

Publications of the Week

Analysis of Ancestry Heterozygosity Suggests That Hybrid Incompatibilities in Threespine Stickleback Are Environment Dependent

First Author: Ken Thompson | Senior Author: Dolph Schluter *(pictured)*
PLOS Biology | Women's Health Research Institute, DataSeer Research Data Services, and UBC



Hybrid incompatibilities occur when interactions between opposite ancestry alleles at different loci reduce the fitness of hybrids. The authors compiled genetic data for F2 hybrid crosses between divergent populations of threespine stickleback fish (*Gasterosteus aculeatus* L.) that were born and raised in either the field (seminal natural experimental ponds) or the laboratory (aquaria). [Abstract](#) | [Press Release](#)

Dysregulated BMP2 in the Placenta May Contribute to Early-Onset Preeclampsia by Regulating Human Trophoblast Expression of Extracellular Matrix and Adhesion Molecules

First Author: Yuyin Yi *(pictured, left)* | Senior Author: Peter Leung *(right)*
Frontiers in Cell and Developmental Biology | BC Children's Hospital Research Institute and UBC



Many pregnancy disorders, including early-onset preeclampsia (EOPE), are associated with defects in placental trophoblast cell invasion and differentiation during early placental development. Bone morphogenetic protein 2 (BMP2) belongs to the TGF- β superfamily and controls various physiological and developmental processes. The authors' findings provide insight into the molecular processes that may contribute to the pathogenesis of EOPE. [Abstract](#)

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Awards

SFU Researchers among New and Renewed Canada Research Chairs

SFU News



Four Simon Fraser University researchers are among the country's new and renewed Canada Research Chairs. SFU Molecular Biology and Biochemistry Professor Dr. Lorena Braid's *(pictured)* research on mesenchymal stromal cells helps identify and develop new treatments for autoimmune and age-related diseases. She also receives funding from the John R. Evans Leaders Fund for her research. [Read More](#)

Seven Faculty of Medicine Researchers Appointed as New and Renewed Canada Research Chairs

UBC Faculty of Medicine



Seven Faculty of Medicine researchers are among a group of new and renewed Canada Research Chairs (CRCs) at UBC. The university received funding for a total of 19 new chairs and three renewed chairs. The Government of Canada is investing more than \$151 million to support 188 new and renewed Chairs at 43 academic institutions across the country. Dr. Artem Cherkasov *(pictured)* is a newly appointed Tier 1 CRC in Precision Cancer Drug Design. [Read More](#)

Frances Lock and Gabriela Segat Recognized with UBC Co-op Supervisor Awards

Terry Fox Research Laboratory



Congratulations to Dr. Frances Lock, a Research Associate in the Kuchenbauer lab, and Gabriela Segat *(pictured)*, a graduate student in the Weng lab, for receiving the 2021 UBC Co-op Supervisor Award. These awards recognize the many companies and supervisors who go above and beyond in providing valuable work term experiences as well as professional growth opportunities. [Read More](#)

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Local News

UBC Researchers Lead \$24 Million Project to Treat Spinal Cord Injury

UBC News



A key challenge in treating traumatic spinal cord injury (SCI) is repairing the gap that is formed when the spine is broken. A new multidisciplinary team is working on a novel approach that may help people with SCI. "A soft gel can be moulded into the shapes of the many different lesions seen in the body, and thus provide personalized treatment," said Dr. Wolfram Tetzlaff *(pictured)*. The soft gel will serve as a bridge for growing nerve fibres. [Read More](#)

3D Bioprinting Tissues to Personalize Treatments for Neurological Diseases

Vancouver Coastal Health Research Institute



The idea of 3D printing a patient's stem cells to develop and test personalized treatments is one step closer to becoming a reality. In her pioneering study, Vancouver Coastal Health Research Institute researcher Dr. Stephanie Willerth *(pictured)* lays the groundwork for a personalized medicine approach that could be applied to finding treatments for neurological diseases such as Alzheimer's and Parkinson's. [Read More](#)

'This is a Change and Life is Full of Changes'

Research2Reality



Biomedical engineer Dr. Dena Shahriari *(pictured)* is excited to be working at the interface between engineering and medicine. It's an area that she says has only just started to catch on, and there are still lots of opportunities to fill unmet needs. A major source of missed opportunities is the gap that exists between engineers and clinicians. [Read More](#)

Machine Learning and Artificial Intelligence Used to Rapidly Detect Sepsis, Cutting Risk of Death Dramatically

UBC News



Sepsis is one of the biggest killers in the world, responsible for one in five deaths worldwide including those from severe COVID-19 disease, but it is difficult to detect early. "Typically, a patient arrives in the emergency room feeling profoundly ill, with a bunch of symptoms that are fairly non-specific," says Dr. Bob Hancock *(pictured)*. Dr. Hancock says that because sepsis is so common, rampant antimicrobial resistance is a risk if antibiotics are used more than necessary. [Read More](#)

Pfizer Enters into Agreement with Acuitas Therapeutics for Lipid Nanoparticle Delivery System for Use in mRNA Vaccines and Therapeutics

Pfizer



Pfizer and Acuitas Therapeutics, a company focused on developing lipid nanoparticle (LNP) delivery systems to enable mRNA-based therapeutics, have announced they have entered into a Development and Option agreement under which Pfizer will have the option to license, on a non-exclusive basis, Acuitas' LNP technology for up to ten targets for vaccine or therapeutic development. [Read More](#)

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Upcoming Events in Vancouver

- January 19 3:30 PM **The Natural and Sexual Selection of Endometriosis** Online
- January 20 11:00 AM **AI in Med Lecture: Dr. Anne Martel** Online
- January 21 9:00 AM **Career Connect Day** Online
- January 25 6:30 PM **COVID-19 Update: Expert Q&A with Public Health, Primary Care, Vaccine, Epidemiology, and Lab Specialists** Online
- January 26 3:00 PM **Discovery to Commercialization** Online

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UBC

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