Research Portfolio Plan and Goals 2012-2016

Overview – Message from Vice-President (Research) Lorne A Babiuk

Research and creative inquiry are at the heart of what we do at the University of Alberta. Whether in the studio or lab, lecture theatre or library, it is where we engage in our essential work. The quest for knowledge, for new discovery and understanding, permeates everything we do, from undergraduate student to tenured faculty. As a campus regular or a proud alumnus, a long-standing community partner or a new international collaborator, the connection we all share through the University of Alberta is founded on the same, intertwined principles of learning, discovery and citizenship.

These three qualities describe our primary academic endeavours in succinct terms, and together they make up one of the four cornerstones of the guiding vision for the University of Alberta articulated in Dare to Discover, as well as our current academic plan, Dare to Deliver: Academic Plan 2011-2015.

Often, the path behind illuminates the way forward; a long tradition of excellence in creative inquiry, artistic performance, and research provides the foundation for the University of Alberta’s future. While creative exploration lies at the heart of our research within a public institution, it also frames recent attempts to capitalize on our strengths and seize opportunities to renew. In that quest, we continue to take steps that will nurture strong international research linkages, collaborations and consortia, and actively encourage scholars to establish research constellations or networks within and across faculties, as well as beyond our campus borders, particularly in areas of existing or emerging strength. An integral part of this exploration is the ongoing institutional integration of teaching and research.

We all have a role to play. This plan outlines a number of actions and areas that require our active participation in order to maintain, extend and exceed the outstanding research and creative inquiry long undertaken at the University. It is our firm belief that basic research is the foundation of any University enterprise. Some of these activities are actions that each of us can do individually, while others are focused on systemic improvements or collective actions that support leading research and creative activities.

There are challenges facing the research environment, some related to the current fiscal climate. At the same time, changing technologies, infrastructures, publication processes, creative media and performance architectures are reshaping the very foundations of research. The University of Alberta remains committed to ongoing advocacy for increased resources while anticipating and leading in the development of academic research in all its forms.
We will continue to advocate for our researchers and creative artists, to support and enable all members of the academy to achieve their highest potential. We will do this in a number of ways, such as fostering the continued development of a research culture that supports scholars to tackle robust questions and big ideas, encouraging researchers to follow creative paths of inquiry and render their findings accessible both to academic peers and broader society. It also means ensuring scholars have the academic freedom to be able to undertake their research and creative activity independent of undue influence. We will continue to work with governments and others to ensure that they understand this basic precept: our pursuit of world-leading, innovative research of benefit to future generations cannot be restricted to what today may be regarded as necessary or relevant research. Path-breaking, future-focused creative activity often requires distinct breaks with current ways of thinking, and research structures must nurture creative and innovative thinking.

We are also committed to continuous improvement in the supports available to scholars at the University of Alberta, so that together administrators and researchers can anticipate and rapidly identify obstacles and challenges in order to overcome their potentially negative effects. Whether it be a response to one of society’s ongoing challenges, a new art form or performance, a reinterpretation of previous literary, legal or historical thought, a new technology with commercial potential, or a new theory that furthers our understanding of our world, we will provide appropriate supports so that individual, or teams of, scholars may pursue creative research programs with consequential, world-leading impacts on their various fields.

This document outlines the overall context for the focus of the work of the Vice-President (Research) portfolio over the next five years. It is designed to support the work of the faculties, building on the foundations developed in the institution in recent years. Consultation on the draft document with the University of Alberta community was led by the Associate Deans (Research) and other members of the University Research Policy Committee, and their contributions to this final version are appreciated. The interconnection between the strategies in this plan extends to both Dare to Deliver: Academic Plan 2011-2015 and the vision contained in Dare to Discover. This plan articulates five strategies to enable the work of individual researchers and artists and to harness their energies to advance the University of Alberta’s impact, reputation and overall mission:

- Foster International and Local Relationships
- Enabling and Supporting Scholarly Impact
- Facilitate Knowledge and Technology Transfer
- Enhance the University’s Research Reputation
- Create an Environment for Success
Role of Office and Portfolio Framework

The Office of Vice President (Research) is responsible for establishing, advancing and supporting an environment at the University of Alberta that fosters research and creative activity of the highest caliber. Such a mandate offers a number of unique challenges, but also tremendous opportunities, as the portfolio cuts across the full breadth of the academy. Its central challenge is to provide University-wide leadership and direction while facilitating and supporting the rich variety of research excellence and creative activity underway in the institution. The Research portfolio will continue to work with other units in the University that support research and scholarship activities in order to enhance their impact.

