



UNIVERSITY OF CALGARY
FACULTY OF KINESIOLOGY



2022 Annual Report



UNIVERSITY OF CALGARY
FACULTY OF KINESIOLOGY

VISION

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

MISSION

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

HIGHLIGHTS

- Honour** **Carolyn Emery** — Canadian Academy of Sport and Exercise Medicine (CASEM) Presidential Coin (2022)
- Honour** **Walter Herzog** — Killam Annual Professor, University of Calgary, Killam Trust
- Honour** **David Paskevich** — Canadian Olympic Committee: Certificate – Member of the Canadian Olympic Team in the XXIV Olympic Winter Games in Beijing, China
- Honour** **David Paskevich** — City of Calgary: recognition of athletes, coaches, and staff from the Canadian Olympic and Paralympic Teams who participated in the XXIV Olympic Winter Games in Beijing, China
- Honour** **David Paskevich** — International Olympic Committee: Commemorative Certificate — Participation in the XXIV Olympic Winter Games in Beijing, China
- Honour** **Kathryn Schneider** — Canadian Physiotherapy Association Centenary Medal of Distinction (2021). The award recognizes leaders, role models, and innovators, honouring those who have made an impact on the Physiotherapy profession between 1920 to 2020.
- Honour** **Sport Injury Prevention Research Centre (SIPRC)** (Chair, Carolyn Emery) — [officially named an IOC Research Centre 2022–2026](#)
- Award** **Amanda Black** — Canadian Collaborating Centers for Injury Prevention (CCCIP) Award for contribution to CATT (Concussion Awareness Training Tool)
- Award** **Cari Din** — [McCaig-Killam Teaching Award](#).

HIGHLIGHTS



Award **Walter Herzog** — [University of Calgary Internationalization Career Achievement Award](#) (UCIA)

Award **Dana Lowry** – Donald N. Byers Memorial Killam Scholar Prize. Supervised by Raylene Reimer

Award **Dana Lowry** – Izaak Walton Killam Doctoral Scholarship. Supervised by Raylene Reimer

Award **Baaba Otoo** — Canadian Society for Biomechanics Graduate New Investigator Award - Doctoral Level, North American Congress on Biomechanics 2022 (NACOB) Ottawa, August. Supervised by Walter Herzog.

Award **Ryan Peters** — Faculty Award, Human Performance Laboratory. December 2022.

Award **Ryan Peters** — Student Union Teaching Excellence Award, Kinesiology. 2021/22 Fall/Winter Semesters

Award **Christiane Roth** (Research Associate) — Impact Award School of Public Policy in December 2022. Supervised by Jennifer Zwicker

Award **Isla Shill** — Vanier Scholarship 2022 — PhD Faculty of Kinesiology. Supervised by Carolyn Emery and Brent Hagel.

Award **Bryan Yu** — Young Investigator Award, Sport Innovation (SPIN) Summit 2022 Vancouver, December. Supervised by Walter Herzog.

Award **Jennifer Zwicker** — School of Public Policy's 'Drive Award'. December 2022.

HIGHLIGHTS

Award	Kenzie Vaandering – President’s Award recipient. Supervised by Kathryn Schneider
Appointed	Nicole Culos-Reed — Health and Wellness Coach Lead: Transplant Wellness Program
Appointed	W. Brent Edwards — Co-Director, Human Performance Lab, Faculty of Kinesiology
Appointed	Carolyn Emery — Global Chair, UK, University of Bath (2022-2023)
Appointed	Walter Herzog — Reviewer, National Killam Selection Committee, Killam Prize and Dorothy Killam Fellowship (2022 –2024)
Appointed	Meghan McDonough — Past-President, North American Society for the Psychology of Sport and Physical Activity
Appointed	David Paskevich — Sport Scientist Canada — High Performance Practitioner Member (LEADER)
Appointed	Ryan Peters — Chief Science Officer, Neursantys Inc.
Appointed	Raylene Reimer — Interim Dean, Faculty of Kinesiology
Appointed	Kathryn Schneider — Co-Chair of the Scientific Committee, 6th International Consensus Conference on Concussion in Sport
Appointed	Bill Wannop — Associate Editor, Footwear Science
Appointed	Jennifer Zwicker — Co-lead of the U Calgary Azrieli Accelerator
Appointed	Jennifer Zwicker — Expert panelist for Conference Board of Canada
Appointed	Jennifer Zwicker — Member of Disability Advisory Committee advising Revenue Canada on the Disability Tax Credit

HIGHLIGHTS

- M.Sc. Mannat Bansal** — Supervised by Dr. Nicole Culos-Reed
Thesis: [Barriers, Facilitators, and Experiences with Exercise Among Individuals of South Asian Heritage Living with and Beyond Cancer.](#)
- M.Sc. Eloizza Camarao** — Supervised by Dr. Cari Din
Thesis: Creating and Exploring a Pedagogy-Focused Community with Graduate Teaching Assistants Teaching Reformed Exercise Physiology Laboratories.
- M.Sc. Bobbie-Ann Craig** — Supervised by Dr. Meghan McDonough
Thesis: [Social Support in Group Exercise Programs for Adults Living with and Beyond Cancer.](#)
- M.Sc. Taffin Evans** — Supervised by Dr. Amanda Black
Thesis: Barriers and Facilitators to implementing a national injury surveillance program.
- M.Sc. Eric Gibson** — Supervised by Drs. Kati Pasanen and Carolyn Emery
Thesis: [Shoulder and Upper Extremity Injuries in Canadian Youth Ice Hockey: Investigating Injury Rates, Types, Severity, Mechanisms, and Risk Factors.](#)
- M.Sc. Caitlin Grzyb** — Supervised by Dr. William Bridel
Thesis: “The change happens with our kids”: Exploring parent perspectives on gender diversity and sport in children’s literature.
- M.Sc. Emily Heming** — Supervised by Dr. Carolyn Emery
Thesis: [Zooming in on female ice sports: Video-analyses examining head contacts and suspected injuries in ringette and ice hockey.](#)
- M.Sc. Dana Hunter** — Supervised by Drs. Nicholas Mohtadi and Amanda Black
Thesis: Non-Surgical Management of the Medial Collateral Ligament of the Knee: Understanding Adherence to Bracing Treatment.

HIGHLIGHTS

- M.Sc. Yun Yun Lee** — Supervised by Drs. Dana Olstad and Jane Shearer
Thesis: [Experiences and perceived outcomes of a grocery gift card program for households at risk of food insecurity.](#)
- M.Sc. Owen Lindsay** — Supervised by Dr. Ryan Peters
Thesis: [A Novel Vibration—Emitting Smartphone Application to Clinically Assess Cutaneous Sensitivity”.](#)
- M.Sc. Mary Mackie** — Supervised by Dr. Juan Murias
Thesis: [The “Step—Ramp—Step” Protocol: Evaluating the Effects of a Smaller First Step Amplitude and Different Ramp Slopes to Determine the V̇O₂ Mean Response Time and the Expression of the V̇O₂ Slow Component During Ramp—Incremental Tests.](#)
- M.Sc. Ishan Malagalage Don** — Supervised by Dr. Darren Stefanyshyn
Thesis: [Using a Single inertial measurement unit to measure the knee flexion angle at touchdown in side-cutting movements.](#)
- M.Sc. Rachel McDougall** — Supervised by Dr. Martin MacInnis
Thesis: The influences of skeletal muscle mitochondria and sex on critical torque and fatigue in humans.
- M.Sc. Lindsay Morrison** — Supervised by Drs. Meghan McDonough and Sarah Kenny
Thesis: Social Support for Physical Activity and Physical Literacy in Older Adults.
- M.Sc. Suvojit Mukherjee** — Supervised by Drs. Usman Alim and Sarah Kenny
Thesis: [DanceShala - A Visual Feedback Interface for Dance Learning.](#)

HIGHLIGHTS

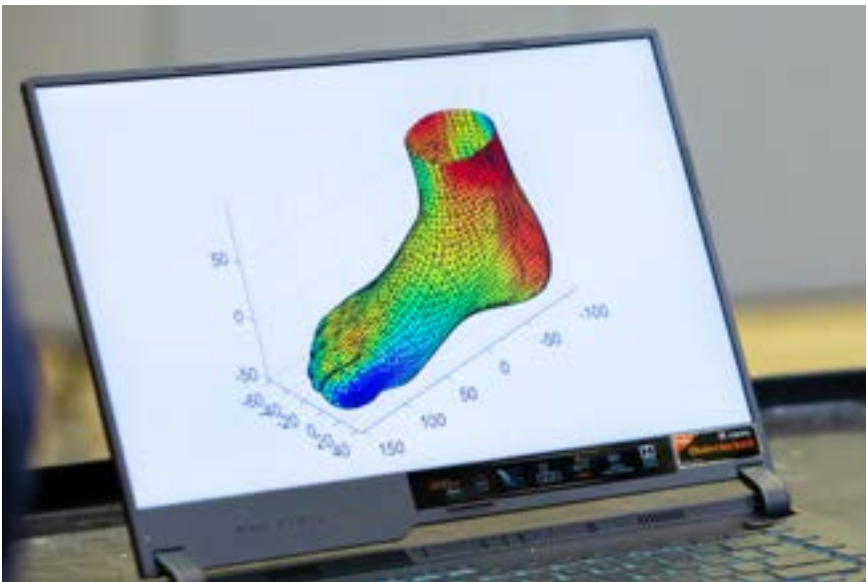
- M.Sc. Vanessa Paglione** — Supervised by Drs. Sarah Kenny and Meghan McDonough
Thesis: [Community Dance Supports Older Adults' Successful Aging, Physical Literacy, and Embodiment: A Case Study.](#)
- M.Sc. Linden Penner** — Supervised by Drs. Jonathan Smirl and Carolyn Emery
Thesis: [Effects of Interval Exercise on Commonly Studied Fluid Biomarkers for Sport—related Concussion in Serum and Plasma.](#)
- M.Sc. Monica Russell** — Supervised by Drs. W. Brent Edwards and Carolyn Emery
Thesis: [Biomechanical Differences Between Young Adults With and Without a History of Youth Sport—Related Ankle Injury.](#)
- M.Sc. Reid Syrydiuk** — Supervised by Dr. Carolyn Emery
Thesis: [Perfecting the scramble: Examining the influence of the COVID-19 pandemic on youth Canadian tackle football.](#)
- M.Sc. Catherine Tremblay** — Supervised by Drs. Carolyn Emery and Elizabeth Condliffe
Thesis: [Adapted Sport and Recreation Camps: Examining Physical Activity, Self—Perceptions, and Motivations for Participation in Youth with Physical Disabilities.](#)
- M.Sc. Mackenzie Vaandering** — Supervised by Dr. Kathryn Schneider
Thesis: [Setting the Standard: Injury, Concussion and Performance in Youth Volleyball.](#)
- M.Sc. Paige Wyatt** — Supervised by Drs. Steven Boyd and Lauren Burt
Thesis: [Bone Quality of Elite Winter Endurance Athletes.](#)
- M.Sc. Bryan Yu** — Supervised by Dr. Walter Herzog
Thesis: [In Vivo Vastus Lateralis Fascicle Excursion During Speed Skating Imitation.](#)

