

Foundational Documents

University of Saskatchewan Integrated Planning



Foundational Document Research, Scholarly and Artistic Work

*Research, Scholarly and Artistic Work Committee of Council
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Executive Summary

This Foundational Document on Research, Scholarly and Artistic Work at the University of Saskatchewan articulates the core principles, priorities and processes that will inform Integrated Planning and guide implementation of initiatives within the research, scholarly and artistic agenda in the upcoming decade. The Foundational Document on Research, Scholarly and Artistic Work is a living document intended to promote and encourage on-going campus-wide discussions about desirable ways to create and sustain an atmosphere of accomplishment and commitment in the area of research, scholarly and artistic work. For the purposes of Integrated Planning, it also aims to indicate to the University community how the institution can make best and most effective use of its finite financial and human resources in the promotion of research, scholarly and artistic activities. A guide for the University of Saskatchewan as it moves into its second century, this Foundational Document articulates a plan to build on our current and emerging strengths and traditions to increase the intensity of research, scholarly and artistic activities.

Over the next decade, we will establish the University of Saskatchewan as one of the top ten medical/doctoral universities in Canada and one of a select few internationally in key areas. A commitment to these goals represents an exciting and challenging opportunity for the academic community that will serve to stimulate much discussion and planning, but also concrete actions. Key next steps include:

- Enhance the research, scholarly and artistic work culture at the University of Saskatchewan through implementation of the university standards for promotion and tenure, balancing faculty workload and responsibilities, promotion of mentoring and research support systems, and reviewing policy and practices associated with research, scholarly and artistic work;
- Manage strategic investments in research administration, communications and knowledge transfer by focusing on providing critical resources for researchers, research facilities and infrastructure, grant support and research development, industry liaison, and communications and research advocacy across all disciplines and in community, multidisciplinary and interdisciplinary collaborations;

- Develop appropriate and discipline-sensitive measures for scholarly, research and artistic work and establish processes to identify targets and monitor performance in comprehensive and collegial discussion within existing decision-making structures;
- Identify areas of pre-eminence, areas of emerging strength, and targeted areas in which investments and development could occur to help increase research intensiveness at the University of Saskatchewan while working to ensure the entire academic community continues to receive the benefits of a research-intensive university environment;
- Develop a comprehensive research, scholarly and artistic work plan, in which targets and programs to help achieve our goals are linked to the removal of obstacles hindering full participation in the research agenda, based on the principles and priorities that are part of this Foundational Document and the Integrated Planning process.

By careful planning and investment in response to research, scholarly and artistic needs identified by the academic community, the University of Saskatchewan is committed to increasing research intensiveness through increased quality and quantity of research personnel, promotion of individual scholarship and collaborative projects, increased research funding (through Tri-Council competitions and other forms of research support), and more focused research administration, management, commercialization, and knowledge transfer activities. This commitment, understood within the evolving international, national and local research context, is expected to contribute to an increase in research, scholarly and artistic activities across a broad spectrum of disciplines, in disciplinary, multidisciplinary and interdisciplinary arrangements, and in key areas selected for their current and potential strength and their contribution to the mission of the University.

SECTION I. THE UNIVERSITY OF SASKATCHEWAN IN THE INNOVATION AGENDA

Introduction

Universities exist to create, interpret and share knowledge. The academic community engages in research, scholarly and artistic work because this is a central element of who we are and what we do. Faculty members are drawn to the profession by the opportunity to work at the leading edge of their disciplines and, in many instances, to find ways to utilize academic discoveries for community purposes. Teaching is a natural complement to the pursuit of knowledge, and the scholarship of teaching has assumed an increasingly prominent place in research-intensive universities. Undergraduate students are drawn directly into the enterprise, through faculty lectures or direct participation in research, scholarly or artistic projects. Graduate students are introduced to the essential skills of discovery, interpretation and dissemination. Boundaries governing research, scholarly and artistic activities are being explored in various ways. Partnerships with community-based organizations and other institutions

are emerging as a result of faculty and community interest and encouragement from granting agencies. The University is increasingly engaged with diverse communities in the co-creation, interpretation, and distribution of knowledge. We disseminate knowledge to the wider community through diverse communications, extension, public service and industry-liaison activities designed to add value to society and contribute to social, political, cultural and economic development.

A comprehensive strategic plan for research, scholarly and artistic work will recognize that independent scholarly and curiosity-driven research and creative performance are a hallmark of the University of Saskatchewan. Such planning requires a foundational document that articulates the core principles, priorities and processes within which institutional goals will be achieved and which recognize the particular circumstances in which the University of Saskatchewan exists. A foundational document, to be useful, will encompass not only the theoretical dimensions of research, scholarly and artistic activity, but will establish processes for discussion and decision-making and address broad, practical issues of implementation. In essence, a foundational document will explain why a university is indispensable to a twenty-first century society and then relate those thoughts and ideas to specific activities at the University of Saskatchewan that enable our contributions in research, scholarly and artistic efforts to be recognized within the larger provincial, national and international context.

Full and active participation in Canada's Innovation Strategy provides the University of Saskatchewan with opportunities to expand our research, scholarly and artistic activities. Our commitment to serve the people of Saskatchewan and the global community through a diverse range of independent creative endeavours will shape our response to this and other external programs. The University's strategic planning processes have made it clear that the University of Saskatchewan will build on its strengths and traditions by making careful and considered choices between the numerous major initiatives that are and will be available to develop excellent research, scholarly and artistic opportunities. Decision-making will be influenced by previous strategic planning efforts in which a vision of increased research intensiveness at the University of Saskatchewan was articulated. Initiatives that will help realize the goal of increased research intensiveness include addressing fully the challenges of the teacher-scholar model, enhancing high quality undergraduate research experiences within the context of a comprehensive enrolment plan, increasing graduate student numbers and quality of graduate student research, and the identification of research, scholarly and artistic areas with demonstrable national or international impact. Such areas will be known as research, scholarly and artistic *areas of pre-eminence* at the University of Saskatchewan. Their development will be used in part to guide resource allocations within the overall goal of achieving increased research intensiveness throughout the University of Saskatchewan. To be accepted and useful, the identification of such areas must be broadly-based, collegial, and with clear outcomes; they must contribute to achieving the vision of the University of Saskatchewan as among the most distinguished universities in Canada.

The Changing Nature of Research, Scholarly and Artistic Work

Research, scholarly and artistic work is a distinguishing characteristic of a modern research university, recently defined by the Carnegie Foundation for the Advancement of Teaching as those universities that ‘offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research’. At such institutions, performance in research, scholarly and artistic work is a key criterion in appointment, promotion and tenure decisions; graduate students and post-doctoral fellows receive critical support and are found in significant numbers in a wide range of colleges, departments, and research units; high quality international students are attracted to the institution; libraries, computer facilities, and other research infrastructure are understood to be critical to success. In the global community of intellectual and scholarly effort, research universities are prominent and special places. Industry and other economic partners increasingly rely on research universities as a source of innovation, creativity, expertise, and critical mass. Governments and citizens are aware and support the role such institutions play in research and educational activities and in promoting a civil society.

Canada’s Innovation Strategy (2002) challenges Canadian colleges and universities to consider the changing world of innovation in which Canada must compete. In emphasizing the unique role research universities can play in achieving the national goal of moving Canada from 15th to 5th place by 2010 in the world of research and development spending, made-in-Canada strategies must be articulated to deliver the desired outcome – higher standard of living, productivity, and innovation. Canadian universities and colleges are expected to:

- Expand teaching and research capacities;
- Specialize in research niches and develop nationally and internationally recognized expertise;
- Increase the supply of highly qualified people;
- Triple key commercialization performance outcomes;
- Increase the opportunities of high school graduates to participate in post-secondary education;
- Increase (by an average of 5% per year) the number of Masters and PhD students completing their degrees at Canadian universities.¹

Responding to, and helping shape, the Innovation Strategy challenges and other opportunities will require individual and collective commitment on a broad scale and

¹ A complete discussion of Canada’s Innovation Agenda is available at:
<http://www.innovationstrategy.gc.ca/cmb/innovation.nsf/pages/index>

over a long period of time. Intensifying research efforts and maintaining or expanding student access and teaching activities will generate new and interesting opportunities for the academic community in Canada, but will also contain significant challenges unique to individuals and institutions. Immediately apparent are issues of funding and priority-setting, developing partnerships, consulting stakeholders and ensuring participation by every part of Canada and Canadian society, administration and management of the research enterprise, and integration of research, scholarly and artistic goals with the broader academic mission of the university.

Saskatchewan Context

The character of a university is strongly influenced by its geographical and cultural setting and existing resource base or infrastructure. The University of Saskatchewan can point with pride to its long tradition of serving the educational needs of the people of Saskatchewan; this service extends into every aspect of the social, economic and cultural life here. It is clear that since its founding, research, scholarly and artistic work at the University of Saskatchewan has been developed with an in-depth understanding of the need to provide high-quality undergraduate teaching to students across a very wide range of programs. Offerings have focused on discipline-specific programs and extension services, selected graduate studies, and the development of research, scholarly and artistic excellence in key areas developed in response to economic, cultural or intellectual needs or opportunities identified by students and faculty in concert with the provincial government. For example, over the last thirty years, and again very recently through the *Foundational Document on Aboriginal Initiatives*, the University has acknowledged its unique relationship with the Aboriginal populations of the province and has re-iterated its commitment to working with them. The University of Saskatchewan has always been a student-centred university, and the undergraduate experience will continue to motivate both high-quality teaching and research, scholarly and artistic work. These are not separate entities, but are intricately linked in a dynamic fashion particular to individual academic disciplines and traditions. The synergy in teaching and research can be maintained and enhanced in light of the emerging provincial and national needs for innovation and increased productivity; for example, the Foundational Document on Enrolment and the Faculty Complement Plan will together articulate a vision and implementation strategy to address the numerous challenges we face in the undergraduate experience, teaching and learning.