Put in more practical terms, the Office works to keep the University's research and scholarly activity machinery running smoothly and efficiently, and to continue to emphasize the importance of linking research to the teaching enterprise. This requires continued collaboration and work with faculties and departments to ensure all of our efforts are aligned and utilized to maximum effect while ensuring that the research portfolio is tightly integrated with the other portfolios. In this regard, the Vice-President (Research) portfolio seeks to support faculties, departments, centres and institutes in carrying out their research activities. Our goal is to provide the support needed by each faculty member to reach his/her maximum potential.

Given the complex and cross-cutting nature of its responsibilities, the Vice-President (Research) portfolio is involved in many activities, including:

- promoting the successes of our researchers and creative artists;
- building top-level provincial, national, and international research collaborations;
- liaising with funding agencies and governments;
- increasing opportunities for undergraduate students to engage in research through leadership in projects like the Undergraduate Research Initiative;
- ensuring that all research is conducted ethically and with the highest degree of integrity;
- fostering the development of industry, corporate and foundation partnerships;
- administering research funding;
- supporting research activities with Northern partners, through the work of units like the Canadian Circumpolar Institute;
- promoting the benefits of research to the scholarly community and to the quality of life locally, provincially, and nationally;
- helping place and keep Canada at the global forefront of groundbreaking research and innovation;
- working with Vice-President (Research) portfolios at other institutions to advance common agendas; and,
- nurturing transformative research throughout the academy, particularly through new collaborative, interdisciplinary opportunities as well as by identifying endogenous constellations or researchers and networks of research strength.
1 - Foster International and Local Relationships

International Focus
The foundation for a successful and sustainable international research strategy starts at home. Individual researchers must be encouraged to develop strong, independent research programs - the foundation for the success of any major university. A vital individual research program or creative activity, often with a supporting but critical cast of students, trainees and staff, can help ensure a level of recognition for University researchers that leads to consequential international collaborations. The University of Alberta recognizes the untapped global opportunities for research collaboration, and is keen to be at the forefront of establishing new relationships. The Office of the Vice-President (Research) recognizes the complexity in such international participation, and is committed to working strategically to ensure successful collaborations.

Furthermore, when individual researchers connect with international colleagues, they establish links that influence our ability to develop long-term relationships with the University of Alberta. Ultimately, people work with people. Thus, we encourage and support our researchers to develop meaningful collaborations with researchers in universities around the globe. This serves to increase their personal reputation, as well as that of the University.

The second phase of developing our international connections is to identify institutions with a similar vision, a common philosophy and strategy, so that we can approach challenging research questions in a collaborative manner. It is critical to develop a shared understanding of the expectations and requirements for collaboration between the institutions, particularly regarding funding needs, mode of interaction, and governance. Individual researchers need to “be the glue,” working in the context of overarching support from their institutions.

While our door must always remain open to other emerging opportunities, the portfolio will support the University’s focus of developing relationships and exploring prospects for research collaboration and consortia with Brazil, China, France, Germany, India, Mexico, and the United States.

We will also enhance the relationship between University of Alberta International (UAI) and the Research portfolio. We will ensure better alignment between their mandates so that the portfolios more effectively and seamlessly integrate international student recruitment with research collaborations and consortia.

Increase the Reach of University of Alberta expertise
One way of increasing the reach of University of Alberta expertise is to provide an environment where we can attract three to four internationally renowned professors in a specific thematic area to come for a short time to the University to help us develop such themes and collectively engage our faculty members in these international dialogues. We aim to develop mechanisms by which faculties would host these events and bring in visiting professors to give public lectures during their stay or have public
debates that would further excite not only faculty and students, but also government and the general public.

Many of our centres and institutes play a pivotal role in connecting our activities to the challenges and issues faced by our government partners, at both the city and provincial level. They serve also to link cross-discipline expertise. Along with the Office of the Provost and Vice-President (Academic) we will work to enhance the role of these centres and institutes so that our creative achievements as a top-rated university can have maximal impact on our most immediate communities.

