



Summary of UBC Strategic Research Plan for Canada Research Chairs Program (January 2021)

The University of British Columbia (UBC) is one of the world's top 40 research universities, recognized for its research excellence and for the impact of this research, at local, national and global levels of influence. This profound influence requires both disciplinary depth and collaboration within and across disciplines. We endeavor to achieve excellence in a broad cross-section of research areas, whether predominantly in scientific fields, in social and economic innovations, or in creative works in language, art, music or artificial intelligence, for example.

The fuller exposition of UBC's strategic plan for 2018-2028, "[Shaping UBC's Next Century](#)", from which this Summary is drawn, renews its commitments to addressing the history of how Canadian institutions have failed and oppressed Indigenous people. We acknowledge that UBC's two main campuses are located on the traditional, ancestral and un-ceded territories of the $x^w m \theta k^w \acute{e} y \acute{e} m$ (Musqueam) and Syilx (Okanagan) peoples. We are now engaged in charting a path to productive co-existence and a more equitable future. In tandem with the University's strategic plan, UBC's [Indigenous Strategic Plan](#) commits to implementing the United Nations Declaration on the Rights of Indigenous Peoples and sets ambitious goals and actions to advance the vision of becoming a leading university globally in the implementation of Indigenous peoples' human rights. As such, we support research initiatives that are reciprocal, community-led, legitimize Indigenous ways of knowing and promote Indigenous peoples' self-determination, across multiple areas of research, creativity and scholarship.

Our vision, going forward, is to inspire people, ideas and actions for a better world, continuing to invest in UBC's strengths in the traditional academic disciplines of physical sciences, engineering, health, life sciences, arts, humanities and social sciences; while also enabling interdisciplinary research that intentionally focuses on specific problems of contemporary societal importance. Taking this bold step forward requires building a diverse culture that integrate themes of collaboration, inclusion and innovation, infusing these themes through all activities. To enable research excellence, the plan focuses on five distinct strategies:

1. **Collaborative Clusters** – enable interdisciplinary clusters of research excellence;
2. **Research Support** – strengthen shared infrastructure and resources
3. **Student Research** – broaden access to, and enhance, student research experiences
4. **Knowledge Exchange** – improve the ecosystem that supports knowledge translation
5. **Research Culture** – foster a strong and diverse research culture that embraces the highest standard of integrity.

1. Collaborative Clusters

Collaborative clusters are interdisciplinary networks of researchers having a common focus on solving key challenges facing society. These established and emerging research clusters, on both the Vancouver and Okanagan campuses, transcend traditional departmental boundaries. UBC is committed to investing and supporting these initiatives, often spanning multiple aspects of research in: health, environmental science, physical sciences, social sciences, humanities, and the performing arts. These clusters enable exploration of the creative potential of reaching across disciplinary boundaries to solve crucial and pressing problems of today and tomorrow.



We intend to continue to encourage and support collaborations in, for example: green infrastructure, quantum computing, global challenges to democracy, indigenous health and well-being, mathematical modelling of diabetes diagnosis and treatment, advanced materials manufacturing and biodiversity research as an emerging global research priority ([see online](#)).

2. Research Support

To support these researchers and scholars in making major discoveries and generating major new insights, UBC is committed to providing a climate of effective collaboration, administrative and technical support, and access to world class infrastructure.

Some of that support is through enhanced core facilities, spaces and services. Global-leading research in many disciplines requires sophisticated equipment that depends on technical expertise to build and run. Sharing facilities, such as the Sequencing + Bioinformatics Consortium for Gene Sequencing, the Pacific Centre for Isotopic and Geochemical Research, and the Facility for Infectious Disease and Epidemic Research, to name a few; enables many researchers to benefit from this university-wide support for their particular research.

UBC also actively supports engagement with communities and provides access to scholarly resources. For example, the pilot Indigenous Research Support Initiative offers support and services for Indigenous communities and researchers engaged in collaborative research.

Creation and maintenance of online databases, through emerging digital technologies, is also of high importance, across the spectrum of single- and multi-disciplinary research groups. An example is the creation and evolution of an online database of religious history that may change how historical traditions are studied.

UBC strongly supports development and maintenance of state-of-the-art computing resources; e.g., the Advanced Research Computing (ARC) platform and the Data Science Institute (DSI), as well as providing access to digital research infrastructure in many areas of scholarship. An ongoing strategic priority at UBC is to ensure technical and scientific support for research data management and local capacity for researchers to address data access challenges.

