Note from the GSC Communications Officer

By: Amy Kirkham

Hello CSEP students,

I hope to see everyone at the CSEP 2010 Annual General Meeting November 3-6 in Toronto! This conference is primed to be a very exciting, well-attended event. This pre-conference newsletter (and the last of the year) will be short and sweet. I will give you all the information you need to know about the Graduate Student Committee events at the upcoming conference in my article. The whole GSC has chipped in with our favourite activities, events, places to go and places to eat in Toronto in Julia Totory de Zepeñek's article on what to do while in town for the conference. Lastly, learn about the exciting research going on in the Physical Activity and Cardiometabolic Health in Youth Laboratory with Dr. Jon McGavock at the University of Manitoba.

Enjoy and see you soon!

GSC Election

Canadian Society for Exercise Physiology
Société canadienne de physiologie de l'exercice

CSEP GRADUATE STUDENT COMMITTEE (GSC) ELECTIONS

• What we are looking for:
  • Graduate students in Exercise Physiology-related streams from across Canada!
  • Sincere interest in promoting the CSEP GSC mandate!

• The available positions:
  • Chair-Elect: 2-year position
  • Communications Officer: 1 year position, responsible for GSC Newsletter &
  • Member at large: 3 positions available, responsible for special tasks

• What is in it for YOU?
  • Play a crucial role in designing new and continuing traditional student sessions;
  • Great opportunity to network and meet new people;
  • Support our very own Canadian Society for Exercise Physiology – because if you
don’t, then who will??

For more information, visit our website: http://csep.ca/english/view.asp?x=585

FORWARD A COPY OF YOUR CV AND A COVER LETTER TO GSCNEWS@CSEP.CA BY
October 25, 2010. APPLICANTS WILL BE CONTACTED FOR AN INTERVIEW.
CSEP Graduate Student Committee Conference Activities

By: Amy Kirkham

The GSC hosts several events at the annual CSEP conference every year. The aim of these events to provide the student members of CSEP, opportunities to gain knowledge, network and socialize. The members of the GSC believe that the student voice matters, and we are always looking for more opportunities to contribute to CSEP. So if you have any thoughts, comments or suggestions, talk to us at any of the following events or you can always email us at gscnews@csep.ca. Registration: it is not too late! Early bird deadline has passed but you can still register with the following fees:

- Registered CSEP student member: $175
- Full-time graduate student (non-CSEP member): $225
- One-day undergraduate special rate: $60

1. GSC Symposium

When: Saturday November 6, 2010; 11:00 am – 12:30 pm

What: In lieu of the traditional GSC symposium topics on information for graduate student life, the GSC is hosting a scientific debate titled: “From mice to men: The divide between molecular biology and human physiology.” Two speakers from the basic (molecular) approach, and two speakers from the applied approach will respond to the following statement:

“As exercise physiologists, we aim to contribute to better understanding human form and function in both healthy and diseased populations. The identities of researchers and their research programs are distinguished most often by the subjects of their research (humans vs. animals) and their methodology of investigating the unknown (reductionism vs. integration). Which approach is most appropriate for answering the big questions still plaguing health researchers?”

‘Basic’ speakers include:
- Dr. Russ Tupling (http://www.ahs.uwaterloo.ca/kin/people/RussTupling.html)
- Dr. Peter Adhihetty (http://www.hhp.ufl.edu/dir/links/adhihettyP.php)

‘Applied’ speakers include:
- Dr. Jen Jakobi (http://web.ubc.ca/okanagan/humankinetics/faculty/j_jakobi_home_page.html)
- Dr. Brian MacIntosh (http://www.ucalgary.ca/macintosh)

Why: With a controversial topic and expert speakers this debate is sure to be heated…or at the very least informative!

2. Meeting

When: Friday, November 5, 2010; 11:30 am – 1:30 pm

What: The annual GSC meeting takes place every year on the Friday of the CSEP conference. Join us for a snack, to learn more about the GSC and to discuss issues related to the CSEP student population.

