



University
of Windsor

Research Stimulus Fund Report 2015/16

June 2016

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Office of the Vice-President, Research and Innovation

Executive Summary

The University of Windsor's Strategic Research Plan sets the direction of the University of Windsor's research and scholarship enterprise and aspires to "create a more research-intensive university with graduate programs that build on academic and professional strengths" (Thinking forward...Taking Action, 2012). With the establishment of the Research Stimulus Funds (RSF) in 2013/14, it is the intention that the RSF will aid in building the University's research enterprise. Under the purview of the Vice-President Research and Innovation (VPRI), the RSF provides annual funding of \$500,000 which is allocated among the Faculties. Now in its third year, the funds are utilized to build upon research strengths, promote future research collaborations, and enhance graduate training and experiential learning. The aggregate RSF funding for each of the individual Faculties is based on the three-year average of Tri-Council (NSERC, SSHRC, and CIHR) funding dollars as calculated and reported by the Tri-agency Institutional Programs Secretariat.

Each of the Faculties distributed its allocated funding to individuals or groups of researchers whose projects or activities were approved by the Dean in consultation with the VPRI. The RSF funds supported a diverse variety of research projects and activities, and allowed for the purchase of research infrastructure within the Faculties. The Faculty of Education provided Research Stimulus Fund Grants to three of its active researchers whose unique projects will enhance research outputs within the Faculty. The Faculty of Engineering supported the renovation and upgrade of a research lab, the purchase of needed research equipment, and provided grants to support students. The Faculty of Human Kinetics provided funding for the second year of a Golden Jubilee Research Excellence Award, which has the mandate to support and extend the research culture within the Faculty. The Faculty of Science utilized the funds for the creation of two (2) Healthy Great Lakes Research Excellence Awards to expand and strengthen the research programs of the recipients, to support a network proposal submission, and to purchase infrastructure. The Faculty of Arts, Humanities and Social Sciences (FAHSS) used the monies to fund a Viable, Healthy and Safe Community Research Excellence Award, to provide additional contributions towards internally and externally funded awards, and to purchase infrastructure for a new university/hospital collaborative space. The Odette School of Business used the RSF funds for the renewal of a Golden Jubilee Professorship award. Descriptions of each of the individual awards and funded activities/purchases are detailed in this report.

Background

Funding from the Research Stimulus Fund (RSF), under the purview of the VPRI, is allocated to each of the individual Faculties based on their respective three-year average of Tri-Council (NSERC, SSHRC, and CIHR) research revenue within each Faculty (as provided by the Tri-agency Institutional Programs Secretariat). The RSF funding is intended to be used to support the research enterprise, to invest in research infrastructure, and to provide strategic research grants or awards to faculty members in the individual Faculties which have the potential to attract additional external funding to the University.

RSF-Funded Projects and Activities

Education

The Faculty of Education created a new initiative by using a portion of the RSF funds to hold an internal competition awarding Research Stimulus Fund Grants. This competition provided research funding to three researchers to complete research projects, which will aid in building research capacity within the Faculty.

Dr. Dragana Martinovic

Dr. Martinovic was provided with funding of \$1,550 from the RSF for her project, *"Using collaborative inquiry to build research capacity of Teacher Candidates,"* which will look at how teacher candidates' participation in collaborative inquiry will build their competence and increase their capacity in researching, teaching and team work.

Dr. Zuochen Zhang

Dr. Zhang has received \$1,550 for his project, *"Using information literacy education to address plagiarism issues: Inputs from international graduate students."* This project aims to reveal an in-depth understanding of how information literacy education can help international graduate students avoid plagiarism as well as train graduate students as future researchers.

Dr. George Zhou

Dr. Zhou was awarded the sum of \$1,550 in grant funding. His project, *"Experience and expectations of Chinese graduate students in an international MEd program at a Canadian university,"* will explore the perception and experience of the first cohort from the newly developed international graduate program in Education, and in particular, Chinese students' perceptions who comprised over 90% of enrollment in the program.

Engineering

In order to increase research capacity, the Faculty of Engineering has used the RSF funds to provide scholarship funding, research funding, and to support a large number of investments in research infrastructure, with a focus on providing more advanced capabilities for researchers.

Dr. Hanna Maoh

Dr. Maoh was instrumental in establishing *The Transportation Association of Canada Foundation* and the *Norman Esch Foundation Undergraduate Scholarships in Transportation Science and Engineering* through an agreement with the TAC and Esch

Foundations and the Faculty of Engineering at the University of Windsor. The Foundations will provide scholarship funding in the amount of \$12,500 per year for five years with a matching amount contributed equally by the RSF funds and the Faculty of Engineering (\$6,250 each). The scholarships will be beneficial to undergraduate students who are furthering their training in transportation engineering and science. Each year five undergraduate students will receive \$5,000 through an internship for a four-month work term with the Transportation Systems Innovation Lab or other transportation-related research facilities within the Faculty of Engineering.

Dr. Narayan Kar

Dr. Kar was provided with \$57,000 from the RSF funds to complete renovations and installation of a D&V dynamometer at CEI, resulting in enhanced research capabilities. This equipment will support the further engagement of Dr. Kar's lab with a wide range of industry partners.

