



SUBJECT	UBC OKANAGAN RESEARCH REPORT AND SUPPORT PLAN
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MEETING DATE	SEPTEMBER 13, 2018
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Forwarded on the Recommendation of the President

APPROVED FOR SUBMISSION

Santa J. Ono, President and Vice-Chancellor

FOR INFORMATION

Report Date	August 13, 2018
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Presented By Deborah Buszard, Deputy Vice-Chancellor and Principal, UBC Okanagan
 Gail Murphy, Vice-President Research and Innovation
 Philip Barker, Vice-Principal Research, UBC Okanagan

EXECUTIVE SUMMARY

At the request of the Learning & Research Committee, attached for information is the UBC Okanagan Research Support Strategy, and an update on progress to plan. This strategy, intended to provide direction for mobilizing and enhancing research strength at UBC Okanagan, was the result of a consultative process led by UBC Okanagan Vice-Principal Research, Dr. Phillip Barker.

Attachments

1. UBC Okanagan Research- Report and Support Plan
2. Appendix – UBC Okanagan Strategic Research Support Plan
3. UBC Okanagan Research – Presentation

INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED

Learning Research Innovation Engagement
 (Internal / External) International

or Operational

DESCRIPTION & RATIONALE

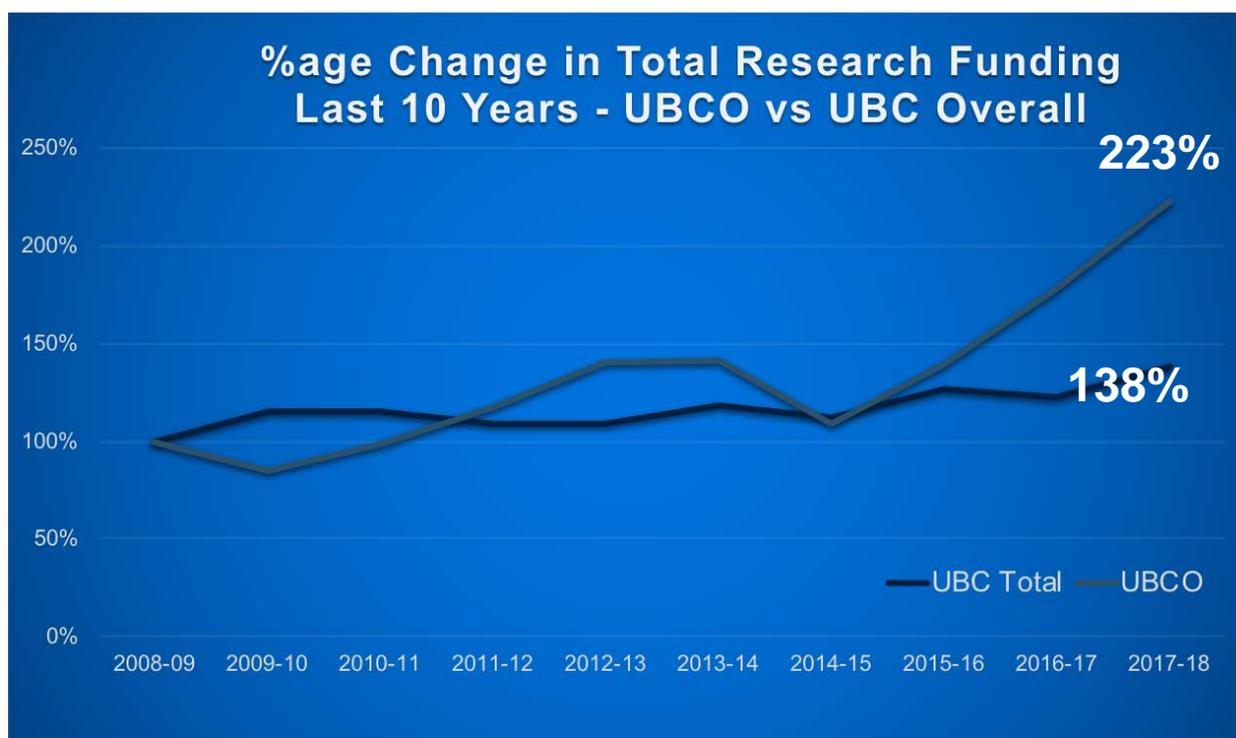
Since 2005, UBC Okanagan has rapidly increased research intensity and has more than doubled research funding in the last decade. As the trajectory of research expansion accelerates, a plan to support and enhance research activity was developed, taking into account UBC Okanagan’s state of development and the opportunities afforded by its place in the UBC system and in the local region.

The attached documents provide an overview of the plan, and progress to date on the six major areas of focus.

UBC Okanagan Research Report and Support Plan

The Okanagan campus of the University of British Columbia, established in 2005, was designed to meet post-secondary demands in BC and to expand the capacity of UBC for research excellence, knowledge creation, and national and international impact. In the subsequent decade, UBC Okanagan has grown from 3500 students to almost 10,000, with undergraduate programs and graduate programs delivered by eight faculties and schools.

UBC Okanagan is keen to deliver on its promise to generate world class research over a range of disciplines that will produce new knowledge and provide innovative and practical solutions to real-world problems. The campus has strongly emphasized interdisciplinary work and community engaged research since its doors opened and we are committed to maintaining our ethos of shared purpose and collaboration.



Research intensity is rapidly increasing and our levels of research funding have more than tripled in the last decade (\$7.1M in 2008-2009, 21.9M in 2017-18), with ~40% of this provided by the federal tri-council agencies. This growth has allowed UBC Okanagan to emerge as an exciting research campus that provide unique teaching and research opportunities that complement activities at our UBC Vancouver sister campus. The trajectory of research expansion at UBCO is accelerating - benchmarked to 2008-2009, while research revenue for the entire UBC system has increased by 38%, research revenue for the UBC Okanagan campus is up by 208%.

Beginning in 2016, the Vice-Principal Research at UBC Okanagan launched consultations with **UBCO executive, Deans**, students, staff and faculty at UBC Okanagan and UBC Vancouver and with community and industrial partners to identify strategies to enhance research and creative activity on the UBC Okanagan campus. The resulting 2017-2022 UBCO Strategic Research Support Plan was devised to set out operational parameters for mobilizing and enhancing research strength at the UBC Okanagan campus.

This five-year plan (attached as an Appendix) emphasizes our commitment to:

Excellence across all of our research and scholarly activities

Building capacity in areas of strength that are aligned with regional and global priorities,

Partnership and interdisciplinary research

The attached plan describes the six initiatives within the Research Support Plan – in this summary, progress to date against these initiatives are provided below:

Initiative 1: Recruit and Retain Outstanding Faculty and Trainees

The ability of UBC Okanagan to meet its research aspirations is critically dependent on recruiting and retaining outstanding scholars.

Progress to date:

- Launched UBCO Aspire Program: Start-up funds matching program. Deploys UBCO Excellence Funds to provide a 1:1 match for Faculty contribution to allow UBCO start-up packages for new faculty to be competitive.
- Launched UBCO Eminence Program: Research cluster funding program. \$20K - \$200K funding for three years to promote development of robust research clusters at UBCO. 5 clusters funded in 2017, similar number anticipated in 2018.

Initiative 2: Expand Our Research Funding Base and Enhance Research Impacts

Ensure that existing and newly recruited faculty have the support they require to compete successfully for research funding support.

