

2018 Annual Report



VISION

To be an international leader in the study and advancement of human movement, sport, health and wellness.

MISSION

To provide excellence in research, education and community programs related to human movement, sport, health and wellness.

DEAN'S MESSAGE



Research in the Faculty of Kinesiology is world-renowned and improves the health and mobility of individuals of all ages, from youth to older individuals, and from recreational participants to elite and Olympic athletes.

This year, our faculty was ranked No. 1 in North America and No. 7 globally for schools of movement and sport science (Shanghai Ranking 2018), based on our research quality and productivity. This is a truly great accomplishment.

Our faculty is continuing to find ways to improve human performance. This annual report details our accomplishments for 2018. Here are a few highlights.

We are:

- Leading a pan-Canadian research program to reduce concussions and their consequences in youth sport on a national level after receiving \$12 million CDN from the National Football League's Scientific Advisory Board.
- Calling for tighter restrictions on the marketing of energy drinks to youth by creating new recommendations and warnings on the safety of these drinks.
- Researching social supports to help older adults keep physically active and find practical applications to those who are 55-plus, including those who may face barriers.
- Anticipating the future by launching a new program specializing in wearable technology, which is expected to help with a shortage of qualified professionals.
- Demonstrating that reconstruction of the knee's anterior cruciate ligament is associated with severe, and long-term degeneration of the semitendinosus muscle.
- Informing best practices for injury reduction and prevention with a partnership with Alberta Ballet, one of the few dance-science collaborations in the world.
- Changing volleyball policy to prevent concussions after finding that 15 per cent of the concussions happened during the warmup and 46 per cent happened during practice.

We have achieved so much this year. I am proud of the research and education that we do in the Faculty of Kinesiology and how we have a direct impact on the health and mobility of our society.

Sincerely,

Dr. Penny Werthner, PhD Dean and Professor

Honor	Carolyn Emery — Carol L. Richards Lectureship, Université Laval. "Moving upstream towards prevention youth sport and recreation."
Honor	Carolyn Emery — Visiting Fellowship, St. Catherine's College, University of Oxford, UK.
Honor	Carolyn Emery — British Journal of Sport Medicine, Inside Track featured researcher, by Ross A. (November 2018). "Carolyn Emery #Fierce Scientist #PassionateLeader".
Honor	Walter Herzog — Killam Prize in engineering from Canada Council for the Arts for body of work in musculoskeletal biomechanics.
Honor	Brian MacIntosh — Canadian Society for Exercise Physiology Inaugural Fellowship.
Honor	Dave Paskevich — The City of Calgary: Outstanding achievement in sports excellence.
Honor	Dave Paskevich — International Olympic Committee: Commemorative Certificate — Participation in the XXIII Olympic Winter Games in PyeongChang.
Appointed	Kevin Boldt — Student Representative of the 2018-2020 Executive Council of the Canadian Society for Biomechanics
Award	Simon Barrick — Izaak Walton Killam Doctoral Scholarship.
Award	Mathieu Chin — Best Poster Award, Alberta Children's Hospital Research Institute Symposium 2018. "Evaluating the effect of body-checking policy on physical contacts in Midget hockey players using video analysis."
Award	Saša Čigoja — 1st place in the 2018 International Sports Engineering Association (ISEA) Student Project Competition.
Award	Nicole Culos-Reed — 2018 Pathfinder's Award, PROSTAID Calgary, Calgary, AB.

Award	W. Brent Edwards — Outstanding Supervisor Award, Biomedical Engineering Graduate Program, University of Calgary.
Award	Larry Katz — University of Calgary Teaching Award 2018. Full Time Academic Staff, University Professor. Taylor Institute for Teaching and Learning.
Award	Sarah Kenny — 2018 Healthy Dancer Canada Research Award, Healthy Dancer Canada Conference, Toronto, ON.
Award	Brad Kilb — Teaching Excellence Award, University of Calgary Student Union.
Award	Teja Klancic — Best Poster Award, Obesity Week, Nashville, TN.
Award	Sheharzad (Sherry) Mahmood — Winner, Best present)ation, Session 1, McCaig Undergraduate Student Symposium. Calgary, AB.
Award	Sheharzad (Sherry) Mahmood — Winner, Canadian Society for Biomechanics Best Biomechanics Poster, 19th Annual Alberta Biomedical Engineering Conference, Banff, AB.
Award	Nathaniel Morris — Winner, Dr. Gord Sleivert Young Investigator Award, Sport Innovation Summit, Montreal, QC.
Award	Juan Murias — GREAT supervisor award, Faculty of Graduate Studies', University of Calgary.
Award	Sadhiq Nazeer — Winner, Faculty of Kinesiology Award, Faculty of Kinesiology Award, University of Calgary Undergraduate Research Symposium.
Award	Louise Neave — Winner, Best Oral present)ation in Biomechanics, 12th Annual Biomedical Engineering Undergraduate Summer Research Symposium, Calgary AB.
Award	Jodi Nettleton — Basic Science Poster Award, Obesity Week, Nashville, TN.

Award	Jaqueline Rios - Winner, David Winter Doctoral Young Investigator Award, Canadian Society for Biomechanics, CSB 2018 Halifax. Halifax, NS.
Award	Kathryn Schneider, Willem H. Meeuwisse, Luz Palacios- Derflingher, Carolyn A. Emery — Journal of Orthopedic and Sport Physical Therapy's 2018 JOSPT Excellence in Research Award for December 2018 Article.
Award	Scott Sibole — Biomedical Engineering (BME) Graduate Program Director Leadership Award.
Award	Justin Tan — Best Poster Award, Markin USRP Conference.
Award	Rosemary Twomey — Astellas Award for Best Cancer- Related Poster present)ation. 2018 International Behavioural Trials Network (IBTN) Conference, Montréal, QC.
Award	Tessa VanDerVeeken — Best Poster Award, Perspectives in Exercise Health and Fitness Conference, Kananaskis, AB.
Award	Preston Wiley — Dr. Lou Goodwin Award, University of Calgary Varsity Athletics Male Service Award.
Ph.D.	Sommer Christie — Supervisor: Dr. Penny Werthner. Thesis: Neural correlates of performance and neurofeedback training in ice hockey shooting.
Ph.D.	Jose Mira (Chambery, France & Calgary, Canada) — Co-Supervisor: Dr. Guillaume Millet. Thesis (co- tutelle):Neuromuscular fatigue of prolonged exercises in normoxia and hypoxia revisited: methodological developments and fatigue etiology.
Ph.D.	Maurice Mohr — Co-Supervisors: Drs. Benno Nigg and Carolyn Emery. Thesis: Lower extremity muscle activation following a previous knee injury: implications for post-traumatic knee osteoarthritis.

Ph.D.	Ricky Watari — Supervisor: Dr. Reed Ferber. Thesis: Evidence-informed methods for predicting rehabilitation outcomes for individuals with patellofemoral pain.
M.Sc.	Olivia Bruce — Supervisor: Dr. Brent Edwards. Thesis: Towards the real-time monitoring of Achilles tendon strain.
M.Sc.	Caitlin Campbell — Co-Supervisors: Nicholas Mohtadi and Preston Wiley. Thesis: Assessing validity and responsiveness of the rotator cuff quality of life index.
M.Sc.	Kyla Coates — Supervisor: Dr. Guillaume Millet. Thesis: The mechanisms of fatigability from whole-body exercise and its relationship to chronic fatigue in people with multiple sclerosis.
M.Sc.	Chevonne Codd — Co-Supervisors: Drs. Kathryn Schneider and Carolyn Emery. Thesis: Incidence, risk factors and mechanisms of concussion and musculoskeletal injury in youth soccer players.
M.Sc.	Eshleen Grewal — Supervisor: Dr. Patricia Doyle-Baker. Thesis: Investigating 24-hour movement behaviours of children and youth attending summer camps.
M.Sc.	Leticia Janzen — Co-Supervisors: Drs. Carolyn Emery and Elizabeth Condliffe. Thesis: Examining Physical Activity, Adiposity, and Function in Youth with and without Spastic Cerebral Palsy.
M.Sc.	Kayla Kashluba — Supervisor: Dr. PK Doyle-Baker. Thesis: An Intervention program designed to improve balance and power in U14 alpine ski-racers.
M.Sc.	Liam Kronlund — Supervisor: Dr. Nicole Culos-Reed. Thesis: Addressing key stakeholders to assess the reach of a community-based pediatric oncology physical activity program.
M.Sc.	Kristin Lorenzen — Co-Supervisors: Drs. Janet Ronsky and Carolyn Emery. Thesis: A comparison of biomechanical outcomes in single leg squat and vertical drop jump in youth and young adults with and without a previous youth sport-related knee joint injury.

M.Sc.	Sabina Manz — Supervisor: Drs. Benno Nigg and W. Brent Edwards. Thesis: Running pattern recognition in a comfortable and an uncomfortable shoe condition.
M.Sc.	Colleen Nesbitt — Co-Supervisors: Drs. Carolyn Emery and Janet Ronsky. Thesis: Physical activity, adiposity, and functional measures in youth with juvenile idiopathic arthritis compared to healthy controls.
M.Sc.	Trevor Rutschmann — Supervisor: Dr. Kathryn Schneider. Thesis: Changes in exertion-related symptoms in adults and youth who have sustained a sport-related concussion.
M.Sc.	Jena Shank — Supervisor: Dr. Nicole Culos-Reed. Thesis: Evaluation of community-based physical activity programming for childhood cancer survivors.



Dr. Penny Werthner, Dean

Movement Science and Musculoskeletal Health

DR. TYLER CLUFF

Integrative Sensorimotor Neuroscience Laboratory

We are a newly established group in the Human Performance Laboratory. Our work is focused on the mechanistic. multidisciplinary study of human sensorimotor control and learning. We combine behavioural experiments with robotics. neurostimulation. medical imaging, and computational models to examine the function of the human sensory and motor systems. Our work is focused on understanding how basic aspects of sensory processing contribute to human motor control and learning. Ongoing projects in the lab focus on four topics: (1) the role of sensory feedback in the selection, planning and control of voluntary movements; (2) basic principles of sensory processing and how they impact individual patterns of human motor behaviour: (3) probing the function of neural circuits that support motor behaviour; and (4) identifying how impairments in sensory and motor function caused by stroke and concussion, influence sensorimotor control and learning. Through our basic science program



and ongoing collaborations, we hope to generate tools that allow us to better assess, monitor and diagnose deficits in sensory and motor function.

DR W. BRENT EDWARDS

Mechanical fatigue of load bearing biological tissue is an inevitable consequence of physical activity. Over time, habitual loading of the musculoskeletal system causes micro-damage accumulation that reduces the overall quality of the tissue and leads to a reduction in stiffness and an increase in mechanical strain with continued loading. Without adequate tissue repair and adaptation, the evolution and accumulation of micro-damage may eventually lead to musculoskeletal injury. Mechanical fatigue is believed to play a predominant role in the pathophysiology of musculoskeletal injuries such as bone stress fracture as well as Achilles and patellar tendinopathy. Our research combines biomechanical experimentation with advanced medical imaging and computational modeling to investigate tissue damage and fatigue in response to mechanical loading. Our unique approach allows us to estimate in vivo tissue mechanics in a non-invasive and subject-specific manner. The work in our group spans multiple dimensional scales, from basic experiments at the tissue-level that enhance our understanding of the mechanical fatigue process, to applied experiments at the whole-body level for the development of treatments and interventions to improve tissue quality and decrease injury risk.

DR. REED FERBER

Dr. Ferber is a clinical biomechanist and his research is aimed at optimizing rehabilitation and predicting injuries. Overall, his group is engaged in two streams of research: clinical gait analysis and wearable sensors.

Dr. Ferber's group has successfully established an international and growing gait analysis research network currently consisting of 15 researchers and over 100 clinical partners. Each centre is linked to the world's largest research database of biomechanical gait and clinical data. They are transforming the biomechanics research community by openly sharing data between laboratories, employing unique data science analysis methods, and growing our research network.

Their wearable research is based on three challenges: (1) wearable sensors generate a profound amount of data that is largely ignored; (2) the information derived from these sensors is not placed within a contextual narrative; and (3) most sensors are designed for activity monitoring and not for healthcare. To address these challenges, Dr. Ferber leads the recently awarded NSERC Wearable Technology Research and Collaboration (We-TRAC) training program. This program builds on being selected in 2016 (by the Vice President - Research Dr. Ed McCauley) to lead the Sensor Technology in Monitoring Movement (STiMM) research program supporting the University's Eyes High "Engineering Solutions for Health" research strategy.

DR. WALTER HERZOG

Our research interests remain focused on the areas of: (1) muscle properties and mechanisms of muscle contraction; (2) joint biomechanics and osteoarthritis: and (3) applied musculoskeletal research. In the area of muscle mechanics, we demonstrated that fatigued muscle fibres which produce less than 50% of force at optimal length will still produce full force at long length, indicating possibly the crucial role of non-actin-myosin-associated force production at long length. We have also demonstrated, in unique experiments on isolated cardiac mvofibrils, that cardiac tissue has residual force enhancement properties.

