

Physiology and Pharmacology Newsletter March/April 2021

Welcome to the latest edition of the Physiology and Pharmacology Newsletter. If you have items for future newsletters, please let me know – fbeier@uwo.ca. Awards, grants, invited lectures, new lab members...

The last month of the term has started, and most of us will get to enjoy all the fun that comes with final exams etc. Thanks again to all of you who worked so hard to keep our teaching program strong this year, especially our teaching faculty and Michele!

Thank you as well to everyone who attended our strategic planning retreat earlier this week, I felt it was very productive. For those who could not make it, you will have other opportunities to comment and provide input. I also plan separate meetings with graduate students, postdocs, and staff to get their insights on the developing plan. For now, I will share the new vision that was developed in a very collaborative manner during the retreat:

To be an inclusive, innovative, and integrative community that applies our strengths in research and education to benefit society.

There is still time for feedback on this vision as well, but I have to say that I am very pleased with this statement and the way it was developed. However, the entire strategic plan is a work in progress, so you will hear more (I was tempted to say 'stay tuned' but that expression is rather tainted by now....).

In other news, we are progressing with hiring into our limited term position for education. We are planning for synchronous lectures open to all department members from our top candidates on April 21, 22, and 27, likely at 10 am each day. Please hold the time in your calendars; Olga will provide additional details.

Finally, once again the situation with research restrictions and safety rules regarding Covid-19 is very fluid. Please look out for announcements per email and on the Western website, especially after provincial announcements expected today.

Enjoy the long weekend and stay safe!

Frank

Welcome

- Marie-Eve Gagnon – Post Doctoral Associate with Adrian Owen
- Cindy Xiao – Research Technician with Qingping Feng
- Fatma Hassan – Visiting Professor with Lina Dagnino
- Samar Sayedyahosseini – Research Associate with Lina Dagnino

Congratulations

- To Taylor Schmitz on his first CIHR operating grant as principal investigator, and to Marco Prado, Andrew Pruszynski, and David Hess on their roles in successful CIHR applications!
- To Wataru Inoue and Julio Martinez-Trujillo for the BrainsCAN Accelerator grant!
- To Lisa Saksida on her selection as a 2020 Manulife Science and Technology Award winner!

Undergraduate Studies Updates

- As we are wrapping up our semester, everyone is invited to join our thesis student's poster day OWL site to view student presentations. You can join the OWL site called "4980 Supervisor Site 2020" and the poster day tab will become visible for Monday, April 5th at 9 AM with the posted presentations. Please feel free to let students know that you came to their poster by posting a comment or a just under their poster presentation. Markers will be provided with more details regarding the format, etc. but students will respond to all questions that are posted prior to 2 PM on the Monday of poster day. All faculty, staff and students are welcome to join our virtual poster day. If you have any troubles with accessing the site on your own, feel free to reach out to Michele Grigg for assistance to be added to the site (mgrigg3@uwo.ca).
- We are just about into our final exam period. For courses that are running this semester, your students will be encouraged to provide course and instructor feedback. The link will remain open for your students until April 13th. You can see the current response rate in your course(s) by going directly to <http://www.feedback.uwo.ca/> to log in.
- The final exam period is running from April 14th to April 30th. Please get your exam templates to Michele at the set times and also remember that all grades will be due to be completed 7 days after the exam is written. If students miss your exams with permission from academic counselling, we will have one set departmental exam day on May 11th. Exam times on that day will be determined once we know how many makeups are required.

- Finally, we would like to have a course review meeting in Mid-May to discuss the successes and issues that happened in your courses as a fully online format. We would love to be able to share what has worked with each other and look forward to your participation in sharing then. Michele will send out a doodle poll for identifying the best day and time, later on this month for a May date.

Research Update

- The 2021 Canadian Society of Pharmacology and Therapeutics (CSPT) virtual meeting on June 8-11, 2021. Details can be found on the CSPT website www.pharmacologycanada.org.