Progress to date:

- Staffed the Office of Research Services with three Research Support Specialists that have domain-specific expertise aligned to each of the three tri-council agencies. .
- Created a new position, the Manager of Strategic Initiatives and Operations, to drive major research initiatives on our campus (Eminence Fund, large scale CFI proposals)
- Managed creation of new infrastructure projects (Biomedical Physics Lab, Statscan Research Data Hub, Research Greenhouse)
- Staffed the UBCO office of the Indigenous Research Support Initiative (starting August 2018)
- Worked closely with Support Programs to Advance Research Capacity (**SPARC**) at UBCV to align coverage and expertise, ensuring that all major programs appropriately supported.

Initiative 3: Expand and Maintain Research Infrastructure and Space

The rapid growth of the Okanagan campus has resulted in considerable space pressures, both for teaching and research. For UBC Okanagan to meet its research aspirations it will be critically important to carefully and strategically manage the available research space on our campus and to rationally plan for future expansion.

Progress to date:

- UBCO VPR Office playing a leadership role managing existing research facilities (Animal Facility, Fipke Laboratory for Trace Element Research, Survive and Thrive Applied Research Facility).
- UBCO and UBCO Campus Planning collaborating to:
 - Perform a comprehensive campus-wide research space audit
 - Devise research space guidelines for our campus
 - Plan 5, 10 and 20 year research space needs.

Initiative 4: Facilitate Regional Impact and Community Engagement

The Okanagan campus is committed to being a key regional partner that fosters innovation and entrepreneurial approaches to sustainable social and economic development that have local relevance and global impact.

Progress to date:

- Created UBC Okanagan Innovation Hub; launched e@UBC in the Okanagan
- Concluded a Memorandum of Understanding with the City of Kelowna which creates the framework required to pursue shared research projects
- Fostered partnerships that will facilitate development of the Innovation Precinct.
 - Avcorp, Boeing, BC Digital Supercluster
 - Kaltire
- Initiated new collaborations with Okanagan College (eg. Green and Sustainable Construction)
- Concluded a Memorandum of Understanding with Thompson Rivers University and University of Northern BC with the goal of identifying new areas for partnership, collaboration and network creation.

Initiative 5: Strengthen Research Culture

An institution with a strong culture of research places great value in creating new knowledge and in communicating the results of these efforts. Thus, a robust culture of research provides a supportive context in which impactful work is uniformly expected, produced, discussed and valued. Thus, UBCO needs to unequivocally, loudly, and repeatedly emphasize our support and expectations for research and creative activities.

Progress to date:

- Ensured that research successes are celebrated internally through VPRO-sponsored events
 - Celebration of Tri-Council success
 - Revamped Researcher of the Year strategy
 - VPR Annual Report (available October 2018)
- Produced a communications strategy that emphasizes our research success and our regional and global impact.
 - Major website rebuild approaching completion
- Ensured that our top research faculty are nominated for major national and international awards and recognitions.
 - e.g. Nathan Pelletier NSERC IRC; Brodie Sakakibara - MSFHR;

Initiative 6: Develop Robust Links to UBC Vancouver

UBC Vancouver, now over 100 years old, is a world-class campus with deep talent, resources and infrastructure. There are significant research links between UBC Vancouver and UBC Okanagan and our five-year plan calls for deepening these.

Progress to date:

- Worked with COGS and FOGS Deans, UBCV VPR, and UBCV Provost to remove barriers to bi-campus graduate trainee supervision and supervisory committee membership.
- Enhanced digital communication links, particularly to enable porting of regular seminar series (BRAES and Biodiversity Research Centre, UBCO Neuroscience and Centre for Brain Health).
- Collaborated with UBCV VPR, and UBCV Provost to facilitate launch of UBCO-UBCV Collaborative Research Mobility Awards
 - \$100K to 14 groups
- Establishment of Faculty of Medicine Chronic Disease Prevention unit at UBCO

Closing Remarks and Challenges Ahead

The 2017-2022 Strategic Research Support Plan was devised to set out operational parameters for mobilizing and enhancing research strength at the UBC Okanagan campus. The campus community has enthusiastically endorsed the plan and significant progress is being made on several fronts.

Of course, moving the campus to a significant research profile comes with many challenges. Of these, two emerge as predominant issues that are already emerging as barriers to maintaining our growth trajectory.

- The first is that **available research space** in essentially every faculty is already at or over capacity. As noted above, we are collaborating with Campus Planning to audit research space to ensure we are maximizing space opportunities but our ability to accommodate our rapid growth urgently requires development of new research space. *For this, significant capital investment, ideally supported by successful large-scale CFI projects at UBCO, will be required.*
- The second is that while the campus has been successful in attracting excellent talent at the assistant professor level, our senior researcher ranks are thin. **Well established researchers with a global reputation are required** to drive major grant applications (e.g. Large scale CFIs, NCEs, CREATEs) and to play significant mentorship and leadership roles on our campus. *To address this, allocations of senior attraction packages (President's Excellence Chairs, Tier 1 CRCs, other senior Federal awards (akin to Canada 150s)) are urgently required for our priority areas.*

UBC Okanagan Strategic Research Support Plan - 2017–2022
Last revised March 17, 2017

Prepared by Prof. Phil Barker, Vice-Principal Research & Associate Vice-President
(Research)

The Okanagan campus of the University of British Columbia, established in 2005, was designed to meet post-secondary demands in BC and to expand the capacity of UBC for research excellence, knowledge creation, and national and international impact. In the subsequent decade, UBC Okanagan has grown from 3500 students to almost 9000, with expansive undergraduate programs and graduate programs delivered by eight faculties and schools.

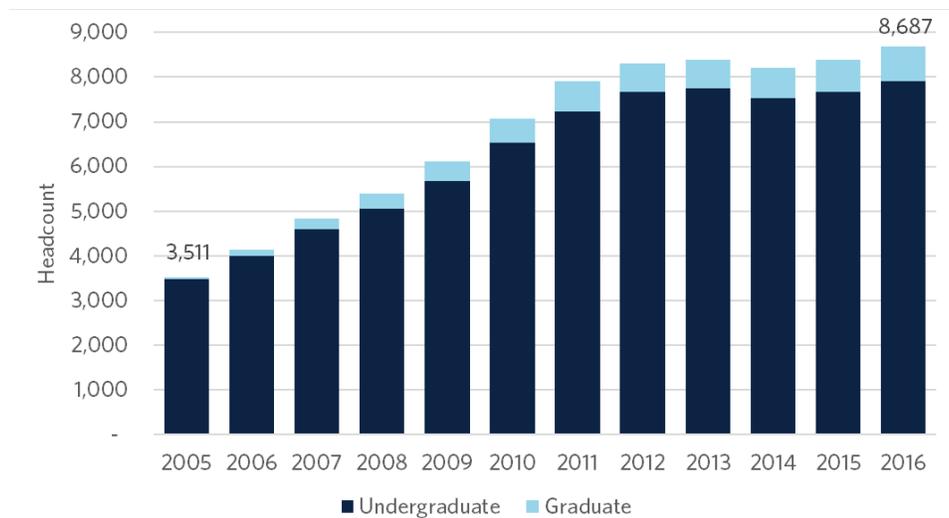


Figure 1: Overall Student Headcount by Program Level (Winter Session)

UBC Okanagan is keen to deliver on its promise to generate world class research over a range of disciplines that will produce new knowledge and provide innovative and practical solutions to real-world problems. The campus has strongly emphasized interdisciplinary work and community engaged research since its doors opened and we are determined to maintain our ethos of shared purpose and collaboration.

The BC and Federal governments have supported development of the UBC Okanagan campus, with >\$500 million in capital investments and infrastructure support producing more than 1.5 million square feet of usable space. Recent investments have increased the size of the campus to over 500 acres, providing ample opportunities for future growth.

