

**UNIVERSITY COUNCIL
RESEARCH, SCHOLARLY, AND ARTISTIC WORK COMMITTEE
FOR INFORMATION ONLY**

PRESENTED BY: Paul Jones; Chair, Research, Scholarly, and Artistic Work Committee

DATE OF MEETING: June 22, 2017

SUBJECT: Research, Scholarly, and Artistic Work Committee Annual Report

COUNCIL ACTION: For information only

**ANNUAL REPORT OF THE RESEARCH, SCHOLARLY, AND ARTISTIC
WORK COMMITTEE OF COUNCIL
2016-17**

Terms of Reference

1. Recommending to Council on issues and strategies to support research, scholarly and artistic work.
2. Recommending to Council on policies and issues relating to research integrity and ethics in the conduct of research, scholarly and artistic work.
3. Recommending to Council and providing advice to the Vice-President Research on community engagement and knowledge translation activities related to research, scholarly and artistic work.
4. Providing advice to the Vice-President Research and reporting to Council on issues relating to the granting agencies which provide funding to the University.
5. Providing advice to the Vice-President Research, the Vice-Provost Teaching and Learning, and Dean of Graduate Studies and Research on the contributions of undergraduate and graduate students and post-doctoral fellows to the research activity of the University.
6. Examining proposals for the establishment of any institute or centre engaged in research, scholarly or artistic work at the University and providing advice to the Planning and Priorities Committee of Council.
7. Receiving annual reports from the Vice-President Research and the Dean of Graduate Studies and Research.
8. Receiving and reporting to Council the University's research ethics boards' annual reports.

9. Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

Committee Membership of 2016/17

Council Members

| | | |
|-------------|--------------------------------------|------|
| Paul Jones | SENS | 2019 |
| John Gordon | Medicine | 2018 |
| Bob Tyler | Associate Dean Research, Agriculture | 2019 |

General Academic Assembly Members

| | | |
|---------------------|--------------------------------------|------|
| Hector Caruncho | Pharmacy | 2018 |
| Garry Gable | Music | 2018 |
| Virginia Wilson | Library | 2018 |
| David Burgess | Associate Dean, College of Education | 2019 |
| Lorraine Holtlander | Nursing | 2017 |
| Julita Vassileva | Computer Science | 2019 |

Other members

| | | |
|-------------------------------|--|-------------------|
| Karen Chad | Vice-President Research (<i>ex officio</i>) | |
| Adam Baxter-Jones | Acting Dean of Graduate and Postdoctoral Studies (<i>ex officio</i>) | |
| Brooke Malinoski/Jessica Quan | [USSU designate] | VP Academic, USSU |
| Ali Kiani | [GSA designate] | VP Academic, GSA |

Resource members

| | |
|----------------------------|--|
| Laura Zink | Special Projects and Operations, Office of the Vice-President Research |
| Kevin Schneider | Interim Associate Vice-President, Research |
| Charlene Sorensen/Ken Ladd | University Library |

Administrative support

Amanda Storey, Office of the University Secretary

The Research, Scholarly, and Artistic Work (RSAW) committee met 13 times during the 2016/17 year and addressed many issues related to research, scholarly and artistic work at the University of Saskatchewan.

In 2016/17, the RSAW committee provided input on changes to two ICT policies – the IT Security Policy and the Data Management Policy. The committee appreciated the work being done to strengthen the U of S’s policies related to security and data management and to ensure that the Universities suite of IT policies are well aligned.

At its November 15 meeting, the RSAW committee had the opportunity to provide comments on the Respiratory Research Centre, which had been reviewed by the Centres Subcommittee. The committee supported the development of this centre and recognized that it would help to consolidate leadership in respiratory research at the U of S.

During the year, RSAW had the opportunity to meet with Maurice Moloney of the Global Institute for Food Security and Howard Wheeler of the Global Institute for Water Security to discuss the development of the proposals for the CFREF program as well as the management structure, and the objectives of the institutes. RSAW expressed their

the management structure, and the objectives of the institutes. RSAW expressed their hope that the success of these two CFREF applications can be replicated in the future and were very interested to hear about the work that went into developing the proposals.

A main topic of investigation for the RSAW committee in 2016/17 was a discussion of Artistic Discovery at the U of S and the challenges faced by fine arts researchers in the tri-council funding framework. Dr. Gable worked closely with the OVPR, (Karen Chad and Tonya Wirchenko) to develop a methodology for this investigation. Discussions have been held with specialists and department heads in the humanities, and especially in the Fine Arts, to identify pressure points relating to research, scholarly and artistic works support in the fine arts. As a part of the investigation into artistic discovery at the U of S, the committee met with representatives of the Delta Dialogue Network about how fine arts such as art and drama are being used to facilitate discussions of the health of three Canadian river systems and their deltas between researchers and inhabitants of the delta regions. Issues of recognition for interdisciplinary work both for the scientific researchers and the artists involved was raised during the committee's conversations. More important issues of how recognition of RSAW in the Fine and Performing Arts, especially as regards how much of ongoing RSAW in these areas does not fall within the called-for Tri-Council alignments, are potentially quite harmful to these areas for both current and future planning of RSAW and delivery of curriculum programming. In 2017/18 RSAW will continue its work on research, scholarly, and artistic works funding for fine arts disciplines on the assumption that this study will overlap several planning cycles.

The RSAW committee had the opportunity review and comment on Master Plans for the University Library as well as Athletics and Recreation Facilities. The committee appreciated the opportunity to glimpse the future plans for space use at the U of S and were very impressed with the work contemplated in the library planning to ensure safe access to facilities for students and researchers during non-working hours.

The RSAW committee received an annual update from the Tri-agency leaders Bram Noble (SSHRC), Ron Borowsky (NSERC), and Darcy Marciniuk (CIHR) at its April 11 meeting. Committee members were interested in the success rate of applications of tri-agency funding, as well as the changes occurring at the national level with regards to the number of grants and grant sizes. Committee members were interested in the widely-disparate success rates depending on granting agency. Tri-agency leaders spoke about internal work conducted to improve success rates as well as work done by U of S members on the tri-agency review boards, as well as work being done to align the work of the three boards.

The RSAW committee received reports from the three research ethics boards in May 2017 (see Appendices) and heard about strategies being used by all boards to streamline processes and manage increasing workloads. RSAW also received a request for the dissolution of the University Committee for Ethics in Human Research, a committee established by Council through RSAW in 2002 to ensure that research ethics protocols were being established within appropriate policy and procedural frameworks, which RSAW is recommending that council approve at its June 2017 meeting.

The RSAW committee was also involved in the development of the next integrated plan for the university, meeting with representatives from IPA in February and May. RSAW provided input into the revisions to the Postdoctoral Fellows Policy and offered support to CGPS in the required changes that are forthcoming. RSAW also saw an earlier draft of the Blueprint for Internationalization and were very supportive of the work being done to focus the university's internationalization efforts.

The RSAW approved changes to the terms of reference of the New Research Award and the Distinguished Researcher Award, allowing for more than one of each to be presented annually.

The service of John Gordon as a representative of RSAW on the Centres Subcommittee of Planning and Priorities Committee, the Joint Committee on Chairs and Professorships, and the New Researcher and Distinguished Researcher Awards Committee, Hector Caruncho as a representative of RSAW on the Centres Subcommittee, and Julita Vassileva and Lorraine Holtslander as representatives of RSAW on the Open Access Working Group is recognized with appreciation. Appreciation is also extended to presenters who attended the RSAW committee this year. I also want to thank Garry Gable and John Gordon for their service as Vice-Chairs this year and acknowledge the outstanding administrative support of Amanda Storey.

In response to a question raised in council RSAW is actively seeking information on the availability of funds from 'central' administration for activities such as guest speakers and the provision of seed funds and support for the preparation of tri-council grant applications. RSAW anticipates reporting on its findings early in the new academic year.

Attached as appendices to this annual report are the annual reports of the Office of the Vice-President Research and the College of Graduate and Postdoctoral Studies 2016/17.

ATTACHMENTS:

1. Annual report of the Vice President Research for 2016/17
2. Annual Report of the College of Graduate Studies and Research for 2016/17
3. Reports of the Behavioural, Biomedical, and Animal Ethics Boards

Report of the Vice-President Research

To the Research, Scholarly and Artistic Work Committee of Council

For the period May 1st, 2016 to April 30th, 2017

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Capitalizing on Our Successes: Canada First Research Excellence Fund (CFREF)

- The U of S was awarded \$77.8 M for the program “Global Water Futures: Solutions to Water Threats in an Era of Global Change” involving four partner universities and 138 collaborating organizations/institutions (2016 – 2023), making the U of S the only institution to lead two CFREF programs. This program is developing new climate change-focused science for evidence-based decision-making, innovative water monitoring technologies, new decision-making tools, and predictive models for national forecasting of floods, droughts and related agricultural risks.

Continuing to Lead: Canada Excellence Research Chairs (CERC) Applications

- The U of S was granted the opportunity to submit two proposals.
- Following a campus-wide call and engagement of a number of working groups, the following were submitted: (1) *Integrated Solutions for Infectious Disease*; and (2) *Social Innovation and Sustainable Communities*

Broadening our Reach: InternationalizationInternational Blueprint for Action

- Following a year-long SWOT analysis (*Internationalization: ‘Connecting with the World’* presentation), and a campus-wide consultation process, an International Blueprint for Action, *Connecting with the World*, was drafted and is in the final stages of consultation.

Charting our Future: Strategic Research Plan for the U of S

- The Vice President Research (VPR) has made the creation of a University-wide strategic research plan a priority, mirroring the practice of other U15 institutions, where strategic research plans are the norm.
- The OVPR will undertake a research strategic planning process, with the following goals:
 - Capture the U of S’s research ethos—where we have been and we are to date;
 - Describe an inspiring future for the U of S’s discovery mission; and
 - Identify strategic imperatives that will deliver on the University’s momentum, promise and expectations on a local, national and global scale.

Enhancing our Capacity: Capital Improvement Projects and AssessmentsThe Collaborative Science Research Building (CSRB)

- The U of S was awarded \$30M from Innovation, Science and Economic Development Canada to support the building of the CSRB—a new, flexible facility that will support innovative research and training in the areas of life and natural science, emphasizing collaborative, interdisciplinary research in fields such as biology, bioinformatics, agriculture, toxicology, environmental science, and engineering.

Livestock Forage Centre of Excellence (LFCE)

- The LFCE is being developed as a distinctive facility/entity encompassing field and science laboratories modelling all aspects of raising beef cattle on the prairies that will integrate livestock and forage education, research, training, outreach and knowledge transfer across the whole industry value chain.

- This unique facility will partner and integrate the U of S, the government, and numerous industry organizations and provide research facilities for feedlots, nutrition and cattle handling, forage, grazing, breeding, health and welfare for cattle, horses and native hoofstock.

Greenhouse and Plant Growth Chamber Review and Assessment

- An initiative to review existing greenhouse and plant growth chamber research facilities on campus to assist with the development of a strategic plan of the future development and use of these facilities.
- Plan will provide an assessment of current facilities, anticipate future needs, and provide models and analyses of the options the U of S has in expanding its operational capacity for research.

Defining a Signature Area: One Health Initiative

In its fourth year, this is a collaborative multidisciplinary effort to advance research and training to find solutions at the Animal-Human-Environment Interface.

One Health Congress 2018

- Led by the U of S, Saskatoon will be the first North American city to host the International One Health Congress, June 21 to 25, 2018; <http://onehealthplatform.com/international-one-health-conferences/home>.
 - Expected to draw more than 1,000 researchers and health professionals from around the world, with the theme “One Health in Underserved Communities,” focusing on underprivileged or subsistent communities.

NSERC CREATE ITraP Initiative

- 6 credit unit graduate Certificate Program in One Health based on the NSERC-CREATE Integrated Training Program in Infectious Disease, Food Safety and Public Policy has been ongoing, and has 30 graduate students who are simultaneously pursuing their graduate degrees in a wide variety of disciplines.

Supporting Faculty Success: Research Mentorship Program for New and New(er) Faculty

- Supports new faculty to become more successful in reaching their research goals and potential via informative and interactive workshops on topics of choice, together with a personalized research mentorship team, with information on the program available at: <http://research.usask.ca/for-researchers/index.php>.
- The second annual Academic (Teaching and Research) Mentorship Forum and Workshops was held the week of October 11-14, 2016, with topics that included: *Balancing Teaching, Research and Personal Life*; *International Perspectives of the Value and Processes of Academic Mentoring*; *Early Career Success*; and *Effective Mentorship: Principles and Practices*.
- Two online surveys are currently ongoing within the University community to evaluate the current Academic (Research & Teaching) Mentorship Program and its components.

Fostering Interdisciplinary Collaboration: Team Science

- As reported last year, one of the ongoing initiatives sponsored by the OVPR is the “Building Capacity for Collaborative Scholarship at the U of S: Barriers, Effective Practices and Recommendations”. A working

group was formed, and led by Toddi Steelman with support from Jim Thornhill, Jim Germida, and Beth Horsburgh. The outcomes of this work to date are:

- Series of University-wide survey and focus group discussions on conducting collaborative research at the U of S to identify barriers and best practices on campus.
- Environmental scan on best practices around supporting collaborative research at other institutions in Canada and beyond.
- Summary paper and recommendations.
- Pilot testing of merit, tenure and promotions recommendations in four units (Pharmacy and Nutrition, Agriculture, Arts and Science and SENS).

