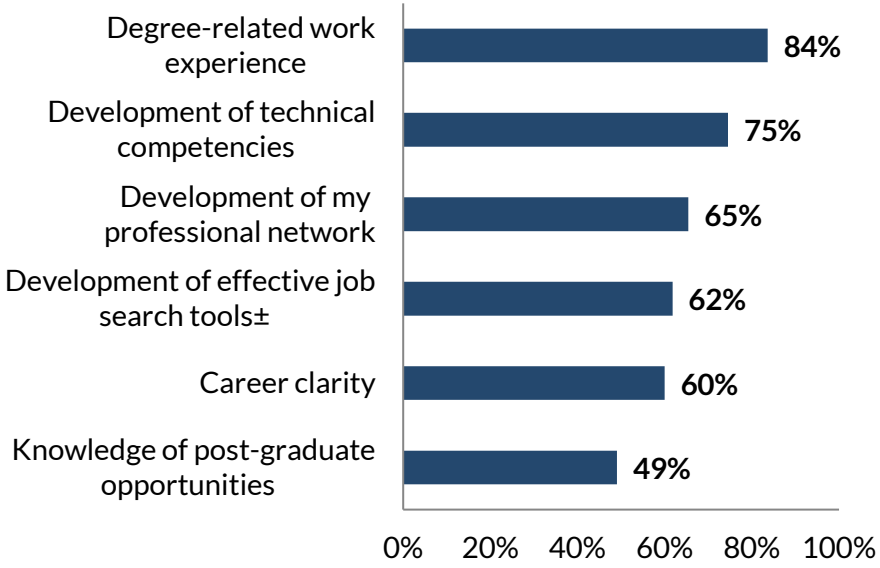
†Respondents were asked to select all that apply. Percentages sum to more than 100.

VALUE OF THE CO-OP PROGRAM

Most Co-op participant respondents believe that the most valuable aspects of the Co-op experience are degree-related work experience (84%) and development of technical competencies (75%). Three-fifths or more also value its contribution to their developing a professional network (65%), effective job search tools (62%), and career clarity (60%).

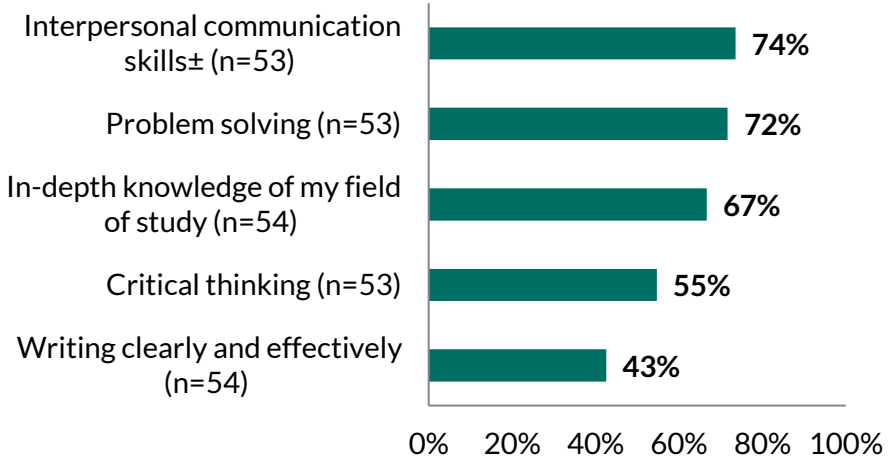
More than 70% of Co-op participant respondents indicate that that the Co-op program was very or extremely influential in helping them to develop skills in interpersonal communication (74%) and problem solving (72%). 67% report that the program was very or extremely influential in helping them to develop in-depth knowledge of their field of study.

What were the most valuable aspects of your Science Co-op experience? †‡(n=55)



How influential was participating in the Science Co-op program to your knowledge, skills, and personal development in the following areas?‡

% Very or Extremely Influential



†Respondents were asked to select all that apply. Percentages sum to more than 100.
‡Only respondents who participated in the Science Co-op program and who have completed the three co-op work terms were asked to respond.
±Text is abbreviated in chart. The full text is available in the data supplement.

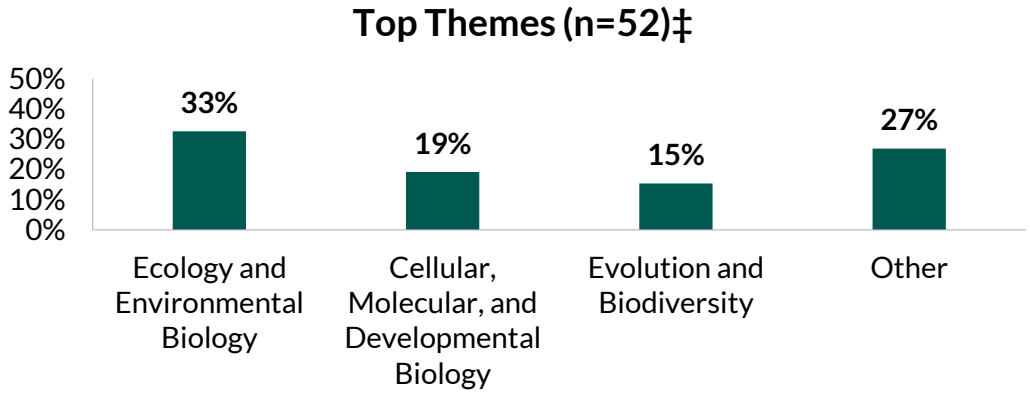
BIOLOGICAL SCIENCES COURSE ENROLMENT

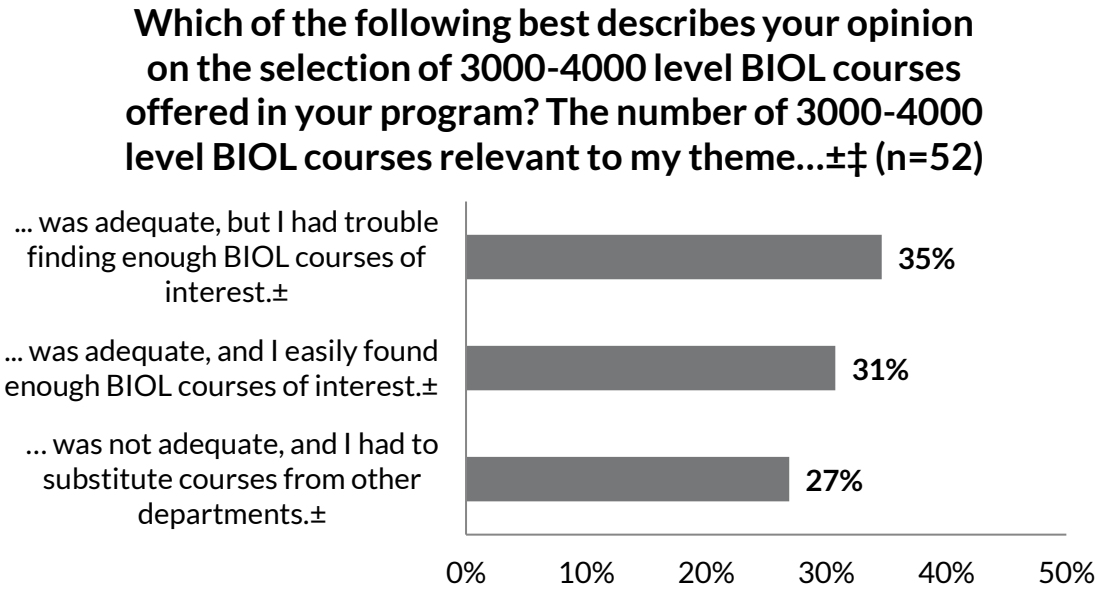
There is no consensus among alumni respondents who studied the biological sciences regarding the sufficiency or the interest-level of 3000-4000 level courses.

