



University  
of Windsor

# Research Stimulus Fund Report 2017/18

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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). The Research Stimulus Funds (RSF) was established in 2013/14 with 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 fifth year, the funds have been 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 (TIPS).

Each of the Faculties distributed its allocated funding to individuals or groups of researchers whose projects or activities were selected by the Dean with approval by the VPRI, a summary of which is outlined in this report. The RSF funds supported a diverse variety of research projects and activities, which have also supported the purchase of research infrastructure within the Faculties. The Faculty of Education awarded Research Stimulus Fund Grants to researchers for unique projects as well as used funds to hold guest speaker seminars and workshops. The Faculty of Engineering used funds in support of research and scholarship. The Faculty of Human Kinetics provided funding for the fourth instalment of a Golden Jubilee Research Excellence Award, which has the mandate to support and extend the research culture within the Faculty. Through their allotted research stimulus funds, the Faculty of Science were able to finance several collaborative infrastructure grants, in addition to supporting other new collaborative research activities. The Faculty of Arts, Humanities and Social Sciences (FAHSS) also elected to fund several collaborative research grants, as well as providing contributions that supported externally funded research collaborations. Descriptions of each of the individual awards and funded activities/purchases are detailed in this report.

## RSF-Funded Projects and Activities

### Education

The Faculty of Education has continued to invest in strengthening the research culture within the Faculty with contributions to research projects, as well as promoting research through special seminars and workshops open to both faculty and students.

#### **Dr. Dragana Martinovic**

Dr. Martinovic's project "Developing an educators' community of practice" was awarded \$2,500 from the RSF. This project aims to positively impact the teaching and learning of mathematics education throughout Ontario schools.

#### **Dr. Zuochen Zhang**

Dr. Zhang was provided with funding of \$2,500 from the RSF for his project, "An investigation of international students' English proficiency and their academic performance". The project examines the relationship between international graduate students' English proficiency scores and their academic performance. The findings will be used to improve the graduate program at the Faculty of Education.

#### **Dr. Guoqing Zhou**

Dr. Zhou was provided with funding of \$2,500 from the RSF for his project, "A study of Chinese international students' classroom participation in the International M.Ed. Program". The project will investigate the factors that hinder and enhance Chinese International students' classroom participation. The study aims to improve the programs offered at the Faculty of Education for international students.

#### **Faculty of Education**

The Faculty of Education used a portion of the RSF (\$1,775) to hold guest speaker seminars and workshops for faculty and students to have discussions with leading experts in the field.

### Engineering

The Faculty of Engineering continues to provide support for the NSERC/Ford Industrial Research Chair in Clean Combustion Engine Innovations. Support for collaborative research is providing scholarship funding and student exchange opportunities. These initiatives provide enriched opportunities for researchers and assist in providing enhanced training and internship opportunities for students.

#### **Dr. Ming Zheng**

Dr. Zheng received \$50,000 from RSF funds together with \$10,000 from the VPRI in support of his senior NSERC/Ford/UWindsor Industrial Research Chair (IRC) in Clean Combustion Engine Innovations-Deterministic Ignition Control. This highly regarded IRC program continues to perform fundamental and applied studies which aim to improve fuel efficiency, emphasize efficient ignition techniques, and modify mechanisms that modulate power to distribute the sites of energy release during ignition.

**Dr. Hanna Maoh**

Dr. Maoh established in 2015/2016 The Transportation Association of Canada (TAC) 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. Now in its third year out of five years of funding, the Foundations have provided scholarship funding in the amount of \$12,500 per year with a matching amount contributed equally by the RSF funds and the Faculty of Engineering (\$6,250 each). The scholarships provide additional benefits 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.

## Human Kinetics

The Dean of the Faculty of Human Kinetics continues to build a strong research culture among faculty members, including events such as the annual Kinesiology Research Day involving undergraduate students. Due to the success of the Golden Jubilee Research Excellence Award created in 2014-15, the awardee has now received an extension of a final year. This award provides funding in the amount of \$40,000 per year with the current year funded through RSF funds of \$23,350 and \$16,650 from the Faculty of Human Kinetics.