Any increased emphasis on research, scholarly and artistic innovation presents a familiar challenge to the University of Saskatchewan – to continue to deliver on the promise of high quality undergraduate education at the same time as we intensify development of the essential characteristics of a research university (for example, increased graduate student numbers, more interdisciplinary and multidisciplinary programs, critical mass in key research groups, new facilities and infrastructure). The undergraduate experience at the University of Saskatchewan is informed by the research, scholarly and artistic work that is prominent here in ways that are simply not possible in other post-secondary environments. Graduate students are attracted by institutional reputation and commitment (e.g., scholarships), and to specific high

quality programs. The University of Saskatchewan is the home to unique science and creative arts infrastructure, which will feature prominently in faculty recruitment plans and can help shape future investments and partnerships. Aboriginal education and studies, agricultural biotechnology, Canadian public policy, structural-synchrotron science, infectious disease, rural health, environmental science, are only a few of the relatively broad areas which have developed critical resources that can be used to establish the University of Saskatchewan as among the best in Canada – a good place to invest for high-value returns (e.g. undergraduate programs, graduate research, productivity, service, public contribution). This infrastructure should be recognized both as a reflection of the University of Saskatchewan commitment to quality and preeminence in research, scholarly and artistic activities and as an opportunity to focus future investment of resources. Initiatives at the University of Saskatchewan to increase research, scholarly and artistic intensiveness must acknowledge similar planning processes being undertaken elsewhere in Canada and more immediately within the province.

The University of Saskatchewan will define its unique contribution in terms of its research, scholarly and artistic activities in context of the provincial, national and international setting. For example, we are one of only a few Canadian universities that have a long and respected tradition of agricultural research, including veterinary medicine. Recent initiatives at the University of Saskatchewan to address issues relating to Aboriginal peoples and the justice system are leading the way to ensure greater participation of, and benefits to, First Nations people of Canada. These efforts are complemented by other initiatives provincially (e.g., the recent development of the First Nations University and by the University of Regina's identified 'social justice' research cluster) and nationally (UBC First Nations House of Learning). Rather than duplicate essential offerings, complementary strategic planning will ensure maximum benefits are realized by working together for common goals. In another example, collaborative efforts in undergraduate programming between the Engineering colleges at the University of Saskatchewan and the University of Regina may expand opportunities for research collaboration in the area of energy and CO₂ sequestration. Fostering such inter-institutional research themes will contribute to the University of Saskatchewan research, scholarly and artistic activities. Collaborative opportunities are also being incubated at the international level where University of Saskatchewan research, scholarly and artistic work on local and national issues has garnered international recognition for the institution and provided a basis for building strong collaborative ventures. International scholarly connections have emerged in many diverse areas (for example, secured transactions, tuberculosis, landmines, climate change, crop-development and dryland farming, immigration and social change, educational administration) and are likely to continue to grow in number, prominence, and impact.

University of Saskatchewan Vision and Goals

The University of Saskatchewan has committed itself to the teacher-scholar model and to the continued enhancement of its research, scholarly and artistic activities. As

confirmed in the University of Saskatchewan *Framework for Planning* (1998), the Research Committee of Council Report on *Increasing Research Intensiveness at the University of Saskatchewan* (2000), the *Provost's White Paper on Integrated Planning* (2002), and most recently in the *Strategic Directions Renewing the Dream* (2002), our vision is to become known as one of Canada's most distinguished universities. The University will focus on international standards, our sense of place, and our people to achieve recognition as one of Canada's leading student-centred, research-intensive universities. Realizing this vision requires the full participation of all members of faculty in research, scholarly and artistic activities supported by strategic decisions and investments in administrative structures and programs. This engagement of all academic and administrative members of the university community will allow the institution to enhance scholarly and artistic activities across a broad range of disciplines and will provide new opportunities for creative work.

As the University of Saskatchewan moves into its second century, we will continue to increase the intensity of our research, scholarly and artistic activities and establish the institution as one of Canada's top research-intensive universities. *Broadly stated, our goals are to build on our current and emerging strengths and traditions to increase the intensity of research, scholarly and artistic activity over the next decade to be clearly established as:*

- *Among the top ten medical/doctoral universities in Canada²; and*
- *One of a select few internationally in key areas.*

Realizing the vision of increasing research, scholarly and artistic activities, and achieving our goals, represent exciting challenges for the academic community that will require individual and collective commitment.

It is essential that the University environment (teaching and administrative responsibilities, space, library resources³ and appropriate facilities) be conducive to increased research, scholarly and artistic work. The University must, as well, use its merit and promotion systems to recognize individuals who have made significant accomplishments and established an outstanding professional reputation for their work. It is vital that we create and sustain an atmosphere of celebration around research,

² Medical/doctoral universities are characterized as universities with a broad range of PhD programs, broad range of research, scholarly and artistic activities, and health science schools. The category includes: British Columbia, Toronto, McMaster, Montréal, Ottawa, McGill, Laval, Alberta, Queen's, Calgary, Dalhousie, Western, Sherbrooke, Memorial and Manitoba.

³ The University of Saskatchewan Library System consists of the Main Library and six branches. It is responsible for maintaining and developing an extensive holding of printed materials, government documents, electronic databases and journals, and microfilm. In addition, to providing reference and interlibrary loan services, the Library is an active participant in a number of national and international organizations which develop strategies and programs related to issues such as: improving the quantity and breadth of research literature; collection development; and ensuring expanded and equitable access to content through electronic formats and network access delivery mechanism. Additional information on the Library's research collections and services is available at: <http://library.usask.ca>

scholarly and artistic accomplishments. This will require, in part, the university community to develop and monitor measures for research, scholarly and artistic activities that reflect the diverse nature of creative endeavours on campus. Increased research intensity will be demonstrated through, but not limited to, an increase in peer-reviewed publications, a demonstrable rise in the number of faculty receiving national and international recognition, a greater influx of research funding from the Tri-Councils and many other sources including industry, growth of patents and licenses, and strengthened connections between research, scholarly and artistic activities and undergraduate and graduate teaching. All faculty, staff and students should take pride in the activities and achievements of their academic colleagues. It rests with the university community at large to establish a positive, supportive and encouraging atmosphere; research, scholarly and artistic work occurs best in such an environment.

The University will create or enhance opportunities to increase the quality and quantity of research personnel, promote individual and inter-institution and community collaborative projects, increase research funding particularly in the area of peer-reviewed Tri-Council competitions, and increase commercialization and information transfer activities. Targeted and discipline-sensitive initiatives will contribute to an increase in the quantity and quality of research, scholarly and artistic activities across a broad spectrum of disciplines and in key areas selected for their current and potential strength and contribution to the mission of the University.

SECTION II. RESEARCH, SCHOLARLY AND ARTISTIC ACTIVITIES

People

Defining our research, scholarly and artistic community requires that a large circle be drawn around the University of Saskatchewan. Scholarly activity encompasses the contributions not only of University members engaged directly in the work (i.e. faculty, emeriti, clinicians, technicians, researchers, graduate students, post-doctoral fellows) but also the administrative and support staff who facilitate research activities, and members of the external community who through formal or informal associations are drawn into the research enterprise. The position of adjunct professor allows the University to acknowledge the contribution of some external experts. Partnerships with community organizations, industry and government of a less formal nature also enhance the University's research, scholarly and artistic community. The University of Saskatchewan benefits from personnel, often highly complementary and integrated into the academic community, which are associated with well-developed critical infrastructure and unique facilities (for example, Innovation Place, the Canadian Light Source). Though models for participation vary from discipline to discipline, graduate students are consistently a vital part of campus research, scholarly and artistic activities. Graduate students contribute to the research culture as members of faculty led collaborations, as young individual researchers and as visible links between the university's dual commitments to research, scholarly and artistic work and teaching. Research, scholarly and artistic work at the University relies on the commitment, abilities and inspiration of this wide circle of individuals.

Faculty members are the heart of research, scholarly and artistic activity. Building and maintaining a culture of excellence at the University of Saskatchewan requires every member of faculty to establish a successful and active research, scholarly or artistic program. Research rarely happens in isolation, but flourishes when a community of scholars provides ongoing opportunities for formal and informal interactions as well as support and encouragement to fellow members of faculty, staff and students. Additionally, in Canada, a successful research culture is increasingly dependent on funding in order to support the training of highly qualified personnel. The University will continue to pursue and capitalize upon funding opportunities with industry, communities, non-government organizations and government agencies; increased revenue from this variety of sources are fundamental to increasing overall research, scholarly and artistic activity and allows the University to address and target various aspects of its research enterprise. One source of funding that is critical to overall continued health and success of Canadian university research, however, is Tri-Council funding (NSERC, SSHRC, CIHR). A renewed commitment by all eligible members of faculty to actively seek funding from the appropriate Tri-Council agency will provide benefits throughout the research, scholarly and artistic community. For example, increased Tri-Council funding will bring additional funds to the University through federal programs (e.g., indirect costs of research⁴, the Canada Research Chairs⁵), provincial funding mechanisms, and undergraduate and graduate student enrolments. These funding mechanisms are fundamental to the University's ability to strategically develop institutional programs and structures to support research, scholarly and artistic work. Since the operating budget and many traditional sources of research support are increasingly inadequate, funds from these sources are critical to support new initiatives and to strengthen existing programs.