Why: Did I mention a free snack? You will also get a chance to say good-bye to our current Chair, Amanda Rossi and welcome our new Chair for 2011, Ayesha Saleem.

3. Social event

When: Thursday November 4, 2010; 7:00 pm - ???.

What: Meet in the Hyatt lobby at 7:00 pm to join the GSC and other CSEP student members for a night out on the town! The plans are not set in stone but we will be heading to a local watering hole.

Why: You will need the break amidst all the academia, and this is a great opportunity to meet fellow students in the field, who will one day be your colleagues!

4. Graduate student award competition symposium

When: Wednesday, November 3, 2010; 7:15 pm – 9:30

What: Although the GSC does not host this event, it is another great student-oriented event at the conference. For many years CSEP has honoured a graduate student for their research contribution to the annual meeting. Four graduate student finalists, chosen by an evaluation committee present their work during this symposium. The winner will be announced at the AGM Awards Ceremony.

Why: For a chance to see the research of some of the top student CSEP members, and the opportunity to see what you would be up against if you choose to enter the competition next year for a chance to win money to assist with your 2011 AGM travel expenses and list the honour on your resume.

Visiting Toronto during the 2010 AGM

By: Julia O. Totosy de Zepetnek

Toronto, the largest city in Canada and the capital of Ontario, certainly has a lot to offer. The municipality of Old Toronto covers downtown, and is the most densely populated area of Toronto, and is where most of us will be staying for the CSEP conference this November. The following article focuses mostly on “what to do” in the vicinity of the conference hotel, the Hyatt Hotel.

Airport transportation options:

- The Toronto Transportation Commission (TTC) Airport Rocket provides all-day, regular bus service between the airport and Kipling Station (the westernmost station on the Bloor-Danforth line). A TTC ticket costs $3, but includes a transfer from Kipling to St. Andrew station, the closest subway stop to the Hyatt, only a short ½ kilometer walk west from the station. (www.ttc.ca)
Activities and tourism:

This is far from an exhaustive list of things to do downtown. If you have the time and interest, here is a great website for things to do and current events in the city: http://www.seetorontonow.com. Note: a TTC day pass is $10. Here are some specific suggestions:

- **If you are the eager touristy type, a Toronto City Pass gets you into 5 major attractions (CN Tower, Casa Loma, Toronto Zoo, Ontario Science Centre, and Royal Ontario Museum), without any waiting in line. The pass is valid for 9 days and is ~$60. If you see just three of the attractions the pass pays for itself: (http://www.citypass.com/toronto). If you are only interested in a select few of these attractions:
  - **CN Tower**: look down on the entire city through a glass floor from the world’s tallest tower; there’s also the option of the skypod, a movie, and a motion theater ride. For the view only, the cost is $22.99. However, if you go to the 360 restaurant and order a main entrée, the view is complimentary. (http://www.ctntower.ca/)
  - **Casa Loma**: A castle in the middle of Toronto, this was the former home of Canadian financier Sir Henry Pellatt. Cost is $20.55. (http://www.casaloma.org/)
  - **Toronto Zoo**: Open from 9:30-4:30, the cost is $23. Directions via TTC: (http://www.torontozoo.com/ExploretheZoo/Directions.asp)
  - **Ontario Science Centre**: Special exhibits on now include Mythic Creatures, and Whales/Tohora starts November 4th. Student price $16. (http://www.ontariosciencecentre.ca/)
  - **Royal Ontario Museum**: There are a number of permanent galleries and several special exhibitions that change regularly. Admission is $24, but take advantage of half price admission on Fridays from 4:30-9:30 pm. (http://www.rom.on.ca/exhibitions/index.php)

- **Art Gallery of Ontario**: The permanent collection is FREE on Wednesday evenings from 6 to 8:30 pm, otherwise student price is $11. Information on special exhibitions: (http://www.ago.net/whatson)

- **Some events going on at the Air Canada Centre nearby include**:
  - Nov 3 – Carrie Underwood concert (there are always scalpers right outside)
  - Nov 6 – Leafs vs. Sabres (if you can get tickets!)
  - Nov 7 – Hockey Hall of Fame legends Canada vs. USA
  - Nov 8 – Raptors vs. Warriors

