



University of British Columbia
Department of Physical Therapy
2019/20 ANNUAL REPORT

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Research Impact Highlights

Neuroscience

Three initiatives of Dr. Janice Eng are helping people with neurological injuries and disease. She expanded reach of her Fitness and Mobility Exercise (FAME) and Graded Exercise after Stroke (GRASP) Programs. GRASP is the first community-based group upper limb and hand program for stroke in Canada. In 2019, Dr. Eng implemented the GRASP Program for Stroke at the Templeton Community Centre. GRASP is now utilized in 1300 sites over 47 countries and is now part of the standard of care in BC. The use of an inpatient supplementary arm exercise program was added to the 2010 Canadian Stroke Clinical Practice Guidelines care based on her multi-site trial and the World Health Organizations Recommended Treatments for Stroke Rehabilitation (to be released 2020).



In 2019, FAME was implemented the Killarney Community Centre, UBC Physical Therapy & Research Clinic and Squamish Rec Centre in BC. FAME has been formally implemented in seven BC community centres (over 3 different health authorities). FAME is accredited through the BC Parks and Recreation Association and Dr. Eng developed a certification program for instructors.

FAME will be implemented in multiple sites in Calgary, Canada and Perth, Australia in 2020. FAME and GRASP resources are provided free to all on her [website](#).

Since 2005, Dr. Eng has led an international team of over 70 faculty across 6 countries for the Spinal Cord Injury Research Evidence (SCIRE), a knowledge translation platform which provides health care providers with spinal cord injury evidence and outcome measures. SCIRE (<https://scireproject.com>) receives more than ¼ million download requests annually.

Dr. Liu-Ambrose's research was cited in the 2019 World Health Organization's Guidelines for Dementia Reduction and Prevention. These guidelines provide evidence-based recommendations on lifestyle behaviours and interventions to delay or prevent cognitive decline and dementia and are an important tool for health care providers as well as governments, policy-makers and other stakeholders to strengthen their response to the dementia challenge.

Dr. Naznin Virji-Babul was lead author on a manuscript published in 2019 that was the first to describe changes in information flow in the brain as a result of concussion, within the first week following injury. This paper was released in December 2019 and had almost 6000 views online by New Year's Day.

Musculoskeletal



Dr. Michael Hunt's work on shoe-worn insoles to improve clinical and biomechanical outcomes for people with knee osteoarthritis directly resulted in a modification to the clinical practice guidelines of the Podiatric Association of Canada.

The research of Dr. Linda Li helps patients with Rheumatoid Arthritis (RA) adhere to medications, promotes their physical activity, and has provided clarity around the accuracy of Fitbit. Her qualitative studies were among of the first to reveal complex challenges faced by people who are recently diagnosed with RA in making treatment decisions; these challenges can lead to medication adherence as low as 30%. Based on those findings, she and her team developed an interactive decision aid, ANSWER, for RA patients who are considering methotrexate as a first-line treatment (answer.arthritisresearch.ca). ANSWER improves patients' decision quality and treatment knowledge. While ANSWER was released in 2012, it continues to be a primary resource for people with RA, it has been accessed over 55,000 times. Her work on physical activity counselling, combining the Brief Action Planning approach and the use of a consumer-grade wearable device, has been used to inform the European recommendation (EULAR – European League Against Rheumatism) on physical activity promotion in people with arthritis. A 2019 systematic review on Fitbit accuracy led by Dr. Li, has been cited by news and social media outlets around the world and was even cited in an unsolved murder case in the U.S (<https://www.wired.com/story/telltale-heart-fitbit-murder/>).

Dr. Alex Scott was the lead author on a British Journal of Sports Medicine (BJSM) consensus statement on tendinopathy clinical terminology, and joint author on two other BJSM statements on tendinopathy research methods.