In the area of joint biomechanics and osteoarthritis, we determined that joints in adolescents are protected better from degeneration than those of adults when rats are subjected to a high-fat/high-sucrose diet, and that obesity-induced knee joint osteoarthritis can be prevented effectively with moderate aerobic exercise and/ or an oligofructose-based fibre supplementary diet, but only if applied at the right time.

In our applied musculoskeletal research, we continued studies on the 3-dimensional kinematics and kinetics of the neck and vertebral artery during spinal manipulative treatments. We have demonstrated that successful manipulative treatments by chiropractors are performed with increased rates of force application. We have also demonstrated that an-

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terior cruciate ligament reconstruction using semitendinosus grafts are associated with severe, and long-term degeneration of the semitendinosus muscle.

DR. ARTHUR KUO

In our second full year within the Human Performance Lab, our focus continues to be on developing our lab space, as well as growing the group of individuals with whom we work to further our research. In 2018, we welcomed several international visiting students and continued to work collaboratively with individuals in other faculties, such as Biomedical Engineering (BME) and the Cummings School of Medicine.

By leveraging new algorithms, wearable sensors for long-term data collection and instruments that emulate real-world conditions such as complex or uneven terrains, our lab is accelerating understanding of mobility impairments to find new rehabilitation technologies. For example, our research advances in neural control of muscles, sensorimotor integration of balance, energetics on walking, mobility of older and impaired individuals, and robot locomotion, have led to improvements in the design of prosthetic limbs.

Several members of our group traveled to Pensacola, Florida in May and to San Diego, California in November to present at the annual Dynamic Walking and Society for Neuroscience conferences.

DR. BENNO NIGG

Our group concentrates on topics that are health and performance related with special considerations for footwear, apparel and equipment.

Athlete assessment: This year we completed two multi-year research studies focusing on matching specific individuals to their ideal footwear condition, either soccer cleats or running shoes, based on a number of anthropometric, demographic and biomechanical variables. The goal of this field of research is to understand how to best predict an individual's ideal footwear, reducing injury risk and improving performance, so that consumers can purchase their shoes online with better success.

Running related paradigms: Our understanding of a few running paradigms was further developed, specifically, the Muscle Tuning Paradigm. We furthered our knowledge about how running in shoes with different properties influences soft tissue vibration characteristics. Additionally, our understanding of the Preferred Movement Paradigm was advanced by quantifying how leg muscle activity patterns support the preferred movement path in different running shoe conditions.

Virtual coaching system: A very exciting trend is the use of electronics and apps to improve athletic training. With this in mind, we have been working on a virtual coaching system for ice hockey that would involve sensors embedded within the padding or skates and provide youth players or coaches with feedback through an app. We are currently developing the algorithms for such a system using Inertial Measurement Units.

DR. RYAN PETERS Integrative Sensorimotor Neuroscience Laboratory

Together with Dr. Tyler Cluff in the Faculty of Kinesiology, earlier this year we established the Integrative Sensorimotor Neuroscience Laboratory. Our lab houses state-of-the-art wholebody kinematic and eve-tracking cameras, a KINARM exoskeleton robot, and a human electrophysiology suite for measuring the activity in single sensory and motor neurons, as well as sensorimotor regions of the brain in awake behaving participants. We combine human neurophysiology and neurostimulation techniques with computational modelling, medical imaging, and robotics in an integrative manner with the goal of advancing our understanding of human motor control. Ongoing projects in the lab focus on three topics: (1) understanding how sensory feedback maps onto motor outputs via spinal reflexes during natural reaching and grasping behaviours; (2) investigating the precision of skin receptors in the neural coding of hand posture during haptic exploration; and (3) developing novel neurophysiological markers to supplement medical imaging in the assessment of acute stroke. and to serve as a benchmark for the efficacy of subsequent rehabilitation programs. Through a tight marriage of basic and clinical research. our laboratory is poised to become a world-leader in the study of human motor control, while successfully translating our findings from bench to bedside.

DR. DARREN STEFANYSHYN

The general research interests of our group focus on questions related to human locomotion, sport performance and sport injury biomechanics. Our research extends to functional sport equipment with a goal of tuning the properties of the equipment to specific athlete characteristics in order to maximize the athlete's performance and minimize the risk of injury. Performance research involves developing a basic understanding of the mechanics of human movement during various locomotor and athletic movements. The goal is to determine the mechanical factors dictating an athlete's performance and how performance can be improved by manipulating these particular factors. In 2018 we extended our industry work on identifying methods of matching sport equipment to individual athletes.

Injury research involves identifying potential injury factors such as global loading characteristics associated with ankle and knee sport related injuries as well as developing an understanding of the role played by equipment. This past year we gained valuable insight on the role of sport surface characteristics as well as shoe upper stiffness in lower extremity joint loading.

Injury Prevention, Sport Medicine and Rehabilitation

DR. CAROLYN EMERY

Dr. Carolyn Emery is the Chair of the Sport Injury Prevention Research Centre, 1 of 11 International Olympic Committee Research Centres for Prevention of Injury and Protection of Athlete Health. Identification of risk factors and evaluation of prevention strategies to reduce the burden of injuries and their consequences in vouth sport is the focus of Carolvn's research program. Building on the national body-checking policy change in Pee Wee youth ice hockey (ages 11-12), her research has demonstrated that disallowing body-checking in non-elite Bantam (ages 13-14) reduces injury risk by more than 50%. Her research has demonstrated more than a 40% reduction in injury risk with the implementation of a neuromuscular training warm-up program in junior high school physical education. A greater understanding of risk factors for tendinopathies in youth basketball players will inform load modification and other prevention strategies. Surveillance in High Schools to REDuce Injuries (SHRED Injuries 2018-25,) will build on this research across multiple sports and communities to reduce iniuries and their consequences in vouth sport. A 5 year cohort study, ("Safe to Play" (2013-18), focused on concussion detection, diagnosis, prognosis, prevention and management, in youth ice hockey), has informed SHRED concussions, of best practice in concussion

prevention and management across multiple vouth sports (2018-22). Alberta Prevention of Early Osteoarthritis (Pre-OA 2015-18) examined predictors of post-traumatic OA and has demonstrated that youth with a knee joint injury history, have increased adiposity. MRI defined OA, reduced physical activity, and poorer quality of life, balance, and strength, compared to matched controls. Based on this research. the evaluation of an exercise intervention to prevent OA has been developed. As program lead of the Vi Riddell Pediatric Rehabilitation Research Program, Carolyn's research also focuses on youth with cerebral palsy, joint injury/disease, concussion, and evaluation, of adapted physical activity programs.

DR. SARAH KENNY



The program of research in Dance Science, led by Dr. Sarah Kenny, investigates areas described as: 'health for dance' and 'dance for health'. In 'health for dance', focus is given to injury epidemiology, specific to dance and aesthetic sport populations. Dr. Kenny's objectives are to decrease the risk and reduce the burden of dance-related injury through the development, implementation and evaluation of primary, secondary and tertiary prevention strategies. In 'dance for health', attention is paid to the psychosocial experience of community dance as a form of physical activity and social connection for other populations across the age spectrum (e.g., older adults' and those living with Parkinson's disease).

DR. NICHOLAS MOHTADI

As a Principal Investigator and through collaborative roles, my research activities at the University of Calgary Sport Medicine Centre involve: Osteoarthritis, Knee Injury, Shoulder Research, Sport Injury Prevention and clinical trials.

Eight randomized clinical trials have compared standard surgical treatments with arthroscopic techniques, surgical with non-surgical treatments, and innovative new technology for treating cartilage defects in the knee and ligaments in the shoulder. My current trial, comparing three different surgical techniques for knee ligament surgery, is the largest trial ever reported. Three-hundred-and-thirty randomized patients were double-blinded, with 95% follow-up at 5-years. Ten-year follow-up will be completed in Januarv 2021. I am also a collaborator in a multi-centre trial (STABILITY-1) comparing anterior cruciate ligament reconstruction techniques, and a co-investigator on two different multi-centre trials evaluating mechanisms and treatments for post-traumatic joint contractures (PERK-1 and -2).

I have developed patient-reported quality of life outcomes for patients with chronic anterior cruciate ligament deficiency (knee), rotator cuff disease (shoulder), and young, active patients with hip disorders. I have also developed measures to assess calcaneal fractures, patient satisfaction for outpatient surgical treatment, and the Health Access and Patient Satisfaction Questionnaire (HAPSQ) for both knee and shoulder. These outcomes have facilitated daily patient care, become the primary outcomes for clinical trials and helped with health services evaluation.

Health services research has involved a unique, innovative and cost-effective new healthcare delivery model for acute knee injuries, which is now recognized and provincially-funded. This work catalyzed the development of province-wide indications for MRI investigations of knee injuries, which have recently been validated and published.

DR. KATI PASANEN

Dr. Kati Pasanen's research program is focused on three major areas: (1) identification of risk factors for lower extremity injuries; (2) development of novel methods for training load monitoring by using wearable technology; and (3) development and evaluation of neuromuscular training programs to decrease the risk of injuries in youth sports.

We have four studies in collaboration with Finland investigating risk factors,

mechanisms and prevention of musculoskeletal injuries in youth team sports, and in professional ballet. Knowledge generated from our research and collaboration could ultimately lead to better understanding of causes and mechanisms of lower extremity injuries, which could allow us to develop current injury prevention programs, promote lifelong sport participation and lower public health care costs related to injury in youth sport.

DR. KATHRYN SCHNEIDER

Concussion Prevention, Detection and Rehabilitation Lab

Our lab focuses on the prevention, detection, and rehabilitation of concussion with a special interest in the role of the cervical spine and balance systems. We use clinical and technological tests to evaluate multiple areas of sensory and motor function. ultimately gaining insight into changes that may occur following a concussion. Additionally, with the use of technological tests alongside clinical tests we are gaining a better understanding of how to best evaluate various components of function. Ongoing projects in the lab focus on: (1) the role of neuromuscular training and sensorimotor training in the prevention of concussion; (2) changes that occur in measures of cervical spine, vestibular and sensory function with growth and development; (3) changes that occur in measures of cervical spine, vestibular, and sensory function following a concussion; and (4) optimizing rehabilitation techniques to enhance recovery and inform clinical care. Our program of clinical research involves collaboration with multiple clinicians and researchers across the University of Calgary and other national and international institutions, ultimately enabling clinically meaningful questions to be evaluated and translated back to the clinic.

DR. JENNIFER ZWICKER Disability Policy for Children and Youth

Fragmentation of service delivery across the life course often leads to inefficient health and social service utilization for children and youth with disabilities, and negatively impacts health and quality of life. Our research program aims to mitigate this fragmentation, using an integrated, knowledge impact framework (informed by key informant perspectives and quantitative analysis of administrative service delivery data, population data and cohort data) to understand the person-environment interactions of children with disabilities and evaluate interventions designed to improve outcomes for these children and their families. This research program is comprised of three research objectives: (1) understand how disability benefits and supports are experienced by children and youth with disability and their caregivers across Canada to identify barriers and enablers to accessing supports: (2) improve integration of services and supports across the life course for children and vouth with disabilities, focusing on key transition periods in service utilization; and (3) evaluate innovative interventions and care coordination programs for

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families of children with disabilities addressing barriers to supports and services by looking at the socioeconomic impact on children, their families and the healthcare system.

As a part of the injury prevention, sport medicine and rehabilitation theme, findings will inform policy on the coordination of services across the lifespan to improve the health capacity of children with disability.

Exercise Physiology and Nutrition in Health and Sport

DR. PATRICIA DOYLE-BAKER

Applied Physiology and Prevention through Lifestyle and Exercise

This past year, our research focused on exposure to stress both physiological and psychological and included participants from the start to finish of the reproductive cycle.

The HERs study (Hormones Effect on Rider) study investigated the menstrual cycle effect on measures of heart rate variability in athletic women. The CHESS study (Changes in Hormones Exposed to Student Stress), also includes heart rate variability and builds on previous research related to the RE-CESS study (The Recreation Exercise Caloric Expenditure Sitting and Sleep study in 1st Year University Students). Our publication from this study describes students' self-reported health outcomes over an academic semester. An interesting finding was that student's mental health significantly declined from the beginning to the end of the semester while physical health did not change. The CHESS study adds an objective measure of stress by investigating the association between self-reported stress levels, and salivary cortisol and progesterone levels, across the menstrual cycle over an academic vear. Currently there are no published studies involving progesterone's response to stress in naturally cycling female students attending full-time university. The ROWER study (Reducing Osteoporosis in Women who Exercise thru **R**owing) is an ambitious approach for the Dovle-Baker Lab as it will involve several studies with qualitative and quantitative measures, animal and human subjects and participants, and additional biomarkers, calcitonin, osteocalcin and parathyroid hormone, all leading to a bench to bedside approach investigating the effects of exercise on postmenopausal osteoporosis and the mechanisms by which exercise affects bone remodeling.

