



Strategic Research Plan Summary for the University of the Fraser Valley 2023 to 2028

Introduction

The University of the Fraser Valley is a regional university situated on the unceded traditional territory of the Stó:lō people. The University's Vision is to "... be known as a gathering place for learners, leaders, and seekers. We will pursue diverse pathways of scholarship leading to community connection, reconciliation, and prosperity, locally and beyond." The Strategic Research Plan aims to operationalize that vision by meeting the objectives of this plan and contributing to the Imperatives of the University Integrated Strategic Plan. UFV supports individual and collective research in all of its program areas and encourages and facilitates multi-disciplinary and trans-disciplinary approaches to complex problems. As a primarily undergraduate institution, teaching and research are intimately related for the advancement of knowledge and development of entrepreneurial and innovative contributors to Canadian society at all levels by enriching the learning and training experiences of our students.

The purpose of the Strategic Research Plan is to identify the priority research areas that will guide the creation of Canada Research Chair positions and the strategic use of Canada Foundation for Innovation funds for investment in the development and support of research centres and institutes that meet the economic and social needs of stakeholders within our region. Research chairs, centres and institutes are the primary approach by which the university engages with regional and national stakeholders that include governments, businesses, not for profits, and Indigenous communities to ensure that our research activities are at the leading edge of meeting the rapidly shifting needs of Canadian society. This plan supports UFV's Mission of 'Engaging learners, transforming lives, building community'.

Strategic Research Plan Objectives

1. Facilitating research and scholarly activity that is relevant to our regional setting by:
 - a. Prioritizing internal funding supports such as Research Options and Scholarly Activity grants that are relevant to the University's regional setting.
 - b. Cultivating applied and collaborative research partnerships with industry, governments, communities, and non-profit agencies.
 - c. Engaging community in the lifecycle of research activity from topic identification to dissemination of results.
2. Integrating research and teaching through increased research training opportunities by:
 - a. Increasing the number of opportunities for student involvement in research through paid research assistantships.
 - b. Supporting the development and delivery of inquiry-based curricula.
 - c. Supporting student participation at academic and professional conferences.
3. Increased support for faculty members' research and scholarly activities by:
 - a. Enhancing information and technological resources essential to research and scholarly endeavors.
 - b. Ensuring faculty have timely access to proposal writing and research administrative services.

- c. Supporting the dissemination and publication of the results of faculty research.
4. Strengthening multidisciplinary and collaborative research activities to address complex problems by:
 - a. Supporting the capacity of the University's research centres, laboratories and institutes.
 - b. Facilitating collaboration within and between disciplinary specializations.
 - c. Pursuing strategic local, regional, national, and international partnerships with other academic institutions.
 - d. Increasing the number of and success of proposals submitted to the Tri-Agency funding organizations through internally dedicated support and peer review programs.

Strategic Research Themes

The 2023-2028 Strategic Research Plan identifies five regionally important strategic research themes for the development of research capacity, relevance, and impact. Those themes have been selected to align with both existing research strengths and new directions arising from consultation within the University and with the communities of our region.

The themes listed in alphabetical order are:

1. Agriculture and Environmental Resilience

The Fraser Valley is home to Canada's most productive agricultural land and one in five jobs in the region is affiliated directly or indirectly with the agriculture sector. It is known as the Berry Capital of Canada. Increasingly, the viability of this sector and resilience of the regional communities have been increasingly stressed by unpredictable climate events. UFV will address these challenges by supporting research in:

- a. Food security, the development of sustainable agricultural practices and technologies, and land policy by the Food and Agriculture Institute.
- b. Berry horticulture to enhance climate resilience and develop best production practices that can adapt to changing conditions and preserve valued land and water resources. UFV plans to nominate a CRC Tier 2 candidate in this research theme.
- c. Agritech in partnership with entrepreneurs and the British Columbia Centre for Agritech Innovation. This includes work on vertical growing, sensor technologies, cellular agriculture, Indigenous food sovereignty, and genomic studies.
- d. Climate change science and environmental studies supported by the study of postglacial environmental change to predict future landscape change by the Luminescence Dating Lab.
- e. Studies of environmental vulnerabilities and the strategies to restore resilience through development of sustainable social and economic activities that lead to a circular economy.

2. Diversity, Reconciliation, and Justice

The Fraser Valley is home to 30 First Nations with 146 urban and rural reserves that have an established history of marginalization at the hands of settler society including the residential school system. In addition, the Fraser Valley is one of the fastest growing regions in Canada due to the steady addition of

new migrants creating some of the most ethnically diverse communities in the country. Research that leads to reconciliation with Indigenous peoples, better understandings of ethnicity and Canadian identity, and social justice will be conducted in:

- a. Indigenous issues, history, language and traditions, and implementation of the recommendations of the Truth and Reconciliation Commission. This will build upon existing scholarship with the Peace and Reconciliation Centre.
- b. Culture, social values, race, economic conditions, gender, religion, and ethnicity in relationship to citizenship, community, peace, and justice will be addressed by the Centre for Global Development.
- c. Issues and questions of interest to the South Asian community, including diasporic histories, access to public resources, and education facilitated by the South Asian Studies Institute.
- d. Justice, crime prevention, causes of crime, and criminal justice policy are addressed by the Centre for Public Safety and Criminal Justice which includes a high security crime analysis lab.

