

# Vancouver Island University

## Strategic Research Plan Summary

### ***Institutional Context***

Vancouver Island University (VIU) is a dynamic institution dedicated to excellence in teaching and learning, service and research. VIU was established as a Community College in 1969, when it offered university-transfer programs and two-year diploma programs. The institution was granted university-college status in 1989 as Malaspina University-College, offering university baccalaureate degrees in association with the University of Victoria, given independent degree-granting status in 1995, and in 2000 was accredited by the Association of Universities and Colleges of Canada (AUCC). In 2008 Malaspina University-College was conferred full university designation and renamed Vancouver Island University. The provincial government's mandate is for VIU to undertake applied research that is applicable to the needs and priorities of the region.

VIU requires all of its faculty to engage in research or scholarly activity and it is particularly proud of its ability to mentor undergraduate researchers. The integration of undergraduate researchers into planning, experimentation, compilation and dissemination of the nationally and internationally recognized research conducted by VIU faculty is vital to the development of critical thinking and assessment skills and the ability of young students to cope with complexity in a challenging world.

VIU's research mission is to engage faculty and students in inquiry, enhance teaching and learning, advance disciplinary knowledge, and encourage interdisciplinary interaction among faculty and students. An important part of the university's research mandate is a commitment to healthy residents, communities, and ecosystems in our region. In light of the historical dependence of the region on natural resources, communities now face complex challenges. For research purposes, this complexity ranges across many disciplines, and addressing these challenges typically calls for integrated models which draw on expertise found in many parts of the institution. The areas of institutional strength are by themselves highly interdisciplinary, and not discrete silos of research activity. Formal and informal interaction between these areas is a further testament to VIU's priority to cultivate interdisciplinary research and knowledge mobilization.

### ***Principles and Objectives of the Strategic Research Plan***

Through the principles below, VIU is committed to:

- research of the highest national and international standards;
- research expressing the intrinsic relationship with teaching, learning, and the educational experience in general;
- active participation of both undergraduates and graduate students in research and scholarly activity;
- research reflecting broad interdisciplinary opportunities;
- integrated research focusing on areas of institutional strength and expertise; and
- independent research beyond the parameters of this research plan.

The general objectives of the research plan are:

- to support undergraduate student success through research activity;
- to initiate new graduate programs consistent with the institution's areas of strength;
- to encourage cross-disciplinary research networks in keeping with the size and character of the institution;

- to encourage research dissemination and interaction through participation in and the hosting of research conferences, workshops and symposia;
- to recruit and retain faculty with a commitment to undergraduate teaching that undertake active research programs and community leadership;
- to promote linkages between research and teaching and learning;
- to support and enhance research opportunities in areas of strategic importance to Vancouver Island University communities and regions, emphasizing coastal and Aboriginal communities;
- to develop regional, national, and international partnerships and collaborations with other universities, government, and industry contributing to research and learning environments at VIU; and
- to enhance faculty research involvement through institutional support, assistance with the acquisition of external funds, and the provision of suitable space.

### **Research Chair Allocation**

In the selection of a Chair area or a Chair candidate, the Research Chairs Strategy Committee considers, among other things, the ability of the Chair to: provide leadership in the institution and community; build external collaborations and partnerships; strengthen relationships with teaching and learning; and enhance an area of institutional strength consistent with regional relevance. Research Chairs are key positions to enhance research and research training in areas of institutional priority.

Table 1- Vancouver Island University Research Chair Allocation

<b>Chair Type</b>	<b>Chair Area</b>	<b>Tier</b>	<b>Research Discipline</b>	<b>Granting Agency</b>	<b>Area of Institutional Strength</b>
Canada Research Chair (CRC)	Coastal Resource Management and Policy	2	Urban and Regional Studies, Environmental Studies	SSHRC	Coastal Resources, Management and Policy
Canada Research Chair (CRC)	Shellfish Aquaculture Ecosystem Interactions	2	Evolution and Ecology	NSERC	Integrated Sciences and Environmental Research
BC Regional Innovation Chair	Early Childhood Development	2 <sup>a</sup>	Aboriginal Studies	BC LEEF	Aboriginal Community Engagement
BC Regional Innovation Chair	Tourism and Sustainable Rural Development	2 <sup>a</sup>	Tourism Management	BC LEEF	Community Health