HIGHLIGHTS

- Ph.D. Rafael Azevedo** — Supervised by Drs. Juan Murias and Guillaume Millet
Thesis: [The development of neuromuscular fatigue throughout constant power output cycling below, at, and above the maximal lactate steady state in young and healthy females and males.](#)
- Ph.D. Michael Baggaley** — Supervised by Drs. W. Brent Edwards and Guillaume Millet
Thesis: [Musculoskeletal loading during graded running.](#)
- Ph.D. Simon Barrick** — Supervised by Drs. William Bridel and David Paskevich
Thesis: [Immigration, Integration, and Intersectoral Partnership: A Critical Examination of Introductory Winter Sport Programmes for Newcomers to Canada.](#)
- Ph.D. Meghan Critchley** — Supervised by Drs. Sarah Kenny and Kati Pasanen
Thesis: [Pre-season Screening and Injury Surveillance of Pre-Professional Dancers: A Longitudinal Study.](#)
- Ph.D. Gerald Donaldson** — Supervised by Drs. Larry Katz and Penny Werthner
Thesis: [Understanding Engagement in Physical Activity Over the Life Course to Promote Healthy Aging.](#)
- Ph.D. Robyn Madden** — Supervised by Drs. Jane Shearer and Jill Parnell
Thesis: [Evaluation of Dietary Supplement Usage, Dietary Intakes, and Nutrition Knowledge in Clinical and Athletic Populations.](#)
- Ph.D. Kyle McCallum** — Supervised by Drs. William Bridel and Carolyn Emery
Thesis: Exploring children's constructions of risk, risky play, injury, and pain: A qualitative case study.

HIGHLIGHTS

- Ph.D. Lauren Miutz** — Supervised by Drs. Carolyn Emery and Jonathan Smirl
Thesis: [Evaluating different methodological approaches to inform physiologically based exercise strategies to improve recovery following sport-related concussion.](#)
- Ph.D. Najratun Pinky** — Supervised by Drs. Brad Goodyear and Carolyn Emery
Thesis: [Multimodal Magnetic Resonance Imaging of Sport-Related Concussion in Youth.](#)
- Ph.D. Heather Shepherd** — Supervised by Dr. Carolyn Emery
Thesis: Optimizing Return to School for Adolescents Following a Concussion: Informing the Development of a Multifaceted Return to School Framework.
- Ph.D. Scott Sibole** — Supervised by Drs. Walter Herzog and Salvatore Federico
Thesis: [Towards understanding multiscale articular cartilage mechanics.](#)



ABOODARDA

Exercise Neurophysiology Laboratory



Dr. Jalal Aboodarda's research in 2022 focused on the integration of physiological and perceptual factors determining exercise tolerance in healthy individuals. Dr. Aboodarda's research group managed to coordinate a study investigating the kinetics of neuromuscular and perceptual responses to high-intensity interval training (HIIT). Despite being matched for work-to-rest ratio, HIIT protocols with shorter work intervals elicited a four-fold increase in exercise tolerance and

mitigated performance fatigability and perceptual responses when matched for work completed, but not at task failure. In another project, they measured acute corticospinal excitability and inhibition responses to experimental pain during cycling exercise. They demonstrated that the experimental pain curtailed exercise time to task failure and modulated corticomotor responses recorded during cycling exercise. In the third project, they examined the effect of accumulative fatiguing exercise sessions on neuromuscular fatigue and perceptual responses; and assessed whether these outcomes were intensity-dependent (i.e., HIIT vs. work- and duration-matched continuous cycling). In this study, HIIT resulted in greater impairments in force-generating capacity and muscle contractile properties compared to constant load exercise. Neurophysiological responses were quantified using non-invasive techniques such as transcranial magnetic stimulation of the brain and peripheral nerve electrical stimulation of the skeletal muscles.

BARHA

Dr. Cindy Barha is a new Assistant Professor of Neuroscience in the Faculty of Kinesiology. She is a translational researcher with training in behavioural neuroscience, epidemiology, neuroendocrinology and exercise neuroscience. The overarching theme of her research program is utilizing mixed-methods, including (randomized controlled trials and rodent models), to better understand moderators and mediators of exercise efficacy. Going beyond the “one-size-fits-all” approach allows for efficacious precise exercise recommendations to promote healthy cognitive aging. Specifically, she is interested in determining who benefits from exercise by focusing on biological sex and genetics and when, in the lifespan, to most effectively intervene with exercise. Using rodent models, she also explores how exercise exerts its influence on the brain. Dr. Barha also studies how hormone-related life events (e.g., pregnancy, menopause) impact brain aging to determine why females are at increased risk for certain forms of dementia and to determine how these events interact to influence the brain’s responsivity to different exercise interventions later in life.



Research Functions

Conference Organization

- Organization for the Study of Sex Differences

Conference Reviewer

- International Behavioral Neuroscience Society (IBNS) 31st Annual Meeting

Grant Reviewer

- CIHR 2022 Summer Program in Aging

BLACK

The Injury Prevention, Clinical Intervention and Implementation Science Research Group



The Injury Prevention, Clinical Intervention and Implementation Science Research Group, led by Dr. Amanda Black, is a new group in the Sport Injury Prevention Research Centre. Core projects focus on: (1) injury surveillance and epidemiology; (2) evidence-based practice and knowledge translation; (3) theory-driven implementation, behaviour change and evaluation. Ongoing projects include examining the implementation of concussion guidelines; education and management protocols for sporting

organizations and high schools; examining the context for the implementation of injury prevention initiatives and injury surveillance in high school and university athletic populations.

Research Functions

Board Membership

- Sport Information Research Centre

Committee Member

- Canadian Athletic Therapy Association Education Committee

Conference Reviewer

- Canadian Athletic Therapy Association (CATA) Conference
- Pediatric Research in Sports Medicine Society (PRISM) 2022 Annual Meeting

BRIDEL

Associate Dean Academic

Dr. William Bridel's research explores social issues in sport and physical activity. The overarching goal of his research agenda is to investigate ways for sport and physical activity to be more inclusive and safer for all participants. This is accomplished by thinking critically about the culture of sport itself, the influence of social norms, beliefs, and values on sport, and the principles of social justice. Theoretically, Dr. Bridel's work is primarily informed by poststructuralist gender and queer theories. He employs a wide variety of qualitative methods including interviews, focus groups, narrative analysis and autoethnography in his projects. Committed to publicly-engaged sociology, current research projects in Dr. Bridel's research group include: LGBTQI2S+ (lesbian, gay, bisexual, trans, queer, intersex, two-spirit and other identities) inclusion in the context of national, provincial and municipal sport; a socio-historical exploration of sport in the lives of LGBTQ+ Calgarians; representations of sport and gender diversity in children's literature; experiences of queer students in Alberta Catholic schools related to physical education and sex education curricula; equity, diversity, inclusion and decolonization policies and practices in Calgary sport and recreation settings. Dr. Bridel is a member of the Re-Creation Collective, a collaboration of scholars and practitioners who represent voices from the margins and seek to address social injustices in relation to sport, recreation and physical activity. Within the faculty strategic research themes, Dr. Bridel is most closely associated with the Psychosocial Aspects of Sport and Health research theme.



Research Functions

Board Membership

- Journal of LGBT Youth Editorial Board
- ITP Sport & Recreation Advisory Board

Committee Member

- LGBTQI2S+ Sport Inclusion Task Force
- Expanding Plasma Donation in Canada Study, Local Advisory Group Member

CLUFF

Integrative Sensorimotor Neuroscience Laboratory



The Integrative Sensorimotor Neuroscience Laboratory is a growing group in the Human Performance Laboratory led by Dr. Tyler Cluff. Their work is focused on the mechanistic, multidisciplinary study of human sensorimotor control and learning. They combine behavioural experiments with robotics, medical imaging and computational models to examine the function of human sensory and motor systems. The research group's 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 the research group's basic science program and ongoing collaborations, they hope to generate tools that allow for better assessment and monitor deficits in sensory and motor function.

Research Functions

Conference Reviewer

- Motor Learning and Motor Control (MLMC) Conference, Society for Neuroscience Satellite Meeting

Grant Reviewer

- NSERC Discovery Grant Program, External Reviewer
- Swiss National Science Foundation, External Reviewer
- CIHR CGS-D competition, University of Calgary Reviewer

CULOS-REED

Health and Wellnes Lab

Dr. Culos-Reed leads an active research program examining exercise behaviour change for individuals living with and beyond cancer.



Research Functions

Board Membership

- Current Oncology Editorial Board

Conference Organization

- Society for Integrative Oncology (SIO) Conference

Conference Reviewer

- Canadian Association of Psychosocial Oncology (CAPO)
- Society of Behavioural Medicine (SBM)

Grant Reviewer

- CFI
- CIHR Emerging Scholar Award, Co-chair

DIN



Dr. Cari Din continued to improve, support and facilitate the Kinesiology Mentorship for Support (KMs) program for new faculty, post-docs, doctoral and masters' students across the faculty. She supported and developed leadership learning for over 300 new participants for the BMO Mentorship Program at the Haskayne School of Business' Canadian Centre for Advanced Leadership Centre in and began mentoring graduate students teaching in the faculty.

Research Functions

Board Membership

- Canadian Journal for Women and Coaching Editorial Board

DOYLE-BAKER

Associate Dean Graduate

Doyle-Baker Lab



The study of female physiology and reproductive health is a focus of the Doyle-Baker Lab. This area of research can be challenging and costly because of individual variability related to the menstrual cycle. This past year was focused on recruiting and collecting data across female athlete populations, as well as young women aged 18-35 years old. In the first study, participants were required to engage with a specific app designed to track their menstrual cycle. Participants were supplied with

ovulation test kits (urinary) and salivary kits so their estrogen to progesterone hormone ratios could be analyzed. This study is ongoing as recruitment and menstrual cycle verification requires a minimum duration of four months for each participant.