Research intensity is steadily increasing and our levels of research funding have doubled since 2009, with 40% provided by the federal tri-council agencies. The growth continues, with research funding obtained in the first 9 months of fiscal year 2017 exceeding that achieved in fiscal 2016.

In 2013, we launched Aspire, a campus-wide consultation that was designed to define our campus vision. The collective view that emerged was that UBC Okanagan should be a model of innovative and interdisciplinary programming that will have a significant impact on local and global communities. This will be achieved through our commitment to:

- Transformative student learning
- Research excellence
- Community engagement

This vision reflects the strong emphasis that UBC Okanagan has placed on developing partnerships locally, provincially, nationally and internationally. The campus partners with industry, municipalities, First Nations communities, non-profit organizations, and a variety of government agencies to perform relevant research and deliver impactful outcomes.

UBC is the second most research-intensive university in Canada and ranks in the top 40 universities worldwide (THE and ARWU World rankings). UBC's current strategic plan, Place and Promise, identifies the pursuit of research excellence as a top priority and provides a framework to increase the quality and quantity of research. President Ono is now working with the UBC community to develop UBC's new strategic plan and this commitment to research will no doubt be renewed. To meet its aspiration to become the top university in Canada, both UBC campuses must support outstanding research that is innovative, impactful, and meaningful to our regions and province. In its first decade, UBC Okanagan has undergone intensive growth in students and staff, in programs and in physical infrastructure. There has also been a solid upward trajectory in research capacity, indicating that UBC Okanagan can generate the research intensity required for UBC to meet its aspirations.

The UBC Okanagan Strategic Research Plan for 2017–2022 recognizes the exceptional opportunity the Okanagan campus holds for defining how university-based research can be developed and supported in the 21st century. *The overall goal of the UBC Okanagan Strategic Research Plan is to advance research quality, research intensity, and research training on campus.* It suggests a number of campus-specific initiatives that we anticipate will be integrated into the pan-UBC strategic plan that will emerge in the coming months.

This document emphasizes our commitment to:

- excellence in research and creative activities
- building capacity in areas of strength that are aligned with regional and global priorities
- partnership and interdisciplinary research

It recognizes that the Okanagan campus is a crucial element in the UBC research enterprise that has unique strengths and describes means to leverage expertise and resources on both UBC campuses to meet our aspirations.

Initiative 1: Recruit and Retain Outstanding and Diverse Faculty and Trainees

The success of UBC Okanagan in meeting its research aspirations is critically dependent on recruiting and retaining outstanding scholars. UBC is one of the world's top 25 universities and the Okanagan campus is located in a beautiful and affordable area with an appealing quality of life. However, the competition for global talent is fierce and it is crucial that our campus offer outstanding academic and research opportunities in order to attract the best faculty. To address this, we will benchmark salary, teaching loads, and start-up funds (Appendix A) to ensure that we are competitive with peer institutions (e.g. U of T, McGill, U Alberta) and we will support and retain our recruits by strategic leveraging of internal funds with John Evans Leadership Funds from CFI/BCKDF. We will also significantly expand our pool of Canada Research Chairs (of the 182 CRCs presently held by UBC researchers, 6 are held by UBC Okanagan faculty). We will work closely with the Vancouver campus to ensure that both campuses fully support, and benefit from, major initiatives that support recruitment such as the Canadian Excellence Research Chair Program and the Canadian First Research Excellence Fund. In addition, we will work with Deans, Directors, and Heads to encourage and prioritise diversity in recruitment.

Research clusters are interdisciplinary networks of researchers that organize to solve key challenges facing society. Because clusters generate high-impact knowledge and research that contributes to solving major societal questions, establishing and supporting clusters of research excellence has become central to UBC's research strategy. By supporting research clusters, UBC Okanagan will attract and retain top researchers and trainees and will support interdisciplinary approaches that address major research issues.

Two planning retreats were held with the Okanagan Leadership Team in 2016 to begin to identify potential clusters of excellence (Appendix D). From these, we identified six focused thematic areas in which the campus has critical mass and demonstrated interdisciplinary strength:

- Healthy Living, Wellness and Aging.
- Ecological Resilience and Recovery.
- Advanced Materials and Manufacturing.
- Municipal Planning, Management, and Infrastructure.
- Media, Culture and Information Technologies.
- Society, Change, and Justice

This list is not exhaustive or exclusive. We will encourage the emergence of research clusters from all scholarly areas on campus, including those that may not be represented here.

Our campus is simultaneously committed to two cross-cutting strategic domains, articulated in *Aspire*, that emphasize our commitment to:

- Regional engagement for socio-economic advancement

- Respectful engagement with Indigenous and other local communities, taking into consideration the tenets of community-based research.

The research clusters and strategic domains encompass shared aspirations for our campus.

By mid-2017, we will initiate new internal funding mechanisms that will support established clusters and that will allow nascent clusters to emerge. Primary goals of this program are to ensure strategic recruitment and retention of top faculty and to support outstanding post-doctoral candidates to work within clusters (Appendix B).

RESEARCH CENTRES, INSTITUTES, & CLINICS

- Centre for Culture and Technology
- Centre for Environmental Assessment Research
- Centre for Heart, Lung, and Vascular Health
- Centre for Inclusion and Citizenship
- Centre for Indigenous Media Arts
- Centre for Mindful Engagement
- Centre for Optimization, Convex Analysis, and Nonsmooth Analysis
- Centre for the Advancement of Psychological Science and the Law
- Centre for the Study for Services to Children and Families
- Innovative Learning Centre
- Institute for Community Engaged Research
- Institute for Healthy Living and Chronic Disease Prevention
- Interprofessional Clinic
- Okanagan Institute for Biodiversity, Resilience, and Ecosystem Services
- Regional Socio-Economic Development Institute of Canada
- The Humanities Data Lab
- The Research Studio for Space and Things

Table 1: Research Centres, Institutes, and Clinics

UBC Okanagan houses several Research Institutes and Research Centres that provide infrastructure, forums for outreach and partner engagement, and platforms for interdisciplinary research. Each of these can provide networking, and leadership opportunities that can enhance our recruitment and retention efforts. After launching our research cluster program, we will engage in a strategic positioning exercise to ensure that Clusters, Research Institutes, and Research Centres are appropriately resourced to meet their aspirations.

As a young campus, it is important that UBC Okanagan support and expand our cohort of outstanding mid- and senior- stage researchers. Our ability to retain top faculty will be enhanced in part by ensuring that we provide a robust research culture and supply appropriate infrastructure (addressed below) and by creating circumstances that allow

our faculty and their families to thrive within our community. A key issue in this regard is helping to find spousal job opportunities and for this, we will expand our efforts to share resources, tools and approaches with regional partners, such as the Central Okanagan Economic Development Commission, to ensure that we create family circumstances that allow our researchers to thrive.

Our aspirations for research-intensity require that we recruit the best young minds to join our campus as graduate students and undergraduates. The graduate program at UBCO has experienced rapid growth, with over 800 students now engaged in a wide variety of disciplines.