Recognizing the Value of Contributors: Post-Doctoral Fellows (PDFs)

- College of Graduate and Postdoctoral Studies (CGPS, formerly CGSR) was renamed effective January 2017, to reflect ongoing initiatives relating to PDFs and their importance to the U of S.
- Accomplishments and initiatives related to PDFs include:
 - Creation of a new position in the CGPS, Coordinator of Postdoctoral Studies;
 - Creation of databases to track and monitor PDF appointments and post-appointment employment outcomes;
 - Streamlined on-line PDF application, appointment, and extension processes;
 - Creation of a Postdoctoral Studies Committee; and
 - Development of exit survey to gain information from PDFs about their experience.

Acknowledging Artistic Discovery: Fine and Performing Arts

- VPR identified Artistic Discovery in the Fine and Performing Arts as a priority in conjunction with RSAW.
- Three pronged approach to: recognize the past, look at the present, and imagine the future related to our discovery and creativity in the fine and performing arts. Work to date included:
 - “Asset maps” about the fine and performing arts assets on campus as well as artistic assets in the external community.
 - Initial meetings have occurred with department heads, some individual faculty members in the Departments of Music, Art and Art History, and Drama, as well as with the research facilitators and the leadership of the College of Arts and Science.
- Next steps will be further consultation (cafes initiated in the fall) to assist in the development of an action and implementation plan.

Ensuring Compliance: Open Access Advisory Committee (OAAC)

- Established to provide a series of recommendations to the VPR for complying with requirements on open access of publications supported by Tri-Agency research.
 - Recommended that the U of S, through the Library, host an institutional repository to support researchers in providing open access to their publications.
 - Pilot underway with the Library and the College of Pharmacy and Nutrition, reviewed by the OAAC, as a test-case for establishing open access processes and strategies in the upcoming year.

Engaging Researchers: Digital Research Hub

- Established to engage researchers across disciplines to develop and apply advanced data-intensive and computational methods and tools to real world problems, coordinate and streamline digital research initiatives across the institution, and provide a focal point for big data issues, advancing digital research.

Sustaining our Commitments: Overview of Centres

- Initiated a review and consultation of U of S policies and practices regarding research centres.
- Feedback will result in recommendations to enhance the operations, sustainability and performance of research centres/institutes.

Raising Our National Profile: Research Partnerships, Promotion, and Outreach

- VPR consistently championed the U of S's role as one of the premier research universities in the nation, having participated in a roundtable with Science Minister Kirsty Duncan, served as the U15 representative to Mitacs, served as an ambassador and contact for the U of S with all levels of government, and represented the U of S on a host of Boards of Directors, for a wide array of institutions, both internal and external to the University, including:
 - Canadian Light Source;
 - Community Safety Knowledge Alliance;
 - VIDO-InterVac;
 - The Sylvia Fedoruk Centre for Canadian Nuclear Innovation;
 - The International Minerals Innovation Institute;
 - The Saskatchewan Centre for Patient-Oriented Research (SCPOR) Host Council;
 - Royal University Hospital;
 - The Remai Modern; and
 - The U15 Research Committee.
- VPR spearheaded a working group, the Canadian Neutron Initiative, which includes leaders from the U of S, McMaster University, Canadian Nuclear Laboratories, and the National Research Council with the goal of establishing a framework for the future of neutron scattering research in Canada.
- Brandon Lee, Consul General of Canada in San Francisco, met with U of S senior leadership and encouraged the University to play a leadership role around Ag Tech, an emerging area of interest for the federal government.
 - VPR created an Ag Tech Initiative working group to explore the feasibility of this initiative and possible connections with Silicon Valley.
- Toddi Steelman, thought leader on behalf of the U of S, is facilitating an initiative, "Renewing Indigenous Relationships through Renewable Energy."
 - The initiative will bring together experts from Indigenous communities, industry, government, NGOs, and research institutions to share best practices for renewable energy in Indigenous, northern communities.
- U of S hosted the regional Sanofi Biogenius high school student science competition, with eight Saskatchewan high school students presenting their research projects and competing for cash prizes as part of the Sanofi Biogenius Canada biotechnology research competition.

- U of S has continued its Young Innovators initiative, a partnership between the U of S and the StarPhoenix, to create a series of articles about graduate student researchers written by U of S graduate students under the mentorship of University Research Profile and Impact.
- Images of Research competition had 100 entries, submitted by faculty, staff, students, and alumni, depicting U of S research and scholarly and artistic work.
 - In addition to photographs, the competition also featured a video category, “Making a Difference,” where researchers were invited to submit a short one-minute video showing the impact of their work.
 - During the competition, the website saw more than 40,000 page views, 6,200 votes, and 34,000 page views on the website for the Making a Difference videos.
 - All of the winning images can be seen at <http://research.usask.ca/images-of-research.php>.

Securing Future Leaders: Key Recruitments

- OVPR oversaw or participated in a number of key recruitments or extensions unique to research (on top of participating in several decanal search committees), including:
 - John Root, Executive Director of the Sylvia Fedoruk Centre for Canadian Nuclear Innovation;
 - Jim Lee, Executive Director International (scheduled to start Summer 2017); and
 - Leon Kochian, CERC at the Global Institute for Food Security in Food Systems and Security.

Strengthening our Funding Success: Tri-Agency Leaders and Internal Review

CIHR

- Funding results consisted of:
 - 1 Foundation Grant in summer 2016 (\$2.3M), the first successful application in this competition;
 - A Training Grant for the Indigenous Mentorship Network Program (\$1 M).

NSERC

- Discovery Grants
 - 83 NSERC Discovery Grant applications were submitted, 58 of them were successful, with an overall value (with Discovery Accelerator Supplements) of \$9,353,000 for 5 years.
 - The 2016 results show a 3% increase in overall success rate compared to 2015 and a 14% increase compared to 2014 (2016: 70%, 2015: 67%, 2014: 56%):
 - Overall success rates by category were:
 - Early Career Researchers: 75%
 - Established Researchers Renewing a Grant: 80%
 - Established Researchers Not Holding a Grant: 52%
 - Success rates for participants in internal review process were 67%, and by category were:
 - Early Career Researchers: 85%
 - Established Researchers Renewing a Grant: 75%
 - Established Researchers Not Holding a Grant: 44%
 - Success rates for participants in grant workshop were 67%, and by category were:
 - Early Career Researchers: 71%
 - Established Researchers Renewing a Grant: 88%

- Established Researchers Not Holding a Grant: 44%
- Research Tools and Instruments (RTI) Grants Program
 - 16 NSERC RTI Grant applications submitted, 4 of them successful, with an overall value of \$465,599.
 - RTI success rates increased by 1% compared to 2015 and 7% compared to 2014 (2016: 25%, 2015: 24%; 2014: 18%).
 - 4 Operations and Maintenance Grant applications were submitted, with zero success; however, only 10 applications were awarded nationally.
- President's NSERC Grant (PNSERC)
 - From 2011 to 2016, the total number of PNSERC awardees was 75.
 - PNSERC recipients were awarded Discovery grants at a success rate of 69%.
- A repository of successful NSERC applications (57 grants total) from 2010 to 2017 competitions is available.
 - In collaboration with the College of Graduate and Postdoctoral Studies (CGPS) this will expand to include Tri-Agency graduate scholarships and postdoctoral fellowships.
 - Process placed more emphasis on direct review and ongoing mentor-applicant interaction.
 - Initiative had 54% participation rate in 2016, and a 52% participation rate in 2015.

SSHRC

- SSHRC Insight Grant competition results had a success rate of 33.3% (6/18 applications funded), compared to a national success rate of 40%.
 - Success rates rose from the previous year (18.2% in 2016 to 33.3% in 2017), with a slight decrease in application numbers (22 in 2016, 18 in 2017).
 - The average size of U of S grants is \$141,799, slightly lower than national average of \$153,366.
- 2017 SSHRC Connection Grants had an increase in the number of applications in spring 2017 from fall 2016, but a decrease in success rates.
 - Success rate for spring 2017 Connection Grants of 33.3% (2/6 applications funded), and a success rate of 100% (2/2 applications funded) in fall 2016.
- Results for the SSHRC Insight Development competition will be announced in June 2017.
 - The U of S had 23 applications submitted, an increase in application numbers.
 - Over 90% of applicants participated in the internal review program.
 - Historically, success rates have ranked 3rd (2014), 8th (2015), 7th (2016) amongst U15 institutions.
- Fall 2016, changes were implemented in the internal review process to make it more flexible and effective.
 - Applicants can now suggest up to 3 internal/external reviewers, contacted on their behalf, replacing the use of designated reviewers.
 - Application workshops use a survey to inform their content, with the goal of having workshops before receipt of internal reviews and after applicants receive feedback from their reviewers.
 - Review timelines are adjusted based on the competition and faculty needs and wants, and designed to assist applicants in meeting competition and application process deadlines.
 - A post-review survey captures feedback on the review process from review participants and applicants.
- Internal review survey results show that responding applicants found the revised process useful.
 - Insight Grant applicants had a 62% participation rate in the review process survey; 100% of respondents found the process helpful.

- 80% found suggesting specific reviewers to be helpful, and 50% met with their reviewers and found that helpful.
- Revisions suggested by internal reviewers were thought to have strengthened the application by 100% of respondents
- 63% of respondents who used the grants repository found it helpful, and 100% of respondents indicated they would be willing to post their grant if successful.
- Insight Development Grant survey results had a lower response rate, but similar results.
 - Only 34% of applicants participated in the survey, but 100% of respondents who used the internal review process found it helpful.
 - 77% of respondents found suggesting their reviewers to be helpful, and 25% met with their reviewers and found that helpful.
 - 91% of respondents found internal reviewer suggestions to have strengthened the application.
 - 58% of applicants who used the grants repository found it helpful, and 100% of respondents indicated they would be willing to post their grant if successful.
- In June 2017 SSHRC will launch “Partnership Engage Grants” (\$7,000 to \$25,000) to address researchers’ short-term needs of researchers.
 - Competitions will be 4 times a year, and will have a very quick turnaround for researchers seeking funding to establish or build partnerships with industry, governments, Aboriginal communities or others.
- SSHRC’s call for Indigenous Research projects, Knowledge Synthesis grants.
 - 1 successful application, developing an Indigenous digital asset management system (Keith Carlson).
- President’s SSHRC (PSSHRC) program, modified two years ago to better align with SSHRC’s main granting programs for faculty, provides two application streams that support research (Insight) and engagement (Connections) activities.
 - A review of the restructured PSSHRC program is underway.
- Campus-wide workshops have been held to engage faculty and some ADRs on Mitacs opportunities and potential partnerships for SSHRC funded research.

UNITS OF THE OFFICE OF THE VICE-PRESIDENT RESEARCH

Innovation Enterprise

Innovation Enterprise (IE, formerly Industry Liaison Office) initiates, develops, commercializes, and implements innovative, sustainable and knowledge-based solutions generated by the U of S.

IE: A New Vision and Brand

- The Industry Liaison Office went through an extensive branding and vision exercise in 2016, and determined that a name change was needed to communicate its enhanced mission and approach.
 - Launched its new name “Innovation Enterprise,” (February 9, 2017), including new website, video release, and significant media coverage.

New Programs and Initiatives

- Student Desktop Researcher (SDR) Program launched to promote an entrepreneurial culture and offer undergraduate and graduate students a chance to explore dynamics of innovation and business development.
 - Over 20 students hired, including a Program Coordinator, with average participants working 5 hrs/week.
 - 62 projects have been assigned, and 46 have been completed.
- Portal for Industry Engagement (PIE), a web-based database, provides an overview of expertise, facilities, services and technologies at U of S; more than 2,000 page visits from over 60 countries.
- Staffing changes made to create a portfolio in Fine Arts and Humanities, as part of its key strategic initiative of reaching out to new interest groups to encourage an entrepreneurial culture.

IE Awards and Events

- IE, as part of a long-standing partnership with Innovation Place, jointly sponsored the Award of Innovation (Aoi).
 - Winners this year: Dr. John Gordon and Dr. Stephen Foley, associate professor of chemistry, and Dr. Foley's PhD students Hiwa Salimi and Loghman Moradi.
- IE and International Minerals Innovation Institute jointly hosted AIMday™ Minerals 2017; first AIMday in North America, held in collaboration with U of R and Saskatchewan Polytechnic.
 - Unique academia/industry meeting concept initiated and successfully developed by Uppsala University in Sweden (a collaboration agreement with Uppsala University to implement AIMday in North America).
 - Focused on finding solutions to a wide variety of mining sector questions and problems, ranging from reduced reliance on fossil fuels and more green energy sources, to developing new methods of detecting potential pipeline breaks before they occur.
 - 26 questions submitted by industry, 39 researchers and 17 representatives from 5 major mining companies attended, 21 workshops took place during the day, 55 research applications were submitted by academics, and 17 applications were selected for funding to develop project proposals.
- Hosted the first agriculture-themed industry partnering forum of the Association of University Technology Managers (AUTM) in Saskatoon.
 - 70 participants from North America, including 16 universities, 17 leading agricultural companies, provincial government, research organizations, law firms and investment companies, raised a total of \$10,200 in sponsorship dollars; largest amount to date for any AUTM partnering forum.
 - Pursuing six new potential technology licensing and collaboration opportunities arising from the forum.

Operational Overview and Highlights

- Innovation and commercial development of 86 unique technologies (patent families with multiple commercial opportunities) —137 patents filed over past 5 years — oversees 56 active licenses and option agreements.
- Joint research program between Province of Saskatchewan, Hitachi Ltd., and Hitachi GE Nuclear Energy Ltd.
 - Four U of S R&D teams and three associated Canadian industrial R&D teams collaborated with researchers from Hitachi-GE Nuclear Energy Ltd. and Hitachi Research Laboratories to develop efficient methods of distributing and utilizing heat energy for industrial, agricultural and residential purposes,

with research managers meeting in Saskatoon in October to organize the program and researchers meeting in Japan in May to present preliminary results.