- 31% of biological science alumni respondents are satisfied with the number and interest-level of 3000-4000 level courses in their theme.
- 35% agree that the number of courses relevant to their theme was adequate but do not agree that the courses offered were sufficiently interesting.
- 27% found the number to be inadequate.

There is consensus on ease of enrolment in the required organismal courses.

- 82% of biological science alumni respondents somewhat or strongly agree that registering and enroling in required organismal courses on the first attempt presented no issues.
- Enrolment in Biology of Fungi & Lichens is the easiest. 95% of respondents who enroled in this course report that it was somewhat (20%) or very (75%) easy.





‡Only alumni respondents whose primary major was Biological Sciences were asked to respond.
±Text edited for clarity. Original text can be found in the data supplement.

CAREER PATH

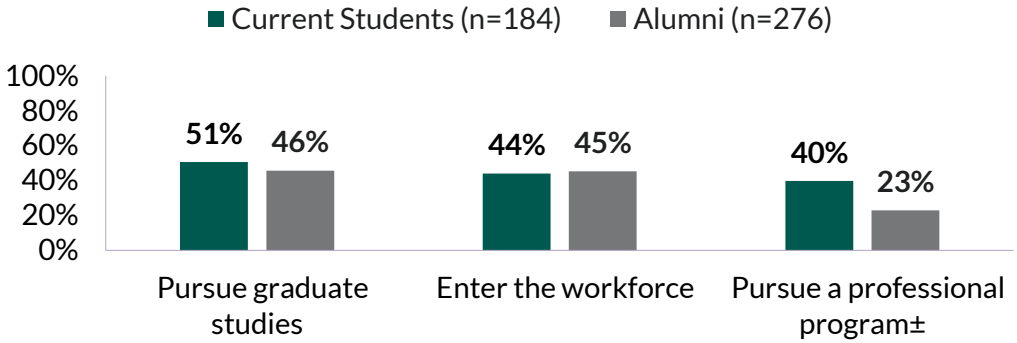
Overall, 48% of respondents plan to pursue or pursued graduate studies, 45% planned to enter or entered the workforce, and 30% planned to pursue or pursued a professional degree.

- Among alumni, pursuit of graduate studies has declined over time. Only 28% of recent alumni (2015-2020) pursued graduate studies compared with 45% of alumni respondents who graduated between 2005 and 2014, 52% of those who graduated between 1990 and 2004, and 59% of those who graduated in 1989 or earlier.

- Interest in professional programs is stronger among current students. 40% plan to pursue a professional program compared with 23% of alumni.

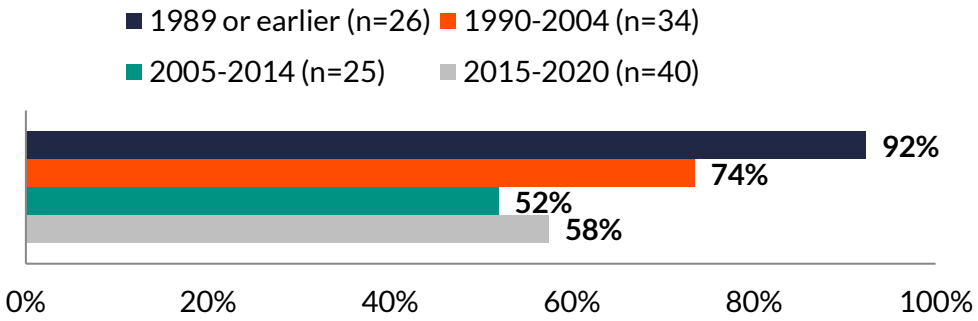
The prevalence of first jobs related to the Bachelor of Science education has declined over time. 92% of alumni respondents who entered the workforce and graduated in 1989 or earlier and 74% of those who graduated between 1990 and 2004 indicate that their first job was related to their education compared with 52% to 58% of more recent alumni respondents. 55% of respondents whose first job was not related to their education report that they were unable to find a job in their area of study.

What do you plan to do/What did you do after graduating from a Bachelor of Science degree program?†



Please indicate how much you disagree or agree with the following statement: My first job was related to my Bachelor of Science education.‡

% Somewhat or Strongly Agree



†Respondents were asked to select all that apply. Percentages sum to more than 100.
±Text abbreviated. Full text is available in the data supplement.
‡Only alumni respondents who entered the workforce after graduation were asked to respond.

BEST & WORST ASPECTS OF THE PROGRAM

Overall, the most commonly cited best aspects of the program are the curriculum (41%), the cost of attendance (35%), and the faculty (35%).

- Among current student respondents, the most commonly cited best aspects of the program are job prospects after graduation and research opportunities.
- There is substantial disagreement among current students regarding the cost of attendance (33% consider it one of the worst aspects of the program) and among alumni on job prospects after graduation (35% consider it one of the worst aspects of the program).

Aspects of the 4-year degree program at the University of Manitoba Faculty of Science	Best Aspects†‡			Worst Aspects†‡		
	Total	Current Students	Alumni	Total	Current Students	Alumni
	n=454	n=179	n=275	n=454	n=179	n=275
Curriculum**	41%	33%	46%	12%	16%	9%
Cost of attendance**	35%	29%	39%	23%	33%	17%
Faculty*	35%	31%	37%	14%	21%	9%
Job prospects after graduation*	32%	35%	30%	29%	20%	35%
Research opportunities	31%	35%	28%	16%	15%	17%
Course programming**	29%	22%	33%	18%	26%	13%
Time to complete program*	25%	29%	23%	11%	16%	7%
Online courses availability**	13%	21%	7%	25%	33%	19%
Financial aid**	9%	13%	7%	13%	19%	9%

†Respondents were asked to select all that apply. Percentages sum to more than 100.
‡Only respondents who are currently pursuing or who graduated from the four-year programs were asked to respond.
**Indicates statistically significant difference at the 95% level between current students and alumni for both the best aspects and the worst aspects of the program.
* Indicates statistically significant difference at the 95% level between students and alumni for the worst aspects of the program only.