Other research support services at UBC include Plant Care Services, which provide an essential shared platform for greenhouse and scientific field experiments; also offering expert advice for experimental design and plant cultivation.

3. Student Research

Engagement of students, both undergraduate and graduate, is fundamental to UBC's research strategy, going forward. It is our intention to expand opportunities, increase diversity, and improve student-research matches, for the benefit of both the students and their mentors. We feel that this will help infuse new ideas into the research effort, and will also benefit the postdoctoral trainees, often in positions of providing direction and support to students. We are facilitating broadened research pathways for graduate students and postdoctoral fellows, improving their mentorship and supervision, and creating opportunities to provide mentorship to others. Success in this strategy demands an institutional culture that promotes collaboration, inclusion and innovation, thus providing skills that will be useful to graduates and trainees, whether they go on to future academic, industrial, entrepreneurial or government employment.

4. Knowledge Exchange



We champion innovation, in which research plays a starring role. From influential publications that push the boundaries of knowledge to new inventions with commercial applications, and from discoveries that influence public policy to new developments in medical practice, we see UBC becoming an ever-more-effective catalyst for positive social and economic change. Many researchers are keen to find pathways for innovation. They want to engage with users of research and wider communities to translate ideas into knowledge that can generate positive social impacts.

To accelerate this knowledge exchange, UBC is enhancing existing pathways that facilitate entrepreneurship and commercialization. We are adding sector specialists in various disciplines, including life sciences, to our current innovation ecosystem; thus, helping form collaborations with organizations and individuals beyond the academy. In this manner, we favour enabling the translation of knowledge into policies and practice. UBC boasts 1,300+ industry research collaborations annually. UBC spin-off companies and licensed technologies have played a key role in advancing BC's technology, natural resources, and life sciences sectors. Lasting impacts may be in the form of new products, services, or companies; improved health outcomes, contributions to public debate, culture or policy; or lasting environmental change towards preservation of agricultural and animal biodiversity.

Bold thinking and innovative ideas don't happen in isolation. UBC recognizes its responsibility to make academic knowledge more accessible, understandable and actionable. The university strives to be a unique, engaged partner in collaborative research programs and in the sharing of research outputs that enrich the lives of local and global communities. Creation of the UBC Knowledge Exchange Unit is helping to build capacity among researchers, students and staff across disciplines to develop and share impactful knowledge through connections and exchange with communities, government, not-for-profit organizations and the general public.

Collaboration with organizations that help play a translational role, such as adMare BioInnovations (formerly, the Centre for Drug Research & Development), co-located in Vancouver within the Faculty of Pharmaceutical Sciences, are integral to our efforts. As we develop better support functions and connections across these multiple pathways, we continue to experiment with ways of communicating knowledge so that it is more accessible to a range of communities, from citizens to decision-makers.

5. Research Culture

Research culture comprises the beliefs, expectations and actions of our researchers, including how they select and carry out research projects; review the efforts of peer researchers; mentor and assist colleagues near and far; engage with external research partners; and influentially disseminate discoveries. UBC is further developing the principles and practices that define a collaborative and inclusive research culture and that support mentorship, scholarship, discovery and creativity. Addressing the problems facing society requires the contributions of all, and we are encouraging diversity in perspective and approach. UBC is enabling a research culture that interacts in positive and respectful ways with Indigenous people and Indigenous knowledge, and that welcomes the participation of members of other historically excluded groups. Their integrity and vibrancy are integral to UBC's future success.

A key component to building a more inclusive and equitable research culture is UBC's involvement in the Dimensions: equity, diversity and inclusion Canada pilot program. As one of 17 post-secondary institutions participating in the Dimensions pilot, UBC is committed to adopting sound equity, diversity and inclusion (EDI)-informed analyses, policies and practices that improve



the attraction and retention of qualified researchers and other staff and students, strengthen research outputs, and increase the overall excellence of research. In addition, UBC has been

recognized twice by the Tri-agency Institutional Programs Secretariat for exemplary equity and diversity practices in recruiting Canada Research Chairs (CRCs). UBC's Commitment to Equity, Diversity and Inclusion within the CRC Program is reflected in its [CRC Equity, Diversity and Inclusion Action Plan](#).

