

COMMUNITY TRUST ENDOWMENT FUND (CTEF) PROGRESS REPORT AND OPERATIONAL PLAN

APRIL 2021

1.0 OVERVIEW

1.1 WHAT IS CTEF?

Simon Fraser University's (SFU) Community Trust was established to oversee the planning and development of UniverCity, a sustainable master-planned community adjacent to SFU's Burnaby campus. Revenues from the development have been used to establish the Community Trust Endowment Fund (CTEF). Since 2006, CTEF has been used strategically to support research activities at the university, and specifically to promote SFU's distinctiveness, through interdisciplinary research programs, and to support distinguished faculty members and outstanding students undertaking world-class research.

In 2018, the Terms of Reference (ToR) for CTEF was updated to allow a greater flexibility to support SFU's diverse research community. Specifically, the support was extended to both undergraduate and graduate students, in the form of research assistantships and fellowships, as well as funding for Postdoctoral Fellows. Furthermore, rather than using the funds exclusively toward large-scale interdisciplinary competitions, the updated ToR now allows support for strategic priorities and opportunities, including the ever-increasing request by governmental sponsors for participating institutions to provide matching funds for large-scale cross-institutional collaborations. The updated ToR also allows the funds to be used for support and operation of university research equipment and facilities, innovation activities, small-scale seed funds for social sciences and humanities, and bridging grants, as well as support of community-engaged scholarship and knowledge mobilization, and international collaborations. The complete ToR are available on the SFU Research website:

www.sfu.ca/research/community-trust-endowment-fund.

1.3 WHAT IS THE PURPOSE OF THIS DOCUMENT

This document provides a report for the past 3 fiscal years (FY 2019 – 2021), since the update of the ToR, and provides the expenditure plan for fiscal year 2022.

2.0 CTEF EXPENDITURE REPORT

Since fiscal year 2018-19, a total of **\$10.4M** from CTEF has supported over **50** SFU research projects, while also directly supporting more than **230** SFU undergraduates, **200** graduate students, and **11** Postdoctoral Fellows through awards, fellowships and stipends. This investment also includes **\$3.1M** in

new research infrastructure, including custom research and collaboration space for the WearTech Labs university core facility in a new building in the City of Surrey. CTEF investment was also leveraged to return almost **\$20M** in sponsored research income from external sources to SFU through the provision of **\$1.6M** in matching funds to support strategic projects.

2.1 CTEF EXPENDITURES BY CATEGORY

Table 1. CTEF Expenditures by ToR Category, Fiscal 2019-2021.

Category	2018-2019	2019-2020	2020-2021
Strategic Priorities and Opportunities	772,000	721,637	1,316,950
Student and Postdoctoral Support	635,946	1,143,250	947,874
Research Equipment and Facilities	3,316,037	85,964	299,340
Seed Funds for Research Projects	91,281	205,500	90,000
International Research Activities	223,750	173,748	60,000
Community-Engaged Scholarship	80,000	100,000	115,250
Total	\$5,119,015	\$2,320,414	\$2,939,414

2.2 STRATEGIC PRIORITIES AND OPPORTUNITIES

The largest expense category, Strategic Priorities and Opportunities refers to the varied initiatives that advance SFU’s Strategic Research Plan (SRP) and flexibly allows for the university to respond to emerging opportunities. These projects are defined by their potential to raise the profile of the university broadly, and their ability to position SFU competitively both nationally and internationally. These initiatives help attract top researchers and students to SFU and align with federal and provincial government priorities. Strategic priorities also serve to build partnerships with external entities, including other academic institutions and industry. Furthermore, these opportunities have served to create meaningful relationships with local communities. Some notable examples include recruitment of two Canada 150 Research Chairs, the extraordinary success of five Canada Foundation for Innovation’s (CFI) Innovation Fund projects, SFU’s leadership of three new Social Sciences and Humanities Research Council Partnership Grants, hosting the Canadian Statistical Sciences Institute, hosting Kids Brain Health Network, and numerous high-profile projects through the Network Centres of Excellence, Genome Canada, Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council—and most recently, Public Health Agency of Canada. In 2020-21, CTEF was also allocated to support research and operational activities of SFU’s Big Data Initiative and SFU’s Partnerships Hub (SPH).