DR. MARTIN MACINNIS Exercise and Environmental Physiology Laboratory

We are an integrative physiology laboratory interested in understanding how humans respond to acute exercise and chronic changes in physical activity and the extent to which these changes are influenced by nutrition, sex and the environment. Our research group launched in 2018, and our ongoing projects primarily investigate adaptations in the skeletal muscle, cardiovascular, and hematological systems in response to different exercise training programs and the mechanisms underpinning the plasticity of these physiological systems. Current projects involve investigations of: (1) skeletal muscle fitness in men and women: (2) new non-invasive techniques to measure skeletal muscle fitness: (3) the molecular mechanisms responsible for exercise-induced improvements in skeletal muscle mitochondrial content: and (4) the influence of oxygen availability on aerobic metabolism. We employ a wide breadth of techniques, ranging from the biochemical and molecular analysis of human tissue (e.g., blood and muscle) to whole-body measures of exercise metabolism. tolerance and performance. The overall aim of our research program is to translate and apply our basic human physiology research to improve the health and fitness of individuals ranging from athletes to those with chronic disease and disability.



DR. BRIAN MACINTOSH Applied Muscle Physiology Group

The central theme of research in Dr. MacIntosh's laboratory is the study of force modulation in skeletal muscle. This includes the study of force-velocity, force-frequency and force-length relationships, and the interactions of these with and without prior activity. Prior activity can be an acute modifier, as in potentiation or fatigue. Alternatively, prior activity can be a chronic modifier, as in training, illness or disuse atrophy. A new theory of muscle fatigue has been proposed which states that fatigue is a consequence of the elegant regulation of excitation-contraction coupling in skeletal muscle to prevent depletion of adenosine triphosphate. Recent work has evaluated the potential role of changes in calcium sensitivity at physiological temperature contributing to muscle potentiation and fatigue. We are continuing the work on warm-up and post-activation potentiation. Work on understanding the slow component has revealed that it does not represent a rising energy cost of exercise, but a slow switch from anaerobic to aerobic energy supply. Prior heavy exercise performed as a warmup results in acceleration of the aerobic contributions to subsequent exercise and smaller anaerobic requirements. A structurally realistic computer model of a sarcomere has been created, and the impact of myofilaments at different sarcomere lengths on calcium diffusion has been evaluated. Our research group uses a number of approaches to study the contractile properties of skeletal muscle including: (1) in vitro single intact or skinned fibers and fiber bundles: or (2) in situ whole muscle and intact human subjects performing in vivo with isolated muscle or muscle group contractions or performing whole body exercise.

DR. GUILLAUME MILLET Neuromuscular Fatigue Laboratory

The Neuromuscular Fatique I ab (NMFL) had a productive and successful 2018. Lab members published over 20 papers in the flagship journals of our field, including Medicine & Science in Sports & Exercise (MSSE), European Journal of Applied Physiology (EJAP) and Journal of Sports Sciences (JSS). This included a meta-analysis about neuromuscular fatigue in aging populations and an article on endurance training and neuromuscular fatigue in healthy active men. The NMFL presented and won awards at annual conferences, including the Canadian Society for Exercise Physiology and the International Behavioural Trials Network. The NMFL hosted a funded (PURE) undergraduate student who assisted with a pre-registered study investigating fatigue and transcranial direct current stimulation. The NMFL continued to expand its clinical research program, publishing the protocol for an ongoing RCT investigating exercise for cancer-related fatigue and continuing a study investigating exercise after radiation for head and neck cancer. Unfortunately, this report will be the last from the NMFL as it is currently known. as Professor Millet returns to France to start a new research program at University of Lyon in Saint-Etienne.

DR. JUAN MURIAS Cardiovascular Exercise Physiology Group

I am interested in determining the effectiveness of exercise training programs for promoting health as well as for improving performance. The main goal of my research relates to the use of exercise training interventions as "medicine" to prevent or alleviate the detrimental effects of aging and disease on cardiovascular function, as well as improving performance. Although my laboratory examines both central and peripheral cardiovascular adaptations to exercise training, a current direction of my work is focusing on the vascular side of these adaptive responses. More specifically, I am interested in the role of the endothelium in the control and distribution of blood flow and the effects of endurance training exercise in preventing or alleviating the age-related reduction in endothelium-dependent vasodilation and the associated limitation in O2 transport to the sites of metabolic need.

Some of the measures commonly assessed in my laboratory include breath-by-breath VO2 and near-infrared spectroscopy (NIRS) to estimate blood oxv- and deoxvgenation within the area of NIRS "inspection". The use of this these techniques combined with measurements of VO2 can provide an estimate of the matching of muscle O2 delivery to O2 utilization. Additionally. Doppler ultrasound is used to estimate blood flow, vascular conductance, and flow mediated dilation responses at rest and during exercise, and to obtain morphological measures to derive the lumen-to-wall ratio in different arteries.

DR. RAYLENE REIMER

Our research focuses on understanding how nutrition and the bacteria that live in our intestine (called gut microbiota) interact to affect our risk of developing chronic diseases such as obesity, type 2 diabetes and fatty liver disease. This vear we examined how exposure to antibiotics in early life (mother during pregnancy or early infancy) increases obesity risk and how diet can be used to lessen this risk. Specifically we are showing that prebiotic fiber, a unique type of dietary fiber that increases healthy bacteria in the intestine, when given at the same time as antibiotics can reduce the risk of obesity. We have also been examining how to bring human infant formula closer to the nutritional gold standard of breastmilk. This work is examining how supplementing early life diet with human milk oligosaccharides (which act like fiber in mother's milk and feed the healthy bacteria in the gut) can improve gut microbiota profiles and lifelong metabolic health. We are also very involved in translating animal studies into human clinical studies. We are currently evaluating: (1) the effect of prebiotic fiber on liver health in patients with non-alcoholic fatty liver disease: (2) the effect of prebiotic fiber supplement on pain and function in individuals with knee osteoarthritis and obesity; and (3) how gut microbiota differ in youth with obsessive compulsive disorder compared to healthy control youth. Ultimately our goal is to design and evaluate new food ingredients and diets aimed at body weight management and optimal gut microbiota profiles.

DR. JANE SHEARER

The Shearer research program employs knowledge of nutrition and metabolism to predict, detect, prevent, and treat acute and chronic metabolic disease states. Specific interests include how diet and chronic disease alter nutrient handling and regulation. Experimental models span the cell to animal models and the whole organism. In 2018, work in the laboratory focused on three main areas: (1) the role of dietary manipulation in neurological disorders such as autism spectrum disorders and epilepsy: (2) mitochondrial regulation in health and disease; and (3) the role of specific foods, beverages, components, and processing on the development of obesity and its related metabolic diseases. A highlight was the publication of a position stand on the use of energy drinks in sport by the American College of Sports Medicine. This article makes specific recommendations stating that energy drinks should not be used for hydration before, during or after physical activity and that the combination of exercise and high caffeine dosage can be dangerous, especially for people who may have an underlying health condition.

Psychosocial Aspects of Health and Sport

DR. WILLAIM BRIDEL

Dr. William Bridel's general research focus is on socio-cultural aspects of the body, sport, physical activity and health. More specifically, he investigates: gender, sexuality and sport; bullying; and sport-related pain and injury, including qualitative inquiries into sport-related concussion. Theoretically. Bridel's work is informed primarily by Foucauldian perspectives of the body, poststructuralist gender and gueer theories. He employs a wide variety of qualitative methods including: interviews, focus groups, content analysis and autoethnography (i.e., critical autobiography). in his projects. Specific research undertaken by Bridel and his students in 2018 includes: (1) LGBTQI2S inclusion in sport including national sport organization policy review; (2) interviews with LGBTQI2S athletes, coaches, officials, administrators and a survey of a national sport organization's membership: (3) exploration of student-athletes' experiences of concussion and recovery; (4) examination of "intro to sport" programs servicing newcomers to Canada; (5) understandings of risk and gender in alpine environments: and (6) students' and student-athletes' constructions of health. The overarching goal of William's research agenda is to help make sport and physical activity more inclusive and safer for all participants, by addressing the culture of sport itself as well as the influence of social norms. beliefs, and values on sport and people's experiences in sport.

DR. NICOLE CULOS-REED Health and Wellness Lab

Dr. Culos-Reed and her team in the Health and Wellness Lab are working to bridge the gap between cancer exercise research and clinical practice by developing programs to include exercise assessment, prescription and education as part of standard cancer care. Working with community partners and healthcare providers, the lab has developed a variety of exercise and wellness-related programs and services to benefit cancer survivors and their families.

To further support research and knowledge translation activities, the Health and Wellness Lab also operates the Thrive Centre. Based in the Faculty of Kinesiology, the Centre is the first volunteer-run fitness facility in Canada to provide cancer survivors and their support persons a safe and supportive place to exercise at no cost. Since opening its doors in 2011, the Thrive Centre has trained over 750 kinesiology students in cancer and exercise facilitation. To date, volunteers have dedicated over 17.000 hours of service to help improve the quality of life of the 950 cancer survivors involved with Thrive Centre. The lab has also published a manual of operations to encourage knowledge translation across other universities interested in cancer and exercise programming.

DR. CARI DIN

I am a new teaching faculty member in the Faculty of Kinesiology with a specific focus on teaching and contributing to research in the fields of: (1) effective sport coach behaviors: (2) leadership learning and best practice in sport and activity contexts; and (3) understanding and facilitating physical literacy across the lifespan. My core contribution to the Faculty of Kinesiology is designing and delivering effective teaching that enables learning. I am engaged consistently in teaching and learning at the University of Calgary's Taylor Institute of Teaching and Learning.

DR. LARRY KATZ

Sport Technology Research Laboratory: Innovation in Pedagogy and Sport Performance

As an educational psychologist, I am interested in how people learn and how we can use innovation and technology to improve human performance. In addition, I have the privilege to be the director of the Sport Technology Research Lab (STRL).

The mission of STRL is to improve human performance and learning through research and development of technology-based learning models and resources, and to provide a research and learning environment which enables such development.

The objectives of STRL are to: (1) investigate the impact of technology on performance and learning; (2) develop technology-based resources which enhance performance and learning: (3) liaise and collaborate with organizations and individuals both on and off campus to promote human performance and learning technology; (4) encourage and coordinate the integration of technology into Faculty of Kinesiology programs; (5) work with industry in developing and disseminating technology-based research and resources developed by the STRL; and (6) ensure we graduate students who complete our program receive the "Innovative Pedagogy and Sport Performance" designation.

BRAD KILB

Leadership in Pedagogy and Coaching inspires students to examine in-depth core values and personal philosophies as they prepare to enter a career of teaching, coaching, or instructing in the discipline of kinesiology. Interactive classes assist students to examine the pedagogical principles for leadership in physical activity. Experiential labs examine the foundations for leadership in physical activity.

DR. DAVID PASKEVICH

The primary objective of my work is to examine mental skills, mental toughness, psychological hardiness, coping effectiveness and group cohesions, and their relationship to performance and performance outcomes in high performance coaches and athletes. When asked to select from a list of attributes that lead to success. Olvmpic athletes viewed psychological attributes as more important than natural talent. In fact, drive, ambition, determination, confidence and focus, all received more votes than natural ability. At the Olympic level, where most (if not all) athletes have truly elite physical skill sets, very small differences in other skills such as those at the psychological level, can play a major role in determining a winner and a loser; thus, psychological skills may stand out for such elite performances. By investigating these relationships, my research intends to provide evidenced-based support for practical application in producing podium performances. The primary goal of this research is for coaches and athletes to develop a range of coping strategies to deal effectively with stressors, while recognizing that the goal of emotional management is to remain relaxed while finding the optimal range. level of activation and focus for the best (podium) performance. While it is ultimately the athlete that must compete during maior competitions, it is important that the coaches are able to deal with their stressors as well, because of their impact on the athlete's mental state before competition.

DR. MEGHAN MCDONOUGH Relationships and Exercise Lab

Social processes play an important role in promoting and maintaining physical activity and other health behaviours. Social mechanisms are also important in how physical activity participation affects psychological well-being, and coping with stress. However, which aspects of social interactions, social support, social perceptions and social relationships contribute to these effects, and how those social mechanisms work is not well understood. Furthermore, not all social interactions have positive effects, and social needs and barriers vary, particularly among vulnerable groups and marginalized individuals.

My work in the Relationships and Exercise Lab is focused on examining how social processes affect physical activity, health behaviours and psychological well-being. I have a focus on clinical and vulnerable populations including cancer survivors, older adults, people with Parkinson's disease and people living in poverty. I also examine the intersection of factors such as gender, racial/ethnic diversity and social isolation on social processes in these populations. A key goal is informing interventions and practice to leverage and improve social processes to enhance well-being.

