



Photo courtesy of Vincent Tedjasaputra

# ReCon 2012

## Graduate Student Retreat/Conference

September 6, 7 & 8 in Canmore, AB

**Organizing Committee:**

Marianne Clark  
Bethan Kingsley  
Camilla Knight  
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## Message From PERGSS

Hello graduate students and faculty members! Welcome to the 2<sup>nd</sup> annual Physical Education and Recreation Graduate Student Conference and Retreat, otherwise known as ReCon. This exciting event was designed to showcase the diversity and excellence of graduate student research in our Faculty, as well as inspire creative thinking and enthusiasm for the new year ahead. ReCon is also a fantastic forum for recreation, socializing, and meeting new people.

Dean Mummery has put his unwavering support behind ReCon for the past 2 years and it was he who introduced the idea. His financial support means we have the opportunity to participate in this unique student-centred event in the beautiful Rocky Mountains. We encourage you to get out and enjoy the mountains and the quaint town of Canmore during the activity breaks built into the program. We also hope you will mingle and share ideas with your fellow grad students, get to know the faculty, and become inspired to start the new academic year with gusto.

Yours in research, recreation, and Rocky Mountains

PERGSS

## Things You Need to Know

Hello everyone! The bus leaves from stadium parking lot (west side of Van Vliet Centre, behind ice rink) at 9:45 SHARP on Thursday September 6<sup>th</sup>. The bus will make one 30 minute stop in Red Deer for a snack and bathroom break. The bus ride is approximately 4 hours so please bring a book, snacks, and whatever you need to be comfortable.

Please be sure to read the final program carefully. A few new things have been added to the program this year and we want to draw your attention to those and other important details.

- 1. Outdoor activities.** Weather in the mountains can be unpredictable to say the least. If you are planning on hiking during the activity breaks be sure to bring: a water bottle, good hiking shoes or boots; a warm layer, and a wind/rain shell. It gets very windy at the top of Ha-Ling Peak so even though you'll be warm by the time you reach the top you'll be glad you brought a warm layer and/or a wind shell. And remember to bring enough water!
- 2. Food allergies and sensitivities.** If you have special dietary needs please let Stacy Lynn Sant know if you have not done so already at [pergssrecon@gmail.com](mailto:pergssrecon@gmail.com) by FRIDAY AUGUST 31st.
- 3. We are going to Banff!** The bus will be departing the Radisson at 7:15pm sharp Thursday September 6th. In order to get on the bus you must pay \$10 cash before boarding. This is to cover the \$10 national park fee. Preference will be given to those who took the bus to ReCon. We will arrive in Banff by 7:45 and the bus will depart again at 11:15pm sharp. During this time there are no organized activities but there is a lot to see in the town site! A list of restaurant ideas is provided below.
- 4. Trail walks, mountain biking and Frisbee golf at the Canmore Nordic Centre.** On Saturday September 8<sup>th</sup> the bus will take interested students and faculty to the Nordic Centre for the activity break from 12-4pm. Mountain bike rentals are available for \$15 per hour and you are encouraged to rent ahead of time to ensure you get a bike. If you are interested in renting a mountain bike and trying out premier trails please reserve here [http://www.trailsports.ab.ca/summer\\_rentals](http://www.trailsports.ab.ca/summer_rentals) . Also, Frisbee Golf will be available and discs are available for \$5 each. Get your friends together and

create teams for a friendly afternoon of fun! There are also many walking trails.

- 5. Meals.** Last year there was some confusion about which meals were provided. Please refer to your program for details. You will on your own for dinner on Thursday (in Banff if you go) and Saturday. The Railway Deli across from the Radisson is a great place to go for fresh sandwiches and snacks and there are plenty of restaurants and café's in Canmore at a variety of prices. Many are within walking distance from the hotel.

Restaurants and Pubs in Banff (all in mid-range price point or lower if possible)

Elk & Oarsmen Pub 119 Banff Ave

Nourish Vegetarian Bistro 215 Banff Ave

Rose & Crown Restaurant & Pub 202 Banff Ave

Wild Bill's Legendary Saloon 201 Banff Ave

Magpie & Stump (Mexican Food) 203 Caribou St.

The Eddie Burger & Bar 137 Banff Ave

Athena Pizze & Spaghetta 112 Banff Ave

\*This list is not exhaustive or endorsed, it's just to provide a starting point.

You will find many options easily in the Banff town site. Enjoy!

**ReCon 2012**  
**Program 'At-A-Glance'**  
**September 6 – September 9, 2012, Canmore AB**

<b>Thursday, September 6<sup>th</sup>, 2012</b>	
9:45am	Bus departs UofA from Stadium Parking Lot (west side of Van Vliet) Bus boards at 9:30 am sharp
3:00pm	Bus arrives in Canmore/check in hotel, etc. Pick up registration packages 3:45-4pm
4pm-4:15pm	<b>Opening Comments:</b> Dean Kerry Mummery and Bethan Kingsley, PERGSS President
4:15pm – 5:30pm	<b>Ice Breaker and Professional Development Panel I:</b> Things I wish I had known or done differently in grad school... Panelists: Maria Lynn, Camilla Knight, Matheus Wiest, Nicole McLeod Moderator: Bethan Kingsley
5:45pm – 6:45pm	<b>Keynote Presentation by Dr. Zac Robinson:</b> Boundaries and Borderzones: Reflections on the High Wanderings of Mountain Guide Conrad Kain Introduction of speaker: Marianne Clark
7:15 pm	<b>Bus Trip to Banff (Cost \$10.00)</b> Bus departs for free time/social evening in Banff:\$10 cash national park entry fee must be paid <b>before</b> boarding the bus (priority will be given to those students who signed up for the bus to Canmore) <b>DINNER ON OWN</b>
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11:15pm SHARP	Bus departs Banff and returns to Radisson