Dr. Jackie Whittaker developed a competency-based Education Framework for Ultrasound Imaging (USI) use by Physiotherapists. Between 2016-2019, she led an international group of educators as we outlined the current status of USI use by physiotherapists, and developed a framework for a competency-based education model for training physical therapists in USI use. This information is meant to inform regulatory and professional organizations as well as educators wishing to address this professional educational gap. The framework has under gone peer-review and was published in December 2019 in the British Journal of Sports Medicine

Chronic Conditions – Cancer & Cardiopulmonary



Two papers authored by Dr. Kristin Campbell were served as primary references for the 2019 American College of Sports Medicine (ACSM) Exercise Guidelines for Cancer Survivors. She chairs the committee to update the ACSM/ACS Certified Cancer Exercise Trainer Certification Exam. She is also a core team member of the International, Multidisciplinary Roundtable on Exercise and Cancer.

In efforts to improve Indigenous lung health, Dr. Pat Camp's work to estimate the prevalence of COPD in First Nations communities have led to: increased awareness of the importance of COPD in these communities; the hiring of a chronic disease nurse to specifically address treatment gaps; changes in the electronic medical record to address gaps in care; and community engagement to develop and deliver lung wellness programs.

Senior Instructor and Northern and Rural Coordinator of Clinical Education, Robin Roots, supervised a group of MPT students on a quality Improvement study of the Prince George Cardiac and Pulmonary Rehabilitation program illustrated the significant patient outcome and systems impact it had in the first year of operation. Specifically, decreased emergency department visits, decreased number of admissions to acute care and reduced length of stay - all of which amounted to a significant cost savings. This formed the basis of an Agreement by Northern Health to resume the program with full funding.

Partnerships with First Nations

Members of the Department undertook several initiatives with First Nation partners. Dr. Pat Camp has seven grants supporting research to optimizing care for those with pulmonary disease including scoping prevalence and contributors, Tele-Rehabilitation and virtual care, and Wildfire Smoke and Emergency Planning in Remote and Rural First Nations Communities.

Ms. Robin Roots has partnered with the Carrier Sekani Family Service Primary Care Team since 2014 to offer Indigenous Health clinical placements for MPT students. With MPT students, she traveled to remote First Nations communities that do not have access to Physiotherapy services; often they are accompanied by a physician and medical student or resident. They also provide telehealth services to support their community visits upon returning to Prince George.

Ms. Roots also partnered with Dr. Pat Camp in providing a clinical research placement with a focus on Indigenous health. The student carried out a feasibility project for a telemonitoring device that assists in COPD management. The student spent 2 weeks trialing the device on patients; this formed the basis of one of Dr. Camp's currently funded research project.

Ms. Roots led a Quality Improvement Project with MPT students that demonstrated the need, demand and utilization of Physiotherapy Services which resulted in funding for a full time physiotherapist as a member of the Primary Care team who will serve 4 First Nation communities in the Central Interior.

Along with Dr. Nadine Carron of UNBC, Ms. Roots teaches Indigenous Cultural Safety as part of the UBC Integrated Curriculum to ensure culturally safe care for Indigenous patients. She also serves as a member of the Initiative for Indigenous Advocacy Committee within the Department, which is responsible for connecting medical students working on a FLEX project with committee members to initiate physiotherapy Services at Luma Medical Centre.

Faculty Awards



Professor, Janice Eng was named the 2019 Distinguished Lecturer in Rehabilitation Sciences Research by the University of Alberta.



Professor, Lara Boyd received the 2019 UBC Provost Award for Distinguished Merit, the 2019 John McNeill Excellence in Health Research Mentorship Award and a 2019 Senior Category Killam Research Fellowship.



Professor, Linda Li was inducted as a Fellow into the Canadian Academy of Health Sciences and was named a Distinguished Lecturer by the Western Alliance of Rheumatology. Dr. Li was also successful in the renewal of her Canada Research Chair in Patient-Oriented Knowledge Translation.



Professor, Teresa Liu-Ambrose was awarded the 2019 Faculty of Medicine's Distinguished Achievement Award for Overall Excellence.



Assistant Professor, Courtney Pollock, received a 2019 Scholar Award from the Michael Smith Foundation for Health Research.