Sustaining the academic community, comprised of faculty, staff and students, requires that the institution engage a number of challenges. Obstacles that hinder full participation of faculty in the research culture must be identified and removed. Incentives for research productivity must be coupled with services designed to promote and support research, scholarly and artistic activities across campus. The University must ensure its procedures, policies and practices enable all members of faculty to create and enjoy opportunities to pursue their research, scholarly and artistic goals. This goal will often require discipline-specific approaches. For example, scholars in the humanities, fine arts and social sciences consistently identify time constraints as the greatest barrier to maintaining an active research program. Clinical faculty members

⁴The funds from the federal indirect costs of research program must be used to support research, scholarly and artistic activities in five broad categories: developing research facilities, providing research resources (including library infrastructure and services), fulfilling regulatory and accreditation requirements, managing intellectual property and supporting, promoting and managing the research enterprise. The University's allocation is determined by its success in Tri-Council competitions. These centrally received and administered funds, allow the University to develop campus-wide programs and infra-structure to benefit all members of the research, scholarly and artistic community. Additional information on the federal indirect costs of research program is available at: <http://www.indirectcosts.ca/>

⁵ The number of Canada Research Chairs allocated to the U of S is based on the institution's success in Tri-Council funding. Program details are available at: <http://www.chairs.gc.ca/english/About/index.html>

have indicated that both time constraints (resulting from extreme service demands) and limited formal research training hinder their full participation in the University's research agenda. Through the *Complement Plan*, the University must develop a long-term and strategic plan for selective growth and development of its faculty complement. The University is forecasting a turnover of approximately fifty percent of its current faculty in the next ten years. It is essential that the plan to renew the faculty complement be linked with the University's commitment to ensure research, scholarly and artistic activities across the broad range of disciplines essential to a research institution, and to develop strength and critical mass in certain key areas.

As a community, the University must identify and implement initiatives to secure, for all staff and students, the benefits of participating in research, scholarly and artistic activities. Increasing student participation, and the quality of their experience, in research, scholarly and artistic work at the University of Saskatchewan are critical objectives. The following principles will guide the University's action in these areas:

- Undergraduates should receive an education at the University of Saskatchewan that recognizes the advantages of attending a research-intensive university – a matchless educational experience in which students learn and apply critical thinking skills and develop the abilities to accomplish tasks and assess the relative worth of ideas and methods.
- Graduate students are vital to the scholarly enterprise and their numbers must increase. A tuition equivalent scholarship is one model that must receive serious consideration in the very near future as this university, along with other Canadian institutions, grapple with the demands of increasing graduate student enrolment, international student numbers, and the quality of graduate and postdoctoral research environments.

Department, College and University-wide offices will need to increase efforts in promoting and supporting excellence in research, scholarly and artistic work for all members of the campus community. University administration plays a critical role in analyzing and communicating national and regional patterns, providing a supportive and encouraging environment, celebrating achievement, and otherwise providing a suitable foundation for a community of researchers, scholars, and artists. This will, over time, necessitate a thorough review of procedures and practices and will require the ongoing cooperation of University Council, the Faculty Association, the Board of Governors and the academic community at large.

Diverse Approaches : Independent, Interdisciplinary, Multidisciplinary and Community

Independent scholarly and curiosity-driven approaches are the foundation of innovative research, scholarly and artistic work. The institution's record of creative scholarship, artistic performance and scientific discovery resulting from these approaches ensures that they will remain a distinguishing feature of the University of Saskatchewan. A campus scan reveals scholars of national or international stature in a wide range of

University units – from toxicology to English, Aboriginal studies, physics, art history, etc. Independent scholarship, shared and discussed with colleagues locally, nationally and internationally, continues to be the most appropriate model for a wide range of disciplines, and is often the preferred approach for many individuals. University practices and policies have long enshrined the importance of such curiosity-driven scholarship. This fundamental commitment expressed through individual faculty work, policies and procedures will continue to be protected and enhanced. In some areas scholars are exploring alternative approaches to investigating the world around them. Forays into interdisciplinary, multidisciplinary and community partnerships are well suited to questions asked by some researchers and provide unique opportunities for investigation. For example, University scholars have successfully applied collaborative approaches to studies in public policy, toxicology, rural health, environmental science, social justice, and bioinformatics. It is essential that the University create an environment in which a variety of approaches to scholarship can thrive.

The University has always recognized the enormous power of collaborative approaches, but implementing programs (research, graduate, undergraduate and others) to foster and support interdisciplinary and multidisciplinary dialogue, and inter-university and external agency collaborations, is an ambitious undertaking that is as challenging as it is important. Support for broadly-based interdisciplinary and multidisciplinary initiatives is required at all levels; from individual faculty agreeing on curricula in interdisciplinary teaching and research proposals, to recognition by departments and colleges of the inherent contribution such activities make to individual units and the larger university environment. Such initiatives serve society and the academic community break down traditional discipline and university barriers to offer opportunities for innovative and unique approaches to substantive research and educational questions.

Collaborative research, scholarly and artistic work must be supported by clear guidelines and policies which encourage and reward interdisciplinary and multidisciplinary study. As increasing numbers of students and faculty come together from across the academy, and between national and international institutions, in interdisciplinary and multidisciplinary research, scholarly and artistic work, the university will develop unique and flexible programming to capitalize on their experiences to service student and societal requirements for new knowledge and educational components. The disciplinary, interdisciplinary and multidisciplinary experiences – each providing a powerful and essential perspective – will be available to an increasing number of the stakeholders at the University of Saskatchewan and in the wider community.

Research units, centres and institutes are one formal and visible representation of the interdisciplinary or multidisciplinary work that occurs in association with the university setting. University research centres vary tremendously in size, scope and structure. Units may consist of as few as four scholars, drawn from one or two departments, who are focused on a specific activity; to expansive structures of tens of researchers (from the university, industry and community) engaged in a range of activities including

research, undergraduate and graduate teaching, public outreach and industry liaison work. Regardless of size or scope, such centres (broadly defined) are a primary vehicle for interdisciplinary and multidisciplinary study. Their structures facilitate interactions between researchers of different disciplinary backgrounds and provide a critical means for a group of scholars to create a visual identity around their collaborative expertise. This identity is often essential in attracting support from industry, government and non-profit organizations. It also offers another opportunity for the University to establish or secure a national or international reputation. The University needs to ensure that its policies and structures support research centres and their members, and are flexible enough to accommodate the varying nature of these units. It is essential that the work completed within the boundaries of a centre is acknowledged in the assignment of duties, and in promotion and tenure decisions. Of equal importance is the challenge to the university to ensure that the opportunities afforded by the centre structure are reflected in university decision making process – such as integrated planning, resource allocations and policy development.

The University will constantly be challenged to find the balance between support of independent scholarship and collaborative ventures. Researcher-driven, independent and individual or small-team work will continue to be central to the long-term health and success of this institution. Informal and formal collaborations will continue to offer unique opportunities for the University to secure funding for both direct scholarship activities and for essential infrastructure. A significant trend in some areas of research, scholarly and artistic work is toward larger and larger collaborations – on the scale of many millions of dollars of funding, teams of tens or even hundreds of researchers, and long time periods in which to address challenges that would be overwhelming for smaller teams with fewer resources working on less ambitious timescales to address. Government programs such as the Network Centres of Excellence and the Canadian Foundation for Innovation rely on the ability of the University to identify a critical mass of scholars in a given area – and these are pooled in larger teams comprised of contributors drawn nation-wide and internationally. Existing large-scale projects, such as the Canadian Light Source, mean state-of-the-art facilities and equipment are built on the University campus providing valuable tools for researchers in the area, creating spin-off benefits for other disciplines and attracting national and international scholars to the campus. Similarly local, national and international collaborations provide opportunities for researchers to attract significant and long-term industry support.

Internationalization of Research, Scholarly and Artistic Activities

The University increasingly functions within a global community. This awareness, of the world outside our national boundaries has shaped one of our institutional goals – to develop an international reputation in a few select areas of research, scholarly and artistic performance. The challenge and benefits of internationalization, however, extend beyond a quest for recognition by the international community of local and national research, scholarly and artistic projects and expertise. University faculty are encouraged to engage in projects that address major global issues, to dialogue with scholars outside of Canada through presentations or exhibitions, and to contribute to

socially just, sustainable development for poor marginalized groups. International research, scholarly and artistic work encompasses scholarship activities conducted abroad, projects undertaken in collaboration with colleagues from other countries, and empirical and theoretical studies of international dynamics (e.g. international trade or migration). By pursuing these different aspects of internationalization, the University addresses its goals, motivations, and, to some extent, the process by which internationalization may be achieved. For example, one of the best ways to develop an international reputation is to engage in dialogue with scholars through international publications, conferences and service on international organizations.

Globalism and the University of Saskatchewan: The Foundational Document for International Activities outlines three priority areas for increasing and sustaining the institution's international research, scholarly and artistic activities:

- Create an environment which supports and recognizes international research, scholarly and artistic activities;
- Increase faculty awareness of international opportunities and create support systems to facilitate and encourage international activities; and
- Encourage increased international training and research for graduate students.

