

Message from the Vice-President (Research)

It certainly seems strange to look back on the 2019-2020 fiscal year now, more than a year into the challenging and disruptive period caused by the pandemic. By the end of this reporting period, we were six weeks into our new reality, and we were still adjusting to the implications for our research, our work, and our daily lives.

But we were also adapting, exemplifying our academic mindset and focusing our efforts onto tackling complex situations and difficult questions. Our research community was already beginning to pivot their research programs and apply their expertise to contribute to a global response effort.

I am incredibly proud of those efforts and contributions, and the results that we continue to see now.

Speaking of pride, there were many other successes in 2019-2020 that we should all be proud of, and that we should not lose sight of, in spite of the period since.

UNB researchers were awarded more tri-agency funds than in the previous two fiscal years, and more ACOA, CFI and NBIF funds than in the past five. In fact, we saw higher federal and provincial investment in our institution's research, compared to 2018-2019.

We saw four new chairs funded at UNB: three Canada Research Chairs, Dr. Elizabeth Mancke, Dr. Stijn De Baerdemacker and Dr. Veronica Whitford, and Dr. Zhen Lei as OSCO Research Chair in Off-site Construction.

We saw a significant investment in smart grid research, revolutionary new 3D printing capacity at MAMCE, the launch of a new safety app for people experiencing domestic violence and the establishment of a new Laboratory for Housing and Mental Health in Saint John, and we celebrated 25 years of scientific research advancements at the MRI Lab.

We also initiated and published the New Brunswick Innovation Map, demonstrating the economic contributions of our research agenda, and we saw the arrival of new UNB president, Dr. Paul Mazerolle.

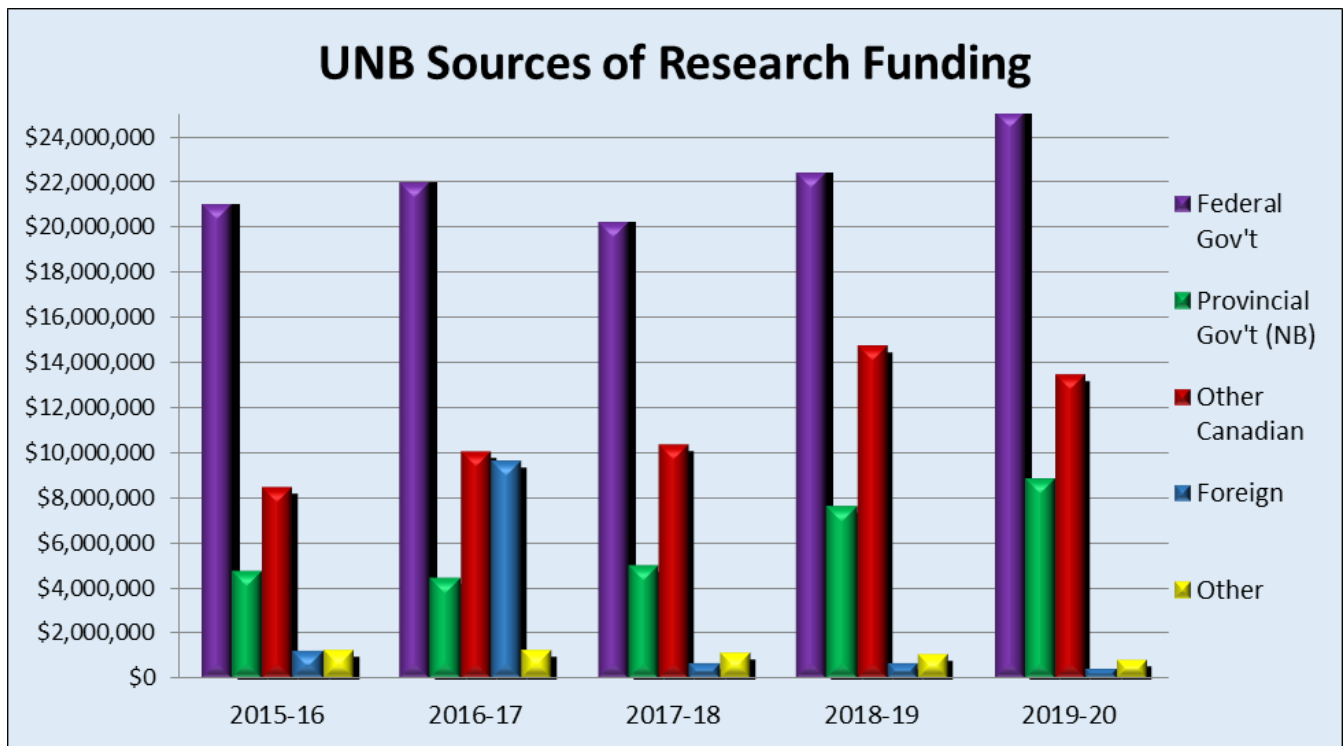
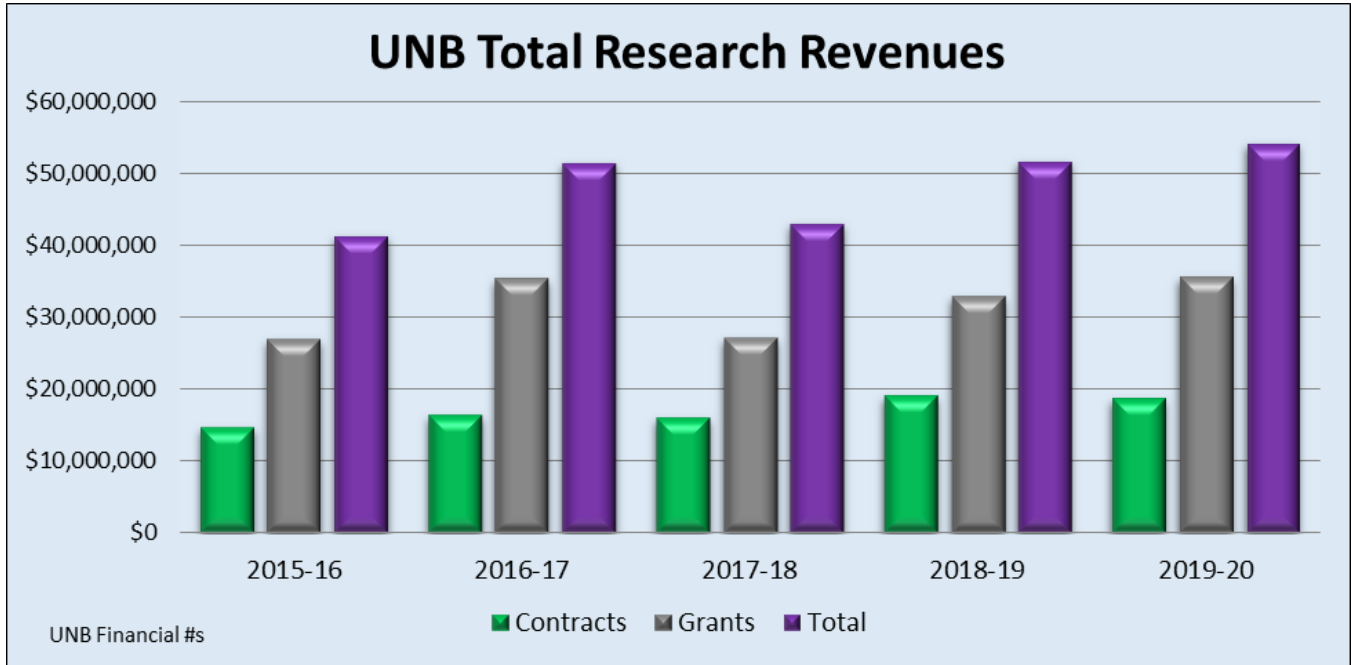
In the year since, we've seen many more developments, including the launch of UNB Toward 2030, our new strategic plan. With that comes a reflection on some of our practices and publications, including this one. We want Research Matters to be a source of celebration for our research community, and we want to focus more heavily on the impact of our research – so stay tuned!