### **Areas of Institutional Strength**

**1) Aboriginal Community Engagement.** Maintaining a strong Aboriginal student population and actively engaging First Nations communities are important goals of VIU. The strength and capacity of First Nations communities are investigated in varying ways such as the historical influence of health professions; approaches to contextual intervention; and child, youth, and family resilience. As part of its commitment to Aboriginal Community Engagement, VIU has

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<sup>a</sup> Equivalent to Tier 2

recently recruited a British Columbia Regional Innovation Chair in Aboriginal Early Childhood Development (ECD). Working in conjunction with Aboriginal communities and ECD providers, the Chair will develop a research strategy to investigate the current state of Aboriginal ECD training programs with the ultimate goal of ensuring that Aboriginal ECD programs are consistent with traditional language, culture and values. A further commitment to Aboriginal Community Engagement is an exciting future capital project, the development of a First Nations Gathering Place.

**2) Integrated Sciences and Environmental Research.** Strong interdisciplinary research groups have evolved within the Faculty of Science and Technology that are now focusing on local and regional environmental issues. Much of this research concerns coastal environments such as bays and estuaries with multiple uses, local streams, coastal forests and threatened ecosystems. In recognition of the significance of the interdisciplinary research conducted in the sciences, VIU is planning the development of a new Integrated Science Building.

VIU has continuously promoted the development of research centres that provide the necessary synergistic atmosphere in which scientists and technologists from different fields can use new approaches to tackle these complex issues. Through these research centres, VIU has developed expertise that is both regionally relevant and internationally significant.

a. Applied Environmental Research Lab – The AERL conducts research on the fate and distribution of chemicals in environments that have been altered by human activity, and supports the training of highly qualified personnel as environmental chemical analysts. The AERL's success can be attributed to the group's ability to both develop the latest techniques and tools in mass spectrometry and to apply these to practical situations. Some of the recent topics receiving attention include: the chemistry and treatment of waste waters, and identification of natural organic toxin in shellfish, identification of natural UV protectants, aerial pollution from cruise ships, and the chemistry of complex organics in oil-sands water effluent.

b. Centre for Shellfish Research (CSR) - Shellfish aquaculture is an emerging, yet rapidly expanding industry of importance to First Nations and other coastal communities. VIU has partnered with the BC Shellfish Growers Association and received major infrastructure funding from the Canada Foundation for Innovation (CFI), British Columbia Knowledge Development Fund (BCKDF) and Western Economic Diversification to create the CSR. The CSR has become the centre of the research and innovation system supporting sustainable industry development. It is bringing together industry, academia, First Nations people and government to investigate practical husbandry problems and to find procedures and policies that will minimise negative environmental impacts of shellfish farms thereby ensuring their sustainability. The CSR is establishing a second CFI/BCKDF-funded field research laboratory at Deep Bay at the centre of the industry's activities, and has recruited a CRC candidate in Shellfish Aquaculture Ecosystem Interactions. The long-term research programs at the Deep Bay laboratory will include: establishment of husbandry techniques for new aquaculture species such as the native cockle, development of genomic tools for evaluating shellfish health in the field, and the interaction of shellfish aquaculture with natural ecosystems.

c. International Centre for Sturgeon Studies (ICSS) - Sturgeon have a worldwide reputation as a premium food product and an exceptional sport fish, and attract considerable public appeal as "living fossils". Unfortunately, almost all of the world's sturgeon species are endangered or threatened. The ICSS facilitates an integrated approach to research and conservation. In British Columbia sturgeon populations are compromised by over-fishing, poaching, habitat loss and pollution. The ICSS brings together academia, government, First Nations, industry and non-governmental experts from the USA, Germany, France and Italy, to support ecological studies on wild populations, recovery initiatives involving conservation hatcheries and using these freshwater facilities to investigate other commercial species. The

development of new laboratories and holding facilities for the ICSS, with assistance from the CFI, is underway.