These priority areas suggest the broad challenge to the University community: to develop a clear understanding of international contributions and the obstacles that inhibit performance in the international domain. Action items may include examining University incentive systems for pre-conceptions of the value of international work (including the value of the funding source – international development projects are often funded by industries or non-profit organizations) and providing assistance in identifying and connecting researchers with funding agencies. By pulling the various internationalization pieces together with a renewed focus on achieving our research goals (e.g., increasing international research contracts), and through inter-college discussion inter-college discussions, the University can draw upon the experiences of departments and colleges with extensive histories in international research activity to develop support mechanisms for international activities across a broad spectrum of research, scholarly and artistic activities.

Knowledge Transfer and Commercialization

The creation and transfer of knowledge is fundamental to the research, scholarly and artistic goals of the University of Saskatchewan. Works of art are created and displayed; musical works are composed and performed; culturally and socially significant accomplishments in the humanities and social sciences are presented and published in appropriate venues and inform educational practices and social policy-making at various levels and in a range of contexts; and scientific discoveries are broadly disseminated while those in the applied sciences are patented and licensed. These activities make university research, scholarly and artistic activities available to

their respective scholarly communities and respond to wider societal obligations. In this way we can help ensure that creative insights and knowledge benefit Saskatchewan and wider communities culturally, socially and economically. We acknowledge the serious responsibility of the individual academic to make knowledge accessible; we accept the responsibility of the University to support, reward and celebrate this activity through its various processes including promotion and merit recommendations.

In many cases, the University needs to facilitate the transfer of knowledge through the conversion into economic goods and services with legal protection of the intellectual property in ways defined and approved by the academic community. The newly-created Industry Liaison Office (ILO) of the University of Saskatchewan was created to provide a foundation/launching opportunity for breakthrough research and an understanding of business reality in Saskatchewan. This service extends beyond patenting, licensing and spin-off company development and includes development of learning opportunities for faculty regarding processes and procedures. ILO is responsible for the evaluation of the technology; providing assistance to faculty and students in attaining intellectual property protection; assisting in identifying and securing sources of financial support for creating the potentially marketable good; implementing, where appropriate, proof of concept actions; and providing assistance in attaining funding for early and mature stages of commercialization.

Areas of Pre-eminence

The long-term ability of the University of Saskatchewan to establish and maintain itself as a research-intensive institution is dependent on encouraging research, scholarly and artistic activities across a broad range of disciplines and in interdisciplinary and multidisciplinary structures. An appropriate baseline of support is necessary for all academic units to fulfill their diverse mandates within the Integrated Planning framework of priorities and resource allocations. It is recognized that our role as a student-centred, research-intensive university will depend on this broad base of research, teaching, and extension activities, which must be adequately supported. This base, in turn, enables the development of areas of research, scholarly and artistic strength or pre-eminence in which the University has secured or has the potential to establish a national and international reputation. International and national reputations are not built overnight, but the process of creating and sustaining research, scholarly and artistic excellence is both challenging and rewarding.

Identifying areas of research, scholarly and artistic strength or pre-eminence is an activity that many Canadian universities have initiated in response to institutional positioning issues, federal government requirements to develop strategic research plans, and various program review and budgetary exercises. Canadian universities have recognized that identifying areas of research, scholarly and artistic pre-eminence based on demonstrable strengths will lead to greater focus in institutional planning and decision-making. For example, the University of Windsor is “committed to building its research culture by focusing on existing areas of recognized strength, theme areas, and new and emerging areas”. The University of British Columbia, in aspiring to be

“Canada’s best university”, will (among other things) “facilitate the development of research themes that cut across disciplines and existing academic structures”. The University of Calgary has identified four strategic academic priority areas (health and wellness, energy and environment, cultural diversity, and information technologies) in which “to achieve truly outstanding international stature to be among a handful of the very best in the world.” Nested within these four areas are 16 areas of prominence and promise that will be the focus of investments and strategic initiatives, leading to the goal of international recognition within a decade. In 2001, the University of Regina made a commitment to become ‘a leading institution of higher learning in its chosen areas of concentration’: culture and heritage, energy and environment, health, informatics, and social justice. Broad in scope, these research areas are embedded in the commitment shared with the University of Saskatchewan – to serve the people of the province. This shared commitment adds an additional dynamic to discussions at the University of Saskatchewan of increasing research, scholarly and artistic intensiveness.⁶

At the University of Saskatchewan, it is important that we develop a transparent and collegial process to identify and foster research, scholarly and artistic areas of pre-eminence. Certain key indicators that might be used include measurement of productivity inputs and outputs appropriate to particular disciplines and research areas, benchmarking results with comparable national and international institutions, and external reviews where appropriate. Much of this information is contained in the College/Unit Integrated Plans. The Office of the Vice-President Research, working closely with both the Research, Scholarly and Artistic Committee of Council and the Associate/Assistant Deans Research, will take a leading role in developing a standard and clear definition of research, scholarly and artistic pre-eminence and in communicating with the campus community about the process and purpose for identifying areas of pre-eminence. Appropriate discussions are required about the criteria and relative importance of measures of productivity (e.g., published refereed journal articles, books, performances, exhibitions, patents, plant varieties, invited presentations, high quality undergraduates, graduates and postdoctoral fellows from across Canada and also internationally) and other indicators (e.g., reputational rankings or benchmarks). These discussions will provide the context to distinguish between categories of research, scholarly and artistic pre-eminence, perhaps based on ‘current’ and ‘emerging’ strengths. For example, current areas of pre-eminence will have achieved sustained recognition internationally; in these areas, the University of Saskatchewan will be acknowledged as among the world’s leading research universities. Emerging areas of pre-eminence or ‘areas of promise’ may have the potential to achieve or build a leadership position among Canadian research universities within a defined time period. Perhaps a third category of pre-eminence would constitute

⁶ An overview of strategic research plans of Canadian universities (related to the Canadian Research Chairs) is available at: <http://www.chairs.gc.ca/english/research/strategic/index.html>.

Additional details on strategic planning and identification of areas of strengths of the referenced institution may be found at the following sites:

University of Windsor: <http://athena.uwindsor.ca/>

University of British Columbia: <http://www.vision.ubc.ca/index.html>

University of Calgary: http://www.ucalgary.ca/UofC/research/documents/strategic_plan.pdf

University of Regina: <http://www.uregina.ca/presoff/vpresearch/clusters/index.html>

those areas targeted by the University of Saskatchewan for growth and development through complementary or previous strategic planning efforts. Such ‘targeted areas of pre-eminence’ may require significant support and resources to fulfill their promise.

Defining, building, and potentially retiring specific areas of research, scholarly and artistic pre-eminence is an ongoing process. The term pre-eminence must remain a meaningful title and consequently the University will engage in periodic review and assessment of the performance of areas identified within the various categories.

Integrated Planning

In its 2002 planning document *Renewing the Dream*, the University identified four strategic directions to guide decision-making between 2003-2007. In articulating the core principles, priorities and process surrounding scholarly work, this Foundational Document directly addresses the University’s commitment to increase research, scholarly and artistic activities. It provides direction to the Integrated Planning process for the evaluation of college plans and priorities related to scholarly work and outlines mechanisms by which college goals may be realized. The document, however, will also inform decisions related to the other three strategic directions. In recruiting new faculty, we must be cognizant of the contributions that they will make both through their individual research programs and as potential members of a growing concentration. Recruitment activities will also be guided by the balance we seek in our commitment to sustaining and enhancing areas of pre-eminence and ensuring a solid base for all research, scholarly and artistic activities. The Research, Scholarly and Artistic Foundational Document also articulates the link between quality undergraduate student experiences, strong graduate students and research activities. A growth in the size and quality of the University’s research activities provides opportunities to expand the graduate student population and attract outstanding students. As a student-centred, research-intensive institution, the University has an opportunity to develop unique undergraduate experiences which expose students to research, scholarly and artistic activities early in their academic careers. The result of these activities will be a strengthening of the campus culture of research, scholarly and artistic work.

Policy Development and Review

Expectations and commitments to research, scholarly and artistic activities must be incorporated into the policies and processes of the University. Processes established to review programs, units and faculty must value research, scholarly and artistic activities as essential components of university life and provide clear directions for assessment of such activities. For example, through Systematic Program Review (SPR), the University has committed to reviewing undergraduate and graduate programs on a cyclical basis. A systematic, discipline-sensitive approach to reviewing the research, scholarly and artistic activities associated with these programs could possibly be a component of SPR; this might better allow SPR to fully capture all aspects of the teacher-scholar model. Expectations and opportunities for engaging in the campus research, scholarly and artistic activities must be managed; effective communications

and follow-through on planning initiatives will strengthen the process for recruiting new faculty. Research-specific policies at the University of Saskatchewan continually evolve to meet the demands and requirements of internal investigators, the institution, and outside agencies. By reviewing these policies and guidelines on an ongoing basis, the University will be able to provide a strong framework within which research, scholarly and artistic activities can thrive.⁷

The nature of research, scholarly and artistic activities has changed significantly in recent years and the rate of that change increased significantly with the launch of Canada's Innovation Strategy in 2002. More changes are expected; for example, partnerships stretching across disciplines and institutions, and into the greater community (locally, nationally or internationally), are becoming increasingly common and appear to contain the essential characteristics of a new research paradigm in many disciplines. It has been recognized often that such partnerships are the basis for relationships that offer opportunities for unique approaches to research questions and issues. They may also challenge time-honoured conceptions and practices within the University. Current standards of appropriate research, scholarly and artistic practices must be reviewed and evaluated. The University community must articulate a code of ethical conduct that recognizes and respects the diversity of individuals and groups that may be involved in research, scholarly and artistic activities. Intellectual property must be clearly defined and protected within academic structures. Particular attention must be paid to developing clear guidelines for interactions between the academic and wider communities including rural and urban populations, First Nations and northern communities; as well as for inter-university and disciplinary collaborative projects.