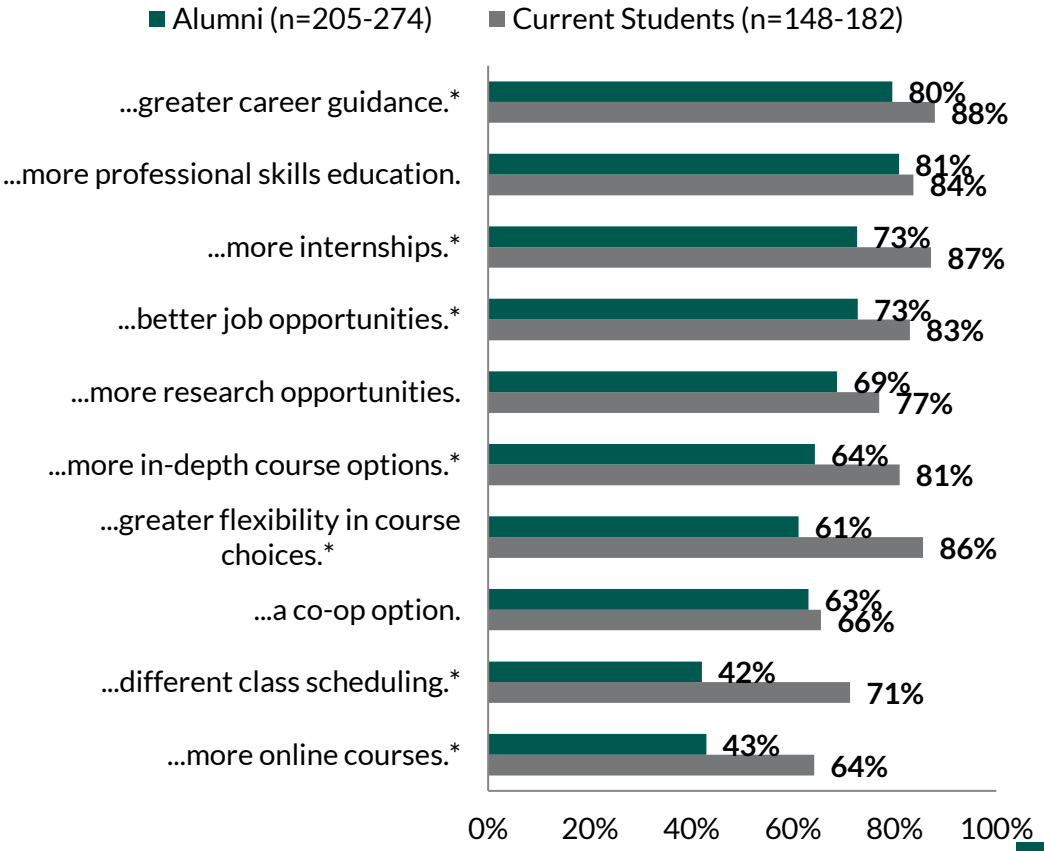
POSSIBLE IMPROVEMENTS

There is substantial support for improvements in most areas under consideration. Overall, the top three areas for improvement are career guidance (83%), professional skills education (82%), and the opportunity for internships (79%).

- In all areas, a higher proportion of student respondents express interest in improvement than alumni respondents.
- A much higher proportion of students are interested in changes in the type, format, and scheduling of courses offered. 86% want greater flexibility in course choices; 81% want more in-depth course options; 71% want different class scheduling; and 64% want more online courses.
- In many areas, recent alumni responses are more similar to current students than to senior alumni. For example, 83% of recent alumni respondents would have liked better job opportunities, 76% would have liked more in-depth course options, 72% would have liked greater flexibility in course choices, 64% would have liked different class scheduling, and 53% would have liked more online courses.
- 92% of recent alumni would have liked to see more professional skills education compared with 80% or fewer of more senior alumni.

Please indicate how much you agree or disagree with the following statements. In the Bachelor of Science degree programs, I would like to see/have liked to have seen...

% Somewhat or Strongly Agree



HANOVER RESEARCH

Thank you.

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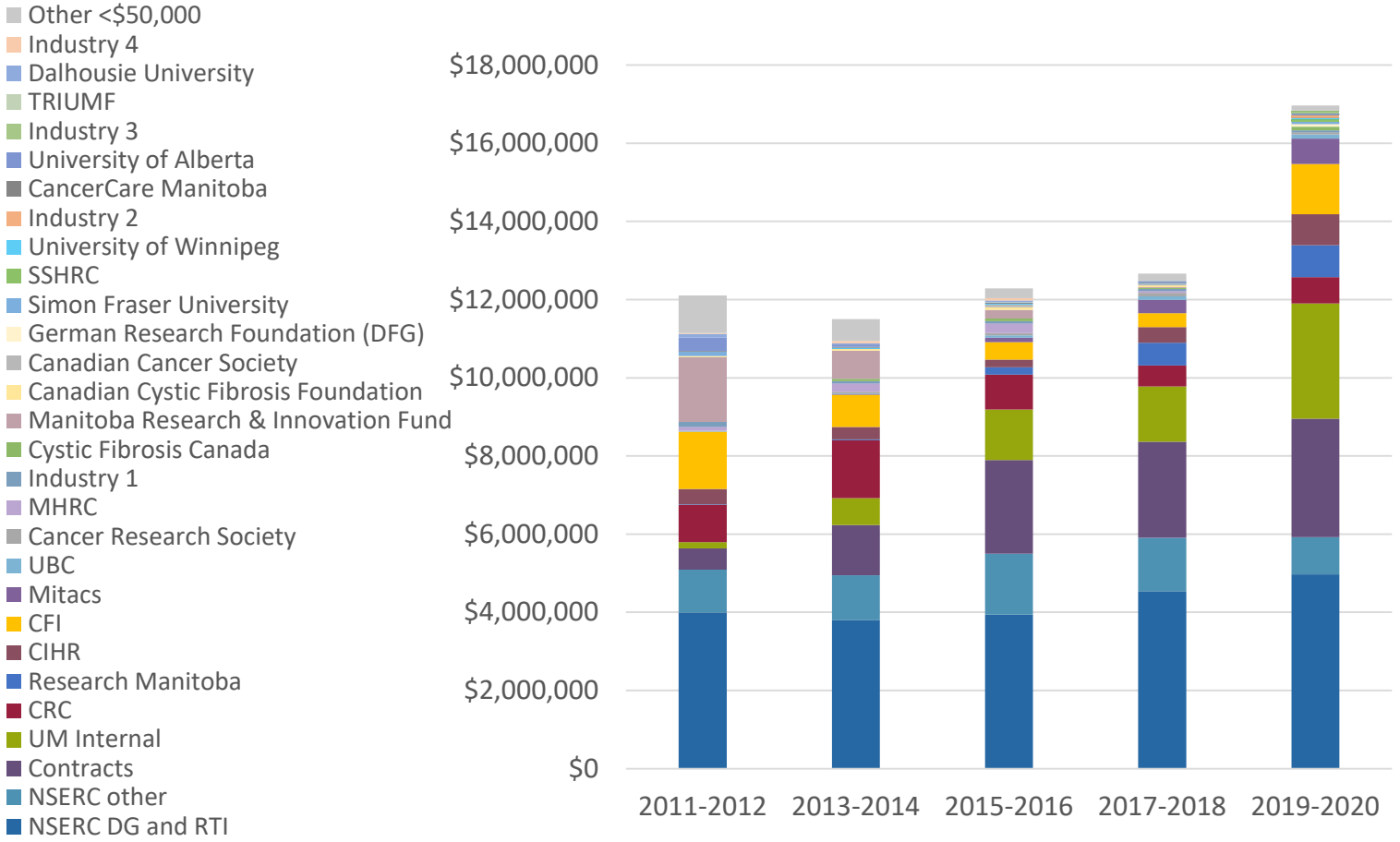
Faculty of Science Funding Overview 2011-2020