**Dr. David Andrews**

Dr. Andrews, the awardee of the Golden Jubilee Research Excellence Award now in its fourth and final year, will continue to extend his efforts in advancing Kinesiology research, including promoting research, supporting Kinesiology Research Day, maintaining research equipment and software licenses, purchasing equipment and software, providing conference travel funds for undergraduate students, hiring research assistants, inviting guest speakers, and providing seed funds to faculty for research projects.

## Science

The Faculty of Science invested in several collaborative infrastructure grants in addition to supporting other research activities, such as the acquisition of technology.

**Dr. Philip Karpowicz**

Dr. Karpowicz's project "Incubators to support quantitative tissue imaging", was provided with a funding of \$24,650 from the Faculty of Science RSF. This project will provide the infrastructure required to develop imaging in living cells and tissue, particularly drosophila culture and human tissue organoids.

**Dr. Lisa Porter**

Dr. Porter was provided with \$15,000 from RSF as a contribution to the Windsor Cancer Research Group (WCRG). WCRG is an assembly of local researchers, healthcare professionals and community partners working together to build teams to strengthen local cancer research programs and bridge collaborations with neighbouring cancer centres.

**Dr. Dan Xiao**

Dr. Xiao received \$50,000 from the RSF in support of her NSERC RTI grant "Acquisition of a magnetic resonance imaging scanner". The magnetic resonance imaging scanner will be used to visualize the internal structure of biological systems. UWindsor has launched a Medical Physics program in order to develop MRI as a quantitative analytical methodology and the infrastructure secured by Dr. Xiao will be a tremendous asset to the program.

**Dr. Drew Marquardt**

Dr. Marquardt was awarded \$49,500 from the RSF in support of his NSERC RTI grant "Particle analysis for the study of advanced materials". This funding supports particle sizing research and will enable greater industry partnerships within the Department of Chemistry and the Faculty of Science.

**Dr. Maria Cioppa**

Dr. Cioppa's project "Ground penetrating radar equipment; Stimulating archaeological and historical research" was awarded \$35,614 from the RSF. Dr. Cioppa's team will use underground imaging to reconstruct the history of Windsor from 150 years ago. This technology will enable the archaeological exploration of Assumption Park, where excavating is not allowed, and will contribute to the archeological project to take place in Assumption Bridge excavation site.

**Dr. Stephanie Doucet**

Dr. Doucet received \$10,000 from the RSF for her project "Seed funding for a new collaborative research study of animal ecology in an endangered ecosystem". This projects aims to develop an ecosystem-wide study of dry forest animals in Costa Rica.

**Dr. John Trant**

Dr. Trant received \$5,000 from the RSF for his project "Leveraging Computer Power for attracting industrial/academic partnerships (software licenses)". The funding was used to acquire software licenses which in turn aided in forming collaborations with industry and academic partners within the Department of Chemistry and the Faculty of Science.

**Dr. Aaron Fisk**

Dr. Fisk's project "Quantifying walleye movement in Lake Erie: Influence of anthropogenic stressors on a valuable recreational and commercial fish species" was awarded \$15,625. Dr. Fisk's research informs on the management of walleye, one of the most valuable fishery resources in the Great Lakes. This collaborative research helps government agencies manage the ecosystem and create policies which protect both the walleye and the ecosystem it lives in.

**Dr. Robert Schurko**

Dr. Schurko was awarded \$12,513 for the project "Dedicated Server for Materials Studio - CASTEP". CASTEP is used to further research in solid-state materials science, through the tenets of quantum-mechanics this infrastructure will augment the NMR capabilities within the Faculty of Science.

## Faculty of Arts, Humanities and Social Sciences

The Faculty of Arts, Humanities and Social Sciences (FAHSS) has supported several collaborative research projects and conferences as well as invested in infrastructure. These funds support collaborative research within a wide variety of stakeholders in the community and will help facilitate the knowledge mobilization through dissemination and training.

