

Publications of the Week

Structural and Biochemical Rationale for Enhanced Spike Protein Fitness in Delta and Kappa SARS-CoV-2 Variants

First Authors: James Saville and Dhritya Marwaha | Senior Author: Siriram Subramaniam (pictured)
 Nature Communications | BC Centre for Disease Control and UBC



The Delta and Kappa variants of SARS-CoV-2 co-emerged in India in late 2020, with the Delta variant underlying the resurgence of COVID-19, even in countries with high vaccination rates. The authors assess structural and biochemical aspects of viral fitness for these two variants using cryo-electron microscopy, angiotensin-converting enzyme 2-binding, and antibody neutralization analyses. [Abstract](#) | [Press Release](#)

Screening of Diverse Marine Invertebrate Extracts Identified Lissoclinotoxin F, Discodermin B, and Other Anti-Mycobacterium tuberculosis Active Compounds

First Author: Henok Sahle | Senior Author: Yossef Av-Gay (pictured)
 The Journal of Antibiotics | Life Sciences Institute and UBC



Screening of a marine derived crude natural product extract library, followed by bioactivity guided fractionation, has led to isolation and structural elucidation of ten natural products as hits active against *Mycobacterium tuberculosis*. Details regarding screening techniques, structural elucidation, and preliminary structural activity relationships of the isolated hits are discussed. [Abstract](#)

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Awards

Winners Announced for 2021 Alzheimer's Disease Research Grant

Djavad Mowafaghian Centre for Brain Health



Five research studies are being funded through the Djavad Mowafaghian Centre for Brain Health Alzheimer's Disease Research Grant. Each of these projects has the potential to transform Alzheimer's disease outcomes. Dr. Sophia Frangou (pictured) will use large-scale datasets to identify environmental factors that can accelerate or delay brain aging. [Read More](#)

Adele Diamond Receives Huttenlocher Award

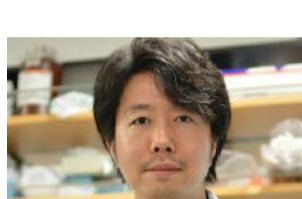
Djavad Mowafaghian Centre for Brain Health



Congratulations to Dr. Adele Diamond (pictured) on receiving the Flux Society's Huttenlocher Award for 2022! The award, which is presented to an outstanding researcher in the field of Developmental Cognitive Neuroscience each year, honours Dr. Peter Huttenlocher's distinguished and pioneering contributions to the field. Dr. Huttenlocher was a pediatric neurologist and neuroscientist who is considered one of the fathers of Developmental Cognitive Neuroscience. [Read More](#)

LSI and SBME Researchers Receive Prestigious Allen Distinguished Investigator Award for Groundbreaking Work in Human Stem Cells

Life Sciences Institute



Dr. Josef Penninger, Director of the Life Sciences Institute (LSI), and School of Biomedical Engineering (SBME) researchers Dr. Nozomu Yachie (pictured) and Dr. Nika Shakiba are being recognized as Allen Distinguished Investigators. The trio have been funded to lead a project that traces the "family trees" of individual stem cells as they grow and divide into organoids — lab-grown mini-organs. [Read More](#)

CBR Researchers Awarded CIHR Fall 2021 Project Grants

The Centre for Blood Research



Three Centre for Blood Research (CBR) principal investigators received funding from the Canadian Institutes of Health Research (CIHR), as part of the CIHR Fall 2021 Project Grant competition. Drs. Kelly Brown, Ed Pryzdial and Natalie Strynadka (pictured) have been funded on projects. In total, UBC researchers are leading 48 projects awarded Project Grants totaling \$34.7 million. A further 13 UBC-led projects were awarded priority announcement grants totaling \$1.3 million. [Read More](#)

Three Centre Principal Investigators Awarded CIHR Project Grants in Fall 2021 Competition

Vancouver Prostate Centre



Congratulations to Drs. Mads Daugaard, Yuzhuo Wang (pictured), and Alexander Wyatt and their teams on being awarded multi-year grants in the Canadian Institutes of Health Research (CIHR) Project Grant: Fall 2021 competition. The Project Grant program is designed to capture ideas with the greatest potential to advance health-related fundamental or applied knowledge, health research, health care, health systems, and/or health outcomes. [Read More](#)

VCHRI Researchers Awarded CIHR Project Grants to Support Health Research

Vancouver Coastal Health Research Institute (VCHRI)



The Canadian Institutes of Health Research (CIHR) has announced the results of its Fall 2021 project grant competition. Dr. Mads Daugaard (pictured), a molecular biologist specialized in tumour-associated stress signaling pathways and tumour targeting systems, will be investigating glycocalyx plasticity as an adaptive response to androgen receptor pathway-inhibition in prostate cancer. [Read More](#)