Assistant Professor, Jackie Whittaker, received the 2019 Research Excellence Award for an Early Career Researcher in Basic/Clinical Science by the Canadian Institutes of Musculoskeletal Health and Arthritis and the Arthritis Alliance of Canada. She was also successful in obtaining The Arthritis Society's Early Career Stars Career Development Award

Highlights of Faculty Leadership

Dr. Teresa Liu-Ambrose serves as the UBC site lead for the Canadian Longitudinal Study on Aging, she is one of the UBC leads for the Canadian Consortium on Neurodegenerative aging (CCNA) – including running a site for one of its multi-centred trials. She is Co-Director of Centre for Hip Health and Mobility as well as the Vancouver Falls Prevention Clinic.

Dr. Janice Eng led an international knowledge translation working group composed of experts from 28 countries as part of the International Stroke Rehabilitation and Recovery Roundtables, this led to a consensus paper published in the International Journal of Stroke and Neurorehabilitation Neural Repair journal.

Dr. Lara Boyd served as the Health Research Advisor to the Vice President of Research and Innovation/CIHR delegate and elected to the CIHR delegate executive leadership team a role she has held since 2014.

Dr. Michael Hunt held positions as Associate Dean, Graduate and Postdoctoral Education in the Faculty of Medicine; Program Chair in the Rehabilitation Sciences Graduate Program; and Chair of the MPT/PhD Dual Degree program.

Dr. Linda Li held the role of, Lead for the KT and Implementation Science (IS) Methods Cluster for the BC SUPPORT Unit. In this role she fosters a community of KT and implementation methodologists in BC who advance the science of KT and implementation methods applied in the context of patient-oriented research, promote the use of knowledge generated by the Methods Cluster and the field of KT/IS, particularly in the context of patient-oriented research.

Dr. Kristin Campbell, Co-Led a working group of international experts in cancer and exercise to update the ACSM Exercise Guidelines for Cancer Survivors. The updated guidelines were published in Medicine & Science in Sports & Exercise.

Dr. Jordan Guenette serves as the Associate Director of the Centre for Heart Lung Innovation (HLI). His portfolio at the HLI includes scientific review, managing a team of grant writers, communications, overseeing heart and lung tissue registries, faculty and trainee recruitment and retention, and forming strategic partnerships with industry and foundations. In 2019, he was appointed to the Advisory Board for the development of a state-of-the-art research building to be built at the new St. Paul's Hospital. The HLI will be the largest group in the new building and is expected to occupy 100,000 sq.ft when the building is completed in 2026. He is the primary representative of the HLI so has been working closely with the project managers, architects, research centre leaders and the VP of the Providence Health Care Research on this complex project.

Dr. Alex Scott, serves as President of PABC. This involves stakeholder meetings with ICBC and WorksafeBC. Presentations at Branch Presidents' Forum (Canadian Physiotherapy Association). Advocacy with Allied Health Workforce Planning office (MOH) and College of Physical Therapists of BC, Steering committee on modernization of healthcare regulation (MOH).

Dr. Naznin Virji-Babul was appointed as a on the National Ismaili Religious Education Board (2019-2022) with a focus on programming on adolescent mental health and identity formation.