**Friday, September 7<sup>th</sup>, 2012**

7:30am – 8:45am	<b>Breakfast (included in registration)</b>
9:00am – 10:30am	<b>Student Research Presentations I</b> Moderator: Jodie Stearns
10:30am – 10:45am	<b>Coffee/Juice</b>
10:45am – 11:45am	<b>Performance: Moving Materiality: People, Tools and this Thing Called Disability</b> Lindsay Eales and Danielle Peers
12:00pm – 4:00pm	<b>Lunch and Activity Break</b> <b>Box lunch (included in registration)</b> and Recreational Activities Bus will bring those interested to Ha-Ling Peak and Grassy Lakes
5:00pm – 6:15pm	<b>Poster Presentations of Student Research</b> (With snack and cash bar reception)
6:15pm – 7:15pm	<b>Keynote: Dr. George Pavlich,</b> <b>Associate Vice-President, Research</b> <b>“The University and Its Responsibility to Unknown Futures”</b> Introduction of Speaker: John Spence
7:45pm	<b>ReCon Social Dinner at Drake Pub (included in registration)</b>

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**Saturday, September 8<sup>th</sup>, 2012**

7:30am – 8:45am	<b>Breakfast (included in registration)</b>
9:00am – 10:30am	<b>Student Research Presentations II</b> Moderator: Devin Phillips
10:30am – 10:45am	<b>Coffee/Juice</b>
10:45am – 12:00pm	<b>Professional Development III: Transferable skills: What can I do with the skills I learn in grad school?</b> Panelists: Lisa Belanger, Lee Christopher, Ali Jonzon, Moderator: Michael Kennedy
12:00pm – 4:00pm	<b>Lunch and Activity Break</b> <b>Box lunch (included in registration)</b> and Recreational Activities Bus will bring those interested to Nordic Centre for Mountain Biking or Frisbee Golf <b>Extra cost for bike rental will be the responsibility of the individual</b>
4:30pm – 5:45pm	<b>Tips and tales from new professors:</b> “What helped me get to where I am today?” Panelists: Craig Chapman, Craig Cameron, Margie Davenport, Craig Steinback
5:45-6:30pm	<b>Reflections on Recon – Dean Mummery and Bethan Kinglsey and Wrap Up (prizes etc.)</b> <b>DINNER ON OWN/FREE TIME</b>

**Sunday, September 9<sup>th</sup>, 2012**  
**Bus Departs Radisson 11:00am.**  
**Arrives UofA 4:00pm**

PRESENTATIONS  
 Friday September 7<sup>th</sup>, 2012, 9:00am-10:30 am  
 Moderator: Jodie Stearns

<b>Name</b>	<b>Title</b>
<b>Homan Lee &amp; Nicholas L. Holt</b>	Youth sport experiences of individuals with attention deficit/hyperactivity disorder
<b>Paulina Retamales &amp; PearlAnn Reichwein</b>	The Gyro Club playgrounds: A holistic concept of creative play for children, 1920-1940."
<b>Michael Scarlett, Stewart Petersen, Michael Strickland, &amp; Stephen Cheung</b>	The effects of active cranial cooling on temperature, ventilatory, and perceptual responses to exercise in fire protective ensemble - A pilot study
<b>Angela M. Coppola, Felicia Ochs, Danielle Duncan, &amp; Robert Brooks</b>	The development of a formative, use-focused evaluation of an Aboriginal school-community breakfast club program

PRESENTATIONS  
 Saturday September 8<sup>th</sup>, 2012 9:00am -10:30 am  
 Moderator: Devin Phillips

<b>Name</b>	<b>Title</b>
<b>C. S. Mang, Alyssa R. Hindle, J. M. Clair, Y. Okuma, &amp; D. F. Collins</b>	Changes in corticospinal excitability for a hand muscle induced by functional electrical stimulation versus somatosensory stimulation
<b>Michael G. Chizewski &amp; Loren Z. F. Chiu</b>	The influence of calcaneal motion and tibial torsion on leg axial rotation
<b>Kacey C. Neely</b>	Cut to the Quick: Athletes' Experiences of Deselection in Youth Sport
<b>Nicole M. Glenn, Claudine C. Champion, &amp; John C. Spence</b>	Conflicting perspectives: An exploration of online media re/presentations of weight-loss surgery
<b>Danielle Peers &amp; Lindsay Eales</b>	Moving Materiality: People, Tools and this Thing Called Disability Performance



## POSTER PRESENTATIONS & RECEPTION

Friday September 7<sup>th</sup>, 2012 5:00 pm – 6:15 pm

Author	Co-Authors	Title
Liam Boyd	Stewart Petersen, Michael Stickland, Todd Rogers	Biological Variability in Performance on the Canadian Forces Firefighter Test
Jodie A. Stearns	John C. Spence	A Longitudinal Examination of School-Based Friendship Networks and Children's Sedentary Behaviour
Jessica Walker		Magazine Images Depicting the Ideal Fit Male Body: An Outlet for Influencing Body Image Perception and Exercise Thoughts
Saeed Reza Toghi Eshghi (3 <sup>rd</sup> author)	Nele Pattyn, Veronique A. Cornelissen, Luc Vanhees (Department of Rehabilitation Sciences, K.U.Leuven, Leuven, Belgium)	The Effect of Exercise on the Risk Factors of the Metabolic Syndrome in Metabolic Syndrome Patients: A Meta-Analysis of Controlled Trials
Yoshino Okuma	Austin J Bergquist, Mandy Hong, K Ming Chan, and David F Collins	The Spatial Distribution of Recruited Motor Units Differs During Electrical Stimulation over a Muscle Versus a Nerve
Claudine Champion	Nicole M. Glenn, Tanya Berry, & John C. Spence	Exploring Women's Responses to On-Line Media Coverage of Weight Loss surgery: A Proposal
Anne-Marie Selzler	Wendy M. Rodgers, Tanya R. Berry, & Michael K. Stickland	Relationships Between Social-Cognitive Constructs, Self-talk Characteristics, and Pulmonary Rehabilitation Outcomes
Matheus J Wiest	David F Collins	Central Contribution to "Extra Torque" During Neuromuscular Electrical Stimulation
Angela M. Coppola	Tara-Leigh F. McHugh	Aboriginal Women's Body-Related Experiences in Sport and Aboriginal Dance: A Research Proposal
Nicole Lemke	Constance M. Lebrun , Martin Mrazik, Dhiren Naidu , Joan Matthews-White	Baseline Concussion Assessment in Varsity Athletes: A Comparison of Standardized Assessment Paradigms and Identification of Risk Factors Using SCAT2 and ImPACT.
Vincent Tedjasaputra	Michael Stickland	Effect of Dopamine Blockade on Pulmonary Gas Exchange During Exercise
Laurie de Grace		Retrospection and Recollection of Influences of Physical Activity and Sport on the Development of Addiction Among Patients Undergoing Treatment for Substance Abuse

