Volume 4.27: July 20, 2020

Publications of the Week

Bax and Bak Jointly Control Survival and Dampen the Early Unfolded Protein Response in Pancreatic β-Cells Under Glucolipotoxic Stress

First Author: Sarah White *(pictured, right)* | Senior Author: Dan Luciani *(left)*
Scientific Reports | BC Children's Hospital Research Institute and UBC

ER stress and apoptosis contribute to the loss of pancreatic β-cells under pro-diabetic conditions of glucolipotoxicity. Using mice with individual or combined β-cell deletion of the pro-apoptotic Bcl-2 family proteins Bax and Bak, the authors demonstrated that glucolipotoxic β-cell death *in vitro* occurs by both non-apoptotic and apoptotic mechanisms, and the apoptosis could be triggered by either Bax or Bak alone. **Profile | Abstract**

Improved Structural Variant Interpretation for Hereditary Cancer Susceptibility Using Long-Read Sequencing

First Author: My Linh Thibodeau | Corresponding Author: Kasmintan Schrader *(pictured, right)* | Senior Author: Steven Jones *(left)*
Genetics in Medicine | Canada's Michael Smith Genome Sciences Centre, BC Cancer and UBC

Structural variants (SVs) may be an underestimated cause of hereditary cancer syndromes given the current limitations of short-read next-generation sequencing. The authors investigated the utility of long-read sequencing in resolving germline SVs in cancer susceptibility genes detected through short-read genome sequencing. **Profile | Abstract**

Genetic and Evolutionary Patterns of Treatment Resistance in Relapsed B-Cell Lymphoma

First Author: Christopher Rushton | Senior Author: Ryan Morin *(pictured)*
Blood | SFU, BC Cancer and Canada's Michael Smith Genome Sciences Centre

Diffuse large B-cell lymphoma (DLBCL) patients are typically treated with an immunochemotherapy called R-CHOP; however, prognosis is extremely poor if R-CHOP fails. To identify genetic mechanisms contributing to primary or acquired R-CHOP resistance, the authors performed target-panel sequencing of 135 relapsed/refractory DLBCLs, primarily comprising circulating tumour DNA from patients on clinical trials. **Profile | Abstract**

View All Publications

Awards

SFU Faculty of Health Sciences PhD Student Successful in CIHR Doctoral Competition

SFU Faculty of Health Sciences

Aniqa Shahid *(pictured)*, a PhD candidate in the Faculty of Health Sciences at SFU, has been successful in the CIHR doctoral research competition, winning the Frederick Banting and Charles Best Canada Graduate Scholarships Doctoral Award. In addition to supporting her current research, this award will help her with future applications for post-doctoral research opportunities, as well as other research grants. **Read More**

School of Biomedical Engineering Student Justin Yu Wins the SB3C Master's Student Paper Competition

UBC School of Biomedical Engineering

Growth and evolution lead in a world that's built on change. This is a guiding belief for Justin Yu *(pictured)*, this year's first place winner of the Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C) Student Paper Competition, and he practices what he preaches. "Leaders need to be tenacious with their ideas," says the recent Master's graduate, "they need to be accountable for both their accomplishments and failures, and be able to communicate their work to diverse audiences." **Read More**

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Local News

Mom and Baby Share "Good Bacteria" through Breast Milk

UBC News

A new study by researchers at UBC has found that bacteria are shared and possibly transferred from a mother's milk to her infant's gut, and that breastfeeding directly at the breast best supports this process. The research found that certain bacteria, including *Streptococcus* and *Veillonella*, co-occur in mothers' milk and their infants' stool, and this co-occurrence is higher when infants nurse directly at the breast. **Read More**

In COVID-19 Pandemic Organoids Prove a Valuable Experimental Virology Platform

UBC Life Sciences Institute

The urgent need to identify viable treatments and a potential vaccine for SARS-CoV-2 infection has underscored the importance of translating insights from basic science into clinical application. Multiple recent studies have effectively utilized organoids as pre-clinical models for new infectious diseases, including a widely praised study authored by an international group of researchers led by UBC Life Sciences Institute Director Dr. Josef Penninger *(pictured)*. **Read More**