Dr. Ahmed Azab

Dr. Azab received \$10,000 from RSF funds as a contribution to his Bridge to Discovery grant, and together with \$15,000 from the Faculty of Engineering, this award will be beneficial in strengthening his research program, "*Production Scheduling Mathematical Modeling and Heuristics for Advanced Production Systems.*" Dr. Azab and his team will develop integrated modeling schemes and solution methods to solve problems for the different advanced production systems.

Faculty of Engineering

A laser scanning microscope was purchased for researchers in the materials research group with a contribution of \$42,649 in RSF funds together with \$43,851 from the Faculty of Engineering. This microscope will allow users to determine the composition of a sample or piece of material, the amounts of each element in a sample, as well as the flaws that may be inherent internally to the specimen. The equipment will also be beneficial in the training of HQP.

The Faculty of Engineering also purchased a high powered computer with \$7,621 in RSF funds for the Batteries lab. The computer is valuable in crunching a number of variables in the testing of new batteries, and for battery research in general. The computer will also be used in the training of HQP.

The Faculty of Engineering has committed a portion of the 2015-16 RSF funding in support of an upcoming project. As of the reporting date, the project had not yet commenced and accordingly, this research support will be itemized in the 2016-17 report.

Human Kinetics

The Dean of the Faculty of Human Kinetics encourages a strong research culture among faculty members, including events such as the annual Kinesiology Research Day involving undergraduate students. To further this goal, the RSF funding was used to create a Golden Jubilee Research Excellence Award with funding in the amount of \$40,000 per year for a period of two years, funded by the Faculty of Human Kinetics (\$30,000) and the RSF (\$10,000).

Dr. David Andrews

Dr. Andrews, the awardee of the Golden Jubilee Research Excellence Award, now in its second year, received the award in recognition of his research and his continued commitment to the success of his colleagues. This award was used to extend his efforts in advancing Kinesiology research.

Science

The Faculty of Science awarded two (2) Healthy Great Lakes Research Excellence Awards with the goal of increasing research capacity by growing internationally-recognized research programs through the fostering of new partnerships and research directions. These awards have a two year term at \$40,000 per year.

Healthy Great Lakes Research Excellence Awards

Dr. Ken Drouillard

Dr. Drouillard's award will enable him to pursue his work in his research program, *"Understanding microbial community – bioavailability interactions for persistent organic pollutants in Great Lakes sediment."* This funding will aid Dr. Drouillard in expanding his program and in forming new partnership initiatives. He will be working with Dr. Chris Weisener to conduct specific studies. He also proposes to work with Dr. Jan Ciborowski and external collaborator, Dr. Chris Metcalfe of Trent University.

Dr. Trevor Pitcher

Dr. Pitcher received an award for his research program, *"Freshwater Restoration Ecology Centre, LaSalle,"* which was used towards the construction of an addition to his research facility. The Freshwater Restoration Ecology Centre (FREC) aims to facilitate research related to the restoration of native species (e.g. fish, plants, invertebrates) to the Great Lakes. The centre houses a state-of-the-art re-circulating mecosystem to enable large scale aquatic research projects, including the testing of hypotheses related to invasion biology, conservation breeding programs, and remediation efforts. The centre is situated on the Detroit River, between Lake Erie and Lake Huron.

The Faculty of Science also invested in research enterprise through contributions to research infrastructure and other research support.

Dr. Aaron Fisk

Dr. Fisk was provided the sum of \$25,000, with \$10,000 coming from the RSF and \$15,000 from the Dean of Science, to prepare a proposal for an NSERC Strategic Partnership Grant for Networks to be known as the *"Great Lakes Network."*

Drs. Trevor Pitcher, Ken Drouillard, Daniel Heath, Aaron Fisk, Hugh MacIsaac, and Barb Zielinski

Dr. Pitcher and his team received \$50,000 in RSF funding, which, together with \$50,000 from the University of Windsor, and \$150,000 through an NSERC Research Tools and Instruments grant, allowed for the purchase of a Mobile Respirometer and Swim Flume to study the ecology and evolution of large fishes and schools of fish in the Great Lakes. This large state-of-the-art, custom made and mobile fish respirometer swim flume will enable measurement of fish metabolic rates and swimming performance on any Great Lakes fish. The system will be housed and maintained at Dr. Pitcher's facility in LaSalle,

but is highly portable and can be moved to support studies that involve examining bioenergetic responses in any of the Great Lakes or their respective river systems.

Biological Sciences Department

The Biological Sciences Department was provided with \$27,230 to purchase a new gel imaging system which is used by at least eight members of the department. Quantification of gel imaging is a required application for anyone who runs DNA/RNA/protein gels. The equipment is used by researchers and HQP in research labs and as well as for teaching in undergraduate courses.

The Biological Sciences Department also received \$67,500 to purchase a Stereo Dissecting Microscope with Fluorescence. This microscope is used extensively by at least seven members of the department and the new scope with a different filter set and upgraded imaging resolution/sensitivity would be beneficial to all who have use of this type of system.

