



Physiology
UNIVERSITY OF TORONTO

PhysioLINK

January 25, 2019

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MESSAGE FROM THE CHAIR

Thank you to all the participants who joined us at our Department's Retreat last week at The Old Mill. We are so grateful you were able to join us for a day of learning, idea sharing and networking. The presentations were outstanding!

Congratulations to the **top 3 Lightning Presentations:**

- 1st: Dr. Denise Belsham**
- 2nd: Dr. Shuzo Sugita**
- 3rd: Lukasz Wlodarek (Ren-Ke Li Lab)**

Many thanks to **Drs. Helen Miliotis, Denise Belsham, Pat Brubaker and Brian Cox** on updating us on the NEW Professional Master's Program in Medical Physiology. I would like to extend our gratitude to **Dean Trevor Young** for presenting highlights of the [2018-2023 Academic Strategic Plan](#). Thank you also to **Danny Nashman and Cate Creede** of *The Potential Group* for helping us chart Physiology's future together. I encourage everyone to participate in the various consultation group meetings that are being scheduled. Your input during the strategic planning process is crucial as we chart our priorities and action plans for the next five years. Finally, please join me in thanking **Dr. Scott Heximer** and **Jenny Katsoulakos** for their tremendous support in organizing the day.



Graham L. Collingridge, FRS, FMedSci, FRSB, FBPhS
 Ernest B. and Leonard B. Smith Chair
 Department of Physiology

PHYSIOLOGY SEMINAR SERIES

~ Eligible for PSL1000H/PSL2000H Course Seminar Attendance ~

The Department of Physiology Seminar Series

Michael D. Wilson, PhD

Canada Research Chair in Comparative Genomics

Senior Scientist, Genetics & Genome Biology

Program,

SickKids Research Institute

Associate Professor, Department of Molecular

Genetics,

University of Toronto

Title: Comparative epigenomics: evolution and function
of cardiovascular enhancers

Thursday, January 31, 2019 – 4:00 PM

Medical Sciences Building – Room 2170

Host: Cardiovascular and Respiratory Platform



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~ Eligible for PSL1000H/PSL2000H Course Seminar Attendance ~

The Department of Physiology Special Neuroscience Seminar 2019

Dr. Karim Nader
Professor of Department of Psychology
McGill University

Specific impairments in consolidation,
reconsolidation and long-term memory
maintenance lead to memory erasure

Tuesday, February 12, 2019 - 3:00 - 4:00 PM
Best Institute, 112 College Street, Room 114

Host: Neuroscience Platform

****Eligible for the PSL1000/2000 Seminars in Physiology Course****

~ Eligible for PSL1000H/PSL2000H Course Seminar Attendance ~

The Department of Physiology Seminar Series

Prof. Jack Goodman

Faculty of Kinesiology and Physical Education

University of Toronto

Goldring Centre for High Performance Sport

Adjunct Scientist

Clinical Cardiovascular Research Laboratory

UHN/MSH Division of Cardiology

Exercise-Induced Cardiac Remodeling: The good and the Uncertain?

Thursday, February 14, 2019 – 4:00 PM

Medical Sciences Building – Room 2170

Host: Cardiovascular and Respiratory Platform



Physiology
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NEW!!! Professional Master of Health Science (MHSc) in Medical Physiology

The Master of Health Science (MHSc) in Medical Physiology represents an innovative and relevant alternative to pursue graduate education in Physiology with an explicit focus on the physiology relevant to medicine and human health.

The MHSc in Medical Physiology was created to address the need for graduates who will be interested in the implementation of newly discovered physiological knowledge relevant to human health and put it into practice. The application of the knowledge can be in direct health care delivery or in an industry related to medical sciences. Graduates will obtain a skill set that would give them opportunities in the many expanding areas that directly and indirectly affect health care delivery, management and scientific exploration. The program is 1-year (full-time for 3 terms) with one point of entry each September.