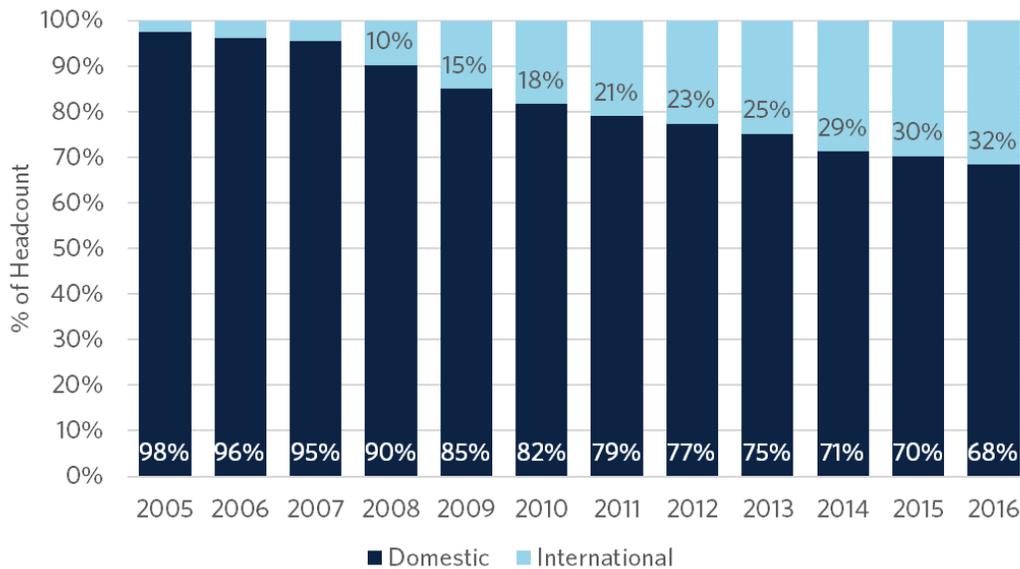


Figure 2: Distribution of Graduate Student Headcount by Citizenship Status

Our ability to attract the brightest and most capable graduate students requires that our campus present focused and relevant programs in which we deliver quality training experiences. UBC Okanagan presently has 12 domain-specific programs that partially address this need. The Interdisciplinary Graduate Studies (IGS) program, which holds the largest cohort of graduate students on our campus, was designed to allow students to work across disciplines and combine the best elements of our campus in a single course of study. We will work with the College of Graduate Studies to ensure that IGS supports well-defined areas of study in which our campus excels and which clearly benefit from an interdisciplinary approach.

The best potential graduate trainees have many options open to them and UBC Okanagan is committed to providing stipend and research resources to our trainees that recognize this competitive landscape. To ensure that all research-based graduate students have appropriate stipend and research resources available, the VPR and the Dean of the College of Graduate Studies will, in 2017, convene a graduate recruitment and retention summit

to identify key parameters and work collaboratively to develop transparent funding mechanisms for our domestic and international research-focused graduate students.

Finally, UBC Okanagan is strongly committed to experiential learning and keen to provide research experiences to all of our undergraduates. To ensure that we provide fulsome experiences that are meaningful to students and productive for our researchers, we will, in collaboration with the Provost's office, design and implement a platform to match undergraduate trainees with research faculty, to provide operating funds to support their research projects, and to support summer research internships.

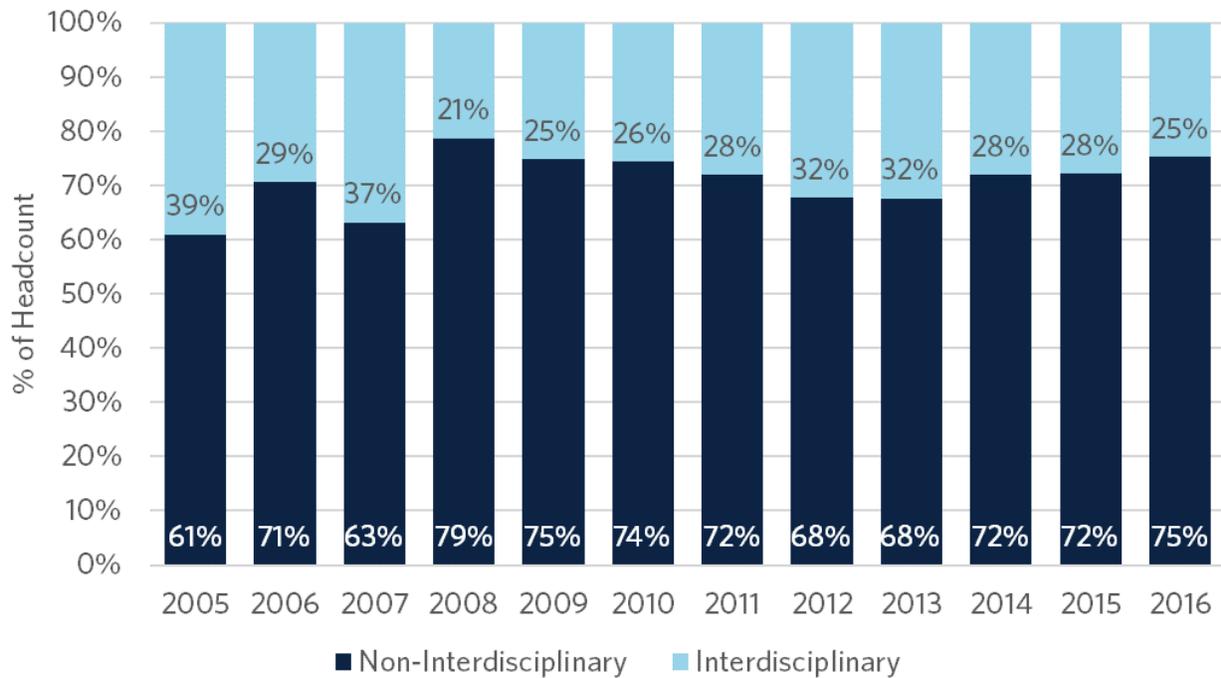


Figure 3: Distribution of Graduate Student Headcount by Program Specialization Type

Initiative 2: Expand Our Research Funding Base and Enhance Research Impacts

Since its founding in 2005, the Okanagan campus of UBC has shown a steady increase in total research funding, with >\$16M obtained in FY2016.

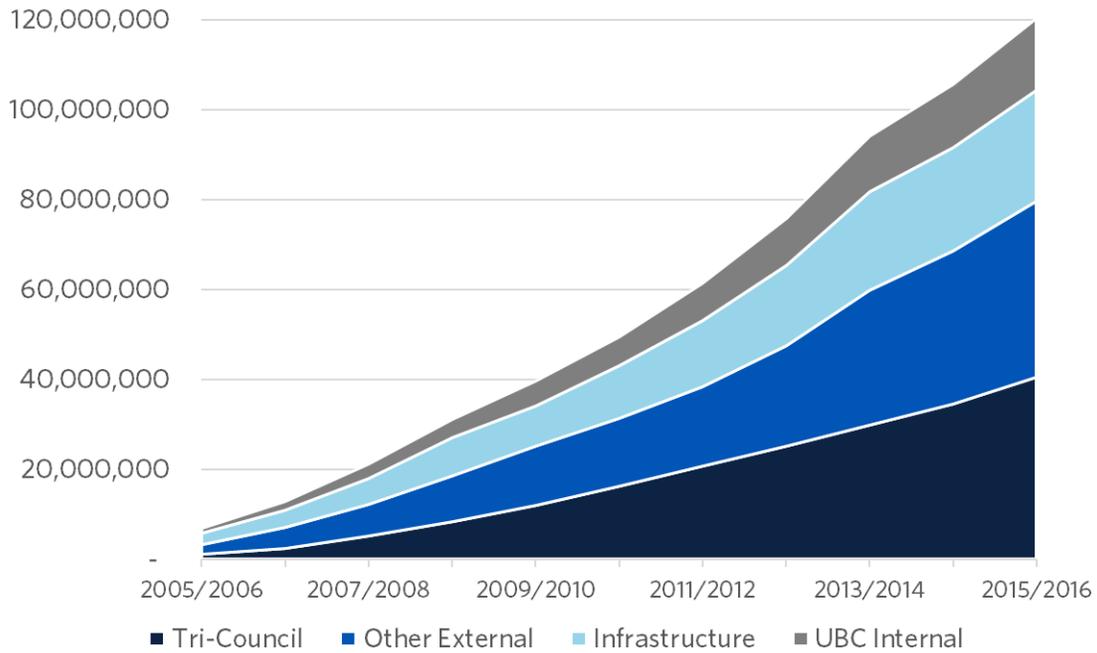


Figure 4: Cumulative Research Funding since 2005

As shown in Figure 5 increased research funding obtained over this period largely reflects research funding obtained by the cohort recruited after 2005, emphasizing the importance of strategic recruitments.

