



UNIVERSITY OF VICTORIA CRC AND CFI STRATEGIC RESEARCH PLAN SUMMARY, 2023-2027

The University of Victoria (UVic) is among Canada's most research-intensive universities, and occupies a unique historical, geographical and cultural niche in Canada. UVic has made significant strides forward in the breadth and depth of its research and social impact in recent decades. In the process, the university has developed unique capabilities for research and knowledge mobilization that are reflective of its values and commitment to research. These guide UVic's approach to remaining at the forefront of research excellence among international peers, and to being relevant to challenges facing contemporary society.

In 2021, UVic published its Research and Creative Works strategy, [Aspiration 2030](#), which provides a framework, goals, and targeted actions to guide our research endeavours and initiatives as a university. Aspiration 2030 supports intellectual inquiry at its inception, enables the research projects and programs of faculty, staff, students and research partners, and encourages an environment that promotes excellence in research, education and training for the next generation of researchers and leaders. UVic has successfully enabled research excellence by investing in faculty, staff and students, infrastructure, space and supports for research, and Aspiration 2030 lays out strategies that will advance them further.

Aspiration 2030 identifies five aspirations which leverage the best of UVic research:

- Research Environment: We are bold and resilient in advancing our research and creative work
- Research Community: We support a diverse community of researchers to achieve excellence
- Commitment to Indigenous Scholarship: We embrace and support Indigenous-led scholarship
- Global Engagement: we are globally connected and recognized for our research accomplishments
- Societal Impact: We mobilize knowledge and creativity to address societal challenges

UVIC CRC AND CFI PROGRAM OBJECTIVES

The Canada Research Chair (CRC) and Canada Foundation for Innovation (CFI) programs enhance UVic's research capabilities and help UVic attract and retain internationally recognized research leaders. The following objectives guide the university's CRC and CFI research:

- Foster research excellence and enhance UVic's role in the global exchange of knowledge to maximize the translation and application of research results
- Develop and invest in the impact areas identified in Aspiration 2030 and promote emerging areas of research of the highest quality and impact
- Optimize the attraction, development and retention of talented graduate students, post-doctoral fellows and faculty by recruiting world-class researchers
- Enhance UVic's training environment and capacity to educate highly qualified personnel for BC and Canada
- Build, operate and sustain infrastructure to support leading-edge research and to ensure maximum leverage and impact through partnerships
- Contribute to the economic growth and social advancement of BC and Canada

UVIC IMPACT AREAS

We recognise that the world is facing enormous challenges and will need novel solutions to ensure our survival. At UVic, we have identified five overlapping impact areas where our expertise uniquely positions us to address today's pressing issues and make a difference:

- Climate, environmental change and sustainability

- Health and wellness
- Indigenous-led scholarship
- Social justice and equity
- Technology and the human experience

At the core of UVic’s research strategy is our drive to create a better world through curiosity, engagement and innovation. While UVic has identified these five broad areas of particular strengths and societal impact, we recognize that fundamental research can, and often does, transcend these categories. Our commitment to fundamental research, inquiry and theoretical perspectives remains unflagging. We will continue to support excellence in these areas because curiosity-driven research and creativity are the building blocks for tomorrow’s life-changing applications.

Climate, environmental change and sustainability

Human impacts on the environment have accelerated on a devastating scale, touching every aspect of planetary health. UVic researchers and artists integrate their broad areas of expertise in a new way of thinking that translates into innovative solutions and transformative actions. We address urgent, complex and life-altering challenges facing oceans and lands, human wellbeing and the economy, and life in all its forms. We focus on climate policy, modeling, novel energy systems and applied solutions, smart sustainable cities, water security, ocean and climate science, ecosystem conservation and restoration, understanding human consumption and much more. UVic researchers are working with governments, industry and community groups to develop effective public policy and technologies to address the challenges posed by climate change, and interactions between various Earth systems.