ORAL PRESENTATION ABSTRACTS  
Friday September 7<sup>th</sup>, 2012 9:00 am-10:30 am

**Author Name:** Homan Lee

**Co-Authors (if applicable):** Dr. Nicholas L Holt

**Title of Presentation:** Youth Sport Experiences of Individuals with Attention Deficit/Hyperactivity Disorder

**Abstract:** Despite the potential benefits of sport participation for individuals with attention deficit/hyperactivity disorder (AD/HD), individuals with AD/HD may face challenges that undermine their sport experiences. The purpose of this study was to explore the youth sport experiences of individuals with AD/HD. Six male young adults (age range = 17-26 years) diagnosed with AD/HD and have played three or more seasons of team sport(s) in their youth participated in semistructured interviews. Participants were interviewed about their youth sport experiences and the influences of AD/HD in them. Data analysis using Interpretive Phenomenological Analysis (Smith, Flowers, & Larkin, 2009) revealed that participants shared common experiences of AD/HD symptoms manifesting in their sport participation, coping with AD/HD in sport, undesired feelings elicited by sport performance and social interaction, and benefiting from playing sport.

**Author Name:** Paulina Retamales

**Co-Author:** PearlAnn Reichwein

**Title:** The Gyro Club playgrounds: A holistic concept of creative play for children, 1920-1940."

**Abstract:** This study explores the history of the Gyro Club playground movement in Edmonton, Alberta, from the 1920s to the 1940s. Investigating who the Gyros were and how they structured play for children offers new insights to the history of Edmonton's playground movement and social reform in civic development. Playgrounds were seen as the heart of the city, places where children could play and have fun under supervision in a safe outdoor space, within the network of family and community that constituted 'play' as a form of developing social practices. Child saving and education were a strong focus of social reform in Canada and internationally. Urban life and unsupervised youth emerged as a concern in many cities. The Gyro Club organization attempted to create a better citizen through the outdoor play movement, which was linked to child saving and urban community development. Pierre Bourdieu's theory of social practices in human conduct at the conjunction of social capital are engaged to analyze play in western Canada. Edmonton's first three playgrounds were constructed by a group of middle-class Anglo Canadian men who started a local Gyro Club in 1921. It was based on a North American Gyro Club model that originated in Cleveland, Ohio. The club aimed to generate a prototypical Gyro citizen in order to achieve the ideal of a better city and contribute to modern social reform through the lives of children. Edmonton Gyro men envisioned and shaped a gentler creative concept of children's play than that typically engaged through ideals of competitive sport as a means to become tougher and stronger. They promoted a distinctive vision of holistic play for children focused on physical and cultural literacy implemented by physical educators and varsity athletes as playground leaders. The Gyro Club used leisure time to serve children's youth in the city, not only to entertain but to enhance cohesion between communities, and establish themselves as the English speaking cultural elite. The Gyro Club played an important role serving cultural needs, reinforced Anglo-Canadian values, and promoted middle-class behavior through public standards of morality. They encouraged patriotism by promoting the community and presuming a nativist ethnic superiority of Anglo Canadians. Research is based on archival sources, newspaper accounts, private papers, and secondary literature to situate Edmonton's playground history related to urban reform, citizenship and children's play in the outdoors.

**Author Name:** Michael Scarlett

**Co-Authors (if applicable):** Dr. Stewart Petersen, Dr. Michael Stickland, Dr. Stephen Cheung

**Title of Presentation:** The Effects of Active Cranial Cooling on Temperature, Ventilatory, and Perceptual Responses to Exercise in Fire Protective Ensemble – A Pilot Study

**Abstract:** This pilot study investigated the effects of active cranial (head) cooling during the recovery periods of an exercise protocol designed to induce uncompensable heat stress (UHS). Four healthy males, dressed in fire protective ensemble (FPE), completed two experimental trials on separate days in random order. Each trial consisted of two, 20 min bouts of treadmill exercise at 70%  $\text{VO}_{2\text{peak}}$ , each followed by 20 minutes of seated recovery. During recovery in one trial, the protective equipment was removed to expose the head and allow passive cooling (PC). In the alternate condition, a water-perfused hood and pump circulating 10°C water was used for active cooling (AC). Core temperature ( $T_c$ ) increased similarly during exercise in both conditions and with PC, continued to rise in the first few minutes of recovery. This response was prevented by AC and by the end of the first recovery period,  $T_c$  was 0.2°C lower than in PC. The reduced core temperature was maintained throughout the remainder of the protocol. AC also decreased minute ventilation ( $13 \text{ L} \cdot \text{min}^{-1}$  or a total of 260 L), heart rate ( $10 \text{ beats} \cdot \text{min}^{-1}$ ) and perceptions of exercise, breathing and thermal stress during the subsequent exercise bout. These results show that active cranial cooling during recovery periods can reduce core temperature and cardio-respiratory strain during subsequent exercise, tempering the effects of UHS. Importantly, AC also facilitated air conservation, an operational concern in firefighting.

