



Centre PERFORM Centre

**1st Annual
PERFORM Centre
Research Conference**

Physical Activity and Brain Functions

May 9, 2014
Oscar Peterson Hall
Concordia University
Montreal



Welcome

Welcome to PERFORM!

It is with great pleasure that I welcome you to the PERFORM Centre's first annual research conference.

The topic of prevention is on everyone's mind these days. We all know that we should cut down on unhealthy foods, that we should exercise on a regular basis and that these are key behaviours in living a long and healthy life both physically and mentally. But the formula for creating an enjoyable and sustainable healthy lifestyle remains the Holy Grail of health science! Here at PERFORM we are thrilled to be part of this quest.

I could not think of a more inspiring subject matter than physical activity and brain function as a way of inaugurating PERFORM's scientific pilgrimage.

The great pioneers of medicine knew that a healthy body equalled a healthy mind. Today, advancements in state-of-the-art brain imaging technologies allow us to see how this works and what a brain boosted by exercise looks like throughout the lifespan. This presents us with great potential for discovering new ways of preventing disease and enjoying longer and healthier lives.

The last decade has seen tremendous advancements in the neurosciences of exercise and this allows us to offer to you today a road map of what we could call "extreme" translational research. You will learn about basic neurophysiological mechanisms of physical exercise on the animal brain in an attempt to explain its boosting effect on children, teenagers, adults and seniors and its potential to prevent untreatable disease such as dementia. You will also learn about the effects of exercise on the evolution of the mammalian brain as well as its impact in extreme conditions like space travel and all this under the guidance of the most renowned scientists in the field.

This event is made possible through the generous support of Concordia University, partner organizations and the hard work of the PERFORM Centre's dedicated staff. I would like to thank them for making this very special day a real success.

All the best on this day of discovery!

**Louis Bherer, Ph.D.
Scientific Director, PERFORM Centre
Chair in Preventive Health Science Research
Professor, Department of Psychology
Concordia University**

Scientific Program

8:00-9:00 Registration **Foyer of Oscar Peterson Hall**

9:00-9:05 Opening of conference, Dr. Louis Bherer, Scientific Director PERFORM Centre

9:05-9:10 President's address, Dr. Alan Shepard

9:10-9:15 Welcome remarks, Dr. Graham Carr, VP Research and Graduate Studies

Session 1 Chair: **Dr. K. Li** **Oscar Peterson Hall**

9:15-10:00 Keynote Speaker: Dr. Arthur F. Kramer, University of Illinois
'Taking a Hike: Train Your Body, Enhance Your Mind and Brain?'

10:00-10:35 Invited Speaker: Dr. Charles H. Hillman, University of Illinois
'The relation of childhood health behaviors with brain, cognition, and achievement.'

10:35-10:50 ***Coffee break*** **Foyer of Oscar Peterson Hall**

Session 2 Chair: **Dr. V. Penhune** **Oscar Peterson Hall**

10:50-11:25 Invited Speaker: Dr. Dane B. Cook, University of Wisconsin
'Psychobiology of pain and exercise in chronic musculoskeletal pain'

11:25-12:00 Invited Speaker: Dr. Kirk Erickson, University of Pittsburgh
'Moderators and mediators of exercise-related brain plasticity'

12:00-1:00 *Lunch for all registrants and viewing of scientific posters*

Loyola Chapel

1:00-2:00 Scientific Poster Competition: Presentations by students and judging

Loyola Chapel

Session 3 Chair: **Dr. D. Vuckovic** **Oscar Peterson Hall**

2:00-2:15 Presentation of the Ed Whitlock Award, PERFORM post-doctoral and doctoral fellows

2:15-3:00 Keynote Speaker: Dr. Romain Meeusen, Vrije Universiteit Brussel
'Exercise, neurotransmitters and neurotrophic factors'

3:00-3:35 Invited Speaker: Dr. Bradley J. MacIntosh, University of Toronto
'What aerobic exercise does to the brain as measured using magnetic resonance imaging techniques'