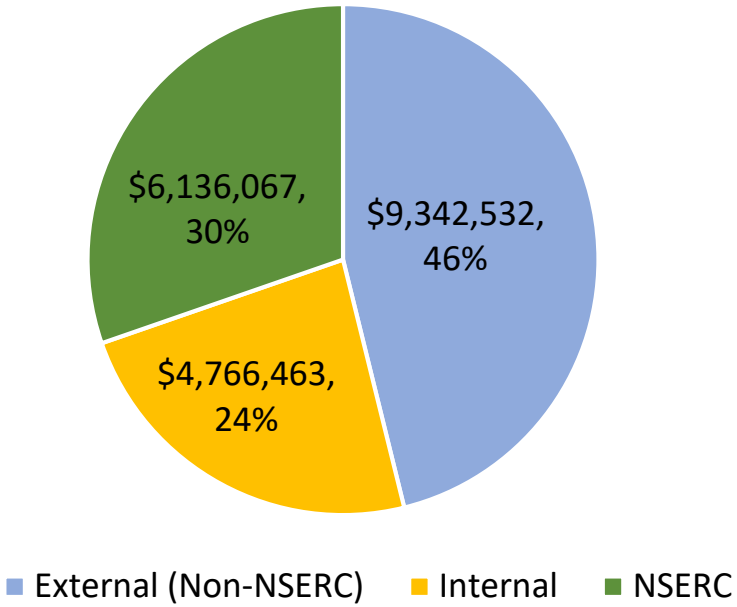
March 19, 2021

Total Research Funding Awarded 2011-2020
Faculty of Science

Total research income from 2011-2020 (**10 years**): **$129,442,604**



Total research income for 2020: $20,245,062



*Funding based on average of the total award amount over the award period

Total Funding by Department

Dean's Office

Statistics

Mathematics

Computer Science

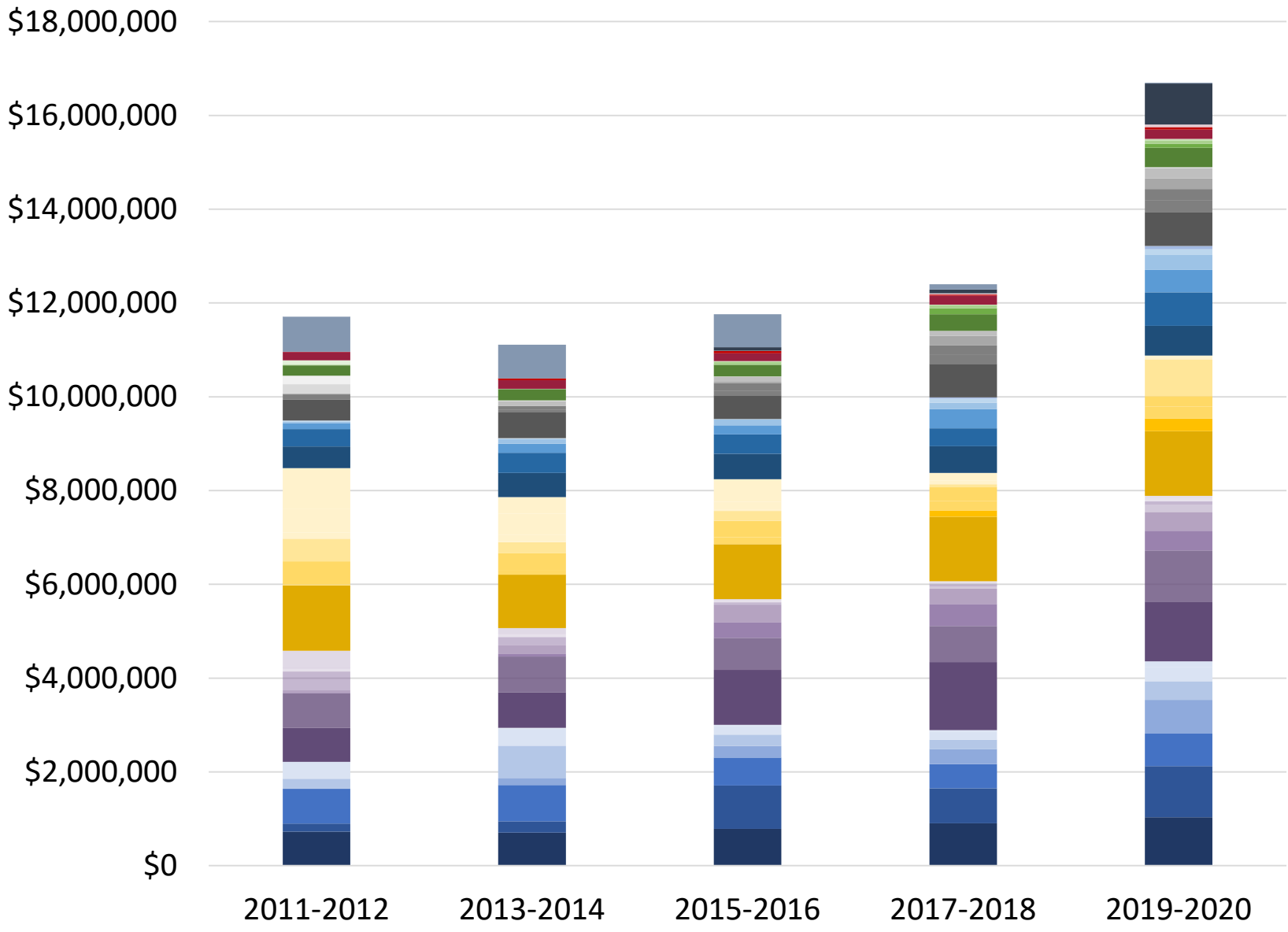
Microbiology

Physics & Astronomy