Dave

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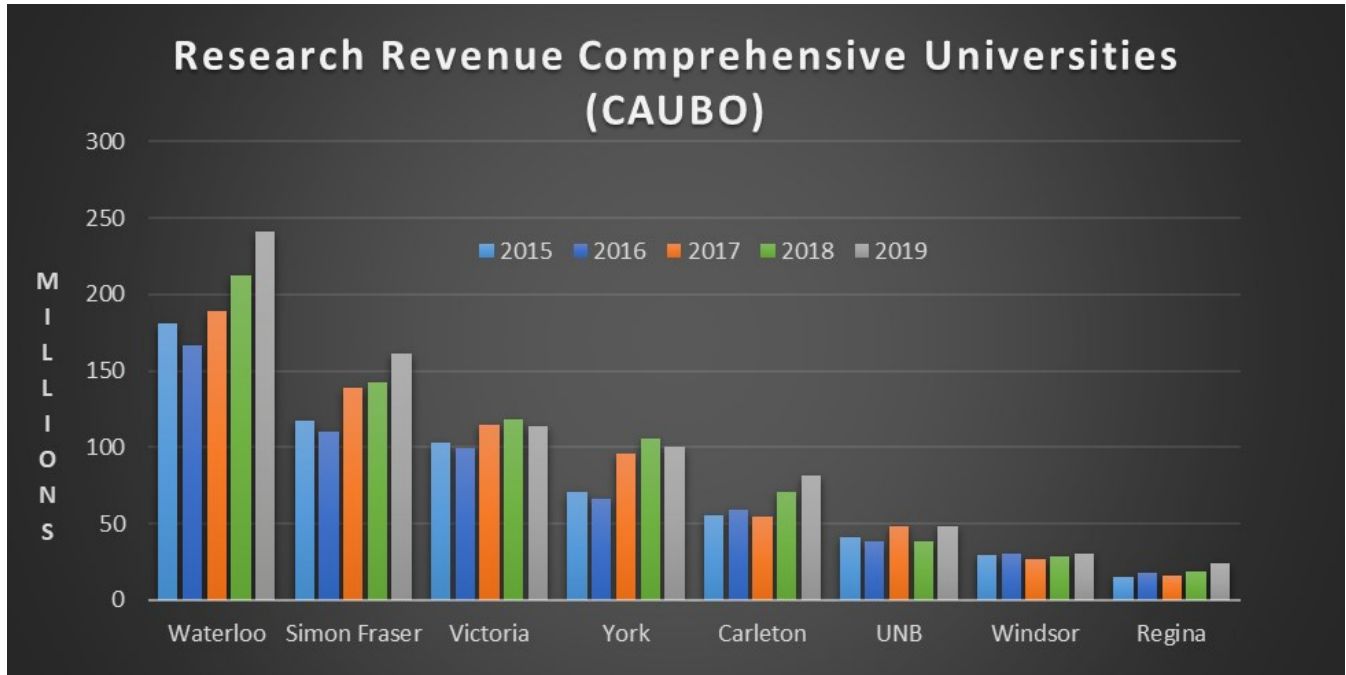
Research Revenue

