

Publications of the Week

Sex-Biased Human Thymic Architecture Guides T Cell Development Through Spatially Defined Niches

First Author: Laura Stankiewicz (*pictured*) | Senior Authors: Peter Zandstra and Fabio Rossi
Developmental Cell | BC Children's Hospital Research Institute and UBC



Within the thymus, regulation of the cellular crosstalk directing T cell development depends on spatial interactions within specialized niches. To create a spatially defined map of tissue niches guiding human postnatal T cell development, researchers employed the multidimensional imaging platform co-detection by indexing (CODEX) as well as CITE-seq and ATAC-seq. **Abstract**

SARS-CoV-2 3CL^{pro} (Main Protease) Regulates Caspase Activation of Gasdermin-D/E Pores Leading to Secretion and Extracellular Activity of 3CL^{pro}

First Author: Peter Grin | Senior Author: Charaf Benarafa, Arinjay Banerjee, and Christopher Overall (*pictured*)
Cell Reports | UBC



SARS-CoV-2 3C-like protease (3CL^{pro}) cleaves the SARS-CoV-2 polyprotein and >300 intracellular host proteins to enhance viral replication. By lytic cell death following gasdermin pore formation in cell membranes, antiviral pyroptosis decreases 3CL^{pro} expression and viral replication. Researchers found that in countering gasdermin pore formation and pyroptosis in SARS-CoV-2 infection, 3CL^{pro} is secreted with extracellular pathological sequelae. **Abstract**

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Awards

December 2024 Award Winners

Science in Vancouver



Meredith Clark (*pictured, top right*), Yilin Liu (*top left*), and Sarah McPhedran (*bottom*) are the recipients of Doctoral Research Awards from the Cancer Research Society, receiving new funding to support their innovative research aimed at better understanding cancer. Yilin Liu and Sarah McPhedran were also recipients of the BC Cancer Foundation 2024 Rising Stars Award in December. See the full list of awardees in our December award summary. **Read More**

Dr. Marco Marra Appointed Officer of the Order of Canada

UBC Michael Smith Laboratories



Dr. Marco Marra (*pictured*) has been appointed an Officer of the Order of Canada. This honour recognizes individuals who "make extraordinary contributions to the nation... their grit and passion inspire us, teach us and show us the way forward." Dr. Marra's work focuses on studying genomic data to reveal information about diseases, with a particular focus on revealing mutations, biomarkers, and therapeutic targets for various types of cancer. **Read More**

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Local News

Cancer Patients and Caregivers to Help Develop New Approaches for Cancer Clinical Trials, Testing

SFU Faculty of Health Sciences



The Terry Fox Research Institute (TFRI) is funding a new national research initiative that will allow cancer patients and their caregivers to direct research in precision oncology over the next year. The Patient Voices in Research initiative – which is designed, led, and adjudicated by cancer patients and survivors – is funding ten team research projects from across Canada, including two in BC, one of which is led by Dr. Samantha Pollard (*pictured*). **Read More**

Connecting the Dots: Building a Collaborative Approach to Data Sharing

Genome BC



Data sharing and integration are the cornerstones of Genome BC's data strategy. By fostering a collaborative ecosystem with secure connections between data sources, researchers are empowered to identify correlations, uncover hidden patterns, and accelerate discoveries with real world impact. Genome BC introduced the Health Metadata Commons in 2024, a centralized platform that revolutionizes access to aggregated health data. **Read More**

Research Hats: Conversations with Faculty

UBC Michael Smith Laboratories



To reflect on the variety of roles researchers play in science and society, Drs. Anna Blakney (*pictured*) and Brett Finlay give their thoughts and reflections on their career. Despite the two investigators being at very different stages in their careers, mentoring and fostering a supportive environment emerged as major areas where they concentrate their energies and realize positive impact, with an eye to future generations. **Read More**

High Levels of Road Salt Killing Metro Vancouver's Fertilized Salmon Eggs, Say UBC Researchers

Vancouver Sun



High levels of salt are killing fertilized coho eggs, raising concerns about excessive use of road salt in winter, according to the preliminary results of a five-year study led by UBC researchers. The study — a collaboration among UBC, SFU, BCIT, the federal government, community scientists, and stream keepers — involved monitoring salt in more than 30 streams in Metro Vancouver. **Read More**

Interdisciplinary Thinking in the Life Sciences: A Conversation with Dr. Thibault Mayor

UBC Michael Smith Laboratories (MSL)



To gain insights into interdisciplinary thinking in life science research, MSL spoke with Dr. Thibault Mayor (*pictured*). Dr. Mayor's research program employs interdisciplinary approaches to address protein homeostasis with a link to aging and neurodegenerative diseases. His work integrates many disciplines and approaches to understand how misfolded proteins are managed within cells. **Read More**

Generating MRI Images from Ultrasounds Scans

Hospital News



A recent study led by Vancouver Coastal Health Research Institute researcher Dr. Ilker Hachialloglu (*pictured*) is the first to test the viability of a selection of image-to-image synthesizing technologies used to generate magnetic resonance imaging (MRI) images from ultrasound scans of prostate cancer. Researchers feed thousands of patient diagnostic scans to image synthesizing technology to train it on identifying disease characteristics. **Read More**

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Interesting Articles

Program Application: BCCHR Summer Studentships

BC Children's Hospital Research Institute



The BC Children's Hospital Research Summer Studentship Program is open for applications. Each year, approximately 17 studentships are given to top ranked students based on scholarly achievement, scientific merit of the proposed project, and the potential benefits applicants will gain from the experience. Applications are open until January 24, 2025. **Read More**

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Upcoming Events in Vancouver

- January 15
12:00 PM

Introduction to Effective Database Searching for Health Care Staff and Clinicians
Online
- January 15
7:00 PM

Science Slam: Came in Like a Slam-ing Ball
Fox Cabaret
- January 17
11:00 AM

Dr. Ami Citri: New Behavioural Analysis Tools Elucidate Neural Circuits for Spontaneous Actions
Djavad Mowafaghian Centre for Brain Health
- January 22
12:00 PM

Propels: Strategic Thinking and Visionary Leadership: Guiding Scientific Innovation
UBC
- January 23
6:00 PM

Biotechnology Networking Night 2025
AMS Student Nest

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Science Jobs in Vancouver

Research Associate (Part-Time Weekend)
STEMCELL Technologies

Research Associate, Clinical
Canada's Michael Smith Genome Sciences Centre at BC Cancer

Senior Director, Quality Assurance
AbCellera

Postdoctoral Research Fellow, Zandstra Laboratory
UBC

Postdoctoral Research Fellow, Miller Laboratory
BC Children's Hospital

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