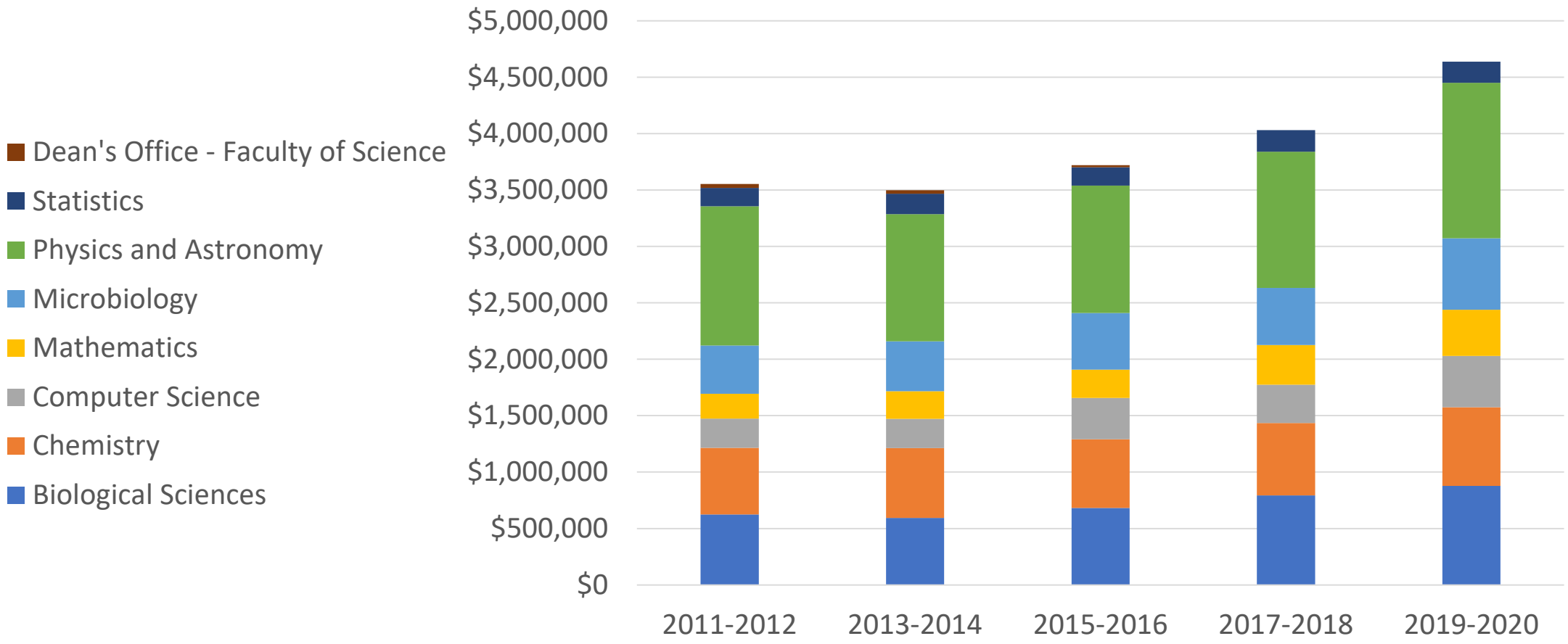
Biological Sciences

Chemistry

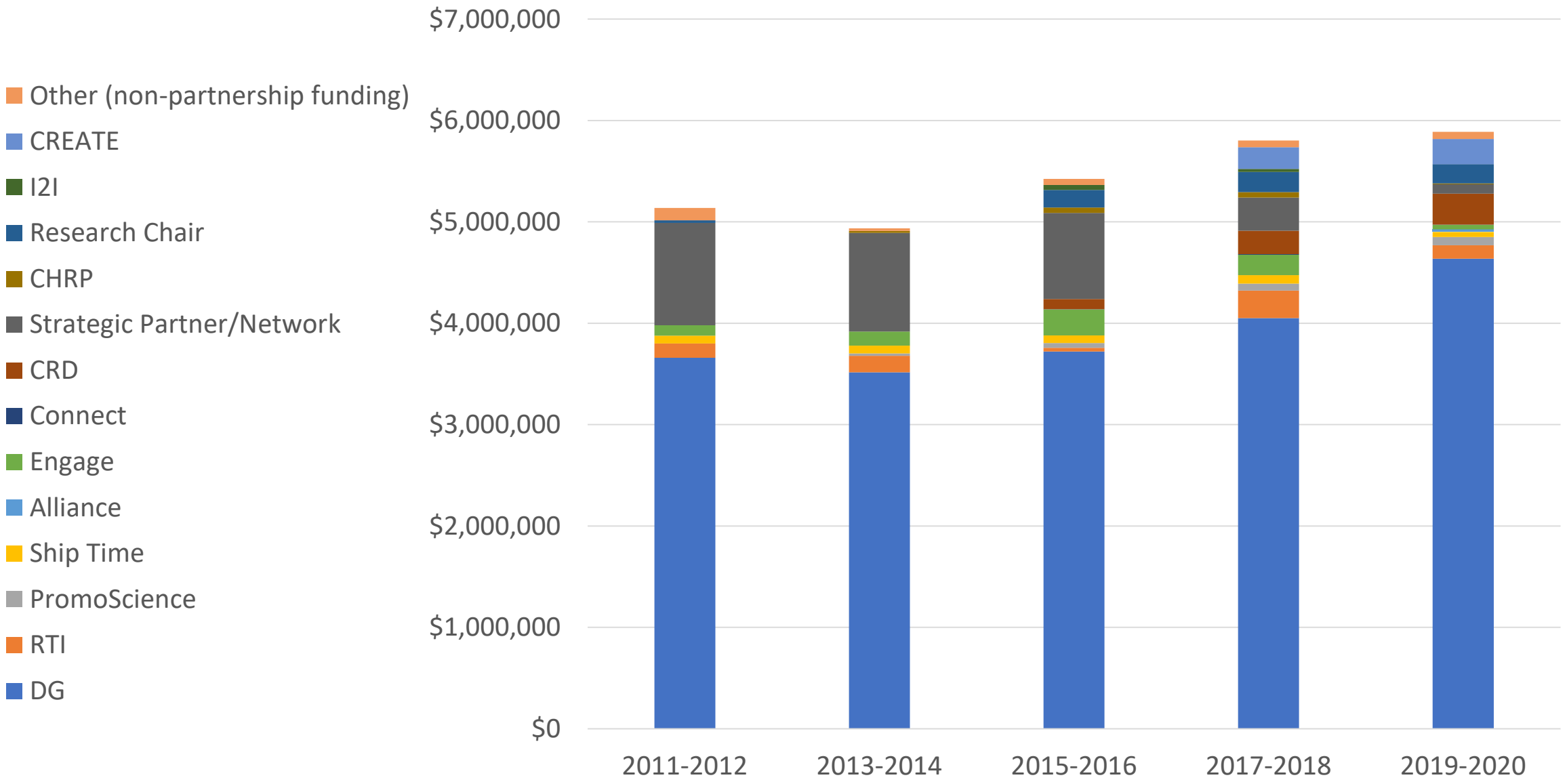
Other
NSERC
Internal
Mitacs
Other
Internal
NSERC
Mitacs
Other
Health
UBC (NSERC - PIMS)
Internal
NSERC
MB Research & IF
Health
CFI
CRC
Mitacs
Internal
Other
NSERC
Mitacs
CFI
Internal
Other M
Health
NSERC
MB Research & IF
CRC
Health
Mitacs
CFI
Other p
Internal
Res MB
NSERC
MB Research & IF
Health
CRC
Res MB
CFI
Mitacs
Internal
Molecular
Ecology
NSERC
Mitacs
CFI
CRC
Internal
Health
Other
NSERC



