

Publications of the Week

ChopStitch: Exon Annotation and Splice Graph Construction Using Transcriptome Assembly and Whole Genome Sequencing Data

First Author: Hamza Khan (*sixth from left*) | Senior Author: Inanc Birol (*fourth from left*)
Bioinformatics | Canada's Michael Smith Genome Sciences Centre and the BC Cancer Agency



The authors present ChopStitch, a new method for finding putative exons *de novo* and constructing splice graphs using an assembled transcriptome and whole genome shotgun sequencing (WGSS) data. ChopStitch identifies exon-exon boundaries in *de novo* assembled RNA-Seq data with the help of a Bloom filter that represents the k-mer spectrum of WGSS reads. [Profile](#) | [Abstract](#)

Neuronal PAS Domain Protein 4 Suppression of Oxygen Sensing Optimizes Metabolism during Excitation of Neuroendocrine Cells

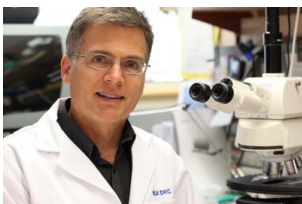
First Author: Paul Sabatini | Senior Author: Francis Lynn (*pictured*)
Cell Reports | BC Children's Hospital Research Institute and UBC



Depolarization of neuroendocrine cells results in calcium influx, which induces vesicle exocytosis and alters gene expression. The authors hypothesized that cellular mechanisms exist to maximize energy production during excitation, and demonstrated that NPAS4, an immediate early basic helix-loop-helix-PAS transcription factor, acts to maximize energy production by suppressing hypoxia-inducible factor 1 α . [Abstract](#)

A Library-Based Screening Method Identifies Neoantigen-Reactive T Cells in Peripheral Blood Prior to Relapse of Ovarian Cancer

First Author: Spencer Martin | Senior Author: Brad Nelson (*pictured*)
Oncoimmunology | BC Cancer Agency, UBC, and SFU

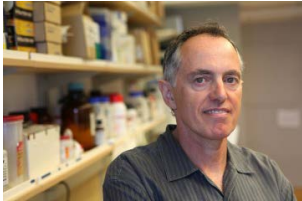


While there are anecdotal reports of neoantigen-specific T cells being present in the peripheral blood and/or tumors of cancer patients, effective adoptive cell therapy against neoantigens will require reliable methods to isolate and expand rare, neoantigen-specific T cells from clinically available biospecimens, ideally prior to clinical relapse. The authors addressed this need using "mini-lines", large libraries of parallel T cell cultures, each originating from only 2,000 T cells.

[Abstract](#)

REVIEW: Translational Control of Aberrant Stress Responses as a Novel Hallmark of Cancer

First Author: Amal El-Nagger | Senior Author: Poul Sorensen (*pictured*)
The Journal of Pathology | BC Cancer Research Centre and UBC



Altered mRNA translational control is emerging as a critical factor in cancer development and progression. The authors present the critical link between selective mRNA translation, stress adaptation, stress granules and tumour progression. They also explain how deciphering so-called selective mRNA translation that occurs under cell stress holds great promise for the identification of new targets in the treatment of cancer. [Abstract](#)

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Awards

The UBC Centre for Blood Research Postdoctoral Fellow & Research Associate Travel Awards

The Centre for Blood Research



Annually, the Centre for Blood Research offers five travel awards to postdoctoral fellows and research associates to help make travel to conferences and academic events more feasible. Each award offers \$1,000 to supplement other funding sources. This year's recipients include Drs. Natalie Zeytuni (*pictured*), Jennifer Grants, Meera Raj, Peter Bell, and Kai Yu. [Read More](#)

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Local News

MSFHR Appoints Dr. Bev Holmes as President & CEO

Michael Smith Foundation for Health Research



The Michael Smith Foundation for Health Research (MSFHR) Board is pleased to announce that following an executive search process, Dr. Bev Holmes has been appointed as president and CEO. With an eight-year history of leadership within MSFHR, Bev is ideally suited to lead MSFHR as they grow their role as BC's expert health research funding agency, and continue to develop the talent BC needs to advance health research and the knowledge economy. [Read More](#)