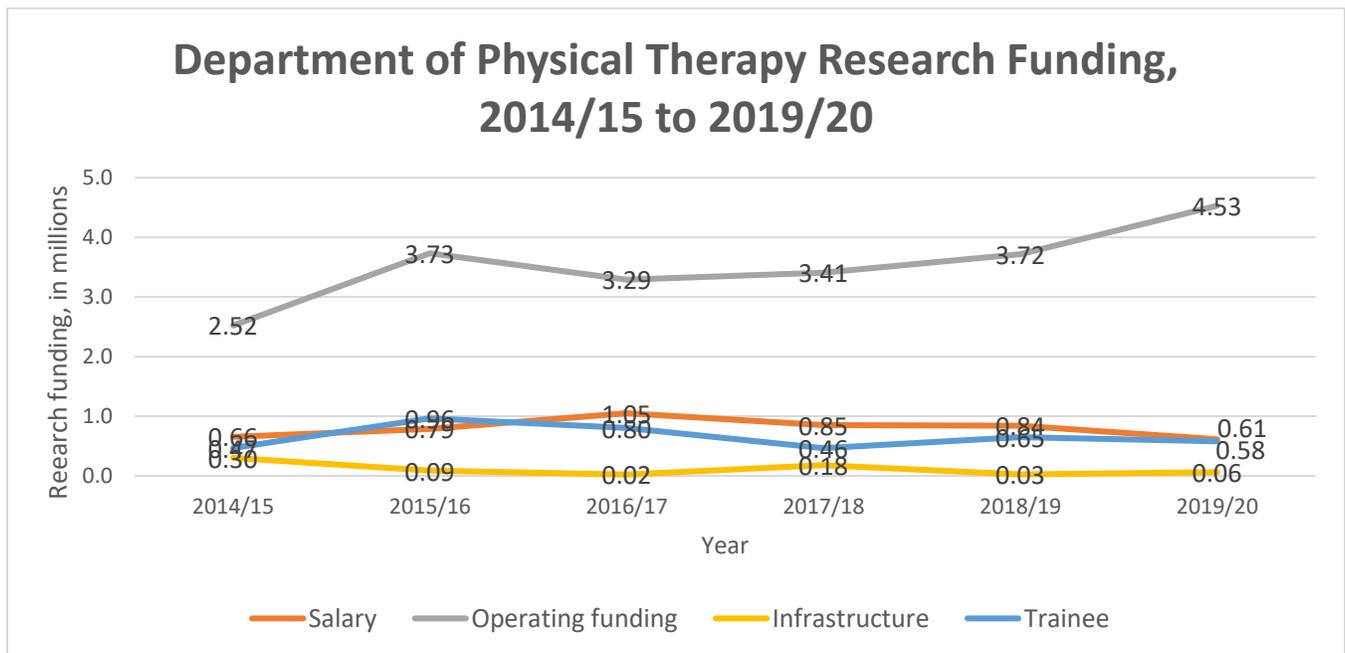
Dr. Courtney Pollock led the BC site, (one of eight sites across Canada) for the FLOW randomized control trial, “Fluoxetine to Open the Critical Period Time Window to Improve Motor Recovery after Stroke”

Dr. Jackie Whittaker leads an International Consensus Exercise for Prevention Knee Osteoarthritis after Joint Trauma - currently a group of ~30 international researchers (faculty and trainees), and clinician, patient and advocacy partners working to standardize definitions, outcomes, and methodology for interventions studies in populations at risk of osteoarthritis due to knee trauma. This exercise comes on the heels of a meeting that she hosted prior to the Osteoarthritis Research International Society (OARSI) annual congress in Toronto, Canada supported by a Canadian Institute of Health Research (CIHR) Planning and Dissemination grant. The Consensus exercise will culminate in six review papers, a 2020 consensus meeting to be held in Copenhagen Denmark February 1-3, 2021 that includes delegates from 10 countries, including five patients, and final consensus paper which will shape the future of research aimed at preventing post-traumatic knee osteoarthritis.

As Associate Head Clinical Education, Karen Sauve, led the implementation and development of the UBC Physical Therapy and Research Clinic. This included supporting a new partnership between the PTRC and the Brain Wellness Program. She provides leadership to the PTRC Steering Committee and Student Advisory Group.