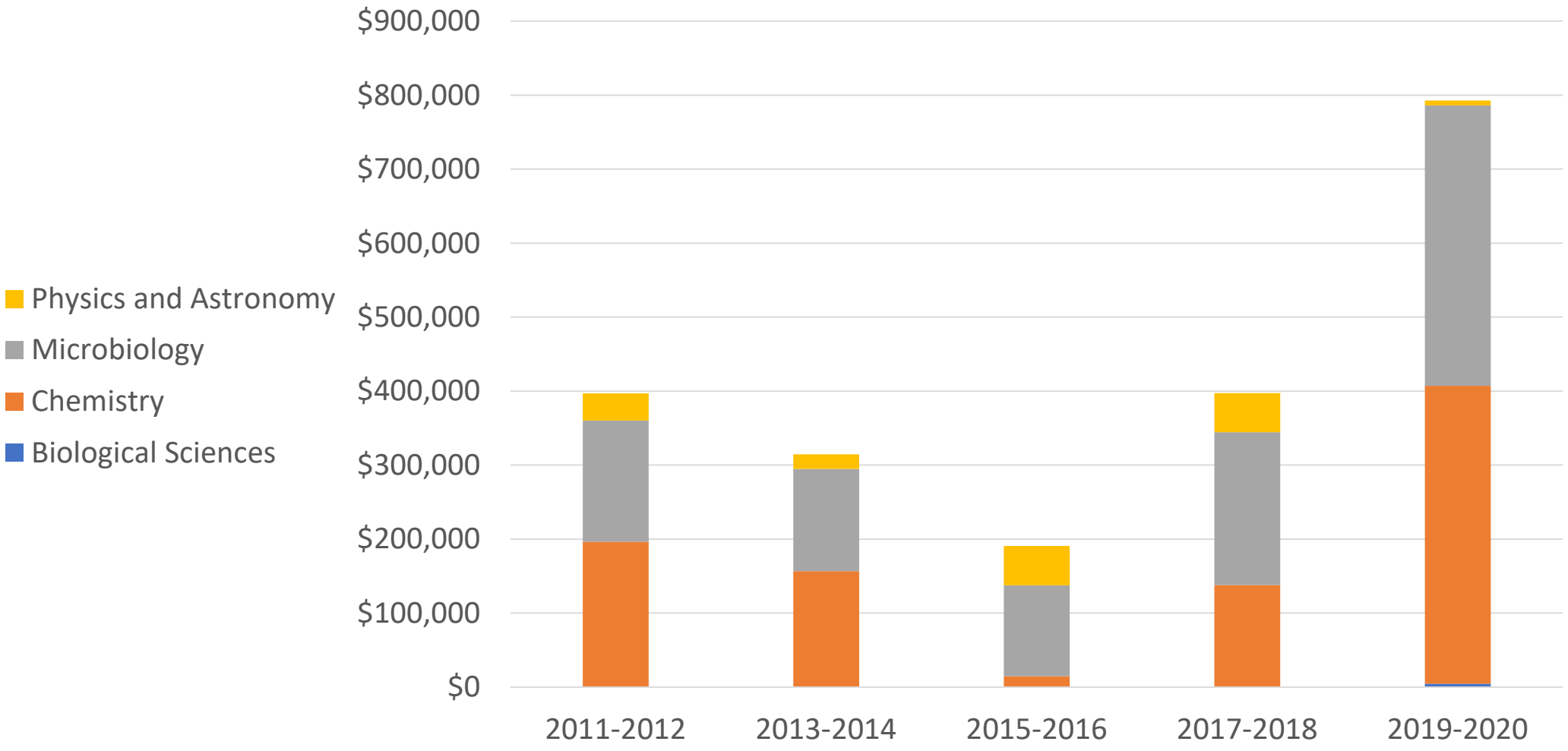
NSERC **Discovery Grant** Funding by Department