GENERAL COMMENTS

DR. PENNY WERTHNER

My research program is focused on three major aspects: (1) understanding how high performance coaches learn, utilizing Wenger's social learning theory, (2) issues facing women coaches, and (3) the use of heart rate variability biofeedback and neurofeedback for optimal performance in high performance sport. My current research includes an on-going investigation of cortical activity in high performance athletes utilizing mobile eeg, and a SSHRC funded investigation of the promotion and assessment of social learning with parasport coaches and their organizations.



Study links knee damage to osteoarthritis Drs. Walter Herzog (Top) and Ziad Abusara (bottom)

Presentations

- Calgary South Rotary Club. August 16, 2018. Raylene Reimer — Is it true that you are what you eat?
- Creative Solutions Fundraiser. March 2, 2018.

Patricia Doyle-Baker — Traumatic Brain Injury (TBI): Surprising affects not just in sport.

McCaig Institute's Wood Forum. Mobility for Injury prevention. October 27, 2018. Patricia Doyle-Baker — Dems bones are important from tip to toe.

Tom Baker Cancer Centre. 2007-current, monthly. **Culos-Reed Graduate Students** — Exercising for your life: The role of exercise in cancer survivorship.

- Prostate Cancer Centre. 2007-current, every 2 weeks. Nicole Culos-Reed — Exercise and prostate cancer.
- Alberta Government Community and Social Services. July 2018. Jennifer Zwicker — Income supports for persons with disabilities.
- Calgary Region Service Provider Council (CRSPC). September 2018. Jennifer Zwicker — Funding disability support programs across Canada.
- Canadian Autism Spectrum Disorder Alliance Leadership Summit. April 2018. Jennifer Zwicker — The employment ecosystem for persons with Autism Spectrum Disorder.
- Senate Standing Committee on Social Affairs Science and Technology. February. Jennifer Zwicker — Barriers to utilizing the disability tax credit.

Alberta Ballet School. May 28 2018.

Sarah Kenny (Guest Speaker) — Musculoskeletal injuries among elite adolescent ballet dancers: A 2-year prospective study.

Alberta Ballet School. October 15 2018. Sarah Kenny — Food as fuel - dance nutrition

CADDRA: Canadian ADHD Resource Alliance. November 2018. Jennifer Zwicker — Moving research to policy: practical approaches to policy development.

UCalgary Idea Exchange. April 2018.

Carolyn Emery — Concussion: moving upstream to prevention in youth sport and recreation.

School of Creative and Performing Arts Teachers' Conference Workshop. May 18, 2018.

Sarah Kenny, K Sudds, H McLeod — So you think you can warm up? Best practices for moving bodies.

University of Calgary Public Concussion symposium. November 15, 2018. Kathryn Schneider — Concussion care and research: The facts, the fiction, the future.

Calgary minor soccer association annual general meeting. November 24, 2018. Kathryn Schneider — Injuries and concussions in youth soccer.

Workshops, Panels, & Booths

Alberta Ballet School year-end performance. Mount Royal University — June 9, 2018.

Valeriya Volkova (Kenny); Invited Panelist — Dance talks: dance science partnership with Alberta Ballet and momentum health.

Beakerhead. VIVO Place — September 20, 2018. Patricia Doyle-Baker — Science of sweat workshop.

Calgary Marathon Expo booth — May 24-26, 2018. Nigg Group.

Educational sessions on neuromuscular training injury prevention warm-ups (6 Workshops, 88 Teachers). Carla van den Berg (Emery)

 Knowledge to Impact Workshop: On Community Engagement Practices, University of Calgary – May 14-15, 2018.
 Larry Katz (Panel Member) – Success stories: research that impacted non-academic communities.

Neuromuscular training injury prevention warm-up comprehensive coach workshops (21 Workshops, 136 coaches).

Carla van den Berg (Emery)

Neuromuscular training injury prevention warm-up comprehensive teacher workshops (7 Workshops, 88 grades K-12 teachers). Carla van den Berg (Emery)

Neuromuscular training injury prevention warm-up comprehensive workshops (6 Workshops, 199 physical activity/recreation leaders). Carla van den Berg (Emery)

Neuromuscular Warm-up Program: Workshops for Basketball coaches — Various Calgary High Schools — November 2018. Befus K, Taddei L, Anu Raisanen (Pasanen Group)

North Okanogan Hospice Society and University of British Columbia (Webinar). March 18, 2018. Nicole Culos-Reed — Exercise for advanced cancer patients: Truths, myths, and logistics. A Research to Practice present)ation.

Perspectives in Exercise, Health & Fitness Pre-Conference Workshop: Mixed goals of performance: fat loss and muscle gain — October 19, 2018.
 Patricia Doyle-Baker — The role(s) of muscle and fat in bone maintenance as we age.

Public Forum – June 2018.

Jennifer Zwicker – Policy barriers for employment for persons with disabilities.

Skate Canada, Plenary Session – May 2018.

William Bridel & Rosie Cossar (Guest Speakers) — LGBTQI2S Inclusion & Skate Canada.

Skate New Brunswick – September 15, 2018.

William Bridel (Guest Speaker) — LGBTQI2S Inclusion and Sport: A Qualitative Case Study of Skating in Canada.

- University of Calgary Public Discussion on Concussion November 15. Carolyn Emery — Panelist
- Women in Sport Leadership Impact Program, Coaching Association of Canada October 23, 2018.
 William Bridel & Simon Barrick (Guest Speakers) – Addressing Inclusion in Canadian Sport.

Media & Interviews

Faculty of Kinesiology ranks No. 1 in sport science schools in North America and No. 7 globally.

UToday, October 12, 2018. [website]

Markin undergrads get first-hand experience using cutting-edge robotic technology. — **Tyler Cluff** UToday, Cari Din and Stephanie Vahaaho, Faculty of Kinesiology. February 26, 2018. [website]

#MoveThatMan — Nicole Culos-Reed

U of *L* student raising awareness about physical activity for cancer patients and survivors with new campaign.

Lethbridge News Now, Aaron Mahoney. November 20, 2018.

[website]

New social media campaign gets men with cancer moving and improving; Practicum student says support people are key to success of #MoveThatMan.

UToday, Stacy McGuire, Faculty of Kinesiology. December 7, 2018. [website]

Move That Man campaign promotes physical activity in prostate and testicular cancer patients.

CTV News Calgary, Stephanie Wiebe. November 22, 2018. [website]

Should everyone avoid gluten? Separating the wheat from the chaff when it comes to grain proteins. — Justine Dowd (Culos-Reed) Explore UCalgary, Jane Chamberlin. December 1, 2018. [website]

Why it's OK to stay sweaty after a workout: Kinesiology researcher Tish Doyle-Baker presents on perspiration at Beakerhead. — Patricia Doyle-Baker UToday, Jennifer Allford. September 20, 2018. [website]

NFL Grant Announcement — Carolyn Emery

November 15, 2018.

NFL is giving the University of Calgary \$12 million for concussion research. CTV News Calgary, Ian White/Jocelyn Laidlaw. [website] NFL donates \$12 million to University of Calgary for youth concussion research.

Postmedia Network Inc., Ryan Rumbolt (Calgary Herald. Simcoe Reformer, Fairview Post, Website of Everything, Canadian Live News, The Province). [website]

NFL funds Calgary research to prevent youth concussion in sport. Global News, Q107 radio, Heather Yourex-West. [website]

NFL gives significant funding to help vouth 'SHRed' the burden of concussion.

UToday, Leanne Yohemas. [website]

UBC News, Thadi Fletcher. [website]

UBC, Faculty of Medicine. [website]

BC Children's Hospital Research Institute News. [website]

Bloorview Research Institute News. [website]

NFL provides Canadian University with \$12 million for research into youth concussions.

Kelowna Now, John Luke Kieper. [website]

The Canadian Press: Times Colonist, Winnipeg Free Press.

U of Calgary to receive funding from NFL for brain injury research.

The Associated Press: Sportsnet. [website] UBC involved in pan-Canadian research program on concussion in youth sport.

The Indo-Canadian Voice, Rattn Mall. [website] University of Calgary launches study on concussions with funding from NFL.

The Globe and Mail, Allan Maki. [website] University of Calgary youth concussion research gets \$12M kick from NFL. The Canadian Press: CBC Calgary. [website]

Calgary University in NFL study.

CJME/CKOM, Gormley. November 19, 2018. [website] NFL hands over \$12M grant for U of C to conduct concussion research. CTV News Calgary, November 22, 2018. Michael Franklin. NFL pledges funds for UofC's concussion research program.

The Gauntlet, Kristy Koehler, November 22, 2018. [website]

Get More Speed – A Simple Trick To Get Faster! – Reed Ferber Runner's World, Ashley Mateo. November 24. [website]

High Tech Running with Gait Analysis Running Injury Dr. Reed Ferber (High Tech Running Form & Injury Evaluation). — Reed Ferber Runners Connect: Run to the Top Podcast with Host Stephanie Kay Atwood. December 2018. [website]

How compression pants work and why they are so popular. — Reed Ferber Business Insider: Tech Insider, Chris Snyder. February 11. [website]

The perfect running form - why you shouldn't run tall. — Reed Ferber Runner's World. October 3, 2018. [website]

Wearable Tech Program – Reed Ferber

University of Calgary Introduces Wearable Tech Program for Graduates. iPhone in Canada, Usman Qureshi. August 28, 2018. [website] University of Calgary launches wearable tech program amid huge demand. Wearable Technologies, Sam Draper. August 29, 2018. [website] University of Calgary launches wearable tech program as demand for graduates explodes.

CBC News, Stephen Hunt. August 27, 2018. [website]

Killam Prize – Walter Herzog

Pushing the frontiers of knowledge: The 2018 Killam Prize.

CBC Radio: Ideas, Paul Kennedy. December 19, 2018. [website] Killam Prize Winner Walter Herzog.

CBC Radio: The Homestretch, Doug Dirks. May 8, 2018. [website] University of Calgary professor receives prestigious Killam Prize.

CBC News Q&A, Stephen Hunt. May 9, 2018. [website] Film scholar Andre Gaudreault, scientist Walter Herzog among winners of \$100,000 Killam Prize.

The Canadian Press: The Globe and Mail, May 8, 2018. [website] *Killam Prize.*

Global News Radio & 770 CHQR, Danielle Smith Show. May 15, 2018. [website]

Study links knee damage to osteoarthritis – Walter Herzog, Ziad Abusara University of Calgary Study links knee damage to osteoarthritis.

The Globe and Mail, Michael King. December 10, 2018. [website] Meniscus removal in knee surgery can cause major cell death after just hours of exercise: study.

CBC News, Sarah Rieger. December 10, 2018. [website] Researchers watch the knee degenerate and understand how osteoarthritis may begin.

UToday, Stacy McGuire. December 12, 2018. [website]

Art and science collide in upcoming ballet production. — Sarah Kenny UToday, University Relations Staff. May 29, 2018. [website]

Dance-science collaboration with Alberta Ballet enriches UCalgary research, teaching and learning. — Sarah Kenny UToday, Lauren Phillips. July 20, 2018. [website]

- What social supports keep older adults physically active, researcher wants to know. — Meghan McDonough UToday, Stacy McGuire. August 29, 2018. [website] L'endurance des athlètes d'ultra-sport. — Guillaume Millet Radio Canada, Les années lumière. David Savoie. August 12, 2018. [website] Research shows 'banking' sleep can help athletes go the extra mile. Guillaume Millet Global News Calgary, Bindu Suri. February 4, 2018. [website] UTMB: Is ultra-trail dangerous for health? - Guillaume Millet Lyon Capitale: Trails, Guillaume Lamy. August 29, 2018. [website] Injury risk in youth sport. - Kati Pasanen Scandinavian Congress of Medicine and Science in Sports, Congress website, February 3, 2018. Overuse injuries in youth sports. - Kati Pasanen Helsingin Sanomat, Finland newspaper, Mari Heikkila. September 3, 2018. Neuromuscular training in sport injury prevention. - Kati Pasanen Helsingin Sanomat, Finland newspaper, Matti Mielonen. November 5, 2018. The Science Behind How Sportsmanship Helped Desiree Linden Win Boston: Here's what the research and experts say about how helping others can help you achieve your goals. - Dave Paskevich Runner's World, Kiera Carter. April 19, 2018. [website] When healthy eating becomes unhealthy: A look at orthorexia nervosa. — Dave Paskevich Explore UCalgary, Jennifer Allford. December 1, 2018. [website]
 - Let food be your medicine. Raylene Reimer AM 660 Radio; Jenna Hamilton. December 5, 2018.
 - Can a meal be medicine? How what we eat affects our gut health, which affects our wellness. — Raylene Reimer, Jane Shearer Explore Ucalgary, Jennifer Allford. December 1, 2018. [website]

Concussion care and research: The facts, the fiction, the future. UCalgary hosts research symposium and free public talk Nov. 15 — Kathryn Schneider UToday, Mark Agius, Integrated Concussion Research Program. November 8, 2018. [website]

Kinesiology researcher shares latest concussion research during Pyeongchang Olympics: New treatment gets hockey players back on ice sooner. — Kathryn Schneider

UToday, Faculty of Kinesiology Staff. February 23, 2018. [website]

Energy Drinks/Caffeine and kids. — Jane Shearer

Energy drinks and kids.