3:35-3:50 ***Coffee Break*** **Foyer of Oscar Peterson Hall**

Session 4 Chair: **Dr. R. Courtemanche** **Oscar Peterson Hall**

3:50-4:25 Invited Speaker: Dr. David A. Raichlen, University of Arizona
'Evolutionary links between exercise and the brain'

4:25-5pm Invited Speaker: Dr. Stefan Schneider, German Sport University
'Exercise and the Brain: enhancing space mission safety, increasing academic achievement and preventing neurodegenerative diseases'

5pm Presentation of Scientific Poster Competition Awards and closing remarks

5:15pm Refreshment

Foyer of Oscar Peterson Hall

Keynote Speakers



Arthur F. Kramer, Ph.D

Arthur Kramer is the Director of the Beckman Institute for Advanced Science & Technology and the Swanlund Chair and Professor of Psychology and Neuroscience at the University of Illinois. He received his Ph.D. in Cognitive/Experimental Psychology from the University of Illinois in 1984. He holds appointments in the Department of Psychology, Neuroscience program, and the Beckman Institute. Professor Kramer's research projects include topics in Cognitive Psychology, Cognitive Neuroscience, Aging, and Human Factors. A major focus of his labs recent research is the understanding and enhancement of cognitive and neural plasticity across the lifespan. He is a former Associate Editor of Perception and Psychophysics and is currently a member of six editorial boards. Professor Kramer is also a fellow of the American Psychological Association, American Psychological Society, a former member of the executive committee of the International Society of Attention and Performance, and a recipient of a NIH Ten Year MERIT Award. Professor Kramer's research has been featured in a long list of print, radio and electronic media including the New York Times, Wall Street Journal, Washington Post, Chicago Tribune, CBS Evening News, Today Show, NPR and Saturday Night Live.



Prof. Dr. Romain Meeusen, FACSM – FECSS

Prof Dr Romain Meeusen, (PhD) is head of the department of Human Physiology at the Vrije Universiteit Brussel. His research interest is focussed on "Exercise and the Brain in Health & Disease" exploring the influence of neurotransmitters on human performance, training, rehabilitation. Recent work is on Thermoregulation, Neurogenesis, Cognition in health & disease. He teaches on exercise physiology, training & coaching and sports physiotherapy. Romain published over 380 articles and book chapters in peer-reviewed journals, 18 books on sport physiotherapy, and gave lectures at more than 730 national and international conferences. He is President of the Belgian Society of Kinesiology, and past President of the Belgian Federation of Sports Physiotherapy. He is former Board member of the European College of Sport Science ECSS (2000-2013), and of the American College of Sports Medicine (ACSM) (2010-2013). In 2009 he received the Belgian 'Francqui Chair' at the Université Libre de Bruxelles on 'Exercise and the Brain'. He is also holder of two named lecturing chairs at the Vrije Universiteit Brussel. He is director of the Human Performance lab of the Vrije Universiteit Brussel, where he works with several top athletes, and is scientific advisor of the 'Lotto Cycling Institute' (Lotto-Belisol professional cycling team).

Invited Speakers



Dane B. Cook, Ph.D.

Dr. Dane B Cook is an Associate Professor of Kinesiology and Co-Director of the Exercise Psychology Laboratory at the University of Wisconsin - Madison. He also has an appointment as a Health Science Specialist at the William S. Middleton Memorial Veterans Hospital in Madison, Wisconsin. Dr. Cook is exercise scientist with post-doctoral training neuroscience and functional MRI methods. His research uses physical activity, exercise and functional brain imaging methods in concert to better understand the impact of exercise on brain health particularly how chronic musculoskeletal pain and fatigue are maintained. His work detailing abnormal brain responses to experimental pain stimuli in fibromyalgia was one of the first studies to demonstrate abnormal brain processing of both painful and non-painful stimuli in fibromyalgia providing evidence of central nervous system dysregulation in chronic widespread pain patients. His work in chronic fatigue syndrome has demonstrated augmented brain responses during cognitive processing and altered cardiopulmonary responses to submaximal exercise compared to sedentary controls. Dr. Cook's research has been funded by the NIH, DOD, and Department of Veterans Affairs, including his current neuroimaging study using exercise training to probe central nervous system mechanisms of pain in GVs with chronic muscle pain.