3. Human Health and Social Development

Human health and social development studies have a diverse group of scholars and disciplines which contribute to this area of scholarship at UFV. Areas of strength include:

- a. Studies on issues related to an aging population such as dementia, long term care service provisions, developing intergenerational understanding of cultural conceptions of aging, and educational activities by the Centre for Education and Research on Aging.
- b. Child development, welfare, food security, homelessness, and supply of social services are supported by the Centre for Health and Social Innovation, plus the Centre for Philosophy for Children.
- c. Substance abuse and co-occurring disorders such as Fetal Alcohol Spectrum Disorder, mental health, depression, and traumatic brain injury.
- d. Human movement, exercise physiology, wellness, and nutrition.

4. Innovation, Technology, and Modelling

Technological innovation has become increasingly important as the Canadian economy evolves, new professions are created, and the capacity of computer modelling and visualization have fueled the pace of new discoveries. The development of new materials is key to ensuring Canada remains competitive in the global markets. Artificial intelligence is revolutionizing all aspects of society and transforming the structure of work. Research in this area will be conducted in:

- a. Molecular science, a multidisciplinary field where physics, chemistry, mathematics, biology and computer science come together to better understand the technological potential of atomic and molecular systems. This work is being performed in the Centre for High Pressure Chemistry and the Molecular Modeling Lab.
- b. Studies in machine learning and artificial intelligence are gaining prominence and are being applied to an increasing number of sectors in the economy from technology to creative arts.
- c. The Esposito Family Centre for Innovation and Entrepreneurship is supporting the innovation pathway from idea to the scaling up of new innovations and advising on best approaches to entering the marketplace.

5. Scholarship of Teaching and Learning

As a primarily undergraduate post-secondary institution the scholarship of teaching and learning is essential to UFV developing meaningful learning experiences for all students. Student involvement in inquiry learning and research provides unique opportunities for students to develop and acquire essential skills including analytical thinking, critical thinking, and communication of research results. Research in this area will be conducted on the effectiveness of place-based learning, experiential learning, and the use of new technologies and pedagogical methods. A future Canada Research Chair allotment would most likely be situated within this research theme.

Research Chairs

Research chairs at UFV are a strategic priority to attract and retain researchers who are recognized as leaders in their field so that the University can engage in meaningful ways with community stakeholders and to provide highly valued contributions to the economy and social fabric as a whole. The following table demonstrates how strategic themes are supported by the work of research chairs at UFV.

Chair Type	Chair Title	Tier	Research Discipline	Status	Granting agency
Canada Research Chair	Health and Community	1	Health Sciences	Filled	CIHR
Canada Research Chair	Indigenous and Community Engaged History	1	History, Indigenous Studies	Filled	SSHRC
Canada Research Chair	Berry Horticulture	2	Biology, Biochemistry	Empty	NSERC
BC Regional Innovation Chair	Canada-India Partnership Development	NA	Business	Filled	BC LEEF/BCIC
UFV Endowed Chair	Food and Agriculture Innovation	NA	Geography, Environmental Studies	Filled	UFV Endowment

UFV is committed to equity, diversity and inclusion. The selection of research chairs generally, and specifically Canada Research Chairs follow the best practices outlined in the UFV CRC EDI Action Plan (2021) <https://ufv.ca/media/assets/research/chairs/CRC-EDI-Action-Plan-FINAL-2021-11-02.pdf>. The Action Plan provides guidelines and requirements that range from unconscious bias training for all selection committees, ensuring a diverse selection committee, and a diverse pool of applicants. The Director of Equity, Diversity and Inclusion oversees the entire process from job description to final offer in the hiring of Canada Research Chairs. UFV files an annual CRC EDI Progress Report each year and ensures that we remain in compliance.



Strategic Research Plan Consultation Process

The development of this SRP included in a year long consultation process that produced more than 1300 contributions from UFV faculty, researchers, administrators, staff, and students. Internal committees on EDI, Indigenous Affairs, Research Advisory Council and Senate Research Committee were provided dedicated consultation meetings. External stakeholders to the University were consulted through a series of meetings hosted by the McConnell Foundation in four communities where UFV has campuses. These group consultations included businesses, municipal governments, not for profits, and various agencies. The plan has been approved by the Acting President and Vice Chancellor, previously Provost and Vice President Academic.

Assessment of Strategic Research Plan Success

The success of the Strategic Research Plan will be measured annually against the four Strategic Research Plan Objectives and the University Integrated Strategic Plan Key Performance Indicators (2021-2026) that apply directly to the area of research. Each of the four Objectives will produce measurable outcomes and will be reviewed and assessed every year over the five-year period of this plan.

The three key performance indicators from the Integrated Strategic Plan that apply to the Strategic Research Plan are:

1. Provide opportunities for students to participate in experiential learning, scholarly activities and/or research initiatives with faculty members.
2. Foster meaningful collaboration and engagement opportunities with members of our community.
3. Develop meaningful community partnerships and action-oriented projects that support social innovation, economic development, and environmental sustainability.

Each of these KPIs are measured and reported on an annual basis.