City TV, Breakfast Television. February 9, 2018. [website] New recommendations for kids and caffeine.

Global News Radio & News Talk 770, Afternoons with Rob Breakenridge. February 9, 2018. [website]

U of C researcher warns parents about dangers of energy drinks. Global News, CHQR Radio (770). News Talk 770 Radio, Peter Watts. February 9, 2018.

U of *C* researcher warns mother and father about risks of high-caffeine vitality drinks.

Market News & Financial Analysis. February 11, 2018. U of C researcher warns parents about dangers of high-caffeine energy drinks.

CBC Radio, Evening radio - CBC Radio 1. February 9, 2018.

CBC News, Jennifer Lee. February 10. [website]

UCalgary researcher leads new recommendations and warnings on safety of energy drinks.

UToday, Jacqueline Louie. February 9, 2018. [website]

What's the real cost of cheap food? Nutrition, children, and the factors that shape our eating habits. — Jane Shearer Explore UCalgary, Mike MacKinnon. December 1, 2018. [website]

Group Hosting, Tours & Events

Bishop Grandin Field trip — Kathryn Schneider — Sport medicine classes for a concussion workshop

Calgary French and International School — **Nigg Group** — 15 Grade 10 students along with some of their teachers and parents received a tour of some labs within the Human Performance Laboratory.

- HYRS 24 students with the Heritage Youth Researchers Summer Program visited eight demonstration stations presented by various groups in the HPL.
- Human Performance Lab Open House the staff and students of the Roger Jackson Centre hosted the largest ever contingent of local high school students at the Open House in April. Over 650 students and teachers attended the full day event.
- Mini-U Organized by the **Herzog Group**, with demos provided by Nigg, Millet, Emery, & Schneider Groups – youth in Mini-U summer camps visited the HPL each week for 8 weeks over the summer.
- Notre Dame High School Tour Cluff Group Novel Robotic Technologies to Measure Sensory and Motor Function of the Upper Limb.
- *Notre Dame High School* **Kathryn Schneider** Sport medicine classes for a concussion workshop.

Operation Minerva – A one day workshop for young women in Grades 7 and 8.

Shad Valley Tour – Herzog & Schneider Groups – 64 students visited 8 stations, presented by various groups in the HPL.

Other Knowledge Translation

- Yoga Thrive Ottawa An Opportunity for Cancer Patients, Survivors, and Support Persons. — Amanda Wurz, Bonney Elliott & Ann O'Connor. Based on Yoga Thrive Protocol developed by **Nicole Culos-Reed**.
- National Coach Certification Program Canada. April August. **Cari Din** Advanced Coach Diploma – Leadership Development Expert. Online course for full-time national and international level coaches.
- Leadership Changes Everything; Leadership Legacy Course (on-line) Cari Din (expert/mentor) Status of Women Canada - Alberta Women in Sport Leadership Impact Project. Calgary, Edmonton and on-line. April – December 2018.
- Circling the square: A semi-structured teaching dialogue that develops collegial connection. — Cari Din, Meghan McDonough, Sarah Kenny, and Megan McKinley

TI Connections, blog of the Taylor Institute for Teaching and Learning, May 29, 2018. [website]

- ROWER (Reducing Osteoporosis in Women that Exercise through Rowing) Patricia Doyle-Baker Open Access Government(.org). November 13, 2018. [website]
- Research and Community Engagement Symposium (RACE 2018). Carolyn Emery, Kathryn Schneider, Kati Pasanen, Sarah Kenny. University of Calgary, Calgary AB. June 22.

Food as Fuel - Dance Nutrition. — Sarah Kenny Alberta Ballet School. October 15, 2018.

- Musculoskeletal injuries among elite adolescent ballet dancers: A 2-year prospective study. Sarah Kenny. Alberta Ballet School. May 28, 2018.
- Injuries and concussions in youth soccer. Kathryn Schneider Calgary Minor Soccer Association, Annual General Meeting
- L'ultratrail est-il dangereux pour la santé? Guillaume Millet Lyon Capitale, 776:76-77, Guillaume Lamy, April 2018.

Le secret des nerfs d'acier. (The secret of nerves of steel) — Guillaume Millet Sport et Vie, n ° 168: 16-23. (Sport and Life Magazine)

- Mais qu'est-ce qui freine? (But what is braking?) Guillaume Millet Sport et Vie, n ° 171, 52-59. (Sport and Life Magazine)
- Statement on Concussion Baseline Testing in Canada. Kathryn Schneider, Carolyn Emery (expert advisors) Parachute Canada. [website].

Breaking down barriers to the disability tax credit. — Jennifer Zwicker, Stephanie Dunn Policy Options: The public forum for the public good. January 5, 2018. [website]

Empower the right department to manage disability supports. —Jennifer Zwicker, Stephanie Dunn

Policy Options: The public forum for the public good. September 4, 2018. [website]

For Healthier Provinces, Stop Spending Ever More On Health Care. – Daniel J. Dutton, Jennifer Zwicker Huffington Post, Canadian Edition. May 22, 2018. [website]

It's time for Canada to measure up on kids with disabilities. — Jennifer Zwicker The Star, Opinion/Commentary, Stephanie Dunn and Jennifer Zwicker. November 12, 2017. [website]

PATENTS AND LICENSES

Method and system utilizing pattern recognition for detecting atypical movements during physical activity. Provisional Patent number US 62/586,565, issued November 2017. Inventors: **Ferber R, Kobsar D, Osis ST, Clermont CA, Benson LC**.



Wearable Technology - Dr. Reed Ferber

OFFICIAL RESEARCH RELATED FUNCTIONS

BRIDEL

BOARD MEMBER

You Can Play, Western Canada

CONFERENCE ORGANIZATION

 North American Society for the Sociology of Sport Conference, Vancouver BC, Director

COMMITTEE MEMBER

LGBTQI2S Sport Inclusion
 Task Force, Coordinator

EDITORIAL/ADVISORY BOARD MEMBER

Sociology of Sport Journal

CLUFF

GRANT REVIEWER

- Research Foundation Flanders

 FWO PDF Competition.
 Flanders, Belgium
- NSERC Collaborative Research and Development Grants
- Markin USRP Competition, University of Calgary

CONFERENCE REVIEWER

 Motor Learning and Motor Control (MCML) Conference, Society for Neuroscience Satellite Meeting. Washington DC

MEMBERSHIPS

Society for Neuroscience

CULOS-REED

CONFERENCE ORGANIZATION

- CANO, Exercise and Cancer Survivorship, Committee Member (Canadian Association of Nursing Oncology)
- CAPO, Research Committee Member (Canadian Association of Psycho-Oncology)
- CAPO/IPOS Organizing
 Committee Scientific Board,
 for 2019 Conference in Banff AB

CONFERENCE REVIEWER

- Society of Behavioural Medicine, Abstract Reviewer
- CAPO, Abstract Reviewer

EDITOR

 Global Advances in Health and Medicine (GAHM), Associate Editor

EDITORIAL/ADVISORY BOARD MEMBER

• Cancer Care Ontario, KT Exercise Clinical Advisory Committee

EXECUTIVE BOARD MEMBER

Exercise is Medicine Canada
 National Advisory Council

GRANT REVIEWER

- CIHR, Doctoral Committee B
- AB Innovates, Post-Doctoral Fellowship Committee

Membership

- Society of Behavioral Medicine (SBM)
- International Society of Psycho Oncology (IPOS)
- Canadian Association of Psycho-Oncology (CAPO)
- Arnie Charbonneau Cancer
 Institute (Formerly SACRI)
- Alberta Children's Hospital Research Institute (ACHRI)
- Alberta Centre for Active Living

DIN

COMMITTEE MEMBER AND GRANT REVIEWER

InMotion Network

DOYLE-BAKER

CONFERENCE ORGANIZATION

- Walk 21 Conference Committee, Co-Chair of Pre-Conference Sessions, Calgary AB
- Exercise Perspectives Conference Organizing Committee, AB

OFFICIAL RESEARCH RELATED FUNCTIONS

EDITORIAL/ADVISORY BOARD MEMBER

- International Journal of Kinesiology and Sport Science
- Annals of Applied Sport Science

GRANT REVIEWER

- CIHR Foundation Grants, Expert Panel
- The J. William Fulbright Commission -Czech Republic
- CIHR Adverse Event Committee, SK

COMMITTEE MEMBER

- Alberta Cancer Prevention
 Legacy Fund -Physical
 Activity Group, Co-Chair
- World Federation of Public Health Association; Global Health Equity & Digital Technology Working Group

EDWARDS

EDITORIAL BOARD MEMBER

Scientific Reports

BOARD MEMBER

International Society of
 Biomechanics, Secretary General

GRANT REVIEWER

- CIHR Project Grants, Clinical Investigation B2 (CB2) Committee
- NSERC Discovery Grants, External Reviewer

CONFERENCE ORGANIZATION

- ISB/ASB 2019
- Footwear Biomechanics Symposium 2019

EMERY

COMMITTEE MEMBER

- Massive Open Online Course (MOOC) in Concussion Leadership Committee
- Osteoarthritis Research Society International: Sport, Exercise, Physical Activity and Osteoarthritis Prevention Discussion Group, Co-lead
- Osteoarthritis Research Society International Scientific Committee
- International Olympic Committee, Medical and Scientific Committee
- Parachute Canada Concussion Awareness Advisory Committee
- Bone and Joint Canada Steering Committee

Editor

• British Journal of Sport Medicine, Deputy Editor

Advisory Board Member

• Parachute Canada External Scientific Advisory Board

GRANT REVIEWER

- CIHR Gold Leaf Prize
 Review Panel
- CIHR Population Health Project Grant Review Panel

Membership

- Royal Society of Canada, College of New Scholars
- Canadian Academy of Health Sciences, Fellow

CONFERENCE ORGANIZATION

 Canadian Academy for Sport and Exercise Medicine – Research Session Chair & Abstract Review Chair (Injury Prevention)
FERBER

SCIENTIFIC ADVISORY BOARD MEMBER

- Biotricity Inc.
- Fitbit Inc.

EDITORIAL/ADVISORY BOARD MEMBER

- Prosthetics and Orthotics International
- Journal of Sport Rehabilitation
- Journal of Athletic Training

HERZOG

EDITOR

- Journal of Sport and Health Science, Co-Editor in Chief
- Exercise and Sports Science Reviews, Associate Editor
- IEEE Transactions in Neural Systems and Rehabilitation Engineering, Associate Editor

EDITORIAL BOARD MEMBER

- Chiropractic & Manual Therapies
- The Current Issues of Sport Science (CISS)
- Journal of Functional Morphology and Kinesiology
- Biomechanics and Modeling in Mechanobiology
- International Journal of Mechanical and Materials Engineering
- Muscles, Ligaments and Tendons Journal
- Sports Orthopaedics and Sports Traumatology
- Molecular and Cellular Biomechanics
- Journal of Biomechanics
- Journal of Electromyography
 and Kinesiology
- Journal of Manipulative and Physiological Therapeutics

- Journal of the Canadian Chiropractic Association
- Sportverletzung Sportschaden

Advisory Board Member

- International Society of Biomechanics, Vice-Chair, Motor Control Group
- Nike Sport Research Advisory Board
- German Journal of Sport Sciences
- Sportwissenschaft Journal
- Sportorthopädie
 Sporttraumatologie,
 International Board Member

GRANT REVIEWER

- NSERC (1990-present)
- CIHR Foundation Grant Program
- CIHR College of Reviewers

CONFERENCE ORGANIZATION

- International Society of Biomechanics Conference, Calgary AB. International Conference Chair, (2016-2019)
- Rocky Mountain Muscle Symposium, Canmore AB. International Conference Chair
- Canadian Society for Biomechanics, Halifax, NS. David Winter Young Investigator Award Committee Member
- World Congress of Biomechanics, Dublin, Ireland, Scientific Reviewer / Scientific Chair for Session of Locomotion and Human Movement
- International Society of Electrophysiology and Kinesiology, Dublin, Ireland, Muscle and Force Session Chair

OFFICIAL RESEARCH RELATED FUNCTIONS

KATZ

EDITORIAL BOARD MEMBER

- International Journal of Computer Science in Sport
- Journal of Human Sport and Exercise

GRANT REVIEWER

- Faculty of Nursing, University of Calgary, Research Operating Grants
- Christian Doppler Association (CDG) in Europe, Fitness & Well-being- Digital Motion

COMMITTEE MEMBER

 Cummings School of Medicine, Medical Education Admissions Review Advisory Committee

KENNY

BOARD MEMBER

• Healthy Dancer Canada, Secretary (elected)

COMMITTEE MEMBER

- Healthy Dancer Canada, Dancer Screening Committee, Co-Chair
- International Association for Dance Medicine and Science, Program Committee Member