Kirk Erickson, Ph.D.

Dr. Kirk Erickson is as an Associate Professor of Psychology and Geriatric Medicine at the University of Pittsburgh and a member of the Center for the Neural Basis of Cognition and Center for Neuroscience at the University of Pittsburgh. Dr. Erickson is the Principal Investigator of the Brain Aging and Cognitive Health laboratory where he manages a team of 20 post-docs, students, and research staff. Dr. Erickson has conducted research in areas of molecular neuroscience, genetics, cognitive psychology, and human neuroscience. He has published over 100 articles and book chapters discussing changes in cognition and the brain that occur in late adulthood. Dr. Erickson and his colleagues have found that participating in consistent routines of aerobic exercise, maintaining a healthy diet, and being intellectually engaged can both prevent and reverse cognitive and brain deterioration. More recently, he has extended his programmatic line of research to include studies in children and young adulthood and examining the links between adiposity and brain health. These results have appeared on numerous news programs, magazines, and television shows including CNN, ABC, Good Morning America, The Wall Street Journal, Men's Health, Newsweek, WebMD, and Saturday Night Live. He has lectured both nationally and internationally and has been awarded several fellowships and grants to support his research initiative.

Invited Speakers



Charles H. Hillman, Ph.D

Charles H. Hillman, Ph.D. received his doctoral degree from the University of Maryland in 2000, and then joined the faculty at the University of Illinois, where he is currently a Professor in the Department of Kinesiology and Community Health. He also holds appointments in the Department of Psychology, the Department of Internal Medicine, the Neuroscience Program, the Division of Nutritional Sciences, and the Beckman Institute for Advanced Science and Technology. He directs the Neurocognitive Kinesiology Laboratory, which has the mission of determining lifestyle factors that improve cognition, maximize health and well-being, and promote the effective functioning of individuals as they progress through the human lifespan. Dr. Hillman has published more than 90 journal articles, 10 book chapters, and co-edited a text on neuroimaging in exercise and sport sciences. His work has been funded by the National Institute for Child Health and Human Development (NICHD), the National Institute on Aging (NIA), the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Abbott Nutrition, the NIKE Foundation, and the Intelligence Advanced Research Projects Agency (IARPA) of the Department of Defense (DOD). Dr. Hillman's primary research emphasis is to better understand health behaviors that relate to increased neurocognitive health and functioning of preadolescent children. His research has focused on the effects of acute and chronic physical activity participation, aerobic fitness, and overweight and obesity to basic changes in brain health that may lead to better cognition and scholastic performance. Dr. Hillman's research program is directed toward timely and important public health issues related to chronic disease prevention as a function of childhood inactivity and obesity. His research has taken a novel approach in linking these pervasive societal issues with brain health and cognition, and has implications for the educational environment and the context of learning. The overall goal of his research program is to provide an empirical basis for improving the physical health of individuals during development in order to maximize brain health and learning, which in turn stands to improve cognitive health and effective function across the lifespan.

Invited Speakers



Bradley J. MacIntosh, Ph.D.

Bradley MacIntosh is a Scientist at Sunnybrook Research Institute in the Brain Sciences research program & Physical Sciences platform. Brad is an Assistant Professor in the Department of Medical Biophysics at the University of Toronto, which is also where he completed his PhD in 2006. After spending 2 years in the Physics lab at the University of Oxford's Centre for Functional Magnetic Resonance Imaging of the Brain (fMRIB), under the supervision of Professor Peter Jezzard, Brad returned to Toronto and took up a post as a Neuroimaging Scientist at the Canadian Partnership for Stroke Recovery at Sunnybrook Research Institute. He collaborates extensively on research projects surrounding functional & vascular imaging, stroke and neurodegenerative disease.