Special mention should also be made of several emerging areas of interdisciplinary research strength that will be promoted and encouraged by VIU. Faculty members in Biology and Engineering are examining aspects of the ecological and energy services provided by innovative green-building design. Specifically, this research involves a comparison of the carbon sequestration potential of green roofs with those of natural plant communities, and the structural design and construction of green buildings that incorporate alternative energy generation. Two other areas where our institution can bring exceptional research talents to play in a team setting are the transfer of parasites and bacteria between captive fish/shellfish and wild populations, and the ecological impacts of introduced marine species.

An important strategy for marine science research groups at VIU is to maintain and expand their close collaboration and partnership with Fisheries and Oceans Canada research staff. This has enabled co-application for grants and the sharing of expensive resources and platforms. In addition to this particular example, VIU attaches considerable importance to ensuring that appropriate partnerships are established with external agencies and groups such as local government and industries.

**3) Coastal Resources, Management and Policy.** Questions of social and economic impact and appropriate policy and regulations are intrinsic to research into the sustainable management of resources in a changing economy. For example, a study of the ecosystem interactions of shellfish farming must take into account federal, provincial, local, and First Nations jurisdictions on aquaculture, tourism, and marine protection. VIU has a reputation for coastal resource management and policy research, an area well suited to the setting, history, and character of the institution. Under the umbrella of the three research centres mentioned above, this priority area enables enhanced interdisciplinary research with a focus to promote resilience of coastal communities. Much of this research relies on strong ties to dominant regional resource-based industries and First Nations communities, as well as ongoing exploration of new economic opportunities.

VIU's Institute for Coastal Research conducts internationally respected, interdisciplinary research to understand and promote the resilience of coastal communities of BC and the Pacific Northwest. The CRC in Coastal Resource Management examines social-ecological systems of Canadian coastal communities through the integration of local ecological knowledge with that from natural and social science disciplines. Thus the CRC plays a key role in research, dissemination and knowledge transfer in these areas.

**4) Community Health.** Multidisciplinary community health research at VIU considers health, human and social well-being, and environment. Areas such as: chronicity, disability, and adaptations; the promotion of health and prevention of illness from infancy to old age; the complexities of healthy behaviour; and the strengths and resilience of individuals, families, groups, and communities are examined in the context of healing approaches, culture and context, mental health, professional relational practice, and intervention outcomes. The Community Based Research Institute fosters and coordinates community based research activities in health, well-being and development, and family, community or social issues to complement established curriculum and learning experiences throughout campus. For example, there are seven psychology labs that actively engage undergraduate researchers and community members in areas such as fear and anxiety, sleep and neuroscience and behavioural medicine. Another active research centre is VIU's Resilience Research Lab, an official site of the International Resilience Project. The Resilience Research Lab has forged

local community ties to examine the process of overcoming adversity and developing practical applications for children and youth at risk in the community.

Another key community health area, owing to the vast tourism opportunities on Vancouver Island, is tourism and sustainable regional development. VIU is proud to be home to the British Columbia Regional Innovation Chair in Tourism and Sustainable Rural Development. This Chair examines community identification and the nature of rurality as rural communities transition from primary industry (forestry, fisheries, mining) to tourism and conservation and/or preservation. The Chair engages in interdisciplinary and comprehensive research to examine issues and challenges facing communities in developing tourism as an economic diversification strategy. Additionally, the Recreation and Tourism Research Institute promotes and supports leisure research at VIU and seeks to link researchers and practitioners to mobilize knowledge in this field. The goals of the institute are improved decision making, community-based inquiry, increased public awareness and educational opportunities and enhanced research capacity.

**5) Cultural Communication and Expression.** This research area intersects new technologies and fields emphasizing cultural communication and expression. The thriving Vancouver Island arts and culture community is intertwined with our institutional profile, making this area an important priority for future development. Areas of focus are: repositories of oral tradition, histories, archival materials and other means of disseminating knowledge; conventional and experimental artistic works and research about the artistic process; cultural translations; and new media.

