

# Reflecting on 2016



## UBC Department of Physical Therapy **2016 ANNUAL REPORT**



THE UNIVERSITY OF BRITISH COLUMBIA

Department of Physical Therapy  
Faculty of Medicine



Susan Murphy  
Interim Department Head

## A message from the Department Head

I am so proud of the accomplishments made in 2016 by our students, alumni, faculty and staff. Their achievements are numerous and strengthen our connection to the community. I am pleased to provide details on a few of them here in this report.

Our researchers and their trainees are making discoveries and contributions that positively affect lives. Through their research, service and knowledge translation efforts they are helping others in clinical practice, research and health.

Instructors in the department are developing innovative teaching techniques and programs to help students become better clinicians, clinicians become better care providers, and foreign-trained physiotherapists enter the work force in British Columbia.

The Clinical Education team, in partnership with the clinical community, is finding novel ways to support student learning while also improving access to much needed services.

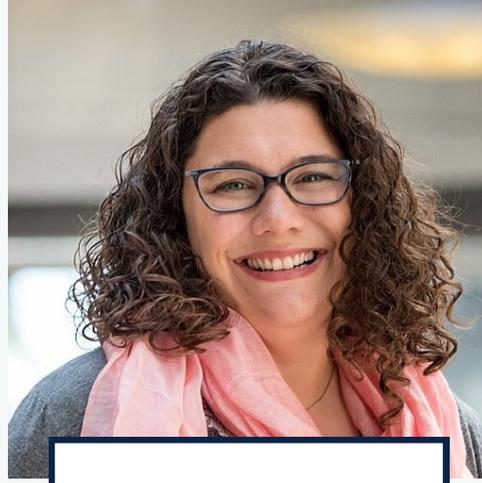
Alumni members have also made huge contributions that have eased the financial burdens on our students and those in northern and rural communities.

A big thank you to all for a job well done!

# Teaching



Tara Klassen, PT,  
PhD Candidate



Dr. Claudia Krebs, MD, PhD

[Tara Klassen](#), PT, MSc has been teaching in the Department for ten years. In 2012 she took on the role of Neurosciences Stream Coordinator. In this role she has made several innovative changes to the delivery of neuroanatomy and neurophysiology content and in 2015 developed and co-delivered the Department's first continuing education course, "*Neuroanatomy: from Bench to Bedside.*"

Ms. Klassen aligned content between clinical labs with neuroanatomy lectures and in 2014 recruited [Professor Claudia Krebs](#) from the Department of Cellular and Physiological Sciences to serve as the instructor for the neuroanatomy lectures and labs. Dr. Krebs is author of a series of videos and modules explaining the brain in detail. These learning materials allow for a "flipped classroom" format; the students view the modules prior to lecture and use the lecture time to discuss the content. These instructional materials are freely available and have been adopted by major universities from around the globe. Dr. Krebs recently obtained funding to expand these resources to include general anatomy; she will be assisted by Ms. Klassen and Dr. Greig on this UBC-wide interprofessional project.

Students have expressed significant satisfaction of the neurological curriculum and delivery and beginning in 2017, other students at UBC will be taking advantage of the neuro curriculum improvements as well. The Dentistry students will be joining our students in neuroanatomy lectures and some labs, creating the first interprofessional educational opportunity between Physical Therapy and Dentistry. MPT and Dentistry students will also join students in the Pharmacy program one afternoon during the course to work together on a neuroscience case study. This inaugural interprofessional experience will bring together 344 students from the MPT, Dentistry and Pharmacy programs to share their knowledge related to their professional discipline and neuroscience and to learn each other's roles in the treatment of clients with neurological issues.

## Teaching



Recognizing a need to improve teaching of evidence informed health care (EIHC) across the health professions, [Dr. Alison Greig](#) envisioned and led the WICKED Project (The **W**est coast **I**nterprofessional **C**linical **K**nowledge **E**vidence **D**isseminator). Dr. Greig obtained funding from UBC's Teaching and Learning Enhancement Fund (TLEF) to develop and evaluate a series of five learning modules to teach EIHC in a more flexible and interactive approach. Modules were designed to enable health professional students, residents and clinicians to help patients make decisions based on the best available, current, valid, and relevant evidence. To assure these modules were effective Dr. Greig recruited family practice residents, program directors, physical therapy students and occupational therapy students to integrate the online modules with their normal course work. Preliminary data showed that those using the modules reported 94% increased confidence in writing answerable research questions, 84% increased confidence in searching for evidence and 65% increased confidence in appraising evidence.