**Facilitate National and International Participation**

For an institution to be truly a world leader, it must initiate, participate in, and contribute to global partnerships. This in turn requires a presence in forums where policies, decisions and advisory directions are vetted and confirmed. We work with Deans, Associate Deans (Research), Chairs and faculty members to increase our faculty participation in national and international advisory committees and review bodies. This will create and enhance opportunities for collaborations and expand the impact of our research and creative activities.

We must be ready to seize upon other opportunities when they arise. One such recent opportunity has been membership in the Worldwide Universities Network (WUN). By taking full advantage of WUN, the University of Alberta is increasing its profile with other partners around the world while encouraging research collaboration, research mobility for faculty and graduate students, and supporting a virtual seminar program.

*What are some of the ways we will accomplish our goals?*

- support individuals and research teams to develop research programs with international connections
- work with UAI, faculties and the Provost and Vice-President (Academic)’s Office to improve and align various international recruitment, relationship-building and advancement activities
- focus proactive activities on priority countries while remaining open to other opportunities
- develop meaningful partnerships with research organizations and top-tier international collaborators
- foster strong collegial networks with Research Services Office (RSO)’s and Research Ethics Office (REO)’s counterparts, including ethics reciprocity agreements, to better administer multi-institutional research activities
- continue to participate in WUN and look for other similar opportunities
2 – Enabling and Supporting Scholarly Impact

Pursue Traditional and Innovative Sources of Funding
There are many ways to support and enable research and creative activity at the University, and one of these is to help our faculty become more successful in finding and obtaining funding.

The benchmark for academic research support in Canada remains Tri-Council funding. While we continue to secure significant Tri-Council support across the board, we aim to be even more successful, particularly in CIHR and SSHRC areas. We want to maximize success in gaining external funding at a scale that supports high impact creative activities at the University of Alberta, while also continuing to grow and expand our considerable and diverse strengths in the humanities, social science, scientific, professional and health-related research.

Our role is to refine and implement institutional mechanisms that can improve the performance of even the most successful departments and to share best practices with other units and programs. The intent of this approach is not simply to increase Tri-Council funding, but to foster a supportive, collaborative culture that encourages and enables all academics to produce their finest scholarship.

For social science, humanities and fine arts scholarship and creative activity, we will continue to use the University’s Killam Research Fund to nurture outstanding and transformative proposals for research programs that have the potential to be sustained by external, peer-reviewed funding sources. In this way, the internal Killam support will be used to enable creative and scholarly activities with potential for resounding impact.

Encourage Team and Interdisciplinary Approaches
We are committed to implementing the concept of ‘integrated innovation’, actively leveraging the engagement and expertise of the entire academy when appropriate. This means bringing perspectives and knowledge from the social sciences, humanities, creative arts, business, and law together with the natural and health sciences as well as applied sciences such as engineering and agriculture. Integration can happen in many ways, some more formal than others. For instance, industrial designers are currently working with health researchers and the University’s Bob Steadward Centre to improve exercise equipment for spinal cord injured persons, a new planning program is bringing together scholars from various arts, science and business disciplines, and a Scholar in Residence for Arts Research in Nanotechnology promotes discussion between arts and nanoscience researchers.

In addition to individual and team Tri-Council grants, we continue to provide special support for our faculty to apply for group, network and consortium funding. Funding agencies are increasingly emphasizing interdisciplinary team projects. Growth in research funding in some areas of the academy has also shifted to strategic and industry-collaborative projects. Interdisciplinary approaches have flourished across
the University at the level of individual researchers. We recognize that these relationships often offer new ways of generating knowledge, and we intend to nurture that creativity and expand the collaboration by developing new mechanisms of support for integrated approaches to complex research areas and thematic research constellations or networks, including securing the available funding as well as providing support mechanisms and recognition for faculty members involved in collaborative research.

This quest is not simply to remove obstacles but to seize new opportunities. The Office of the Vice-President (Research) is actively engaged in building on existing interdisciplinary strengths while also exploring and helping to establish new research and artistic relationships across and within faculties and departments. We will also strive to find ways to support teams internally in the development of large-scale applications and initiatives. To help secure funding from national and international agencies or consortia, other methods for fostering interdisciplinary approaches will be encouraged and developed in collaboration with faculties.