UVic has leaders in research on climate modelling, climate change mitigation and adaptation, development of sustainable energy systems, and the human dimensions of climate change. UVic is a global leader in research in safe, clean and sustainable energy and green civil engineering solutions with a unique approach in integrated energy system modelling and optimization. UVic’s Institute for Integrated Energy Systems (IESVic) is a leader in charting feasible pathways to sustainable energy systems through the development of new technologies, processes, and systems. Research in this area is facilitated by a number of centres and entities including: the UVic-led Pacific Institute for Climate Solutions (PICS); the Pacific Climate Impacts Consortium; Environment Canada’s Canadian Centre for Climate Modelling and Analysis, and Water and Climate Impacts Research Centre (both located on campus); the Centre for Forest Biology (FORB); Ocean Networks Canada (ONC); Bamfield Marine Sciences Centre; POLIS water project; and IESVic. Since 2023, UVic leads Accelerating Community Energy Transformation (ACET), a national, multi-partner research initiative that is helping get Canada to net zero—one community at a time—supported by the Canada First Research Excellence Fund (CFREF). This initiative involves the work of more than 40 partners from academia, First Nations, municipalities, private, public and philanthropic organizations.

UVic is an international leader in the study of ocean science and the development of marine technology. UVic researchers have strong links with the region’s thriving marine technology sector, and with scientists at several nearby research centres. Researchers are focused on a wide range of research themes including biogeochemical cycles, climate-ocean dynamics, marine environment and ecosystems. The flagship for ocean science and technology at UVic is ONC, a world-leading national research platform established by UVic in 2007. ONC operates and maintains observatories in the Pacific, Arctic and Atlantic oceans, to position Canada as an international leader in the science and technology of ocean observing systems, and to maximize associated economic and societal benefits through commercialization and outreach.

Health and wellness

Many complex factors contribute to health and wellness across the lifespan. At UVic, we are at the forefront of innovative and community-responsive research on the social, cultural and biomedical determinants of health

and wellness, in addition to disease prevention, diagnosis, treatment, care and cure. Our impact has broader reach as well, to local, national and international policy; community programs for substance use and at-risk people; promotion of wellness and healthy aging through movement, music, language, theatre and visual arts; and even to enabling end-of-life care for marginalized populations.

The scope and depth of health research at UVic is demonstrated through the work of more than 200 researchers who conduct health research or work in allied fields. Developing collaborations and synergies between UVic researchers and community partners are stimulating research clusters in proteomics and genomics, medical physics, neuroscience, mental health, nanotherapeutics, social determinants of health, and aging. Researchers in the Institute on Aging and Lifelong Health (IALH) improve the health and quality of life of individuals across the life course through a broad orientation to health and aging that includes attention to the social, psychological, environmental, geographical, and cultural contexts in which people live, as well as the institutions responsible for the health of aging populations. The Canadian Institute for Substance Use Research (CISUR) study substance use and addiction in support of community-wide efforts to promote health and reduce harm. The UVic-Genome BC Proteomics Centre is the central hub of the Pan-Canadian Proteomics Centre, Genome Canada's Genomics Technology Platforms for proteomics technology development and service, advancing the diagnosis and treatment of disease. The Centre for Advanced Materials and Related Technology (CAMTEC) are developing biosensors using nanomaterials for detection of biomarkers, and biomedical engineering and medical physics are emerging areas of interdisciplinary strength involving many UVic faculty. The Department of Mathematics and Statistics has an internationally recognized team in bioinformatics, and mathematical modelling of biochemical networks and disease dynamics and epidemiology.

Indigenous-led scholarship

UVic is located on the traditional territories of the ləkʷəŋən peoples, the Songhees, Esquimalt and WSÁNEĆ Nations. The university promotes research reflecting the aspirations voiced in the Truth and Reconciliation Commission to advance reconciliation between Indigenous and non-Indigenous peoples in Canada. At the University of Victoria, we are learning, listening and nourishing a community in which Indigenous knowledge systems and worldviews are valued and centred throughout our scholarly and artistic practice. We are home to eminent Indigenous scholars who lead us and the world in Indigenous law, governance, health, language revitalization, community resurgence, art practices and reconciliation to address matters of crucial importance to communities. UVic's research programs aim to enhance the lives of Indigenous individuals, communities and Nations through advancing Indigenous knowledge and engagement with diverse knowledge holders, seekers and systems.