**Author Name:** Angela M. Coppola

**Co-Authors (if applicable):** Felicia Ochs, Danielle Duncan, Robert Brooks (*amiskwaciy* Academy)

**Title of Presentation:** The Development of A Formative, Use-Focused Evaluation of an Aboriginal School-Community Breakfast Club Program

**Abstract:** The presentation will describe the development of a school breakfast club program evaluation and research timeline. Important considerations for co-developing an evaluation with an Aboriginal school-community will also be discussed. Because relationship building is a key component of conducting community-based research with Aboriginal peoples (McHugh, 2008), the evaluation design was co-developed as a part of a relationship building phase for a larger project on after-school sport programming. *amiskwaciy* Academy received a three-year grant from Breakfast Clubs of Canada to fund the breakfast program. After the first year of program implementation, the stakeholders feel the food served might not be complying with *Canada's Food Guide* criteria as stipulated in the grant program objectives. The stakeholders would also like to know the students' perceptions of the healthfulness of the food. Formative evaluation is appropriate when a new program seeks to improve an existing program or identify alternative plans (Stufflebeam & Shinkfield, 2007). A use-focused evaluation approach was preferred to build stakeholders' capacity to implement evaluations (Patton, 2002). Thus, a formative, use-focused evaluation was co-designed with the stakeholders. The key purpose is to assess the extent to which the current program meets *Canada's Food Guide* standards for a healthy breakfast for youth. Students' perceptions of the healthfulness of the food will also be explored. Research questions, a daily food log, and a talking circle guide have been developed for data collection. The importance of incorporating capacity building opportunities and Aboriginal knowledge, such as the Medicine Wheel, in the design will be discussed.

ORAL PRESENTATION ABSTRACTS  
Saturday September 8<sup>th</sup>, 2012 9:00am – 10:30 am

**Author Name:** Alyssa Hindle (co author) ca

**Co-Authors (if applicable):** Mang, CS, Hindle AR, Clair JM, Okuma Y, Collins, DF

**Title of Presentation:** Changes in corticospinal excitability for a hand muscle induced by functional electrical stimulation versus somatosensory stimulation

**Abstract:** The electrically-evoked afferent volley generated during neuromuscular electrical stimulation (NMES) induces rapid changes in the organization of the motor cortex and can increase the excitability of corticospinal (CS) pathways. Over time, NMES can strengthen damaged CS pathways and result in enduring improvements in function for persons with central nervous system injury or disease. NMES-induced increases in CS excitability have been studied using a variety of NMES parameters, yet the influence of these stimulation parameters on increasing CS excitability is not well-defined. Typically, NMES is either delivered at intensities sufficient to generate repeated functional contractions for relatively short durations (functional electrical stimulation, FES) or at low intensities for long durations (somatosensory stimulation, SS). A direct comparison of increases in CS excitability induced by such protocols has not been conducted. Thus, the present experiments were designed to compare changes in CS excitability for abductor pollicis brevis (APB) in the hand following a single session of FES and SS of the median nerve. We hypothesized that due to the generation of a larger afferent volley, the FES would increase CS excitability more than the SS. Ten motor evoked potentials (MEPs) were evoked in APB using transcranial magnetic stimulation delivered before and after each type of NMES. MEP amplitude increased significantly following both the FES (by  $66 \pm 7\%$ ) and SS ( $49 \pm 6\%$ ), but the amplitude of these increases was not different. These results suggest that just 40 min of FES can increase CS excitability, and provide rehabilitative benefits, to the same extent as 2 h of SS.

**Author Name:** Michael G. Chizewski

**Co-Authors (if applicable):** Dr. Loren Z. F. Chiu

**Title of Presentation:** The influence of calcaneal motion and tibial torsion on leg axial rotation

**Abstract:** Our preliminary analyses of leg rotation during squatting and jumping tasks contradict the mitred hinge theory and suggest two populations; internal and external leg rotators. A possible hypothesis that may explain the difference is tibial torsion angle. The purpose of this research was twofold: to investigate the influence of calcaneal motion on leg rotation, as well as whether differences between internally and externally rotating leg segments could be explained by tibial torsion angle. Healthy women ( $n=25$ ) and men ( $n=23$ ) volunteered to participate in this investigation. Retro-reflective markers on the legs and feet were recorded by a 6-camera motion capture system (Qualisys) at 120 Hz sampling frequency while the participants performed a partial squatting task. Participants were grouped by whether their leg(s) internally or externally rotated. Two-way ANOVA was used to determine the effects of sex and grouping of leg rotation as fixed factors for statistical analysis. External tibial torsion angle was greater in the legs that externally rotated than the internally rotating legs ( $p<0.001$ ). For the internally rotating group, men had less forward leg rotation ( $p<0.001$ ) and less forward calcaneal rotation ( $p<0.001$ ) than women. For the externally rotating group, men had less external leg rotation ( $p=0.04$ ) and less external calcaneal rotation ( $p=0.03$ ) than women. The externally rotating group also demonstrated greater calcaneal eversion than the internal rotators ( $p<0.001$ ). Tibial torsion angle appears to influence the direction of axial leg rotation. As the partial squat task performed restrained rotation of the planted feet, gait should also be investigated. Since axial leg rotation is implicated as a factor in lower extremity injuries, research where tibial rotation is considered should include tibial torsion as a potential anatomic risk factor.

**Author Name:** Kacey C. Neely

**Co-Authors** n/a

**Title of Presentation:** Cut to the Quick: Athletes' Experiences of Deselection in Youth Sport

**Abstract:** Deselection, or being cut, is an inevitable aspect of competitive youth sport. Previous research has examined the social consequences of being cut, loss of athletic identity following deselection, as well as how coaches communicate nonselection to youth athletes. However, little is known about the actual experience of being cut. The purpose of this phenomenological inquiry was to gain insight into what it is like for adolescent athletes to be cut from a sports team. Lived experience descriptions were collected through semi-structured interviews, written accounts, and informal conversations with 7 female participants. All participants competed in competitive youth sport at the regional or provincial level and were cut from sport between the ages of 13 and 18 years. Analysis was guided by hermeneutic reflection involving eidetic reduction. Several themes including being cut down to size, masking the pain, and the long goodbye are uncovered in the participants' anecdotes. These findings reveal the lived experience of being cut from youth sport and may provide some considerations for coaches and parents of youth athletes.