- Technology Transfer Highlights
 - A microbial endophyte, developed at and owned by U of S, has passed regulatory approval by U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS), a significant milestone in the commercialization process, and the technology, licensed to Boston-based Indigo Agriculture in 2013, which improves crop yield in drought conditions, can now be sold to millions of farmers in the U.S. with future registration possible in many more countries.
 - In the past three years, Indigo Agriculture and the U of S, through IE, have built an extensive collaborative research program around this technology and secured almost \$3 million in research grants, plus an additional \$11 million from industry.
 - Indigo Agriculture has grown from a two-person workshop to a company with more than 100 employees and has raised \$165 million USD in investments.
 - IE entered into a license agreement with Viuntech Industry Investment Management Corporation in April 2017 for a seed treatment technology, developed by Drs. Karen Tanino, Andrew Olkowski, and Bernard Laarveld, that can improve seed germination and improve plant growth.
 - Viuntech, a Vancouver-based company, was granted an exclusive right of commercialization for this technology in China for all crops except rice.
 - IE supported Dr. Karen Tanino in securing an ADF grant of \$668,600 to work with other industry partners, including BASF, to explore the commercial potential of this technology in several selected fields of application.
 - Dr. David M. Klymyshyn and his team, invented a radically different approach to fabrication of compact radio frequency (RF) antennas and devices using non-traditional polymer-based materials, enabling improved performance and increased functionality for various emerging wireless communication and sensor devices.
 - Polytenna, a company started by Dr. Klymyshyn and his team, is presently participating in accelerator program EvoNexus in San Diego, and the company is working with Huawei, Qualcomm and Nokia to close in on a sale as a precondition to licensing.
 - IE and Polytenna have had preliminary discussions with Bosch in Germany, Peugeot in Italy and SEAT in Spain to evaluate the Polymer Antenna Array as sensors for driverless cars.
 - Dr. John Gordon, a respirology professor, has discovered a way to reverse the hyper-immune response in allergic reactions.
 - Dr. Gordon's team of researchers found that a complex array of effector molecules, cell types and specialized cell products within the immune system, can be manipulated outside the body and then returned to the body as a treatment that can turn off harmful responses—essentially 'curing' asthma or peanut allergies by use of these cells, leading to better disease management in patients with food allergies and asthma.
 - Funding for clinical trials is currently being sought.
- IE has entered discussions on an MOU with Sanovas, a medical device company from San Rafael, California, USA, to license U of S's Lossless Image Compression Technology developed by Dr. Khan Wahid for a brand new range of endoscopic capsules. The terms of the agreement are being structured at this moment.

- Stephen Foley, associate professor of chemistry, and his PhD students Hiwa Salimi and Loghman Moradi, developed a new process for selectively leaching gold into solution.
 - This method is the fastest known, is highly selective for gold, far less toxic than other options, requires minimal energy input and ambient pressure, and uses reagents that are cheap, recyclable, and environmentally benign.
 - This development has the potential to disrupt several industries, from mining, which relies on cyanide and other toxic solvents, to electronic waste recycling and the removal of gold from electronic waste, such as printed circuit boards.
 - A company has been formed to develop and operate a pilot plant in Saskatoon which aims to process 500 kilograms of printed circuit boards a day, with goal of scaling up production, to extract valuable metals from e-waste while completely recycle it, so nothing ends up in a landfill.
 - Even at this pilot level of operation, the plant will be profitable and producing revenue from the start.

International Office

The International Office provides leadership, coordination, and support services to advance the internationalization of the University's core missions of research, teaching and learning, and service.

Transforming Internationalization at the U of S

- The MoveOn Software System, a program specifically designed to manage international relations and track our international agreements governing students, is now operational, being used to facilitate student exchanges, and we are exploring ways to expand its uses. This system dramatically improved our ability to maintain data, report on international relations, and manage student exchange applications.
- Office has continued to identify data related to our internationalization efforts, including college- and department-specific data, and is assembling it for use in communications and better tracking of performance metrics.

Partnership Initiation and Agreement Development

- 38 new and renewed agreements were signed during this reporting period involving general collaboration MOU's, student exchange agreements, staff / faculty exchange agreements, research agreements, College of Graduate and Post Doctoral Studies scholarship agreements, Confucius Institute Agreements and Joint Program agreements.
- Ten agreements signed with Chinese institutions, 3 with Japanese Institutions, 2 each with institutions in the UK, France, India, Spain, Finland, Chile, Belgium, Australia and the Dominican Republic, and one each with institutions in Finland, Norway, Italy, Mexico, Nigeria, Brazil and the USA.

Delegation Support

- The International Office supported 35 incoming delegations, and a total of approximately 100 participants, with itineraries, logistics, and briefings; these delegations included diplomatic officials, government and university representatives.
- The Office supported outgoing delegations, including three separate groups of senior leaders and a USSU delegation, in the form of briefing notes, advice on priorities, and promotional materials.

International Research Success

- The U of S had 148 international research projects awarded in the 2016/2017 fiscal year, with a total of \$108,342,975, and highlights included:
 - Bingcheng Si (College of Agriculture and Bioresources; Global Institute for Water Security) awarded \$1.08 M in China Scholarship Council funding for a Joint Programme, *Innovative Talent Training in Leading-edge Soil and Water Resources*;
 - Hassan Vatanparast (Pharmacy and Nutrition, Public Health) and Pammla Petrucka (Nursing) awarded \$449,200 from the Canadian Queen Elizabeth II Diamond Jubilee Advanced Scholars Program, *Global Leaders Scholarship – Seeking Sustainable Solutions in Food Security and Nutrition for Women and Children: A Tri-Country Approach*;
 - U of S awarded \$204,340 for 24 students and researchers from Latin America and the Caribbean for short-term exchange as part of Emerging Leaders in Americas Program (ELAP);
 - Gap Soo Chang (Physics and Engineering Physics) and Martin Reaney (Agriculture and Bioresources) awarded KRW 100,000,000 (approximately CAD \$118,000) by Korea Institute of Energy Research (KIER) Global Research Collaboration Project for *Development of biodegradable organic solar cells based on new eco-friendly metal/ cyclolinopeptide biosemiconductors*;
 - Kofi Agblor (Crop Development Centre) awarded \$3,562,380 for *Technical Education Development for Modernized Agriculture in Ghana*;
 - Nazeem Muhajarine (Community Health and Epidemiology) leading a \$16.6 million project, *Engaging Communities and Health Workers for Sexual, Reproductive, Maternal and Newborn Health*, with the Mozambique Ministry of Health.

Research Services and Ethics Office

The Research Services and Ethics Office (RSEO) provides researchers with seamless services for grant, contract, and ethics review as well as ethics compliance.

Operational Metrics for Grants:

- Applications for research funding from May 2016 to April 2017: 874
 - External Funding – 755 (86.4%)
 - Internal Funding – 119 (13.6%)
- Projects Finalized from May 2016 to April 2017: 956
 - External Funding – 512 (53.6%)
 - Internal Funding – 421 (44%)
 - Transfers outs - 23 (2.4%)
- Projects for which funds were authorized from May 2016 to April 2017: 875
 - External Funding – 466 (53.3%)
 - Internal Funding – 409 (46.7%)
- Number of externally funded projects which had Institutional Costs of Research included – 36 (4.1%)
- Number of funded projects which have at least one Human Ethics Approval attached – 198 (22.6%)
- Number of funded projects which have at least one Animal Ethics Approval attached – 103 (11.8%)
- Number of funded projects which have at least One Biosafety Permit attached – 118 (13.5%)

- Amendments Finalized from May 2016 to April 2017: 656
 - External Funding – 400 (61%)
 - Internal Funding – 203 (30.9%)
 - Transfers outs - 53 (8.1%)

Operational Metrics for Contracts:

- Projects Finalized from May 2016 to April 2017: 460
 - External Funding – 318 (69%)
 - Internal Funding – 1 (nil)
 - Other (Transfers outs, CDAs, etc.) – 141 (31%)
- Projects for which funds were authorized from May 2016 to April 2017: 310
 - External Funding – 307 (99%)
 - Internal Funding – 3 (1%)
 - Number of externally funded projects with Institutional Costs of Research included – 176 (57%)
 - Number of funded projects with at least one Human Ethics Approval attached – 65 (21%)
 - Number of funded projects with at least one Animal Ethics Approval attached – 59 (19%)
 - Number of funded projects with at least One Biosafety Permit attached – 66 (21%)
 - Amendments Finalized from May 2016 to April 2017: 325
 - External Funding – 307 (94%)
 - Internal Funding – 0
 - Transfers outs - 18 (6%)

CFI funding from RSEO-led applications

- Funding from John R. Evans Leaders Fund (JELF) received for 3 projects for \$566,277 in CFI funding and project costs of \$1,415,690.

Responsible Conduct of Research

- One Responsible Conduct of Research allegation that led to an inquiry and is currently at hearing stage.

Monitoring Visits/Audits/Inspections

- *Canada Foundation for Innovation*
 - CFI continued collecting data for a Mapping and Measuring Investments to Impacts – Agriculture report that began with a November 2015 site visit.
 - July 2016: The CFI released the report for their Monitoring Visit conducted Feb 2016.
 - Areas evaluated received satisfactory or mostly satisfactory reviews.
 - ‘Overall, the CFI found that the university has sound policies, practices, processes and controls in place for the management of CFI awards,’ and CFI’s recommendations are being addressed.

Strategic Research Initiatives

Unit supports researchers in development of large-scale collaborative grants and initiatives and coordinates programs of strategic importance to the university, including nominations for major national/ international awards and the Undergraduate Research Initiative.

Special Initiatives/Projects

- Advancing the Aboriginal Peoples: Engagement and Scholarship Signature Area
 - Completed internal environmental scan of research, units, programs and services with a stake in the signature area.
 - Developed draft Terms of Reference for a proposed committee and seeking feedback.
- Research Cafés
 - Refining Research Cafés to better promote collaboration among faculty, incubate future grant proposals, and support emerging research clusters.
 - Hosted one Research Café as part of an internal call for expressions of interest (EOIs) for the 2017 CERC Phase 1 proposal.
 - Café connected 50 academic leaders from across campus for fruitful discussions that ultimately generated five EOIs and two Phase 1 proposals.
- Distinguished and New Researcher Awards (DRA and NRA, respectively)
 - Updated Terms of Reference.
 - Each award may now be given to up to two recipients a year, with a streamlined nomination process that improves the number and breadth of nominations.
- OVPR Matching Fund program
 - Revised guidelines developed that included mandatory College/School/Centre financial support, minimum leveraging of 1:5 in external funding, and limited support for non-U of S led grants.

Support for Large-Scale Grants

- Canada First Research Excellence Fund (CFREF):
 - \$77.8M Global Water Futures Program awarded in August 2016.
- Canada Excellence Research Chair (CERC):
 - 2 CERC proposals.
- Canada Research Chairs and associated CFI-JELF applications:
 - 1 NSERC Tier 2 nomination and associated CFI-JELF submitted April 2017.
 - 1 CIHR Tier 2 renewal submitted April 2017. One current NSERC Tier 1 opted for non-renewal.
 - 2 NSERC Tier 1 renewals awarded in April 2017 (announcement embargoed).
 - New CRC theme areas - twenty five proposals for new CRC themes were put forward by the University community, five have been invited to proceed to search.

NSERC

- Industrial Research Chair and associated CFI-JELF applications:
 - 2 applications and associated CFI-JELF submitted - 1 Senior; 1 Associate.
 - Site visits will be conducted in summer 2017; anticipated decision fall 2017.
- Collaborative Research and Training Experience program (CREATE):
 - 1 Full application submitted September 2016 and awarded March 2017 (announcement embargoed).
 - 3 Letters of Intent (LOIs) (2017) submitted on May 1, 2017.
- Research Tools and Instruments - Operations and Maintenance:
 - Three applications were submitted in October 2016 (all unsuccessful).

- Strategic Partnership Grants for Network (SPG-N):
 - 2 Preliminary applications were submitted in April 2017.

SSHRC

- Partnership Grant:
 - 2 LOIs submitted, anticipated decision date is June 2017.

CIHR

- Foundation Grant:
 - 1 awarded in summer 2016 (\$2.3M); first successful application in this competition.
- Training Grant: Indigenous Mentorship Network Program:
 - Full application: 1 (\$1M); awarded (announcement embargoed).
- Canada Foundation for Innovation (CFI):
 - Major Science Initiatives (MSI): 3 facilities submitted successful proposals; \$68M total awarded November 2016:
 - CLS (\$48M)
 - VIDO-InterVac (\$19.3M)
 - SuperDarn (\$1.6M)
 - Innovation Fund (IF): The U of S had a CFI institutional envelope of \$17.7M. The CFI Advisory Committee recommended five UofS, and four non-UofS, applications proceed to the full proposal stage. Proposals were submitted in October 2016. Anticipated decision date is June 2017.
- Networks of Centres of Excellence (NCE)
 - 2017 International Knowledge Translation Platforms Initiative: Submitted 1 LOI in May 2016 (unsuccessful).
- Western Diversification Program
 - Ten EOIs were submitted to the OVPR Executive and two were recommended for submission in February 2017. Anticipated decision date is summer 2017.
- Genome Canada
 - 2016 Emerging Issues- 1 – (Karniychuk); awarded.
 - 2017 LSARP Competition in Genomics and Precision Health – 5 registrations submitted in February 2017; Pre-applications due to Genome Canada in May 2017.
- UNESCO Chair
 - One application submitted in January 2017.

Undergraduate Research Initiative

- Over 2000 undergraduate students engaged in a first-year research experience (FYRE) across 21 class sections in 4 colleges (Agriculture and Bioresources, Arts & Science, Kinesiology, & St. Thomas More). Each experience consisted of students developing a research question, investigating/analyzing, and sharing their findings through posters, presentations, and/or digital displays.

