SFU

CANADA EXCELLENCE RESEARCH CHAIRS

Date posted: January 14th, 2022
Revised: January 31st, 2022

At the intersection of innovative education, cutting-edge research, and community outreach lies Simon Fraser University (SFU), Canada's engaged university. With three campuses located in beautiful British Columbia's largest municipalities—Vancouver, Burnaby and Surrey—our students, faculty and staff are privileged to live, work, and play on the traditional unceded territories of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh Úxwumixw (Squamish), səl̓ilw̓ətaʔɬ (Tsleil-Waututh), q̓íc̓əy̓ (Katzie), kʷikʷəƛ̓əm (Kwikwetlem), Qayqayt, Kwantlen, Semiahmoo and Tsawwassen Peoples.

Consistently ranked as one of Canada's top employers, SFU is an institution whose strength is based on our shared commitments to diversity, equity, and inclusion, and the pursuit of decolonization, Indigenization, and reconciliation. Diversity is an underlying principle of our Strategic Vision, which pledges SFU to "foster a culture of inclusion and mutual respect, celebrating the diversity reflected among its students, faculty staff and our community."

SFU is an equity employer and encourages applications from all qualified individuals, including women, persons with disabilities, racialized minorities, Indigenous Peoples, people of all sexual orientations and gender identities, and others who may contribute to creating a diverse, equitable and inclusive community. SFU is committed to ensuring that no individual is denied access to employment opportunities for reasons unrelated to ability or qualifications. Consistent with this principle, SFU will advance the interests of underrepresented members of the work force, ensure that equal opportunity is afforded to all who seek employment at the University, and treat all employees equitably. **Candidates who belong to equity-seeking groups are particularly encouraged to apply.**

THE OPPORTUNITY

SFU invites applications from **world renowned** researchers for the prestigious Canada Excellence Research Chairs (CERC) 2022 Competition. The CERC program stands at the centre of a national strategy to foster research excellence in Canada and improve our depth of knowledge and quality of life, strengthen Canada's international competitiveness, and help train the next generation of highly skilled people. The program offers an avenue for Canadian institutions to recruit the best global talent and brand Canada as a location of choice for world-leading research. CERCs are one of the largest and most prestigious awards available globally, providing the world's top researchers and their teams with up to $8 million over eight years to support their research programs and teams.

The CERC recruitment uses a two staged process where interested applicants must first apply to the open job posting at the University and then the successful applicant(s) will submit an application to the program. SFU will provide substantial support in the preparation and development of the program application including project management, budget planning, proposal development and editing. If successful, CERC awardees will also receive substantial support to their research programs and for administration of the grant.

This program provides an opportunity for international researchers, including Canadian expatriates wishing to relocate to Canada, to lead a prestigious research program at SFU and to contribute to Canada's excellence in research and innovation. **Applicants must be full professors or associate professors** expected to be promoted to full professor within one to two years of the nomination. Alternatively, if they come from outside the academic sector, applicants must possess the qualifications necessary to be appointed at these levels.

Successful candidates will be appointed to an appropriate academic department/school/faculty at SFU, as early as Fall 2023. Procedures and processes have been established to permit non-Canadian chairholders, and in some cases members of the Chair's team, to work in Canada.

RESEARCH ALIGNMENT

SFU welcomes applications from **outstanding established** researchers **in any area of SFU institutional strength**, with particular emphasis on the following themes:

1. Quantum Sciences

The potential of the quantum technology sector is fueling intense and accelerating research worldwide. The enormous processing power of quantum computers promises to transcend even the immense achievements of classical IT over the last half century, in turn advancing fields as diverse as drug development, design and discovery of new materials, climate modelling, engineering optimization, machine learning, pattern recognition, and cryptography. Networks of quantum computers unleash exponentially more combined capacity than the sum of their parts, and, given expected environmental constraints, they will likely be far easier to build than monolithic quantum supercomputers. Due to the nascent state of the field, the full spectrum of future applications of quantum technologies likely lies outside our current collective imaginations.

SFU is home to the newly formed Quantum Algorithms Institute (QAI), which brings together industry, government and academic experts to accelerate innovation and commercialization activities related to quantum computing. This is a unique opportunity for leaders in quantum sciences to join SFU and build on our achievements, collaborations, and world-class infrastructure.