Our overall revenues have remained steady over the past 5 years, excluding 2016-17 fiscal year where we saw a large increase due to one-time funds from Lockheed Martin for both Cyber Security and Additive Manufacturing research. The 2019-20 fiscal year saw an increase in our total research revenues of 4.8% from last year.

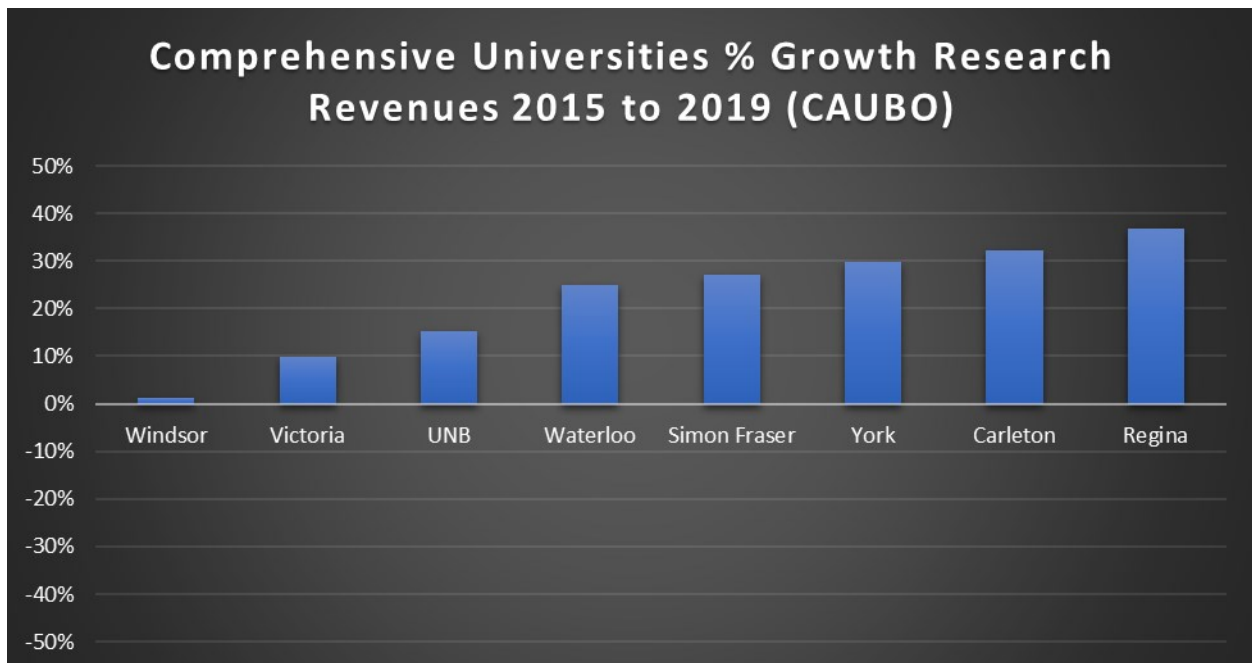


Research Revenue (continued)

The Canadian Association of University Business Officers (CAUBO) compiles summaries of research-related revenues based on mutually agreed upon definitions. It is this number that is used for inter-institutional comparisons. In the fiscal year 2019, UNB's total sponsored research revenues as per CAUBO rules was \$48.5M. This was up 25% from the final CAUBO number for the previous year. The inter-institutional comparative revenues graphed below are one year in arrears due to reporting and publication delays.



We have routinely reported our percentage growth in CAUBO research revenues over a rolling five year period in comparison to our peer group of universities, the chart below show's how we have done.



Research Revenue (continued)

Research Revenue per Generating Academic Units & Research Institutes

The following table attributes research revenues by generating academic unit during the last fiscal year. Grants, contracts and other column values are generated by audited CAUBO numbers. Funding for research scholarships such as Canadian Heritage, Canada Council, and The NB Arts Board are reported in the Additional Research Funding column, as submitted by Chairs and Deans of the departments and Faculties. Note that some research revenues are generated by the university, but are not reported on this table (e.g., the Research Support Fund program).