**Author Name:** Nicole Glenn

**Co-Authors:** Champion, C. C., & Spence, J. C.

**Title:** Conflicting Perspectives: An Exploration of online media re/presentations of weight-loss surgery

**Abstract:** Introduction: Media has the ability to construct powerful understandings about health and illness. Weight-loss surgery (WLS) is the fastest growing treatment for morbid obesity. There is little information about how WLS is re/presented in the media. The purpose of this exploratory study was to examine online media re/presentations of WLS. Methods: A qualitative content analysis was performed on news articles and related reader comments available online at the Canadian Broadcasting Corporation (CBC) website. The focus was on the primary messages conveyed, the intended audience and the tone. Findings: Article texts were mostly supportive of WLS. Whereas comments were predominantly aggressive and unsupportive, including derogatory language such as "Piggy" and "Fatty". Comments frequently addressed issues unrelated to WLS, particularly obesity and weight-loss and were aimed primarily at other commenters, 'fat' people, and the government. Articles presented a 'neutral', bio-medical view of obesity and WLS intended for the general, tax-paying public and obese individuals. Conclusions: Articles and corresponding comments frequently presented conflicting perspectives. Findings revealed that weight-based stigmatization was prevalent among commenters and understandings of weight-loss were dangerously simplistic (i.e., eat less/move more). In contrast, articles presented a 'neutral', supportive perspective by reinforcing bio-medical, 'expert' understandings of obesity as disease and WLS as treatment. Nevertheless, the lack of consideration for the complex nature (e.g., psychosocial and experiential perspectives) of obesity and related treatments may reinforce simplistic assumptions about obesity and WLS. Although media may be increasingly supportive, much work is required to address the continued stigmatization of obesity/treatments among the public.

PERFORMANCE PRESENTATION  
Saturday, September 8<sup>th</sup>, 2012 10:45am-11:45am

**Authors Names:** Danielle Peers & Lindsay Eales

\*This paper is a 35-minute keynote that we recently performed at an International Disability & Material Culture Symposium. It weaves theory, creative writing and creative movement. It would require two author spots (one for each of us) one after the other.

**Title of Presentation:** Moving Materiality: People, Tools and this Thing Called Disability

**Abstract:** This body is wheelchair-bound. Not in the sense of the ableist idiom, but literally: bound to a nine-pound titanium frame through velcro and ratchet straps ripped from snowboards. This wheelchair is body-bound, bound to the flick of a hip against strapping, pulling through plastic and metal and rubber and gravity and wood, into a tilt onto one wheel. This metal, this flesh, this materiality is bound, too, by rhythm and soundscape: chairs crashing; prodding questions; polite onlookers, silent; the percussive thud of wheels on uneven terrain. It is bound to the gaze of audience and reader and performer. It is bound with the discourses of (dis)ability, in(ter)dependence, materiality and boundedness. This presentation, too, is wheelchair-body-bound. It is bound by the authors' personal narratives of living, playing, moving and thinking with, in and through various technologies of (im)mobility. It is bound through critical engagement: bound with theorizing, with story telling, and, literally, with dancing through the ways that flesh-tool-discourse-power-possibility bind in the form of a subject, or an articulation, or an assemblage. Finally, this paper is bound through an unabashed and unbounded passion for the exploration of the local, specific, strategic, accidental and creative ways that one may remake or even re-imagine the bonding of their tools, communities, ideas, bodies and mobilities.

**POSTER PRESENTATION ABSTRACTS**

Friday September 7th, 2011 5:00pm – 6:15pm

**Author Name:** Liam Boyd

**Co-Authors** Stewart Petersen, Michael Stickland, Todd Rogers

**Title of Presentation:** Biological Variability in Performance on the Canadian Forces Firefighter Test

**Abstract:** As part of a larger project to revise a task-based physical fitness test (FF test) for Canadian Forces firefighters, the purpose of this pilot study was to first, estimate the number of practice trials required to achieve consistent pacing and second, estimate biological variability in performance. The FF test consists of 10 tasks (e.g., lifting and carrying equipment, dragging charged hose) performed sequentially and separated by short transitions of 15 or 30 m. Test subjects wear firefighting protective ensemble (FPE) and self contained breathing apparatus (SCBA). Five male subjects completed the test six times during a three-week period. ANOVA for repeated measures was used to evaluate changes in time between trials. Biological variability was expressed as the coefficient of variation (CV) over the last three trials. The mean time to complete the FF test was  $337 \pm 44$  s. Performance improved by 31 s or 8.5 % from trial 1 to 6. Trials 1 and 2 were different from trials 5 and 6 ( $p < 0.05$ ). The standard deviation for completion time on trials 4, 5 and 6 was  $5.7 \pm 1.4$  s resulting in a CV of  $1.7 \pm 0.2$  %. These results show that consistent and optimal performance is achieved after between two and four practice trials. Furthermore, performance on the FF test has a low variability similar to other physical tests of relatively short duration. Further research with a larger sample ( $n=50$ ) of males and females will be conducted to more fully evaluate these questions.