Calendar

- Department Meeting – May 10 (2:00 pm via Zoom)
- Upcoming Physiology and Pharmacology Seminars (3:00 pm via Zoom)
 - April 12 – Dr. Filip Van Petegem, University of British Columbia: *“Ion channelopathies at high resolution: investigating cardiac arrhythmias and myopathies via cryo-EM and X-ray crystallography”*
 - April 19 – Dr. Anastassia Voronova, University of Alberta: *“Neuronal chemokine fractalkine regulates neural stem cell fates in the developing and regenerating brain”*
 - April 26 – Dr. Franco Vizeacoumar, University of Saskatchewan: *“Targeting telomerase by synthetic dosage lethality to develop novel cancer therapeutics”*

Full list of the Winter/Spring seminars can be found at:

https://www.schulich.uwo.ca/physpharm/about_us/seminar_schedule.html

Research Publications in February 2021

- Graduate and fourth-year honours students (PhysPharm 4980) are in bold. Faculty members, staff and postdoctoral scholars are underlined.
1. Bali SK, Bryce D, Prein C, Woodgett JR, **Beier F**. Glycogen synthase kinase 3 alpha/beta deletion induces precocious growth plate remodeling in mice. J Mol Med (Berl). Feb 2021
 2. **Sayed Yahosseini S**, **Huang K**, **Li Z**, **Zhang C**, Kozlov AM, Johnston D, Nouri-Nejad D, Dagnino L, Betts DH, Sacks DB, Penuela S. Pannexin 1 binds β -catenin to modulate melanoma cell growth and metabolism. J Biol Chem. Feb 2021. 100478

3. Muanda FT, Blake PG, Weir MA, Bathini L, Chauvin K, Dixon SN, McArthur E, Sontrop JM, Moist L, Kim RB, Garg AX. Association of Baclofen With Falls and Fractures in Patients With CKD. *Am J Kidney Dis*. Feb 2021
4. Lim WH, Lok CE, Kim SJ, Knoll G, **Shah BR**, Naylor K, Luo B, Vinegar M, Dixon SN, Hawley C, Ooi E, Viecegli A, Wong G. Impact of Pretransplant and New-Onset Diabetes After Transplantation on the Risk of Major Adverse Cardiovascular Events in Kidney Transplant Recipients: a Population-Based Cohort Study. *Transplantation*. Feb 2021
5. Adam R, Schaeffer DJ, Johnston K, Menon RS, Everling S. Structural alterations in cortical and thalamocortical white matter tracts after recovery from prefrontal cortex lesions in macaques. *Neuroimage*. Feb 2021. 232: 117919
6. Schaeffer DJ, Liu C, Silva AC, Everling S. Magnetic Resonance Imaging of Marmoset Monkeys. *ILAR J*. Feb 2021
7. Areshenkoff CN, Nashed JY, Hutchison RM, Hutchison M, Levy R, Cook DJ, Menon RS, Everling S, Gallivan JP. Muting, not fragmentation, of functional brain networks under general anesthesia. *Neuroimage*. Feb 2021. 231: 117830
8. Terenzi DC, Bakbak E, Trac JZ, Al-Omran M, Quan A, Teoh H, Verma S, Hess DA. Isolation and characterization of circulating pro-vascular progenitor cell subsets from human whole blood samples. *STAR Protoc*. Mar 2021. 2(1): 100311
9. **Cooper TT**, **Sherman SE**, Bell GI, Dayarathna T, McRae DM, Ma J, Laguné-Labarthet F, Pasternak SH, Lajoie GA, Hess DA. Ultrafiltration and Injection of Islet Regenerative Stimuli Secreted by Pancreatic Mesenchymal Stromal Cells. *Stem Cells Dev*. Mar 2021. 30(5): 247-264
10. Maksoud MJE, Tellios V, Lu WY. Nitric oxide attenuates microglia proliferation by sequentially facilitating calcium influx through TRPV2 channels, activating NFATC2, and increasing p21 transcription. *Cell Cycle*. Feb 2021. 20(4): 417-433
11. Abeyasinghe PM, Aiello M, Cavaliere C, Owen AM, Soddu A. A comparison of diffusion tractography techniques in simulating the generalized Ising model to predict the intrinsic activity of the brain. *Brain Struct Funct*. Feb 2021
12. Magalhães-Gomes MPS, Camargos W, Valadão PAC, Garcias RS, Rodrigues HA, Andrade JN, Teixeira VP, Naves LA, Cavalcante WLG, Gallaci M, Guatimosim S, Prado VF, Prado MAM, Guatimosim C. Increased Cholinergic Tone Causes Pre-synaptic Neuromuscular Degeneration and is Associated with Impaired Diaphragm Function. *Neuroscience*. Feb 2021. 460): 31-42
13. **Kim MK**, Ramachandran R, Séguin CA. Spatiotemporal and functional characterisation of transient receptor potential vanilloid 4 (TRPV4) in the murine intervertebral disc. *Eur Cell Mater*. Feb 2021. 41: 194-203
14. Groh AMR, Fournier DE, Battié MC, Séguin CA. Innervation of the human intervertebral disc: a scoping review. *Pain Med*. Feb 2021
15. **Lin QT**, Lee R, **Feng AL**, **Kim MS**, Stathopoulos PB. The leucine zipper EF-hand containing transmembrane protein-1 EF-hand is a tripartite calcium, temperature, and pH sensor. *Protein Sci*. Feb 2021
16. Burgos M, Philippe R, Antigny F, Buscaglia P, Masson E, Mukherjee S, Dubar P, Le Maréchal C, Campeotto F, Lebonvallet N, Frieden M, Llopis J, Domingo B, Stathopoulos PB, Ikura M, Brooks W, Guida W, Chen JM, Ferec C, Capiod T, Mignen O. The p.E152K-STIM1 mutation deregulates Ca²⁺ signaling contributing to chronic pancreatitis. *J Cell Sci*. Feb 2021. 134(3)
17. **Lim YJ**, **Sidor NA**, **Tonial NC**, **Che A**, Urquhart BL. Uremic Toxins in the Progression of Chronic Kidney Disease and Cardiovascular Disease: Mechanisms and Therapeutic Targets. *Toxins (Basel)*. Feb 2021. 13(2)