David A. Raichlen, Ph.D.

David Raichlen is a broadly trained biological anthropologist who is interested in the origins and evolution of the human lineage. He received a B.S. from Duke University in 1998. He received his M.A. in 2000 and his Ph.D. in 2004 from the University of Texas at Austin. His research focuses on the evolution of human and nonhuman primate locomotion, evolutionary physiology, and the evolution of the human brain. Through studies of comparative physiology, ecology, and evolution, Dr. Raichlen has explored how and why exercise and physical activity improve health and how the mismatch between our current lifestyle and our evolutionary history impacts well-being today.

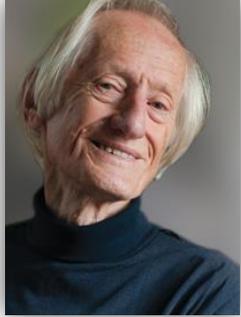
Invited Speakers



Priv.-Doz. Dr. Dr. Stefan Schneider

After finishing his master's degree in sport science and theology and his PhD studies, Dr. Schneider was appointed to the Neuroscience Workgroup of the Institute of Movement and Neurosciences at the German Sport University Cologne in 2003. Currently he is director of the Centre of Health and Integrative Physiology in Space, located at the German Sport University. His fundamental work interest is on neuro-cognitive and neuro-affective performance in extreme environments (Antarctica, ISS) as well as the correlation between brain activity, exercise and health following a holistic body-mind interaction. In the last four years Dr. Schneider has delivered more than two dozen international peer reviewed publications and has spoken on conferences around the globe. Dr. Schneider holds an adjunct Professorship at University of the Sunshine Coast (AUS) and has recently been awarded with Germany's most renowned "Science Award of the German Olympic Sports Confederation (DOSB)". Apart from his significant teaching load, he is currently supervising seven PhD candidates one of whom has recently been awarded twice the European College of Sport Sciences Young Investigator Award. Dr. Schneider is member of the European College of Sport Science (ECSS), Sport Medicine Australia (SMA) and the American College of Sport Science (ACSM). He is a peer reviewer for a number of national and international institutions and journals. Beside his medical interest Dr. Schneider has been performed as comedian for more than 20 years and has been nominated for several awards. Since 2013 he holds a second PhD in theology.

The Ed Whitlock Award



Ed Whitlock

Ed Whitlock is passionate about long distance running and for the last 20 years has consistently broken every long distance record in his age group. He is the only living person who at 70 was able to run a marathon in under three hours and has repeated the feat a few times since. Now at 83 years old, every time Ed registers for a race there is a pretty good chance that will be breaking yet another record. As a recognized master athlete, Ed would like to contribute to research efforts that explore better strategies extending the quality of life for seniors. Ed is keen on supporting preventive research by helping out promising students.

This award is granted to either a masters or doctoral student at Concordia University whose research interest is primarily in preventative health.

Winner of the Ed Whitlock Award



Amanda Rossi, BSc, Msc

Amanda Rossi is a PhD candidate in the Individualized Program in the Faculty of Arts and Science and a Canadian Institutes of Health Research Vanier scholar. Her doctoral research focuses on the impact of physical activity and blood pressure on the development of cardiovascular disease and mortality. Throughout her graduate studies, Ms. Rossi has conducted research at the University of Copenhagen (Copenhagen, Denmark) and University College London (London, UK) and is affiliated with the Montreal Behavioural Medicine Centre. In 2011, Ms. Rossi founded the Concordia University Let's Talk Science site—a not-for-profit, volunteer organization aimed at improving science literacy in youth through engaging and inspiring hands-on science activities.

