



THE BIOMEDER

UNIVERSITY
of GUELPH

The official newsletter of the Department of Biomedical Sciences



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A Fall unlike any other!

As we prepare to go back to our classrooms (aka kitchen table or office), whether you are teaching synchronously or asynchronously, please remember that all of the same teaching, learning and mental wellness supports are here to assist you. Resources for your teaching needs can be found on the Office of Teaching and Learning, CCS and OpenEd websites. Your mental wellness supports can be found on the Human Resources website and from our graduate peer helpers, **Kathy Jacyniak and Anita Luu**, who are onsite and happy to lend a compassionate ear. Finally, welcome to all of our new graduate student cohort. Although your experience will be different in comparison, it will remain just as inspirational and with as much impact!

Keep safe and keep smiling Biomed!

Publications from around the Dept this month...

Endocrine Insights into the pathophysiology of autistic spectrum disorder. **Wilson, Hayley, Creighton, Carolyn**, Scharfman, Helen, **MacLusky, Neil**. The Neuroscientist. (in press).

Proteome-wide Prediction of Lysine Methylation Leads to Identification of H2BK43 Methylation and Outlines the Potential Methyllysine Proteome. Kyle K. Biggar, Francois Charih, Huadong Liu, Yasser B. Ruiz-Blanco, **Leanne Stalker**, Anand Chopra, Justin Connolly, Hemanta Adhikary, Kristin Frensemier, Matthew Hoekstra, Marek Galka, Qi Fang, Christopher Wynder, William L. Stanford, James R. Green, and Shawn S.-C. Li. Cell Reports. <https://doi.org/10.1016/j.celrep.2020.107896>

Why the hype - What are microRNAs and why do they provide unique investigative, diagnostic, and therapeutic opportunities in veterinary medicine? **Joshua Antunes, Olivia Lee, Amir Hamed Alizadeh, Jonathan LaMarre, Thomas Gadegaard Koch**. Can Vet J. 2020 Aug;61(8):845-852. (equal contribution by Josh, Olivia and Hamed)

Ovarian activity in dairy Saanen goats subjected to a short-term ovulation induction protocol and a single injection of lecorelin (GnRH analog) given 28 h or 34 h after progestin pre-treatment. Isabel Oliveira Cosentino, Mario Felipe Alvarez Balaro, Felipe Seabra Cardoso Leal, Ana Luiza Cunh Bade, Lucasde Figueiredo Cardoso Barbosa, Fernanda Martins Gonçalves, Paula Renata Cortatde Souza, Paulo Victor dos Santos Pereira, **Pawel M. Bartlewski**, Felipe Zandonadi Brandão. Small Rum Res., in press. <https://doi.org/10.1016/j.smallrumres.2020.106214>

OpenVape: an Open-Source E-Cigarette Vapour Exposure Device for Rodent. **Jude A. Frie, Jacob Underhill**, Bin Zhao, Giordano de Guglielmo, Rachel F. Tyndale, **Jibran Y. Khokhar**. eNeuro (in press).

At the intersection of mental health and drug addiction: MENTAL HEALTH Q&A with Jibran Khokhar, biomedical science researcher and assistant professor at the University of Guelph. Health Science Inquiry, BY **MADISON PEREIRA** (<https://www.healthscienceinquiry.com/index.php/hsi/article/view/314/292>).

Congrats everyone and keep up the great work!!

Distinguished Chair in Cardiovascular Research

Dr. Tami Martino, has been awarded the Distinguished Chair in Molecular Cardiovascular Research. This honour from the University of Guelph is in recognition of her outstanding contributions to her field.

This opportunity to honour Tami's contributions by the award of this Chair, effective Sept 1 2020, with a duration of 5 years, has come about through financial support from a generous philanthropic source. This new recognition is a testament to the outstanding fundamental research happening in our department, OVC and at the University of Guelph.

Tami's efforts as the founding director of U of G's Centre for Cardiovascular Investigations (CCVI), as well as her application of circadian biology to clinical cardiology, has led to her acknowledgement as a recognized pioneer in the emerging field of circadian medicine.

Her research has helped in understanding how our molecular circadian clock mechanism regulates cardiovascular health and disease and how these interactions translate into clinical applications for treating heart disease.

Her research team investigates how circadian dysregulation drives heart diseases, including myocardial infarction (heart attack), hypertension (high blood pressure), cardiac hypertrophy and heart failure. The group also examines how to use the heart's circadian biology to help in healing, including slowing or reversing damage.

While focused on new treatments for cardiovascular disease, her findings can also be applied to wide-ranging clinical conditions in humans and companion animals.

Read the full story here: <https://news.uoguelph.ca/2020/08/u-of-g-expert-in-cardiovascular-research-circadian-medicine-named-to-prestigious-chair/>

Congrats Tami on this most deserving recognition!

Undergrad student tackles COVID misinformation

Biomedical Sciences undergraduate student **Gurkiran Dhuga** in Dr. Glen Pyle's lab, used her summer student position to combat myths and misinformation about COVID-19.

Working with the national research group COVID-19 Resources Canada, she wrote a series of articles to educate people on a range of topics, from the role of the cardiovascular system in COVID-19 to the myths surrounding hydroxychloroquine, and the impact of racial inequalities on outcomes.

Some articles have been re-published by science websites including Science 2.0 and Lifeomics.

Way to go Gurkiran!



Giannina's NARSAD Funding

Dr. Giannina Descalzi has been awarded a NARSAD Young Investigator Grant from the Brain and Behaviour Research Foundation. The grant is for 2 years, starting Jan 2021 and a total of \$70,000 USD, which is roughly **\$93,000 CAD**.

Briefly, this grant will be used to generate proof of principle data regarding the role of astrocyte-neuronal communication in the chronification of pain (conversion from acute to chronic states). It will provide evidence that "normal" mechanisms used for adaptive learning are also involved in maladaptive changes that drive both painful and emotional symptoms.

The data generated will be used for applications to larger Tri-Council (CIHR) grants.

Keep up the great work Giannina!



Key Figures



\$408+ million

Since 1987, the Foundation has awarded more than \$408 million to fund more than 5,900 grants to more than 4,800 leading scientists around the world.



Nearly 1 in 5 adults

More than 18% of adults in the U.S. experience mental illness in a given year.*

* Source: [National Institute of Mental Health](#)



20% of children

Just over 20 percent of children, either currently or at some point during their life, have had a seriously debilitating mental disorder.*

* Source: [National Institute of Mental Health](#)



450 million people

More than 450 million people around the world live with mental illnesses.*

* Source: [World Health Organization](#)



Please do not hesitate to knock on my door (with your mask!) or contact me by email if you have ANY questions/concerns at tsaleh@uoguelph.ca

Stay safe, stay well
We got this Biomed!!
#biomedstrong