Institutional Responsibilities and Operations of the Office of the Vice-President Research

The promotion of a culture of research, scholarly and artistic work at the University of Saskatchewan requires the development of a campus-wide understanding of a commitment to international competitiveness and to the goal of increased research intensiveness. Meaningful change relies on commitment and cooperation filtered through the various layers of the University's governing structures. Department Heads and Deans will play a lead role in implementing the revised Standards of Promotion and Tenure, managing assignment of faculty responsibilities, and reviewing undergraduate programs. The Office of the Provost and Vice-President Academic will be critical in enhancing the undergraduate student experience to take advantage of the research-intensive university environment, and in recognizing the value of teaching and supervising graduate students. In addition, the Provost's Office has the responsibility to ensure that the Foundational Documents continually inform and guide the Integrated Planning process.

⁷ As described under *Strategies for Implementation – Next Steps*, the Office of the Vice-President Research has committed to a cyclical review of policies related to research, scholarly and artistic work. The following areas have been identified as priorities for policy development and revision: Administration of Research Grants and Contracts (Overheads); Intellectual Property; Appointment of Adjuncts and Associates including Post-Doctoral Fellows; Code of Conduct related to research, scholarly and artistic activities; and Research involving Indigenous Communities.

The Office of the Vice-President Research is directly responsible for leadership in research, scholarly and artistic activity, and has a central role in fostering, facilitating, administering, regulating, communicating, celebrating and applying these activities. Some key initiatives are required including:

- Current office processes and structures should be re-focused to respond to the needs of the academic community and the goal of increased research, scholarly and artistic intensiveness;
- Strategic investments of new resources (e.g., the federal indirect costs of research program), and a careful re-allocation of existing resources, should be designed to provide essential support to faculty in the areas of compliance, accountability, grant preparation and administration, grant and contract development, industry liaison, and knowledge transfer;
- A fair and clear research contract overhead policy with benefits to individual faculty members involved in research, scholarly and artistic activities, the originating unit, and the university as a whole must be articulated and consistently applied; and,
- A close service-oriented relationship between Research Services, ILO, and the academic communities must be fostered and maintained.

Given the heavy demands on the Office and growing expectations for the preparation of successful major research grant applications, collaborative research initiatives, and the support and encouragement of an enhanced research culture at the University of Saskatchewan, the operations of the Office of the Vice-President Research must be upgraded at least to the level of comparable (in size and mandate) Canadian universities. For example, it is important to ensure that the SSHRC, CIHR and NSERC communities are each represented at the appropriate level within the research administration (University Coordinators); that there are sufficient personnel for the University to meet federal compliance and monitoring requirements related to grant and contract management and ethics reviews; that, in response to faculty needs, grant development officers are available to provide assistance in seeking funding opportunities and developing grant applications; and, that research communications is able to meet the growing demands to proactively promote University of Saskatchewan scholarly success internally, locally and nationally.

Financial and Resource Requirements

The University of Saskatchewan is currently being challenged to increase funding flowing into the institution to support scholarly activities, and to strategically and systematically re-invest in its research enterprise in order to ensure ongoing growth of the institution. In seeking to increase funding, the University has recognized the necessity of meeting both the direct and indirect costs of creative activities. Recently,

universities and major government and industry funding agencies have increasingly acknowledged the indirect costs associated with research and scholarly activities. In response, all parties are beginning to develop programs to formally address these previously ignored costs. For example, the University of Saskatchewan is in the process of re-examining its policies and practices on contract overhead – the collection, management, and distribution of these funds must be tailored to support the research enterprise and the needs of the research community. A major new initiative, the federal government Indirect Costs of Research Program, was designed to assist institutions in meeting the escalating financial burden associated with active research programs in five broad areas (world-class facilities, resources, strategic management, regulatory and compliance issues, and knowledge transfer). This program is directly linked to success in Tri-Council competitions, which is also used in other ways to determine funding levels; for example, the Saskatchewan Universities Funding Mechanism (SUFM) incorporates a Tri-council funding component in the formula used to determine the University of Saskatchewan Operating grant.

Together with the Canada Foundation for Innovation Operating Fund, sponsored research contract overheads, and a growing provincial recognition of need to provide for the indirect costs of research, these new resources are available to support a wide range of research initiatives – including the support required by faculty within the University environment to pursue certain types of funding and to accomplish the goal of increasing research intensiveness. All of these programs, and others, when coupled with the recognition that the operating funds for large capital equipment and facilities cannot be supported wholly by traditional university revenues, suggest that greater energy and creativity will be necessary to maintain and enhance the fiscal side of the research, scholarly and artistic work equation. As well as increasing sources and amounts of external funding, the University must address strategies for managing its research, scholarly and artistic enterprise. In a climate of scarce and targeted and ‘envelope funding’, the University must develop processes to ensure that allocations are made strategically; the benefits of investment are monitored and carefully weighed against the many other priorities on campus. This will require a considered, carefully balanced approach to resource distribution. The University will continue to invest in the services, facilities and infrastructure essential to sustain the broad range of creative activities integral to a research intensive institution. As a collegial community, however, we must be prepared to see strategic allocations made in areas identified as institutional priorities. Selection of these areas must be linked to the University’s *Strategic Directions*; department, college and centre priorities identified through the Integrated Planning process; and the current, emerging and targeted areas of research, scholarly and artistic pre-eminence. The Office of the Vice-President Research, working with the appropriate governance and decision-making entities, will play a central role in initiating campus discussions and managing the decisions related to the funding of the University’s research, scholarly and artistic activities.

SECTION III. STRATEGIES FOR IMPLEMENTATION – NEXT STEPS

A goal of the University of Saskatchewan is to become one of the top ten research universities in Canada in the next decade by increasing the intensiveness of research, scholarly and artistic activities. Ambitious and exciting, this goal should serve to stimulate the intellectual capacity of the institution and its various stakeholders to develop specific targets and implement the appropriate methods to reach them. We need to answer this question: *What are the most effective ways in which the University of Saskatchewan can use the available financial and human resources to increase the intensiveness of research, scholarly and artistic activities?* Obviously, there is no simple answer to this question; instead, a collegial and consultative process is needed to allow full discussion and consensus to emerge. The Office of the Vice-President Research, working closely with the Research, Scholarly and Artistic Committee of Council and the Associate/Assistant Deans (Research) will implement such a process and ensure appropriate venues of engagement are available to all stakeholders.

The May 2003 Workshop sponsored by the Research, Scholarly & Artistic Work and the Planning Committees of Council initiated the process of identifying strategies to support a strong University of Saskatchewan culture of research, scholarly and artistic excellence (see Appendix IV). Three areas were identified, in which an investment by the campus community would have an immediate and significant impact on the intensity of research, scholarly and artistic activities:

- Increase graduate student and post-doctoral support and funding;
- Improve support for grant preparation and management; and
- Develop strategies to balance faculty workloads (acknowledge and manage teaching, scholarly and administrative responsibilities).

The dialogue launched at the workshop and the items identified for action, provide a starting point to develop an implementation strategy for the *Research, Scholarly and Artistic Foundational Document*. Discussion in the near future will provide further opportunities to modify and refocus efforts to intensify research, scholarly and artistic activities on campus. The following are suggested as important next steps:

1. Enhance the research, scholarly and artistic culture at the University of Saskatchewan

Developing and nurturing a research, scholarly and artistic culture on campus requires a commitment by all members of the University community. Faculty, support staff, research personnel, administrators, and students all contribute to the ways in which the University community creates a positive climate in which creative activities are supported, promoted and celebrated. Ensuring that quality research, scholarly and artistic activities form part of the backdrop for University processes and decision-

making will require initial vigilance and in some instances a re-alignment of thinking. Efforts to enhance the research, scholarly and artistic culture will include:

Implementing the University Standards for Promotion and Tenure – In February 2002, the University adopted new standards for promotion and tenure. These standards emphasize an expectation that all members of faculty maintain active research programs. Department and College committees are specifically challenged to evaluate the impact of faculty members' creative work on the discipline; peer-reviewed publication and/or performance have been established as the "primary and essential evidence" of a successful research program. Realizing these new standards in Department and College Committees will take time and effort. It will require specific action to release new faculty from major administrative and teaching responsibilities to allow them to develop vibrant research, scholarly and artistic programs. It also encourages individual members of faculty to maintain active programs and to seek external funding to support their activities.

Balancing faculty workload and responsibilities – Members of faculty have consistently identified time as one of the major obstacles to building and maintaining a program of research, scholarly or artistic work. Recognizing that the University must fulfill basic commitments in teaching (graduate and undergraduate), public service, and administration, the campus community must explore options to ensure that research, scholarly and artistic activities are fully integrated into faculty life. As department and college offices are responsible for the assignment of duties, these units, supported by responsive administrative structures, must take a lead role in securing time for faculty to apply for funding, engage in research, scholarly and artistic activities and disseminate the results of such work. Departments and colleges are encouraged to:

- Capitalize on feedback provided through Systematic Program Review to evaluate undergraduate and graduate programs and with the goal of enhancing student exposure to, and experience with, the research, scholarly and artistic activities of the university. Efforts in this area will be guided, in part, by recognition of accreditation demands and the discipline-specific role of teaching.
- Consider differential assignment of duties to capitalize on the varying strengths of members of their department and to ensure all faculty have the time to establish an active research, scholarly or artistic program.
- Participate in University-wide initiatives to increase the number of quality graduate students and explore opportunities to integrate graduate student and faculty research, scholarly and artistic endeavours. Many departments have large, well-established graduate programs in which the research work of the faculty supervisor and student are closely entwined. In other areas, departments and research centers and other units, assisted by the College of Graduate Studies and Research and the Office of the Vice-President Research, will wish to explore opportunities to develop graduate programs that will enhance faculty research. At the same time, discipline-

specific traditions regarding the relative independence of faculty and graduate student work, will be respected.