- FYRE showcases allow undergraduate students to share their research to the campus community, these include:
 - History 175 Public Talk
 - Agriculture and Bioresources FYRE Poster Fair
 - Geography 120 Poster Presentations
- A Fall Faculty Event was held to encourage collaboration and engagement.
- Over 100 matched Undergraduate Student Research Assistantships (USRA) have been awarded for summer 2017 across all academic units.
- Events which celebrate and promote undergraduate research:
 - USRA Summer Social & Poster Competition (August)
 - 5th annual USSU Undergraduate Project Symposium (January)
 - A R(Ex)3 (Research Exchange, Expertise, Exposé) Panel on Sustainability 2017 to celebrate Aboriginal Achievement Week (February)
 - University of Saskatchewan's Undergraduate Research Journal (USURJ)- 5th year
 - Peer Assisted Learning Workshops on Undergraduate Research Topics (Sept-March)

Faculty Awards and Recognition

Supports identifying candidates and developing nominations for national and international awards and prizes.

- 39 new nominations and five updates to previous nominations
- Recent successful nominations include:
 - Professor James Waldram (College of Arts and Science), SSHRC Insight Award for his outstanding contributions to research.
 - Professor Jo-Anne Dillon (College of Medicine) and Professor Graham George (College of Arts and Science) elected Fellows of the Royal Society of Canada; total U of S Fellows is 21.
 - Professors Markus Hecker (School of Environment and Sustainability), Margaret Kovach (College of Education), Angela Lieverse (College of Arts and Science), and Dwight Newman (College of Law) elected to Royal Society's College of New Scholars, Artists, and Scientists, raising the total U of S Members to 7.
 - Professor John Pomeroy, Canadian Geophysical Union's J. Tuzo Wilson Medal for his outstanding contributions to hydrology.

Associate Vice President Research, Health

Provided support of excellence in health research, including:

- College of Medicine External Research Review
- Saskatchewan Centre for Patient-Oriented Research (SCPOR)
 - SCPOR is a coalition of organizations, led by the U of S and the Saskatchewan Health Quality Council, and is one of several provincial units supported by CIHR to build capacity for patient-oriented research.
 - \$60M in joint funding, \$30M from CIHR, to support SCPOR (most federal funding to any province).
- Clinical Trials Support Unit (CTSU)
 - CTSU is a central resource for clinical and patient-oriented research support, regulatory compliance, training and oversight for human subject research.

- Provides services in a standardized and efficient manner to ensure institutional members meet administrative, regulatory and institutional requirements.
- A new agreement between the U of S, Saskatchewan Cancer Agency, and Saskatoon Health Region (for the new single provincial health authority) was agreed upon May 20, 2017.
- Establishment of UofS Respiratory Research Centre (RRC) in January 2017.

Research Profile and Impact

Unit expanded its focus regionally, nationally and internationally with major initiatives highlighting innovation, centres, and our signature areas.

Video Storytelling

- Created a video providing an overview of the six signature research areas, for purposes including student recruitment and alumni events.
 - Videos on each of the six signatures areas currently in production.
- Created videos to highlight U of S Royal Society College Fellows for web use and at a national event.
- Produced videos showing the experience of international students also used by CALDO consortium and Universities Canada.
- Used video to show the vision of the IE Executive Director as part of the group’s re-branding initiative.
- Added a new category to the “Images of Research” competition—“Making a Difference Video” for one-minute pitch videos about why entrant’s research matters.
 - The competition website had more than 40,000 page views, 6,200 votes, and 34,000 page views.
 - Inaugural exhibition and reception held to celebrate the winners of the competition.

Multi-Faceted Research Success and Storytelling Campaigns

- Highlighted that U of S is the only university with two CFREFs with a national initiative for the CFREF Global Water Futures program including a video, a major event, speeches, full-page ads in national publications, a website launch, a Globe and Mail story, social media, and other promotions.
- Led the announcement for the new CERC in Food Security and Systems, including a half-page ad in the Globe, a social media campaign with the CERC Secretariat, and participation by Leon Kochian at the Bacon & Eggheads Forum for MPs and federal officials in Ottawa.
- Worked with the Global Institute for Food Security on the launch of the Plant Phenotyping and Imaging Research Centre (P2IRC) at the food security symposium, featuring the NSERC president and the launch of the P2IRC website (<http://p2irc.usask.ca/>).
- Worked with CFI to feature the Canadian Feed Research Centre in CFI’s national ad, website, and billboard campaign, “Research Builds Our Communities.”
- Supported Canada 150 Project with eight commissioned stories on U of S research highlights (including the lentil, cobalt-60, kidney transplant, and the work of historian A.S. Morton), a video feature titled “A Century of Innovation,” and a commissioned three-part musical composition.
- Drafted media pitches to national media and a wide variety of news releases on research developments, including Zika, new allergy treatments, AIMday, underground water contamination, Aboriginal research, and Vanier Scholars.

- Promoted research success through CALDO and the Saskatchewan Centre for Patient-Oriented Research (SCPOR).

Proactive Articles to Reach Influential Canadians

- Collaborated on newspaper op-eds on Indigenous post-secondary issues and the Canadian Neutron Initiative.
- Wrote a Globe and Mail article on water security issues.
- Developed two new strategic research overview documents for key international publications – i.e. the U15 publication and the U of S profile in the AWRU-Shanghai rankings.

Telling Student Research Stories

- Partnered with the StarPhoenix newspaper on the “Young Innovators” story series, featuring 15 graduate student researcher profiles in signature areas, and re-purposed the stories for a wide range of academic, government and Tri-Agency stakeholders.
- Created one-minute videos of competitors at the on-campus Sanofi Biogenius Canada research competition, for use by the competition’s judges and as a recruitment materials.

Canadian Council for the Advancement of Education (CCAIE) Awards

- Received two communications Gold Awards from the CCAIE, for the “Young Innovators” series and the “Images of Research” competition.



UNIVERSITY OF
SASKATCHEWAN

**2017 Annual Report to the Research, Scholarly and
Artistic Work Committee of University Council**
Meeting: May 2, 2017

Dr. Adam Baxter-Jones, Interim Dean College of Graduate and
Postdoctoral Studies (CGPS)



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Message from Dr. Adam Baxter-Jones

With our new name change, to the College of Graduate and Postdoctoral Studies (CGPS) effective January 1st 2017, we are now committed to not only graduate students, but as the new name indicates to also provide oversight for our community's Postdoctoral Fellows (PDF). Initially we have concentrated on redefining governance structures to ensure appropriate representation for all trainees. CGPS also continues to redefine its administrative processes, undertaking several initiatives in an effort to streamline former practices, including but not limited to: postdoctoral administration, banner document management (BDM), electronic file sharing for theses defenses, and CGPS membership automation. The relationship management system (RMS) project is ongoing and is currently in its preparatory phase. Initial work is concentrating on its uses for recruitment and admission of students. The College has also been working extensively with the Financial Service Division (FSD) and the office of Institutional Planning and Assessment (IPA) to identify an appropriate operating budget for a resource center such as ours. In addition, I have been actively campaigning for more central funding for Student Aid and appropriate tuition levels. While we navigate several continuous improvement projects, our College will be moving to our new space in the Thorvaldsen Bldg. An estimated move date is July 2017 – we foresee little to no interruption in our service.



We continue to support the work of our Graduate Student's Association (GSA) on a number of issues including student aid, student representation on institutional committees, revising the student-supervisor agreement, as well as important events promoting the research of our graduate student body, namely the 3MT event.

Through collaboration with our talented faculty members, staff and students we strive to continue to improve the services offered by CGPS.

Together, we will make new discoveries, we will teach and we will mentor.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Baxter-Jones'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Dr. Adam Baxter-Jones, Interim Dean, College of Graduate and Postdoctoral Studies

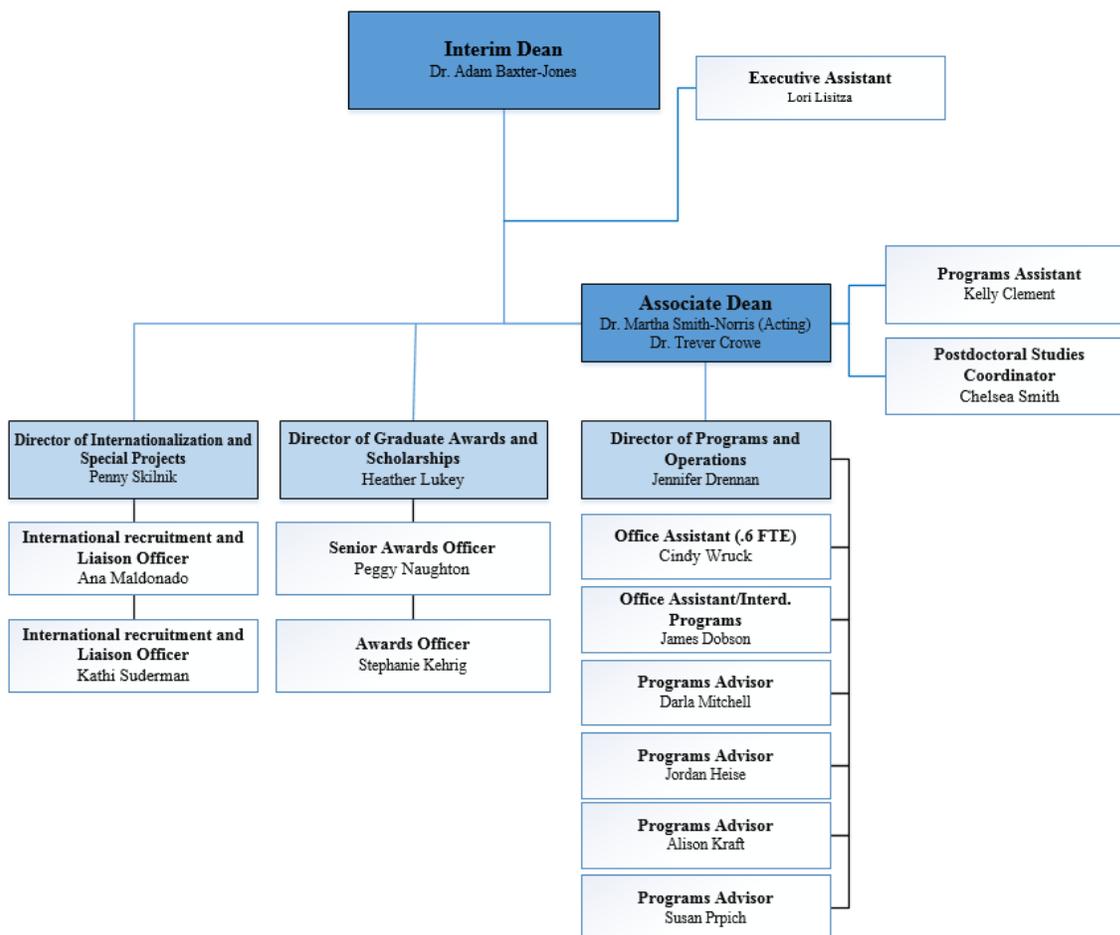


Dean's Office

The Interim Dean's position was extended from June 30th 2016 to June 30th 2017. There is currently ongoing a search for a permanent Vice-Provost and Dean of CGPS. As information becomes available it will be communicated by the Provost and VP Academic offices as usual. Martha Smith-Norris' was appointed as Acting Associate Dean on July 1st 2016, for a 12 month period. The Associate Dean's portfolio was increased to include oversight of postdoctoral fellows and the supervision of a postdoctoral studies coordinator (1.0 FTE). The Dean's Executive Assistant position was filled January 2017 by Ms. Lori Lisitza (see Figure 1). As of October 2016 both open roles of Awards Office and International Recruitment Offices were filled by Ms. Stephanie Kehrig and Ms. Kathi Suderman respectively. This year the Director of Internationalization and Special Projects position was reclassified from an ASAP 2 to an ASPA 3.