Potential research areas of interest: Networked Quantum Computation, Quantum Algorithms, Quantum Communication, Quantum Computing, Quantum Hardware, Quantum Information, Quantum Internet, Quantum Software.

2. Computational and Engineering Sciences

Technology impacts every aspect of our lives. Industry 4.0 in conjunction with robotics advancements will transform the manufacturing industry through smart factories using computer-aided manufacturing systems such as additive manufacturing that can adaptively manufacture parts on demand, direct from digital designs. Robotics also has broad potential impacts on public safety, healthcare, home-care, manufacturing, transportation, and entertainment. Intelligent computational agents will be an integral part of our society. Human-computer interaction (HCI) and visual information processing must also be considered in technological development to ensure access for millions of end users around the world. Cybersecurity complements the technological advancements to prevent the increasingly frequent, severe, and sophisticated cyberattacks, information security breaches, and safeguarding of intellectual property and financial assets.

SFU researchers cover a wide range of cutting-edge research and training programs in computational and engineering sciences, and reframe problems and deliver tomorrow's solutions.

Potential research areas of interest: Human-Computer Interaction, Additive Manufacturing, Artificial Intelligence (AI), Cybersecurity, Data Visualization, Image Processing, Industry 4.0, Information Visualization, Internet of Things, Machine Learning, Robotics, Smart Manufacturing.

3. Improving our Understanding of Human Health

A broad approach to health research is critical for addressing the world's greatest health challenges, one that encompasses the developmental origins of health and disease, the causes and consequences of chronic diseases across the human lifespan, basic biological sciences, evolutionary theory and social, environmental and behavioural determinants of health. We are seeking ways to support the health and wellness of young and aging populations, manage pandemics and their societal consequences including complex mental health challenges and substance use by developing preventative approaches and interventions to support health and wellness across the human lifespan. Research on systems, infrastructure and policy within the workplace, schools and social services is also critical for shaping health outcomes. In addressing these challenges, we must take a social justice and equity focused approach to ensure the inclusion of priority populations.

SFU has health-related research strengths in several areas, including biological research on infectious diseases, evolution, genomics and physiology; and population, public health and global health focused investigations. Our goal is to improve the health of individuals and populations and to reduce health inequities through excellence in interdisciplinary research and education, in partnership with local, national and global communities as evidenced by collaborative agreements and partnerships with the governments, health authorities, including the First Nations Health Authority, global health organizations, and community-based organizations.

Potential research areas of interest: Infectious Diseases, Omics and One Health, Population and Public Health, Ethics, Mental Health and Substance Use, Health Inequities, Global Health

4. Climate Change

A major planetary change due to global warming is the shift in the intensity and frequency of extreme weather events. This shift has already resulted in widespread changes in plant community composition, loss of human life, and damage to infrastructure with the associated economic losses. These impacts are anticipated to worsen with time. Resource management must be closely examined to deliver new approaches for sustainability, for example as it relates to our oceans, and developing clean and renewable energy sources. Solutions must be developed in close partnership with Indigenous peoples and with attention to inequities of climate change.

SFU ranks among the word's top 50 universities for its commitment to sustainability and is home to climate research initiatives including greenhouse gas emissions mitigation, sustainable energy systems, climate change impacts, and adaption to climate change. SFU is committed to embedding climate action through its operations, research, academics, and community.

Potential research areas of interest: Clean Energy, Climate Change, Environmental Science, Flood Science, Indigenous Geographies, Sensors and Sensing Networks, Smart Construction, Sustainability, Traditional Knowledge, 3D Printing

5. Justice, Equity, Diversity and Inclusion

Globalization, natural resource use and distribution, economic uncertainty, population migration and changing patterns of convergence and conflict challenge the structures of societies and shape the ways we interact with each other. Existing policies governing our way of life originate from Eurocentrism and reinforce systems of power and privilege, creating inequities and systemic barriers grounded in and contributing to racism, heterosexism, ableism, classism, and other sustained systems of oppression. This negatively impacts physical, mental and social well-being of marginalized individuals. Considerations related to justice, equity, and social responsibility also shape the ways in which we engage with communities and value their contributions. Fostering community participation in research is both a vehicle for social change and a critical source of

scholarship. There is a need to dismantle Eurocentric structures and facilitate better educational practices and critical discourse while strengthening equity, diversity, and inclusion.