In 2022, UVic created the new position of Vice-President Indigenous; this position provides strategic leadership and direction in all aspects of work towards decolonization and self-determination of Indigenous Peoples at UVic, including the launch of the UVic Indigenous Plan in 2023. Indigenous issues in BC are a central focus of UVic's research, but its reach also extends throughout Canada and to the US, Australia, New Zealand, Fennoscandia, and increasingly to Latin America, Asia, and Africa. This research yields theoretical, methodological and policy outcomes of national and international significance and application in the field of Indigenous research.

The Centre for Indigenous Research and Community Led Engagement (CIRCLE) seeks, through meaningful engagement with communities and organizations in British Columbia, across Canada, and internationally, to promote, facilitate and lead relevant and ethical research that improves Indigenous peoples' well-being. UVic is internationally recognized for its scholarship in the field of Indigenous Law and Indigenous Rights. The National Centre for Indigenous Laws is a national centre for dialogue, research and knowledge transfer housing the first Indigenous law program in the world, the Indigenous Law Research Unit (the first dedicated research centre on Indigenous law in Canada), the Environmental Law Centre, the Access to Justice Centre for Excellence and the Business Law Clinic. Additionally, UVic is leading internationally research in the areas of Indigenous language, art practices, governance, health and human services, economics, and environment.

Social Justice and Equity

At the heart of all we do at UVic is the knowledge that all people deserve respect, dignity and fairness. Our researchers and artists advance this fundamental value in myriad ways. Connecting across academic and community boundaries, we examine ethics, politics, culture, and historical and current wrongs. We identify how to stop unjust practices, prevent recurrences, redress and heal. We recognize that we must accelerate and continue this work until inequity is eliminated both on our campus and in all corners of the world.

The Centre for Global Studies (CFGS) promotes research for a sustainable and equitable world. Their work is collaborative, multidisciplinary and cross-regional, fostering reflection on the complex array of social forces associated with an increasingly interconnected world characterized by new forms of economic activity, artistic production, politics, media, nationalism, ethnicity, spirituality and community that increasingly transcend local, national and regional boundaries. CFGS research considers the nexus of the local and global—how local concerns have global effects and how global issues manifest at the local level. The Centre for Studies in Religion and Society (CSRS) is a community of academics exploring how religion relates to all aspects of human society. Their areas of focus include religious diversity, radicalization and social services. Other clusters of significant research capability exist in the Centre for Asian-Pacific Initiatives, the Right to Housing Research Cluster, and the Consortium on Democratic Constitutionalism. UVic is the only university west of Québec that has two UNESCO Chairs, one in early childhood education and the other in community-based research and social responsibility in higher education. UVic is home to the world's only Chair in Transgender Studies and the world's largest transgender archives. CIFAL Victoria is the first United Nations Institute of Training and Research on North America's West Coast. It is a vehicle for driving the UN Sustainable Development Goals (SDGs) forward to create an equitable planet, and a sustainable and inclusive society and economy. CanAssist is a UVic organization dedicated to helping people who experience physical or cognitive barriers, by providing innovative technologies, programs and services to address unmet needs.

Technology and the Human Experience

Our modern world is fast-paced and relentlessly technological. Driven by curiosity, inspiration and wonder, UVic researchers use, adapt and develop new technologies and paradigms for how people understand science and the nature of the universe, how we interact with devices and manage information and data, and how we relate to other humans. We create transformative materials and systems to make them more effective, efficient and accessible and go far beyond that as well, to assess the personal, social and environmental costs of technology and improve health, communications, privacy, and security for people around the globe.