CGPS Organizational Chart

Figure 1: 2017 CGPS Organizational structure

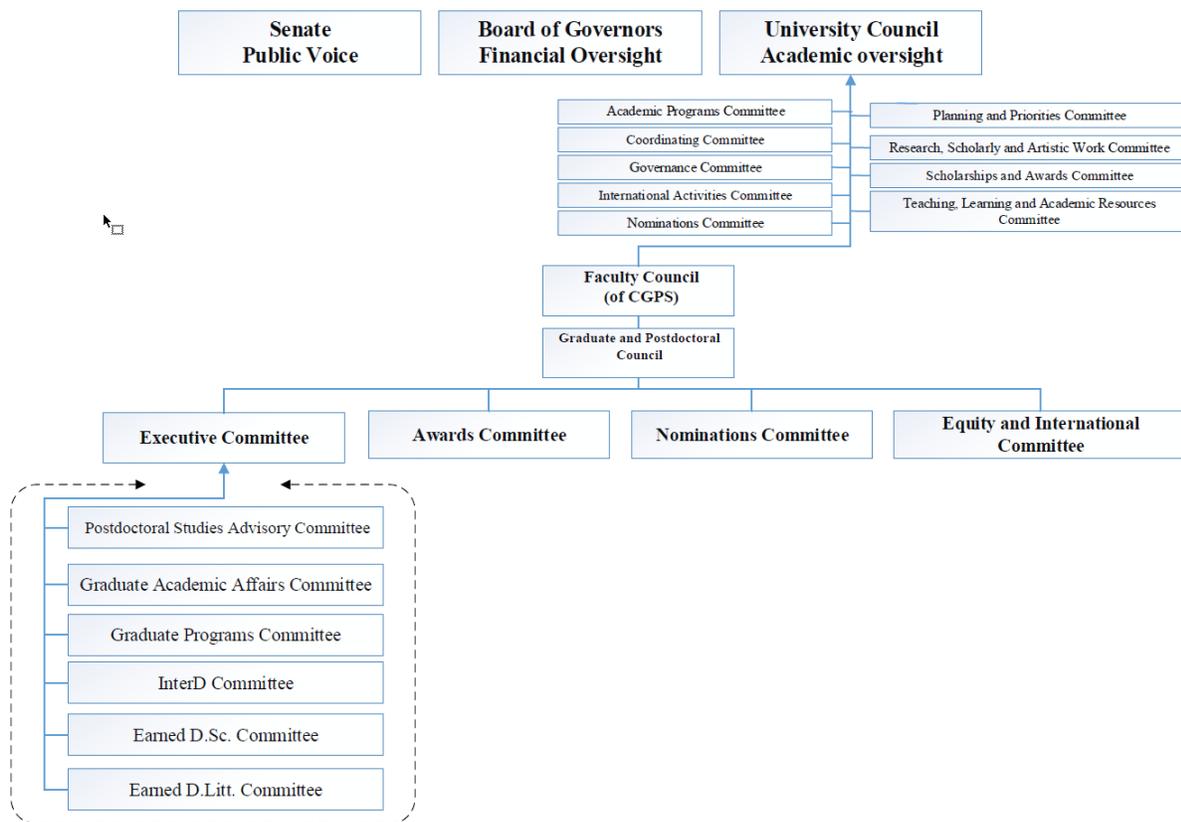


College Governance

The college name change took effect January 1st, 2017. Admissions of students in the fall of 2017 will be admitted as graduate students of the College of Graduate and Postdoctoral Studies. Degrees awarded from October 2017 onwards will be conferred using the new college name.

As the college was undergoing a name change it was a timely opportunity to review its governance structure. Effective February 2017 terms of reference and memberships of all standing committees of the Graduate Council were reviewed renamed and were appropriate had a postdoctoral fellow representative added. A new standing committee of the Executive Council, a Postdoctoral Advisory Committee, was created (see Figure 2). The next step is for CGPS's Faculty Council to approve renaming the Graduate Council to the Graduate and Postdoctoral Council and approve its membership. The College bylaws are also being revised to reflect the College's name change

Figure 2: 2017 CGPS Governance structure

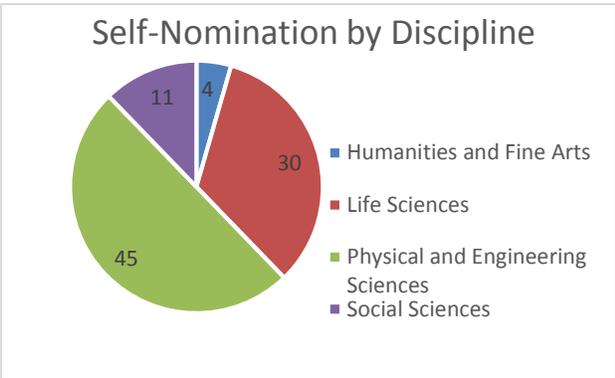




The college continues to work closely with other Colleges and Schools across the campus to attract the best and brightest graduate students from all over the world. Collaboration continues to be a significant element of the college’s mandate at all levels.

College Committees

CGPS will fill 22 vacant committee positions effective July 1. The response to this year’s call for nominations saw a 53% increase from last year’s process (90 self-nominations to various committees); the success is attributed to a new automation process developed by the EA using a straight-forward SharePoint workflow. Additionally, timelines were moved up to better align with faculty ‘assignment of duties’. Committee membership will be announced upon ratification by CGPS Faculty Council on May 9, 2017.

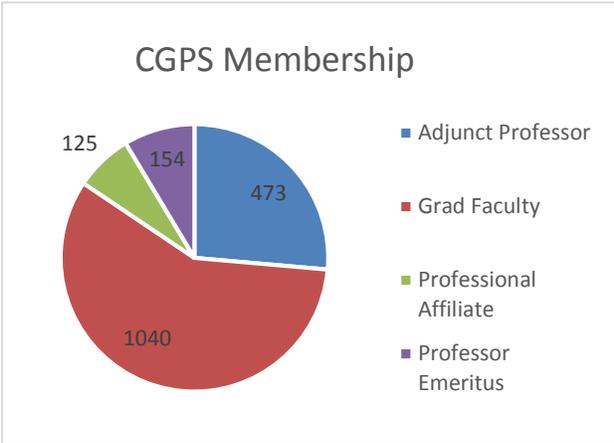


CGPS has shared its process with the College of Arts & Science for their potential future development on a similar self-nomination project.

College Membership

In response to changes in the College of Medicine regarding clinical MD appointments, and to ensure COM MD faculty with active research programs continued to be able to work with graduate students, the College’s Graduate Committee approved a new membership status, namely MD Faculty in the College of Graduate and Postdoctoral Studies

As of today CGPS holds 1792 membership appointments. To date in the 2016/17 academic year, 133 new memberships have been processed. This includes 37 Adjunct, 11 Professional Affiliates and 85 regular members. It is interesting to note that of the 85 regular members 21 were MD Faculty Memberships.



Memberships coming due for renewal June 2017 total 254 (or 15% of CGPS membership). All units were notified on March 31 of the renewal process. A new end user automated solution was tested this year with some success. Work continues on the renewal automation project (RAMP); the end state will be realized when both CGPS administration and end-users have an average of two touchpoints.



Online Membership Nomination Forms

- The goal of the online membership is to ultimately have a push/pull automated process using an existing ICT supported platform (namely SharePoint).

The project has been broke into a two-phase project. Phase one was implemented February 2017 whereby fillable forms are initiated by department delegates, the form collects approvals signatures and supports documents digitally; the package is then automated by ‘submit-click’ process and sent to CGPS. It expected that phase one reduces application turnaround time by approximately 50%.

The process framework for phase-two is being developed by the EA in collaboration with Vice-Provost, Faculty Relations office. Project obstacles currently include SharePoint development, long-term maintenance, security and change management. It is hopeful that these items will be resolved throughout the summer of 2017 and the membership automation plan (MAP) will begin fall of 2017.

College Location

Renovations are currently underway in the Thorvaldson building, previously the Dean of Pharmacy and Nutrition’s office space. Currently, our staff are situated in four different locations and we are looking forward to serving our constituents from one central and united location. Largely having everyone in one location will create additional continuity and synergies within the College. The move is expected to take place early July 2017.

Revitalization of CGPS Achievement Awards

It is very important to CGPS to have the ability to recognize the outstanding work of our colleagues. Over the years, interest in the D.Litt. and D.Sc. honorary degrees have waned, thus CGPS has opened the call for nominations to the campus community, and have extended the nomination deadline to May 31st. Honorary degrees are expected be awarded at the 2017 fall convocation ceremony.

The initial call for nominations for the Outstanding Supervisor Award was made in March and deadlines have been extended to May 31st. This award to date has regained momentum and will be awarded at the fall convocation ceremony.



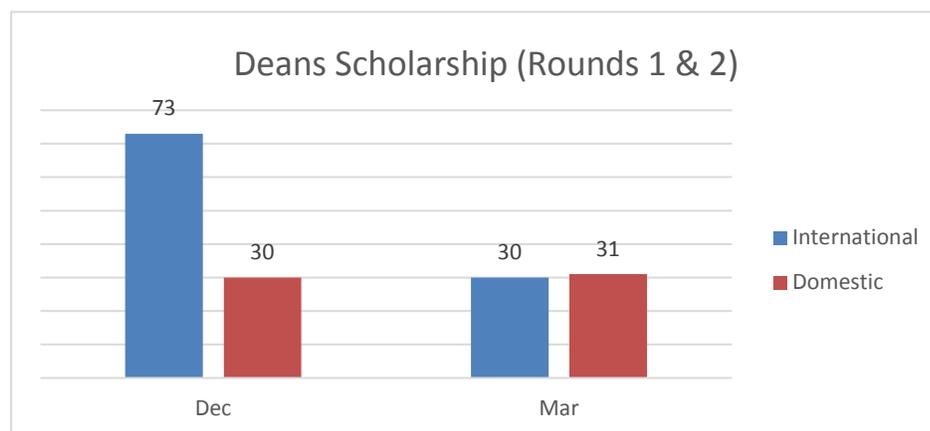
Scholarships and Awards

The Awards Committee of the College of Graduate and Postdoctoral Studies (CGPS) reviews and adjudicates applications for scholarships and graduate thesis awards. Committee membership is chosen to provide representation across disciplines that align with tri-council funding streams. Externally funded competitions included the Vanier Scholarship as well as SSHRC Doctoral, NSERC Doctoral, CIHR-Canada Graduate Scholarships-Master's, and NSERC Undergraduate Summer Research Awards. Internally funded competitions included the CGPS Dean's Scholarship (1st round in December, 2016; 2nd round in March 2017) and the University Graduate Scholarship (non-devolved) competitions

Highlights include:

- the University received **4** Vanier Awards, **3** were from the SSHRC pool and **1** was from the NSERC pool;
- The University quota for nominations to be considered at the federal level for the NSERC doctoral competition was **20**. The committee reviewed 23 applications and forwarded the full quota to the national level for consideration for NSERC doctoral awards;
- **52** Saskatchewan Innovation and Opportunity Scholarships (SIOS) awarded in partnership with the province of Saskatchewan;
- **15** non-devolved scholarships were awarded;
- **62** NSERC Undergraduate Research (NSERC-USRA) were allocated to the University of Saskatchewan (124 applications were received),
- **40** CGSM tri-agency awards were allocated to the U of S (17 NSERC, 4 CIHR, 19 SSHRC pools respectively) offers of awards were sent to students at the beginning of April;
- 196 applications for the Dean's Scholarship competition (both rounds one and two). Of these Awards Committee offered **21 Master's** (\$378,000) and **53 PhD** (\$2,332,000) Scholarships

CGPS saw nearly a double to the increase of award applications across all pillars of funding. The Chair noted that this is perhaps a reflection of the limited funding at the National level and, in part, due to diminishing success rates in National competitions due to an ever increasing demand on those funds.





CGSR Student Financial Aid

In 2013/14 graduate student stipends were increased by an average of 9%. The Dean's Scholarship fund (for domestic students) was increased by 38%. The number of scholarships awarded did not increase; however the size of the scholarship did. Devolved and non-devolved funding was increased to both departmentalized and non-departmentalized business units by 62%. Currently (2016/17) we have 92 individuals on a PhD Deans Scholarship, 30% domestic and 70% international. As part of the 2015/16 Student Aid project discussions have centered on a possible addition of tuition to the Dean's scholarship. The current domestic tuition is \$1,300 per term and \$1,950 for international students.

As part of its IP3 CGPS secured \$100K with matching funds of \$50K from the Office of the Vice-Provost Teaching and Learning to establish an Aboriginal Leadership Post-Graduate Award. A committee comprising of Aboriginal faculty, staff and graduate students was struck and terms of reference for the award were developed. The award will be entitled the Métis, First Nations and Inuit Leadership Award and will be awarded based equally on demonstrated leadership, grade point averages and research. The awards will have a value of \$20K plus tuition for a maximum of 4 years at the PhD level and \$16K plus tuition for a maximum of 3 years at the Masters. The awards will be available for both new entry students and current students. Currently (2016/17) we have 270 self-declared aboriginal students, representing 6% of the current graduate student population.

Internationalization and Recruitment

Cotutelle Project On February 7, 2017 CGPS Graduate Council approved the following motion: "To approve the recommendation to Academic Programs Committee approving the Cotutelle program policy as part of the policy 4.9 Dual Degrees, with an effective date of May 1, 2017." This motion has passed was brought forward to APC also in February and will come into effect on the date noted.

In short, the Cotutelle is a dual degree program that is designed (tailor made) for an individual student outside of the regular PhD program offering. In principle the program would be a two (2) university two (2) supervisor collaborative approach with the end result of two (2) degrees from both institutions received by the PhD candidate. Students would be required to satisfy both University's requirements, with a minimum of two (2) years spent at each institution. The assumptions at this point would be that there may be overlap in which the student would be required to pay tuition at both institutions as time finishes with one and picks up at the other. There would be one thesis defended with the committee comprised of supervisors/committee members from both universities. Standards would have to be met by both

Visiting Research Students All visiting international graduate students are now enrolled as Visiting Research Students. This is a non-degree program which allow students to visit the university for up to 6 months. It was proposed January 2017 to extend the maximum period of stay for visiting PhD students to one year with a possible extension for a further 6 months to a maximum of 18 months, the main goal being to allow the VRS and faculty member(s) to complete research projects.

English Proficiency Minimum Requirements

A proposal to align the gap between IELTS and TOEFL scores is currently making its way through CGPS governance. This proposal not only narrows the gap between to two acceptable tests, but also aligns with other institutions as well as the University of Saskatchewan's undergraduate requirements. The proposal identifies an acceptable score of 6.5 for IELTS and 86 for TOEFL respectively.


 **Programs and Operations**

Banner Document Management (BDM) for admissions rolled out for all academic units effective for September 2017 admissions forward. Although graduate administrators and central staff are still navigating utilizing the new system, we have had very positive feedback about the utility of the BDM product. However, we continue to welcome ongoing feedback as we all experience our first admissions cycle with all units using it.

The Relationship Management (RMS) project continues to move forward. Members of the CGPS Leadership Team, along with the Project Lead, are beginning consultation meetings with graduate units in the colleges and departments in February to discuss the Recruit product. We are looking forward to learning more about how we can maximize the value of the product to enhance recruitment efforts and continue to improve admissions processes.