CONFERENCE ORGANIZATION

 XXVII Congress of the International Society of Biomechanics, Dance Biomechanics Symposia Organizer

MEMBERSHIP

- Alberta Children's Hospital Research Institute
- O'Brien Institute for Public Health

KUO

CONFERENCE ORGANIZATION

- Dynamic Walking Conference Series, Founder and Steering Committee Chair (2006-present)
- ISB/ASB 2019,Organizing
 Committee

MACINNIS

COMMITTEE MEMBER

 Canadian Society for Exercise Physiology (CSEP) Knowledge Translation Committee

MACINTOSH

GRANT REVIEWER

• NSERC, Peer Review Panel member

MCDONOUGH

Editor

Journal of Sport & Exercise
 Psychology, Associate Editor

EDITORIAL BOARD MEMBER

- Sport, Exercise, and Performance Psychology
- International Journal of
 Sport Psychology

COMMITTEE MEMBER

- Canadian Association for Psychosocial Oncology Research Committee
- Journal of Sport & Exercise Psychology Excellence in Research Award, Selection Committee Chair

CONFERENCE ORGANIZATION

 North American Society for the Psychology of Sport and Physical Activity-Sport and Exercise Psychology Program

OFFICIAL RESEARCH RELATED FUNCTIONS

MILLET

COMMITTEE MEMBER

• Medical Research Council, United Kingdom

GRANT REVIEWER

NSERC

MOHTADI

EDITORIAL/ADVISORY BOARD MEMBER

- Journal of Hip Preservation Surgery (2014-present)
- International Board Member, Elsevier Publishing House & Journal of Sportorthopädie-Sporttraumatologie, (2006-present)
- American Journal of Sport Medicine, (2001-present)
- Clinical Journal of Sport Medicine, Associate Editor, (1997-present)
- Physician and Sports Medicine, (2008-present)

COMMITTEE MEMBER

- Canadian Academy of Sport and Exercise Medicine, Credentials Committee, (2013-present)
- International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS), Hip, Groin and Thigh Committee Co-chair, (2015-present)

GRANT REVIEWER

- CIHR
- Physicians Services Incorporated of Ontario and Alberta Children's Hospital Foundation.

Membership

 The European Society for Sports Traumatology, Knee Surgery And Arthroscopy (ESSKA)

- The International Society of Arthroscopy, Knee Surgery And Orthopaedic Sports Medicine (ISAKOS)
- Canadian Academy Of Sport and Exercise Medicine (CASEM)
- Associate Member, American Academy of Orthopaedic Surgeons (AAOS)
- Canadian Orthopaedic
 Association (COA)
- Multi-Centre Arthroscopy of the Hip Outcomes Research Network (MAHORN)
- Alberta Orthopaedic
 Society (AOS)
- Alberta Medical
 Association (AMA)
- Canadian Medical
 Association (CMA)

MURIAS

GRANT REVIEWER

• NSERC Discovery Grant, External Reviewer

NIGG

EDITORIAL/ADVISORY BOARD MEMBER

- Brazilian Journal of Biomechanics, (2000-ongoing)
- Orthopädische Zeitschriften, (2005-ongoing)
- Footwear Science, (2008-ongoing)
- International Scholarly Research Notices(ISRN) Biomedical Engineering, (2012-ongoing)

CONFERENCE ORGANIZATION

• ISB/ASB 2019, Organizing Committee

PASANEN

EDITORIAL/ADVISORY BOARD MEMBER

- Finnish Coaches Association, Finland. Advisory Board Member
- Finnish Strength and Conditioning Coaches Association, Finland. Board of Directors
- Healthy Dancer program, Finnish National Ballet, Helsinki, Finland. Advisory Board Member
- Finnish Sports Physiotherapists Association, Finland. Scientific Board Member

CONFERENCE ORGANIZATION

 14th Scandinavian Congress of Medicine and Science in Sports 2018, Scientific Board member and abstract reviewer

PASKEVICH

EDITORIAL/ADVISORY BOARD MEMBER

 Case Studies in Sport and Exercise Psychology (CSSEP), Editorial Board (AASP)

CONFERENCE ORGANIZATION

 Association of Applied Sport Psychology (AASP) Conference, Abstract Reviewer

MEMBERSHIP

- American Psychology
 Association (APA)
- American Psychology Association (Div. 47)
- Association of Applied Sport Psychology (AASP)
- Canadian Sport Psychology Association, Professional Member & Academic Member

REIMER

EDITORIAL/ADVISORY BOARD MEMBER

- Applied Physiology, Nutrition and Metabolism, Associate Editor
- BioRad Laboratories Inc., Scientific Advisory Board

Committee Member

 Strategic Clinical Network Research and Innovation Advisory Committee, Diabetes, Obesity and Nutrition

CONFERENCE ORGANIZATION

 Conference on Recent Advances in Preventing and Managing Child and Adolescent Obesity, Organizing Committee

GRANT **R**EVIEWER

- CIHR Banting Postdoctoral Fellowships National Selection Committee, (2017-2020)
- NSERC Discovery Grants, External Reviewer
- FNRS, Funds for Scientific Research Grants, Belgium, External Reviewer

MEMBERSHIP

• Canadian Obesity Network, Calgary Chapter, Executive Member

SCHNEIDER

COMMITTEE MEMBER

- Massive Open Online Course (MOOC) in Concussion, Leadership Committee
- Scientific Committee, 6th International Consensus Conference on Concussion in Sport
- Canadian Committee of Combative Sports Associations, Medical Sub Committee

OFFICIAL RESEARCH RELATED FUNCTIONS

- Federal Working Group on Concussion in Sport, Surveillance initiative colead with Dr. Charles Tater
- Federal Working Group on Concussion in Sport, Canadian Concussion Collaborative Representative, (2016-present)

EDITORIAL/ADVISORY BOARD MEMBER

- Canadian Alliance of
 Physiotherapist Regulators
- Alberta Rehabilitation Research
 Counsel (2017-present)
- Parachute Canada Expert Advisory group on Concussion, (2016-present)

GRANT REVIEWER

 SUPPORT Research Infrastructure Programs Committee

CONFERENCE ORGANIZATION

- International Society of Biomechanics Conference, Secretary General
- Sport Physiotherapy Canadian Concussion symposium, Co-organizer
- 6th International Consensus
 Conference on Concussion in
 Sport Scientific Committee

SHEARER

Editor

• Applied Physiology, Nutrition and Metabolism, Associate Editor

EDITORIAL BOARD MEMBER

• Journal of Applied Physiology

GRANT REVIEWER

- CIHR, project grants, selection committee
- CIHR, PDF selection committee
- Michael Smith Foundation,

PDF clinical trainee selection committee

• CSEP Knowledge Translation Committee

Membership

- American Physiological Society
- Canadian Society for Exercise Physiology (CSEP)

STEFANYSHYN

Editor

• Footwear Science, Associate Editor

EDITORIAL/ADVISORY BOARD MEMBER

• European Journal of Sport Science

COMMITTEES

• NFL Engineering Committee

CONFERENCE ORGANIZATION

• ISB 2019, Organizing Committee

WERTHNER

EDITORIAL/ADVISORY BOARD MEMBER

- International Sport Coaching Journal (2013-ongoing)
- Canadian Journal for Women in Coaching (on-line journal of Coaching Association of Canada), (2000-present)
- Canadian Association for the Advancement of Women and Sport and Physical Activity (CAAWS), Advisory Committee

 Actively Engaging Women and Girls: Addressing Psychosocial factors, (2012-present)
- Coaching Association of Canada Women and Coaching Program. Advisor, (1998-present)

MEMBERSHIP

- Canadian Sport Psychology Association, Past Chair (CSPA/ ACPS), (2013-present)
- PGA of Canada Technical Advisory Panel, (2014-present)
- International Council for Coach Education (ICCE), (2005-present)

WILEY

EDITORIAL BOARD

- Clinical Journal of Sport Medicine
 GRANT REVIEWER
- World Rugby Research Program
 Conference Organization
- Canadian Academy of Sport and Exercise Medicine 50th Anniversary Conference 2020, Chair
- World Rugby Medical Conference Organizing Committee, London, UK

COMMITTEES

 College of Family Practice of Canada, Certification of Added Competency (CAC), Added Verification Route for FM Sport and Exercise Medicine Committee.

- World Rugby Medicine, Science and Research Committee
- World Rugby Research Committee
- World Rugby Anti-Doping Judicial Panel

ZWICKER

EDITORIAL/ADVISORY BOARDS

- Kids Brain Health Network Board Member,research representative
- Public Member, Alberta College of Optometrists (2014- present)

COMMITTEES

- MPP Graduate Program Committee (2016- present)
- Alberta Provincial Precision Medicine and Precision Public Health Working Group (2016-2018)
- Kids Brain Health Network CSO search committee
- Kids Brain Health Network Strategic Planning Committee

GRANT **R**EVIEWER

ACHRI Summer Studentship
 Application



NFL Grant Announcement - Carolyn Emery

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PEER REVIEWED JOURNAL ARTICLES

- Aboodarda SJ, Greene RM, Philpott DT, Jaswal RS, Millet GY, Behm DG. 2018. The effect of rolling massage on the excitability of the corticospinal pathway. Appl Physiol Nutr Metab, DOI: <u>10.1139/apnm-2017-0408</u>
- Aboodarda SJ, Mira J, Floreani M, Jaswal R, Moon SJ, Amery K, Rupp T, Millet GY. 2018. Effects of endurance cycling training on neuromuscular fatigue in healthy active men. Part II: Corticospinal excitability and voluntary activation. Eur J Appl Physiol, DOI: <u>10.1007/s00421-018-3951-7</u>
- Abusara Z, Andrews SHJ, Von Kossel M, Herzog W. 2018. Menisci protect chondrocytes from load-induced injury. Sci Rep, DOI: <u>10.1038/s41598-018-32503-1</u>
- Ahamed NU, Kobsar D, Benson L, Clermont C, Kohrs R, Osis ST, Ferber R. 2018. Using wearable sensors to classify subject-specific running biomechanical gait patterns based on changes in environmental weather conditions. PLoS ONE, DOI: <u>10.1371/journal.pone.0203839</u>
- Alibhai SMH, Ritvo P, Santa Mina D, Sabiston C, Krahn M, Tomlinson G, Matthew A, Lukka H, Warde P, Durbano S, O'Neill M, Culos-Reed SN. 2018. Protocol for a phase III RCT and economic analysis of two exercise delivery methods in men with PC on ADT 11 Medical and Health Sciences 1117 Public Health and Health Services. BMC Cancer, DOI: <u>10.1186/s12885-018-4937-x</u>
- Ardern CL, Ekas GR, Grindem H, Moksnes H, Anderson AF, Chotel F, Cohen M, Forssblad M, Ganley TJ, Feller JA, Karlsson J, Kocher MS, Laprade RF, Mcnamee M, Mandelbaum B, Micheli L, Mohtadi N, Reider B, Roe J, Seil R, Siebold R, Silvers-Granelli HJ, Soligard T, Witvrouw E, Engebretsen L. 2018.
 2018 international Olympic committee consensus statement on prevention, diagnosis and management of paediatric anterior cruciate ligament (ACL) injuries. Br J Sports Med, DOI: 10.1136/bjsports-2018-099060
- Asmussen MJ, von Tscharner V, Nigg BM. 2018. Motor unit action potential clustering—theoretical consideration for muscle activation during a motor task. Front Hum Neurosci, DOI: <u>10.3389/fnhum.2018.00015</u>
- Audet O, Hagel BE, Nettel-Aguirre A, Mitra T, Emery CA, Macpherson A, Lavoie MD, Goulet C. 2019. What are the risk factors for injuries and injury prevention strategies for skiers and snowboarders in terrain parks and halfpipes? A systematic review. Br J Sports Med, DOI: <u>10.1136/bjsports-2018-099166</u>

