

Publications of the Week

Effects of Teriparatide and Risedronate on New Fractures in Post-Menopausal Women with Severe Osteoporosis (VERO): A Multicentre, Double-Blind, Double-Dummy, Randomized Controlled Trial

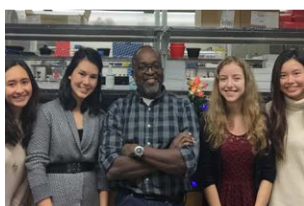
First Author: David Kendler (*pictured*) | Senior Author: Pedro Lopez-Romero
The Lancet | UBC



No clinical trials have compared osteoporosis drugs with incident fractures as the primary outcome. The authors compared the anti-fracture efficacy of teriparatide with risedronate in patients with severe osteoporosis, and found that among post-menopausal women with severe osteoporosis, the risk of new vertebral and clinical fractures is significantly lower in patients receiving teriparatide than in those receiving risedronate. [Profile](#) | [Abstract](#)

Bacterially Derived Synthetic Mimetics of Mammalian Oligomannose Prime Antibody Responses That Neutralize HIV Infectivity

First Author: Ralph Pantophlet (*middle*) | Senior Author: Paul Kosma
Nature Communications | SFU



Oligomannose-type glycans are among the major targets on the gp120 component of the HIV envelope protein for broadly neutralizing antibodies (bnAbs). However, attempts to elicit oligomannose-specific nAbs by immunizing with natural or synthetic oligomannose have so far not been successful. The authors designed and synthesized oligomannose mimetics to appear foreign to the immune system.

[Profile](#) | [Abstract](#)

Diverse Marinimicrobia Bacteria May Mediate Coupled Biogeochemical Cycles along Eco-Thermodynamic Gradients

First Author: Alyse Hawley | Senior Author: Steven Hallam (*pictured*)
Nature Communications | UBC

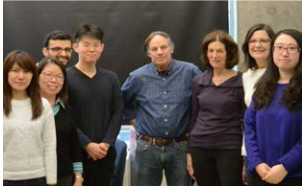


Microbial communities drive biogeochemical cycles through networks of metabolite exchange that are structured along energetic gradients. As energy yields become limiting, these networks favor co-metabolic interactions to maximize energy disequilibria. The authors applied single-cell genomics, metagenomics, and metatranscriptomics to study bacterial populations of the abundant "microbial dark

matter" phylum Marinimicrobia along defined energy gradients. [Profile](#) | [Abstract](#)

Localization and Functional Characterization of the P.Asn965Ser (N965S) ABCA4 Variant in Mice Reveal Pathogenic Mechanisms Underlying Stargardt Macular Degeneration

First Author: Laurie Molday (*third from right*) | Senior Author: Robert Molday (*fourth from right*)
Human Molecular Genetics | UBC



Mutations in the gene encoding ABCA4 are responsible for Stargardt disease (STGD1), an autosomal recessive retinal degenerative disease that causes severe vision loss. To define the molecular basis for STGD1 associated with the p.Asn965Ser mutation in the Walker A motif of nucleotide binding domain 1, the authors generated a p.Asn965Ser knockin mouse and compared the subcellular localization and molecular properties of the disease variant with wild-type ABCA4.

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Awards

Dr. Don Sin Receives CFI Award Towards Revolutionizing COPD and Asthma Treatment

Providence Health Care



Together with a team from the Providence Airway Centre at the Centre for Heart Lung Innovation, Dr. Don Sin (*pictured*) was recently awarded a \$2.2 million infrastructure grant by the Canadian Foundation for Innovation (CFI) for the project "TORCH: Towards Omics and Imaging to Revolutionize Chronic Obstructive Pulmonary Disease (COPD) and Asthma". [Read More](#)

Canadian Medical Hall of Fame Inducts UBC Microbiologist

The Ubyyssey



Established in 1994, the Canadian Medical Hall of Fame aims to inspire pursuit of careers in the health sciences, while celebrating the country's rich medical history. Dr. Brett Finlay, a UBC Peter Wall Distinguished Professor at the Michael Smith Laboratories, will add this prestigious honour to the collection of awards that he has received for his contributions to understanding disease and improving people's health. [Read More](#)