Evaluating the impact of the WICKED modules on learning EIHC knowledge, skills and attitudes, is still ongoing. This process has highlighted the lack of valid and reliable assessment tools to assess EIHC competencies. Thus, Dr. Greig is leading another team of interprofessional educators to develop and validate EIHC assessment tools. This work has successfully been funded by another TLEF grant. Once developed, these assessment tools will be made available for sharing nationally and internationally through Creative Commons.

## Teaching



[Dr. Alex Scott](#) led a team of clinical faculty in the development and implementation of a new continuing education course offering that will take students beginning 2017/2018. The New Graduate Certificate in Orthopaedic Manipulative Physical Therapy is a 21-credit specialized program for experienced physical therapists who aim to advance their evidence-based knowledge and skills in orthopaedic manual and manipulative physical therapy practice. The course will be available as part of the UBC MRSc online degree, which would grant learners Fellow of the Canadian Academy of Manipulative Physiotherapy (CAMPT) status. The course will be equivalent to the Orthopaedic Division (Canadian Physiotherapy Association) syllabus (Level 3 upper and lower, through to the Advanced Diploma in Manual and Manipulative Therapy). It will be taught by experienced clinicians and instructors and flexible clinical mentorship assignments will be made with therapists who hold a Fellowship with the Canadian Academy of Manipulative Physiotherapy.

## The Development Team



Jan Locock



Carol Kennedy



May Nolan

# Clinical Education

The Department's Clinical Education team, led by [Anne Rankin](#), Acting Associate Head, Clinical Education, provide regular workshops to help clinicians develop expertise as Clinical Educators.

Noting that many clinicians living in rural and remote areas were not able to take advantage of these learning opportunities, our Clinical Education Officer, Carolyn Andersson envisioned and developed E-learning modules, [EXCEL or Excellence in Clinical Education and Learning](#). She has rolled out seven self-paced modules that are available online and provide more in-depth resource materials to aspiring and current Clinical Educators who cannot attend a Clinical Educator Workshop or who want to supplement the workshop. Module topics include: *Developing Learning Objectives, Adult Learning Styles, Providing Feedback, The Evaluation Process, Supporting a Student in Difficulty* and *T-Res: Overview of the Student's Clinical Log* – with more to come.

Ingrid Dill is sought after by other health professional programs across UBC to provide training and expertise in the Health System Placement network system. She has also been tapped by system developers to assist in enhancing the system's usefulness. She trialed the online student assessment (ACP) in November 2015 and was instrumental in pointing out several programming issues for repair. Ingrid now regularly distributes the online student evaluation form to all Clinical Instructors taking students. In 2015 Ingrid initiated the safekeeping of student evaluation forms and other site placement forms by electronic format, making it easier for our Northern and Rural partners to access student placement information. The download of the submitted ACP forms fits neatly into this system.

## The Clinical Education Team



**Anne Rankin**  
Acting Associate Head



**Carolyn Andersson**  
Clinical Education Officer



**Ingrid Dill**  
Clinical Placement Officer

## Clinical Education



Instructor and Coordinator of Clinical Education for the Northern and Rural Cohort, [Robin Roots](#) developed two novel initiatives that have expanded access to care for those in rural areas while also enhancing the professional education of health professional students.

The *Prince George Cardiac and Pulmonary Rehabilitation Program*, started in February 2016, is a partnership between the Northern and Rural Cohort (NRC) of the Department, Northern Health, and the YMCA of Northern BC. These community-based programs provide patients living with cardiac conditions or chronic pulmonary disease with individualized, monitored rehabilitation exercise and education sessions on lifestyle changes and self-management. The Phase 2 subacute community based cardiac rehab program is the first of its kind in northern BC, while the Pulmonary rehab program joins the Quesnel program in offering services in the North for people with chronic pulmonary conditions. The program operates out of the YMCA in Prince George and is staffed by a certified clinical exercise physiologist, a physiotherapist, and 2 physical therapy students per placement.