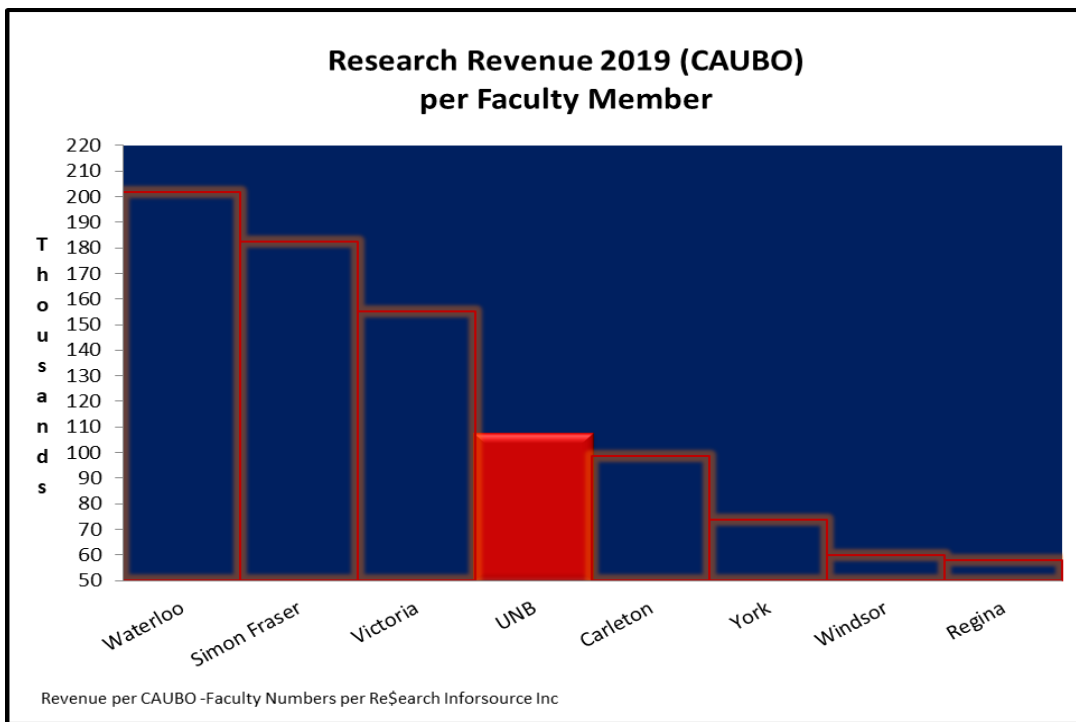
Research Revenues per Generating Academic Units & Research Institutes					
UNIT	Grants (CAUBO)	Contracts (CAUBO)	Other (CAUBO)	Total (CAUBO)	Additional Research Funding
ARTS (F)	4,336,180	30,905	235,799	4,602,884	
Arts	172,500			172,500	
Anthropology	257,104		13,221	270,325	
Classics & Ancient History	32,679			32,679	
Culture & Media Studies			2,226	2,226	
Economics	1,841,230	15,000		1,856,230	18,000
English	145,436		21,336	166,772	114,344
French	14,179			14,179	
History	430,560		129,810	560,370	5,658
Political Science	12,561		-831	11,730	
Philosophy	5,196		-90	5,107	10,500
Psychology	847,190	2,000	6,627	855,817	
Sociology	577,543	13,905	63,500	654,948	
MANAGEMENT (F)	168,962		18,361	187,324	
COMPUTER SCIENCE (F)	618,038	930,353	19,125	1,567,516	
EDUCATION (F)	57,410		18,750	76,160	
ENGINEERING (F)	4,276,489	2,779,359	715,557	7,771,405	
Engineering	50,000			50,000	
Chemical Engineering	573,971	61,580	204,416	839,967	
Civil Engineering	275,881	414,910	191,920	882,711	
Electrical & Computer Eng.	1,005,551	190,411	20,699	1,216,661	
Geodesy & Geomatics	660,633	408,051	173,450	1,242,134	
Mechanical Engineering	1,532,728	1,550,237	119,873	3,202,837	
J Herbert Smith ACOA Chair	177,725	154,170	5,200	337,095	
FORESTRY (F)	2,738,100	3,095,488	109,064	5,942,652	
KINESIOLOGY (F)	1,071,073	44,000	15,479	1,130,552	
LAW (F)	49,536			49,536	
NURSING (F)	1,507,938	213,088	28,700	1,749,726	
SCIENCE (F)	4,613,245	1,779,277	331,962	6,724,484	
Biology	1,445,269	303,352	222,524	1,971,145	
Chemistry	1,023,070	74,682	12,500	1,110,252	
Earth Sciences	504,181	227,527	78,514	810,222	
Math & Stats	581,835		18,424	600,259	
Physics	1,058,891	1,173,715		2,232,606	
SCHOOL OF GRAD STUDIES	171,000		1,559,848	1,730,848	

Research Revenues per Generating Academic Units & Research Institutes (continued)

