

### Publications of the Week

## Induction of Bleb Structures in Lipid Nanoparticle Formulations of mRNA Leads to Improved Transfection Potency

First Author: Miffy Hok Yan Cheng (*pictured*) | Senior Author: Pieter Cullis  
Advanced Materials | Michael Smith Laboratories, NanoVation Therapeutics, and UBC



The transfection potency of lipid nanoparticle (LNP) mRNA systems is critically dependent on the ionizable cationic lipid component. The authors show that such structures can also be induced for LNP containing nominally less active ionizable lipids by formulating in the presence of high concentrations of pH 4 buffers such as sodium citrate, leading to improved transfection potencies both *in vitro* and *in vivo*.

[Abstract](#)

## The Cell Envelope of *Mycobacterium abscessus* and Its Role in Pathogenesis

First Author: Shweta Parmar | Senior Author: Elitza Tocheva (*pictured*)  
PLOS Pathogens | UBC



*Mycobacterium abscessus* is a nontuberculosis mycobacterium that has shown an exponential rise in its ability to cause disease. Due to its ubiquitous presence in the environment, *M. abscessus* is widely implicated in secondary exacerbations of many nosocomial infections and genetic respiratory disorders, such as cystic fibrosis. This review summarizes the current knowledge of *M. abscessus* pathogenesis and highlights the clinically relevant association between the structure and functions of its cell envelope. [Abstract](#)

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### Awards

## PhD Student Sasha McDowell Receives 2022 Brain Star Award

Life Sciences Institute



Congratulations to Sasha McDowell (*pictured*), a PhD student in the Department of Zoology, who received a 2022 Brain Star Award from the Canadian Association for Neuroscience and the Canadian Institutes of Health Research Institute of Neurosciences, Mental Health and Addiction. Sasha's prize-winning paper, "A molecular mechanism for high salt taste in *Drosophila*", provides novel molecular insights into mechanisms for high salt detection and response in fruit flies.

[Read More](#)

## Mohit Pandey Received CIHR Canada Graduate Scholarship – Doctoral Program

Vancouver Prostate Centre



Congratulations to Mohit Pandey (*pictured*), a doctoral student in Dr. Artem Cherkasov's lab, on receiving a Canadian Institutes of Health Research (CIHR) Canada Graduate Scholarship. These awards are given to top-level graduate students who are enrolled in the program at Canadian institutions, enabling a high-quality research training experience and fostering impacts within and beyond the research environment. [Read More](#)

## UBC Medicine Researchers Awarded over \$1.6 Million from Canada's Stem Cell Network

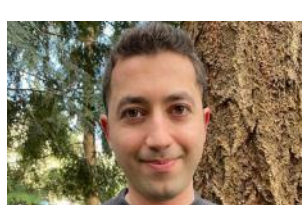
UBC Medicine



Drs. Bruce Verchere, Peter Zandstra, Fabio Rossi, and Zachary Laksman (*pictured*) from UBC's Faculty of Medicine have been awarded over \$1.6 million from Canada's Stem Cell Network to advance four regenerative medicine research projects and clinical trials. The UBC projects will advance research in a range of areas including muscular dystrophy, diabetes, protein-based therapies, and heart health. [Read More](#)

## Trainee Profile: Ahmad Samara

Djavad Mowafaghian Centre for Brain Health



Ahmad Samara (*pictured*) is a PhD student in Dr. Tamara Vanderwal's lab and one of UBC's newest "Friedman Scholars". As a recipient of the Friedman Award for Scholars in Health, Ahmad will study for one year in the lab of Dr. Uri Hasson at Princeton University, where he will be able to expand his expertise in using naturalistic conditions to study functional brain development, while bringing new perspectives to his education and furthering his career. [Read More](#)

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### Local News

## Emerging Pathogens and Antimicrobial Resistance Research Funding Opportunity Now Open

Genome BC



The window of opportunity to participate in a new initiative tackling major threats posed by emerging pathogens and antimicrobial resistance is now open and BC researchers interested in applying should register by May 30<sup>th</sup>. The Genomic Monitoring of Pathogens in Water initiative is a \$10 million Genome Canada investment to help Canada defend its population, wildlife, and environment from major threats posed by emerging pathogens and antimicrobial resistance.

[Read More](#)

## Drug Discovered by SFU Researchers Shows Potential Life-Saving Results in Treating Cardiac Arrhythmias

SFU News



A recently published study involving current and former SFU researchers Drs. Mena Abdelsayed (*pictured, right*), Mohamed Fouda, and SFU Biomedical Physiology and Kinesiology Professor Dr. Peter Ruben (*left*), has shed light on a possible pharmacological approach to treat arrhythmic activity in the heart caused by J wave syndromes. [Read More](#)

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### Upcoming Events in Vancouver

May 26 8:30 AM	<b>Women in STEM Virtual Career Fair</b> Online
May 26 4:00 PM	<b>D.R.I.N.K.S. Vancouver</b> Mahony and Sons
May 29 9:30 AM	<b>A Strong Genomics Future for Canada</b> Online
June 3 9:00 AM	<b>11<sup>th</sup> Annual BC Obesity Conference</b> UBC Robson Square
June 13 9:00 AM	<b>SBME Symposium 2023</b> Life Sciences Institute

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Aspect Biosystems
- Scientist, DMPK/ADME**  
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