For more info: http://www.theaircanadacentre.com/Calendar.asp?MONTH_CHOICE=11&YEAR_CHOICE=2010

- **Hockey Hall of Fame**: home of the Stanley Cup and the largest collection of hockey memorabilia in the world! Admission $15. (http://www.hhof.com/)

- **Toronto Harbor Cruise**: a one hour fully narrated tour, departs every hour from 11am to 4pm. Buy online and receive a 20% discount. Student price is $18.35. (http://www.harbourtourstoronto.ca/tours.html)

- **Theaters**: Princess of Wales Theatre and Royal Alexandra Theatre are walking distance from the hotel. Information on some great live shows: http://www.mervish.com/

Eating and going out:

- **Lonestar Texas Grill** (Union Station): for the best sizzling fajitas and margaritas in Canada! A great deal for students: 4 eat for $42. (http://www.lonestar texasgrill.com/ Promotions)

- **The Red Room** (Spadina Station, then streetcar to College Street): awesome food, and VERY cheap, but not the best service. (http://www.yelp.ca/biz/the-red-room-toronto)

- **The Bier Markt** (Union Station): over 100 brands of beer from 24 countries on tap, and good food; on the pricier side though. (http://www.thebiermarkt.com/)


- **Steam Whistle Brewery Tour** (Union Station): Great tour, great beer. Tour cost ranges from $10-15. (http://www.steamwhistle.ca/)

- **A further list of bars and pubs close to the hotel**: http://torontoregency.hyatt.com/hyatt/hotels/services/local/nightlife/listings.jsp?start=1&destinationid=34&categoryType=Bars+%26+Pubs&pagelnsdex=1

- **There are many unique night clubs along King and Queen Streets**: some good ones that are typically open on Friday and Saturday nights include: Cobra, Tryst, Dirty Martini, C-Lounge, and Muzik.

Shopping:

- **One block up from the Hyatt is Queen Street**, with lots of unique shops

- **The Eatons Centre** at Dundas Square is walking distance from Hyatt, a HUGE mall

- **Mountain Equipment Co-op** is just down the street

- **Chinatown** is close by (head north on Spadina), and **Kensington Market** is a bit further north

Working out:

- **U of T Athletic centre** is located at Spadina and Harbord. Day pass is $18.08 w/ towel service for access to the pool, indoor 200 m running track, gym and classes. Here is the list of drop-in programs: http://www.physical.utoronto.ca/athletic_centre/drop_in.php

- **Airport Express** leaves from all terminals at the airport and makes one of its stops at the Hyatt. One way is $21.95 and round-trip is $36.25. (http://www.torontoairportexpress.com/schedule.php)

- **Taxis** are ~$40-$50. The City of Toronto licenses taxis that service Toronto Pearson to ensure fare consistency; rates are predetermined based on time and distance to your destination.
Many smaller residential communities have their own individual character that are outside the downtown core. For example Yorkville, Rosedale, Forest Hill, Casa Loma (the wealthy areas, where the “old money” lives, or upscale luxury condominiums); Kensington Market, Leslieville, Cabbagetown (commercial and cultural areas, as well as vibrant communities of artists, studio lofts, middle and upper class professionals); Chinatown, Greektown, Little Italy, Little India (areas retaining distinctive ethnic identity); the list goes on…. There is a lot to see and experience if you are interested in discovering Toronto beyond the conference and the Hyatt hotel! Talk to some of the students at the conference from University of Toronto or York University for info.

Lab Feature: the Physical Activity and Cardiometabolic Health in Youth laboratory

By: Dr. Jonathan McGavock, University of Manitoba

The overall aim of the Physical Activity and Cardiometabolic Health in Youth laboratory is to determine the role of physical activity in the prevention and management of type 2 diabetes and the mechanisms to explain these effects. We specifically focus on understanding the role of physical activity in the prevention of obesity-related chronic diseases that affect the cardiovascular and endocrine systems with a particular focus on insulin resistance and it’s determinants. Our research questions emerge directly from contact with overweight youth at risk for or currently diagnosed with type 2 diabetes. Our research studies span the continuum of clinical research, epidemiology and policy analysis to facilitate translation of information directly into clinical practice or policies aimed at reducing the burden of obesity and it’s cardiometabolic complications in Canadian youth.