Six LSI Labs Funded in CIHR Fall 2021 Round

Life Sciences Institute



Six principal investigators within the Life Sciences Institute (LSI) received funding via five grants from the Canadian Institutes of Health Research (CIHR), in results announced for the 2021 Fall round. Dr. Michael Gordon (pictured) and co-investigator Dr. Benjamin Matthews will examine the cellular and molecular mechanisms of lactic acid taste in flies and disease-vectoring mosquitoes. [Read More](#)

UBC Researchers Leading Projects Awarded \$36 Million through CIHR Project Grants: Fall 2021 Competition

UBC Research + Innovation



UBC researchers are leading 61 projects awarded a total of \$35.9 million through the Canadian Institutes of Health Research (CIHR) Project Grants: Fall 2021 competition. Dr. Sean Barbour's (pictured) project aims to improve the prediction of cardiovascular risk in individuals with glomerulonephritis, a group of autoimmune diseases that attack the kidneys. [Read More](#)

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Local News

Attentive Deep Learning Model, AMPLify, Discovers New Antimicrobial Peptides from Sequencing Data

Canada's Michael Smith Genome Sciences Centre



Antimicrobial peptides (AMPs), naturally occurring and known alternatives to conventional antibiotics, represent another mechanism of protection against human pathogens. Researchers from Dr. Inanc Birol's (pictured) lab developed an attentive deep learning model called AMPLify that can predict new potential AMPs from sequencing data, effectively shortening the amount of time and resources required to discover AMPs. [Read More](#)

A 'Dream Come True' for Puzzle Lovers

Research2Realty



Dr. Kelly McNagy (pictured) is a Professor of Medical Genetics at the School of Biomedical Engineering at the University of British Columbia. His research focuses on a protein called CD34 as a therapeutic target for allergic inflammation and asthma. Research2Realty asked him about everything from the essential value of mentorship to his affinity for Peruvian cuisine. [Read More](#)

Vancouver's Canexia Merging with Imagia in Cancer-Tech Consolidation

Business in Vancouver



Vancouver-based Canexia Health is merging with Imagia Cybernetics in a deal expected to close by the end of the month. The newly formed company, Imagia Canexia Health, will be led by CEO Geraÿn Ochab from Imagia's present Montreal headquarters. Canexia specializes in offering genomics-based cancer tests, while Imagia is known for tapping artificial intelligence to better understand health-care data. [Read More](#)

BC-Developed Strategy Reduces Ovarian Cancer Risk: New Study

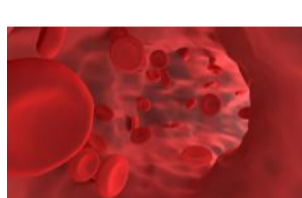
Vancouver Coastal Health Research Institute



BC scientists published new research in *JAMA Network Open* showing that removing a person's fallopian tubes at the time of other routine gynecologic surgeries is a safe, effective way to reduce ovarian cancer risk, ultimately leading to lives saved. This ovarian cancer prevention strategy was developed and named by Dr. Dianne Miller (pictured). [Read More](#)

Sepsis: The End Is Just the Beginning

The Centre for Blood Research



Sepsis is a dysregulated immune response to a systemic infection that results in organ failure. In 2017, ~100,000 Canadians developed sepsis, of which ~16,000 died, and sepsis was involved in one in every five deaths worldwide. Up to now, sepsis research has mainly focused on how to diagnose sepsis earlier and more accurately, or better treatments to improve hospitalization outcomes. However, the long-term effects of sepsis are still poorly understood. [Read More](#)

Treatment of Pediatric Chordoma with an Immune Checkpoint Inhibitor Slows Tumour Growth

Canada's Michael Smith Genome Sciences Centre



Two cases of poorly differentiated chordoma were molecularly and immunologically profiled through the pediatric arm of the Genome Sciences Centre's Personalized OncoGenomics program. Identification of a relatively high level of CD8⁺ T cells in the tumour microenvironment, in addition to expression of an immune checkpoint protein, lead to immune checkpoint inhibitor therapy for one patient. [Read More](#)

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Upcoming Events in Vancouver

February 16-17 9:00 AM	Access to Innovation 2022 Online
February 16 3:00 PM	MSL Seminar Series: February – Invited Speaker, Dr. Robert E. Campbell Online
February 16 5:00 PM	SFU Nobel Prize Lectures 2022 Online
February 16 7:00 PM	UBC Biomedical Engineering Industry Night Online
February 23 1:00 PM	Three Minute Thesis: VCHRI and UBC Heat Jim Pattison Pavilion

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Other Science Jobs in Vancouver

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Research Assistant 2, Research Experimental Therapeutics BC Cancer
Senior QC Microbiology Specialist Precision NanoSystems
Research Assistant for Post-COVID-19 Interdisciplinary Clinical Care Network Providence Research
Clinical Project Manager / Senior Clinical Project Manager Chinook Therapeutics

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