**Cardiac program patient  
with NRC student**

A second initiative involves a partnership with Carrier Sekani Family Services. First Nations communities suffer a disproportionate burden of disease, in particular arthritis, and face numerous barriers to accessing rehabilitation services. Building on the UBC Aboriginal Family Practice Residency program, Robin piloted a rehabilitation service delivery model that combines in-person community visits with telehealth follow-up. Together with an outreach primary care team of physicians, family practice residents and other health care professionals, Robin and one or two MPT students travel to remote First Nations communities to spend the week providing team-based care. Students are immersed in collaborative practice where they learn about, and practice, culturally safe health care. Recognizing the role that they have in educating these future health care professionals about cultural safety, community members engage students and take them ice fishing or show them other traditional practices. Upon returning to Prince George they conduct follow-up visits over telehealth from the Physiotherapy Plinth Lab at UNBC. Students learn telehealth is an effective means of follow-up and are exposed to the benefits of electronic charting in improving team based care when professionals are not co-located.

# Alumni

In the spring of 2012, Clinical Associate Professor and alumna, [Nancy Cho](#) (Class of 1982), was asked to kick off the UBC-wide “Start an Evolution” fundraising campaign. Thinking of our students she felt we needed to top-up our Rehab Sciences Alumni Bursary. Because it was the 30th anniversary of the establishment of the Bursary and she was celebrating 30 years as an UBC Rehab grad, she set an ambitious goal of \$30,000. With much thanks and help from a lot of good people she has (for the last four years) chipped away at it, and in 2016, surpassed the goal.

The UBC Rehabilitation Sciences Alumni Bursary was first established in 1982 by the Rehabilitation Student Council led by Nancy Cho as President. Prior to 1982, all rehabilitation science students were provided a government stipend for their work in the hospitals while on their placements. This helped students with the costs of their education. This government stipend program was discontinued for allied health professions in 1982, and the bursary was founded in order to assist students in financial need. The first bursary of \$500 was awarded the next year to the first recipient in 1983. Currently, this endowed bursary is awarded to two students each year (\$2200 each), one to a Masters of Physical Therapy and one to a Masters Occupational Therapy.

Nancy has been a longtime supporter of the Department and has contributed in many ways. In addition to her work on this bursary she served a vital role in fundraising for the renovations of the Friedman Building which allowed doubling of the enrollment. She has also consistently held roles on both Department and UBC level committees including that of President of the School of Rehabilitation Sciences Alumni Division. Just after graduation Nancy began sharing her clinical expertise with students. She has mentored many students and new grads in the clinical setting and has been a longtime classroom instructor on the topics of electrophysical agents & electrotherapeutic interventions, gerontology, and community orthopedic management.

Nancy has also made major contributions to the physiotherapy profession and has been recognized in the past with the Physiotherapy Association of BC’s Leadership Award and UBC 75th Anniversary Award. She has also been recognized for her long term service with The Alliance of Physiotherapy Regulators, College of Physical Therapists of BC, and Vancouver Coastal Health



## Alumni



UBC Alumni Elizabeth MacRitchie (BSR'70) and her husband Donald (BSc'68, MD'70) received the 2016 Alumni Volunteer Leadership Award. They have both played an active role in the expansion of the medical and physical therapy programs in northern B.C.

[Elizabeth MacRitchie](#), UBC Rehabilitation Sciences graduate of 1970 and longtime Prince George resident, has seen the health care struggles of northern BC first hand. After her husband Donald completed his medical residency they travelled to Prince George with the intention of practicing in the north for two years – but they never left.

Today, Elizabeth is dedicated to helping UBC inspire students to practice in underserved areas and resolve our communities' health care divide. Together with fellow alumni Lesley Schwab, Vicki Laverdure, and Johanna Jenkins, Elizabeth established the NRC Travel Award in Physical Therapy. The award offers one or more NRC students up to \$1,000 toward their travel expenses during rotations, when students spend at least five months in rural communities like Dawson Creek, Fort St. John, Prince George, Quesnel, Terrace, and Prince Rupert. It encourages students in greatest financial need to pursue their passion for care and to explore some of the province's most remote areas. As the NRC Travel Award in Physical Therapy broadens the horizons and expertise of health professional students, it encourages many of them to continue their practice outside of Canada's major cities.

This helps bring physiotherapy closer to home for BC residents. UBC health professional students are traveling to more areas of the province than ever before, increasing their understanding of the disparate health needs that exist across BC.