### **Dr. Laura Macarthur**

Dr. Macarthur's project "Genre, identity and power in the Toronto theatre blogosphere" received \$4,726 from the Faculty of Arts, Humanities and Social Sciences Research Stimulus Fund. Dr. Macarthur's research seeks to map the demographics and generic characteristics of the theatre blogosphere and analyze findings in light of current studies and activism surrounding gender equity in theatre.

### **Dr. Adrian Guta**

Dr. Guta's project "Ontario's chilly charitable climate: Examining the impact of the 10% rule for political activities" received \$2,000 as a contribution to his SSHRC Insight Development Grant. Dr. Guta's interdisciplinary project seeks to understand how charitable organizations in Ontario are responding to the limit on the amount of time they can spend on advocacy (i.e. 10%). Failure to comply with this limit may result in the organization losing their charitable status.

### **Dr. Miriam Wright and Dr. Heidi Jacobs**

Dr. Wright and Dr. Jacob's project "Telling the stories of race and sport in Canada" was awarded \$2,000 RSF as a contribution towards their SSHRC Connection Grant. This project will address the limited number of stories and the racial issues surrounding people of colour in Canadian sports history.

### **Dr. Jesse Ovidia**

Dr. Ovidia's Workshop "Mobilizing Canadian knowledge on natural resource-based development in Africa" received \$2,000 RSF as a contribution towards his SSHRC Connection Grant. The workshop will bring together Canadian-based researchers who are working on harnessing natural resources for economic and social development in Africa.

### **Dr. Christopher Abeare**

Dr. Abeare received \$17,000 for his project "Improving diagnosis and recovery from concussion combining novel and established methods" from the RSF. Dr. Abeare's research aims to promote collaborative research in sport-related concussions, brain health and safety of athletes and provide state-of-the-art training to students.

### **Dr. Robert Nelson**

Dr. Nelson's project "Reading the Detroit-Windsor Borderlands as a Microcosm of Racialized Spaces in Canada and the United States" received \$11,000 from the RSF. This is an interdisciplinary project that will help establish the foundations for a borderlands research institute at UWindsor, Canada's only true border university.

**Dr. Amy Fitzgerald**

Dr. Fitzgerald received \$11,000 from the RSF for her project “Understanding and addressing the co-occurrence of animal abuse and intimate partner violence in the Canadian context: Moving the research to the next level” submitted by the Animal and Interpersonal Abuse Research Group (IAPARG). IAPARG studies the connection between humans and animals. IAPARG research has found that animals do not just provide companionship; they play a pivotal role in promoting the psychological health, well-being, and rehabilitation of humans.

**Dr. Catherine Kwantes**

Dr. Kwantes’ project “Trust, distrust, trustworthiness and untrustworthiness in cultural contexts” was awarded \$6,000 from the RSF. This funding supports the work of the International Trustworthiness Study. This study addresses questions on trust and trustworthiness that have not been explored yet, such as the influence of social culture on the concept of trustworthiness.

**Dr. Miriam Wright**

Dr. Wright was awarded \$9,000 from the RSF for her project “Exploring borders and boundaries: A digital history research collaborative”. This collaborative effort aimed to digitize history research on borders and boundaries in various contexts, such as racial barriers (e.g. in sports) and local history (e.g. in the Windsor-Detroit area).

**Dr. Patti Fritz**

Dr. Fritz’ research on “Health Research Centre for the Study of Violence against Women (HRC-VAW)” was awarded \$11,000 from the RSF. HRC-VAW is an interdisciplinary group of faculty and graduate researchers with interests in the causes of violence against women/girls, its prevention, and the rehabilitation of its effects.

**Dr. Chris Tindale**

Dr. Tindale was awarded \$10,000 from the RSF for the Centre for Research in Reasoning, Argumentation and Rhetoric (CRRAR). CRRAR is an internationally recognized leader in individual and collaborative research on the theory and practice of research in reasoning, argument and argumentation, and rhetoric.