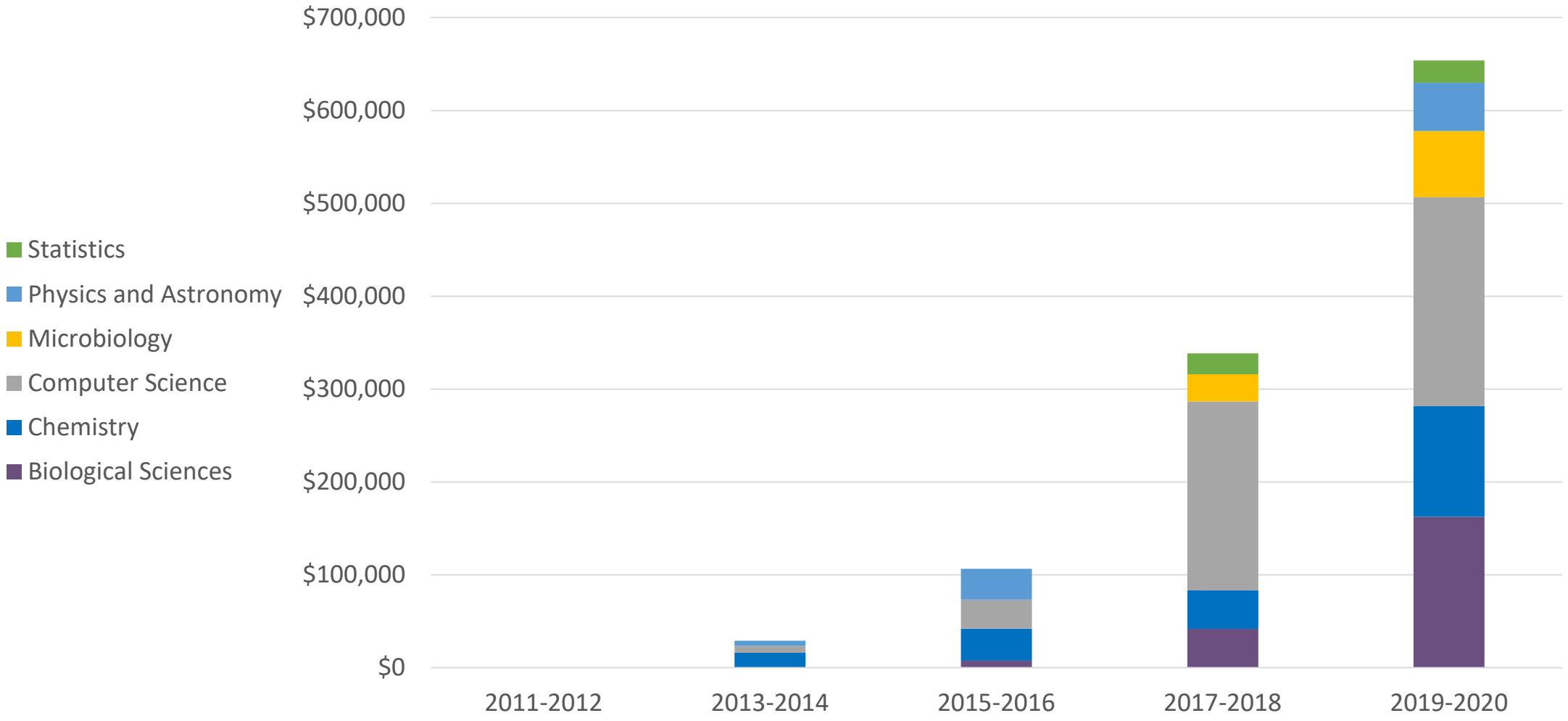
NSERC Funding by Program



CIHR Funding by Department

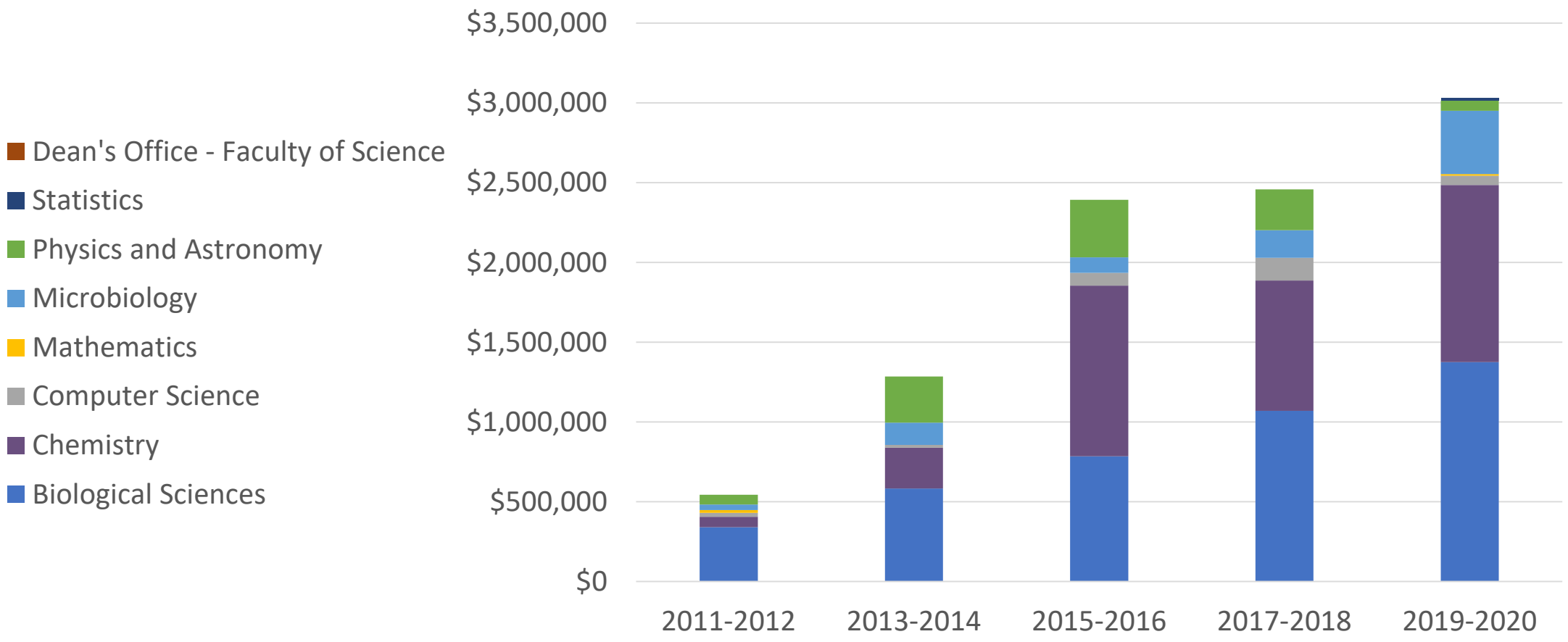


Mitacs Funding by Department

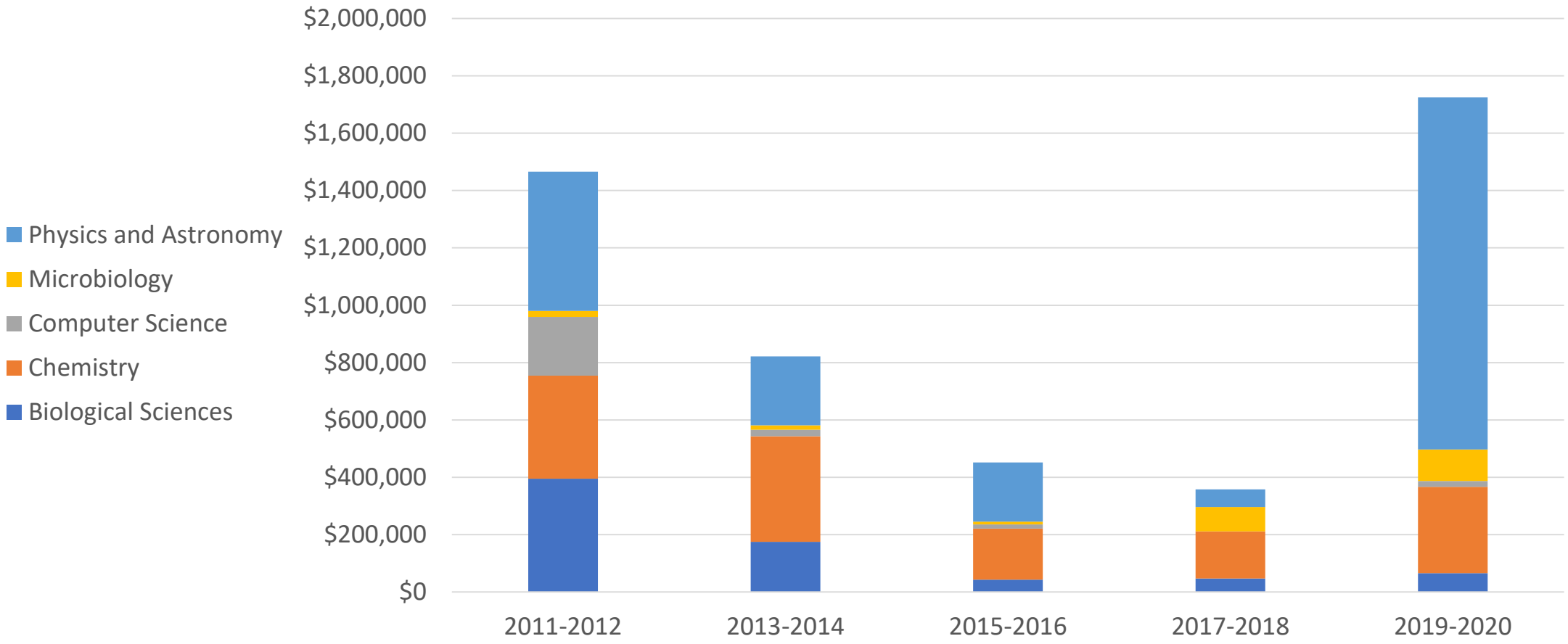


Industry-academic contracts and US grant by Department

(no NSERC or Mitacs)