Further information is available at:

<http://www.physiology.utoronto.ca/news/mhsc-medical-physiology-apply-here>

MHSc in Medical Physiology

Department of Physiology, Faculty of Medicine, University of Toronto
Launch Sept. 2019



The professional Master of Health Science (MHSc) in Medical Physiology degree represents an innovative and relevant alternative to pursue graduate education in Physiology with an explicit focus on the physiology relevant to medicine and human health.

Why?
Every day, a near-infinite amount of data is generated by clinicians at the bedside, researchers at the bench, and emerging health technologies, but there is a need for individuals that can interpret this new knowledge and draw conclusions from it.
The MHSc in Medical Physiology was created to address the need for graduates who will be interested in the implementation of newly discovered physiological knowledge relevant to human health and put it into practice.

What are the potential Career paths?
Graduates will obtain a skill set that would give them opportunities in the many expanding areas that directly and indirectly affect health care delivery, management and scientific exploration.

- Many of the most important challenges in human health are often caused by multi-factorial changes and are best tackled by multi-investigator research teams. These teams require individuals who can appreciate the high level context of the disease, the specific research areas of the individual teams and how they can all be integrated. These individuals act as project managers. Our students will be able to undertake this role.
- New research findings that are generated often face challenges when it is time to bridge the gap to industry. Our students will be trained to understand the commercialization process and how to bring new scientific discoveries to market.
- In recent years, many emerging technologies are producing very large datasets in health. There is a need for individuals that can interpret big datasets, such as those generated by wearable devices. Our program will train students that can fill those gaps in research, clinical and other health care settings.

Tailor your Career Path
Graduates will attain required professionalism training, an understanding of how to derive the evidence on which to base decisions on human health, while at the same time increasing the depth of knowledge in their chosen physiological stream.



Overall the program will provide graduates with training in core competencies, professionalism, and foundations in physiology related fields that will prepare them for emerging career paths or complement further training.

How will the program prepare students for emerging careers related to physiology?
The program is 1-year (full-time for 3 terms) with one point of entry each September.

Fall Term 1/Winter Term 2
PSL4000Y Seminars and Graduate Professional Development
PSL4010Y Mentored Literature Review Project in Physiology
PSL4030H Clinical Physiology
PSL4050H Big Data and Health
PSL4050H Collaboration and Commercialization in Physiology
Three 0.5FCE Elective graduate only courses in physiology



Summer Term 3
PSL4020Y Medical Physiology Practicum Placement

While there are required core courses, students have the flexibility to tailor their education according to their interests.



- In PSL4000Y, 12 hours devoted to elective seminars/topics related to career interests (eg. entrepreneurship, project management)
- Three 0.5 FCE elective courses in physiology area of interest (endocrine, cardiovascular, neuroscience, metabolism)
- In PSL4010Y, Mentored literature review in physiology area of interest (endocrine, cardiovascular, neuroscience, metabolism)
- In PSL4020Y, Practicum placement in a work environment in a field of interest (biotechnology companies, health care settings, research institutes, non-profits, data analytics)

What are the Tuition Fees?
Pending program approval, estimated fees are in the range of \$13,000 (Domestic) and \$33,000 (International). These estimates are subject to change.

Who Can Apply?
Domestic or International applicants with a Bachelor or MD degrees and a course in physiology. For further eligibility and application requirements please check physiology.utoronto.ca

No offer of admissions will be made to the program pending final approval by the Quality Council and the Ministry of Training, Colleges and Universities -- Expected by June 2019



MACALLUM & FIP 2019

We are excited to announce that **Dr. Richard D. Palmiter** from the University of Washington and the Howard Hughes Medical Institute will be our **Macallum and FIP Speaker 2019!**



Dr. Palmiter is internationally renowned for his work on specific neuronal populations that control appetite. Interestingly, he is considered by many to be the "founding father" of transgenic mouse technology from his seminal paper on growth hormone transgenic mice in *Nature* in 1982. He currently studies the neurons that reside in the parabrachial nucleus that mediate virtually every threat examined, including real threats (pain, itch, food poisoning) to potential threats (novel food or cues associated with pain). These neurons have been shown to mediate the unconditioned stimulus in classic taste- and fear-conditioning experiments. His lab uses innovative genetic and viral transduction techniques to discern neural circuits that control mouse behavior.