Research Funding

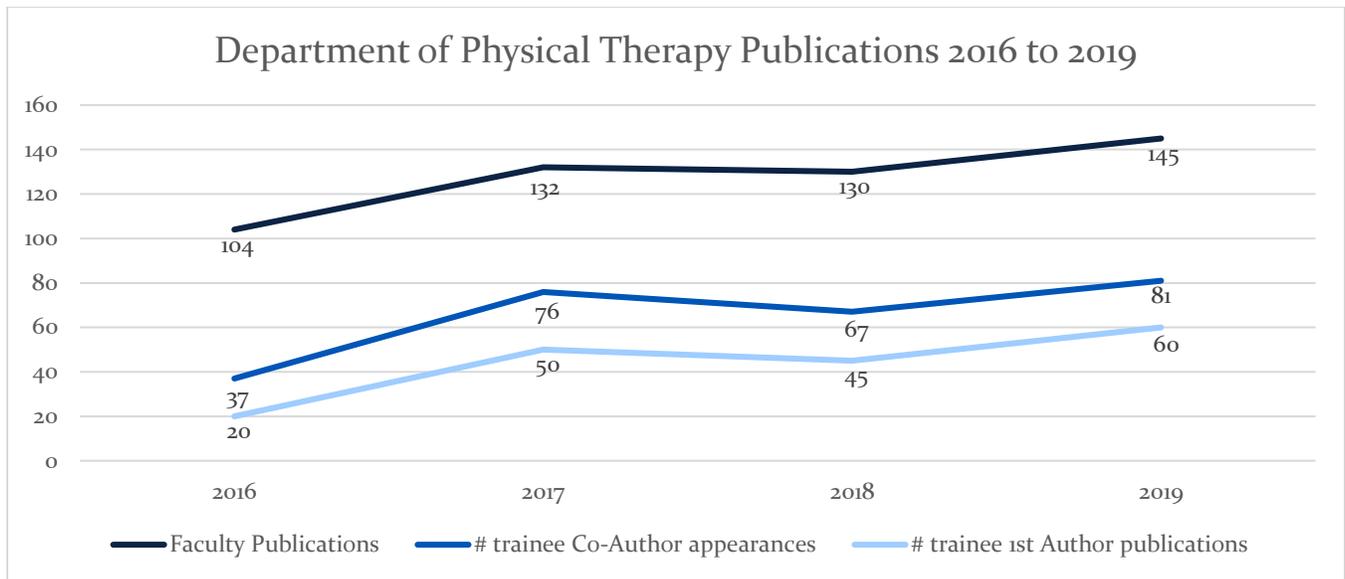
In 2019/20, faculty members were successful in securing \$4,529,558 to support their research projects, \$614,583 in scholar awards and infrastructure awards totaling \$63,229.



Students of the Rehabilitation Science Program and Postdoctoral Fellows supervised by Department faculty members received over \$577,992 to support their training in 2019/20.

Publications

In 2019, Department faculty members generated 145 peer-reviewed publications; four included students in the Masters of Physical Therapy program and 81 featured research trainees as co-authors and trainees were the first author on 67 of these publications.



Trainee Research Impact Highlights

In 2019, the Department was home to exceptional research trainees, 20 Post-doctoral Fellows, 39 Doctoral students and 27 Research focused Master's students.

Two of our promising doctoral students were awarded Vancouver Coastal Health Research Institute (VCHRI) Rising Star Awards. These awards recognize outstanding efforts by VCHRI research trainees in research excellence, service as role models, and other contributions to the VCH research community. . Angelo Graffos, supervised by Dr. Michael Hunt, is pursuing research on the biomechanics of the lunge—lower-limb movement where the person steps across their body, descends to a maximal depth and then returns to the starting position—in a pathomechanical hip condition called femoroacetabular impingement. His research will provide a better understanding of why this condition has a high prevalence in the athletic population and will help inform clinicians when prescribing exercises for rehabilitation and improving sport performance. His commitment to helping others goes beyond his studies and research; Angelo has volunteered his time with local wellness organizations, the Canucks Autism Network and the CHANGEpain Clinic. Ryan Falck, supervised by Dr. Teresa Liu-Ambrose, received a Top Graduating Doctoral Student award. His PhD thesis work examines how lifestyle factors such as physical activity, sleep, and sedentary behaviour can each impact the cognitive health of older adults with Mild Cognitive Impairment—a precursor to dementia. He has generated 23 publications; 16 as first-author over his training

Dr. Deborah Jehu received the 2019 International Society of Posture and Gait Research Emerging Scientist Award. The Promising Scientist Award acknowledges those who have performed superior research in Posture and/or Gait early in their career. Dr. Jehu is a postdoctoral fellow, mentored by Dr. Teresa Liu-Ambrose. She is working to generate new insight on the age-related changes to the balance control system, as well as develop therapeutic interventions to improve balance and decrease the risk for falls.

MSc student, Kendra Zadavec, received an outstanding poster award at the 2019 BC Cancer Summit. The event was attended by BC Cancer oncology professionals from a variety of disciplines. Her poster was titled “The effect of exercise on cancer-related cognitive impairment”, summarized a systematic review of randomized controlled trials looking at the impact of exercise on cognitive function in adults with cancer. The full review was published in Physical Therapy March 2020.