Research Revenues per Generating Academic Units & Research Institutes				
UNIT	Grants (CAUBO)	Contracts (CAUBO)	Other (CAUBO)	Total (CAUBO)
ARTS (SJ)	264,087	92,435	26,092	382,614
History & Politics	38,177	9,375	3,378	50,930
Humanities & Languages				0
Psychology	50,483			50,483
Social Science	175,427		22,714	198,141
Criminal Justice Studies		83,060		83,060
BUSINESS (SJ)	100,103			100,103
SCIENCE, APPLIED SCIENCE & ENGINEERING (SJ)	2,540,960	669,648	149,942	3,360,549
Biological Sciences	1,263,698	669,648	32,613	1,965,959
Computer Science	40,105			40,105
Mathematics and Statistics	30,000			30,000
Nursing & Health Sciences	911,876		117,329	1,029,205
Science & Engineering	237,280			237,280
Physical Sciences	58,000			58,000
RENAISSANCE COLLEGE	5000			5000
DAL MEDICAL ED PROGRAM	75,987	101,672		177,659
CDN. RIVERS INSTITUTE (CRI)	0	30,900		30,900
MURIEL MCQUEEN FERGUSSON CENTRE	282,086	40,000		322,086
SIR JAMES DUNN WILDLIFE RES CTR	2,175	23,500		25,675
EMERA & NB POWER RESEARCH CENTRE	250,000	628,536		878,536
NB INSTITUTE RESEARCH DATA	939,161	748,538		1,687,699
CNER INSTITUTE	0	899,007		899,007
INSTITUTE OF BIOMEDICAL ENGINEERING (IBME)	3,513,808	418,339		3,932,147
CANADIAN INSTITUTE CYBERSECURITY	1,241,794	1,290,659	20,200	2,552,653
ATLANTIC INSTITUTE FOR POLICY RESEARCH		67,607	206,250	273,857

Research Revenue (continued)

A metric that is commonly cited when comparing the research intensity at universities is the research revenue generated per faculty member. In order to make such a comparison credible, independent sources are required for the two metrics. For our purposes, we use Re\$earch Info Source Inc. and CAUBO to generate the table shown below.

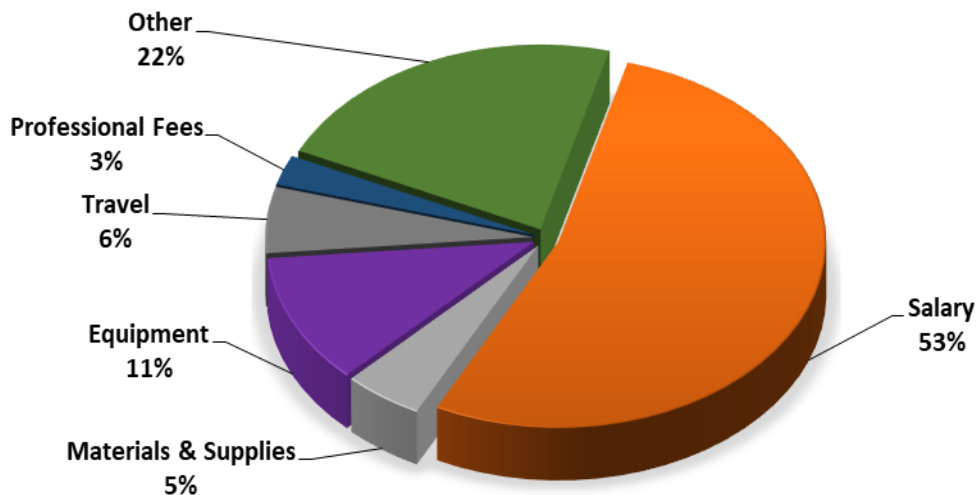


Research Expenditures

The majority of the research funding received by UNB goes back into the New Brunswick economy through salaries. In 2019-20, \$26 million was spent on student and non-student salaries. Equipment, materials and supplies consumed \$6.8 million and travel \$2.3 million.