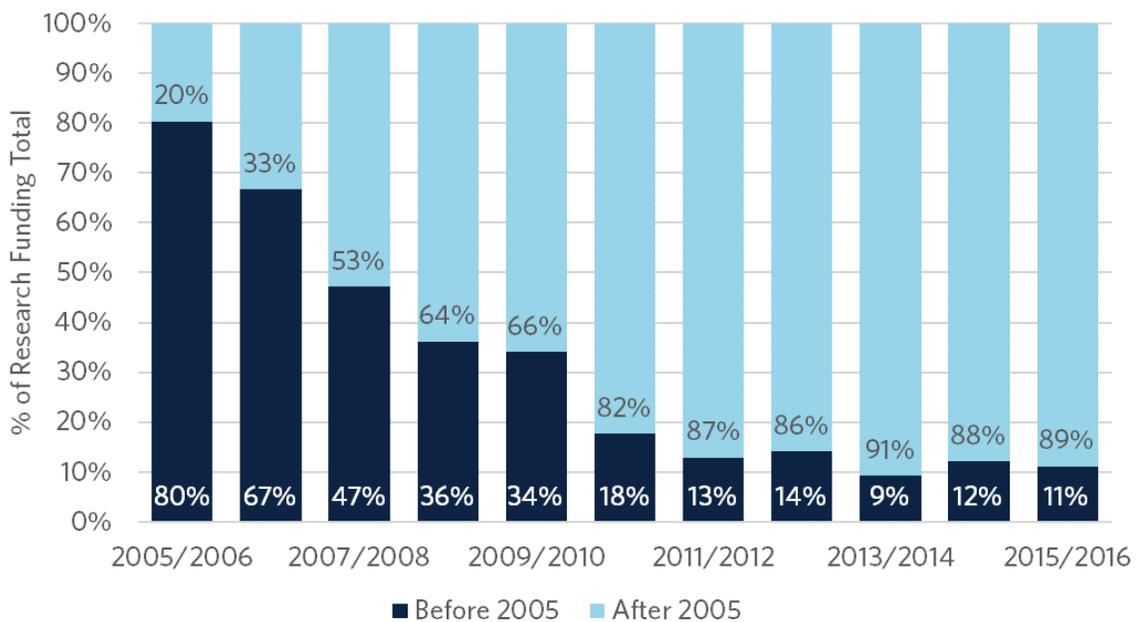


Figure 5: Distribution of Research Funding by Timing of Faculty Hire

Although the steady increase in our funding is positive, this amount of is a small proportion of the \$600M UBC system-wide total obtained in 2015-2016. There is clearly a capacity for research funding growth on the UBC Okanagan campus.



Figure 6: 2015-2016 Research Funding by Faculty (System-Wide)

Several steps will be undertaken to ensure that existing and newly recruited faculty have the support they require to compete successfully for research funding support.

First, the Office of Research Services will be staffed with three Research Support Specialists with domain-specific expertise tailored to each of the three tri-council agencies. These individuals will have deep knowledge of available programs and will be specifically tasked with providing support to researchers submitting individual and team grant proposals to tri-council agencies, to other funders, and to CFI/BCKDF. This team will interact closely with the ‘Support Programs to Advance Research Capacity’ (SPARC) on the Vancouver campus to deliver information, provide detailed feedback, and coordinate peer review.

Second, a new position, the Manager of Strategic Initiatives and Operations, has been created specifically to help drive major research initiatives on our campus. This individual will be tasked with coordinating complex multi-partner initiatives such as large-scale CFI proposals, NCE and CERC applications, and large-scale infrastructure projects.

As the research enterprise on campus grows, it is likely that additional staff positions will be required to support the intensification of our research efforts.

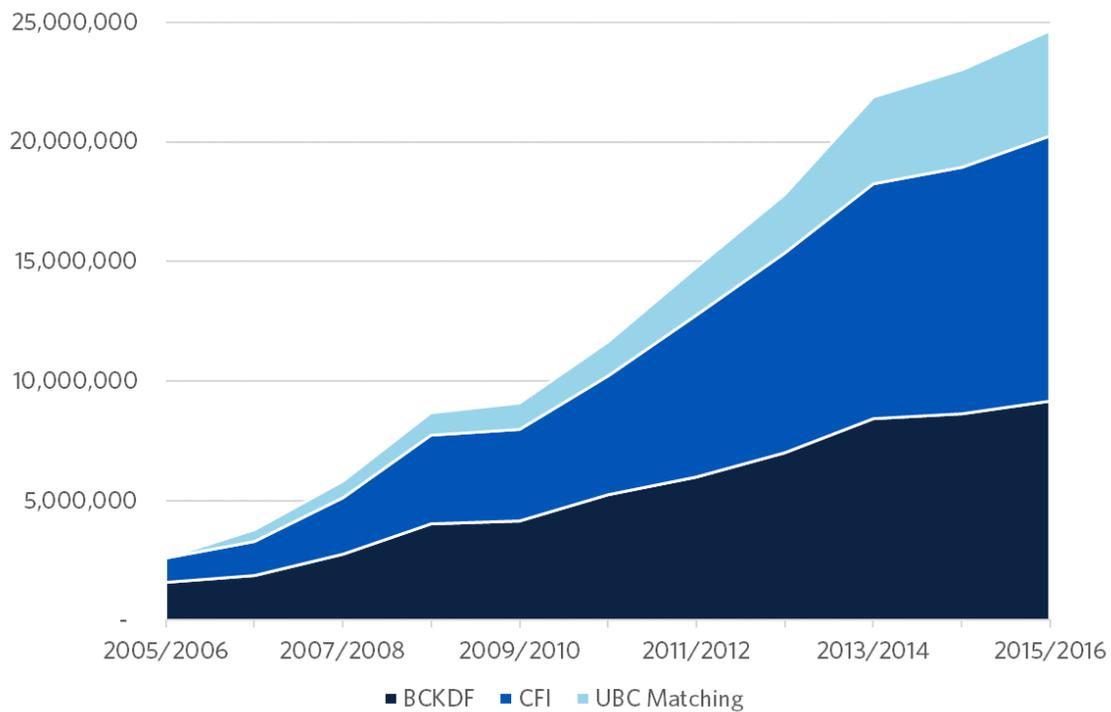


Figure 7: Cumulative Research Infrastructure Funding Since 2005

Third, our VPR office will collaborate with our Development office to identify fundraising priorities across the broad research and creative activity landscape. Finally, recognizing the competitive environment for external research funds, the VPR office will investigate the possibility of offering bridge funding to funded tri-council applicants that performed well (i.e. ranked in top 25% of applications) but did not cross the threshold for funding renewal.