Talented undergraduates, graduate students and postdoctoral fellows increase the scholarly capacity of our institution, and governments increasingly recognize the considerable impact of graduate students and postdoctoral fellows on the long-term health of our economy. Thus, a major emphasis will be to expand the number of outstanding graduate students and postdoctoral fellows at the University of Alberta. This will require increased funding for graduate students across the academy, as well as targeted support to enable postdoctoral fellows to flourish.

To help achieve this, we will work closely with the Provost and Vice-President (Academic) to continue our discussions with the provincial government about innovative avenues of support for graduate students and postdoctoral fellows. We will also ensure mechanisms are in place to assist Deans and Department Chairs increase the application rate of our students to federally-funded graduate and postdoctoral programs. We will strive to secure funding to top-up scholarships for students and postdoctoral fellows who are successful in national competitions with funding from the Alberta Innovates Corporations. In collaboration with universities across Alberta, new streams of funding will be sought for researchers and graduate students in the social sciences, humanities and creative arts areas.

**Innovative Research Programs and Funding**

When effectively mobilized, certain levels of funding can help drive leading scholarship and help our faculty members have increased impact on their disciplines. Sometimes an innovative or inventive program helps to create new sources of funding. We look to faculty members to identify and explore opportunities and specific areas of inquiry where the University of Alberta can lead the way. In addition to nurturing existing and emerging areas of strength, we will proactively seek ways to capitalize on new research opportunities and funding, taking full advantage of appropriate initiatives within various funding agencies, foundations and governments.
For instance, through a dedicated endowment, the Kule Institute for Advanced Study (KIAS) is focused on becoming a leader in the world of interdisciplinary and comparative research. KIAS is fostering collaboration among scholars from a variety of backgrounds in an innovative intellectual environment, in order to enable transformative, society-changing research in major political, social, economic, and cultural issues. It is an exciting model.

The University continues to benefit from the innovative approach taken with the Canada Excellence Research Chairs (CERC) program. The new Campus Alberta Innovates Program (CAIP) Chairs will carry on the strategy of providing funding to address challenges that are important to the funder and the wider community, involving a variety of disciplines. Beyond the CAIP program, and in addition to helping faculty members expand and pursue innovative approaches to their research and creative activities, we will work with faculties to identify funding opportunities to support these initiatives.

We also want to work with researchers to increase University of Alberta participation in new international funding programs, particularly those geared towards cross-disciplinary collaborations that enable innovative contributions to culture and society. For example, the Natural Sciences and Engineering Research Council (NSERC) has begun collaborations with DFG, Germany’s major granting agency, to fund collaborative graduate programs and exchanges. This new program at NSERC was designed specifically to support the connections that Canada has developed with Germany. As a result of this program, the University of Alberta has received funding for one of the themes in the Helmholtz-Alberta Initiative (HAI) and is currently submitting a second proposal to NSERC and DFG.

**What are some of the ways we will accomplish our goals?**

- Establish mechanisms with the necessary resources to assist researchers improve the quality of Tri-Council funding submissions
- Expand the CIHR pilot mentoring review process to include grant support processes for all three Councils which meet their unique needs
- Facilitate researchers and teams to undertake cross-disciplinary collaborations
- Actively encourage graduate students and postdoctoral fellows to pursue national and international funding
- Attract and retain the initial seven CAIP Chairs and position the University for future competitions
- Retain and attract talented people throughout the institution
- Through opportunities such as CERC and CAIP, attract leading scholars to the University of Alberta
- Encourage and support the academy to help develop and shape new, innovative programs for which additional resources could be pursued
- Continue involvement in the Undergraduate Research Initiative
3 - Facilitate Knowledge Mobilization and Technology Transfer

Advance TEC Edmonton
In addition to supporting our students and trainees, who are a major vehicle to transmit knowledge, we will continue to facilitate TEC Edmonton's expanding role as the regional technology transfer and commercialization vehicle, as well as its evolving service in assisting and partnering with local and regional start-up companies to ensure their long-term success. TEC Edmonton remains an important partnership between the City of Edmonton and the University, and we will continue to enhance the relationship.