Menstrual health and literacy are emerging areas of study, and factors affecting retention in menstrual cycle apps have limited research. In early November the Doyle-Baker Lab partnered with the Faculty of Kinesiology's communications team and employed a social media firm to develop a campaign targeted at identifying app users' experience. The objective was to find out what features associated with a female health tracking app contributed to health literacy and subsequently to user engagement and retention.

The Doyle-Baker Lab has learned that tapping into a participant's lived experience helps with study design success. Using semi-structured interviews, athletes informed the research group about their menstrual cycle and what they experience all the way from symptomology to their coach's knowledge, awareness, and understanding of the menstrual cycle. The interviews were a rich source of information and will assist with providing support to athletes and their coaches through publications, webinars, and workshops.

Research Functions

Board Membership

- International Journal of Environmental Research in Public Health Editorial Board
- International Journal of Kinesiology and Sport Science (IJKSS) Editorial Board
- Alpine Canada True Grit Award Advisory Board
- Annals of Applied Sport Science Advisory Board
- International Congress on Sport Science in Skiing (ICSS) Scientific Board

Conference Organization

- Canadian Society for Exercise Physiologists 2023 (CSEP) Conference Chair

Conference Reviewer

- International Congress on Sport Science in Skiing (ICSS) Young Investigator Award reviewer

Grant Reviewer

- College of Medicine Research Awards (CoMRAD), University of Saskatchewan
- Mitacs

Program Reviewer

- Fitness & Health Promotion/Exercise Science Program, Niagara College, ON



EDWARDS



Mechanical fatigue of load-bearing biological tissue is an inevitable consequence of physical activity. Over time, habitual loading of the musculoskeletal system causes microdamage 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 microdamage may eventually lead to musculoskeletal injury.

Mechanical fatigue is thought to play a predominant role in the pathophysiology of musculoskeletal injuries, such as bone stress fracture and Achilles and patellar tendinopathy. Dr. Brent Edwards' research combines biomechanical experimentation with advanced medical imaging and computational modeling to investigate tissue damage and fatigue in response to mechanical loading. This unique approach allows for the estimation of in vivo tissue mechanics in a non-invasive and subject-specific manner. The work in his research group spans multiple dimensional scales, from basic experiments at the tissue level that enhance the 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.

Research Functions

Board Membership

- Secretary General, International Society of Biomechanics Executive Board
- JBMR Plus Editorial Board
- BONE Editorial Board
- Bone Reports Editorial Board
- Journal of Biomechanics Editorial Board
- Current Osteoporosis Reports Editorial Board

Conference Reviewer

- Annual Meeting of the Orthopedic Research Society
- World Congress of Biomechanics
- North American Congress of Biomechanics
- Alberta BME Conference

EMERY

Dr. Carolyn Emery is the Chair of the Sport Injury Prevention Research Centre and Co-Lead of the Integrated Concussion Research Program at UCalgary. Her research group aims to reduce the burden of youth sport-related injuries and their consequences through evidence-informed prevention and treatment strategies. A multifaceted approach to prevention targets sport policy and rules, equipment, training and injury management strategies. Highlights include research supporting policy disallowing bodychecking in adolescent (ages 15-17) hockey players, leading to 62% lower rates of injury (51% for concussion), with no evidence of unintended consequences of such policy across youth age groups. Other policy relevant research includes evaluation of referee knowledge and behaviours and the high burden of injury in female youth rugby union. Surveillance in High Schools and Community Sports to Reduce Injuries and their Consequences in Sport (SHRed Injuries) has been scaled up nationally and internationally through an international multisite girls' rugby cohort study and international collaborations in dance to evaluate prevention strategies. Evaluation and scale-up of sport-specific neuromuscular training warm-ups (e.g., SHRed Injuries rugby, football) in youth sport is a focus provincially, nationally and internationally to reduce injuries and concussions. The CFI funded SHRed mobile has been actively engaged in supporting multidisciplinary collaboration and knowledge translation provincially and nationally, supporting rural and Indigenous community partnerships. The SHRed Consequences of Concussion cohort study and a clinical trial evaluating a multifaceted approach to treatment following concussion in youth will inform better outcomes following concussion in youth. Dr. Emery continues to lead a program of research focused on safe participation and health outcomes associated with adapted physical activity programs for neurodiverse youth (Calgary Adapted Hub Power by Jumpstart).



EMERY CONTINUED...

Research Functions

Board Membership

- Canadian Concussion Network Executive Board
- Canadian Traumatic Brain Injury Research Consortium Executive Board
- British Journal of Sport Medicine Editorial Board
- FACETS Journal of the Royal Society of Canada's Academy of Science Editorial Board
- Canadian Institute of Human Development, Institute of Human Development, Child, and Youth Health Institute, Advisory Board
- Centre for Health and Injury and Illness Prevention in Sport (CHI2PS) University of Bath Advisory Board
- HitIQ Advisory Board
- Canadian Concussion Network (CCN) Scientific Board, Scientific Chair
- Promotion University of British Columbia Scientific Board
- Hospital for Sick Kids, Scientific Board
- Promotion University of the Fraser Valley Scientific Board
- University of Toronto, Scientific Board Scientific Chair
- Promotion Tufts University Scientific Board
- Promotion University of Bath Scientific Board

Committee Member

- Canadian Academy of Health Sciences Fellowship
- UK Concussion Prevention Network
- Concussion in Para Sport (CIPS)
- Canadian Physiotherapy Association
- World Conference on Prevention of Injury and Illness in Sport
- 6th International Consensus on Concussion in Sport
- Sport, Exercise, Physical Activity and Osteoarthritis Prevention Discussion Group Meeting
- Medical and Scientific Network, International Olympic Committee (IOC)
- Canadian Concussion Network, Co-Lead Training and Career Development Committee
- Canadian Traumatic Brain Injury Research Consortium, Chair Training and Education Committee
- Promotion University of Edinburg

Conference Organization

- Sport Injury Prevention Research Centre Research and Community Engagement (RACE) Symposium
- Canadian Traumatic Brain Injury Research Consortium (CTRC) Training Committee and Conference Chair
- Injury Prevention Research Symposium CASEM, Co-Chair
- Canadian Concussion Network Annual Meeting, Program Chair

GENERAL COMMENTS

- World Conference on Prevention of Injury and Illness in Sport, Scientific Program Committee

Conference Reviewer

- World Conference on Prevention of Injury and Illness in Sport
- Canadian Concussion Network Annual Meeting
- Canadian Academy of Sport and Exercise Medicine

Grant Reviewer

- Canadian Institutes of Health Research (CIHR) College of Reviewers

FERBER

Associate Dean Research

Dr. Reed Ferber is a clinical biomechanist whose research is aimed at optimizing rehabilitation and predicting injuries. He leads the NSERC Wearable Technology Research and Collaboration (We-TRAC) CREATE Training program and has established a campus-wide graduate specialization in Wearable Technology – Canada's first and only specialization in this fast-growing field. Overall, his research group is engaged in two streams of research: clinical gait analysis and wearable sensors.



Dr. Ferber's research group has successfully established an international and growing gait analysis research network currently consisting of 15 researchers and over 125 clinical partners. Each centre is linked to the world's largest research database of biomechanical gait and clinical data. The research group is transforming the biomechanics research community by openly sharing data between laboratories, employing unique data science analysis methods and growing their research network. Dr. Ferber's 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.

Research Functions

Board Membership

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

GABEL

Movement and Musculoskeletal Health Laboratory (MyMSK)



In 2022, Dr. Gabel focused on establishing her laboratory, bringing on her first MSc student and a host of undergraduate thesis and summer students. Dr. Gabel's research focuses on the role of movement (physical activity and exercise) for musculoskeletal health across the lifespan. At the pediatric end of MyMSK's research spectrum, Dr. Gabel's trainees investigated how to best measure free-living physical activity in children and youth for understanding how bone adapts to physical activity.

Other trainees began projects investigating the role of physical activity for bone development in children with chronic disease (i.e., cerebral palsy and juvenile idiopathic arthritis). Along the adult continuum, Dr. Gabel secured seed funding for a resistance training intervention to prevent bone loss in early menopausal women that will begin in 2023. Finally, Dr. Gabel's spaceflight research also gained traction across multiple media and news outlets, highlighting the importance of resistance training on earth and in space for preventing bone loss during long-duration spaceflight.

Research Functions

Board Membership

- British Journal of Sports Medicine Editorial Board, Associate Editor

Grant Reviewer

- CIHR Doctoral Award Review Committee
- NSERC Undergraduate Research Studentship Award Reviewer
- GAC Award Review Committee

GIANCARLO

Dr. Giancarlo joined the Faculty of Kinesiology in 2021 within the Psychosocial Aspects of Health and Sport strategic research theme. Giancarlo's research group, Challenging Settler Colonialism in Physical Culture (working title), now includes two MSc students. Dr. Giancarlo's work at present focuses on Indigenous sport histories, with a primary interest in the complexities of residential school sports and recreation as assimilating forces, ones strongly challenged by students who saw these activities as venues for cultural expression, competitive success and camaraderie. For the past three years, Dr. Giancarlo has been working with residential school survivors and their families in co-writing a memoir about the survivors' experiences at Sioux Lookout Residential School in northern Ontario. This project brings her into collaboration with a team of academics from Western University, the University of British Columbia, and Brock University. The memoir, centered on survivors' engagement with historical photographs of the team, is under contract with the University of Manitoba Press.



Dr. Giancarlo is pleased that 2022 brought a host of knowledge translation opportunities; her community-based work was featured in two popular press magazines, Canada's History and 64 Parishes. She has ongoing research interests and relationships with Black Creole recreational horseback riding communities, and Black Creole cattle ranchers, in southern Louisiana, where she researches their movement forms as expressive culture. Dr. Giancarlo also continues her partnership with David Shannon, LL.M (Barrister and human rights lawyer), in examining the socio-legal aspects of disability policy through a human rights lens.