Dr. Palmiter will deliver Physiology's Macallum Lecture on May 1st, 2019 (3-4 pm, location TBA), and will be with us on May 2nd for Physiology's Annual Research Day (FIP). Location TBA. As one of our biggest events, FIP showcases our department's strength in research, and serves to encourage new collaborations and partnerships within our department and affiliated institutions.

Please join us on May 1 & 2!

Stay tuned for more information.

GASP News

Rivoli Recap

2018 ended without a scratch (maybe a few)! Graduate students and (one) faculty* had a chance to recharge with great company, great food, and great games of pool at Rivoli! Looking forward to what's in store for 2019!



**Where's Waldo?*

Department of Physiology Trainee Seminar Series

DoPTSS provides the perfect opportunity for trainees to practice and receive feedback on work related to their projects. Join us for free coffee and snacks!

Registration for all dates open:

<https://goo.gl/forms/NwtL2YhtvGTWZudM2>

For more information, Contact

Yasaman: yasaman.mostafaie@mail.utoronto.ca

Frontiers in Physiology 2019

FIP speaker? Check. Dates confirmed? Check. Abstract submissions and registration? Stay tuned - links for abstract submission and registration for Frontiers in Physiology (FIP) 2019 **will open early February!**

PHYSIOLOGY/MoveU COMMUNITY RUN/WALK PROGRAM



All students, staff, post-docs and faculty are invited to become more active this winter. Join us for our Physiology Community Runs or sign up for our Learn-to-Run program. Here are the details:

Physiology/MoveU Community Run/Walk:

Join us on the Athletic Centre indoor track. Runs start on January 16 and end April 5 (no runs during Reading Week).

Times: Wednesdays 3:30 – 4pm and Fridays* 4-4:30 pm

Cost: Free (you must have an Athletic Centre membership)

No need to register – just show up with running shoes and dressed ready to run (bring a lock to store your valuables in the locker room.)

Learn-to-Run Program:

A 10-week learn-to-run program in partnership with The Runner's Academy and Hart House will be held at the Hart House indoor track. Learn about appropriate running technique, clothing, nutrition, etc. The program runs from January 21 - April 1 (except for February 18). It is not too late to join this program.

Time: Mondays 6:10-7pm

Cost: \$40.00

Register here: <https://uoft.me/run5k>

*All community runs take place on the Athletic Centre indoor track except for the following dates: Feb 8, 15, Mar 15 – on those dates please join us on the indoor track at Hart House.

(MoveU is a tri-campus initiative that aims to inspire students to engage in a healthy lifestyle by helping them to find physical activity opportunities that fit into their busy lives. It is our belief that when students take time to move during their day, they become their most productive selves.)

IN THE NEWS – Paul Frankland

Why Forgetfulness Might Actually Help You

An absent-minded moment may actually be a sign of a healthy level of creativity or focus.

A report quotes UTSC's Blake Richards and **Physiology's Paul Frankland** on how memory systems work.

Many people worry that forgetting names, facts or tasks on their to-do list is a sign of aging or mental decline. A growing body of research offers a more welcome excuse: Forgetting stuff can actually be a byproduct of rigorous thinking, smooth decision-making or heightened creativity.

Keep reading... [\(Wall Street Journal\)](#)

We want to hear about the great things happening in Physiology!

Please share your accomplishments, awards...

Send news items to the Chair's Office c/o e.katsoulakos@utoronto.ca