Researchers at SFU are considering questions of equity and justice in relation to environmental, educational, health, economic and governmental systems. Matters of social inclusion, identity, diversity, and belonging are key drivers behind how individuals and groups perceive and connect with society at large.

Research areas of interest: Gender, Colonialism, Decolonization, Disability, Equity, Ethics, Feminist Theory, Justice, Race, Educational Policy, Higher Education

6. Major National and International Research Initiatives

SFU is committed to supporting strategic investments by Canadian and International governments to promote research excellence and the transfer of research results and benefits to broader society. SFU hosts one of ten worldwide Tier 1 Data centre for the ATLAS experiment at CERN and is a founding member of TRIUMF, Canada's particle accelerator centre.

Applications are also welcomed from researchers whose research aligns with major national and international research initiatives including, **but not limited to**, ATLAS, CERN, Ocean Networks Canada, TRIUMF, and SNOLAB.

Applications from **any discipline** are encouraged, even if they do not directly align with the themes listed above. For further information on areas of institutional strength, please see SFU's 2016-2022 Strategic Research Plan.

HOW TO APPLY

To apply, applicants should provide:

1. A cover letter that identifies:
    a. The theme (1 to 6, or other) the applicant's research aligns with
    b. The size of the applicant's planned research team
    c. The applicant's start-up funding, infrastructure and space requirements
2. A full curriculum vitae (include details of research and teaching, scholarly record, funding, collaborations/partnerships and leadership experience)
3. A one-page (maximum) statement that describes the applicant's past experience with attracting and mentoring a diverse group of students, trainees and research personnel, and establishing an equitable and inclusive research environment, as well as a plan for establishing and maintaining a diverse core team and a research environment that is safe and inclusive.
4. A five-page (maximum) statement that includes:
    a. An overview of the applicant's research proposal, including knowledge mobilization and any innovation activities
    b. How the proposed research embeds EDI considerations at each stage of the research process
    c. Alignment with SFU's existing or emerging areas of research strength
    d. Potential to collaborate with other researchers at SFU, in BC and Canada
    e. Social and economic benefits for Canada that will result from the research program
    f. Contribution and fit to the research ecosystem in Canada and internationally

5. The names and email addresses of 6 potential arm's length referees who are prepared to submit a letter of recommendation.

SFU is an institution whose strength is based on our shared commitments to diversity, equity and inclusion, and the pursuit of decolonization, Indigenization and reconciliation. Applications must demonstrate a strong commitment to equity, diversity and inclusion within the research team and research design.

SFU recognizes that alternative career paths and/or career interruptions (e.g., parental leave, medical leave) can impact research achievements and commits to ensuring that leaves are taken into careful consideration. **Candidates are encouraged to highlight in their application how alternative paths and/or interruptions have had an impact on their career**. SFU also recognizes the value of mentoring and research training, outreach, professional service, and non-traditional areas of research and/or research outputs. Demonstrated experience in increasing diversity in the previous institutional environment, and in curriculum, is also an asset.

All applications should be submitted to:

Dr. Angela Brooks-Wilson
Associate Vice-President, Research pro tem
Office of the Vice-President, Research and International
Simon Fraser University
8888 University Drive
Burnaby, BC, Canada, V5A 1S6
cerc@sfu.ca

Applications will be accepted until **5:00 pm PST on March 21, 2022.** Any general inquiries regarding this posting may be directed to cerc@sfu.ca.

This position is contingent upon the applicant receiving a Canada Excellence Research Chair. The position is subject to the availability of funding and to final approval by the University Board of Governors and the Tri-agency Institutional Programs Secretariat (TIPS). The Canada Excellence Research Chair is tenable for eight years. Interested applicants are invited to review the full program details: https://www.cerc.gc.ca/program-programme/cpan-pccs-eng.aspx#2

SFU offers benefits and services aimed at creating a more inclusive and accessible campus community for faculty, please see the Faculty Relations, Benefits and Service page for more details. SFU is also committed to ensuring that the application and interview process is accessible to all applicants; if you require accommodations or have questions about SFU benefits, services, accommodations policies, or equity considerations please contact the Specialist, Equity, Diversity and Inclusion in Faculty Relations.

Under the authority of the University Act, personal information that is required by the University for academic appointment competitions will be collected. For further details see the Collection Notice: http://www.sfu.ca/vpacademic/faculty_openings/collection_notice.html.