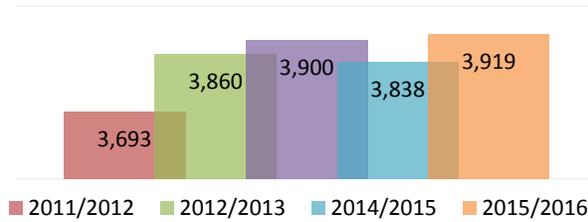
Graduate Administrators Forum: Two forums (February/April) were held in 2017. CGPS has held six (6) forums since we began this initiative in 2015. We have found this opportunity to connect more closely with administrators extremely valuable, and we ask that you encourage your graduate support staff to attend and participate.

Electronic Defense Documentation CGPS reported in 2016 that it was expected to roll out a SharePoint thesis document management system. This project is currently delayed due to development issues encountered during the project testing phase. We are hopeful that issues identified can be resolved in order to get this project back on track and released to the campus community as seamlessly as possible.

New Supervisor/Student Agreement Templates CGPS's Executive committee recently approved a new student/supervisor template for use at the outset of the supervisor/student relationship that may prove to be an extremely useful tool. It clearly outlines reciprocal responsibilities and a means for managing a communicative relationship. It is a fluid document that can change over time and as needs are identified.

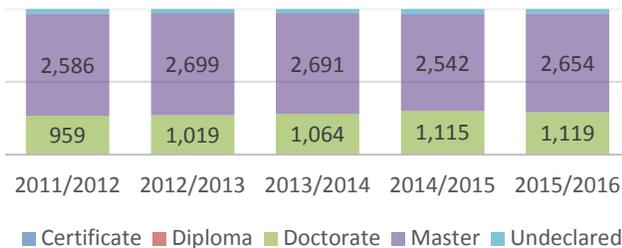
Student Statistics

Figure 3: Graduate Academic Enrolment



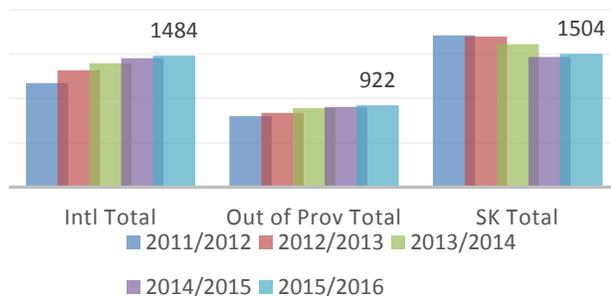
Graduate enrolment is holding at a 2% increase over the 2014/15 academic year (Figure 3) of which 2,654 were MSc students and 1,119 were PhD candidates (Figure 4).

Figure 4: Enrolment by Program Type



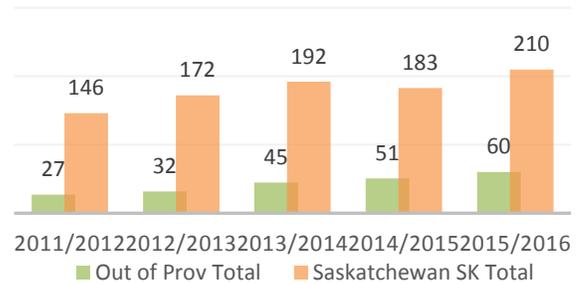
The international student category continues to see an increase (Figure 5; ~ 2% increase in the 2015/16 academic year over last which equates to about 30 students). We saw a 2.4% increase in SK resident student and out of province students saw a marginal increase of 0.2%

Figure 5: Geographic Demographic



As shown in Figure 6, 270 graduate students self-declared as Aboriginal in the 2015/16 academic year. This is a 13.3% increase over 2014/15 and represents 7% of the graduate student body.

Figure 6: Aboriginal Demographic



Since 2011 there have been 5,264 graduate student credentials awarded. In 2016 there were 920 graduate degrees awarded (772 MSc and 148 PhD). This is an overall 2.5% increase from 2015 (Figure 7).

Figure 7: Graduate Credentials Awarded



TO: University of Saskatchewan Research, Scholarly and Artistic Work Committee of Council

FROM: Vivian R Ramsden, Chair, Behavioural Research Ethics Board (Beh-REB)
Scott Tunison, Co-Chair; Patricia Simonson, Co-Chair

DATE: May 17, 2017

RE: Annual Report of Behavioural Research Ethics Board Activities
Reporting Period – May 1, 2016 – April 30, 2017

The Behavioural Research Ethics Board (Beh-REB) is responsible for the review of all protocols involving human participants which include social, behavioural and cultural research using methods such as interviews, surveys, questionnaires, observations, psychological, social or behavioural interventions, audio and/or video recording.

The purpose of an ethics review of research is to ensure the rights of the participants are respected and protected and that the procedures followed comply with ethical, scientific, methodological, medical, and legal standards (UofS Human Research Ethics Policy (June 2013)).

Summary of Activities:

The attached spreadsheet describes the overall number of research studies, full board reviews, delegated reviews, exemptions, annual renewals, closures and amendments processed by the Beh-REB in the past reporting year. The Behavioural REB received 457 new research applications in this reporting year. Of these, 90 were considered exempt from human ethics review, because they did not meet the definition of research as defined in the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans (TCPS2 2014). Submissions are determined to be exempt through consultation between the researcher and Chair. 9 studies were deemed to be “above minimal risk” and required full board review. Decisions to approve a study and / or to recommend changes are by consensus of the Beh-REB at a face to face meeting. From the new studies received, 358 were designated “minimal risk” and were reviewed through a delegated review process (by a sub-committee of 1-3 REB members with expertise in the relevant area and the Chair).

There were 192 requests for amendments to previously approved studies. Examples of amendments include the addition of recruitment material and changes to already approved studies and consent forms. These requests were reviewed only by the Chair, as none were substantive enough to require full board review. The REB also received and reviewed 456 renewal requests for ongoing studies, and 293 study closure reports for studies completed during the reporting period.

There were also 47 exemption letters provided to researchers based on key information where full applications were not received.

Events and Opportunities in 2016-17

1. The Application of the Principles/Values of TCPS 2 Chapter 9 with researchers has increased authentic engagement and access to the knowledge and expertise of the Ethics Specialist (Behavioural); as well as, the Chair and Members of the Beh-REB.
2. The Beh-REB received a minimal number of reported protocol violations/unanticipated problems. These ranged from using the wrong instrument to e-mail messages being sent to every potential participant.
3. In April of 2015, the Beh-REB received concerns from a number of students regarding a course based research project, titled, "The Relation Between Personality Traits and Defense Mechanisms," (Beh file #14-81). The concerns were substantive enough to request a directed audit of the research. The directed audit was carried out internally by the University of Saskatchewan's Division of Audit Services, and specifically focused on the processes around research information collection, information retention and evidence of the obtaining (and withdrawal of) consent. The report was received by the Behavioural REB in May of 2016. Based on the observations made during the review and the risk ratings applied by Audit Services, nothing material was observed that would lead Audit Services to believe the study was not conducted in broad compliance with Research Ethics Board directives. Audit Services identified some areas that would require improvement to ensure effective controls in future research projects, both in the areas of control activities and monitoring. The recommendations were identified in the Audit Report dated May 2016. The file has since been closed.
4. Human Behavioural Compliance Audit of Beh-REB

The objective of the audit was to determine whether adequate systems, practices and controls were in place and applied on a consistent basis to ensure human behavioural research was conducted in an ethical manner. This was an extensive investigation requiring full cooperation and support from the Research Ethics Office (REO) staff.

The Final Report from the Auditor was received on April 11, 2017 which was 18 months after its initiation. The findings ranged from 1 (insignificant) to 5 (potentially catastrophic). In all, 14 recommendations were put forward, one [1] insignificant and 13 were given a moderate rating. The response from the REO has not yet been finalized.

Behavioural Research Ethics Board Support Structure and Membership:

During 2016 and 2017, the daily work of the Beh-REB was carried out by one ASPA II FTE, and one ASPA I FTE with another ASPA I position shared with the Biomedical REB. There was also 1 CUPE FTE who provided administrative support to the entire Human Ethics side of the REO.

Additionally, Beh-REB Chair/Co-Chairs roles are held by:

- Dr. Vivian R Ramsden continues in her role as Chair of the Behavioral REB.
- Dr. Scott Tunison continues in his role as Co-Chair of the Behavioural REB.
- Rev. Patricia Simonson continues in her role as Co-Chair of the Behavioral REB.

The Behavioral Research Ethics Board has members from the following colleges, and departments:

- College of Arts and Science (Psychology, Indigenous Studies, Sociology)
- College of Education (Ed. Psychology and Special Ed.)
- College of Medicine (Family Medicine)
- College of Nursing
- Edwards School of Business

The Behavioural REB also has representation from Saskatoon Public School Board; as well as, four members from the community, one of whom fills the required role as the member knowledgeable in Ethics. Overall, the Beh-REB has a good complement of members but a member from the College of Law would round out the complement. The College will be approached and invited to join the Beh-REB.

Research Ethics Committees (REC)

The following Departments/Colleges have active Research Ethics Committees that report to the Beh-REB:

- Department of Psychology
- Edwards School of Business
- College of Kinesiology (joint with the Biomedical REB)

All RECs will submit Annual Reports to the Beh-REB at the end of July, 2017.

Research Ethics Education for REB Members:

Institutions with research ethics boards are required by the TCPS2 to ensure that REB members are educated in research ethics. REB members and administrative staff require training to keep abreast of changing regulations and new developments in research ethics. The Research Ethics Office educates and trains new members as they join the Beh-REB. All new members meet with the Ethics Specialist (Behavioural) for a one-on-one educational session. Beyond these initiatives, new REB members learn protocol review on-the-job and by consultation with each other and the Research Ethics Office. The Beh-REB continues to promote a “mentoring/buddy system” for new members, in order to aid in the orientation

process. Short education sessions are now scheduled during REB meetings as part of the ongoing education of members.

Research Ethics Conferences:

- PRIM&R Public Responsibility in Medicine and Research Conference in Anaheim, CA (November 14-16, 2016) was attended by the Vice-Chair and the Ethics Specialist.
- Canadian Association of Research Ethics Boards (CAREB) in Halifax (April, 2017) was attended by the Chair and Co-Chairs and the ASPA I Administrator.

VR Ramsden, S Tunison, and P Simonson presented a Workshop at CAREB entitled, “Integrating the Principles/Values of Chapter 9 into Ethical Reviews”. The presentation went very well and was well received.

Research Ethics and Academic Integrity Education for the Research Community:

The Research Ethics Office continues to emphasize communication and education regarding research ethics and integrity. A number of Canadian universities have made research ethics training mandatory for researchers doing research with human participants. At present graduate and undergraduate students submitting ethics applications are required to complete the TCPS2 On-Line Tutorial.

The REO receive specific requests from Departments, Colleges, Faculty and researchers for education and training in research ethics. Research Ethics Office staff made educational presentations on REB processes, human research ethics issues and academic integrity to more than 400 members of the campus community. The units visited are listed in the table below, some units received multiple presentations.

| REO Presentations and Workshops - Class / Dept / School / College 2016-17 | |
|--|----------------------------|
| Native Studies | Northern Governance Class |
| Dentistry | Nursing Grad Orientation |
| Medical Residents | SaskPolyTech |
| Ed Psych | Computer Science |
| Education [4] | Nursing |
| School of Public Health [2] | Edwards School of Business |
| Kinesiology | Psychology |
| International Centre for Northern Governance | |
| TOTAL ATTENDANCE ~ 400 | |

Additional Educational Activities:

Drs. Vivian R Ramsden and Scott Tunison along with Beryl Radcliffe have had several face-to-face meetings over the past year with researchers and students to discuss their potential research projects and how best to facilitate next steps.

Issues:

Tri-Council Compliance: The University of Saskatchewan has signed the Tri-Council MOU that requires researchers receiving funding from SSHRC, CIHR and NSERC to maintain continuous research ethics approval in order to receive their research funds. The REO has systematic processes to ensure continuous ethics approval is in place for the life of a research project which has resulted in a dramatic reduction in non-compliant research, but still this issue remains an ongoing challenge.

Initiatives in the coming year:

- Ensure that the Chair has sufficient support to meet the demands of the Behavioural REB e.g. increased time allocation and remuneration as required. Remuneration of Co-Chairs should also be considered.
- Assess the feasibility of required human ethics training for all researchers at the U of S.
- On-going development of the on-line Research Administration System: In May, 2013, Board of Governors approved the UnivRS on-line research platform. The Research Ethics processes will be added in Phase 2, timeline TBD.
- Continue to formalize Behavioural Research Ethics Application with the Saskatchewan Harmonized team to address any clarifications and updates that may be required.
- Pursue further education for the Beh-REB in emerging areas and TCPS2 guidelines.
- Continue to work to improve the communication between the Beh-REB and the research community.
- Continue to work to increase visibility and recognition for the critical work done by REB members on behalf of the University. The work done by REB Members is essential to the University of Saskatchewan as it continues to develop its research capacity.

TO: University of Saskatchewan Research, Scholarly and Artistic Work Committee of Council

FROM: Dr. Gordon McKay, Chair, Biomedical Research Ethics Board (Bio-REB)
Dr. Ildiko Badea, Vice-Chair, Biomedical Research Ethics Board (Bio-REB)

DATE: May 17, 2017

RE: Annual Report of Biomedical Research Ethics Board Activities
Reporting Period – April 1, 2016 – March 31, 2017

The **Biomedical Research Ethics Board (Bio-REB)** is responsible for the review of all research ethics applications involving human participants that involve medically invasive procedures; physical interventions and therapies (including exercise and diet interventions), the administration and testing of drugs, natural products or devices, or physiological imaging and measures (e.g. MRI or CT scans, heart rate, blood pressure) and research projects collecting personal health information from medical charts or health records.