2014 PERFORM Post-Doctoral Fellows



Anne Sophie Brazeau, DtP, Ph.D.

Dr. Anne-Sophie Brazeau is a registered dietitian. Before she started her graduate studies, Dr. Brazeau worked in Clinical Nutrition at the Centre Hospitalier de l'Université de Montréal managing patients with diabetes. Her interest in improving their long-term health led her to pursue graduate studies in Nutrition. She completed her PhD training under Dr Rémi Rabasa-Lhoret's supervision at the Institut de recherches cliniques de Montréal and is currently pursuing her postdoctoral training under Dr Kaberi Dasgupta's supervision. She is testing a novel hypothesis that gestational diabetes may be a risk indicator for diabetes in both the mother and father. Her research program aims to enhance our understanding of the lifestyle (food intake/physical activity) of young adults with or at risk for chronic diseases and to develop and implement tailored intervention easily transferable to the community.



Caroline Fitzpatrick, Ph.D.

Born and raised in Montreal, Canada Dr. Caroline Fitzpatrick is currently examining environmental and psychosocial factors associated with mental and physical health outcomes in children at risk of obesity. Dr. Fitzpatrick has a Ph.D. from the University of Montreal and has previously been awarded a Fulbright post-doctoral award to examine how children's experiences and environments influence their eventual academic achievement and health at New York University. Dr. Fitzpatrick is also a Lecturer at McGill University in the Faculty of Education and Counselling Psychology, and a visiting researcher at the University of Johannesburg. Her work has been published in several influential journals and has been featured by worldwide media outlets such as BBC World, Time, and the Wall Street Journal.

2014 PERFORM Doctoral Fellows



Halina Bruce, M.A.

Halina Bruce's research interests focus primarily on geriatrics and life-span development in the context of attention and cognition and their effect on activities of daily living. More specifically, Halina's work at the University of Ottawa examined the role of attention in driving behaviors of older adults diagnosed with early Alzheimer's disease. Currently, her graduate work examines whether dual-task training (combining a cognitive training task with a motor task) will increase mobility for hearing impaired adults as a result of training gains. The central premise behind the study is based on the Scaffolding Theory of Aging (STAC), which states that as neural challenges and functional deterioration increase across the lifespan, behavior is maintained at a relatively high level due to compensatory scaffolding. Her work aims to extend the STAC in positing that age-related deterioration of sensory and motor systems can also benefit from scaffolding mechanisms and will lead to increased enhancement activities.



Dmitri Sitnikov, M.Sc.

Born in the Soviet Union, Dmitri Graduated from the Medical Academy in St-Petersburg, Russia. He worked as a clinical microbiologist for 3 years before moving to Montreal where he did a masters in microbiology. Dmitri then worked for a few years as a research assistant and research associate in Molecular Cell Biology, followed by Protein Chemistry. Later he joined Caprion Proteomics developing methodology for a sample preparation platform for MS analysis. He also managed a sample prep platform and a few CRO projects related to biomarkers in cancer. He has been involved in 5 publications related to his work, two of which he wrote as principal author. Dmitri joined Concordia in 2013 where he has been enrolled in a PhD program with the department of Chemistry in the lab of Dr. Dajana Vuckovik.