Research Functions

Board Membership

- Journal of Emerging Sport Studies Board

Committee Member

- Indigenous-Italian Canadian Connections Working Group, Department of Italian Studies, University of Toronto
- EDI Network, Faculty Representative
- EDI Committee, Member

Conference Organization

- North American Society for the Sociology of Sport Conference

HERZOG



This past year, Dr. Walter Herzog's research group solved a long-standing controversy in striated muscle physiology: what causes titin-actin interactions in muscle contraction? They determined that strong binding of cross-bridges to actin and associated configurational changes in the regulatory protein tropomyosin free up binding sites for titin on actin, thus providing a mechanistic answer to the problem of titin's force contribution in muscle. Furthermore, they dispelled the

erroneous idea in the scientific literature that cardiac muscle, in contrast to skeletal muscle, does not possess history-dependent properties. In their research on joint biomechanics and osteoarthritis, they developed an imaging procedure involving two-photon microscopy that relates cartilage cell shape and collagen fibrillar orientation to the mechanical properties of cartilage samples that are used for transplantation services. This procedure is efficient and allows for quick identification of tissue samples that can be safely used for transplantation. They also developed in vitro methods that allow for reducing fibrosis in muscles from children with spastic cerebral palsy, which might hopefully be transferable to patients soon. In their applied research on back biomechanics, Dr. Herzog's research group published a seminal article on the safety of back and neck manipulation in pediatric patients.

Research Functions

Board Memberships

- Journal of Sport and Health Science Editorial Board, Co-Editor in Chief
- Exercise and Sports Science Reviews Editorial Board, Associate Editor
- IEEE Transactions in Neural Systems and Rehabilitation Engineering Editorial Board Associate Editor
- Brazilian Journal of Motor Behavior Editorial Board
- BMC Biomedical Engineering Editorial Board
- Chiropractic & Manual Therapies Editorial Board
- The Current Issues of Sport Science (CISS) Editorial Board

GENERAL COMMENTS

- Journal of Functional Morphology and Kinesiology Editorial Board
- Biomechanics and Modeling in Mechanobiology Editorial Board
- International Journal of Mechanical and Materials Engineering Editorial Board
- Muscles, Ligaments and Tendons Journal Editorial Board
- Sports Orthopaedics and Sports Traumatology Editorial Board
- Molecular and Cellular Biomechanics Editorial Board
- Journal of Biomechanics Editorial Board
- Journal of Electromyography and Kinesiology Editorial Board
- Journal of Manipulative and Physiological Therapeutics Editorial Board
- Journal of the Canadian Chiropractic Association Editorial Board
- Sportverletzung Sportschaden Editorial Board
- German Journal of Exercise and Sport Research Advisory Board
- Nike Sport Research Advisory Board
- German Journal of Sport Sciences Advisory Board
- Sportwissenschaft Journal Advisory Board
- Sportorthopädie Sporttraumatologie Advisory Board

Committee Member

- Jim Hay Memorial Award, American Society of Biomechanics (Career Award for Biomechanics in the Exercise and Sports Sciences Field)

Conference Organization

- 5th Rocky Mountain Muscle Symposium
- Scientific Committee Member, Congress of International Society of Biomechanics/Japanese Society of Biomechanics
- Career Award Committee, Canadian Society for Biomechanics
- Scientific Chair, Active Muscle Mechanics: Bone and Soft Tissue, World Congress of Biomechanics

Grant Reviewer

- National Killam Selection Committee, Killam Prize and Dorothy Killam
- CIHR Biomedical Engineering Grant Review Committee
- Natural Sciences and Engineering Research Council of Canada
- CIHR College of Reviewers

HOLASH

Exercise Physiology Laboratory



The focus of John's work at the University of Calgary is teaching Exercise Physiology content, and John teaches 6 courses per year. John has demonstrated his dedication to education by completing an open access textbook chapter on muscle physiology and supervising multiple students, including two masters of kinesiology students, three honours students, and two summer students.

John's major roll within the faculty is to develop and integrate new advanced teaching and learning techniques and resources for exercise physiology. One of John's focuses is to develop, a team that hopes to integrate state-of-the-art computer-based methods for measuring, recording, and analyzing large data sets of physiological variables. The goal of this team is to enhance the student experience by providing opportunities for: software product development, rapid prototyping, machine learning, data processing, and potentially some entrepreneurship opportunities that revolve around leveraging digital technologies.

John serves the faculty by sitting on three professional committees: The Learning Technologies Advisory Committee, the Teaching and Learning Committee and sits on the human ethics research board for the faculty of Kinesiology. John has also shared his expertise with the public by delivering two general lectures on maintaining fitness for masters' athletes to the Foothills Nordic ski club and the Active living program. Overall, John's combination of teaching and research experience, as well as his service to the academic and public communities, showcases his commitment to the advancement of exercise physiology and the promotion of healthy living at the University of Calgary, and in the greater Calgary community.

JORDAN

Integrative Neuromuscular Sport Performance Laboratory (INPSL)

In 2022, Drs. Matt Jordan and Kati Pasanen founded the Integrative Neuromuscular Sport Performance Laboratory (INPSL). Dr. Jordan's lab focuses on muscle strength and power adaptations across the lifespan, the effects of traumatic knee injury on muscle function and describing the neuromuscular response to resistance training in adolescent, early adult and elite athletes. Dr. Jordan's research group has been working hard to



operationalize the INSPL and received a VPR Catalyst Research Grant to accelerate this process. Dr. Jordan and his research team were funded by the Dinos Excellence PhD Scholarship to address secondary and tertiary knee injury prevention research in collegiate athletes. Working closely with the Athletic Therapy department, the Head Strength & Conditioning Coach and the Sport Medicine Centre, the INSPL conducted neuromuscular testing on injured athletes to track rehabilitation progress.

Highlighting their integration with other Faculty of Kinesiology departments, the INSPL conducted an examination of off-ice predictors of on-ice acceleration performance in elite long track speed skaters training at the Olympic Oval. Dr. Jordan continues to collaborate internationally with colleagues at Edith Cowan University and the University of Pretoria. Throughout 2022, Dr. Jordan participated in the International Ski Federation's working group on Guidelines for Return to Sport and Competition in winter slope sport athletes.

Research Functions

Board Membership

- Elite Sports and Performance Enhancement, Frontiers in Sports and Active Living Editorial Board
- Biomechanics and Control of Human Movement, Frontiers in Sports and Active Living Editorial Board

Committee Member

- International Ski Federation, ISPSS Consensus on Return to Sport Working Group

KENNY



Dr. Sarah Kenny's research is unique in Canada, bringing together the disciplines of kinesiology and dance. Specifically, Dr. Kenny applies her experience as a contemporary dancer to the science of injury epidemiology. As lead of a longitudinal project with a professional dance organization, Alberta Ballet, Dr. Kenny's research is impacting the international dance medicine and science community, contributing to refined international standards of how dance-related injury is defined and

measured, and advocating for the recognition of dancers across all styles and levels of practice, as both artists and athletes. An additional focus of Dr. Kenny's research aims to understand the psychosocial experience of community dance as a form of physical activity and social connection for populations across the age spectrum. Her research team is leading funded projects examining the lived experiences of participating in community dance and how these experiences contribute to physical literacy and successful aging among older adults and those living with Parkinson's Disease.

Research Functions

Board Membership

- Healthy Dancer Canada Editorial Board
- Journal of Dance Medicine and Science Editorial Board

Committee Member

- International Association for Dance Medicine and Science, Standard Measures Consensus Initiative Taskforce
- Healthy Dancer Canada, Co-chair Dancer Screening Committee

Conference Reviewer

- International Association for Dance Medicine & Science

MACINNIS

Molecular, Exercise, and Environmental Physiology Laboratory (MEEP)

The Molecular, Exercise, and Environmental Physiology (MEEP) Laboratory is an integrative physiology laboratory primarily interested in understanding how humans respond to individual exercise sessions and long-term exercise training. Led by Dr. Martin MacInnis, this research group investigates: (1) the effects of different exercise training programs on the skeletal muscle, cardiovascular and hematological systems; (2) the molecular and physiological mechanisms underpinning the plasticity of physiological systems; (3) the influence of oxygen availability on aerobic metabolism, neuromuscular fatigue and exercise performance; (4) the use of wearable technologies and novel methods to improve exercise testing/prescription and to assess human physiology; and (5) the extent to which responses to exercise are influenced by nutrition, sex and the environment. The MEEP Laboratory employs a wide breadth of techniques, ranging from the biochemical and molecular analysis of human tissues to whole-body measures of exercise metabolism, tolerance and performance. The overall aim of their research program is to understand how humans respond to exercise and translate this knowledge to develop optimal strategies for improving the health and fitness of Canadians.



Research Functions

Conference Organization

- Canadian Society for Exercise Physiology Annual General Meeting 2023, Co-chair

Grant Reviewer

- NSERC Discovery Grant

MCDONOUGH

Relationships and Exercise Lab



Social processes play a vital 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.

The work in the Relationships and Exercise Lab is focused on examining how social processes affect physical activity, health behaviours and psychological well-being. This research includes work with a variety of populations (older adults, cancer survivors, people with Parkinson's disease and people with low incomes) and 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.

Research Functions

Board Membership

Executive Board

- North American Society for the Psychology of Sport and Physical Activity Executive Board, President
- North American Society for the Psychology of Sport and Physical Activity Executive Board, Past-President
- International Society of Qualitative Research in Sport and Exercise Executive Board
- Journal of Sport & Exercise Psychology Editorial Board, Associate Editor
- International Review of Sport and Exercise Psychology Editorial Board
- Sport, Exercise, and Performance Psychology Editorial Board
- International Journal of Sport Psychology Editorial Board

GENERAL COMMENTS

Advisory Board

- Active Aging Canada Research

Committee Member

- City of Calgary Recreation Active Aging Action Team member
- North American Society for the Psychology of Sport and Physical Activity) who developed the resource "[Academic journals: How to build capacity for equity, diversity, and inclusion](#)"

Grant Reviewer

- Canada Research Chairs

PASANEN

Dr. Kati Pasanen is the Director of the Clinical Biomechanics Lab, and Co-Lead of the Integrative Neuromuscular Sport Performance Laboratory (INSPL). With a primary focus on team sports, the lab develops, evaluates and implements sport specific training strategies for injury prevention in athletes of all performance levels. Dr. Pasanen's research group has a special interest in prevention of anterior cruciate ligament (ACL) injuries in female athletes and works in close collaboration with the Oslo Sports



Trauma Research Center, Norwegian School of Sport Sciences (Norway). Dr. Pasanen is also leading five collaboration studies in Finland – three of them in team sports, one in professional ballet and one among recreational runners. Ongoing projects include epidemiological, clinical, biomechanical and experimental studies investigating: (1) athletes' running, cutting, and landing biomechanics; (2) mechanisms and risk factors of lower extremity injuries; (3) effects of different exercise training programs on running, cutting and landing biomechanics and on the risk of lower extremity injuries.