Initiative 3: Expand and Maintain Research Infrastructure and Space

Success of the research enterprise on the UBC Okanagan campus can only occur if appropriate research infrastructure is provided to our scholars. There have been significant strides in providing research space and tools, with the opening of the In Vivo Facility, the Fipke Lab for Trace Element Research (FILTER) Facility and the Survive and Thrive Applied Research (STAR) Facility as significant milestones. In addition, Advanced Research Computing provides support across both campuses to meet needs for high-performance computing and data management needs of researchers. The VPR at UBC Okanagan will play a leadership role managing these and future core facilities, ensuring they are fully accessible, that they meet the needs of our researchers, and that they are resourced and managed in a sustainable manner.

As part of this management, a web-based central access point will be created to increase awareness of and administrative support for these shared core facilities. CFI and BCKDF funding play a key role in developing our campus infrastructure and the VPR will provide dedicated support to develop CFI and BCKDF applications and to provide post-award management of these infrastructure programs.

The rapid growth of the Okanagan campus has resulted in considerable space pressures, both for teaching and research. For UBC Okanagan to meet its research aspirations it will be critically important to carefully and strategically manage the available research space on our campus and to rationally plan for future expansion. The VPR, working closely with the AVP Finance and Operation, will coordinate (1) a comprehensive campus-wide research space assessment and (2) an executive research space summit to devise research space guidelines for our campus and develop models for 5, 10 and 20 year research space needs. Our shared goal will be to generate a comprehensive research space plan, and means to implement it, by the end of 2017.

The 30-acre Innovation Precinct at the Okanagan campus has been established to develop productive long-term engagements with industry, community, and non-profit organizations that present important academic opportunities, that allow UBC talent to solve significant R & D challenges, and that create unique training opportunities for the next generation of Canadian knowledge creators across a broad array of disciplines. The VPR and the AVP Finance and Operations are presently driving a functional planning exercise that will define how to develop this key resource, with definitive outcomes expected before the end of 2017.

In 2010, UBC Okanagan doubled its land area when it acquired 256 acres of farmland on the west edge of its campus. This land will, by mid-2018, contain a new and major access route to campus and as a result, the future development opportunities of this parcel will soon need to be clarified. Beginning in 2018, UBC Okanagan will engage in an internal planning exercise designed to assess the teaching, learning, research, and recreational opportunities that this area may support in the future.

Initiative 4: Facilitate Regional Impact and Community Engagement

The population of the central Okanagan is approximately 200,000; with approximately 10,000 students, staff and faculty, UBC Okanagan has a major impact on our region. Our campus is committed to being a key regional partner that fosters innovation and entrepreneurial approaches to sustainable social, cultural, and economic development that have local relevance and global impact. We plan to build upon and strengthen our ties to allies that include, but are not limited to, the City of Kelowna, Interior Health Authority, Central Okanagan Economic Development Commission, Westbank First Nation, and Okanagan College, ensuring that we are leveraging resources to allow UBC research and innovation to enhance our community and learning best practises from our partners. We will also engage with other post-secondary universities within the BC interior (TRU,

UNBC) to maximize our impact and to identify new areas for partnership, collaboration and network creation.

Universities have been increasingly viewed as innovation drivers. The expectation for university-driven social and technological innovation comes from governments seeking accountability for the return of investment of public funding of academic research and it comes from industry and non-profits looking to improve productivity, compete better, and make a difference in a global environment. It also comes from students and faculty eager to make a difference by addressing the technical and social challenges of our time. UBC Okanagan views innovation as a translational and transformative activity that leverages advances to improve social and economic well-being.

Innovation happens when university know-how is deployed to address societal needs. UBC Okanagan has become an important resource for local industries and non-profits, with numerous partnerships completed or underway. We will work to expand out efforts to engage local and global partners, in part by creating a new Partnership Office within the VPR Office. This unit will leverage skills in our UILO office and embedded MITACs personnel to ensure that we work closely with allied organizations (e.g. COEDC, Interior Health, IRAP, BCKDF) to identify needs and align the talent of our researchers, to meet the needs of existing and potential partners, reduce administrative barriers to partnering, and identify funding opportunities. We will also foster partnerships that will facilitate development of the Innovation Precinct. As an example, UBC Okanagan is presently working with Avcorp Industries and Boeing Corp to establish a 'Learning Factory for Advanced Composites' that will combine the expertise of the UBC Composite Research Network with a Canadian manufacturer that plays a key role in the Boeing supply chain.

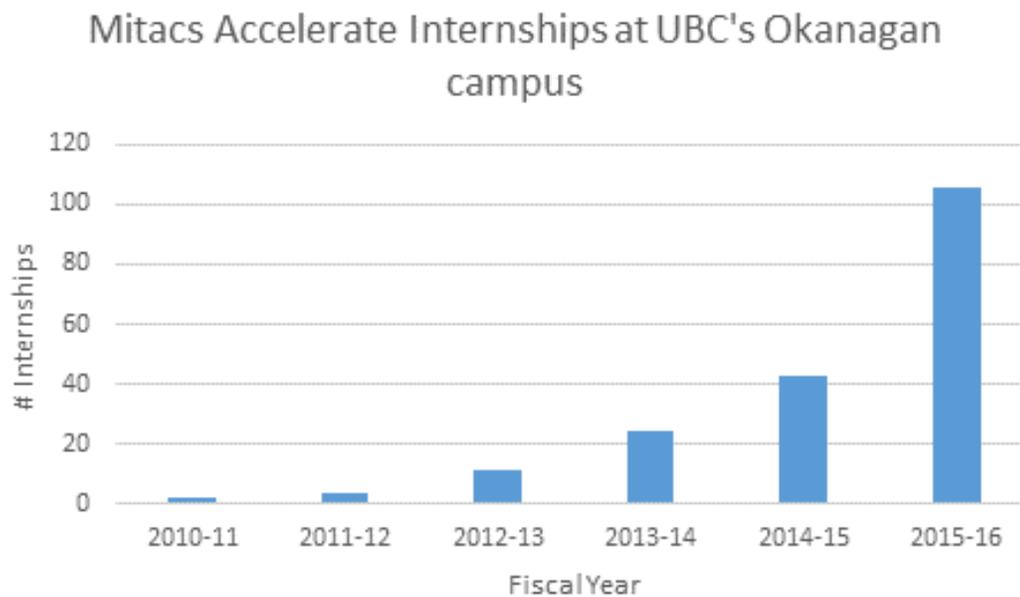


Figure 8: MITACs Accelerate Internship Placements

UBC Okanagan is committed to entrepreneurial approaches that ensure that our best ideas leave our campus and have a lasting social and economic development. To foster this, we will expand on our partnership with allied organizations such as Accelerate Okanagan to create collaborative community engagement spaces to bring our communities together work on initiatives likely to have economic, social, and cultural impact. We will also ensure that the e@UBC venture creation programs that have been launched on the UBC Vancouver campus are replicated in Kelowna, in partnership with Accelerate Okanagan and with other aligned regional organizations.

Initiative 5: Strengthen Research Culture

An institution with a strong culture of research places great value in creating new knowledge and in communicating the results of these efforts. Thus, a robust culture of research provides a supportive context in which impactful work is uniformly expected, produced, discussed and valued¹. UBC Okanagan has been endowed with several key advantages but provincial and national competitions for research dollars, personnel and resources are increasingly intense. Many other institutions have similar aspirations and if UBCO is to succeed in this domain, our campus will need to unequivocally, loudly, and repeatedly emphasize our support for research and creative activities.