Poster Presentations

*students qualifying for award competition

- 1.** Heart Rate Variability Pre and Post-Concussion: A Pilot Study
Danielle Dobney, S. Thomas, T Taha, & M Keightley*
- 2.** Beneficial effects of regular physical activity on exercise-induced analgesia in male adolescents
Philippe Chalaye, M.O. St-Aubin, F. P. Counil, & S. Lafrenaye*
- 3.** The specificity of dance versus music training on gray matter structure
Falisha Karpati, Chiara Giacosa, Virginia Penhune, Nicholas E.V. Foste & Krista L. Hyde*
- 4.** The Effects of Musical Experience on Cognitive and Motor Performance in Older Adults
Krystina Prsa, Yana Korotkevich, Virginia B. Penhune & Karen Z. H. Li*
- 5.** Treatment of Autoimmune Disease by Exercise and Music (TADEM): Pilot Study
Azadeh Ghassemi, Alfredo Cosentino & Peter J. Darlington*
- 6.** Effects of Classroom Based High-Intensity Interval Activity on Attention and Concentration in Grade 4 Students
Jasmin Ma, Brendon J. Gurd*
- 7.** Association Between Physical Functioning, Processing Speed and Executive Functions in Community-Dwelling Older Adults
Laurence Desjardins, Nicolas Berryman, Thien Tuong Minh Vu, Juan Manuel Villalpando, Marie-Jeanne Kergoat, Karen Z. Li, Laurent Bosquet & Louis Bherer*
- 8.** Pathological hallmarks of Alzheimer's disease in models of type 2 diabetes and obesity
Maud Gratuze, Noura El Khoury, Franck Petry, FrançoiseMorin &EmmanuelPlanel*
- 9.** The sense of smell in blind subjects
Simona Manescu, Johannes Frasnelli & Franco Lepore*
- 10.** Cellular and molecular mechanisms underlying environmental enrichment-induced hippocampal neurogenesis
Catherine-Alexandra Grégoire, David Bonenfant, Adalie Le Nguyen, Anne Aumont, & Karl J. L. Fernandes*
- 11.** Relationship between academic performance with physical, psychosocial, lifestyle and sociodemographic factors in female undergraduate students
Marie-Maude Dubuc, Mylène Aubertin-Leheudre & Antony D. Karelis*
- 12.** Post-Concussion symptoms as a marker of delayed recovery in children and youth who recently suffered a mild traumatic brain injury
Laurie-Ann Corbin-Berrigan, Isabelle Gagnon*

Poster Presentations

- 13.** Benefits of physical exercise training on dual-task in frail and non-frail older adults
David Predovan, Maxime Lussier, Philippe Brouillard, Francis Langlois, Thien Tuong Minh Vu & Louis Bherer*
- 14.** Equivalent improvements in executive functions after 8 weeks of combined high-intensity strength and aerobic training or gross motor activities in a cohort of healthy older adults
Nicolas Berryman, Louis Bherer, Sylvie Nadeau, Séléna Lauzière, Lora Lehr, Florian Bobeuf, Marie Jeanne Kergoat, Thien Tuong Minh Vu & Laurent Bosquet*
- 15.** "Mens sana in corpore sano": Aerobic training improves physical and cognitive health in Parkinson's disease
Catherine Duchesne, Ovidiu Lungu, Alexandra Nadeau, Marie-Ève Robillard, Arnaud Boré, Florian Bobeuf, Anne-Louise Lafontaine, Freja Gheysen, Louis Bherer & Julien Doyon*
- 16.** A single session of aerobic exercise decreases movement time but not reaction time during a flanker task
Kit Beyer, M. D. Sage, B. Tan & W. E. McIlroy*
- 17.** Kicking sports training improve the development of postural control in mediolateral axis and in sensory functions in young adolescents
Mariève Blanchet, François Prince & Julie Messier*
- 18.** Cognitive recovery following sports-related mild traumatic brain injury in a youth female hockey player: a case report
Katie Mah, Nick Reed, Talia Dick & Michelle L. Keightley*
- 19.** Mild Traumatic Brain injury in a single male youth ice hockey player: Describing the recovery of self-reported symptoms, physical function and cognition
Lee Verweel, Talia Dick, Nick Reed & Michelle Keightley*
- 20.** Cognitive Compensation in the Context of an Unpredictable Platform Perturbation
Halina Bruce, Gifty Asare, Ioannis Makris, Daniel Aponete, Nancy St-Onge & Karen Z. H. Li*
- 21.** Cerebral oxygenation/perfusion, cardiopulmonary and hemodynamic responses during maximal incremental exercise in heart transplant patients vs. healthy control subjects
Audrey Desjardins, Anil Nigam, Martin Juneau, Gabriel Lapierre, Michel White, Vincent Gremeaux & Mathieu Gayda*
- 22.** Spindles and slow waves predict treatment responses to cognitive-behavioral therapy for chronic primary insomnia
Jordan O'Byrne, Soufiane Boucetta, Lindsay Reed, Oupam Malhi, Victoria Zhang, Audrée Arcelin, Kerstin Wenzel, Marie Brandewinder, Christian Berthomier, Jean-Philippe Gouin & Thien Thanh Dang-Vu*
- 23.** A single session of exercise as a modulator of short-term learning in healthy individuals
Michael Sage, Kit B Beyer, Mark Laylor, Carmen Liang, Dina Brooks, Eric Roy & William McIlroy*