The Heritage Research Group is an interdisciplinary collective of five humanities scholars, newly formed under the auspices of the Alexandro Malaspina Research Centre. These scholars are involved in research related to Canadian heritage and its impact on memory, identity, society and nationhood. One goal of the group is to generate heritage research and use it to broaden intercultural understanding. A second goal is to facilitate the creation of new research relationships across campus, among both faculty and students. Further scholarship will include the publishing of presentations by the distinguished holders of VIU's Gustafson Chair of Poetry, beginning with renowned poet Robert Bringhurst.

VIU embraces the transition of humanities scholarship to digital media through our emphasis on the dissemination of numerous electronic research resources, such as the *Great Books* and the *Canadian Letters and Images* websites. In addition, the Media Research Lab, created with funding from the CFI and BCKDF, works to adapt and advance computing techniques in humanities scholarship and pedagogy.

**6) The Scholarship of Teaching and Learning.** The traditional focus on undergraduate education has enabled VIU to develop great strength in teaching and learning. Research in the scholarship of teaching and learning is an emerging area, with a commitment to excellence in teaching practice and the systematic investigation and enhancement of pedagogical approaches to the advancement of learning. Research topics pertinent to the scholarship of teaching and learning include: the development of scholars in the post-secondary system; interdisciplinary dialogues and reflective practice; integration of discipline research in student learning experiences; approaches to deep learning; processes of knowledge construction; and learning communities. To foster the scholarship of teaching and learning, VIU routinely invites faculty and administrators to engage in inquiry about teaching and learning.

Vancouver Island University is the lead institution in a Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) international project on Undergraduate Research and was the first Canadian site for a meeting of the Council on Undergraduate Research Institute in June 2008. We have partnered with the University of Portland in leading a cluster of universities on a theme of "Supporting Scholarly Work in Learning-centred

Universities”. VIU’s growing range of research facilities and the projects related to them provide a wealth of opportunity for students to become active researchers.

### ***Inter-Institutional and Inter-Sectoral Collaborations***

VIU has partnered with regional, national, international, academic, government, and private groups, including: Nuuchahnulth, Kwakwaka’wakw and Coast Salish First Nations; Sliammon, Snuneymuxw and Cowichan local communities; government agencies including the National Research Council’s Institute of Marine Bioscience, the Ministry of Environment and the Ministry of Agriculture and Land; other research centres such as the Bamfield Marine Sciences Centre universities consortium, the Pacific Biological Research Station (Nanaimo) and the Centre for Coastal Health. Ongoing partnerships with other universities include humanities computing affiliations with the University of Victoria and the TAPoR project, the Synergies project through Simon Fraser University, numerous environmental and natural resource management partnerships with universities in Canada and abroad, including the University of Portland, the Carnegie Academies, the University of British Columbia and Oregon State University. A mutual-interest-based consortium has been developed with Camosun and North Island Colleges. Successful partnerships with private resource-based industries on Vancouver Island, have led to shared research ventures, industry training programs, and the shared use of resources.

### ***Assessment of Success in Meeting Research Objectives***

The Vice-President, Academic is responsible for overseeing assessments of the institution’s success in meeting the objectives of the Strategic Research Plan, and for periodic reviews of the Plan. Assessment and review are based on information provided by faculty, Deans, and the Director of Research Services. VIU will create a three-year research plan that will include activity-based objectives. Areas of institutional strength will be assessed for success based on criteria including: scholarly output, research grants and contracts, community engagement, research capacity (faculty and infrastructure) and recognition (faculty and student awards) and their place in the Strategic Research Plan will be examined during the periodic reviews of the plan.

### ***Planning and Approval Process***

The Strategic Research Plan is part of VIU’s regular strategic planning process, culminating in an annual revision of the Institutional Service Plan, which drives other processes, such as the institutional capital planning process, and is a requirement of the BC Ministry of Advanced Education. Strategic planning is subject to internal review at the Faculty and Department level, in senior administration committees (Management and Executive), and in institutional governance bodies (Board, Senate). The institution’s performance is measured annually against the Strategic Research Plan and the Service Plan.