We will recognize our accomplishments, celebrate our successes, and let our outstanding scholars and creative practitioners across all disciplines know that they are important and valued. We will ensure that successes are celebrated internally through VPRO-sponsored and other events and we will produce a communications strategy that emphasizes our regional and global impact. We will highlight our top researchers and creative practitioners as exemplars of excellence through internal events that will range from brown-bag lunch seminars to formal recognitions. The VPR office will also deploy new procedures to ensure that our top faculty are nominated for major national and international awards and recognitions and that these successes are celebrated and shared with external audiences through regional and national media channels.

The expectation that research and scholarly and creative activity are uniformly produced, discussed and valued, across all disciplines, will be communicated throughout our university community. The VPR and other UBC Okanagan executive will engage with colleagues using an assertive and participative governance style that will strive to develop clear and common research goals that are visible and shared. These discussions will be facilitated by creating a dashboard that benchmarks the trajectory of research intensity at UBC Okanagan with UBC Vancouver and with peer institutions across Canada.

¹ Adapted from 'Building a Culture of Research: Recommended Practices'. Hanover Research, Washington DC USA. 2014.

Venues for discussion of our research and creative accomplishments, aspirations, and challenges will include the Okanagan Leadership Team, Dean's Council, and Senate, and will be expanded to include Academic Leadership Series, each of the Faculty Councils, and informal 'Meet the VPR' events. A critical *sine qua non* of these discussions will be to emphasize that at UBC, impactful research and creative activity has greater or equal priority to other scholarly goals.

An important step in UBC Okanagan establishing itself as a top Canadian campus will come from increasing our visibility to, and recognition from, our national and international peers. To enable this, the VPR office will sponsor and coordinate an invited speakers series that focuses on areas of research strength. The VPR office will also support a new program for Visiting Scholars, designed to provide an office and appropriate lab space to well-regarded academics to spend sabbatical terms of 4, 8 or 12 months on our campus.

The Okanagan is a significant tourist destination and due to our large undergraduate cohort, UBC Okanagan is well supplied with accommodation capacity that is underutilized in the summer months. This capacity presents a unique opportunity for UBC Okanagan to expand offerings (e.g. FCCS Summer Indigenous Intensive and Writers in Residence) and the VPR will collaborate with other campus units to develop UBC Okanagan as a summer destination for retreats and conferences (eg. Gordon Conferences) and for 2-4 week Summer Schools of Excellence.

Initiative 6: Develop Robust Links to UBC Vancouver

UBC Vancouver, now over 100 years old, is a world-class campus with deep and significant talent, resources and infrastructure. There are significant research links between UBC Vancouver and UBC Okanagan and our five-year plan calls for deepening these.

A primary mission of the Okanagan campus is to provide outstanding mentorship and opportunities for our graduate and postdoctoral trainees and to leverage the full span of opportunities at UBC. The College of Graduate Studies at UBC Okanagan and the Faculty of Graduate and Postdoctoral Studies at UBC Vancouver are presently compiling a joint strategic plan and the Vice-Principal Research Office will work with these units to reduce the administrative barriers that currently hamper bi-campus trainee supervision, and supervisory committee membership, making it easy and seamless. As a young campus, junior faculty at UBC Okanagan can benefit from interactions and mentorship from senior UBC colleagues with shared research interests and we will work with the VPR Office at UBC Vancouver to develop means to facilitate these relationships. To enable these contacts, a particular emphasis will be placed on improving digital communication links between the campuses, to allow for seamless communication in meetings and to enable easy porting of events and seminars between them.

Cutting edge research relies on the development and use of advanced technologies and tools. UBC has benefitted tremendously from investments from the CFI, BCKDF, and WD and a deep array of research infrastructure exists on both campuses. We will redouble our efforts to ensure that Okanagan and Vancouver researcher's are aware of the varied research tools that are available on both campuses and we will work to ensure easy access to these (e.g. sample shipping, data flow, seamless invoicing). We will place special emphasis on allowing our researchers, and especially our trainees, to move between campuses to access the full array of research infrastructure that UBC has to offer and we are committed to solving solvable logistical issues (e.g. travel, on-campus accommodation, office swing space, etc.) that will enable this movement.

Closing remarks

The Okanagan campus of UBC has undergone phenomenal growth and has emerged as a major university campus in 10 short years. The success of this campus reflects extraordinary dedication from our founding cohort of staff and faculty and from those who have joined in the last 10 years. Their work has created an exciting momentum that sets the stage for the next stage of campus development.

UBC Okanagan is now poised to deepen its research and creative capacity and join the upper ranks of research-intensive universities in Canada. This is an important mission that will ensure that our students on the cutting edge of knowledge and that will allow us to attract the best faculty, students, and staff from around the world. Our long-term research success will demonstrate to the public, to non-profits, to business and to government that our campus is generating knowledge and talent and enhancing the prosperity of our region, our province and our country.

APPENDIX A - THE UBC OKANAGAN ASPIRE PROGRAM

The Aspire Fund will supplement one-time start-up funding provided by the Faculties to new professorial recruits at UBC Okanagan. Funding for the Aspire program will be provided from our central budget and from the Excellence Fund.

Funding principles

The Aspire Fund will help ensure that our best applicants are provided with the resources required to develop a robust research career at UBC Okanagan. The Aspire Fund provides a 1:1 financial match for start-up amounts offered to research-stream recruitment candidates.

Successful applicants will have demonstrated outstanding achievements in research and/or scholarly activities and will have articulated their path for developing a thriving research career at UBC Okanagan. An investment of Aspire funds is intended to allow candidates to develop a sustainable research career supported by external funding.

Process

Aspire funding will be administered by the VPR. Funding requests will be made by Deans, with input from Associate Deans and Heads of Departments as appropriate.

A request to the Aspire fund shall include the following documentation (typically drawn from the faculty application dossier):

- Curriculum Vitae
- At least three letters of reference (see below)
- Candidate's research / creative activity plan (see below). Maximum three pages.
- Letter of support from Dean that specifies resources that faculty will provide (space, salary, faculty start up contribution, CFI allocation, teaching release, mentorship, HQP support, etc.)

Decisions on Aspire Fund disbursements will be made collectively by the Deputy Vice-Chancellor, Provost and Vice-Principal Academic, and Vice-Principal Research.

Letters of Offer provided to Aspire fund candidates will indicate their disbursement from the Aspire fund and will list the Vice-Principal Research as a signatory.

Allocation

50% of the available funding allocations will be reserved on a *pro rata* basis for each Faculty, based on the proportion of total external operating funding awarded to each Faculty. The remaining allocation will not be restricted to specific faculties.

These one-time allocations may be held for a maximum of three years (exceptions may be made for parental or other approved leaves). Any residual funds remaining after will return to VPR and Faculty source PGs at the same ratio as they were awarded.

Start-up funds are not transferable. If the faculty member resigns from the University, the funds will be retained by the University and returned to the source PGs.

Eligible expenses:

- Research equipment and supplies
- Lab operating costs
- Travel to establish collaborations, fieldwork, data collection
- Trainee visits (annual maximum of \$5,000)
- Computer (hardware and software) required for research beyond University provisions (with adequate justification)
- HQP stipends (student, RAs)
- Books and periodicals related to research (beyond those available through the UBC Library system).
- Research technicians, other staff

***Not supported:**

- Relocation expenses
- Furniture
- Renovations
- Electronics and appliances for non-research purposes
- Home office equipment, supplies, communications costs (e.g. internet)

Letters of Reference

Letters of reference should be from individuals who are independent of the candidate, who are expert in the candidate's field, and who are able to provide an objective appraisal of the candidate's work. The letters of reference should address the candidate's competence and potential to develop into an independent investigator. Letters obtained as part of the candidate recruitment process will normally suffice, provided they were dated within 12 months of the Aspire application.