Poster Presentations

- 24.** The influence of a single bout of aerobic exercise on speed of processing and muscle activity in stroke
Michael Sage, Eric A. Roy, Dina Brooks, Kit B Beyer & William E. McIlroy*
- 25.** Combining aerobic exercise with executive tasks: A feasibility study coupling way-finding with cycle ergometry
Laura Williams, S. Phillips, K. B. Beyer, N. Andersen, A. Mansfield, D. Brooks & W.E. McIlroy*
- 26.** Positive Association Between Cognitive Function and Indices of Physical Fitness in the Very Old: Lessons From the Elite Masters Athletes
Samantha Taran, M-E. Fillion, S. Spendiff, N. MacMillan, C.M. Sabiston, R.T. Hepple, & T. Taivassalo*
- 27.** The Role of NOD-like receptor, Nlrp12, in Multiple Sclerosis
Tara Mahvelati, Emilie Imbeault & Denis Gris*
- 28.** The Effect of Concussion on Verbal Fluency and Verbal Learning and Memory in Youth Hockey Players
Melissa Paniccia, Sabrina Agnihotri, Ilyse Lax, Nick Reed, Jordan Collins, John Jarvis, Andy Koh, Georges Monette, Catherine Wiseman-Hakes & Michelle Keightley*
- 29.** Perceptual-cognitive training void of sports context improves passing decision-making accuracy in soccer players
Thomas Romeas, Jocelyn Faubert*
- 30.** Cerebral oxygenation-perfusion, cardiac hemodynamics and cognitive function during exercise in obese patients
Gabriel Lapierre, Anil Nigam, Olivier Dupuy, Sarah Fraser, Louis Bherer, Véronique Labelle, Martin Juneau, Vincent Gremeaux & Mathieu Gayda*
- 31.** Reducing exertion and increasing exercise duration at high intensities through association techniques
Elena L. Ivanova, Jamie Cassoff, Sabrina Cesare, Monique du Boulay, Diane Moliva, Liseanne Nelson, Regina Yung, Fei Gu, Dennis Jensen & Bärbel Knäuper*
- 32.** Use of dual-task paradigms to assess the development of motor and cognitive functioning in typically developing children: a scoping review
Shikha Saxena, Isabelle J. Gagnon*
- 33.** Impact of aerobic exercise on cognitive functions in an aging mild traumatic brain injury population: a pilot study
Camille Larson-Dupuis, Florian Bobeuf, Hélène Bergeron, Marie-Ève Bourassa, Gaëlle Dumel, Véronique Pepin & Louis De Beaumont*