18. Lebel A, Chui H, McMahon KR, **Lim YJ**, Macri J, Wang S, Devarajan P, Blydt-Hansen TD, Zappitelli M, Urquhart BL. Association of Urine Platinum with Acute Kidney Injury in Children Treated with Cisplatin for Cancer. *J Clin Pharmacol*. Feb 2021
19. Immanuel J, Simmons D, Harreiter J, Desoye G, Corcoy R, Adelantado JM, Devlieger R, Lapolla A, Dalfrà MG, Bertolotto A, Wender-Ozegowska E, Zawiejska A, Dunne FP, Damm P, Mathiesen ER, Jensen DM, Andersen LLT, Hill DJ, Jelsma JGM, Kautzky-Willer A, Galjaard S, Snoek FJ, van Poppel MNM. Metabolic phenotypes of early gestational diabetes mellitus and their association with adverse pregnancy outcomes. *Diabet Med*. Feb 2021. 38(2): e14413
20. Dieberger AM, Desoye G, Stolz E, Hill DJ, Corcoy R, Simmons D, Harreiter J, Kautzky-Willer A, Dunne F, Devlieger R, Wender-Ozegowska E, Zawiejska A, Lapolla A, Dalfrà MG, Bertolotto A, Galjaard S, Adelantado JM, Jensen DM, Andersen LL, Tanvig M, Damm P, Mathiesen ER, Snoek FJ, Jelsma JGM, van Poppel MNM. Less sedentary time is associated with a more favourable glucose-insulin axis in obese pregnant women-a secondary analysis of the DALI study. *Int J Obes (Lond)*. Feb 2021. 45(2): 296-307
21. Amtul Z, Najdat AN, Hill DJ, Arany EJ. Differential temporal and spatial post-injury alterations in cerebral cell morphology and viability. *J Comp Neurol*. Feb 2021. 529(2): 421-433
22. **Wigle TJ**, Povitz BL, **Medwid S**, Teft WA, Legan RM, Lenehan J, Nevison S, Panuganty V, Keller D, Mailloux J, Siebring V, Sarma S, **Choi YH**, Welch S, Winkquist E, Schwarz UI, Kim RB. Impact of pretreatment dihydropyrimidine dehydrogenase genotype-guided fluoropyrimidine dosing on chemotherapy associated adverse events. *Clin Transl Sci*. Feb 2021
23. Feldman RD, Hegele RA. Primary Aldosteronism in Hypertension: More Than a Factoid. *Can J Cardiol*. Feb 2021. 37(2): 196-198
24. Page AD, Elhayek N, Baylor C, Adams S, Jog M, Yorkston K. Exploring the Psychosocial Impact of Botulinum Toxin Type A Injections for Individuals With Oromandibular Dystonia: A Qualitative Study of Patients' Experiences. *Am J Speech Lang Pathol*. Feb 2021. 1-15
25. **Wilson A**, Choi B, Sey M, Ponich T, Beaton M, Kim RB. High infliximab trough concentrations are associated with sustained histologic remission in inflammatory bowel disease: a prospective cohort study. *BMC Gastroenterol*. Feb 2021. 21(1): 77

Research publications by members of the Department are also posted on the Department website.
<https://www.schulich.uwo.ca/physpharm/research/publications.html>