Research Functions

Board Membership

- Healthy Dancer Program, Finnish National Ballet Advisory Board
- Finnish Strength and Conditioning Coaches Association
- Finnish Coaches Association Advisory Board
- Finnish Sports Physiotherapists Association Scientific Board

PASANEN CONTINUED...

Committee Member

- FIS Injury Surveillance and Prevention Program (ISPP), Preventative Training and Testing in Skiers

Conference Organization

- SUFT Sport Physiotherapy Congress
- Sport Injury Congress, Finnish Coaches Association

PASKEVICH



The primary objective of Dr. Dave Paskevich's work is to examine mental skills, emotional management, psychological hardiness, coping effectiveness, culture and group dynamics and their relationships to performance and performance outcomes in high performance coaches and athletes. When asked to select from a list of attributes that lead to success, Olympic athletes viewed psychological attributes as more important than natural talent. In fact, drive or 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, Dr. Paskevich's 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 these stressors, while recognizing that the goal of emotional management is to manage both external and internal environments and finding the optimal range and level of activation and focus for best performance.

PETERS

In 2022, Dr. Ryan Peters continued to build out two different industry related research projects. On the industry applied front, Dr. Peters has partnered with Neursantys to develop a novel wearable device for diagnosing impairments in gait and balance and providing therapeutic stimulation of the vestibular system to help correct such impairments. This technology is currently under review by the Canadian Space Agency for Phase 3 of their ‘Deep Space Healthcare Challenge’. and a video describing the product can be found at: <https://www.youtube.com/watch?v=nJ2T46BYo9M>. Dr. Peters’ lab has also completed the validation testing for a novel vibration-emitting smartphone application that enables users to perform standard assessments of skin sensitivity remotely at home. This work is supported by a New Frontiers Grant (‘Innovative Approaches to Research in the Pandemic Context’) that was awarded in the spring of 2022. He is currently working with local neurologists to incorporate this app into their workflow, empowering patients with neurological conditions, such as peripheral neuropathies and carpal tunnel syndrome, to monitor disease progression on their own at home, with unprecedented accuracy and frequency.



PFAU

Animal Locomotor Biomechanics



In 2022, Dr. Thilo Pfau's research has concentrated on: (1) quantifying how directional exercise (running around a bend in a specific direction) influences movement asymmetry and may be associated with structural changes in the distal limbs (hooves); (2) establishing small scale research projects within the horseracing industry of Alberta (Calgary Stampede, Century Mile/Downs); (3) seeking further funding for farrier related research empowering footcare providers to conduct quantitative research into

the effects of trimming and shoeing; (4) quantifying the effect of horse-she-surface interaction at high-speed gaits; (5) initiate research into the interaction between gait asymmetry and back movement; and (6) establishing protocols for collecting fundamental gait parameters in quadrupedal animals by high-update-rate global positioning systems.

Research Functions

Committee Member

- International Conference on Canine and Equine Locomotion, ICEL, Utrecht, The Netherlands

Conference Organization

- International Conference on Canine and Equine Locomotion, ICEL, Utrecht, The Netherlands
- UCVM International Equine Symposium, Calgary

Conference Reviewer

- International Conference on Canine and Equine Locomotion, ICEL, Utrecht, The Netherlands
- International Conference on Equine Exercise Physiology, Sweden

Grant Reviewer

- Horserace Betting Levy Board, UK

REIMER (DE BRUYN)

Interim Dean

Dr. Raylene Reimer's 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. Changes to the gut microbiota in early life play a particularly strong role in increasing or decreasing the risk of many diseases later in life including obesity and asthma. The Reimer research group has focused their recent animal work on several aspects of early life microbiota development. In the first instance, they examined how critical components of maternal milk called milk oligosaccharides affect the development of infant gut microbiota and alter obesity risk. A second focus is an examination of how a fathers' diet affects the metabolism of their offspring. This year, the Reimer research group examined how a father's consumption of animal protein versus plant protein affects the obesity risk of their offspring. The Reimer research group is also actively engaged in human clinical trial research and is studying how prebiotic fiber supplementation can improve health outcomes in children with newly diagnosed type 1 diabetes and in adults with knee osteoarthritis and obesity. Ultimately, the goal of Dr. Reimer's research is to design and evaluate diets aimed at body weight management and optimal gut microbiota profiles.



Research Functions

Board Member

- Applied Physiology, Nutrition and Metabolism Editorial Board, Associate Editor
- Frontiers in Endocrinology Editorial Board
- InovoBiologic Inc. Scientific Board

Committee Member

- Canadian Nutrition Society Awards Committee
- Data Monitoring Committee: FMT in Major Depression
- Canadian Nutrition Society, University of Calgary Faculty Advisor

Grant Reviewer

- Fonds de la Recherche Scientifique

SCHNEIDER

Concussion Prevention, Detection and Rehabilitation Lab



In 2022, Dr. Kathryn Schneider co-chaired the 6th International Consensus Conference on Concussion in Sport, where she was also a member of the expert panel, scientific committee and lead for the systematic review on rehabilitation following concussion. Since 2018 she has been leading the methodology to inform the conference and has led the writing of 10 systematic reviews that have informed the consensus statement (historically the highest cited paper in the field). This

conference is supported by the International Olympic Committee (IOC), Fédération Internationale de Football Association (FIFA), International Ice Hockey Federation (IIHF), World Rugby, International Federation for Equestrian Sports (FEI) and Fédération Aéronautique Internationale (FAI).

Dr. Schneider's research focuses on the prevention, detection and rehabilitation of concussion with a special interest in the role of the cervical spine and balance systems across ages and level of sport, i.e., youth and adults, grass roots to national team/professional. They use clinical and technological tests that evaluate multiple areas of sensory and motor function, gaining insight into changes that may occur after a concussion and with recovery. The program of clinical research involves collaboration with multiple clinicians and researchers across the University of Calgary and other national and international groups, enabling clinically meaningful questions to be evaluated and translated back to the clinic.

This year Dr. Schneider's research group began a new collaboration with World Rugby to evaluate changes in management of concussion in professional male and female rugby players with the addition of a detailed multifaceted assessment and rehabilitation (the RREP – "Rugby Rehabilitation Enhanced and Personalized" study).

Research Functions

Board Member

- Frontiers in Neurology-Neuro-Otology Editorial Board, Associate Editor
- British Journal of Sport Medicine (BJSM) Editorial Board, Associate Editor
- Australian Football League Scientific Board
- Brain Canada Scientific Board

Committee Member

- Canadian Committee of Combative Sports Associations
- Canadian Concussion Network, Co-Chair of the Integrated Knowledge Translation Committee and Executive Committee
- Federal Working Group on Concussion in Sport, Surveillance Initiative
- Parachute Concussion Expert Advisory Committee (CEAC)
- Pediatric Living Guideline on Concussion, Expert Panelist
- Sport Physiotherapy Canada Concussion

Conference Organization

- International Consensus Conference on Concussion in Sport, Co-chair
- Conference Reviewer
- International Consensus Conference on Concussion in Sport
- Canadian Concussion Network Annual Meeting

Grant Reviewer

- HBI
- CFI, JELF
- CFI Innovation Fund
- ACHRI, Catalyst Awards



SMIRL



Dr. Jonathan Smirl's research team works with the Sport Injury Prevention Research Centre in the Human Performance Laboratory. His team is focused on understanding the basis of the physiological and autonomic disruptions which occur following concussion. The aim is to use this knowledge base to develop informed interventions (exercise, physiological and pharmacological) which can aid in the recovery process during both acute and chronic symptom periods.

Dr. Smirl's research group is currently leading the exercise-based measures in the Pan-Canadian Surveillance in High Schools to REDuce (SHRed) Concussions project. They are actively collaborating with other Canadian institutions on objectively quantifying the extent concussed athletes rest and exercise following concussions. Dr. Smirl's research group has been busy collecting data on numerous fronts including: field based measures of physical activity; effects of exercise modalities on blood based biomarkers of concussion; developing new testing protocols for establishing exercise prescriptions following concussion; assessing cerebral blood flow changes while cycling with progressive lower body negative pressure; assessing the long-term effects of concussion on autonomic function; as well as developing a multimodal assessment of cerebrovascular function by merging transcranial Doppler ultrasound with functional near infrared spectroscopy and electroencephalography. Through this multifaceted and integrative approach to concussion research and collaboration network, Dr. Smirl aims to create novel approaches and interventions which will enable us to objectively assess physiological disruptions following concussion and improve outcomes for individuals following this traumatic injury.

Research Functions

Conference Organization

- Cerebrovascular Research Network Annual Meeting

Conference Reviewer

- Cerebrovascular Research Network Annual Meeting

STEFANYSHYN

Darren Stefanyshyn and Bill Wannop

Drs. Darren Stefanyshyn and Bill Wannop's research focuses on questions related to human locomotion, sport performance and sport injury biomechanics. Research interests extend to functional sport equipment with a goal of tuning the properties of the equipment to specific athlete characteristics 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 factors. In 2022 industry work explored identifying methods of matching sport equipment and footwear to individual athletes. Investigations studied various sporting equipment ranging from ice hockey sticks to pickleball surfaces.



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 valuable insight was gained on the role of sport surface characteristics studying different compositions of infilled artificial turf as well as next generation non-infilled surfaces.

Research Functions

Board Membership

- NFL Engineering Committee Editorial Board
- Footwear Science Editorial Board
- European Journal of Sport Science Editorial Board

ZWICKER



Dr. Jennifer Zwicker is the Director of Health Policy at the School of Public Policy, an Associate Professor in the Faculty of Kinesiology, University of Calgary, Canada Research Chair (II) in Disability Policy for Children and Youth and the Deputy Scientific Officer for Kids Brain Health Network. She is a member of the Owerko Center in the Alberta Children's Hospital Research Institute and the O'Brien Institute of Public Health. With broad interests in the impact of health and social policy

on health outcomes, Dr. Zwicker's research utilizes economic evaluation and policy analysis to assess interventions and inform policy around the allocation of funding and access to services for children and youth with neurodevelopmental disabilities (NDD) and their families. She is an investigator with various research projects, such as CIHR funded studies on: (1) COVID-19 policy responses for youth with disabilities and their families; (2) accessing the continuum of care and eligibility for services and supports for children with NDD and their families; (3) improving health outcome and coordination of care for children with complex health and social needs; (4) strategy for patient-oriented research network on childhood disability called CHILD-BRIGHT and Kids Brain Health Network, where she co-leads the health economic cores for both networks. Dr. Zwicker fosters strong collaborations with interdisciplinary researchers and stakeholders, which have been critical in the translation of peer reviewed publications to policy papers, op-eds and briefing notes, utilized by both federal and provincial government.