Promoting formal and informal mentoring and support systems for faculty, students and research personnel – Research, scholarly and artistic activities thrive in a climate in which a community of scholars interact and provide support and encouragement to each other. Such interactions could be made available more systematically through an extensive mentoring program in which in-coming faculty are matched with an established member of the university; the mentor would provide advice on matters such as developing grant proposals; balancing administrative, teaching and research responsibilities; making effective use of research support personnel and graduate student researchers; etc. Personnel in departments, colleges and central administration need to cooperate to ensure that all faculty have access to such support and that efforts in the various units are not being duplicated.

Establishing a policy framework to support research, scholarly and artistic activities – The University of Saskatchewan has over twenty-five policies and procedures guiding research, scholarly and artistic activities. The Office of the Vice-President Research has committed to ensuring that these documents are reviewed and revised periodically. In addition, the Research, Scholarly and Artistic Committee of Council will continue to provide input regarding areas in which University policies are thought to be in need of attention. It is anticipated that over the course of an Integrated Planning cycle, all policies and procedures will be reviewed and, as required, revised. The Office of the Vice-President Research has identified the following policies for immediate review and priority action:

- Administration of Research Grants and Contracts (Overheads);
- Intellectual Property – the University currently does not have a stand alone policy in this area;
- Appointment of Adjuncts and Associates including Post-Doctoral Fellows
- Code of Conduct related to Research, Scholarly and Artistic Activities
- Research involving Indigenous Communities

2. Strategic Investments in Research Administration, Communications and Knowledge Transfer Activities

Efforts to increase the intensity of research, scholarly and artistic performance across campus must be supported by key investments in administration, communications and knowledge transfer activities. New resources provided to the university (principally through the indirect costs of research program) must be wisely invested in line with other initiatives to support world-class research facilities and personnel, strategic management and effective administration, fulfillment of regulatory and accreditation

requirements, and effective management of intellectual property. For example, we simply must respond to the need to train faculty and review teams in animal care, ethics review, hazardous materials, and in meeting international standards that govern ethical treatment of humans and animals in research. Additionally, we need to provide proactive and high-level administrative support to the development of grant proposals. A renewed commitment is necessary to provide the academic community with support to facilitate researchers' interactions with granting agencies, identify relevant funding opportunities, disseminate key information and coordinate quality proposal development. A reorganization of administrative personnel, research communications, and the new ILO, are predicated on the responsibility to improve the institution's ability to communicate the results and significance of research; to support the commercialization of knowledge for the benefit of Canadians; to be able to provide an adequate foundation for technology transfer, research infrastructure and research administration. Targeted programs should be developed aimed at encouraging faculty participation and success in Tri-Council funding competitions, interdisciplinary, multidisciplinary and collaborative projects, and to provide release-time for researchers. Such programs require some thought and input from the user community to ensure maximum effectiveness (the newly introduced Proposal Development Awards Program is a good example of a user-defined and local use of resources).

But administrative support is not enough; it must be coupled with strong strategic management and research leadership. We need to ensure that the academic community has access to a knowledgeable advocate and supporting system designed to help increase the number and quality of successful Tri-council awards. Coordinators – who are academics with experience in research and with granting council success – are required to cover the NSERC and SSHRC domains, and to complement the existing University Coordinator for Health Research (principally responsible for CIHR). A full-time Associate Vice-President (Research) is necessary to provide administrative leadership and support to the academic community related to research, scholarly and artistic activities. A dynamic Research Communications Office is an essential component in sustaining the U of S as a research-intensive institution. Effective communications are required to celebrate successes of the University and help build a strong reputation among potential students and faculty, attract government and industry support for research, and maintain an open and accountable relationship with the people of the province. Publicizing of research activities and achievements at the University of Saskatchewan has long been critically under-funded relative to the vigorous research, scholarly and artistic communities' activities. This situation must change!

3. Develop appropriate and discipline-sensitive measures for research, scholarly and artistic work, and establish processes to monitor performance

To implement effective strategies to increase the intensiveness of research, scholarly and artistic activities, we must recognize the diverse and unique ways in which such activities are pursued across campus. Expectations regarding support to, and dissemination of work, in the humanities, for example, differs tremendously from those experienced by researchers in applied sciences. As a community, the University must

decide upon a suite of indicators that will capture the diversity of our creative endeavours and provide opportunities to monitor and annually assess strategies designed to increase the intensiveness of these activities. In the summer of 2002, the Office of the Vice-President Research began a dialogue with colleges to identify appropriate indicators for research, scholarly and artistic activities. Colleges were asked to indicate which of 26 indicators were relevant and significant to their disciplines. (The indicators are listed in Appendix III: Indicators of Research, Scholarly and Artistic Performance). This preliminary information could provide a basis for further discussions. In the upcoming year, the Office of the Vice-President Research, in consultation with the Research, Scholarly and Artistic Committee of Council and the Associate/Assistant Deans Research, will develop an appropriate set of indicators for research, scholarly and artistic activities on campus. From this basis, the campus community will be able to commit to a realistic and attainable plan of action for intensifying research, scholarly and artistic activities.

4. Identify areas of research, scholarly and artistic pre-eminence

Through the creation and approval of this Foundational Document, the University of Saskatchewan has recognized the importance of identifying areas of research, scholarly and artistic pre-eminence. This dynamic activity will be closely linked to the Integrated Planning process and will afford the University ongoing opportunities to identify and review current and emerging areas of pre-eminence, and possibly developing ‘targeted areas of pre-eminence’. The Office of the Vice-President Research, working closely with the Research, Scholarly and Artistic Committee of Council and the Associate/Assistant Deans Research, will take the lead in establishing and completing a transparent and collegial process for measurement and identification of areas of pre-eminence. The effort of identifying appropriate and discipline-sensitive measures of research, scholarly and artistic activity will form an input to this process. Select indicators of productivity will be prioritized and supplemented by benchmarking and reputational ranking information. Clearly, agreed-upon targets, such as increasing the number of graduate students to a certain level above current numbers, must be based on research measures that the participants (e.g., specific disciplines) recognize are appropriate to its circumstances but we must also acknowledge indicators used nationally to rank institutions (e.g., Tri-council funding per eligible faculty member) and still others which may be a part of other priority initiatives (e.g., auditing by the federal indirect costs program).

An iterative process is necessary. The first round of identifying areas of research, scholarly and artistic pre-eminence will begin immediately following approval of the Foundational Document. Decisions on areas of research, scholarly and artistic pre-eminence will be shared throughout the campus community, incorporated into the University’s research communications strategy, and used to inform resource allocations associated with the Integrated Planning process.

5. A comprehensive research, scholarly and artistic work plan

This Foundational Document has addressed many of the important underlying concepts in research, scholarly and artistic work. We began by suggesting that a comprehensive strategic plan for research, scholarly and artistic work at the University of Saskatchewan must be based on an understanding of the core principles, priorities and processes within which institutional goals – to establish the University of Saskatchewan as one of Canada’s top ten medical/doctoral universities and one of a select few internationally in key areas over the next decade – will be achieved and which recognize the particular circumstances in which the institution exists. The Foundational Document, while it contains an outline in broad detail, is not in itself this comprehensive plan. Much more work is required to move forward, involving all faculty and governance structures.

Some of this discussion will be appropriately considered part of the Integrated Plan for the Office of the Vice-President Research, but the issues are clearly shared with the Colleges and research units and reach far into the academic domain touching on virtually everything we do and believe as an academic community. For example, once we have identified key areas of strength and growth with appropriate measures, we need to identify an appropriate set of annual as well as longer-term targets. More importantly, such targets and the programs to help achieve them must be linked to the removal of obstacles hindering full participation in the research agenda. We must have credible, evidence-based information systems capable of tracking and monitoring progress in achieving targets of research, scholarly and artistic work. And finally, it is critical that we develop effective management and reward systems to encourage success in all aspects of university duties and responsibilities. It is hard to overestimate the importance to the academic community of their individual teaching and research contributions; it is therefore vital that the University of Saskatchewan deliver on the promise of an educational environment in which these contributions are recognized and supported to the fullest extent possible.

Appendix I: Consultation and Approval Process

Drafting Committee

The Research, Scholarly and Artistic Work Foundational Document is the product of the efforts and contributions of many individuals across campus. Initial drafts of the document were prepared by Bryan Harvey (Acting Vice-President Research) and Ken Coates (Acting Provost and Vice-President Research). The Research, Scholarly and Artistic Work Committee and the Associate/Assistant Deans Research Forum, as well as the campus community as a whole, reviewed a number of drafts and provided essential direction and feedback. The final drafts of the document were written by Steven Franklin (Vice-President Research) and Laura Zink working in close collaboration with the Drafting Committee.