# Research



## Dr. Linda Li

- Canada Research Chair in Patient-Oriented Knowledge Translation
- Harold Robinson/Arthritis Society Chair in Arthritic Diseases
- Director of the Arthritis, Joint Health & Knowledge Translation Research Program

Collaborative partnerships have always been a part of Dr. Li's research projects, involving patients, patient organizations, clinicians and decision makers as well as researchers from various disciplines. In recognition of her expertise in research methods she was appointed as lead for the Knowledge Transfer and Implementation Science Methods Cluster at newly established BC SUPPORT Unit . This is a multi-partner organization, jointly funded by the federal and provincial governments to support, streamline and increase patient-oriented research in BC. The Unit is one of several SUPPORT Units established across the country as part of Canada's Strategy for Patient-Oriented Research (SPOR) led by the Canadian Institutes of Health Research (CIHR). It has two main roles: providing services to researchers, patients, health care providers and health system decision makers, and facilitating initiatives identified as provincial priorities. The Methods Cluster led by Dr. Li will focus on methodological development and evaluation in knowledge translation and implementation science, with a goal to advance the knowledge in this field and enable collaboration with colleagues in Canada and world-wide.

## Research

Lab members of the *Clinical Exercise Physiology Lab* (CEPL) are building a healing community through research and service. Led by [Dr. Kristin Campbell](#) the CEPL has created communities of support for those with cancer. Kelsey Bland, MSc student, created an 8-week program to provide a safe, social, and fun way for women who have finished, or are currently receiving treatment for breast cancer, to exercise. This program is offered free of charge and participants of varying fitness levels can attend as many sessions as they desire. These outdoor fitness sessions are led by program volunteers who accommodate varying walking speeds of all participants.



Master's student, Kelsey Bland working with a breast cancer survivor

Dr. Campbell's team was selected to be leaders for the province of BC of the national TrueNTH Lifestyle Management Program. The national program is part of the Global TrueNTH network funded by Movember (in partnership with Prostate Cancer Canada nationally) that aims to improve the survivorship experience for men living with prostate cancer. In partnership with Vancouver Parks and Recreation Dr. Campbell's team provide a 12-week program of physical activity classes. The CEPL also led a day-long training session and webinar training PTs and Kinesiologists from across the province to build capacity to deliver the TrueNTH Lifestyle Management Program across BC.

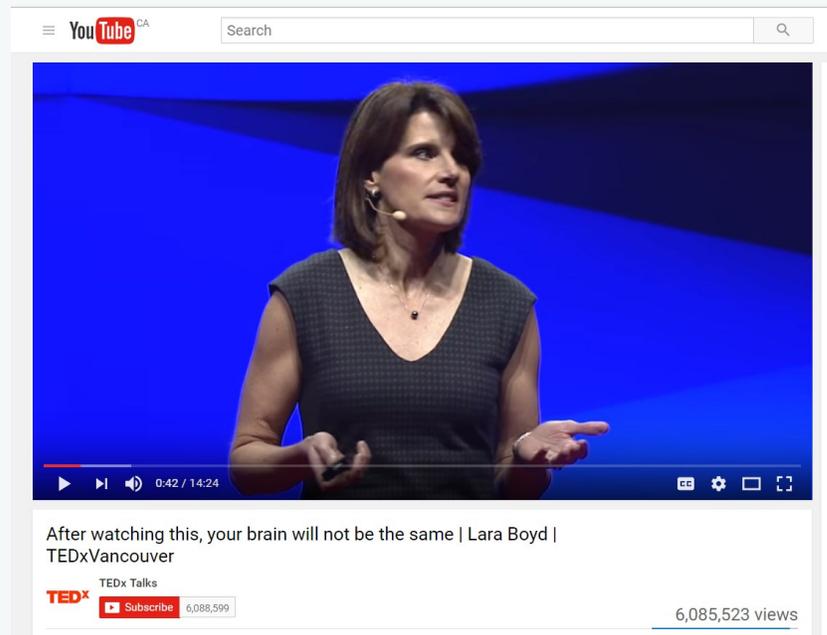


Dr. Kristin Campbell leads BC CARING (**British Columbia Cancer Rehabilitation Interest Group**). BC Caring is an informal network of physiotherapists and exercise professionals interested in working with cancer survivors, that aims to keep up to date on the latest research in cancer rehabilitation, discuss difficult cases, address clinical questions, and provide a referral system for survivors. This group holds Webinars and offers courses and events periodically throughout the year.

These groups help inform Dr. Campbell's research questions and have built communities of support for women with breast cancer and those who treat them.

Dr. Campbell's lab was funded in part by the Canadian Foundation for Innovation (CFI). As part of their 20th anniversary celebration, CFI highlighted the work of Dr. Campbell, "[Research Builds My Community](#)". She was also an invited participant in the anniversary celebratory event on Parliament Hill designed to demonstrate the impact that CFI funded programs have in the health and lives of Canadians.

