

Publications of the Week

Sex Differences in Telomere Length, Lifespan, and Embryonic Dyskerin Levels

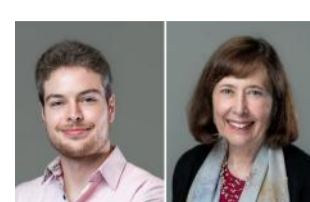
Author: Peter Lansdorf (pictured) Aging Cell | Terry Fox Laboratory, BC Cancer, and UBC



Telomerase levels in most human cells are insufficient to prevent loss of telomeric DNA with each replication cycle. The resulting "Hayflick" limit may have allowed lifespan to increase by suppressing the development of tumours early in life but at the expense of compromised cellular responses late in life. At any given age, the average telomere length in leukocytes shows considerable variation between individuals with females having, on average, longer telomeres than males. [Profile | Abstract](#)

Postnatal Conservation of Human Blood- and Marrow-Specific CD34+ Hematopoietic Phenotypes

First Author: Colin Hammond (pictured, left) | Senior Author: Connie Eaves (right) Experimental Hematology | Terry Fox Laboratory, BC Cancer, and UBC



Previous studies of aging have revealed intrinsically determined alterations in the properties of the hematopoietic stem cell and progenitor compartments in mice, with variable evidence of an extension of these findings to humans. To examine more closely the surface phenotypes within the CD34+ compartment of human blood and bone marrow from birth to old age, the authors undertook a 13-parameter phenotypic profile analysis of samples from healthy human donors aged 0–76 years. [Abstract](#)

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Awards

Acuitas Founders Receive Governor General's Innovation Award

Governor General's Innovation Awards



The team of Drs. Pieter Cullis (pictured, center), Michael Hoge (right), and Thomas Madden (left) have worked together for approximately 40 years. They are receiving a Governor General's Innovation Award for their work in developing lipid nanoparticle (LNP) systems to deliver cancer drugs to tumours and to enable RNA and DNA based drugs to be used therapeutically. Among other achievements, their work has resulted in the LNP systems that enable the Pfizer/BioNTech COVID-19 mRNA vaccine. [Read More](#)

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Local News

Better Treatment, Potential Cures for Diseases As Stem Cell Robotics Debut at BC Children's Hospital

Vancouver Sun



Kids with severe illness, such as those with genetic diseases like heart arrhythmias, could be helped by new stem cell technology at BC Children's Hospital. Until now, the work of growing stem cells has been manually performed by researchers, which meant that stem cell culturing could only be conducted for two to three patients at one time. But now the same work could be done for up to 80 patients simultaneously, said Dr. Francis Lynn (pictured). [Read More](#)

UBC Team Discovers 'Silver Bullet' to Keep Medical Devices Free of Bacteria

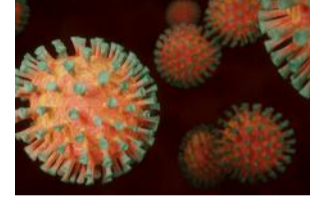
The Centre for Blood Research



A team from UBC and the Vancouver Coastal Health Research Institute has developed a silver-based coating that can easily be applied to devices such as catheters and stents. "This is a highly effective coating that won't harm human tissues and could potentially eliminate implant-associated infections. It could be very cost-effective and could also be applicable to many different products," said Dr. Jayachandran Kizhakkedathu (pictured). [Read More](#)

BC Children's Hospital Part of New Pediatric COVID-19 Research Network

BC Children's Hospital



BC Children's Hospital is part of a new cross-Canada network to ensure a coordinated research response to COVID-19. Supported by the Canadian Institutes of Health Research, the platform will enhance collaboration and information-sharing between research teams to fully understand the impacts of COVID-19 and improve the health and wellbeing of children and youth. [Read More](#)

Support for Scientist-Entrepreneurs Crucial to Rapid Crisis Response

SFU Research



Dr. Elicia Maine (pictured) is an international expert in science innovation and entrepreneurship. As the W.J. VanDusen Professor of Innovation and Entrepreneurship at SFU, and the Special Advisor on Innovation to the Vice President of Research and International, she is working to further strengthen innovation culture and research impact at SFU, while advocating for corresponding programs and policies to enhance the Canadian innovation ecosystem. [Read More](#)

Lay Science Writing Competition Winner: What Does It Take to Make a Life-Saving Drug?