Table 2. Strategic Priorities and Opportunities by subcategory, Fiscal 2019-2021.

	Faculty Awards	Startup Grants	Interdisciplinary Teams	Matching Grants	Big Data/SPH	Total
2018-2019	-	100,000	227,000	445,000	-	\$772,000
2019-2020	80,012	90,000	361,125	190,500	-	\$721,637
2020-2021	166,950	190,000	-	160,000	800,000	\$1,316,950

2.2.1 FACULTY AWARDS

As a joint initiative between the Vice-President, Academic and Provost and Vice-President, Research & International, SFU has established the [Distinguished SFU Professor program](#) to recognize outstanding research faculty. To date, **\$247,000** from CTEF has been used to recognize **15** researchers with this prize, across all faculties. These professors are not only nationally or internationally accomplished in their respective research field, but they share their work with the public through lectures, panels and presentations. The SFU Distinguished Professors are leaders whose research contribute to making the world a better place.

2.2.2 WHAT ARE MATCHING FUNDS?

Increasingly, governmental funding agencies provide large-scale funding envelopes for cross-institutional collaborations to advance breakthroughs in Canadian research. These programs often require ‘matching funds’, whereby participating institutions, or industry collaborators, are required to contribute cash and in-kind resources towards the research project.

Over the past three years, SFU has led several such network and partnership projects, and participated in many more as a collaborator. The primary source of cash contributions to these research projects has been CTEF, for a total of **\$1.6M**—not including student support (see below). Significantly, these matching funds have been leveraged to generate research income of almost **\$20M** from external sponsors, supporting 17 projects over a diverse range of disciplines, including Arts & Humanities, Social Sciences & Management, Health Sciences, Natural Sciences, and Engineering. These projects have established SFU researchers as leaders in their communities, enhanced SFU’s reputation internationally, and contributed significantly to knowledge mobilization and community engagement.

2.3 STUDENT AND POSTDOCTORAL SUPPORT

Over the past three years, just over **\$2.7M** from CTEF has provided direct support to more than **230** SFU undergraduates, **200** graduate students, and **11** Postdoctoral Fellows through awards, fellowships and stipends. A great share of this funding is distributed through the Office of Graduate and Postdoctoral Studies, as Graduate Fellowships or Undergraduate Student Research Awards (USRA). This figure also includes support for students working under the rubric of **36** large-scale national research collaborations, which SFU researchers either led, or in which they participated as co-applicants.

Table 3. Direct research support for Students and Postdoctoral Fellows, Fiscal 2019-2021.

Research Support	2018-2019	2019-2020	2020-2021
Graduate Students	285,946	459,750	389,374
Undergraduate Students	-	384,500	328,500
Postdoctoral Fellows	210,000	234,000	230,000
Other Research Personnel	140,000	65,000	-
Total	\$635,946	\$1,143,250	\$947,874

Note that in 2018-19, Undergraduate Student Research Awards were paid from the University Priority Fund (\$290,000) and other sources (\$113,000), which are no longer available.

2.3.1 SELECTED STUDENT AND POSTDOCTORAL HIGHLIGHTS

OMICS Data Science Research Cluster

Genomics is an established SFU research strength that is featured in both the Big Data and Health Technology and Health Solutions research cluster in the Strategic Research Plan. Led by Professors Fiona Brinkman (Molecular Biology and Biochemistry) and Martin Ester (Computer Science), the OMICS Data Science Research Cluster is a group of multidisciplinary SFU researchers working in the areas of computational genomics, proteomics, metabolomics, and other -omics, at the intersection of computer science, mathematics and life sciences. This program trains graduate students to apply computational methods to areas of interest to physicians and public health agencies, involving genetic causes of hereditary and acquired human illness, personalized treatment of hereditary and acquired human illness, impact and application of genetics to public health and disease prevention, and role of genetic diversity within human populations. To date, **two Postdoctoral Fellows** and **six PhD students** in this program have received direct support from CTEF, for a total of **\$160,000**.