Members of the Drafting Committee for the Research, Scholarly and Artistic Work Foundational Document are:

Karen Chad, Kinesiology, Chair of the Research, Scholarly and Artistic Work Committee
Steven Franklin, Vice-President Research
Hartley Furtan, Agriculture, representing the Planning Committee
Kamiel Gabriel, Engineering, representing the Research, Scholarly and Artistic Work Committee
Bryan Harvey, University Coordinator of Agricultural Research
Pauline Melis, Director of Institutional Planning
Lou Qualtierre, Medicine, Chair of the Planning Committee
Maureen Reed, Geography
Norma Stewart, Nursing
Laura Zink, Office of the Vice-President Research

Development Process

1. Framework for Planning

In the 1998 Framework for Planning, the University community identified “intensifying research activity” as one of its central goals. The document stated that though research strengths exist in some areas, many parts of the University cannot currently be described as research intensive. The University community was challenged to examine its expectations, and support structures related to the pursuit of research, scholarly and artistic work.

2. Symposium: Building Research Success at the University of Saskatchewan

In January 2000, the Research Committee of Council (forerunner of the Research, Scholarly and Artistic Work Committee of Council) and the Office of the Vice-President Research sponsored a two day symposium *Building Research Success at the University of Saskatchewan*. Attended by over 240 faculty, administrative staff and

students, the workshop provided a venue to explore issues surrounding research, scholarly and artistic work on campus, and to develop an action plan for increasing scholarly activity. A discussion paper entitled *Increasing Research Intensiveness at the University of Saskatchewan* was circulated to symposium participants.

3. Increasing Research Intensiveness at the University of Saskatchewan

Following the January symposium, the Research Committee of Council identified priorities necessary to enhance research, scholarly and artistic intensiveness and outlined strategies for the achievement of these priorities. The document *Increasing Research Intensiveness at the University of Saskatchewan* was approved by Council 15 June 2000.

4. Survey of the Campus Community

In early February/March 2002, as a preliminary step in developing a comprehensive research, scholarly and artistic plan for the University, the Office of the Vice-President Research conducted a survey of academic units. Colleges were asked to identify the kinds of scholarly work in which they were engaged including areas of collaboration and to indicate how best activity in their area could be measured. The Office received responses from all colleges. A summary of responses related to indicators of research, scholarly and artistic work is found in Appendix III.

5. Research, Scholarly and Artistic Work Foundational Document Workshop

On 13 May 2003, the Research, Scholarly and Artistic Work and the Planning Committees of Council jointly sponsored an all-day workshop on the Foundational Document. A wide range of faculty, including both established and new researchers, Council Committees and senior administration attended the workshop. Small group discussions throughout the day allowed participants an opportunity to critique in depth the April draft of the Foundational Document and to engage in a priority setting exercise by which programs and initiatives to increase research, scholarly and artistic intensiveness were identified and ranked.

6. University of Saskatchewan SSHRC Research Plan

In late 2002 and early 2003, Tom Wishart (Dean of Graduate Studies and Associate Vice-President Research) initiated a dialogue with members of the campus Humanities and Social Sciences disciplines regarding barriers hindering faculty in these disciplines from applying for SSHRC funding. The final report identified 16 strategies for improving SSHRC competition success. The report was reviewed by the Research, Scholarly and Artistic Work Committee of Council and forwarded to the Vice-President Research. Elements of the SSHRC Research Plan have informed development of the Research, Scholarly and Artistic Work Foundational Document.

Document Preparation

An initial draft of the Research, Scholarly and Artistic Work Foundational Document was provided to the Research, Scholarly and Artistic Work Committee of Council and the Associate/Assistant Deans Research Forum in November 2002. A second draft was prepared in January 2003 incorporating the suggestions from these bodies. This version was distributed widely throughout the University community; it was posted on the University website and discussed at a Town Hall Meeting in Place Riel Theatre on 23 January 2003. Simultaneously, the January draft was circulated to the following Council Committees: Planning, Academic Programs, Audio-Visual, Budget, Bylaws, Capital Planning, Extension and Public Service, Information Technology, Instructional Development, International Activities, Library, and Scholarships and Awards.

In response to feedback received at these various forums, the Research, Scholarly and Artistic Work Foundational document was extensively revised and re-presented to the campus community in April 2003; again the document was posted on the University website and circulated to various Council Committees. In May, the Research, Scholarly and Artistic Work and the Planning Committees jointly sponsored a workshop to provide an opportunity for focused and detailed feedback on the April Draft. Workshop participants provided a number of suggestions for improving the document. Throughout the summer and early fall, the Drafting Committee incorporated these suggestions into the Foundational document. The result is a significantly re-worked draft which was presented to the Research, Scholarly and Artistic Work Committee in early October 2003. The Research, Scholarly and Artistic Work Committee is now forwarding the October draft of the document to the Council committees and the broader University community for comment. The document will be posted on the University website and presented to the campus community at a Town Hall session in November. It is anticipated that the Research, Scholarly and Artistic Work Foundational Document will be discussed by Council at its December 2003 meeting and approved at the meeting of January 2004.

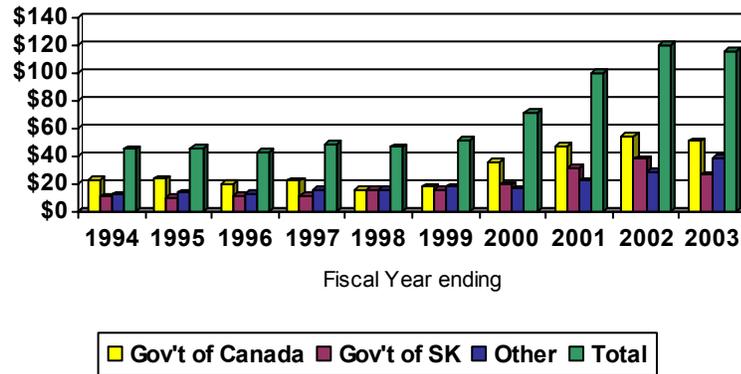
Appendix II: Overview of Revenue Supporting University Research, Scholarly and Artistic Activities

In the upcoming year the University community will engage in discussions of how best to measure change in the intensity of our research, scholarly and artistic activities. Appropriate measures will vary from discipline to discipline and will attempt to capture both inputs to support and, perhaps more importantly, the results of creative activities. As a nationally and internationally recognized measure, research revenue will be included as a partial (though imperfect) indicator of the institution’s health in this area.

An overview of the University’s research revenue is provided below.

Total Research Income

Figure 1: University of Saskatchewan Research Income 1998-2003 (in millions)



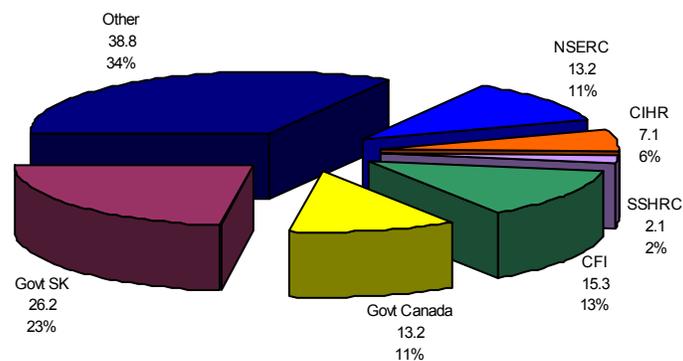
The University of Saskatchewan has had a significant increase in total sponsored research income in the last few years. Between 2000 and 2002, the University’s research funding increased from \$71.1 (2000) to \$100.5 (in 2001) to peak at \$120.5 million in 2002. According to the most recent report from Re\$earch Infosource Inc., this increase was sufficient to move the institution from 15th to 12th in the 2002 list of Canada’s Top 50 Research Universities and garnered the U of S a place in the \$100 Million Dollar Club. The fourteen universities in this group account for 82% of research funding received by the top 50 research universities. Perhaps more significantly, however, the U of S realized a 41% increase in research funding between 2000 and 2001; the average growth in medical/doctoral universities during this time was 25.2%. The \$29.4 million increase in U of S research largely results from funding for the Canadian Light Source (\$23 million in 2001). Provincial support, particularly in the area of matching funding, was the largest growth area; the Saskatchewan government contributed \$12.67 million or 67% more to the U of S research in 2001. The significant growth in total research income from 2000 to 2001 reflects national trends. Ranked 10th in terms of research income growth by Re\$earch Infosource Inc., the University of Saskatchewan joins nine other smaller institutions at the top of this

category. Similarly, smaller provinces outperformed their larger counterparts in terms of income growth in 2001: total research income grew 40.1% in Saskatchewan’s two universities as compared to the provincial average increase of 22.7%.

Research Revenue by Source

As illustrated by the below figure, federal and provincial funding account for a significant portion of the University’s research revenue; federal funding (including NSERC, CIHR, SSHRC, CFI and other grants and contracts) accounts for 43% and provincial funding 23% of total revenues. The undifferentiated “Other” category includes contracts and agreements with industry and non-government organizations. These broad categories highlight current practices and future potential for the University to support its research, scholarly and artistic activities.

**Figure 2: Research Revenue by Source
2002-2003**



Appendix III. Indicators of Research, Scholarly and Artistic Performance

In the summer of 2002, the Office of the Vice-President Research initiated a dialogue with the University community intended, in part, to begin identifying discipline-specific indicators of research, scholarly and artistic performance. A list of twenty-six indicators, similar to ones adopted by the University of Alberta, was distributed to all Colleges. Deans were asked to highlight indicators relevant to their college's creative activities. In a few instances, respondents also provided suggestions for modifications to the list of indicators of research, scholarly and artistic performance. College approaches to the exercise varied. Some units engaged all members of faculty in the discussion; others relied upon existing administrative structures such as department head forums or college executives to identify indicators most capable of capturing research, scholarly and artistic work in their college or division.