Building on Disciplinary Strength toward Increasing Interdisciplinarity

Excellent interdisciplinary research requires outstanding disciplinary strength. UBC's current allocation of 205 Canada Research Chairs (CRC's) enables the attraction and retention of world-class researchers and scholars into areas aligned with the strategic plans of 18 UBC Faculties. These strategic plans describe areas of growth defined by the Faculties, often articulating with collaborative clusters investigating interdisciplinary problems. To support these researchers and scholars in making major discoveries and generating major new insights, UBC is committed to providing a climate of effective collaboration, administrative and technical support, and access to world-class infrastructure, as outlined above.

UBC is amongst the world's leading universities for disciplinary research across many fields. Our research has had a profound impact on several areas of society, from groundbreaking work on how infants acquire language, to enabling personalized oncogenomics, devising photoactivatable pharmaceuticals and building the world's first quantum computers. Addressing local and global challenges—such as climate change; the largest human migrations of the last half century; and the societal shifts associated with increased automation—requires both disciplinary depth and collaboration within and across disciplines and communities. It demands the creation of new knowledge and its accelerated translation into action through interactions with external partners. It also necessitates resources for research services that enable investigators to achieve excellence in a highly competitive landscape.

As we move into the third decade of the 21st century, we face many challenges that require universities to look beyond individual disciplinary 'silos', yet require the focus and individual or collective expertise that can best be addressed by intensive, determined mastering of particular studies, whether in arts, sciences, engineering, languages or economics. Thematically, UBC's research foci are varied: Sustainability/Environment; Microelectronics, Information Technology; Quantum Structures; Nanoscience and Nanotechnology; Cosmic Origins; Mathematical Description and Formulation; Culture and Its Representation; Society in Global Context; Biotechnology, Human Health and Genomics; Cognitive Systems; Population Health and Human Development. Yet, within these subjects, there is considerable opportunity for 'cross-pollination' and overlap, as is evidenced by the individual faculty strategic research plans.

Commitment to Equity, Diversity & Inclusion in the CRC Program

UBC has a robust strategy for raising awareness of our commitment to and the benefits of equity, diversity and inclusion within the Canada Research Chair Program and our broader research enterprise. With an allocation of over 200 Canada Research Chairs, UBC has



developed an Equity, Diversity and Inclusion Action Plan (EDIAP) to ensure greater transparency in the allocation, selection, and renewal processes for chairholders from members of the four designated equity groups – women, Indigenous Peoples, persons with disabilities, and visible minorities/members of groups that are racially categorized. The EDIAP includes impactful equity, diversity, and inclusion objectives to address any inequalities that are currently experienced by individuals. These objectives include the following:

1. **Recruitment:** UBC’s Canada Research Chairs are recruited through an open and transparent process, making use of evidence-based strategies to ensure applicants are representative of the diversity of researchers available within and outside of UBC. UBC utilizes a special program from the Human Rights Commission of BC to help target individuals from the four federally designated groups.
2. **Representation:** UBC’s Canada Research Chairs are representative of the diversity of talented researchers available within and outside of UBC at both Tier 1 and Tier 2, with CRCs awarded to excellent researchers among designated equity groups at rates equal to or above the available workforce. As an institution committed to exceeding the requirements of employment equity, where possible, we include individuals who have been traditionally under-represented within higher education, particularly those at the intersections of different designated equity-deserving groups.
3. **Success:** In alignment with [UBC’s Strategic Plan 2018-2028: Shaping UBC’s Next Century](#), UBC’s Canada Research Chairs are able to collaborate and innovate with their peers while feeling supported and included in a diverse culture of research excellence.

Inter-institutional and Inter-sectoral Collaborations

UBC prioritizes and supports collaborations that benefit the world and our partners—as well as create value at UBC—and foster new alliances in areas of shared, strategic importance. With UBC’s two campuses and many learning and research sites—and through the strength of our connections across the province and beyond—UBC is well positioned to cultivate collaborative efforts.

UBC has partnership agreements with more than 300 universities, institutions and organizations in more than 50 countries that contribute to beneficial research, learning, and engagement in a myriad of fields. We are leveraging UBC’s location and diversity to further strengthen our Pacific Rim engagement, enhancing our capacity for regional and international influence and contributing to social cohesion more broadly.

These efforts demonstrate the extraordinary value of collaboration in our academic endeavors. Each has succeeded in creating the conditions required to coalesce people, ideas and actions, even where these have challenged institutional and personal norms. We work hard to remove barriers and, where appropriate, establish mechanisms to encourage further and sustained collaboration—internally and with off-campus partners such as Indigenous communities. The role of ‘catalysts’ or champions in helping establish these new practices continue to be important.