Data science enables other fields of research such as climate science, oceanography, physics and digitally based research in the arts, humanities and social sciences. UVic has outstanding research capabilities and expertise in the field of cyber physical systems including: computing; networked control systems; adaptive systems; energy systems; “smart oceans” technologies; assistive technologies and medical care monitoring, including elderly care; transportation and mobility; autonomous systems; smart materials; and wearable devices. UVic is one of 5 Digital Research Alliance of Canada national platforms, and hosts the largest research cloud in Canada.

UVic has significant capability in the areas of high-energy physics and astronomy – supported by centres such as the Astronomy Research Centre and the Victoria Subatomic Physics and Accelerator Research Centre – and enjoys close connections with nearby facilities such as TRIUMF and NRC Herzberg. UVic faculty members have taken leadership roles in several global science endeavours, such as the ATLAS experiment at CERN, the Thirty Meter Telescope, the ARIEL linear accelerator at TRIUMF, the Hyper-K neutrino detector in Japan. A new Research Cluster at UVic focuses on new quantum-based technologies and algorithms, and their interaction with light with the potential to revolutionize current technologies, with potential applications for climate and sustainability, and health and wellness. A cluster of researchers in advanced materials in CAMTEC, IESVic, Biomedical Engineering and the Department of Civil Engineering use nanotechnology, spintronics, photonics,

supramolecular design, and advanced microscopy to investigate new materials for applications as diverse as health, energy, manufacturing, construction, electronics and biotechnology. Researchers in the area of Computer Human interaction and gaming are leaders in how technology can help people explore, understand and share complex information and knowledge, and empower people to make data-centred decisions that help solve problems in their daily lives. UVic is a recognized leader in Digital Humanities and open digital scholarship, including the Electronic Textual Cultures Lab. An emerging strength is in the area of Digital Arts and Technology, where multidisciplinary teams from fine arts and engineering explore creative coding, generative art, artificial intelligence, applied gaming technologies, digital sculpture, augmented reality, virtual reality, robotics, or blockchain technologies.

EQUITY PLANNING

UVic is committed to equity, diversity and inclusion, as reflected in the principles outlined in the [university's Strategic Plan](#), which aim to “cultivate an environment that is inclusive, equitable and supportive”... “to be a place where each person feels like they belong”. UVic has been recognized for its exemplary practices in recruiting CRCs and exceeding its equity targets for chair holder representation from women and gender minorities, persons with disabilities, Indigenous Peoples and racialized minorities. UVic has articulated its institutional commitment to equity through the release of our Equity Action Plan in 2022, which outlines a detailed implementation plan to achieve five goals:

- Equity-centred culture
- Relationality and belonging
- Recruitment and retention
- Access and support
- Institutional accountability

These overarching goals provide strategic direction to advance equity, diversity and inclusion, and to create the conditions in which everyone feels a sense of belonging: as connected and respected parts of the university community.

INTER-INSTITUTIONAL AND INTER-SECTORAL COLLABORATIONS

UVic has 17 centres and entities, plus six research clusters that respond to emerging research opportunities, promote collaborative, interdisciplinary research, and enhance research networking capacity and infrastructure. UVic also has a Research Partnerships and Knowledge Mobilization unit, which builds research partnerships to mobilize knowledge for the benefit of the university, community and economy. UVic provides support for, and participates in, a number of large-scale multi-university consortia such as PICS, TRIUMF, Research Digital Alliance and PIMS, all of which support our researchers to achieve research excellence in their fields.

PLANNING AND APPROVAL PROCESS

The development of Aspiration 2030 involved extensive engagement and consultation with the campus community and partners. It sets out five priority areas (aspirations) that support all research excellence, plus five areas of particular strengths, 25 research-related outcomes and 50 actions to enhance and leverage research excellence at UVic. Aspiration 2030 commits to tracking and reporting on implementation and outcomes annually over the life of the plan. A set of guidelines have also been established to enhance the management of UVic's CRC and CFI program which are aligned with UVic's SRP and ensure the university makes best strategic use of its CRC and CFI allocations.