Imaging Research

Medical imaging research supports the development of the Big Data and Health Technology and Health Solutions research clusters in the strategic research plan. Dr. Karteek Popuri, a Senior Postdoctoral Fellow working under the supervision of Professor Mirza Faisal Beg (Engineering Science), has been a key contributor to Imaging Research at SFU, and helped increase SFU's research capacity in neuroscience and neuroinformatics. In 2019, Popuri was the recipient of the 2019 Canadian Open Neuroscience Platform (CONP) research scholar award.

During the 2018-2019 tenure of the CTEF award, Popuri worked on the development of a user-friendly web portal to access the submission queue on Compute Canada cluster Cedar, and populating this portal with common neuroimaging pipelines, thereby enabling these pipelines to be widely available to SFU researchers on the Cedar network. In addition, Popuri advanced the development of a meta-scheduler that federates all the clusters within the national Compute Canada network into a single unified queue with dynamic and adaptive load-balancing across these clusters. He also made himself available to provide research consultancy services to researchers across SFU campus interested in High Performance Computing or image processing. Popuri was supported by a CTEF award, valued at **\$50,000**.

Quantum Computing

Quantum Computing is an emerging area of strength at SFU and is the subject of one of our largest current CFI awards (\$19M, awarded in 2017). It is included in our Strategic Research plan in both the Big Data and New Materials and Technology for Sustainability research clusters. Dr. Daniel Higginbottom, a Postdoctoral Fellow working under the supervision of Dr. Stephanie Simmons (Physics) joined SFU in October 2018. He has been crucial to the development of quantum research at SFU, both through his direct contributions, and indirectly through enabling Simmons to focus on institutional quantum efforts, including the **\$17M Quantum Algorithm Institute** at SFU. Simmons' lab supports a team of 10 graduate students and research personnel.

Higginbottom was nominated and waitlisted for a federal Banting Fellowship, ranking 28 out of 181 applications received nationally. He also contributed to the quantum computing lab by purchasing and successfully configuring a \$400,000 ultra-low light spectrometer along with designing and building a cryogenic confocal microscope. During this time, he authored two published papers, and presented five talks, and enabled Simmons to publish nine papers, file five patents, and supervise the completion of eight

theses (seven as senior supervisor). Simmons was invited to give eight keynote/plenary talks, 26 invited talks, and secured one of 15 global CIFAR Quantum Information Science Fellowships. Higginbottom was supported by a CTEF award valued at **\$100,000**.

2.4 RESEARCH EQUIPMENT AND FACILITIES

This category accounts for a **\$3.7M** investment from CTEF to expand SFU's research infrastructure strategically, and for enhancing our capacity through new or upgraded research equipment and facilities. Accordingly, **\$3.1M** was used to fund the renovation of newly purchased research space in Surrey. This space is strategically located across the street from Surrey Memorial Hospital (SMH) and will host the **WearTech Labs university core facility**, which has been awarded a total of **\$8.25M** through a CFI award. The purchase and use of this space aligns with the City of Surrey's Economic Diversification Strategy in its support for Health Technology and Advanced Manufacturing. This SFU research core facility is a strategic fit for at the national, provincial, municipal and institutional levels. It is also in line with the Health Technology and Health Solutions research cluster of SFU's Strategic Research Plan.

CTEF funds of **\$200,000** were allocated towards the SFU Water Tower building, which hosts SFU's flagship Compute Canada supercomputer, Cedar, which is one of five national advanced research computing (ARC) systems—having already been awarded over **\$95M** through Federal and Provincial support. Cedar fast-tracks research that relies on big data in fundamental, applied and social sciences and humanities with unparalleled speed and agility, while dramatically transforming the kinds of questions researchers can ask and operationalize.

The remaining funds supported small-scale renovation costs at the SFU Library and strata fees for laboratory facilities at Surrey City Centre.