*Note: Preliminary Numbers from Datatel System

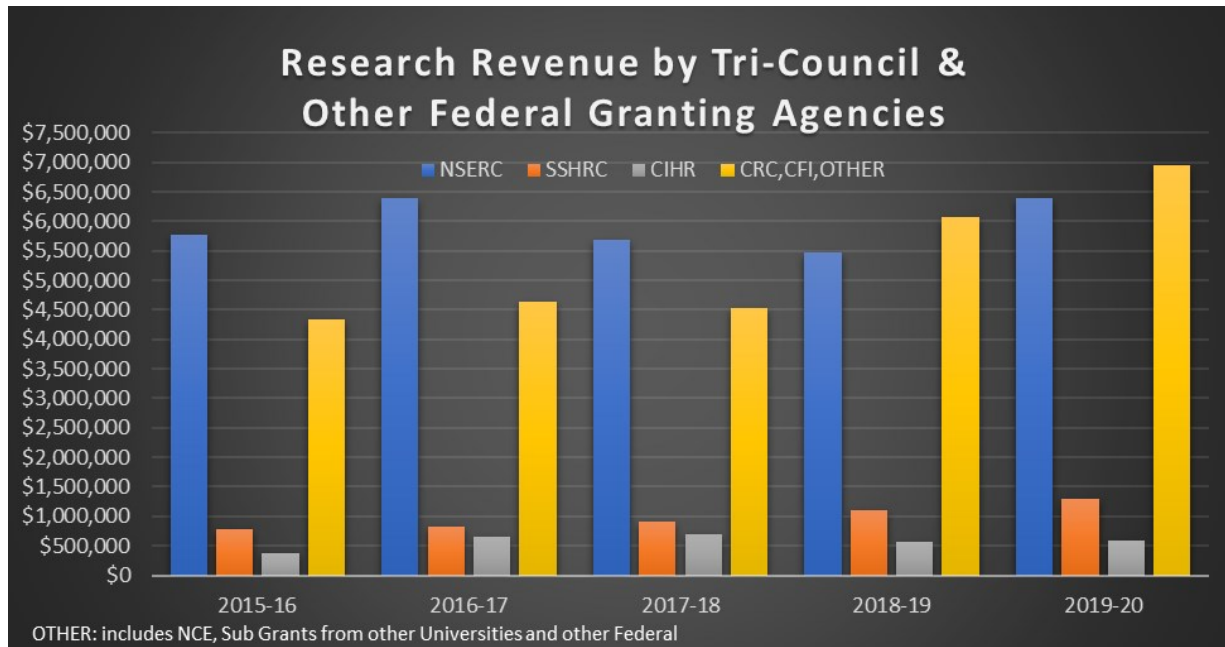
Research Expenditures UNB 2019-2020



NOTE: The bulk of all research revenues eventually flow back out as expenses. Due to the timing of different accounting tasks, however, total research expenditures will not equal total research revenues for the fiscal year.

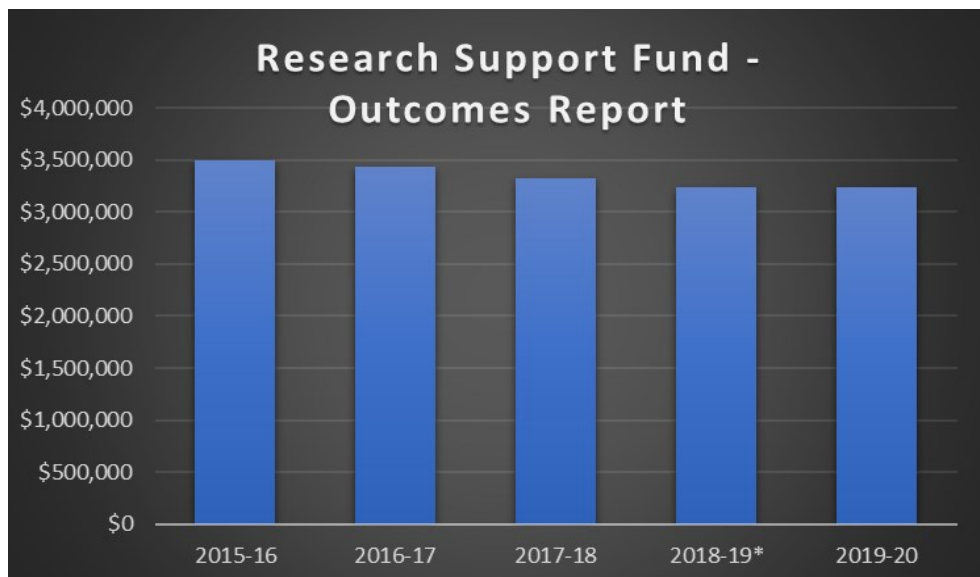
Tri-Council Funding

UNB's Tri-Council (NSERC, SSHRC, CIHR) grant revenues in fiscal year 2019-20 increased by 15.8% overall to \$8.27M from the \$7.14M level of 2018-19.



Research Support Fund

The Research Support Fund program provides funding for research facilities, resources, management and administration, regulatory requirements, accreditation and intellectual property management. The amount universities receive from this program is contingent on their level of Tri-Council funding based on a three-year rolling average. The university's allocation for 2018-19 was \$3,232,853, and the allocation for the 2019-20 fiscal year was \$3,237,270.