Research Functions

Board Membership

- Kids Brain Health Network Scientific Board, Scientific Director

Committee Member

- Kids Brain Health Network Executive Committee, Deputy Scientific Director
- Kids Brain Health Network Trainee Advisory Committee
- Developmental Origins of Health and Disease Planning Committee
- CHILD-BRIGHT Strategic Planning Committee

Conference Organization

- Kids Brain Health Network Conference

Grant Reviewer

- CHIR College of Reviewers
- CIHR Health System and Policy Project
- Owerko Center
- SSHRC Gold Medal Application
- Internal Peer Review for O'Brien Institute



Faculty of Kinesiology Atrium

PRESENTATIONS

Aging stress and training adaptations, importance of zone 2 training for aging athletes. – **John Holash**
Active Living Lecture Series, Calgary, AB (virtual); May 28.

Discussion about the effects of gravity on our bones and joints.
– **Leigh Gabel**, Steven Boyd, David Hart
Science in the Cinema, Calgary, AB; June 1.

Forecasting a healthy menstrual cycle: not unlike predicting your golf score. – **Patricia Doyle-Baker**
Calgary Women's Health Research Symposium, Calgary, AB (virtual); April 21.

Golf and menstrual cycle analytics: same, same, but different.
– **Patricia Doyle-Baker**
Spin Summit, Vancouver, BC; December 7-9.

Individual training in a team setting. – **Kati Pasanen**
Finnish Coaches Association's Conference, Helsinki, Finland; November 5.

Knee injuries in team sports – insights for injury prevention.
– **Kati Pasanen**
McCaig Seminar, University of Calgary, Calgary, AB; February 9.

Love of the Game and Concussion Prevention in Sport.
– **Carolyn Emery**
Developing a Concussion Prevention Network in the UK, LoveDay, London, England; August.

Maintaining fitness in summer months. – **John Holash**
Seminar series, Masters x-country skiing. Winsport, Calgary, AB; April 8 & 15.

Physical activity for self-care. – **Meghan McDonough**
Presentation by an Expert, Alzheimer Society of Calgary, Calgary, AB (virtual).

Social support and social outcomes in older adult physical activity. – **Meghan McDonough**
Fitness Alberta, (virtual).

The fate of the weekend warrior: death wish or decreased risk? –

Patricia Doyle-Baker

Perspectives in Exercise, Health and Fitness Conference,
Kananaskis, AB; October 21-22.

The menstrual cycle: A.S.K. from an athlete's perspective.

– **Patricia Doyle-Baker**

Grouse Mountain Ski Club, Vancouver, BC (virtual);
November 23.

*Understanding momnesia: Why and how is memory affected
across pregnancy? – **Cindy Barha***

[Through Pregnancy and Beyond](#); Women's Health
Research Institute, Vancouver, BC (Virtual Event);
March 10.

*Understanding training benefits, exercise intensities, fatigue and
over training. – **John Holash***

Foothills Nordic ski club, Lake Louise, AB; November 13.

*Update on Dance Injury Research. – **Sarah Kenny, Meghan
Critchley*** (postdoc)

Alberta Ballet School, Calgary, AB; December 19.



Valeriya-Volkova and Dancers

MEDIA and INTERVIEWS

[51-year-old Calgary woman talks about training, endurance after setting marathon record.](#) – **Patricia Doyle-Baker**

Global News, Carolyn Kury de Castillo; May 30.

[Academic Research with Nacsport at the University of Calgary.](#)

– **Carolyn Emery**

Nacsport, Duncan Ritchie; September 13.

Astronauts suffer bone loss in space. – **Leigh Gabel**

CHED 630 Calgary: Mid-morning with Shaye Ganam;
July 8.

Bone loss after spaceflight. – **Leigh Gabel**

AccuWeather; July 18.

[Canada's first space health research symposium launches at UCalgary.](#) – **Leigh Gabel**

UToday, Michael Platt; November 17.

[Class of 2022: Kinesiology student takes one shot at her dream school and makes it.](#) – **Patricia Doyle-Baker**

UToday, Stacy McGuire; June 14.

[Concussion study rolls into Winnipeg.](#) – **Shane Esau**

CTV News Winnipeg, Winnipeg; May 5.

[Consuming sweeteners during pregnancy may affect baby's microbiome and obesity risk.](#) – **Raylene Reimer**

UK Today News, January 17.

Course revamp is a hit with kinesiology students when they create their own fitness tests. – **John Holash**

- [UToday](#)

- [CUR Council on Undergraduate Research](#)

Stacy McGuire, Kara Loy; May 13

Disability, Law School and Beyond. – **Stephanie Chipeur**,
postdoctoral fellow (supervisor **Jennifer Zwicker**)

Centre for Human Rights and Legal Pluralism, Faculty of
Law, McGill University, Montreal; February 16.

PUBLIC ENGAGEMENT

Disability Policy in Canada – **Jennifer Zwicker**

Canadian Autism Leadership Summit, Virtual Public Presentation; April 5.

Exoskeleton robot helps researchers shed new light on learning and stroke recovery. – **Tyler Cluff**

UToday, Jaelyn Molyneux; June 8.



Tyler Cluff (PI) and Delowar Hossain (PD)

Floating in space might be fun, but TBone study shows it's hard on earthly bodies. – **Leigh Gabel**

UToday, Gillian Edwards.

Fostering athletes, world-class research, and career-relevant skills. – Eliza Dawson, undergraduate honours student (**Tyler Cluff** supervisor)

UToday, Christine O'Brien; March 23.

PUBLIC ENGAGEMENT

From the Human Performance Lab to Lululemon: Changing the game for athletic shoes. – **Colin Firminger**, PhD student (Brent Edwards supervisor)
UToday, Sumaya Bernier; June 9.

Helping to better understand concussion in teens: The SHRed Concussions Study. – **Carolyn Emery**
BC Injury Research and Prevention Unit; September 21.

Hockey Alberta won't withhold fees to Hockey Canada, but demands answers. – **Cari Din**
Calgary Herald, Olivia Condon; October 7.

How can we influence policy to make a difference for Canadians with disabilities? Lessons learned from a research study on inclusivity of COVID-19 policies across Canada.
– B. Finlay, **Jennifer Zwicker**
Luke's Legacy Lecture, Virtual; October 26.

How governments could best engage community organizations to co-design COVID-19 pandemic policies for persons with disabilities. – A. Seth, **Jennifer Zwicker**
O'Brien Institute for Public Health's Community Research with Impact: Practical examples from the SSV Research 2 Social Action HUB, Virtual; March 4.

Implementing patient-reported outcome measures in the Summit - a new centre for child and adolescent mental health.
– E. McCabe, **Jennifer Zwicker**, A. Seth
Alberta Children's Hospital Research Institute (ACHRI) Research Retreat, University of Calgary, Calgary; December 15.

Inclusive STEM education for persons with disabilities.
– **Jennifer Zwicker**
3M STEM talk: Building a path to equal access, Virtual; February 4.

PUBLIC ENGAGEMENT

Press Release for:

[Incomplete recovery of bone strength and trabecular microarchitecture at the distal tibia 1 year after return from long duration spaceflight.](#) - **Leigh Gabel** et. al.

Scientific Reports, Article number: 9446.

[The Canadian Press](#), Bill Graveland; June 30

Picked up by 200+ Media outlets.

- [Astronauts Can Suffer a Decade of Bone Loss During Months in Space, New Research Suggests.](#)
Gizmodo, George Dvorsky; June 30
- Bone loss after spaceflight.
AccuWeather; July 18.
- [CHED 630 Calgary](#): Mid-morning with Shaye Ganam; July 8.
- [U of C confirms bone loss in astronauts.](#)
Global TV News Calgary, Jodi Hughes; July 3
- [Live Science](#), Ben Turner ; July 5

Informing Equitable Child and Youth Mental Health: Tailoring to Support Diverse Groups. - **Jennifer Zwicker**

Children's Healthcare Canada, Virtual; May 11.

[Keep Moving FWD: How Adidas and Carbon 3D Updated the 4dFWD.](#) - **Bill Wannop**

Believe in the Run, adidas 4dFWD Shoe Launch.

Measure what matters - Identifying Key Indicators to Align Policy and Service Delivery with Child Health and Well-Being. -

C. Roth, **Jennifer Zwicker**, Brent Hagel Alberta Children's Hospital Research Institute (ACHRI) Research Retreat, University of Calgary, Calgary; December 16.

[Meeting of the Scientific Committee for the 6th International Conference on Concussion in Sport.](#) - **Kathryn Schneider**

University of Calgary Newsroom; October 27.

[Midway-ride nausea all part of aging for older Stampede-goers, says UCalgary researcher.](#) – **Ryan Peters**

- UToday, Michael Platt; July 11.
- The Calgary Eyeopener, CBC Radio, Rob Brown; July 11.



[Nike designed a running shoe to smash records, not quash injuries.](#) – **Darren Stefanyshyn, Bill Wannop**
Proto.Life, Chris Gorski; December 8.

[Neursantys and University of Calgary pilot wearable device to treat age-related balance decline.](#) – **Ryan Peters**
EIN Presswire, WKBN27 First News; November 24.

[Neursantys wins \\$10K business plan competition at 2022 'What's Next Longevity Venture Summit'.](#) – **Ryan Peters**
EIN Newswires, John Ralston; June 30.

[Non-local fatigue and muscle pain modulate exercise.](#)
– **Saied Jalal Aboodarda**
University of Calgary, Faculty of Kinesiology Seminar,
Calgary, AB; September 22.

Physical activity and social connections for older adults.
– **Meghan McDonough**
More Than Money Radio, 770 CHQR, Calgary, AB.

Radio Interview. – **Ryan Peters**
The Calgary Eyeopener, CBC Radio, Rob Brown; July 11.

PUBLIC ENGAGEMENT

SHRed Concussions. – **Carolyn Emery**

CBC Radio Canada Morning Show, Quebec; May 26.

SHRed Concussions and Sledge Hockey Tips. – **Carolyn Emery**

CTV Morning Live, Jackie Perez; March 16.

Some Canadian doctors are prescribing nature as a remedy; local experts think Alberta should do the same.

– **Patricia Doyle-Baker**

Calgary Citizen, Mario Toneguzzi; February 17.

Sport Injury Prevention. – **Kati Pasanen**

Movement Physio/Fysioterapiala liikkeella, Marko Gronholm; November.