The 2002 exercise provides a useful departure point for future University discussions aimed at developing appropriate and discipline-sensitive indicators for research, scholarly and artistic performance. The following chart in no way implies that different disciplines would necessarily share views of how the list would be prioritized, or even of what the list would include. Further discussions will allow colleges and divisions to refine indicators; select indicators that capture the range of their creative activities; and develop ways of utilizing measures to create programs and services that will support the intensification of research, scholarly and research activities.

Indicators
Average grant size in discipline relative to national average
Awards of recognition
Book publication - authorship
Book publication - editing
Career paths of graduate students and PDF's
Case books, treatises, cited articles and case comments
Contribution to service facilities, community organizations, public debt
Exhibitions (solo or group) [artists]
Expert consultations
Extramural salary awards
Impact of research (clinical or other) on patient care
Impact of research on business or government policy
Impact of research on educational policy, practice or curriculum
Impact of research on legislative reform and judicial decisions
Invited presentations at national & international meetings
National and international research collaborations
Participation on National Review Committees, etc
Patents & Licenses held
Per cent faculty members funded by granting councils
Per cent graduate students receiving major scholarships
Performance (solo) or premiere/performance of composition [musician]
(Research Grants + Contracts) + Operating Budget
Refereed journal publications or equivalent

Reprint, translation, or performance by others of published work
Technical reports
Theatrical, film, TV performance [drama]

Appendix IV: Implementation Issues, Possibilities and Opportunities

This document describes a variety of challenges and opportunities at the University of Saskatchewan and formed the basis of discussion at the May 2003 Research, Scholarly and Artistic Workshop. There, and throughout the early consultation process, members of the University community have brought forward many ideas for improving and transforming the research, scholarly and artistic environment on campus. These suggestions, which range from initiatives designed to enhance the culture of intellectual exchange to practical questions about the availability of basic infrastructure, should be considered, debated and, where appropriate, included in College or administrative unit plans.

Responsibilities and Expectations of Faculty Members:

- Engage in research, scholarly and/or artistic work on a consistent basis;
- Endeavour to bring the results of their research, scholarly and artistic activity to the classroom;
- Where possible and appropriate:
 - Participate in the supervision of graduate students;
 - Regularly seek funding, particularly Tri-Council funding, to support their research, scholarly and artistic endeavours;
 - Seek ways to maximize the impact of their activity by focusing on areas that complement and enhance the work of colleagues (i.e. develop broad and recognizable areas of research strength);
 - Participate in collaborative research projects within the University of Saskatchewan and beyond;
- Participate in University programs and initiatives aimed at developing a culture of research engagement and intellectual curiosity;
- Participate and assist in the development of strategies to ensure that such activities are integrated into the work life of faculty members in a sustainable and supportive fashion.

University-Level Initiatives and Obligations (Academic administration and appropriate collegial bodies):

- Identify core areas in which a comprehensive, medical-doctoral university must have a solid research base;
- Identify areas of pre-eminence, which represent more focused fields of inquiry where the University has an established reputation at the national and international level;

- Identify, on a College by College basis, other areas that, within College planning processes, have been identified as being areas of primary development in research, scholarly and artistic work;
- Create additional high-quality space for research, scholarly and artistic activity to enhance the research experience and capabilities of faculty, research personnel and students.
- Review curricula and teaching assignments to ensure faculty and graduate students have time to devote to research, scholarly or artistic work. This analysis must be done in light of Systematic Program Review reports;
- Develop procedures and mechanisms which encourage the promotion of research clusters across the University – within and between departments, colleges and research centres - and with external organizations provincially, nationally and internationally;
- Ensure that there is a comprehensive implementation of the teacher-scholar model;
- Ensure that the revised University Standards, which clearly indicate the expectation that all faculty members will establish and maintain a program of research, scholarly and artistic work, are appropriately applied;
- Ensure that appropriate academic and professional credit is given for collaborative work, international engagements, community-based research, work involving indigenous communities and other commitments which add complexity to the research, scholarly and artistic enterprise;
- Ensure that workload development recognizes the time required for research, scholarly and artistic work including the training of graduate students and the conduct of administrative duties related to these activities;
- Develop and implement a plan for expanded training of highly qualified personnel, including an expansion of postdoctoral training and increased graduate student enrolment, consistent with the University's Enrolment Plan and with the institutional commitment to identified fields;
- Develop a plan to engage and encourage undergraduate students to become involved in the research realms;
- Develop a plan to encourage the mentoring of post doctoral fellows;
- Develop a plan for the encouragement of workshops and conferences to be held in Saskatchewan, with a view to providing particular support to those initiatives

which support the University's academic priorities and identified areas of pre-eminence;

- Develop a mechanism to measure the quality and quantity of research, scholarly and artistic work. This mechanism must take into account the University's diverse disciplines;
- Develop and maintain an open and transparent process for identifying areas of pre-eminence;
- Ensure that the integrated planning process pays systematic attention to the drive for improved research performance, and ensure that subsequent resource allocations take current and anticipated research performance into account;
- Ensure that the analysis of College Plans and the allocation of resources to the Colleges through integrated planning are consistent with the University's commitment to expanded research, scholarly and artistic activity;
- Establish and implement systems of reward and recognition for individuals and units who engage fully in the research, scholarly and artistic culture of the University. This means, in particular, that resources are to be preferentially allocated to areas demonstrating success relative to discipline-specific measures of research, scholarly and artistic performance.

Possibilities for Enhanced Activities within the Office of the Vice-President Research:

- Promote a research, scholarly and artistic work culture on campus;
- Expand internal and external communications activity;
- Ensure that, throughout the faculty recruitment process, the research, scholarly and artistic agenda is at the forefront of both Departmental planning and candidates' assessments of the University of Saskatchewan;
- Establish and maintain a data base of research, scholarly and artistic activities and expertise at the university;
- Establish and maintain an up-to-date list of research opportunities and funding sources either directly or through website linkages;
- Establish and maintain an up-to-date list of policy documents, accessible-on-the-web, relating to research, scholarly or artistic activity;
- Actively initiate and promote nominations for national and international research, scholarly and artistic awards;

- Establish and allocate funding to support the development of major research grant proposals;
- Establish and allocate funding to support major proposals which require institutional commitment;
- Expand, through the enhanced operations of University of Saskatchewan International, activity in the area of cooperative research opportunities with governments, international organizations, development agencies and the private sector;
- Develop Early Career programs to ensure that new faculty are launched into successful professional careers;
- Develop Mid-Career programs to provide faculty and staff with support in their efforts to shift research, scholarly and artistic directions;
- Develop Career Re-Start programs to provide faculty and staff with support to re-engage with their research, scholarly or artistic work;
- Identify a process for the meaningful engagement of Professors Emerita/us in the research, scholarly and artistic life of the University, perhaps through the creation of a small number of distinguished chairs, providing support services, space and other assistance;
- Maintain and expand services provided in support of research, scholarly and artistic activity and, specifically, grant preparation and accountability;
- Ensure University compliance with regulatory requirements, including those established by the Tri-Councils and provincial and federal departments;
- Coordinate, manage and encourage additional contract research activity;
- Expand significantly the knowledge transfer and commercialization activities of the University, with particular emphasis on the support of projects that enhance research, scholarly and artistic work on campus.

Space and Infrastructure Requirements:

- Review current and planned requirements for space and infrastructure required to support current and anticipated levels of research, scholarly and artistic activity.
- Consider establishing a competitive system for the allocation of additional research facilities and should consider requiring matching contributions from

research groups, departments, Colleges or external agencies when determining space allotments.

- Review and expand the space available for graduate students, in order to support the planned expansion in graduate enrollment.
- Monitor regulatory requirements and ensure that researchers and research activities remain in compliance with provincial and national regulations.
- Maintain a commitment to the Library, backbone computing and Internet facilities, and related general infrastructure – facilities that are not tied to a specific research group.

Support Personnel:

- As part of the assessment of College plans, examine the question of the technical assistant provided to research, scholarly and artistic groups and departments.
- Examine the distribution of administrative assistance at the unit, Department and College levels to both support RSA activity and to satisfy accountability and regulatory requirements.
- As part of its ongoing negotiations with campus unions, review job classifications, salary scales and selection procedures to ensure that researchers and research groups can attract and retain high quality research staff.
- Recognize the contributions of support staff and encourage them to have a sense of pride and ownership of our excellence in these activities;
- Ensure training opportunities and reward mechanisms for support staff.

Financial Resources in Support of Research, Scholarly and Artistic Work:

- Allocate financial and administrative support in aid the researchers preparing grant applications
- Develop specific support for the publicizing of research, scholarly and artistic work.
- Provide financial support to Colleges and Departments to adjust the work load of new faculty members and, potentially, faculty members in selected areas where current work loads are demonstrably high compared to Canadian university norms.

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- Enhance the funding available for graduate student teaching assistants, with a view to creating more time for faculty research.
 - Enhance the funding available for graduate student research assistants, to support faculty research activities.
 - Expand the current funding for start-up grants for new faculty members in a manner consistent with the demands of the member's discipline.
 - Investigate the establishment of a fund for re-start grants for faculty members whose research program has slowed or stalled.
 - Expand the funding available to support faculty publications.
 - Enhance the funding available for faculty members organizing conferences and workshops, particularly those working in areas of institutional pre-eminence or commitment.