- Benson LC, Clermont CA, Bošnjak E, Ferber R. 2018. The use of wearable devices for walking and running gait analysis outside of the lab: A systematic review. Gait Posture, DOI: <u>10.1016/j.gaitpost.2018.04.047</u>
- Benson LC, Clermont CA, Osis ST, Kobsar D, Ferber R. 2018. Classifying running speed conditions using a single wearable sensor: Optimal segmentation and feature extraction methods. J Biomech, DOI: <u>10.1016/j.jbiomech.2018.01.034</u>
- Benson S, Bender AM, Wickenheiser H, Naylor A, Clarke M, Samuels CH, Werthner P. 2019. Differences in sleep patterns, sleepiness, and physical activity levels between young adults with autism spectrum disorder and typically developing controls. Dev Neurorehabil, DOI: 10.1080/17518423.2018.1501777
- Bhatla JL, Kroker A, Manske SL, Emery CA, Boyd SK. 2018. Differences in subchondral bone plate and cartilage thickness between women with anterior cruciate ligament reconstructions and uninjured controls. Osteoarthritis Cartilage, DOI: <u>10.1016/j.joca.2018.04.006</u>
- Blake TA, Doyle-Baker PK, Brooks BL, Palacios-Derflingher L, Emery CA. 2018.
 Physical activity and concussion risk in youth ice hockey players: Pooled prospective injury surveillance cohorts from Canada. BMJ Open,
 DOI: 10.1136/bmjopen-2018-022735
- Boldt KR, Rios JL, Joumaa V, Herzog W. 2018. Force properties of skinned cardiac muscle following increasing volumes of aerobic exercise in rats. J Appl Physiol, DOI: <u>10.1152/japplphysiol.00631.2017</u>
- Bomhof MR, Parnell JA, Ramay HR, Crotty P, Rioux KP, Probert CS, Jayakumar S, Raman M, Reimer RA. 2018. Histological improvement of non-alcoholic steatohepatitis with a prebiotic: a pilot clinical trial. Eur J Nutr, DOI: <u>10.1007/s00394-018-1721-2</u>
- Boorman RS, More KD, Hollinshead RM, Wiley JP, Mohtadi NG, Lo IKY, Brett KR. 2018. What happens to patients when we do not repair their cuff tears? Five-year rotator cuff quality-of-life index outcomes following nonoperative treatment of patients with full-thickness rotator cuff tears. J Shoulder Elbow Surg, DOI: 10.1016/j.jse.2017.10.009

- Broglio SP, Kontos AP, Levin H, Schneider K, Wilde EA, Cantu RC, Feddermann-Demont N, Fuller GW, Gagnon I, Gioia GA, Giza C, Griesbach GS, Leddy JJ, Lipton ML, Mayer AR, McAllister TW, McCrea M, McKenzie LB, Putukian M, Signoretti S, Suskauer SJ, Tamburro R, Turner M, Yeates KO, Zemek R, Ala'I S, Esterlitz J, Gay K, Bellgowan PSF, Joseph K. 2018. National Institute of Neurological Disorders and Stroke and Department of Defense sportrelated concussion common data elements Version 1.0 Recommendations. J Neurotrauma, DOI: 10.1089/neu.2018.5643
- Campelo AM, Katz L. 2018. Physical literacy promotion in older adults using active video gaming: a sense of presence and attitudes towards exercise.
 2018 IEEE Games, Entertainment, Media Conference (GEM). 2018 IEEE Games, Entertainment, Media Conference, GEM 2018, DOI: 10.1109/GEM.2018.8516546
- Chan M, MacInnis MJ, Koch S, MacLeod KE, Lohse KR, Gallo ME, Sheel AW, Koehle MS. 2018. Cardiopulmonary demand of 16-kg kettlebell snatches in simulated Girevoy Sport. J Strength Cond Res, DOI: <u>10.1519/jsc.00000000002588</u>
- Chen AW, Herzog W. 2018. Software for convenient correction of artifacts in sonomicrometry. J Exp Biol, DOI: <u>10.1242/jeb.172726</u>
- Chitsazan A, Herzog W, Rouhi G, Abbasi M. 2018. Alteration of strain distribution in distal tibia after triple arthrodesis: Experimental and finite element investigations. J Med Biol Eng, DOI: <u>10.1007/s40846-017-0330-5</u>
- Cho NA, Klancic T, Nettleton JE, Paul HA, Reimer RA. 2018. Impact of food ingredients (Aspartame, Stevia, Prebiotic Oligofructose) on fertility and reproductive outcomes in obese rats. Obesity, DOI: <u>10.1002/oby.22325</u>
- Chung S, Nelson MD, Hamaoka T, Jacobs RA, Pearson J, Subudhi AW, Jenkins NT, Bartlett MF, Fitzgerald LF, Miehm JD, Kent JA, Lucero AA, Rowlands DS, Stoner L, McCully KK, Call J, Rodriguez-Miguelez P, Harris RA, Porcelli S, Rasica L, Marzorati M, Quaresima V, Ryan TE, Vernillo G, Millet GP, Malatesta D, Millet GY, Zuo L, Chuang CC. 2018. Commentaries on viewpoint: principles, insights, and potential pitfalls of the noninvasive determination of muscle oxidative capacity by near-infrared spectroscopy. J Appl Physiol, DOI: 10.1152/japplphysiol.00857.2017

- Cigoja S, Vienneau J, Nigg SR, Nigg BM. 2018. The effects of midsole bending stiffness on ball speed during maximum effort soccer kicks. Footwear Sci, DOI: 10.1080/19424280.2018.1538263
- Clermont CA, Benson LC, Osis ST, Kobsar D, Ferber R. 2018. Running patterns for male and female competitive and recreational runners based on accelerometer data. J Sports Sci, DOI: <u>10.1080/02640414.2018.1488518</u>
- Collins KH, Hart DA, Seerattan RA, Reimer RA, Herzog W. 2018. High-fat/ high-sucrose diet-induced obesity results in joint-specific development of osteoarthritis-like degeneration in a rat model. Bone Joint Res, DOI: <u>10.1302/2046-3758.74.BJR-2017-0201.R2</u>
- Collins KH, Herzog W, MacDonald GZ, Reimer RA, Rios JL, Smith IC, Zernicke RF, Hart DA. 2018. Obesity, metabolic syndrome, and musculoskeletal disease: Common inflammatory pathways suggest a central role for loss of muscle integrity. Front Physiol, DOI: <u>10.3389/fphys.2018.00112</u>
- Collins KH, Herzog W, Reimer RA, Reno CR, Heard BJ, Hart DA. 2018. Dietinduced obesity leads to pro-inflammatory alterations to the vitreous humour of the eye in a rat model. Inflamm Res, DOI: <u>10.1007/s00011-017-1102-y</u>
- Collins KH, Sharif B, Reimer RA, Sanmartin C, Herzog W, Chin R, Marshall DA. 2018. Association of Metabolic Markers with self-reported osteoarthritis among middle-aged BMI-defined non-obese individuals: A cross-sectional study. BMC Obes, DOI: <u>10.1186/s40608-018-0201-9</u>
- Comaduran Marquez D, von Tscharner V, Murari K, Nigg BM. 2018. Development of a multichannel current-EMG system for coherence modulation with visual biofeedback. PLoS ONE, DOI: <u>10.1371/journal.pone.0206871</u>
- Culos-Reed N, Dew M, Zahavich A, Wilson K, Arnason T, Mackenzie M, Brissette C, Van Patten C, Santa Mina D. 2018. Development of a community wellness program for prostate cancer survivors. Transl J Am Coll Sports Med, DOI: <u>10.1249/tjx.000000000000064</u>
- Culver DM, Werthner P. 2018. Voices: Para athletes speak. Qual Res Sport Ex Health, DOI: <u>10.1080/2159676X.2017.1393004</u>

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- Xia Y, Darling EM, Herzog W. 2018. Functional properties of chondrocytes and articular cartilage using optical imaging to scanning probe microscopy. J Orthop Res, DOI: <u>10.1002/jor.23757</u>

BOOKS AND BOOK CHAPTERS

- Bridel W. 2018. It was a good day if I wasn't called a queer, a faggot, or a sissy:
 Reflections of a male figure skater turned scholar. In: Chamness Miller
 P, McGivern C, (Eds). Queer voices from the locker room. Charlotte, NC:
 Information Age Publishing.
- Edwards WB, Derrick TR, Hamill J. 2018. Time series analysis in biomechanics. In: Müller B, S W, (Eds). Handbook of human motion: Springer, Cham.
- Federico S, Grillo A. 2018. Linear elastic composites with statistically oriented spheroidal inclusions. In: Meguid SA, Weng GJ, (Eds). Micromechanics and nanomechanics of composite solids. Cham: Springer International Publishing.

TECHNICAL REPORTS

- Dourthe B, Nigg S, Meixner A, Osterloh J, Hoitz F, Nigg BM. 2018. Study 19555 – "Quantifying the effects of different insole configurations on fatigue" (iirca-2017-3912): Phase 1 – results following a single working shift intervention. Prepared for Dr. Scholl's.
- Dourthe B, Osterloh J, Nigg S, Nigg BM. 2018. Study 19555 "Quantifying the effects of different insole configurations on fatigue" (iir-ca-2017-3912): Phase 2 results following a 45-minute power walking intervention. Prepared for Dr. Scholl's.
- Dourthe B, Osterloh J, Nigg S, Nigg BM. 2018. Study 19555 "Quantifying the effects of different insole configurations on fatigue" (iir-ca-2017-3912): Phase 3 – results following a sub-hour inclined power walking intervention. Prepared for Dr. Scholl's.
- Hoitz F, Vienneau J, Nigg S, Nigg BM. 2018. Developing a virtual coaching system for hockey. Study 0: Algorithm development. Prepared for CCM and Scorched Ice.
- Madden R, Varughese J, Wannop JW, Stefanyshyn DJ. 2018. Mixed martial arts performance: Development of a heavy bag to measure strike force. Prepared for Reebok.
- Madden R, Wannop JW, Cooke E, Bonli L, Stefanyshyn DJ. 2018. American football footwear: Traction and biomechanics. Prepared for adidas Future Team.
- Manz S, Behling A, Nigg S, Nigg BM. 2018. Athlete assessment running: Phase 1. Prepared for adidas.
- Meixner A, Dourthe B, Nigg S, Nigg B. 2018. Comparison of a newly introduced pressure insole to existing foot pressure measurement technologies. Prepared for Orpyx.
- Meixner A, Von Tscharner V, Dourthe B, Nigg S, Nigg B. 2018. Advanced analysis of the emg data of the vastii muscles during treadmill running. Prepared for Biomechanigg Sport and Health Research (BSHR).
- Nigg S, Hoitz F, Nigg BM. 2018. Product effects a visual demonstration. Prepared for Dr. Scholl's.
- Reimer RA, Nicolucci A. 2018. Comparison of the prebiotic effect of inulin

TECHNICAL REPORTS

and other fiber sources in healthy adults. Prepared for General Mills Inc., Minneapolis, MN.

- Stefanyshyn DJ, Cooke ES, Barrons Z, Burkhardt K, Wannop JW. 2018. Influence of foot arch properties on running biomechanics. Prepared for FILA.
- Stefanyshyn DJ, Wannop JW, Barrons Z. 2018. Futurecraft 4d: Running midsole cushioning. Prepared for adidas Future Team.
- Vienneau J, Baumann R, Nigg S, Nigg BM. 2018. High heels: A subjective and biomechanical evaluation. Prepared for FitFlop.
- Vienneau J, Nigg S, Nigg BM. 2018. Activation footwear report. Prepared for Mizuno.
- Vienneau J, Nigg S, Nigg BM. 2018. Fitflop platform: A subjective and static pressure pilot. Prepared for FitFlop.
- Vienneau J, Nigg S, Nigg BM. 2018. New ballerina: A subjective and biomechanical evaluation. Prepared for FitFlop.
- Wannop JW, Bill K, Burkhardt K, Cooke E, Stefanyshyn DJ. 2018. Foot sensitivity and insole selection: Pilot study. Prepared for Superfeet.
- Wannop JW, Bill K, Cooke E, Stefanyshyn DJ. 2018. Bimodal forefoot bending stiffness in American football. Prepared for adidas Future Team.
- Wannop JW, Bill K, Cooke E, Stefanyshyn DJ. 2018. Work category development: Baseline data collection. Prepared for Ariat International.
- Wannop JW, Bill K, Cooke E, Stefanyshyn DJ. 2018. Work category development: Boot and apparel comparisons. Prepared for Ariat International.
- Wannop JW, Cooke E, Bill K, Barrons Z, Stefanyshyn DJ. 2018. Identifying optimal basketball forefoot bending stiffness. Prepared for adidas Future Team.
- Wannop JW, Cooke E, Madden R, Stefanyshyn DJ. 2018. The influence of upper and tooling stiffness on lateral movements in basketball. Prepared for adidas Future Team.
- Wannop JW, Varughese J, Stefanyshyn DJ. 2018. Influence of infill depth and fibre height on rotational traction. Prepared for FieldTurf Inc.