Study: Consuming Artificial Sweeteners During Pregnancy May Affect Baby's Microbiome, Obesity Risk.

– **Raylene Reimer**

Pharmacy Times; January 24.

Study eyes chuckwagon horse safety.

– **Brent Edwards, Thilo Pfau**

The Western Producer, Doug Ferguson; July 28.

Sweeteners consumed during pregnancy may affect baby's microbiome. – **Raylene Reimer**

NUTRA Ingredients, Danielle Masterson; February 3.

Sweeteners during pregnancy may increase obesity risk in offspring. – **Raylene Reimer**

Nutrition Insight, Missy Green; January 17.

The Effects of Walking. – **Patricia Doyle-Baker**

770 Radio, CHQR, The Drive, T. Henley; September 23.

The science of “mom brain”. – **Cindy Barha**

Newbies Podcast, New Mommy Media; August 5.

Trans Athlete Inclusion in Sport.

– **William Bridel** and **Eva Bošnjak**

Sporting Change Podcast; November 25.

UCalgary receives significant World Rugby grant to better understand female rugby injuries. – **Carolyn Emery**

UToday, Faculty of Kinesiology; August 3.

PUBLIC ENGAGEMENT

Understanding training benefits, exercise intensities, fatigue and over training. – John Holash
Lake Louise, AB; November 13.

What Fitness Metrics Are Actually Worth Tracking?

– **Martin MacInnis**

Chatelaine, Mariyam Khaja; July 19.

Will Stampede Midway Food Spoil My Dinner — and My Health? (Asking for a Friend). – **Raylene Reimer**

Arch Magazine; June 27

World Rugby funding kicks off international collaboration to reduce injuries in girls' rugby. – **Carolyn Emery**

University of Bath Press Release; August 4.

World Rugby gives UofC \$500K for concussion, injury research.

– **Carolyn Emery**

CBC News, The Canadian Press; August 3.

TOURS and EVENTS HOSTED

2022 Research and Community Engagement (RACE) Symposium.

Hosted by SIPRC (Sport Injury Prevention Research Centre), University of Calgary, Calgary, AB; September 28

WORKSHOPS, FORUMS, PANELS and WEBINARS

Assessing and Monitoring Interlimb Force-Time Asymmetries.

– **Matt Jordan**

- Seminar for Minnesota Vikings; January 26.
- Seminar for Memphis Grizzlies; August 20-22.

Children's Healthcare Canada's SPARK: Live webinar series.

– **Jennifer Zwicker**

Child and Youth Mental Health Month; May 25

Comprehensive Assessment and Rehabilitation following concussion in rugby. – **Kathryn Schneider**

- course for physicians and physiotherapists working in professional rugby in the Premiership and AP 15s, London, England; July.
- two day course for health care professionals working in Professional Rugby in South Africa, Stellenbosch, South Africa; December 5 & 6.

Disability Inclusive Policy for Children with Neurodevelopmental Disabilities and their Families. – **Jennifer Zwicker**

Research Canada Game Changers in Health Research and Health Innovation Virtual Panel, Virtual Event; May 10.

Equine Gait Analysis: Using sensor-based gait assessment applied to quantifying gait changes observable before and after trimming and shoeing of horses. – **Thilo Pfau**

- NAEP Convention 2022, Saratoga Springs, Florida, USA; May 16-19.
- Rood and Riddle Podiatry Conference 2022, Lexington, Kentucky, USA; April 14-16.

Food as Fuel - Dance Nutrition. – **Sarah Kenny**

Alberta Ballet School, Calgary, AB; November 15.

Game Changers in Health Research and Health Innovation.

– **Jennifer Zwicker**

Parliamentary Health Research Caucus' Panel, Virtual Event; May 10.

“Hide it in the Spaghetti Sauce” - How to Implement Neuromuscular Training in Your School to Prevent Injuries, Develop Movement Skills, & Improve Performance in Student-Athletes - **Carla van den Berg (Carolyn Emery, supervisor)**

Sport Injury Prevention Research Centre Workshop for Canadian Interscholastic Athletic Administrators Association; April 22.

Improving concussion education, evaluation of programs and policy implementation. - **Amanda Black**, J Halushak, K Isaak, M Morris
Canadian Concussion in Sport Virtual Symposium, Virtual Event; January.

Neuromuscular training warm-up program for injury prevention.
SHRed Injuries Rugby, Sport Injury Prevention Centre Rugby Coach Workshop.

- Carla Van den Berg, PhD student, Isla Shill, MSc student, Anu Raisanen, Postdoctoral Fellow (**Carolyn Emery, supervisor**); 8 workshops in Calgary, Grande Prairie and online.
- Carla Van den Berg, PhD student, Mike McKinnon (**Carolyn Emery, supervisor**); 4 workshops in Edmonton and online.
- Carla Van den Berg, PhD student, Stephen West, Postdoctoral Fellow, Isla Shill, MSc student, (**Carolyn Emery, supervisor**); 8 workshops.

Pre-Season dancer screen: Dance educator version.
- **Sarah Kenny**, et.al.
Healthy Dancer Canada webinar series; April 24.

Policy matters: Practical approaches for evidence informed policy development. - **Jennifer Zwicker**, et.al.
Calgary Adapted Hub Research and Community Engagement Meeting Panel Discussion; November 24.

Rehabilitation and modifiers of recovery following concussion.
- **Kathryn Schneider**
IOC Advanced Team Physician Course, Concussion Section, Lausanne, Switzerland; September 7.

PUBLIC ENGAGEMENT

SHRED injuries: Neuromuscular training program.

- Carla Van den Berg, PhD student, (**Carolyn Emery**, supervisor). Sherwood Park Minor Hockey Association Coach Workshop
- Carla Van den Berg, PhD student, Mike McKinnon (**Carolyn Emery**, supervisor). Sport Injury Prevention Centre Neuromuscular Training sessions; 10 online sessions.

Sport-related concussion, a workshop – assessment and management. – **Kathryn Schneider**

ReFORM Injury Prevention Symposium, Luxemburg; October.

Tackling health and menopause across the lifespan.

– **Patricia Doyle-Baker**

Perspectives in Exercise, Health and Fitness Conference, Kananaskis, AB; October 21-22.

Take my breath away: asthma in female athletes and strategies for screening and management. – **Patricia Doyle-Baker**

Workshop Symposium, CSEP Annual Conference, Fredericton, NB; November 22-28.

The Lab Reform Workshop: Enriching Teaching and Learning in Your Labs. – **Cari Din, Martin MacInnis.**

Taylor Institute, University of Calgary, Calgary, AB; June 21.

Tips for supporting athletes to return to sport after concussion, with Dr. Kathryn Schneider. – **Kathryn Schneider**

JOSPT Insights; July 26.

Towards an Inclusive Curling Future: Changing the Face of Curling. – **William Bridel**

Symposium, Curling Canada Conference, Virtual Event; May 27.

USport Leadership Training – **Cari Din**

Leadership Summit, Lieutenant Governor's Athletic Awards, Calgary, AB; May.

OTHER KNOWLEDGE TRANSLATION ACTIVITIES, PUBLICATIONS AND DOCUMENTS

PATENTS AND LICENSES

Systems and methods for detecting and treating neurophysiological impairment (Publication No. US 2022-0257149 A1). United States Patent and Trademark Office (USPTO).

- J. Ralston, **Ryan Peters**, **Chris Banman**, & Neursantys Inc.

PUBLICATIONS

How can we predict bone loss in astronauts?

- **Leigh Gabel**, **Steven K Boyd**

Science Journal for Kids and Teens; June.



PUBLIC ENGAGEMENT

Nose to Tail. A foodway born out of necessity is maintained as a tradition. - **Alexandra Giancarlo**, Dustin Cravins
64 Parishes; December.

Playing at the margins: Sports and visual histories of assimilation in the Indian Residential School System.

- **Alexandra Giancarlo**, Janice Forsyth
- Canadian Historical Association; Picturing the Margins: Indigenous Histories, Part of the Decolonization and Diversity series; Summer 2022.
- Intersections; Summer 2022.

We were the lucky ones: Three former players on a residential school hockey team recall the reality behind the snapshots of their 1951 exhibition tour.

- **Alexandra Giancarlo**, Janice Forsyth
Canada's History; September 29.



We Were the Lucky Ones. The Black Hawks (1951) with personnel.
Anglican general synod archives in Toronto, Ontario

PUBLIC ENGAGEMENT

WEBSITE RESOURCES

[Disability Policy Research Program website.](#) - **Jennifer Zwicker**

Provides information on current disability policy research.
Launched October 2022.

[SHRed Concussions.](#) - **Sport Injury Prevention Research Centre**

The SHRed Concussions Research Program is supported
by the NFL “Play Smart. Play Safe.” Program

[SHRED injuries Neuromuscular Training Warm-Up Programs.](#)

- **Sport Injury Prevention Research Centre**

a public-facing resource aimed at supporting coaches
and teachers in their delivery of neuromuscular training
warm-up programs.

OTHER KNOWLEDGE TRANSLATION ACTIVITIES

[SHRed Mobile Trek to Quebec.](#)

- **Sport Injury Prevention Research Centre.**

In April, the SHRed Mobile travelled from Calgary,
Alberta to Quebec City, Quebec for the Annual Canadian
Academy of Sport and Exercise Medicine (CASEM)
Symposium visiting communities and teams across the
country on its way. April.





SHRED Mobile Trek to Quebec

Abbariki F, Roy MA, Labrecque L, Drapeau A, Imhoff S, Smirl JD, Brassard P. Influence of high-intensity interval training to exhaustion on the directional sensitivity of the cerebral pressure-flow relationship in young endurance-trained men. *Physiological Reports*. 2022

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Faculty of Kinesiology Running Track

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- Zwicker J. et. al. 2022. Alternative Report for the 5th/6th Review of Canada under the Convention on the Rights of the Child submitted by the Participation and Knowledge Translation in Childhood Disability lab. Policy Brief for the United Nations Committee on the Rights of the Child.
- Zwicker J. et. al. 2022. COVID-19 impacts on the mental health of children with disabilities and their families with recommendations for priority areas of action. Policy brief presented to Minister Bennett.
- Zwicker J. et. al. 2022. Disability Benefit Bill (C-22). Policy brief for The House of Commons Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities (HUMA)
- Zwicker J. et. al. 2022. Issues impacting child health Development. Policy brief for The House of Commons Standing Committee on Health (HESA). The brief was one of the only briefs highlighting important policy considerations for children with developmental disabilities and their families

Zwicker J. et. al. 2022. Policy Brief, An Autism Lens on the Disability Inclusion Action Plan (DIAP) - How specific needs and circumstances of Autistic persons and other neurodevelopmental disabilities can be considered in the development and implementation of the DIAP. Policy brief for the Office on Disability Issues (ODI) and Ministry of Employment and Social Development. Prepared by the Autism Alliance, Kids Brain Health Network and its members.