## Research



**Dr. Lara Boyd** is working to advance educational interventions and revolutionize how we consider the impact of school on brain development. Dr. Boyd's research has made substantial contributions in understanding how motor practice alters brain function and structure as it relates to adult learning and rehabilitation after stroke. Dr. Boyd has extended her work to include the study of neuroplasticity associated with education in children. This work is sparking interest in an entirely new field of research, educational neuroplasticity. She is providing leadership in the establishment of the Arrowsmith-Young Collaborative for Education and Neuroplasticity at UBC. In recognition of the need to educate the public about brain plasticity she has undertaken significant efforts to reach out to teachers, families and children in the community. Dr. Boyd provided many educational sessions to teachers on professional days which were always at capacity. She also spoke regularly at schools to parent groups. Dr. Boyd and her trainees routinely go into schools to speak about the brain to children and regularly host school groups in her lab at UBC. In 2015 she became a Vancouver School mentor for gifted children who are interested in the brain. In this capacity she hosts and mentors grade 5-9 students throughout the school year, providing hands on involvement in research studies and facilitating knowledge. She also served as a "human book" at science fairs, offering her insights to secondary school students, and as a woman scientist, serving as a role model. At the end of 2015, Dr. Boyd gave a TED talk which provided an overview of how the brain changes to support learning, how this process is shifted after stroke and how individual variability in patterns of neuroplastic change make it hard to design effective rehabilitation interventions. She concluded with a discussion of how to keep the brain healthy in aging and how the principals of variability in patterns of neuroplastic change may impact educational interventions. In 2016 her TEDx talk was viewed over five million times.



## Research

[Dr. Naznin Virji-Babul](#) is applying her expertise to offer tools that will incorporate EEG data and measures of cognition and behaviour to effectively and objectively classify and detect concussions in single subjects as well as characterize recovery.

Currently available assessments for concussion rely heavily on symptom reporting and therefore many concussions are either misdiagnosed or missed altogether. Dr. Virji-Babul was among the first to show that brain activity is altered long after symptoms of concussion have dissipated. Athletes are at a greater risk of further brain damage if they incur another concussive event before fully healing. Therefore, it is imperative to find more accurate brain-based tools for diagnosis and return-to-play decisions.

Dr. Virji-Babul and her colleagues founded EEGlewave Inc. in 2016. This start-up company is working to develop tools that will incorporate EEG data and traditional measures of cognition and behaviour to effectively and objectively classify and detect concussions in single subjects as well as characterize recovery and provide an index of the "brain health" of the athletes, thereby mitigating the risk of further concussions and potentially debilitating long-term outcomes. Dr. Virji-Babul's research reports a greater than 80% accuracy using this approach. The EEGlewave team is working with Seafairs Minor Hockey association and the Richmond Football Club to monitor players and continue research that will improve treatment and management of concussed athletes.

# Research Productivity

## Trainee Supervision

Faculty members had 31 PhD, 28 MSc (thesis) and 16 Post-doctoral fellows under their supervision in 2016. Additionally, they supervised an additional 16 in programs such as Undergraduate, Medicine and non thesis Masters. Trainees supervised by our faculty members in 2016 were first authors on 89 publications\* and were supported in their training with over \$33,637,340\*\*

\* published during the tenure of their training; \*\* total amount through the tenure of the award

## Publications

In 2016 our faculty members published 104 peer reviewed articles and at the end of the year had an additional 16 in-press and had submitted another 113.

## Research Funding

In 2016 faculty members held a total of \$16,502,658 as nominated principal investigator; in 2016 they were successful in obtaining \$2,277,545 in new funding to support research projects (\$2,270,153) and equip laboratories (\$7,392).

## Honours and Distinctions

- In 2016 four faculty members held *Canada Research Chairs*:  
**Tier II:** Lara Boyd, Linda Li, Teresa Liu-Ambrose  
**Tier I:** Janice Eng.
- Michael Smith for Health Research Scholar awards were held by Pat Camp, Jordan Guenette and Michael Hunt.
- Lara Boyd was awarded the *Tony Hakim Prize* by the Canadian Partnership for Stroke Recovery.
- Jordan Guenette received a CIHR *New Investigator Award*.
- Linda Li was invited by McGill University to give the *Shirley Metcalfe Memorial Lectureship*.
- Susan Murphy was presented the *Award of Distinction* by the Canadian Alliance of Physiotherapy Regulators.
- Alex Scott was awarded the *Research Ambassadors Knowledge Translation Award* by the CIHR Institute of Musculoskeletal Health and Arthritis.