Faculty of Arts, Humanities and Social Sciences (FAHSS)

The Faculty of Arts, Humanities and Social Sciences has invested in an unique initiative by providing funding for a newly created award, has enhanced a number of research projects by allocating additional contributions to various grants or awards received by researchers, and has supported the purchase of infrastructure.

Dr. Brent Lee

Dr. Lee was awarded a Viable, Healthy and Safe Community Research Excellence Award for the total amount of \$80,000, funded at \$40,000 per year for a period of two years. This award is funded jointly from RSF funds in the amount of \$20,000 together with \$20,000 from the Office of the Vice-President, Research and Innovation. Dr. Lee will use the funds to support the Noiseborder Multimedia Performance Lab, designed for the exploration of potential artistic and technical relationships between sound and image in multimedia performance. Some of the ongoing projects include the in-fuse series of multimedia performance events, the Noiseborder Ensemble, and Homstal.

Dr. Reza Nakhaie

Dr. Nakhaie received \$5,000 in funding from RSF as a match to his successful TSGP-SSHRC grant (\$5,000) funded through the Office of Research and Innovation Services (ORIS) for his project, *"Social Capital and Integration of New Immigrants."* Dr. Nakhaie will employ graduate students to conduct critical literature review and organize workshops with community partners and stakeholders. As well, a survey will be conducted with immigrant newcomers. The data obtained from these various avenues will bolster Dr. Nakhaie's SSHRC Insight Development Grant research proposal.

Dr. Robert Nelson

Dr. Nelson was provided with a contribution of \$5,000 in RSF funding to match his successful TSGP-SSHRC grant (\$5,000) funded by ORIS for his project, *"Global Garden Cities Digital Hub."* Dr. Nelson will use the funding to hire students to conduct preparatory work to strengthen his research proposal for the SSHRC Insight Development Grant competition. Further, it will enable Dr. Nelson to show that he has

assembled a core team as well as developed the necessary connections for effective knowledge mobilization.

Dr. Charlene Senn

Dr. Senn received \$5,000 from RSF funds as a contribution to her successful TSGP-CIHR grant (\$5,000) funded by ORIS for her project, *"Preparing to Disseminate and Implement the EAAA Sexual Assault Resistance Intervention."* With these funds Dr. Senn will be able to develop a train the trainer program for disseminating the EAAA intervention, as well as complete pilot testing on a group of prospective trainers, all of which will strengthen her research program.

Dr. Emmanuelle Richez

Dr. Richez was awarded the FAHSS RSF Project Development Award in the amount of \$5,000 for her project, *"D'un ocean à l'autre: Canadian Politicians' Use of Multilingualism for Digital Constituent Outreach."* The goal of Dr. Richez's project will be to examine the dynamics of language used by Canadian politicians in digital constituent communication. Conversely, it will determine the public's vision of uses of multilingualism by Canadian politicians when it comes to constituent communication. This project will enhance public discourse on how emerging technologies can be leveraged to benefit Canadians.

Dr. Catherine Kwantes

Dr. Kwantes was provided with the sum of \$5,247 from RSF, together with an additional \$5,247 from the Dean of FAHSS as contributions towards her successful SSHRC Connection grant in the amount of \$25,000. The symposium outlined by Dr. Kwantes, *"Sharing Knowledge and Building Relationships: Aboriginal Experience in the Cross-Cultural Workplace,"* was a knowledge-sharing event which took place in June, 2016 at Vancouver Island University's Cowichan campus. It brought together approximately 60 members of the Aboriginal community with approximately 40 academic researchers and human resource professionals to gain a shared understanding of the unique challenges facing Aboriginal Canadians in the domain of work.

Dr. Chris Abeare

Dr. Abeare received the sum of \$5,994 as a contribution towards infrastructure for the new space provided for University of Windsor researchers at Hotel Dieu Grace Healthcare on Prince Road. The funds involved the purchase and installation of phones and funding to move furniture and equipment to the site. The space is provided to faculty members doing research in neuropsychology.

FAHSS also used some of the 2015-16 RSF funds to hold a competition for researchers to apply for Collaborative Research Grants, the purpose of which is to support groups of researchers that have demonstrated success in research or creative activity, publications and Tri-council funding applications. Although the competition was underway during the 2015-16 fiscal year, the awards had not been finalized as of the reporting date and these awards will be outlined in the 2016-17 report.

Business

In 2013, the Odette School of Business awarded one Golden Jubilee Professorship, funded by the Faculty and the VPRI, which was based the awardee's research plan detailing the strategic priorities, aims, and projected outcomes which would be supported by the award. Based on the successful results from the initial two-year period, this award was renewed for a further two year term with funding of \$50,000 per year. For this year, the funding was comprised of \$9,500 from the RSF, \$10,500 from the VPRI and \$30,000 from the Odette School of Business.

Dr. Francine Schlosser

Dr. Schlosser's Golden Jubilee Professorship outlines various research activities, including: (i) to prepare and disseminate topical and impactful research to both practical and academic audiences; (ii) to research, develop, and experiment with innovative and collaborative student learning experiences; (iii) to pursue academic and practical service leadership opportunities; and (iv) to develop a forum for entrepreneurial activities.