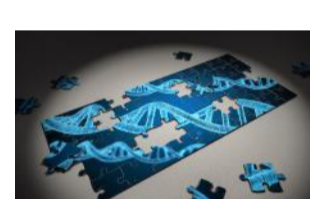
The Centre for Blood Research



Heart attacks and strokes are the leading causes of death worldwide and usually involve a clot, which blocks the flow of blood. In her lab at the Centre for Blood Research, Alexandra Witt (pictured) spends her days (and nights) making proteins and testing them to see if they have what it takes to bust up a blood clot and save a life. It's a long road to get from a test tube to a treatment, and it involves a lot of questions. [Read More](#)

The Canada BioGenome Project Joins International Quest to Understand Life on Earth

Canada's Michael Smith Genome Sciences Centre



Canadian biodiversity is one of our greatest national treasures. From coast to coast — the Arctic to the Rockies, the prairies to the Great Lakes — the True North is home to a vast assortment of plants and animals found nowhere else on Earth. The Canada BioGenome Project seeks to better understand and conserve our natural heritage by sequencing the genomes of four hundred Canadian species. [Read More](#)

Novo Nordisk Helps Support Network Needs

BC Diabetes Research Network



The BC Diabetes Research Network is building cross-discipline diabetes research excellence in BC and enhancing its translation and communication with the public. Thanks to a recent grant of \$30,000 from Novo Nordisk, and in addition with renewed cluster funding from UBC, the network is poised to greatly expand the reach and impact of its research, knowledge translation, and engagement activities. [Read More](#)

COVID-19 Vaccine Study in Transplant Kids Will Help Protect Those Most at Risk

BC Children's Hospital Research Institute



COVID-19 vaccine studies in adult transplant recipients have found they have lower levels of immune protection compared to adults without transplants. There isn't a lot of data yet to show if this is also true for children, especially those with organ transplants. BC Children's researchers Dr. Hana Mitchell and Dr. Tom Blydt-Hansen are hoping to find some answers. [Read More](#)

How Lab-Grown 'Mini-Brains' Could Reveal the Inner Workings of Dementia — And Point to a Cure

Djavad Mowafaghian Centre for Brain Health (DMCBH)



Over the past 20 years, Alzheimer's researchers have conducted more than 200 clinical trials of promising candidate therapies, with little success. An effective treatment for the devastating neurodegenerative disease remains elusive. "It's relentless: the memory loss, the changes in everyday function, the anxiety and depression. I see the impact on my patients and their families every day," says DMCBH researcher Dr. Haakon Nygaard (pictured). [Read More](#)

From Forestry Waste Product to Valuable Biomass – LSI Science and Lignin's Valorization Journey

Life Sciences Institute (LSI)



From a microbial ecology perspective, biomass from the forest floor must be decomposed, and turned over. Lignin, a major structural component of trees and other plants, tends to resist that process. "Recalcitrant" is the word Dr. Bill Mohn (pictured), a Professor in the Department of Microbiology and Immunology uses to describe the chemically complex and irregular byproduct of one of BC's biggest industries. [Read More](#)

A Hot Spot for Mutations Linked to Heart Failure Where Juncctophilin Meets Voltage-Gated Calcium Channel

Life Sciences Institute



Scarcely a week goes by without news of a young athlete in peak form tragically dying of what is known as sudden cardiac death. Dr. Filip Van Petegem (pictured), a Professor in the Department of Biochemistry and Molecular Biology at UBC, has been systematically prying apart the underlying causes of electrical misfiring that can occur in the heart. [Read More](#)

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Interesting Articles

Canada Announces New Innovation Agency — And It's Not Modelled on DARPA

Nature News



The Canadian government has announced that it will invest \$1 billion over the next five years to create a funding agency focused on innovation in science and technology. The unit will buck a trend of countries trying to replicate the renowned US Defense Advanced Research Projects Agency (DARPA); instead, it will be modelled on innovation agencies in Finland and Israel. [Read More](#)

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Upcoming Events in Vancouver

May 2 6:30 PM	<b>Research Horizons: What Now, What Next? An Evening with UBC's Newest University Killam Professors</b> Robert H. Lee Alumni Centre & Online
May 7 10:00 AM	<b>Science Rendezvous 2022</b> UBC
May 10 1:00 PM	<b>Clinical Trials at the Speed of COVID-19: Flexibility and Rapid Innovation</b> UBC Robson Square & Online
May 11 4:00 PM	<b>Life Sciences BC Showcase Series: Surrey</b> Online
May 12 9:00 AM	<b>Genome BC's Annual Genomics Forum</b> Online

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