Poster Presentations

- 34.** Perceived exertion in long-term survivors of acute lymphoblastic leukaemia
Nasreddine Ben Chaâbane, Valérie Lemay, Marie-Eve Mathieu, Maja Krajinovic, Caroline Laverdière, Valérie Alos, Laurence Berthoud, Daniel Sinnett, Gregor Andelfinger & Daniel Curnier*
- 35.** The effect of combined resistance and cognitive training on cognitive function in older adults
Jeremy Walsh, A. Tam, A. Garcia & M.E. Tschakovsky*
- 36.** Neurotrophic growth factor response to lower body resistance training in older adults
Jeremy Walsh, T. Scribbans, R.F. Bentley, J.M. Kellawan, B. Gurd, & M.E. Tschakovsky*
- 37.** The treadmill desk: the cognitive impact of walking while working
Élise Labonté-LeMoyne, Radhika Santhanam, Pierre-Majorique Léger, François Courtemanche & Sylvain Sénécal
- 38.** Developmental and gender influences on executive function following concussion in youth athletes
Ilyse Lax, Melissa Paniccia, Sabrina Agnihotri, Nick Reed, Evan Garmaise, Mahdis Azadbakhsh, Justin Ng & Michelle Keightley
- 39.** Walking while Thinking: Evaluating age-related changes in dual-task walking with optical imaging
Sarah Fraser, Philippe Pouliot, Patrick Roy, Lora Lehr & Louis Bherer
- 40.** What Changes through Physical Activity? Influencing beliefs about the transformative potential of active living
James Gavin, Matthew Keough, Tatiana Moudrakovski, Michael Abravanel & Madeleine Mcbrearty
- 41.** The shrinking world of sport and physical activity interests: An exploration of physical activity preferences across the lifespan
James Gavin, Matthew Keough, Michael Abravanel & Madeleine Mcbrearty
- 42.** Individuals with mild cognitive impairment can learn to drive more safely in a simulator
Martin Simoneau, Carol Hudon, Thierry Moszkowicz, Denis Laurendeau, Louis Bherer, Simon Duchesne & Normand Teasdale
- 43.** New evidence supporting a relationship between fitness level, cardiac autonomic control and executive function: a Masters Athletes Study
Olivier Dupuy, Laurent Bosquet, Sarah Fraser, Mélanie Renaud, Véronique Labelle & Louis Bherer
- 44.** Effect of physical fitness on executive function and related prefrontal cortex oxygenation in young and older women
Olivier Dupuy, Claudine Gauthier, Laurence Desjardins-Crépeau, Michèle Desjardins, Said Mekary, Frederic Lesage, Rick Hoge, Philippe Pouliot & Louis Bherer

Thank You! Merci beaucoup!

Special appreciation and sincerest thanks are extended to our generous Awards Sponsors for their recognition of students exhibiting excellence in the PERFORM Scientific Poster Competition.

CIHR Institute of Aging

Institut universitaire de gériatrie de Montréal (IUGM)

Henry C. Witelson Ocular Pathology Lab in memoriam of Mr. Leonard Ellen

National Centre for Dance Therapy, Les Grands Ballets Canadiens de Montréal

Our thanks to the members of the **Scientific Advisory Committee** for their guidance and participation in our 1st Annual PERFORM Centre Research Conference.

Dr. Louis Bherer

Dr. Thien Thanh Dang-Vu

Dr. Karen Li

Dr. Mathieu Roy

Dr. Jason Steffener

We would also like to recognize the **PERFORM Research Conference Planning Team** for their dedication and hard work in preparing for this inaugural event, and all the **PERFORM staff** who went over and above the call to help make this event possible.

PERFORM Planning Team

*Axel Bergman
Laura Campanelli
Loredana Carbone
Douglas Chananda
Gabriella Conte
Christian Durand
Alida Esmail
Ashley Frankel
Wendy Kunin
Sriram Narayanan
Mathieu Roy
Jason Steffener*

PERFORM Staff

*Daniel Aponte
Behrooz Azadi
Natalie Burnett
Deborah Cross
Manju Gupta
Kevin Hammill
Anne Julien
Kevin Little
Marion Lowe
James Seale
Divya Sequeira
Florence St-Onge
Alex Smith
Vanessa Tabry*

Special Thanks to our Session Chairs

*Session 1- Chair Dr. K. Li
Session 2 - Chair Dr. V. Penhune
Session 3- Chair Dr. D. Vuckovic
Session 4- Chair Dr. R. Courtemanche*