Raman Spectroscopy Used to Distinguish Cell Death and Apoptotic Stages in Chinese Hamster Ovary Cells

Michael Smith Laboratories

Chinese hamster ovary cells are the most widely used cell types for the production of therapeutic proteins in the biotechnology industry. Having a method to detect the onset of apoptotic processes in these cells is therefore critical and remains a



constant challenge with conventional methods in an industrial setting. Drs. James Piret (*pictured*) and Robin Turner tackled this issue by developing an innovative analytical approach using Raman spectroscopy. [Read More](#)

Research That's More Than Skin Deep: Q&A with Paulina Piesik

BC Children's Hospital Research Institute



On the surface, our skin is a barrier surrounding our bodies. But underneath those layers, our skin tells a bigger story - it plays a vital role in protecting us from diseases. Understanding the skin's immune system is the main goal of Paulina Piesik (*pictured*), a UBC doctoral student working at B.C. Children's Hospital with Dr. Jan Dutz. In particular, she's studying how our skin affects the development of inflammation. [Read More](#)

ProtoKinetix Has Entered into a Research Agreement with the University of British Columbia to Test the Effect of Its AAGP™ on Monoclonal Antibody Production and Bone Marrow Recovery

ProtoKinetix via Business Wire



ProtoKinetix, Inc. has announced that it has entered into a research agreement with the University of British Columbia, under the direction of principal investigator Dr. Kelly McNagny (*pictured*), Professor, Faculty of Medicine, Department of Medical Genetics. This research agreement is to test and determine the effect of AAGP™ on monoclonal antibody production and bone marrow recovery.

[Read More](#)

CannaRoyalty and Aequus Pharmaceuticals Announce Joint Venture to Develop and Commercialize Cannabis-Based Therapies Targeting Neurological Disorders

Aequus Pharmaceuticals



CannaRoyalty Corp. and Aequus Pharmaceuticals Inc. have announced a collaboration to advance a suite of cannabis-based therapies targeting neurological disorders into clinical trials in Canada, in collaboration with Canadian doctors and key opinion leaders. The collaboration will leverage CannaRoyalty's deep expertise in identifying, funding and commercializing cannabis related products and Aequus' expertise in clinical development and drug delivery. [Read More](#)

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Interesting Articles

Women Needed in STEM on Brink of Fourth Industrial Revolution

The Vancouver Sun



Women are underwhelmingly employed in science, technology, engineering and mathematics (STEM) fields. Canada, for its gender-balanced cabinet, only sees 36 per cent of PhDs in science earned by women, while the UK and US see 49 and 46 per cent, respectively. Canada's science minister thinks that Canadian universities aren't doing enough to ensure gender parity. [Read More](#)

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Upcoming Events in Vancouver

- | | |
|------------------------|---|
| January 23
7:00 PM | Written In Ice – Glaciers and Climate Change
Telus World of Science |
| January 24
2:00 PM | Introduction to R Workshop Series
Life Sciences Institute, UBC |
| January 24
4:00 PM | Addressing Platelet Refractoriness: Giving Hematology-Oncology Patients the Best Chance of Success
Online |
| January 27
10:30 AM | East Van Community Science Celebration
Britannia Community Centre |
| January 31
7:00 PM | Public Lecture on Immune Therapies for Cancer
Life Sciences Centre, UBC |

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Science Jobs in Vancouver

Content Editor and Corporate Writer

STEMCELL Technologies

Social Media Specialist

STEMCELL Technologies

Applications Scientist

Aspect Biosystems

Postdoctoral Fellow, Bioinformatics

The Centre for Drug Research and Development

Research Coordinator – Hematology/Oncology

St Paul's Hospital Hematology/Oncology Research Group

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