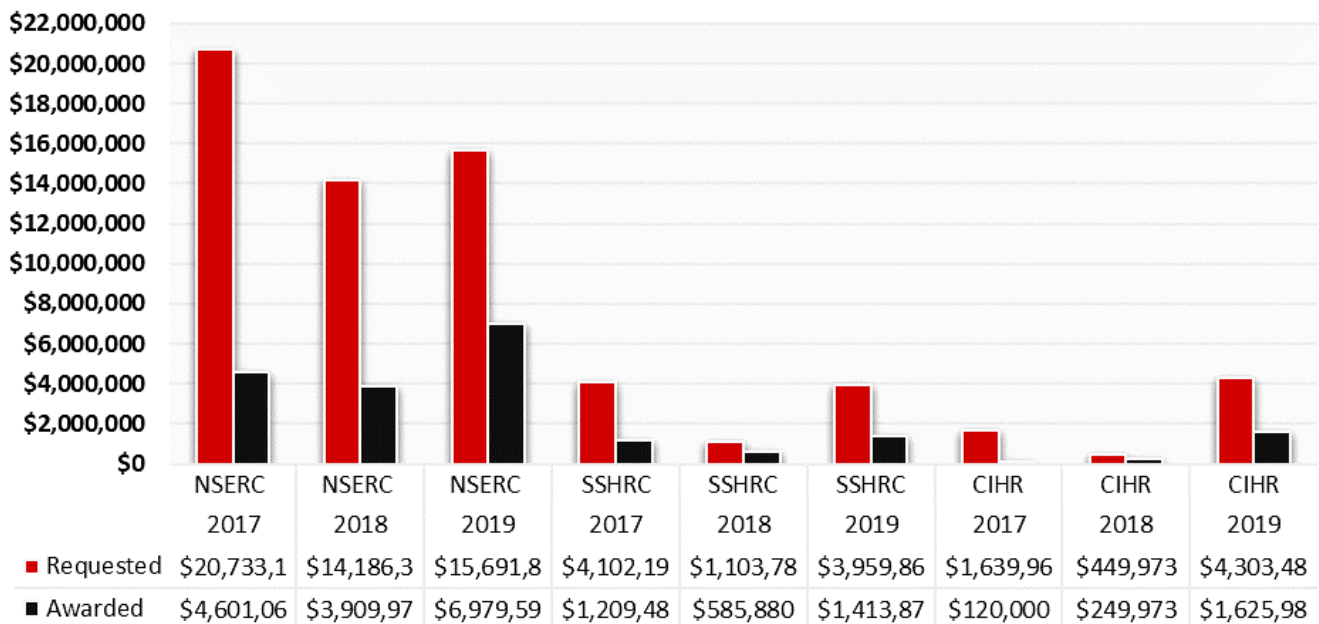


Tri-Council Success

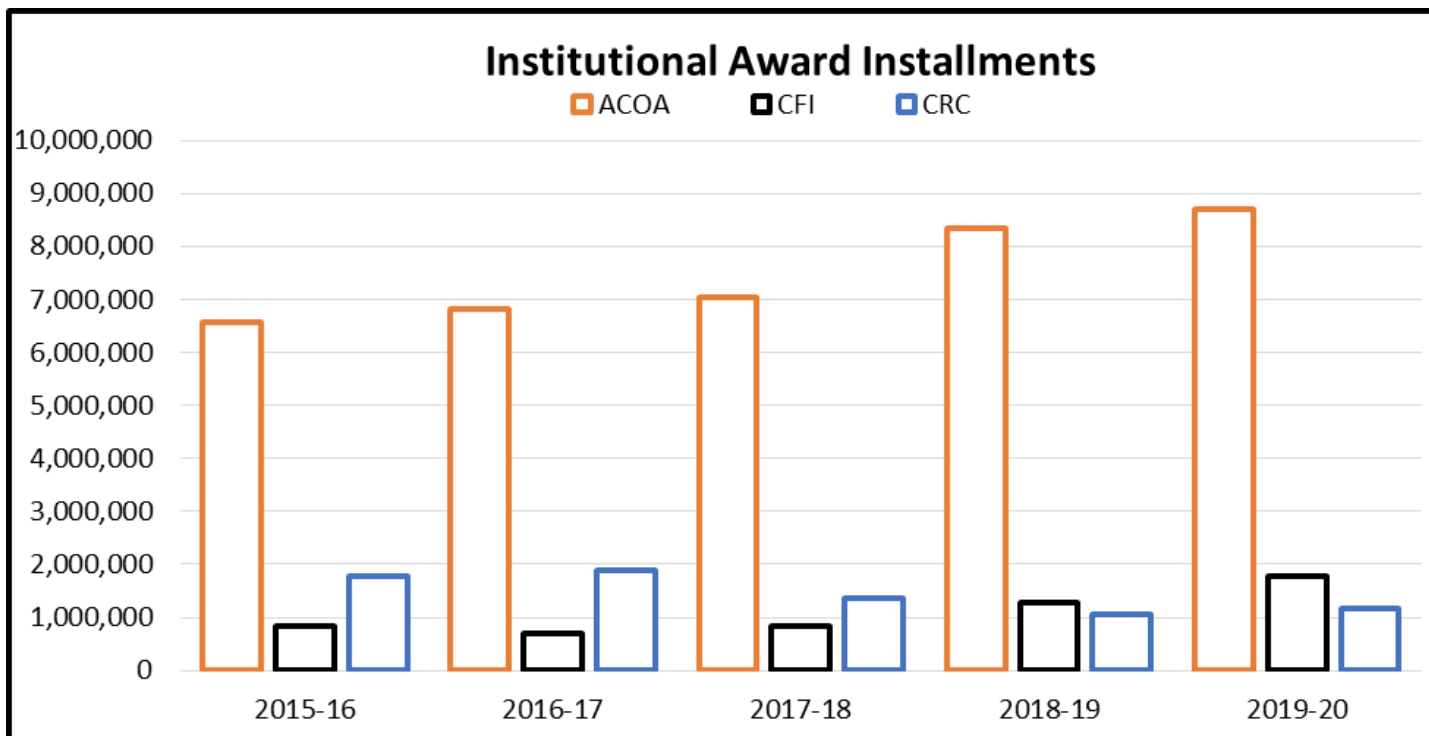
UNB's awarded Tri-Council success results are based on 2019-20 fiscal year.

Submissions	Program	Submitted	Requested	Successful	Awarded	Success Rate	Funding Rate
NSERC	Alliance	2	\$161,382.00	1	\$20,382.00	50.00%	12.63%
	CRD	3	\$3,179,214.00	3	\$3,179,214.00	100.00%	100.00%
	RTI	10	\$1,157,354.00	0	\$0.00	0.00%	0.00%
	Discovery	33	\$10,826,422.00	23	\$3,665,000.00	69.70%	33.85%
	Engage & Engage Plus	3	\$74,655.00	1	\$25,000.00	33.33%	33.49%
	Other	6	\$292,800.00	1	\$90,000.00	16.67%	30.74%
	Total NSERC		57	\$15,691,827.00	29	\$6,979,596.00	50.88%
SSHRC	Insight	15	\$2,403,010.00	5	\$571,314.00	33.33%	23.77%
	Other	26	\$1,556,851.00	12	\$842,559.00	46.15%	54.12%
	Total SSHRC	41	\$3,959,861.00	17	\$1,413,873.00	41.46%	35.71%
CIHR	Project	4	\$2,055,000.00	1	\$466,650.00	25.00%	22.71%
	Other	9	\$2,248,489.00	3	\$1,159,334.00	33.33%	51.56%
	Total CIHR	13	\$4,303,489.00	4	\$1,625,984.00	30.77%	37.78%