The prevalence of youth-onset type 2 diabetes is over 10-fold higher in Manitoba compared to the rest of the country. This disproportionate rate can be attributed to several factors, including the ethnic make-up of Manitoba, unique genetic polymorphisms found in various northern communities, low rates of physical activity and high rates of obesity. From a clinical standpoint, while one of every three adolescents is overweight, only a small fraction develops type 2 diabetes or hypertension before the age of 18. Several key factors are involved in this loss of glucose control, including an excessive accumulation of lipid by-products in the liver, muscle and pancreas that impair insulin signaling. In the Physical Activity and Cardiometabolic Health in Youth laboratory we investigate the effects of various doses of physical activity on lipid metabolism within these tissues and the subsequent effects on insulin signaling and glucose tolerance. In addition to our studies on type 2 diabetes, we study the effects of obesity and type 2 diabetes on arterial function and associated hard outcomes, including early renal disease and hypertension. Using two population-based cohorts and a clinical cohort of youth with type 2 diabetes, we are exploring the role of physical activity intensity, fitness and other lifestyle factors on vascular health in youth with chronic diseases. Finally, in our commitment to initiating change in our community, we are evaluating the effects of various community-based interventions to increase physical activity and prevent chronic disease in overweight youth at risk for or diagnosed with type 2 diabetes. Using mixed methods participation action designs we work directly in the community to develop programs to stem the tide of chronic disease in youth.

Each of these projects are currently funded by CIHR, the Canadian Diabetes Association, the Heart and Stroke Foundation, the Manitoba Health Research Council (MHRC), The Cosmopolitan Foundation and the Children’s Hospital Foundation of Manitoba. We work directly with patients and community members in a continued commitment to develop empirical evidence that has real world application.

Tools and Technology

To achieve our objectives, we have developed a series of novel, non-invasive tools to explore the mechanistic factors underlying cardiometabolic diseases in youth including: (1) dual energy X-ray absorptiometry (DXA) to assess muscle and fat mass and (2) Magnetic resonance imaging and spectroscopy (MRI/MRS) to measure visceral fat and liver muscle and pancreatic intracellular lipid content, respectively. To assess vascular function we currently use non-invasive pulse wave analysis and velocity technology to measure arterial stiffness. We are also exploring the use of MRI to measure aortic compliance in overweight youth diagnosed with hypertension and/or type 2 diabetes. Our population-based studies rely on state of the art accelerometer techniques to measure physical activity intensity, duration and windows objectively. Our intervention studies are deployed in various settings including schools, local YMCA/YWCA centres and rural First Nation communities.

The Team

Over the past 4 years we have created an exciting and stimulating environment at the Manitoba Institute of Child Health for graduate students and postdoctoral fellows. To date, 3 trainees have completed their training in the lab (1 masters student, 1 PhD student and 1 Post Doctoral Fellow). All students were funded by either national (CIHR) or local (MHRC) studentships during their tenure in the lab. They are also all actively pursuing careers in health care.
In addition to graduate students, we have also trained 7 summer students that have gone on to pursue medical school (3), graduate school (1) or are completing their undergraduate training (3). The Manitoba Institute of Child Health (MICH) is the largest research centre in Western Canada devoted to research in children and adolescents. With two floors dedicated to clinical and basic research, there is ample space and opportunities for collaboration with investigators from a variety of specialties. Located within the Health Science Centre and the Faculty of Medicine, MICH provides small grants and studentships for students conducting research related to child health. Finally, we practice what we preach and have several member of the laboratory competing in running, cycling and triathlon events each year. The lab holds early morning training sessions for all members of MICH interested in achieving their physical activity or lifestyle goals.

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