Research /Creative Activity Plan (three-page maximum)

The research/creative activity plan should provide a five-year vision of how the applicant's research career will unfold at UBC Okanagan. It should clearly and concisely describe the candidate's overall objectives and goals and the approaches planned, with specific aims that are clear and succinct.

The activity plan must be feasible and sustainable. It should describe what major infrastructure it will rely on, indicate what types of trainees will be engaged, and articulate how work will be supported financially. In particular, candidates should show knowledge of relevant funding landscapes for their discipline and include a timeline for securing both operating and project funding.

The plan should also describe discipline-specific outcomes that can be expected to result from the candidate's research or scholarly activity.

APPENDIX B - THE UBC OKANAGAN EMINENCE PROGRAM

The Aspire visioning process articulated UBC Okanagan's desire to foster research excellence that will have local and global impact. One of the ways UBC is supporting this effort is by identifying, developing and strengthening clusters of research excellence. The following document outlines an approach to supporting clusters on the Okanagan campus, using a portion of the Excellence Fund to seed catalytic activities that will promote outstanding research activities on our campus.

Cluster definition

Research clusters are interdisciplinary networks of researchers focused on solving key challenges facing society. The scholars that comprise clusters are leaders in their areas of expertise and clustering enables them to work together, as a unit, on complex problems that may transcend traditional departmental or institutional boundaries. Clusters are expected to perform high-impact research and to develop new knowledge that allows UBC to solve big open questions. Establishing and supporting clusters of research excellence is central to UBC's research strategy.

Clusters will be benchmarked using objective and concrete evidence of research excellence. Research outcomes will be expected to be impactful and will have standard bibliometric and discipline-specific measures. Base-line measures will include funding levels, bibliometrics, prizes and awards, and partnerships. Discipline metrics will vary and will be proposed by cluster applicants.

At UBC Okanagan, we expect our research clusters to be:

- A draw for faculty and trainee recruitment
- Groups that are highly competitive for funding
- Capable of vertically integrating with undergraduate and graduate training programs
- Capable of developing and leveraging regional, provincial or national assets and partnerships
- Recognized as unique provincial centres of excellence, with aspirations to develop national and international profiles
- Strategic, with likelihood of successfully competing for CFI, CECR, CREATE, NCE, SSHRC-PG, etc. funding in coming years

Our campus strongly supports developing clusters that leverage existing strengths and are aligned with the strategic plans of the units, faculties, campus and university. Two planning retreats were held with the Okanagan Leadership Team in 2016 to begin to identify potential clusters of excellence (Appendix D).

From these, we identified six focused thematic areas in which the campus has critical mass and demonstrated strength:

- Healthy Living, Wellness and Aging.
- Ecological Resilience and Recovery.
- Advanced Materials and Manufacturing.
- Municipal Planning, Management, and Infrastructure.
- Media, Culture and Information Technologies.
- Society, Change, and Justice

This list is not exhaustive or exclusive. We will encourage the emergence of research clusters from all scholarly areas on campus, including those that may not be represented here.

Our campus is simultaneously committed to two cross-cutting strategic domains, articulated in *Aspire*, that emphasize our commitment to:

- Regional engagement for socio-economic advancement
- Respectful engagement with Indigenous and other local communities, taking into consideration the tenets of community-based research.

The research clusters and strategic domains encompass shared aspirations for our campus.

Funding process and principles

A call for applications will be issued annually. After endorsement by the applicable Dean(s), a committee, made up of the DVC, the Provost, the VPR and external experts will adjudicate proposals, in consultation with the Deans of affected faculties. Awards will provide non-recurring funding for a 3-year period, with the potential to renew. Overall strategic assessment and direction for this process will be provided by the DVC, the Provost, and the VPR in consultation with the Dean's Council.

Research clusters will be led by a single cluster lead and will contain up to 10 faculty. Evaluation criteria will include:

- Researcher excellence, as determined by impact statements, tri-council funding, bibliometrics, and national and international standing
- Quality of proposal
- Articulation of clear and measurable goals and outcomes
- Alignment of research clusters with strategic plans of the units, faculties, campus and University
- The extent to which they address our two cross-cutting strategic domains

Funding allocations

Funding will be provided through the Eminence program which is designed to consolidate and build upon existing strengths. A range of options can be deployed to support cluster development, with specifics for the funding requests justified in Eminence application.

Budget allocations:	\$50,000 to \$350,000 annually, per cluster
Eligible expenses:	Salary support for strategic faculty recruitment Postdoctoral stipends and top-ups Graduate stipends and top-ups Critical research equipment (one-time, to a maximum of \$25,000) On-site conferences, meetings, workshops Travel to significant conferences and meetings (annual maximum \$5,000) Recruitment visits (annual maximum \$5,000)
Not supported:	Research operating costs Furniture Renovations Travel for field work, collaborative visits

Cluster packages may be supplemented through direct- and in-kind support from participating faculties but this is not a requirement for an application. However, applications for the Eminence program must articulate a sustainability strategy that will describe how research clusters will be financed when three-year term of Eminence funding is reached.

Process

All Eminence applications will require endorsement and a letter of support from applicable Dean(s). There is no limit on the number of applications accepted from a particular thematic area and individual faculty members can participate in more than one cluster application.

The VPR will be responsible for application intake, review, and dissemination of results.

Cluster governance

Clusters will have a single cluster leader (who may designate a delegate in case of extended absence). The cluster lead will be responsible for managing all aspects of the cluster, including financial oversight, and will provide an annual report that describes progress against milestones on March 1 of each year to the respective Dean(s) and the Vice-Principal Research.

Funding allotments in years 2 and 3 will require substantial completion of the goals and milestones that were indicated in the initial application, as judged by the respective Dean(s), the Provost and Vice-Principal Academic, and the Vice-Principal Research.

APPENDIX C - INFRASTRUCTURE SUPPORT PROGRAM

In preparation.

APPENDIX D - TIMELINE OF UBC OKANAGAN RESEARCH STRATEGY DISCUSSIONS

Timeframe	Activity	Participants	Outcome
2013	Aspire Visioning Process	Faculty, Students, Staff, External Community	Aspire vision (Research Excellence)
2013 (Fall)	Research Roundtables	Faculty	Research Aspirations
2014 (March)	Research Roundtable Report	Faculty	Characteristics of research, potential focus areas
2014 (October)	Research strategy think tank (included deans, associate deans research, Acting VPR, Associate Vice President Research Vancouver, Okanagan Provost, DVC)		Proposal regarding strategies and tactics achieve research excellence
2015 (Feb)	Think tank documents, research metrics and preliminary research clusters presented to Senate by Acting VPR	Faculty	Discussion and input
2015 (Spring)	Think tank documents, research metrics and preliminary clusters presented to faculty councils by Acting VPR, Provost and DVC	Faculty	Discussion and input
2015 (Summer)	Okanagan Leadership Research Retreat	Okanagan Leadership Team	Shared understanding and commitment to identifying strategic research faculty hires across the enterprise; commitment to develop more strategic view of graduate student funding
2016	Excellence Fund presentations to Faculty Councils by Provost, VPR, DVC	Faculty	Discussion of Excellence fund guidelines; input regarding investment priorities
2016 (Spring)	Deans identify areas of research strength across faculties	Okanagan Leadership Team	
2016 (Summer)	Okanagan Leadership Team retreats	Okanagan Leadership Team	Identification of research clusters and funding strategy to catalyse cluster growth