Our portfolio will continue to develop and offer a range of programs to help create the next generation of entrepreneurs, such as appointing Executives in Residence, offering seminars on essential issues such as intellectual property and company development, and holding sessions such as Entrepreneurship 101 for postdocs, graduate students, and faculty as they contemplate setting up companies. We will continue to explore ways to transfer knowledge in creative arts, humanities and social sciences for the public good. TEC Edmonton will increasingly be proactive and spend more time in faculties identifying potentially interesting technologies and suggesting ways of bundling them for possible commercialization.

Knowledge Mobilization
Initiatives such as TEC Edmonton have been very successful in connecting the strength and successes of our academy with the greater community in which we live and work. Our impact on the health and development of Alberta's economy and well-being, however, extends beyond commercialization activities and includes all our institution’s scholarly activities that inform public policy and social change. Adding to current thinking on methods of knowledge transfer, we will open discussions on how different kinds of knowledge created at the University of Alberta could shape society, and pursue new ways of weaving that knowledge into the fabric of Alberta and Canadian communities.

Work with Government and Other Partners
Research is international, and so too is entrepreneurial business development. We need to work to ensure technology and knowledge transfer activities have the best chance of contributing to the economic health of our region, province, and country. To this end, we will be proactive in identifying and seizing opportunities for transferring the benefits of the diverse scholarship that happens everyday at the University of Alberta.

To foster the development of companies, we will continue to work with our partners in industry and government to identify and develop the critical features of a positive start-up environment. This will involve attracting and developing venture capital aimed at supporting early start-up companies. We want to be able to effectively seize upon the opportunities and mechanisms for retaining and benefiting from the best of our talented and entrepreneurial minds.

It is also important to remember that, in the words of our President, our greatest asset for technology and knowledge transfer goes in and out the doors of the University each
day, in the form of our students, staff and faculty. With this in mind, the need for all areas of the University to support the attraction and retention of high-calibre people remains front and centre in all of its activities. To this end, we will continue to work with other areas of the University to ensure all of our talented people have the opportunity to flourish and thrive.

**What are some of the ways we will accomplish our goals?**
- continue to develop and support the range of entrepreneur development programs offered by TEC Edmonton
- proactively work with faculties, departments, and researchers to identity suitable opportunities for technology and knowledge transfer
- identify and implement innovative ways for transferring knowledge, not just technology, to society

**4 - Enhance our Research Reputation**

**What the University of Alberta Has to Offer – Talent, Capacity and Accomplishments**
Stewarding our reputation is a shared responsibility of the entire institution. We will continue to support the lead of the Vice-President (University Relations) portfolio on initiatives that enhance the institution’s reputation and that communicate the impact of our work, as well as work with our colleagues in the faculties and departments, and other areas such as Alumni Relations and Advancement.

The breadth and depth of high-quality creative activity and research that is underway across our academy is astounding, and it deserves to be shared with the world. We will continue to work with University Relations to ensure that the creative achievements of our fine arts faculty and successes of our researchers are promoted widely.

Many public events and initiatives also advance the reputation of our institution, even if indirectly. Examples include a keynote lecture series in the social sciences, humanities and creative arts, enhancing opportunities in science engineering and technology for women of all ages through WISEST (Women in Scholarship, Engineering, Science and Technology), the annual “CELEBRATE! Teaching – Learning – Research” event which is co-hosted by the two academic portfolios, or helping local and regional businesses successfully capture and harness innovation and technology through TEC Edmonton.

**Comprehensive Research Awards Strategy**
One of the hallmarks of a great university is the quality of its faculty members. It is our goal that all members of the academy who make exceptional contributions to their disciplines receive appropriate recognition. We will continue to work with the Provost and Vice-President (Academic), Deans, and Department Chairs to refine the internal strategy for recognizing outstanding achievements at each stage of a scholar’s career.
The key idea is to take a comprehensive approach and support faculty members as they progress from internal awards to provincial, national and international recognition.

To this end, we will continue to enhance and promote our institutional inventory of awards, and ensure that our faculty members are appropriately recognized for their achievements through high quality nominations. In conjunction with the Vice-President (Academic), we will also take a similar approach with students and postdoctoral fellows.