**Author Name:** Jodie A. Stearns

**Co-Authors :** John C. Spence

**Title of Presentation:** A longitudinal examination of school-based friendship networks and children's sedentary behaviour

**Abstract:** Engaging in sedentary behaviour (SB; i.e., sitting) for prolonged periods is thought to have negative health consequences, and to contribute to high rates of overweight and obesity around the world. Canadian children are spending 62% of their day being sedentary. Research is needed to determine whether children's peers play a role in determining their sedentary habits. We propose to examine whether the SB of elementary school children are influenced by their network of friends and whether this relationship changes over a three-year period. Specifically, 2700 children in grades 4 to 6 will be recruited from 23 schools in Alberta involved in the APPLE Schools program. The children will be asked to list friends from their school who they "hang around with most", and to circle their best friends. SB will be objectively measured using accelerometers worn for 9 days and indirectly measured using self-reported television and video game usage. Social Network Analysis will allow us to investigate whether SB (i.e., min/day of total SB, watching television, and playing video games) cluster within direct and extended friendship groups (i.e., friends, friends of friends), and whether this clustering is the result of the children selecting friends who do similar amounts and types of SB or because friends "influence" their SB over time. We will also examine the role of reciprocity (i.e., whether a nomination is reciprocated), popularity, and gender (i.e., same-sex, opposite-sex). The findings will help inform the development of friendship-based interventions aimed at reducing the time children spend sitting.

**Author Name:** Jessica Walker

**Title of Presentation:** Magazine Images Depicting the Ideal Fit Male Body: An Outlet for Influencing Body Image Perception and Exercise Thoughts.

**Abstract:** The present study examined the priming effects of health/fitness and sports magazine images on male body perceptions and exercise beliefs. The moderating effects of age and exercise status were also examined. A series of 3 (image-only, magazine cover, control) by 3 (young, middle, old) ANOVA analyses with internalization, self-objectification, reasons for exercise, and exercise intentions as the dependent variables were conducted. Results from 280 male participants (mean age 36.34, range 18-68 years) showed that the image-only group displayed the greatest level of internalization-general:  $F(2, 271) = 5.65, p = .004, \eta^2 = .040$ . Additionally, older males reported less internalization-general,  $F(2, 271) = 15.19, p = .000, \eta^2 = .101$ , internalization-athlete,  $F(2, 271) = 13.07, p = .000, \eta^2 = .088$ , and self-objectification,  $F(2, 271) = 6.13, p = .002, \eta^2 = .043$ . Findings may help expand research regarding the influence and power of magazine ideal body portrayals and their impact on males.

**Author Name:** Saeed Reza Toghi Eshghi (3<sup>rd</sup> author)

**Co-Authors :** Nele Pattyn, Veronique A. Cornelissen, Luc Vanhees (Department of Rehabilitation Sciences, K.U.Leuven, Leuven, Belgium)

**Title:** The Effect of Exercise on the Risk Factors of the Metabolic Syndrome in Metabolic Syndrome Patients: A Meta-Analysis of Controlled Trials

**Abstract:** Although numerous meta-analyses investigating the effect of dynamic aerobic endurance training have been conducted in different populations of metabolic syndrome and for single risk factors, none have specifically focused on the metabolic syndrome patients and the concomitant effect of exercise on all associated cardiometabolic risk factors. In this systematic literature search we included (randomized) controlled trials investigating the effect of dynamic aerobic endurance exercise of at least 4 weeks in adults with the metabolic syndrome and without established cardiovascular disease, published in

a peer-reviewed journal up to March 2011. Primary outcome measures were changes in risk factors associated with the metabolic syndrome: waist circumference, systolic and diastolic blood pressure, HDL, triglycerides and plasma glucose. VO<sub>2</sub>peak was a secondary outcome. Random and fixed effect models were used for analyses. Seven trials were included, involving 9 study groups and 206 patients. Exercise resulted in a significant reduction of waist circumference of -3.4 cm, blood pressure of -7.1 mmHg / -5.2 mmHg and an increase in HDL of 0.06 mmol/l (p<0.0001 for all), whereas plasma glucose levels [-0.31, p=0.06] mmol/l and triglycerides [-0.05, p=0.47] mmol/l remained statistically unaltered. In addition, VO<sub>2</sub>peak improved with 5.9 (p<0.0001) ml/kg/min or 19.3%. Dynamic aerobic endurance exercise has a favourable effect on most of the cardiometabolic risk factors associated with the metabolic syndrome that is waist circumference, systolic and diastolic blood pressure and HDL. However, additional research is needed, including search for optimal training programs for improving total cardiovascular risk in individuals with the metabolic syndrome.

**Author Name:** Yoshino Okuma

**Co-Authors :** Austin J Bergquist, Mandy Hong, K Ming Chan, and David F Collins

**Title of Presentation:** The spatial distribution of recruited motor units differs during electrical stimulation over a muscle versus a nerve

**Abstract: Introduction:** Neuromuscular electrical stimulation is used to generate contractions for rehabilitation. Presently, we compared the spatial distribution of motor units recruited in tibialis anterior (TA) by the depolarization of motor axons when stimulation was delivered over the TA muscle belly versus the common peroneal nerve trunk. **Methods:** Muscle activity was recorded using fine wires inserted into superficial and deep portions of TA. M-wave recruitment curves were constructed from responses to single pulses delivered at each stimulation site. **Results:** During stimulation over the muscle belly, current required to reach M-wave threshold was not different between recording sites; however, more current was required to reach both the maximum M-wave ( $M_{max}$ ) and 50% of  $M_{max}$  at the deep than superficial recording site. During stimulation over the nerve trunk, there were no significant differences in the current required to reach threshold, 50% $M_{max}$  or  $M_{max}$  between recording sites.  $M_{max}$  recorded at the superficial site did not differ between stimulation sites; however,  $M_{max}$  was smaller with stimulation over the muscle belly than over the nerve trunk at the deep recording site. **Conclusions:** Stimulation over the muscle belly recruited motor units from superficial to deep with increasing stimulus amplitude. Stimulation over the nerve trunk recruited superficial and deep motor units equally, regardless of stimulus amplitude. The deep portion of TA was not activated in some participants with stimulation over the muscle belly, even in this relatively small muscle. These results provide further support for the idea that *where* stimulation is applied markedly affects *how* contractions are produced.

