

Publications of the Week

T3S Injectisome Needle Complex Structures in Four Distinct States Reveal the Basis of Membrane Coupling and Assembly

First Authors: Jinhong Hu (pictured, front right) and Liam Worrall (back row, third from right) | Senior Author: Dr. Natalie Strynadka (front, left)
Nature Microbiology | Centre for Blood Research, Michael Smith Laboratories and UBC



The bacterial injectisome is a syringe-shaped macromolecular nanomachine utilized by many pathogenic Gram-negative bacteria. The authors have captured snapshots of the entire prototypical *Salmonella* pathogenicity island 1 needle complex in four distinct needle assembly states, including near-atomic resolution, and local reconstructions in the absence and presence of the needle. [Profile](#) | [Abstract](#)

Sex and APOE Genotype Influence AD Neuropathology but Not Epigenetic Age across Diagnosis

First Author: Paula Duarte-Guterman | Senior Author: Liisa Galea (pictured)
bioRxiv | BC Children's Hospital Research Institute, Women's Health Research Institute, Djavad Mowafaghian Centre for Brain Health and UBC



Alzheimer's disease (AD) disproportionately affects females. The authors determined whether physiological biomarkers explain why females are more susceptible to AD than males using the Alzheimer's Disease Neuroimaging Initiative database. Females had higher levels of tau and p-tau compared to males, and increasing alleles of APOE4 disproportionately increased tau and p-tau compared to males. [Abstract](#)

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Awards

August 2019 Award Winners



Dr. Deborah Money (pictured) of the UBC Faculty of Medicine is the recipient of the 2019 Lifetime Achievement Award from the Infectious Diseases Society of Obstetrics and Gynecology in recognition of her outstanding contributions to scientific exchange, education and leadership in infectious diseases in women. Find out which other Vancouver researchers won grants or awards in August! [Read More](#)

Dr. James Piret's Research on T-Cell Therapies Gets Boost from a Collaborative Health Research Project Operating Grant

Michael Smith Laboratories



Dr. James Piret (pictured) and his collaborators, Drs. Megan Levings and Bhushan Gopaluni, have received a three-year Collaborative Health Research Project operating grant of over \$600,000. With this grant, Dr. Piret and his collaborators aim to produce T-cells that suppress other immune cells for therapeutic purposes, such as to avoid transplant rejection or to reduce autoimmune disorders. [Read More](#)

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Local News

Intranasal Protein Limits Disability in Models of MS

Djavad Mowafaghian Centre for Brain Health



Can a protein applied to the inside of the nose reduce inflammation in the central nervous system? New research from Dr. Jacqueline Quandt's (pictured) laboratory suggests that intranasal administration of E-selectin, a type of protein that is expressed by blood vessel cells in an attempt to recruit immune cells, can bolster an immunosuppressive response in the body and calm inflammation in the brain in models of multiple sclerosis (MS). [Read More](#)

Scientists Enhance Important Tool Used to Research the Deadliest Form of Brain Cancer

Canada's Michael Smith Genome Sciences Centre



Researchers at Canada's Michael Smith Genome Sciences Centre at BC Cancer have produced an extensive catalogue of genome and transcriptome data comparing glioblastoma multiforme tumours in humans and mice. This will help researchers to avoid biases or misleading results introduced by experimental conditions, ultimately enabling improved approaches for drug screening and the search for effective treatments for people with this devastating disease. [Read More](#)

Investment Strengthens UBC's Leadership in Commercializing New Technologies

Western Economic Diversification Canada



The Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development and Minister responsible for Western Economic Diversification Canada, has announced \$9,603,463 in funding to support four UBC projects that provide testing grounds to commercialize new technologies. UBC has a long history of transforming research into impactful treatments, products, and services that contribute to the social and economic fabric of Canada. [Read More](#)

The Translational "Valley of Death" for Engineered Tissues

Advanced Science News



With so many publications and patents filed over the last two decades, why has tissue engineering failed to proliferate into our societies as common, standard, modern technology? Speaking to Advanced Science News, Dr. Vikram Yadav (pictured) at UBC goes some way to answer this question, and tells us what has been done so far to overcome such issues, and whether the current methods fail or underperform in some regard. [Read More](#)

Metaling with Chelation Therapy: Reducing Transfusion-Associated Iron Toxicity with Conjugated Drugs

Centre for Blood Research



Deferoxamine is the gold-standard iron chelator currently on the market, but the drug has a short circulation time, and can cause adverse side effects. Recent research by Dr. Srinivas Abbina and colleagues at the Centre for Blood Research has shown that adverse effects of deferoxamine could be ameliorated by molecular conjugation to a bulky class of chemicals called biodegradable hyperbranched polyglycerols. [Read More](#)

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Upcoming Events in Vancouver

- September 11 6:00 PM **Open Science Network Open Lab**
MakerLabs
- September 11 9:30 AM **BC Cancer Research Centre Vendor Show**
BC Cancer Research Centre
- September 12 8:00 AM **Vancouver Nanomedicine Day 2019**
AMS Student Nest
- September 12 11:00 AM **UBC Life Sciences Institute Vendor Show**
UBC Life Sciences Institute
- September 14 3:00 PM **Her Story: Canadian Women Scientists – Film Screening & Panel Discussion**
Annex

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