The work of our internal ‘College of Reviewers’ has been tremendous in providing advice and guidance to colleagues who are applying for research awards to ensure that the strongest applications are put forward. We also see this as an opportunity to engage some of our most knowledgeable and accomplished faculty, such as our Emeritus and Distinguished University Professors. Working with the faculties, the Office of the Vice-President (Research) will also directly solicit and review award nominations and applications, and will continue to seek resources to assist faculty members and others with the preparation of high-quality award nominations. Appropriate acknowledgement of the important work of nominators is also a priority in this area.

**What are some of the ways we will accomplish our goals?**

- Assist the faculties in enhancing and advancing a comprehensive strategy for awards and recognition
- Proactively work to ensure more graduate students and postdoctoral fellows are applying for, and successful in securing, external funding
- Increase the number and variety of recognition for individual and academy accomplishments
- Actively promote the full range of accomplishment in performance, creative activity, and research across the academy, and celebrate it appropriately

**5 – Create an Environment for Success**

The portfolio’s role here is largely one of expediting interactions with stakeholders outside the academy and smoothing internal and external obstacles in ways that advance, strengthen, and possibly transform the strategic priorities across different units. We will continue to champion our researchers and work assiduously to advance the portfolio with all orders of government. Significant effort will be expended, in collaboration with Deans and the Provost and Vice-President (Academic), to recruit and retain the best faculty members throughout the University.

As part of the ongoing task of identifying and addressing challenges that interfere with research and creative work, we will continue to strengthen and improve the support and
services available through the Research Services Office (RSO), the Field Research Office (FRO) and the Research Ethics Office (REO) to ensure the highest ethical and administrative standards in all research endeavours. Whether facilitating Tri-Council funding applications, running day-to-day research activities in the field, ensuring the ethical conduct of research, or fulfilling reporting and regulatory requirements, these offices will continue to work with researchers to help manage the administrative and logistical load on primary investigators and their teams. The overall aim is to enable our researchers to focus attention on their scholarly activities and meet their contractual obligations and responsibilities.

The portfolio will continue to expand mentoring and other services to help improve grant preparation and submission. Workshops offered in various faculties and by the RSO will be expanded, particularly those services designed for new faculty recruits. Faculty members appointed as Tri-Council committee representatives will be acknowledged and encouraged to participate, as will members of our community who serve on grant application review panels. We will also continue to seek bridge funding to improve future applications for researchers who were unsuccessful with their grant submissions to these agencies.

We will continue to work with the Government of Alberta to ensure that the province leverages the federal funding that our researchers can secure, through the use of appropriate matching dollar mechanisms. This includes not only the Canada Foundation for Innovation, but also new major programs within the Tri-Councils and other agencies such as Genome Canada. We look for new approaches to sustain and evolve core research infrastructure that will allow a more efficient and thoughtful use of finite resources, whatever their source.

What are some of the ways we will accomplish our goals?

- Support and advance the work of our researchers through the RSO, FRO and REO, including a process of continuous improvement in services and supports
- Provide appropriate levels of infrastructure for research administration
- Continue to actively champion the benefits and advance the requirements for research and creative activity with our government partners
- Increase research administrative support strategically
- Continue to nurture and mobilize CFI support for SSHRC disciplines
- Advocate for the renewal of CFI funding and continue working with the Province for matching support
- Continue to seek input from the academy on ideas and mechanisms for improving their success in research, performance and creative activity
- Enhance and improve the sustainability of University research infrastructure
The Way Forward Together

Embarking on research, scholarship and creative activity encompass the most exciting aspects of the journey as people pursue their scholarly vocations. An abiding curiosity and firm belief that we can achieve great things spurs us on to investigate, create, test, critique, and articulate. If we challenge ourselves to ask the big questions in our diverse fields of research and creative activity, we potentially increase the reach of our scholarly work and place ourselves at the forefront of knowledge frontiers.

The Office of the Vice-President (Research) will lead the challenge of enhancing the way we undertake research and creative activities at the University of Alberta, and it will take the collective effort of the entire institution to break down barriers and forge new connections. Collaboration within and across faculties, seeking out new partnerships and opportunities locally or internationally, facilitating the transfer of knowledge and technology beyond the bounds of the academy – all of these activities will extend President Henry Marshall Tory’s founding promise of “uplifting the whole people.”

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