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Local News

Exploring the 'Second Genome' for New Insights: Genome BC Invests in Local Microbiome Startup

Genome BC

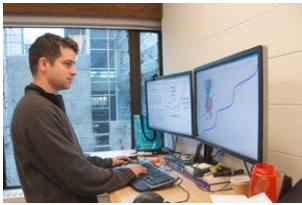


As part of its Industry Innovation Program, Genome BC is investing \$750,000 in a local microbiome testing company, Vancouver-based Microbiome Insights, which provides next-generation-sequencing-based analytical testing and consulting services to microbiome researchers in academia and industry. The new funding adds to the company's recent round of equity financing, which closed in October.

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Revvng Your Nanoscale Engine

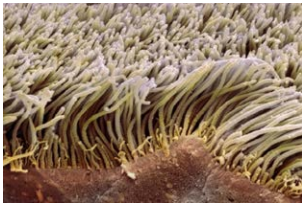
SFU Faculty of Science



Drs. Aidan Brown and David Sivak (*pictured*) have discovered how “molecular machines,” found in the human body, can run so quickly. Their research focuses on highly evolved molecular machines and how they can make use of their fuel to run quickly. “Living things care about doing things quickly, and evolution has had billions of years to tinker with designs to improve them, so existing biological molecular machines should show signs of such energy arrangements if they are indeed useful,” says Brown. [Read More](#)

Long-Haired Microbes Named after Canadian Band Rush

UBC Science



Three new species of microbes found in the guts of termites have been named after members of the Canadian rock band Rush, owing to the microbes' long hair and rhythmic wriggling under the microscope. Dr. Patrick Keeling and postdoc Javier del Campo of UBC named the *Pseudotriconympha* species *P. leei*, *P. lifesoni*, and *P. pearti* after musicians Geddy Lee, Alex Lifeson and Neil Peart.

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Cuddling Babies, or Not, Affects Infants' Gene Expression, B.C. Study Finds

The Vancouver Sun

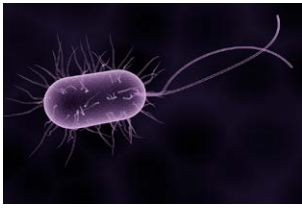


Infants that are held less by caregivers show lasting changes to genes involved in immune response and metabolism, according to a study published by Dr. Michael Kobor at BC Children's Hospital Research Institute. Fussy babies who were held the least were underdeveloped for their age in five areas of the genome when they were tested more than four years later. Fussy babies in the high cuddling range were normal. [Read More](#)

Discovery of Innate Immune Mechanisms of a Novel Microbial-Based Approach for the Treatment of Lung Cancer

Qu Biologics

Qu Biologics Inc., a biopharmaceutical company developing site specific immunomodulators (SSIs), a unique platform of immunotherapies designed to



“reboot” the body’s innate immune system, has just published collaborative research with Dartmouth College detailing the mechanism of action and efficacy of Qu’s lung-targeted SSI, QBKPN, for the treatment of lung cancer. [Read More](#)

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Interesting Articles

Federal Government Creates 10,000 Paid Internships for Canadian Students and Recent Graduates

Mitacs



The Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development, and Mona Fortier, Member of Parliament for Ottawa-Vanier, have announced the creation of 10,000 paid internships to help Canadian students better prepare for the modern-day workforce. The government is investing \$221 million in Mitacs, which will help it meet its goal of creating 10,000 paid internships per year by 2021. [Read More](#)

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Upcoming Events in Vancouver

- | | |
|------------------------|---|
| December 12
7:00 PM | UBC Postdoctoral Association Holiday Party
Nuba Kitsilano |
| December 13
6:00 PM | MedTech Holiday Social
St. Regis Bar and Grill |
| December 20
7:00 PM | Nerd Nite Solstice Spectacular
Fox Cabaret |
| December 21
3:00 PM | Discussions Relevant to Inspiring New Knowledge and Science
Mahony and Sons |
| January 17
8:00 AM | Access to Innovation 2018
Vancouver Convention Centre |

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Science Jobs in Vancouver

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