The purpose of an ethics review of research is to ensure the rights of the participants are respected and protected and that the procedures followed comply with ethical, scientific, methodological, medical, and legal standards.

Summary of Activities (May 1, 2016 – April 30, 2017)

The total number of active Biomedical files is approximately 1,006. The attached spreadsheet describes the overall number of research studies, amendments, annual renewals and closure reports, protocol violations and unanticipated problem reports received and reviewed in the past reporting year.

In the past two reporting years the reporting summary was not fully comprehensive. The reports over the last two years were simply a yearly total and lacked information on harmonized review, or the activity of specific units (Clinical Trials Support Unit, Allan Blair Cancer Center). The report did not include activity reflective of each full board meeting within the month and year, the number of protocol violations or any reporting of unanticipated problems. It is important to note that in moving to a more comprehensive report that covers the University fiscal year we are missing one month of board activity (March 3, 2016-April 6, 2016) and represent 34 new studies (5 full board, 18 delegated, 11 exempt protocols). Now that we have moved to this new summary reporting format this shortcoming will not re-occur. We are not reporting direct comparisons of this year's activity to last year due to the change in the monthly reporting period (that results in either over or under reporting of activity in last year or this year) which will be important as reporting occurs through the UnivRS system.

This change applies to both the Behavioural and the Biomedical REBs.

Review of research

New submissions: 352 new studies were submitted for review to the Bio-REB in this reporting period. Of those, 89 (25%) were considered exempt from human ethics review, as they did not meet the definition of research as defined by the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans (TCPS2 2014). 76 (22%) of the reviewed research studies were “above minimal risk” and required full board review. 187 (53%) of the studies were considered to be of minimal risk.

Research studies that involve greater than minimal risk must be reviewed by the REB at a face-to-face meeting. The REB reviews above minimal risk studies at regularly scheduled meetings. A deadline for submission precedes each meeting by approximately two weeks.

The Chair holds the primary responsibility of reviewing minimal risk research, and consults with the Research Specialist on all delegated reviews. Delegated review refers to review and approval by the Chair alone or with the assistance of one or more REB members or the research specialist and the Chair. The timeline for review and approval of a delegated review can be as short as 2 days for retrospective studies with no participant contact and up to 2-3 weeks for prospective minimal risk studies with participant contact. For both above minimal risk and minimal risk studies, efforts will continue to be made to increase efficiencies and to reduce further the review to approval timeline.

Amendments to on-going studies: Amendments to approved studies are reviewed by either the Chair or the Vice-Chair depending on work load, complexity and risk level of the amendment. Amendments representing more than minimal risk to study participants are reviewed at a full-board meeting, according to regulatory requirements set out by Health Canada and the U.S FDA as well as the USA Office for Human Research Protection (OHRP) and the REB’s Standard Operating Procedures (SOPs). Changes that are administrative in nature, do not affect the risk/benefit ratio to participants or simply update information already present in the consent are reviewed by the Chair or Vice -Chair only. There were 458 requests for delegated amendments while 28 amendments were reviewed by the full board.

For amendments requiring full-board review, all board members are able to access material relevant to the amendment via Share Point. The Vice-Chair is responsible for the presentation and review of these amendments at the meeting.

Review and re-approval of on-going studies: As per the TCPS2 2014, the REB has the discretion to set the continuing review period to any time period within the scope of one-year, depending on the nature of the study and the risk/benefit ratio, but the default period remains one year. There were 707 renewals processed through delegated review during this reporting period, while 98 renewal requests required a full board review as required specifically by sponsors, regulatory authorities and the REB’s SOPs. A total of 215 studies were completed and closed during the reporting period.

There were 9 unanticipated problem reports and 11 protocol violation reports received during this reporting period. All Data Safety Monitoring Board (DSMB) reports (total number not tracked) are reviewed by the Chair of the REB and reported to the full board by way of a monthly summary report. In order to be reportable an event must be unexpected, possibly related to participation in the research and suggests that the research places research participants or others at a greater risk of harm.

Review and exemption of “Quality Assurance/Improvement” studies: A total of 89 submissions were deemed to be exempt from research review because they were assessed as “Quality Assurance (Q/A) or Quality Improvement (Q/I) Studies.” The Bio-REB Chair/Vice-Chair make a determination that a project is outside the scope of research requiring review (as defined by the TCPS2 2014) via email correspondence or tele-conference several times per week, but only formalize this into an exemption ruling when an application is submitted to the REB.

The main concern in regard to this category of projects remains unchanged from previous reporting years; while it is not usually appropriate to review these projects with a research lens, they are not all free of risk to participants nor exempt of the requirement to be conducted in an ethical manner and in keeping with the Saskatchewan Health Information Protection Act (HIPA). The REB often takes the approach of providing a number of suggestions in keeping with these requirements to accompany the exemption letter.

Harmonized Review

- A total of 30 research ethics applications were handled through the provincial harmonized review processes. This represents an approximate 8.5% of all applications.
- Interprovincial harmonization discussions have now been expanded to full reciprocity for minimal risk studies and a new agreement has been drafted to allow for all minimal risk studies to only require one REB review, either Regina or Saskatoon.
- The REO continues to work with administrators from the UofA and UBC under the Western harmonization of research ethics review between the three institutions. While there is a formal reciprocity agreement in place between the western provinces, more work needs to be done to facilitate ease of review across these provinces, in particular, for multi-site research.

Events in 2016-17

Audits and Monitoring: There were 7 visits by external agencies conducted in 2016-17. Of these 2 involved a site audit by Health Canada. The other five visits were either annual monitoring or quality assurance visits related to cancer studies. The Canadian Cancer Trials Group (CCTG) conducted annual site visits in both Regina and Saskatoon of studies that the Bio-REB has ethical oversight. In all cases the studies were shown to be in compliance and no serious concerns were raised. CCTG also conducted a site visit for a CCTG trials MEC5 and BR31 and found no issues. The National Radiography Group (NRG Oncology) conducted a quality assurance audit and gave an acceptable rating and the Children’s Oncology Group (COG) completed a monitoring visit in Saskatoon of studies under the protocols SAALL0932 and

AALL1131. Both studies were viewed as complete and well organized and no issues were identified.

The Bio-REB continues to be the REB of Record for the Saskatchewan Cancer Agency. The current process involves the review of the same study at two different sites, Saskatoon and Regina, presented from two or three different administrators. The administrative work load that arises from ensuring the duplicated files are processed appropriately, yet in tandem, is considerable. This burden may lessen when the REB compliance modules become active in UnivRS.

Clinicians from Allan Blair Cancer Centre continue to serve on the Biomedical REBs, bringing much needed oncology expertise to the boards.

Bio-REB meetings, membership and support structure:

The daily work of the Research Ethics Office for the biomedical portfolio is carried out by an ASPA II FTE and an APSA I FTE, with another APSA I FTE shared with the Behavioural REB. There is also 1 FTE providing administrative support to the entire Human Ethics side of the REO.

The Bio-REB continues to meet twice per month, through two separate REB's (Bio-REB 1 and II). The past twelve months have seen a numbers of changes in the membership of the Biomedical Research Ethics Board (Bio-REB).

REB Members are volunteers, typically with a three-year appointment. The average workload of each member is a monthly meeting lasting 2 to 3 hours, with 4 to 8 hours of preparation prior to the meeting, reviews of minutes and of other issues arising post-meeting, as well as reviews of delegated research studies. The Chair and Vice-Chair with administrative assistance from the REO staff ensure consistency in the operations of the two REBs.

Some medical sub-disciplines continue to be inadequately represented on the REB and there is a need to recruit additional clinicians in selected areas (e.g. family medicine, and medical genetics) in order to ensure a broad range of clinical expertise, manage conflicts of interest and distribute the burden of serving on the REB among all groups engaged in research. Both Bio-REB I and II meet the membership requirements of the TCPS2 2014, ICH-GCP (Health Canada, Division 5) and OHRP (US).

Educational Activities:

Institutions with research ethics boards are required by the TCPS2 2014 to ensure that REB members and staff are educated in research ethics. Bio-REB members are also required to complete the Office of Human Research Protection (OHRP) Training Module for Federal Wide Assurance Compliance, the TCPS2 2014 on-line tutorial and are encouraged to complete the McMaster University Chart Review Tutorial. REB members and administrative staff require training to keep abreast of changing regulations and new developments in research ethics. How best to educate REB members continues to be a challenge. New REB members learn to review studies 'on-the-job' and by consultation with each other and the Research Ethics Office.

The REO provides education to REB members through webinars and brief educational initiatives at the beginning of every REB meeting.

Research Ethics Conferences:

- PRIM&R Public Responsibility in Medicine and Research Conference in Anaheim, CA (November 14-16, 2016) was attended by the ASPA II Specialist.
- Canadian Association of Research Ethics Boards (CAREB) in Halifax (April, 2017) was attended by the Chair and the Ethics Specialist.

Research Ethics and Education for the Research Community: The Research Ethics Office continues to emphasize communication and education about research ethics and integrity. A number of Canadian universities have made research ethics training mandatory for researchers doing research with human participants. At present graduate and undergraduate students submitting ethics applications are required to complete the TCPS2 2014 tutorial. The University Committee on Ethics in Human Research (UCEHR) recommended extending this requirement to all researchers.

The REO receives specific requests from Departments, Colleges, Faculty and researchers for education and training in research ethics. Throughout the past year, Dr. Gordon McKay, Dr. Ildiko Badea and Bonnie Korthuis met face-to-face or through tele-conference with researchers from the researcher community to aid in the development of research projects and to discuss ethical issues arising from research.

Research Ethics Committees (RECs)

The Bio-REB oversees only one Research Ethics Committee (REC) operating at the College level, the Kinesiology REC, which reports jointly to the Biomedical and Behavioural REBs. A full report from the College of Kinesiology REC has not yet been received by the Research Ethics Office.

Success, Issues arising and challenges in the coming year:

1. The REO recognizes the essential contribution of its Board members and will continue to pursue opportunities to meet their educational needs and to recognize their contributions on behalf of the University.
2. The University of Saskatchewan has signed the Tri-Council MOU that requires researchers receiving funding from SSHRC, CIHR and NSERC to maintain continuous research ethics approval in order to receive their research funds. The REO has a systematic processes in place to ensure continuous ethics approval for the life of a research project which has resulted in non-compliance a dramatic reduction in non-compliant research, but still this issue remains an ongoing challenge.
3. The REB continues to work intra and inter-provincially to explore practical solutions to REB reviews being shared across provinces, especially for multi-site research and the development of common application and consent forms to facilitate cross-provincial review. The difficulty here is that each province has responsibility for its health care, privacy and by extension ethical issues surrounding these activities.

4. The REO will explore the possibility of the UofS Bio-REBs being accredited against the Clinical Trials Ontario (CTO) standards which would facilitate the UofS REB becoming the Board of Record for the province and new provincial RHA.
5. The REO will work to finalize the human ethics review process flowchart that outlines all scenarios related to applications received and the demographics of those submitting such applications whether they be internal or external to the UofS.
6. If the UofS will accept applications from non-affiliated individuals – should an ethics review fee be charged for (a) studies funded by not from an industry sponsor (as those are already covered by the RSEO procedures); and (b) studies that are unfunded?
7. The REO will re-consider its fee structure to include activity related to amendments and renewals especially from industry sponsored studies.
8. The release of the UnivRS on-line system for ethics review will greatly improve efficiencies for both the researchers and the REO. In the short run, there will be challenges in adapting to the new system.
9. The REO in its review of current SOPs recognizes the value in the adoption of the SOPs available through our membership in the Network of Networks N2.

Annual Report of the Animal Care Program and University Animal Care Committee

To the Research, Scholarly and Artistic Work Committee of Council

For the period May 1st, 2016 to April 30th, 2017

It is our pleasure to provide the following overview of the key accomplishments and activities of the Animal Ethics and University Animal Care Committee for the period May 1st, 2016 to April 30th, 2017.

RESPONSIBILITIES OF THE UNIVERSITY ANIMAL CARE COMMITTEE

The University Animal Care Committee (UACC) must review and approve any use of animals for research, teaching, production, and testing before animal use is initiated for these purposes. In this role, the UACC's primary responsibilities are to provide "informed consent" on behalf of the animals, and to ensure animal welfare, adequate veterinary care, and best practices with respect to animal care and use in compliance with University of Saskatchewan Policy, Canadian Council on Animal Care (CCAC) guidelines, and other applicable regulations and policy. The UACC's responsibilities include insuring that all proposed animal use has been reviewed for scientific or pedagogical merit; that the safety and health of academic staff, animal care staff, and students is considered; and that all individuals directly involved in animal use receive adequate and appropriate training in animal handling, husbandry, and experimental techniques. Such responsibilities promote high quality research. Of equal importance, these responsibilities reflect the perspective of the University which views the use of animals in research, teaching, production, and testing as a privilege, and is committed to insuring that all animal care and use is conducted with exemplary standards in keeping with the national standards set out by the CCAC.

The UACC is administratively supported by the Research Services and Ethics Office (RSEO) Animal Care Program staff. These staff are overseen by the University Veterinarian and include the Animal Welfare Veterinarian, the Senior Advisor, Aquatics, the Lead, Animal Research Ethics, and one half-time and two full-time UACC Animal Technicians. The University Veterinarian reports to the Associate Vice President-Research.