2.5 SEED FUNDS FOR RESEARCH

CTEF has been the source of funds for supporting SFU researchers for bridging grants, **research personnel emergency grants**, and (non-international) travel grants. Over the past three years, more than **\$386,000** of CTEF expenditures were made in this category—delivering small-scale critical funds to many researchers 'just in time'. Prior to the revision of the CTEF ToR, these activities were supported through the University Priority Fund, the source of which is no longer available. The revised ToR allowed SFU's VPRI to use CTEF for these purposes directly. These funds are also used to top up Institutional SSHRC grants to support **Social Sciences and Humanities** research proposals that have met the agency's threshold for funding, but were not funded due to agency budget shortfalls.

2.6 INTERNATIONAL COLLABORATIONS

Over the past three years, **\$457,500** from CTEF has been used to support SFU's international research initiatives, including support for international Travel Grants, a seminar series featuring international visiting scholars, international conference support and satellite meetings, and other international memberships. These expenditures have enabled SFU to increase its international research engagement, raise the profile of the university, and allow SFU researchers to extend their collaborations globally. Expenses in this category in Fiscal 2020-21 were reduced or deferred because of travel restrictions and reduced international activities during the pandemic.

2.7 COMMUNITY-ENGAGED SCHOLARSHIP AND KNOWLEDGE MOBILIZATION

Community-engaged scholarship and Knowledge Mobilization are critical to the process of the research life cycle, from curiosity to discovery, to ideation, creation and invention, and dissemination of research for impact in society. Over the past three years, \$295,250 from CTEF was used towards the **University Publication Fund** and for support to the SFU Library for the **Knowledge Mobilization** initiative.

3.0 CTEF EXPENDITURE PLAN

3.1. EXISTING COMMITMENTS AND FINANCIAL CAPACITY

The CTEF earned income for 2021/22 (FY 2022) is expected to be approximately \$2.4M. In addition, there is approximately \$800,000 carried-forward from previous years.

3.2. NEW PROJECTS OR PLANS

In FY 2022, there are new plans to increase seed funds to support growth to SFU's success rates in the Tri-Agency competitions. In addition, our Strategic Priorities and Opportunities includes support for the Public Knowledge Project as an SFU research core facility. Under the Research Equipment and Facilities category, there will be support for new research institutes, including the Quantum Algorithms Institute and the Digital Democracies Institute.

3.3. EXPENDITURE PLAN BY TOR CATEGORY

Category	2020-2021	2021-2022
Strategic Priorities and Opportunities	1,316,950	1,116,915
Student and Postdoctoral Support	1,057,874	994,750
Research Equipment and Facilities	299,340	315,000
Seed Funds for Research	90,000	150,000
International	60,000	94,000
Community-Engaged Scholarship	115,250	115,250
Total	\$2,939,414	\$2,785,915

3.3.1 STRATEGIC PRIORITIES AND OPPORTUNITIES

This category includes: the Public Knowledge Project's transition to a university core facility, strategic startup grants (including a new LEEF Chair in neuroscience), the Distinguished University Professors program, innovation activities, and prior commitments.

3.3.2 STUDENT AND POSTDOCTORAL SUPPORT

Student support is budgeted at \$423,000 for undergraduate student research awards, \$466,750 for Graduate Fellowships, and \$105,000 for Postdoctoral Fellowships.

3.3.3 RESEARCH EQUIPMENT AND FACILITIES

This category includes support for SFU's Core Facilities program, facilities and equipment upgrades, special equipment, new research institutes, and matching funds for Canada Foundation for Innovation and Western Economic Diversification grants.

3.3.4 SEED FUNDS FOR RESEARCH

This category includes funding for the Research Personnel Emergency Grants, as well as funding to support higher success rates to Tri-Agency programs, and other small-scale seed funds for research.

3.3.5 INTERNATIONAL COLLABORATIONS

This category increases support to enhance international research collaborations.

3.3.6 COMMUNITY-ENGAGED SCHOLARSHIPS AND KNOWLEDGE MOBILIZATION

This category includes the University Publication Funds and support for SFU's Knowledge Mobilization initiative.

VISIT WWW.SFU.CA/RESEARCH TO LEARN MORE ABOUT RESEARCH AT SIMON FRASER UNIVERSITY.