KEYNOTE AND INVITED LECTURES

Total number of invited lectures =92

- Bridel W. LGBTQI2S Inclusion in Sport: Research, Practice, Passion. Research Revealed conference. Calgary, AB. March 2018. (Keynote)
- Culos-Reed SN. Paediatric Cancer and Exercise: From Research to Practice. The Energy Balance Team and the Division of Pediatrics at the University of Texas MD Anderson Cancer Center, Pediatrics Grand Rounds. Houston, TX. March 2018.
- Doyle-Baker PTK. Curious or spurious bone health findings: A sport scientist perspective. Perspectives in Exercise Health and Fitness Conference. Kananaskis, AB. October 20, 2018.
- Doyle-Baker PTK. Training the menstrual cycle: optimization or periodization. Perspectives in Exercise Health and Fitness Conference. Kananaskis. AB. October 21, 2018.
- Edwards WB. Applied modeling of stress fractures in running. Nike Human Locomotion Symposium / 20th Biennial Meeting of the Canadian Society of Biomechanics. Halifax, Nova Scotia. August 2018.
- Edwards WB. Modeling overuse injury as a mechanical fatigue phenomenon. Session "Multiscale Biomechanics in sport and sports injuries", 8th World Congress of Biomechanics. Dublin, Ireland. July 2018.
- Emery CA. Concussion and impact injuries in sport: key issues and controversies. British Association of Sport and Exercise Science (BASES). North Yorkshire, UK. November 27, 2018.
- Emery CA. Concussion in Sport: Moving upstream towards Prevention. National Athletic Trainers' Association (NATA) 69th Clinical Symposia & AT Expo. New Orleans, USA. June 2018.
- Emery CA. Concussion: Moving Upstream to Prevention in Youth Sport and Recreation. UCalgary Idea Exchange. Toronto and Ottawa, ON. April 2018.
- Emery CA. Moving Upstream to Prevention in Youth Sport. Steadman Philippon Research Institute and United States Olympic Committee, 2nd Annual Injury Prevention Symposium. Vail, USA. May 2018.
- Emery CA. Moving upstream towards prevention. CIRRIS 3e Conference scientifique. Carol L. Richards. Universite Laval. Quebec. May 2018. (Keynote)
- Emery CA. The prevention of concussion in youth sport and recreation. The 28th Annual Baycrest Rotman Research Institute Conference, Traumatic Brain Injury and Concussion. Toronto, ON. March 2018.
- Emery CA. Wellington C, Yeates K, Zemek R. From prevention to rehabilitation: Bridging the gaps in pediatric concussion research. Third International Conference on Paediatric Acquired Brain Injury (IPBIS). Belfast, Ireland. September 2018.
- Ferber R. Applying wearable sensor data to inform clinical care. UBC Wearables Research Symposium, University of British Columbia. Vancouver BC. December 14, 2018.
- Ferber R. How to use wearable sensor data in a meaningful way. UBC Wearables Public Symposium, Vancouver General Hospital. Vancouver BC. December 13, 2018.
- Ferber R. The Research Evidence Behind an Effective Clinical Gait Analysis. IVO World Congress. Toronto, ON. April 2018.
- Ferber R. The Role of Wearable Technology in Clinical Practice. IVO World Congress 2018. Toronto, ON. April 2018. (Keynote)
- Herzog W. A new look at skeletal muscle contraction. 5th International Autumn School on Movement Science. Berlin, Germany. October 9, 2018.
- Herzog W. Considerations on Muscle Mechanics in Sports Performance. China Institute for Sport Science. Beijing, China. November 28, 2018.
- Herzog W. Keynote Panel: How to plan your research career. International Society of Biomechanics in Sports. Auckland, New Zealand. September 11, 2018. (Keynote)
- Herzog W. Merging biomechanics and motor control; Inaugural Carlo de Luca Lecture. International Society of Electrophysiology and Kinesiology. Dublin, Ireland. July 1, 2018. (Keynote)
- Herzog W. Muscle degeneration and regeneration in Cerebral Palsy and Obesity. Congress on Musculoskeletal Regeneration. Berlin, Germany. June 15, 2018.

- Herzog W. Sport performance evaluation using deterministic models. NIKE Campus, Portland, USA. May 16, 2018.
- Herzog, W. A historical perspective on the Canadian Society for Biomechanics. Canadian Society for Biomechanics Conference. Halifax, NS. August 14, 2018.
- Kenny SJ. Dance science research at University of Calgary. Alumni Research Seminar. Trinity Laban Conservatoire for Music and Dance. London, UK. October 31, 2018.
- Kenny SJ. Promoting dancer health through prevention of injury. Dance Science Research Seminar, University of Chichester. Chichester, UK. October 30, 2018.
- Millet GY. La prise en charge de la fatigue musculaire. XVIèmes journées de la Société Française de Myologie. Brest, France. November 21-23, 2018.
- Millet GY. Moins d'efforts, plus de fatigue : signe du déclin de l'espèce humaine? Soirée recherche prix fondation Université Jean Monnet. Saint-Etienne, France. November 26, 2018.
- Millet GY. Place de la TMS pour évaluer l'activation volontaire corticale liée à l'exercice. 3èmes Journées de neurophysiologie Clinique. Lille, France. June 24-27, 2018.
- Nigg BM. "1968 to 2018 Development of Sport Sciences into Movement Sciences". University of Innsbruck, Austria. October 4, 2018.
- Nigg BM. Running redefined Changes of paradigms for running biomechanics. Annual Meeting of the Podology Society of Spain. Santiago de Compostela, Spain. October 2018. (Keynote)
- Pasanen K. Identification and management of sport injury risk factors. From Grassroots to the Olympian & Paralympian. A Congress Focused on Integrating Sport Medicine and Science in the Development of the Athlete. Regina, SK. September 29, 2018.
- Pasanen K. Injury Prevention in Ice Hockey. Faculty of Sport and Health Sciences, University of Jyvaskyla. Jyvaskyla, Finland. May 16, 2018.

- Pasanen K. Neuromuscular training for sport injury prevention. From Grassroots to the Olympian & Paralympian. A Congress Focus on Integrating Sport Medicine and Science in the Development of the Athlete. Regina, SK, September 29, 2018.
- Pasanen K. Risk factors for sports injury in youth and adolescence. 14th Scandinavian Congress of Medicine and Science in Sports. Copenhagen, Denmark. February 2, 2018.
- Pasanen K. Training Load and Tendon Injuries in Youth Sport. Tampere Sports Academy 10th Anniversary, Coach Seminar. Varala Sports Institute. Tampere, Finland. May 19, 2018 (Keynote)
- Paskevich D. Leadership and coaching within a high-performance culture. From Grassroots to the Olympian & Paralympian – A conference focused on Integrating Sport Medicine and Science in the Development of the Athlete. Regina, SK. September 29, 2018.
- Paskevich D. Pyeong Chang The good, bad, and ugly of competing and performing at the 2018 Olympic Games. Canadian Olympic Committee. Vancouver, BC. March 22, 2018.
- Paskevich D. Stress and coping in high-performance coaches. From Grassroots to the Olympian & Paralympian A conference focused on Integrating Sport Medicine and Science in the Development of the Athlete. present)ed by, Coaches Association of Saskatchewan and the Sport Medicine and Science Council of Saskatchewan. Regina, SK. September 29, 2018.
- Paskevich D. The role of Mental Performance Consultants within Integrated Support Teams - Barriers, Challenges, Obstacles. From Grassroots to the Olympian & Paralympian - A conference focused on Integrating Sport Medicine and Science in the Development of the Athlete. present)ed by, Coaches Association of Saskatchewan and the Sport Medicine and Science Council of Saskatchewan. Regina, SK. September 29, 2018.
- Reimer RA. Dysbiosis, obesity and metabolic disease. Bio-Rad Laboratories Inc. Hercules, CA. August 14, 2018.
- Reimer RA. Gut microbiota: do they have a role to play in preventing and treating pediatric obesity, Plenary lecture. 7th Conference on Recent Advances in the Prevention and Treatment of Childhood and Adolescent Obesity. Calgary, AB. October 26, 2018. (Keynote)

- Reimer RA. Gut microbiota: role in health and disease. Bio-Rad Laboratories Inc. Hercules, CA. June 13, 2018.
- Reimer RA. Prebiotics: Potential for managing overweight and obesity in children. 7th International Dietary Fiber Conference 2018. Rotterdam, Netherlands. June 4, 2018. (Keynote)
- Reimer RA. Using diet to manipulate gut microbiota in obesity. Microbiome Symposium. Edmonton, AB. March 28, 2018.
- Schneider K. Cervical and vestibular considerations in concussion. McLeod Law Annual Education Symposium for health care professionals. Calgary, AB. April 26, 2018.
- Schneider K. An integrated approach to the management of concussion. Physiotherapy Conference 2018, New Zealand Biennial Conference. Dunedin, New Zealand. Sept 15, 2018. (Keynote)
- Schneider K. Concussion in sport: Cervical spine and vestibular considerations Rotman Research Institute Conference. Paediatric Concussion Workshop. Toronto, ON. March 19, 2018.
- Schneider K. Concussion in sport: implications for practice. Canadian Physiotherapy Association Orthopaedic Division Symposium. Calgary, AB. October 14, 2018.
- Schneider K. Prevention and management of concussion: An active approach. Brain Injury Canada Concussion Symposium. Ottawa, ON. October 19, 2018.
- Schneider K. Sport-related concussion: Athlete, sport and injury specific considerations. Physiotherapy Conference 2018, New Zealand Biennial Conference. Dunedin, New Zealand. September 14, 2018.
- Shearer J. Dietary Modulation in Pediatric neurodevelopmental disorders, a translational perspective. Owerko Center Conference. Calgary, AB. June 7, 2018.
- Shearer J. Effects of the KD in experimental models of neurological disease.
 6th Global Symposium on Ketogenic Therapies for Neurological Disorders:
 Embracing Diversity, Global implementation and Individualized Care. Jeju,
 South Korea. October 5-9, 2018.

- Shearer J. Exercise and Diet Interactions in Modulating Gut Health. Bengt Saltin International Conference. Ottawa, ON. Sept 18-21, 2018.
- Shearer J. Metabolites as Key Molecular Transducers of Metabolic Capacity. Experimental Biology. San Diego, CA. April 24, 2018.
- Stefanyshyn DJ. Effect of Shoe and Surface Stiffness on Tendon Strain During Jump Landings. NBA Health and Safety Meeting. NY, USA. September 12, 2018.
- Stefanyshyn DJ. Prescription of specialized footwear for individuals with knee osteoarthritis. Eighth Brazilian Symposium on Footwear Biomechanics. Novo Hamburgo, Brazil. April 2018. (Keynote)
- Werthner P. Building an effective team culture. Olympic Lab, Canadian Olympic Association, Montreal, December 3-5, 2018.
- Werthner P. Helping your athletes perform better: Three key psychological skills. VDOT O2 Coaching Clinic, Portland Oregon, December 2, 2018.
- Werthner P. The Coleman Griffith Lecture Taking the Pulse and Looking to the Future. 33rd Annual Conference, Association for Applied Sport Psychology, Toronto, Canada, October 3-6, 2018. (Keynote)
- Zwicker JD. Moving research to policy: practical approaches to policy development. CADDRA: Canadian ADHD Resource Alliance. November 2018



Energy Drinks/Caffeine and kids. - Dr. Jane Shearer

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Active & Safe Central (BC) Active Living & Outdoor Centre. University of Calgary adidas AG adidas International AHS - Bone and Joint Health Strategic Clinical Network Alberta Alpine Ski Association (AASA) Alberta Ballet Alberta Ballet School Alberta Basketball Alberta Bone and Joint Health Institute Alberta Children's Hospital Alberta Children's Hospital Foundation Alberta Children's Hospital Research Institute (ACHRI) Alberta College and Association of Chiropractors Alberta Health Services (AHS) Alberta Heritage Foundation Alberta Injury Prevention Centre Alberta Innovates Alberta Schools' Athletic Association Alberta Spine Foundation All Our Families Allan Markin Graduate Scholarship Amaen Inc. Ariat International Arthritis Research UK Arthritis Research UK Centre for Sport, Exercise and Osteoarthritis Arthritis Society Banff Alpine Racers Basketball Canada BC Aariculture Investment Fund BC Hockey Benno Nigg Chair in Biomechanics, Longevity, and Aging BioRad Laboratories Inc.

Brain Canada Foundation Calgary Board of Education Calgary Catholic Board of Education Calgary Minor Soccer Association Calgary of Health Trust Canada Foundation for Innovation (CEI) Canada Research Chair Program, CIHR Canadian Academy of Sport and Exercise Medicine (CASEM) Canadian Cancer Society Research Institute (CCSRI) Canadian Chiropractic Research Foundation Canadian Imperial Bank of Commerce Canadian Institutes for Health Research (CIHR) Canadian Musculoskeletal Rehabilitation Research Network Canadian Physiotherapy Association Canadian Soccer Association Canadian Sport Institute Cancer Chic CAPES - Coordenação de Aperfeicoamento de Pessoal de Nível Superior CASEM Research Grant CCM hockey CFI - John R. Evans Leaders Fund (JELF) CHILD-BRIGHT CIHR, Frederick Banting and Charles Best Canada Graduate Scholarships City of Calgary Recreation Clifford Kinley Trust Cummings School of Medicine, University of Calgary David Hart FRA-NET Neuron Ever Active Schools

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United States National Institutes of Health. National Institute for Deafness and other Communication Disorders University of Alberta University of Calgary University of Southampton University of Toronto University Research Grants Committee. University of Calgary US Army Medical Research and Materiel Command (USAMRMC). Department of Defense (DoD) Vanier Canada Graduate Scholarship (Vanier CGS) program, CIHR Vera A. Ross Graduate Scholarship VERT Vi Riddell Foundation Vollevball Canada W. Brett Wilson Wellspring Calgary Wellspring Edmonton Western University Winsport Workers' Compensation Board -Alberta World Ruaby үмса