**Author Name:** Claudine Champion

**Co-Authors :** Nicole M. Glenn, Tanya Berry, & John C. Spence

**Title of Presentation:** Exploring women's responses to on-line media coverage of weight loss surgery: A proposal

**Abstract: Background:** Media has the capacity to affect public understanding and set political agendas regarding issues of health, gender and wellbeing (Gough, 2006; Seale, 2002). There is currently little scholarship to have interrogated new, interactive media (e.g., blogs, online news, twitter) coverage of weight loss surgery (WLS) and none has questioned the affects of such messages on potential readers. The proposed study builds on previous work from this research group where we explored Canadian Broadcasting Corporation (CBC) online coverage of WLS and corresponding reader comments. We found that women were a dominant focus of the media attention and related comments. Therefore we decided to undertake this investigation to understand how the media's portrayal and related reader comments regarding obesity and WLS might affect women themselves. **Research Questions:** 1) What are the responses of the women to the on-line news articles and related comments in general?; and 2)



What are women's responses to on-line articles and comments regarding WLS and obesity? **Data generation & Analysis:** We will conduct a qualitative/quantitative content analysis to address the research questions (Weber, 1990). A total of 30 women, 18 years of age and older, will be selected for inclusion in this study. The sample size is based on the principle of data saturation (Patton, 2002). Data will be generated via focus groups (Patton, 2002). The focus group facilitator will conduct a short presentation of media clippings (including articles and comments) retrieved from our previous work on CBC coverage of WLS; and facilitate discussion following a semi-structured interview guide. All focus groups will be audio-recorded and transcribed verbatim. Analysis will involve line-by-line coding to generate descriptive codes and then grouping these into higher order themes (Maykut and Morehouse, 1994; Weber, 1990).

**Author Name:** Anne-Marie Selzler

**Co-Authors :** Wendy M. Rodgers, Tanya R. Berry, & Michael K. Stickland

**Title of Presentation:** Relationships between social-cognitive constructs, self-talk characteristics, and pulmonary rehabilitation outcomes

**Abstract:** Participation in pulmonary rehabilitation (PR) results in improved health outcomes in people with respiratory disorders, including health status and functional exercise capacity. However, benefits are lost once rehabilitation is over due to physical inactivity. Social-cognitive theories provide a means for understanding exercise-related behaviour and propose that a person's belief system is the key to explaining and changing behaviour. Attitudes, self-efficacy, and perceived severity are social-cognitive variables that have been shown to be related to exercise behaviour, although they have not been widely studied in people with respiratory disorders. Self-talk is considered to be a vehicle for understanding cognitions and beliefs, although the relationship between self-talk characteristics, social-cognitive constructs, and behavioural outcomes has yet to be determined. Valence and function are two self-talk characteristics that might be important to exercise-related outcomes. This research seeks to determine the relationships between social-cognitive constructs, self-talk characteristics and outcomes of PR. A cross-sectional design will be used in 85 participants with respiratory disorders at the beginning of PR. Pearson correlations will be computed between self-talk valence, self-talk function, social cognitive constructs (attitudes, self-efficacy, perceived severity), functional exercise capacity, and health status. If social-cognitive constructs, self-talk characteristics, and PR outcome measures are related, it will suggest that self-talk interventions may be a way to increase exercise in people with respiratory disorders. Furthermore, the strength of relationships between social-cognitive variables and PR outcomes will highlight the particular constructs that are most relevant to exercise-related behaviour in patients with respiratory disorders.

**Author Name:** Matheus J Wiest

**Co-Authors :** David F Collins

**Title of Presentation:** Central contribution to "extra torque" during neuromuscular electrical Stimulation

**Abstract:** INTRODUCTION: Neuromuscular electrical stimulation (NMES) generates contractions through peripheral and central mechanisms. The central contribution can be augmented by 100Hz bursts of NMES which can generate "extra" torque. We have shown that extra torque was abolished during a nerve block, providing strong evidence for a central origin.<sup>1</sup> In contrast, Frigon et al. (2011) used a slightly different protocol and showed that the additional torque generated by bursts of 100Hz NMES was not abolished during a nerve block, providing strong evidence that it was not of central origin.<sup>2</sup> AIM: Compare torque generated using Frigon's protocol<sup>2</sup> (#1, below) and our own<sup>1</sup> (#2&3). METHODS: Plantarflexion torque was measured using a Biodex dynamometer (hip and ankle at ~90°; n=2 participants). Protocol 1) Knee extended (170°-180°) NMES

over the gastrocnemius. 2) Knee flexed (90°), NMES over gastrocnemius and soleus. Protocol 3) Knee as above (#2), NMES over the tibial nerve. Three trains of NMES (20–100–20Hz for 3–2–3s, respectively) were delivered 60s apart. Torque was calculated at Time1 (2–3s into the train) and Time2 (7–8s into the train) and was normalized to maximal voluntary isometric torque.

**RESULTS:** Torque increased 29, 61 and 95% from Time1 to Time2, for protocols 1, 2 and 3, respectively. **CONCLUSION:** The protocol used by Frigon et al. generated less extra torque than protocols used in our lab. To generate extra torque from a central origin in the plantarflexors, the stimulation may need to be applied to activate soleus and not only gastrocnemius.