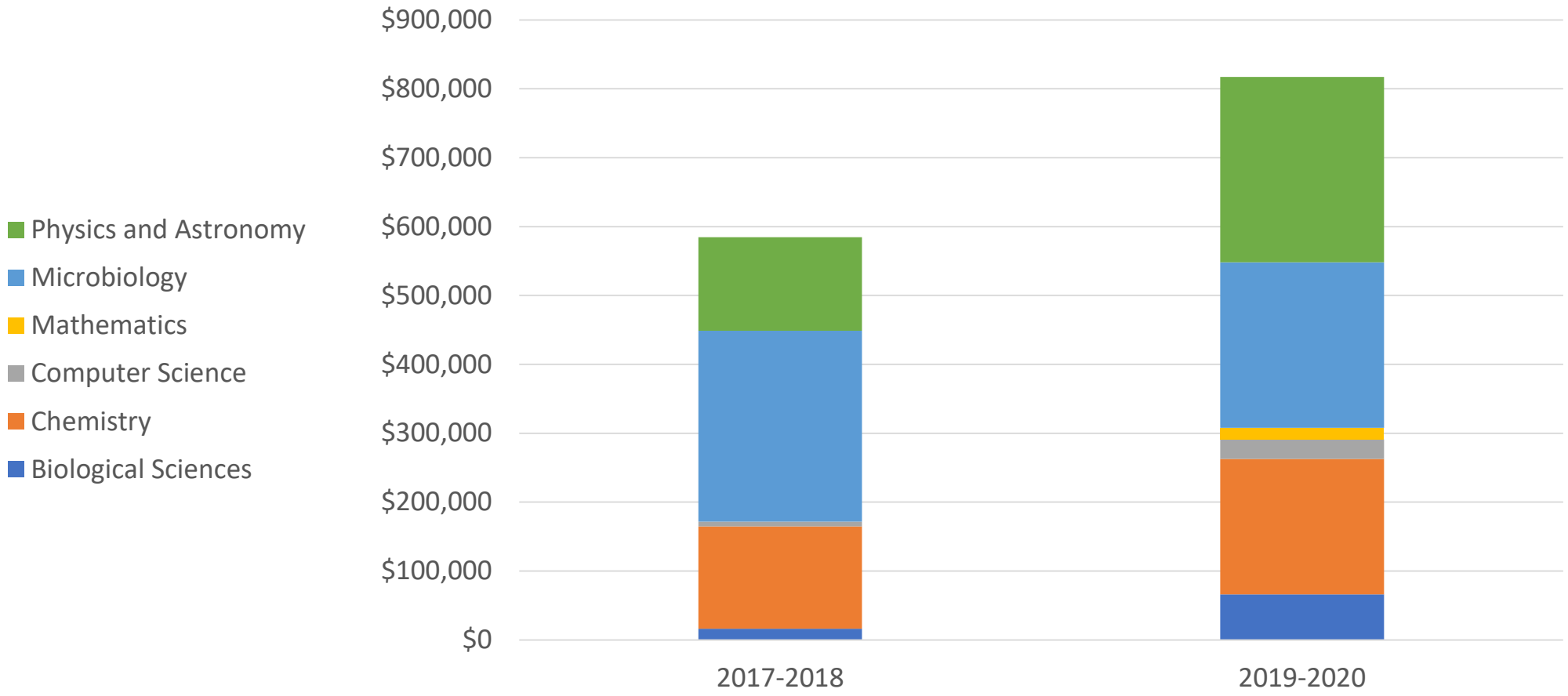


CFI Funding by Department
(not prorated)

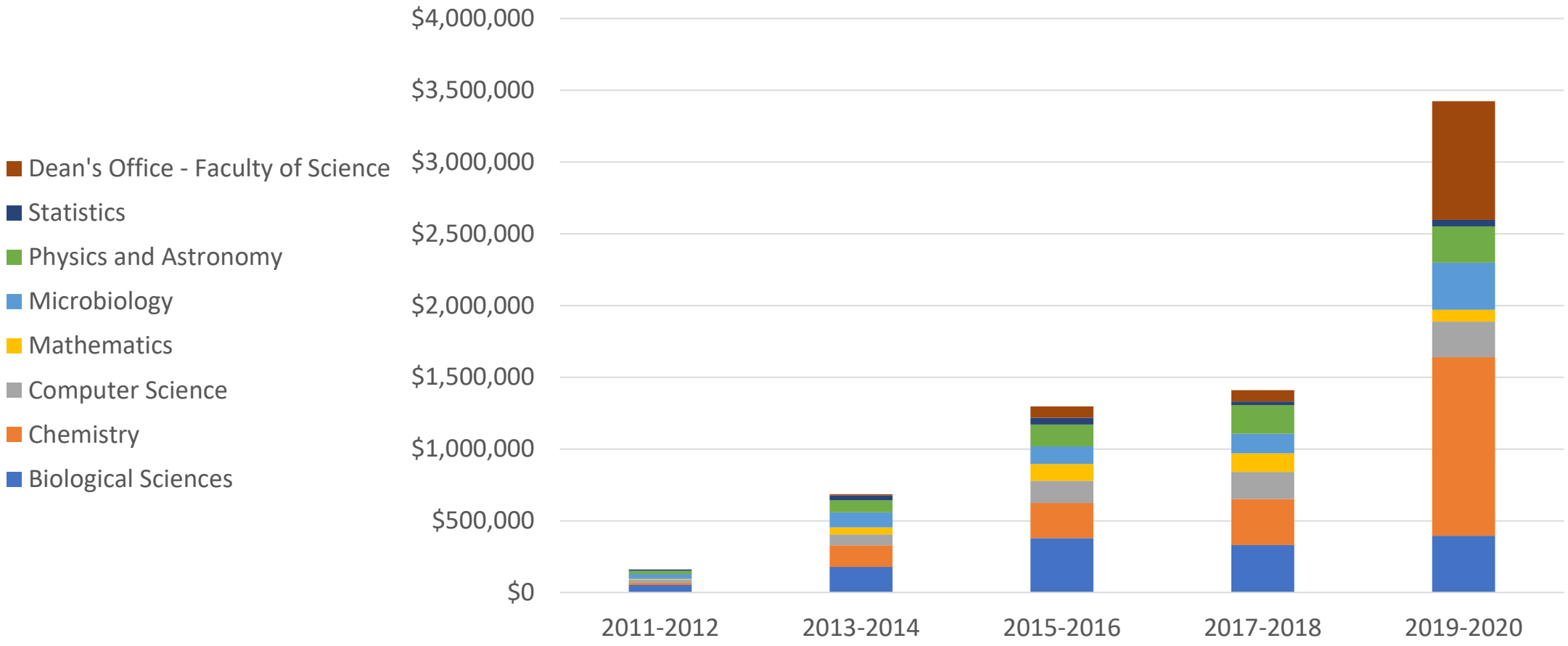


Research Manitoba Funding by Department

(Includes all programs and CFI matching funds)
(Does not include prior MHRC funding)



Internal Funding by Department (UM and FoS)



New Internal Funding from FoS for 2021
(FoS **research instrumentation** and more **SEGS support**)

1) **Advanced Synthesis with Exotic Materials – Non-Porous Metal 3D Printing**
   - Capable of creating non-porous metallic parts from a range of metallic powders and alloys for research and training purposes.
   - Brings additive manufacturing in-house for production of high-end research equipment such as ultra-high vacuum parts, medical devices, biological devices, radiation hard components, and antennas, metamaterials.

2) **State-of-the-Art 400 MHz "workhorse" NMR Spectrometer** (cost share with Chem)
   - Will serve as a cornerstone technology for research, teaching and training of HQP in the Department of Chemistry across the Faculty of Science and more broadly at UM

3) **The total number of SEGS awards that can be held per faculty member is increasing from 2 to 3.** (Max of $31,500 per faculty member)

CATS AWAY…FOS INFRASTRUCTURE

MARCH 19, 2021

FACULTY COUNCIL

RESEARCH

Emergency power installation in Buller Annex for -80 freezers and growth chambers in progress

Research labs in Allen, BSB, Buller and Duff completed

Animal Holding Facility – aquaculture and rodent area upgrades in progress

Cryo-electron microscope for structural biology installed

NMR replacement in planning

3D metal printer for Fabrication Facility in planning

Greenhouse roof of Allen – starting planning

TEACHING/STUDENTS

- Teaching laboratories (2) completed in Parker
- Planetarium completed
- Teaching laboratories in the planning stage for Allen and Parker
- The Wawatay Indigenous Centre in Allen under construction
- Student Help Centres and study areas in Allen basement under construction
- Two small Armes Theatres complete - Three large Armes Theatres about to go under construction
- Glenlea Observatory foundation being installed

MEETING AND GENERAL ACCESS

Ceiling of Armes corridor with skylights complete

Improvements to the Link in planning stage

Entrance to Jim Peebles Science Library being planned

250 Allen renovation almost complete

Dean’s Office renovation complete

Microbiology Department Office enlarged

Eureka Centre (ex Duff Museum) completed