SUMMARY OF ACTIVITIES (May 1, 2016 to April 30, 2017)

Review of research protocols, modifications, and renewals

Approximately 400 U of S protocols are active at any given time, 10 of which are considered "Category of Invasiveness E", the highest level of invasiveness defined by the CCAC. The UACC serves approximately 200 investigators on campus. Our compliance with CCAC guidelines resulted with the renewal of our Good Animal Practice Certificate in 2016, a required achievement for the University to remain eligible to receive Tri-Council funding.

Development of UnivRS Animal Ethics Module and Integration with Animal Ordering

The University Research System (UnivRS) is a single web-based system that provides researchers a secure space to collaborate on research projects as well as being the central repository to manage all project funding and compliance activities.

The Animal Ethics group is developing a UnivRS module for the submission, routing, and ethical review of Animal Use Protocols; this aspect is nearing completion. Development is currently focused on enabling the tracking of animal purchase and usage as well as invoicing and other financial aspects. The Animal Ethics module is anticipated to be launched in Fall 2017. The module will streamline and automate the processing of all aspects of Animal Use Protocols, including initial application and routing for signatures, Animal Research Ethics Board review process, Annual Review process, and Four Year Renewal process.

Enhancing Service

Office Restructuring

In September 2016, the Research Services and Ethics Office was restructured as a part of continued efforts to provide improved service delivery to faculty, staff, and students. A board certified laboratory animal veterinarian was hired to fill the vacant University Veterinarian position. The University Veterinarian now reports directly to the Associate Vice President – Research and oversees the Animal Ethics Administrative group, including the Animal Welfare Veterinarian, Senior Advisor, Aquatics Research Facilities; Lead, Animal Research Ethics, and three UACC Animal Technicians, which includes the Animal Order Desk.

Animal Ordering

Animal Ordering is now, very successfully, channeled through the “Animal Order Desk”, operated out of RSEO, in order to streamline animal ordering, track animal numbers for CCAC reporting, and facilitate the acquisition of permits.

In July, 2016, 1.5 FTE UACC Animal Technicians were transferred from Health Sciences Supply Centre to RSEO to coordinate Animal Orders (Purchasing, Acquisition, and Invoicing) and track animal usage. These technicians also administer animal user training, and perform technical duties such as anesthesia.

Animal orders total approximately \$450-500,000 annually. The Animal Order Desk has greatly facilitated compliance to CCAC guidelines with respect to the tracking of animal usage, particularly with fish numbers. Due to their efforts to streamline orders, establish relationships with high quality vendors, and assist with permit acquisition and animal imports across provincial and international borders, the UACC technicians have received very positive feedback from animal users. RSEO considers this new Animal Ordering program to be a tremendous success.

Aquatics Program

The Aquatics Program underwent considerable development in the past year:

- Standard Operating Procedures were developed that apply to all fish facilities. As part of this, UACC Technicians now perform monthly water quality monitoring for all aquatics facilities and ensure all documentation of husbandry activities is in place. Facility managers are expected to monitor water quality at least weekly and maintain records of husbandry activities and animal health and to communicate issues to RSEO staff in a timely manner.
- Because of regulatory difficulties in federally or provincially importing zebrafish, two zebrafish breeding colonies are maintained on campus as a source of zebrafish for investigators. An animal health monitoring system is in place for these colonies to ensure investigators are aware of any factors that can influence their data.
- A quarantine facility was established to enable investigators to satisfy federal requirements for the

importation of fish. This lengthy process required multiple inspections by the Canadian Food Inspection Agency.

- A Fish User Training course is under development and expected to be offered in Fall 2017.

Animal User Training Opportunities

- Rodent Handling, Surgery, and Anesthesia Training Workshops were previously offered on demand but are now offered regularly and at increased frequency - at least monthly - and instructed by the Animal Welfare Veterinarian and/or UACC Technicians, depending on the course
- Fish User Training is under development and will be available in Fall 2017, as previously mentioned
- The Animal Ethics staff deliver animal handling laboratories to ANBIO110 and VLAC 211 students
- The University Veterinarian delivers an Animal Ethics lecture annually to ANBIO110 students
- The University Veterinarian delivered a lecture on Laboratory Animal Medicine to first year veterinarians in their "Survey of Veterinary Medicine" course.

Facility Expansion and Development

The UACC Veterinarians and animal facility managers have been consulted and actively engaged in the planning and design of new vivaria across campus. This enables Animal Ethics staff to provide input to help ensure compliance with CCAC guidelines, optimize facility operations and workflow, optimize biocontainment and advise on species-specific requirements, among other aspects. For the past year, input was provided for the following vivaria:

- The Research Wing of the Saskatchewan Centre for Cyclotron Sciences (commissioned November 2016 by the UACC)
- The Collaborative Science Research Building vivarium (ongoing)
- The University of Saskatchewan Livestock Facility Project (ongoing)
 - Beef Cattle Research and Teaching Unit
 - Forage and Cow Calf Research and Teaching Unit.

Training Initiatives for Laboratory Animal Veterinarians:

The U of S offers many unique opportunities to engage students in laboratory animal medicine and research. Its diverse research programs, active aquatics program, well-established veterinary pathology program, and unique, state-of-the-art facilities such as Vaccine and Infectious Disease Organization (VIDO)-Intervac (an elevated biocontainment facility), the Canadian Light Source, and the Saskatchewan Centre for Cyclotron Sciences offer ample opportunities and strength of experience for students interested in laboratory animal medicine and research. As such, the Animal Ethics group has taken steps to promote student engagement as follows:

Laboratory Animal Residency Program (under development)

A Laboratory Animal Residency Program is under development in collaboration with the Western College of Veterinary Medicine and will be driven by the University Veterinarian. Up to three post-graduate veterinarians will be enrolled at any given time. Through this program, residents will gain research (residents can opt to gain an M.S. or Ph.D. degree), clinical, pathology, and facility management experience and participate in relevant graduate level courses with the goal of qualifying them to sit for the board certification examination offered by the American College of Laboratory Animal Medicine (ACLAM). For the program to be officially recognized, a description of the proposed program will be submitted to ACLAM in October 2017 for their approval.

Laboratory Animal Medicine Club (for Veterinary Students) (ongoing)

The Animal Ethics group is actively engaged with the recently established WCVL Laboratory Animal Medicine Club (LAM Club). Our University Veterinarian and Animal Welfare Veterinarian have interacted frequently with this group to provide guidance, advice and ideas. Our Animal Welfare Veterinarian presented her career path in a lecture to the group in Fall 2016. The University Veterinarian delivered a lecture on “Replacement Technology in Animal Research” as part of activities organized by the LAM Club for International Biomedical Research Awareness Day (BRAD, April 19, 2017). We are actively working with the club to develop opportunities for job shadowing, other hands-on laboratory animal experience, and potential research projects that foster student interest and knowledge and enhance their chance of acceptance into laboratory animal residencies upon graduation.

International and Community Engagement

Animal Ethics staff have initiated, coordinated, or collaborated in the development of several activities that will place a very positive international or national spotlight on the U of S Animal Care Program.

FRAME Training School in Experimental Design and Statistical Analysis

In association with the University of Nottingham, the U of S will host a workshop from May 31-June 2, 2017, “FRAME Training School in Experimental Design and Statistical Analysis”. This interactive school offers direct access to expert tutors, practical experience in designing experiments, networking opportunities, and useful learning material for researchers and other individuals involved with animal use in research.

For some background, FRAME is the acronym for the U.K.-based, “Fund for the Replacement of Animals in Medical Experiments”. FRAME’s ultimate aim is the elimination of the need to use laboratory animals in any kind of medical or scientific procedures, however the group accepts that a total end to their use cannot be achieved immediately and so the group aims to develop better scientific methods to work toward that long term goal.

CCAC National Workshop

The annual CCAC National Workshop will be held in Saskatoon on June 3, 2017, in conjunction with the FRAME training school. Participants will learn about Three Rs alternatives, exchange common animal care challenges and best practices, and learn about recent developments at the CCAC. The focus of this year’s work shop will be farm animals, but other topics related to new guidelines and policies will also be discussed.

CCAC Assessment Panel

Our UACC chair, Jane Alcorn, DVM, PhD, remains actively involved in the CCAC and will chair the CCAC Assessment Panel for their triannual site visit to the University of Alberta in May 2017.

Northwest Territories Euthanasia Training Workshop

Largely driven by faculty from the Western College of Veterinary Medicine, a Euthanasia Training Workshop is currently under development and will be offered in July to individuals in a remote northern community. Community members reached out to RSEO in January 2017 to request training. The University Veterinarian will be one of the instructors.

Triannual CCAC Assessment, 2016

The CCAC conducts site visits every three years to assess facilities and practices to support institutions in achieving best practices in animal ethics and care. Their standards are CCAC policy statements, guidelines documents, and other CCAC-recognized standards designed to promote the ethical use and care of animals in science. The CCAC conducted their assessment on May 10-12, 2016. Their complete assessment report and the RSEO response to their recommendations are attached. This section also provides an overview of many changes that occurred in the Animal Care and Use Program for the past year.

Serious recommendations apply to significant or long-standing weaknesses in the animal ethics and care program. The measures taken and planned in response to these recommendations must be provided to the CCAC within three months of the institution receiving the recommendation. The following serious recommendations were made:

- 1. That with respect to the Biology Basement facilities, the proposed plan to upgrade and improve two aquatic rooms to comply with CCAC standards be implemented as planned in a timely manner and that this be done before the reintroduction of aquatic species in these rooms.*

To summarize the University's response to this recommendation, it was stated that a new, Collaborative Science Research Building (CSRB) will be completed by April 30, 2018 that will include a vivarium with a designated aquatics facility. To meet the needs of the researchers and avoid disrupting studies in the meantime, zebrafish remain in these rooms, but stocking densities have been lowered, clutter has been removed, and communication between research and RSEO has improved. Investigators have aligned their record-keeping with standards prescribed in a new Standard Operating Procedures for Aquatics Facilities that was implemented by the Senior Advisor, Aquatics, and water quality is monitored regularly.

Regular recommendations apply to weaknesses in the animal ethics and care program. The measures taken and planned in response to these recommendations must be provided to the CCAC within six months of the institution receiving the written recommendations. The following regular recommendations were issued by the CCAC in response to their 2016 visit:

- 1. That in an effort to ensure good animal practices, the University of Saskatchewan University Animal Care Committee and/or its subcommittee continue to oversee the development and revision of Standard Operating Procedures (SOPs), be they institutional, investigator-specific, or belonging to affiliated institutions, and that these SOPs be reviewed at least every three years.*

To summarize the University's response to this recommendation, the Education and Training Committee has been tasked with reviewing institutional and affiliated institutional SOPs every three years. Investigator-specific SOPs are reviewed with four year protocol renewals, at minimum.

- 2. That the University of Saskatchewan continue to develop a management structure for its aquatic facilities, to ensure that animal ethics and care are overseen by competent and arm's length individuals responsible for:*
 - a. Regular communication with regards to animal arrivals, animal housing, animal health and welfare matters with veterinarians and the Senior Advisor, Aquatic Research Facilities*
 - b. Long term capacity and maintenance planning for its aquatic facilities*

- c. *Coordination and standardization of practices across facilities*
- d. *Frequent communication with animal users to ensure that services offered are well understood*
- e. *Ensuring that institutional animal ethics and care and facility management practices and procedures are followed.*

The University has made significant progress with this recommendation. To summarize, the following were implemented:

- A General SOP for U of S Aquatic Research Facilities (addresses recommendation 2.a, b, c, d, and e) was created to standardize operations and husbandry procedures.
- Two designated UACC Technicians (1.5 FTE) visit fish facilities monthly, measuring water quality, ensuring paperwork and SOP compliance, and discussing concerns. The technicians also coordinate orders for fish and track animal numbers (including captured fish) (addresses Recommendation 2.a, c, d, and e).
- An Aquatics LISTSERV was created to enhance communication (addresses Recommendation 2.d).
- Annual or semi-annual meetings of Aquatics Users will be held (addresses Recommendation 2.d).

3. *That the University of Saskatchewan ensure continued maintenance of infrastructure and investment in key personnel in all animal facilities to comply with CCAC standards.*

The University has made the following changes in response to this recommendation:

- The UACC Veterinarians and animal facility managers have been consulted and offered ample opportunity for comment on the planning and design of new vivaria across campus.
- A vacant UACC Technician position was promptly filled in March 2016
- A Diplomate of the American College of Laboratory Animal Medicine was hired to fill the vacant University Veterinarian position.
- 1.5 FTE positions were transferred to RSEO from Health Sciences to serve as dedicated UACC Technicians.
- A new UACC Chair (Jane Alcorn, a researcher and the previous University Veterinarian) was appointed to fill the vacant UACC Chair position.
- The RSEO, University Veterinarian, and UACC Chair are actively assessing the need for a third UACC veterinarian who would assist with the development and post-approval monitoring of AUPs as well as other duties.

4. *That the animal user training program be completed as planned, in particular to include hands-on aquatic training and ensure personnel working with aquatic species possess the knowledge, skills, and competency to perform their tasks prior to commencement of any work involving animals.*

To summarize our response, our UACC Technicians are charged with reviewing and improving the didactic portion of our aquatics course and implementing hands-on training for aquatics users under the oversight and guidance of the Senior Advisor, Aquatics, the University Veterinarian, Animal Welfare Veterinarian, and UACC Chair. We expect to implement this course by mid-fall 2017.

5. *That the crisis management program be completed as planned, and that it includes a communication plan for addressing public and media inquiries on concerns related to animal use.*

To summarize the response, two components of the U of S Crisis Management Program are under development:

- Anonymous Reporting of Concerns (part of a communication plan for addressing public and media inquiries on concerns related to animal use). A link for anonymous reporting of concerns will be placed prominently on the Ethics page of the OVPR website.
- Animal facility-specific Contingency Plans, that will be standard format and integrated with the University's Crisis Management Program.