**Author Name:** Angela M. Coppola

**Co-Authors :** Tara-Leigh F. McHugh

**Title of Presentation:** Aboriginal Women's Body-Related Experiences in Sport and Aboriginal Dance: A Research Proposal

**Abstract:** Body image for women athletes is multidimensional and complex (Krane et al., 2001) in that there is typically a conflict between the thin, feminine body ideals and sport-specific body ideals. Pressure to conform to contradicting ideals may contribute to negative perceptions of the body and subsequently lead to disordered eating or other unhealthy dietary practices (e.g., Krane et al., 2001; Krane, Greenleaf, & Snow, 1997). Recent research indicates that body image for Aboriginal women is also complex and body ideals are perceived differently in Aboriginal cultures compared to the dominant, White culture (Fleming et al., 2006). However, little is known about Aboriginal women's perceptions of sport (Forsyth, 2007) or their bodies in sport. Thus, the purpose of this study is to explore how Aboriginal adolescent women view their bodies in sport or Aboriginal dance (e.g., body esteem, body ideals). This qualitative investigation will consist of five phases (participant selection, relationship building, one-on-one interviews and focus groups, data analysis, confirmation of themes) that build upon one another. The research is currently in the data collection phase. Approximately 15 Aboriginal adolescent women from *amiskwaciy* Academy, a predominantly Aboriginal secondary school in Edmonton, will participate in the study. Through one-on-one interviews and focus groups, and constant dialogue between researcher and participants, a detailed and credible representation of Aboriginal women's body-related experiences in sport or Aboriginal dance will be shared.

**Author Name:** Nicole Lemke

**Co-Authors:** Constance M. Lebrun, Martin Mrazik, Dhiren Naidu, Joan Matthews-White

**Title:** Baseline Concussion Assessment in Varsity Athletes: A Comparison of Standardized Assessment Paradigms and Identification of Risk Factors Using SCAT2 and ImPACT.

**Abstract:** Context: Investigation of self-report sport-related concussion symptoms using different reporting methods and identification of potential risk factors. Objectives: To compare an athlete's self-report of symptoms at baseline using the paper version of the Sport Concussion Assessment Tool 2 (SCAT2) and the computerized neurocognitive test Immediate Post-Concussion Assessment and Cognitive Test (ImPACT). Secondly, to identify potential risk factors through administration of a preseason concussion questionnaire. Design: Pre-experimental, correlational research design. Participants: Male and female varsity athletes at the University of Alberta, competing in contact sports during the 2010, 2011 and 2012 athletic seasons. Intervention: Subjects all complete baseline SCAT2 and ImPACT tests, as well as preseason questionnaires at the start of the varsity season. Injury reports are completed during the season if an athlete suffers a concussion. Main Outcome Measure: Descriptive statistics will be calculated from SCAT2 and ImPACT along with ANOVA. The main outcome variable for the preseason concussion questionnaire is concussion, with a secondary outcome being time loss. Results: Statistical analysis has already been conducted from the 2010 season. Athletes reported significantly different results in 11 of the 18 symptoms. In every case athletes reported more symptoms with ImPACT. Conclusions: The mode in which athletes take a baseline concussion test makes a

difference to the self-report of symptoms. Sport medicine professionals should be aware of this when conducting baseline assessments, and when doing follow-up assessments after a concussion.

**Author Name:** Vincent Tedjasaputra

**Co-Authors :** Michael Stickland

**Title:** Effect of Dopamine Blockade on Pulmonary Gas Exchange During Exercise

**Abstract:** The purpose of the proposed study is to determine the effect of a dopamine blockade on pulmonary gas exchange during exercise. Previous studies have demonstrated that exercise decreases gas exchange efficiency, manifesting as an increase in Alveolar-arterial O<sub>2</sub> difference, (A-a DO<sub>2</sub>), which can cause arterial hypoxemia. Proposed mechanisms for exercise-induced arterial hypoxemia are diffusion limitation, ventilation-perfusion mismatch secondary to interstitial pulmonary edema, and intrapulmonary (IP) shunt. Several studies have demonstrated the recruitment of intrapulmonary shunts during incremental exercise, but the mechanism of recruitment is still heavily debated. Bryan et al. demonstrated that intravenous infusion of dopamine recruits intrapulmonary shunts in resting humans, noting increases in shunt fraction (Q<sub>s</sub>/Q<sub>t</sub>), suggesting that dopaminergic control of pulmonary hemodynamics is related to shunt recruitment. By blocking dopamine receptors, we hypothesize that IP shunt recruitment will be attenuated resulting in increased PaO<sub>2</sub> and decreased A-aDO<sub>2</sub> during exercise. Subjects will complete a incremental exercise protocol (with and without Metaclopramide – Dopamine receptor (DA) blockade) during which intrapulmonary shunt will be detected using agitated saline contrast echocardiography, gas exchange evaluated using A-aDO<sub>2</sub> from arterial blood and mixed expired gas sampling, and pulmonary arterial pressure will be estimated using tricuspid-jet regurgitant velocity echocardiography. This proposed research will provide further insight into dopaminergic control of intrapulmonary shunt recruitment and subsequent effects on gas exchange during exercise.

**Author Name:** Laurie de Grace

**Title of Presentation:** Retrospection and recollection of influences of physical activity and sport on the development of addiction among patients undergoing treatment for substance abuse

**Abstract:** The objective of this research study will be to gain an understanding of the types of physical activity and sport undertaken, the level of involvement, and the associated positive and negative experiences throughout the childhood and adolescence of addicts currently undergoing treatment for substance addiction. This mixed methods study using both interviews and questionnaires will use a convenience sample of inpatients in a treatment facility in BC from which agreement to support the project has already been obtained. Health risk behaviours, such as drug and alcohol use, adopted during youth are predictive of health behaviours in adulthood. Physical activity has been shown to decrease many of the associated health risks of youth. However, for some individuals who are at risk of developing addiction, certain sport conditions have been shown to encourage substance use. With relatively little research directly considering the association between addictions, and physical activity and sport involvement, interventions incorporating all forms of physical activity cannot safely be promoted. Further knowledge is required about both the preventive and contributing roles played by physical activity in substance use. The main focus of this project will be to shed light on our understanding of the positive and negative influences of physical activity and sport on the risk of, and the development of addictions over participants' lives. Because the time of dropout from physical activity coincides with the onset of addictions, it is anticipated that interventions designed to prevent substance use through physical activity will be implemented in childhood or early adolescence.