Tri-Council Results



Institutional Funding



Atlantic Canada Innovation Fund

The Atlantic Canada Opportunities Agency (ACOA) continues to support UNB research. ACOA funding has been steadily increasing over the last 5 years. There were 7 new awards in the 2019-20 fiscal year, with a total of 18 active projects during the year.

ACOA has moved to a continuous intake of proposals model, giving a more rapid flow of projects through the university through ACOA's various programs. During the 2019-20 year, UNB researchers continued to have active projects via the Atlantic Innovation Fund, the Business Development Program, the Atlantic Policy Research Initiative, and the Innovative Communities Fund, as well as within various projects led by industry and partner institutions.

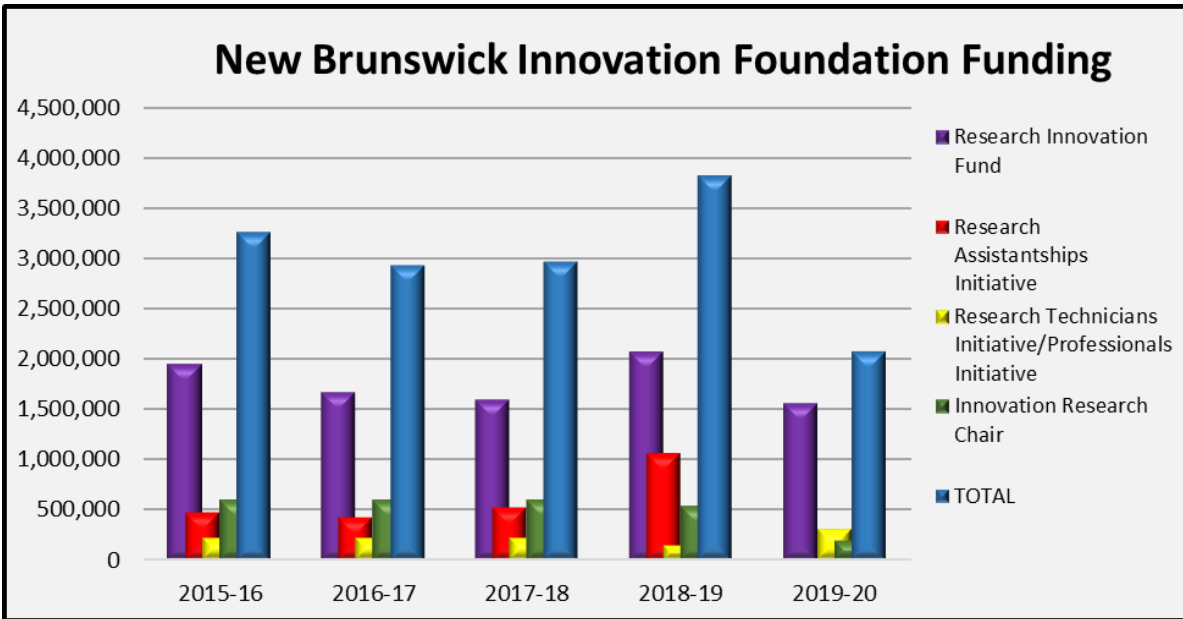
Canada Foundation for Innovation (CFI)

In 2019-20, four new CFI John R. Evans Leaders Fund (JELF) projects were approved at UNB, along with two successful Innovation Fund (IF) 2020 projects led by other institutions involving UNB researchers. In total, UNB received a CFI capital contribution of \$791,099, plus an additional \$237,329 in CFI Infrastructure Operating Fund (IOF) to help UNB operate and maintain the awarded infrastructure. These projects also secured \$968,748 in cash contributions from matching sources.

UNB researchers are currently leading nine active CFI infrastructure projects with a contribution of \$1.35 million from the CFI and \$2.5 million from matching sources.

New Brunswick Innovation Foundation (NBIF)

The New Brunswick Innovation Foundation continued to be a strong supporter of research at UNB. UNB saw an increase in two NBIF programs, and received added funding via the Innovation Research Chair for the fourth year in a row. The 2019 fiscal year also saw a decrease in funding from NBIF due to the cancelation of the RAI program, and phasing out of the Innovation Research Chair's. Total NBIF funding to UNB decreased by 45% over last year.



New Brunswick Health Research Foundation (NBHRF)

NBHRF continues to contribute to UNB research. From 2011-12 to 2013-14, NBHRF contributions to UNB's research enterprise had been in the \$200K–\$300K range. However, as the graph indicates, since 2014-15 these numbers have increased significantly due in part to funding received for the SPOR Network and the Jarislowsky Chair. Continuing on this positive trend, in the 2019-20 fiscal year over \$2.27M was received, representing an outstanding 35% increase over 2018-19 numbers.