KEYNOTE AND INVITED LECTURES

- Aboodarda SJ. Non-local muscle fatigue. 8th International Conference on Movement, Health and Exercise 2022 (Mohe2022). Sep 27, 2022. (Invited)
- Black A. Concussion Awareness Training Tool and the Canadian Integrated Injury and Health Surveillance System. 2022 U Sports Conference & Annual Meeting. Halifax, NS; May 30, 2022. (Invited)
- Black A. Race and Concussion. See the Line Concussion Research and Awareness. Western University, London, ON; Aug 10, 2022. (Invited)
- Culos-Reed SN. Exercise Oncology: The Role of the Qualified Exercise Professional. EXOS CI Education Summit. Virtual Event; Aug 01, 2022. (Invited)
- Culos-Reed SN. Living well with and beyond cancer: the vital role of physical activity. Your Life After Cancer (Leukemia & Lymphoma Society of Canada). Virtual National Conference; Jun 16, 2022. (Invited)
- Culos-Reed SN. The impact of exercise on patients' physical and psychosocial well-being. 54th Congress of the International Society of Paediatric Oncology, Pre-Congress Educational Day. Barcelona, Spain; Sep 28, 2022. (Invited)
- Edwards WB. In silico modeling of fatigue failure in whole-bone and bone tissue: implications for the prediction of stress fracture. 9th World Congress of Biomechanics. Taipei, Taiwan; Jul 14, 2022. (Invited, Virtual Presentation)
- Edwards WB. Spinal cord injury as a ground-based analog of bone loss in microgravity. 1st Canadian Space Health Research Symposium: Skeletal Effects of Microgravity. Calgary, AB; Nov 17, 2022. (Invited)
- Edwards WB. The “ins and outs” of bone loading and stress fracture prediction. 40th Conference of the International Society of Biomechanics in Sports 2022. Liverpool, UK; Jul 19, 2022. (Keynote)

KEYNOTE AND INVITED LECTURES

- Emery CA. Bridging the gaps across concussion surveillance, video-analysis, and biomechanics: A multidisciplinary approach informing concussion prevention in youth rugby. Leeds Bucket Beckett University/ England Rugby Conference. Leeds, England; Jul 01, 2022. (Keynote)
- Emery CA. Impact of Policy and Rule changes on Injury Incidence. ReFORM: 2nd Sports Injury Prevention Symposium. Luxembourg; Oct 15, 2022. (Invited)
- Emery CA. Surveillance informing Best Practice and Policy in Youth Sport. ReFORM: 1st Sports Injury Prevention Symposium. Quebec City, QC; Apr 27, 2022. (Invited)
- Gabel L. Adaptation of bone microarchitecture in long-duration space flight and recovery upon return to Earth. 1st Canadian Space Health Research Network Symposium. Calgary, AB; Nov 17, 2022. (Invited)
- Herzog W. Evolution of knowledge in muscle mechanics: molecular mechanisms of contraction. 9th World Congress of Biomechanics. Taipei, Taiwan; Jul 13, 2022. (Invited)
- Herzog W. Musculoskeletal injuries and diseases: mechanics and/or biology. 3rd Bio-Ergonomics Conference. Manaus, Brazil; Jun 17, 2022. (Keynote)
- Herzog W. Skeletal muscle scaling: from sarcomeres to muscles and back. North American Conference of Biomechanics. Ottawa, ON; Aug 22, 2022. (Invited)
- Herzog W. The importance of undergraduate research: a gateway to a career in science and international research. 12th Congress of Applied Neuromechanics. Porto Alegre, Brazil; Jul 22, 2022. (Keynote)
- Herzog W. Undergraduate involvement in biomechanics. International Women in Biomechanics Group. Virtual Event; Nov 02, 2022. (Keynote)
- Jordan MJ. Building Resilience against ACL Injury & Reinjury with Strength Training. University of Notre Dame and ACU Human Performance Summit 2022. Notre Dame, IN; Jun 17, 2022. (Keynote)

KEYNOTE AND INVITED LECTURES

Jordan MJ. Monitoring Neuromuscular Readiness after ACL Injury: Measuring What Matters. Royal College of Chiropractic Sports Sciences: Actionable Analytics. Toronto, ON; Apr 01, 2022. (Invited)

Jordan MJ. Secondary Prevention of ACL Injury in Winter Slope Sports: It's Not All Downhill. ReFORM: 1st Sports Injury Prevention Symposium. Quebec City, QC; Apr 27, 2022. (Keynote)

Jordan MJ. Vertical Jump Force Time Testing for Return to Play and Athlete Monitoring. Major League Baseball Strength & Conditioning Meetings. San Diego, CA; Dec 10, 2022. (Invited)

Joumaa V. What does small-angle X-ray diffraction tell us about the structure of the contractile filaments after active shortening and stretching? 9th World Congress of Biomechanics. Taipei, Taiwan; Jul 11, 2022. (Invited)

MacInnis MJ. Increased oxidative capacity after training: mechanistic basis and functional consequences. Canadian Society for Exercise Physiology Annual General Meeting. Fredericton, NB; Nov 02, 2022. (Invited)

Pasanen K. How to reduce the risk of injury in sports? Finnish Coaches Association's Conference. Helsinki, Finland; Nov 04, 2022. (Keynote)

Pasanen K. Individual training in a team setting. Finnish Coaches Association's Conference. Helsinki, Finland; Nov 05, 2022. (Invited)

Pfau T. Back to Basics Part 1: Fundamental Biomechanics or Physics meets Biology, learning to understand technical and biological constraints relevant for reliable measurements of gait parameters. Saratoga 2022 - Vet & Farrier Conference (NAEP). Saratoga Springs, NY; Sep 22, 2022. (Invited)

Pfau T. Back to Basics Part 2: Applied Biomechanics or Physics meets Biology or Practical Methods for Analyzing Gait. Saratoga 2022 - Vet & Farrier Conference (NAEP). Saratoga Springs, NY; Sep 23, 2022. (Invited)

KEYNOTE AND INVITED LECTURES



Pfau T. Back to Basics: Fundamental Biomechanics or Physics meets Biology. Rood and Riddle International Podiatry Seminar. Lexington, KY; Apr 01, 2022. (Invited)

Pfau T. Back to Basics: Fundamental Biomechanics: Practical Methods, Acknowledgements. Rood and Riddle International Podiatry Seminar. Lexington, KY; Apr 01, 2022. (Invited)

Pfau T. Differences between Objective Gait Analysis Systems. BEAV Congress 2022. Liverpool, UK; Sep 01, 2022. (Invited)

Pfau T. Quo vadis Ganganalyse': Ausblick in die Zukunft. BPT Kongress. Hannover, Germany; Nov 19, 2022. (Invited)

Pfau T. Unterschiede zwischen objektiven Ganganalyse-Systemen. BPT Kongress. Hannover, Germany; Nov 19, 2022. (Invited)

Reimer RA. The intergenerational effects of paternal nutrition: father's diet matters too. Canadian Nutrition Society Annual Conference. Gatineau, QC; May 07, 2022. (Invited)

Schneider K. Concussion rehabilitation – Cervicovestibular rehabilitation in the management of concussion. 2022 Canadian Concussion Network Annual Meeting. Montreal, QC; Jun 06, 2022. (Invited)

KEYNOTE AND INVITED LECTURES

- Schneider K. Dizziness and Concussion – What Can We Do? 2nd International Conference for Vestibular Rehabilitation (ICVR). Minneapolis, MN; Oct 15, 2022. (Invited)
- Schneider K. Forging a new path: Novel strategies to optimize detection and management of concussion – Addressing barriers and facilitating optimization of care. (Co-Presenter Pierre Frémont) 2022 Canadian Concussion Network Annual Meeting. Montreal, QC; Jun 06, 2022. (Invited)
- Schneider K. Future directions and priorities for research. 6th International Consensus Conference on Concussion in Sport. Amsterdam, Netherlands; Oct 27, 2022. (Invited)
- Schneider K. Methodology for the 6th International Consensus Conference on Concussion in sport. 6th International Consensus Conference on Concussion in Sport. Amsterdam, Netherlands; Oct 27, 2022. (Invited)
- Schneider K. Moving up the chain: C-training strategies to prevent concussion. ReFORM: 1st Sports Injury Prevention Symposium. Quebec City, QC; Apr 27, 2022. (Keynote)
- Schneider K. Rehabilitation following concussion. 6th International Consensus Conference on Concussion in Sport. Amsterdam, Netherlands; Oct 27, 2022. (Invited)
- Schneider K. SiMPly Rehab: Seeing Moving Playing: Evaluation and Rehabilitation across the spectrum of TBI. 2022 IPBIS and NABIS Joint Conference on Brain Injury. New York, NY; Sep 24, 2022. (Invited)
- Wannop B. Influence of Longitudinal Bending Stiffness of Footwear on Athletic Injury and Performance. 2022 Pedorthic Runners Forum. Sep 16, 2022. (Keynote)
- Zwicker JD. Policy Matters: Practical Approaches for Evidence Informed Policy Development. International Developmental Coordination Disorder Conference. Vancouver, BC; Jul 08, 2022. (Keynote)

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Joan Snyder (Hon. LLD'11), one of UCalgary's longest-standing donors and dear friend of kinesiology faculty. Joan passed away on April 7, 2022, at the age of 90 and during her lifetime she supported numerous initiatives including women's hockey, the Faculty of Kinesiology and the Calvin, Phoebe and Joan Snyder Institute for Chronic Diseases. The university celebrated Joan as a visionary philanthropist, 'grandmother of Canadian women's hockey,' and a true friend to Calgarians. Joan honoured our university with a game-changing gift of \$67.5 million.

This gift will boost research, student learning and athletics while taking sport-science research to unprecedented new heights – building on UCalgary's reputation for being a top-five research university, the No. 1 sport-science school in North America and No. 10 globally, for three years in a row.

Thanks to Joan's unwavering support in the leadership and research excellence in the Faculty of Kinesiology we are now able to take advancements to the next level with the \$30M Joan Snyder Fund for Excellence in Kinesiology focused on Health, Exercise, Sport and Women's Wellness.

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