The UBC School of Biomedical Engineering Welcomes New Faculty Member Dr. Nika Shakiba

UBC School of Biomedical Engineering

Dr. Nika Shakiba *(pictured)* has joined the UBC School of Biomedical Engineering as a new faculty member. The Shabika lab will use a multidisciplinary approach, combining genetic engineering techniques with cellular barcoding technology, mathematical models, and the design of synthetic genetic circuits, to dynamically tune fitness genes, thus predictably controlling competition in multicellular populations. **Read More**

Gene Machines: An Acoustic Exploration of Genome Science

Canada's Michael Smith Genome Sciences Centre

In commemoration of Canada's Michael Smith Genome Sciences Centre (GSC) at BC Cancer's 20th anniversary, Vancouver-based electronic music producer *Segue* was commissioned to create an original composition based on audio recordings from the GSC's laboratory equipment, robots and computers — to make "music" from the noise they produce. **Read More**

Vancouver-Based Study to Help Quickly Diagnose Patients Most at Risk of Dying from COVID-19

News 1130

It's not a cure, but hope for life-saving treatment. That's what a team of researchers at UBC is working on to help critical care patients during the pandemic. The goal is to quickly diagnose people more likely to develop severe sepsis. Lead researcher Dr. Bob Hancock *(pictured)* says that condition — which can lead to multiple organ failure — has already been identified as a major reason why people are dying. **Read More**

eDNA Applications Will Support Advancements for BC Fisheries and Aquaculture

Genome BC

eDNA is proving to be an attractive tool in exploring and studying Earth's biodiversity due to its noninvasive approach and relatively lower cost for sample collection and species monitoring. Genome BC has funded two projects to apply eDNA technologies to address challenges in salmon farming practices through improved environmental detection of problematic microbes, and to assess Pacific salmon stocks. **Read More**

Evaluating COVID-19 Vaccines During the Pandemic Poses Challenges

BC Children's Hospital Research Institute

With more than 140 SARS-CoV-2 vaccines in development, the race is on for a successful candidate to help prevent COVID-19. But according to new work led by researchers at BC Children's Hospital, there are challenges in evaluating the efficacy of these vaccines during the pandemic. The work outlines the logistic and scientific challenges associated with assessing vaccine candidates during a pandemic, and offers some potential solutions. **Read More**

Zymeworks Announces New Multispecific Antibody Collaboration with Merck

LifeSciences BC

Zymeworks Inc., a clinical-stage biopharmaceutical company developing multifunctional biotherapeutics, has announced that it and longtime partner Merck have signed a new license agreement granting Merck the right to develop additional multispecific antibody therapeutic candidates using Zymeworks' Azymetric™ and EFECT™ platforms. **Read More**

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Upcoming Events in Vancouver

July 21 9:00 AM	**Lifting the Curtain on CanCOGeN** Online
July 22 2:00 PM	**3 Minute Postdoc Slam** Online
July 25 12:00 PM	**Immigrant and International Women in Science Network Vancouver July Picnic** Trout Lake Beach
July 28 10:00 AM	**Stem Cells from the Sofa Speaker Series: Dr. Bernard Thébaud** Online
July 29 9:00 AM	**Live Panel: Advancing Tissue Therapeutics to the Clinic** Online

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Science Jobs in Vancouver

Senior Research Associate, Molecular Biology/Synthetic Biology
Precision NanoSystems

Associate Scientist, Technology Integration & Bioinformatics
Zymeworks

Projects Manager
Canada's Michael Smith Genome Sciences Centre at BC Cancer

Senior Scientist, Microbiology and Immunology
NovoBind Livestock Therapeutics

Research Scientist, Cell Biology
Renaissance BioScience Corp.

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