

### Publications of the Week

## Assessment of the ExAC Data Set for the Presence of Individuals with Pathogenic Genotypes Implicated in Severe Mendelian Pediatric Disorders

Tarailo-Graovac, M. and Wasserman, W.W., et al. | Genetics in Medicine  
UBC, CMMT, and BCHRI



Large-scale sequencing projects and data aggregation consortia provide unprecedented opportunities to determine the prevalence of pathogenic genotypes in unselected populations. The authors analyzed the Exome Aggregation Consortium (ExAC) data set for the presence of individuals with pathogenic genotypes implicated in Mendelian pediatric disorders. [Read More](#)

## The Sunflower Genome Provides Insights into Oil Metabolism, Flowering and Asterid Evolution

Rieseberg, L.H. and Langlade, N.B., et al. | Nature | UBC



The domesticated sunflower, *Helianthus annuus* L., is a global oil crop that has promise for climate change adaptation, because it can maintain stable yields across a wide variety of environmental conditions, including drought. The authors report a high-quality reference for the sunflower genome (3.6 gigabases), together with extensive transcriptomic data from vegetative and floral organs. [Read More](#)

## Evaluating the Safety of $\beta$ -Interferons in MS

De Jong, H.J.I. and Tremlett, H. et al. | Neurology | UBC



The authors examined the association between interferon- $\beta$  (IFN- $\beta$ ) and potential adverse events using population-based health administrative data in British Columbia. Among patients with relapsing-remitting multiple sclerosis, IFN- $\beta$  was associated with a 1.8- and 1.6-fold increase in the risk of stroke and migraine and 1.3-fold increases in depression and hematologic abnormalities. [Read More](#)

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### Awards

## Spring 2017 Seed Grants Announced

The International Collaboration on Repair Discoveries



The International Collaboration on Repair Discoveries (ICORD) is pleased to announce the recipients of the Spring 2017 Seed Grants (including Dr. Heather Gainforth, pictured). These grants are designed to support novel research projects proposed by ICORD Principal Investigators, and are made possible with the support of the Rick Hansen Foundation, ICORD and the Blusson Integrated Cures Partnership. [Read More](#)

## New MSFHR Awards for 11 Health Professional Researchers

Michael Smith Foundation for Health Research



The Michael Smith Foundation for Health Research (MSFHR) has announced 11 award recipients for its inaugural Health Professional-Investigator Program. These exceptional health professionals will receive funding to support research focused on answering questions derived from their practical experience and clinical expertise.

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### Local News

## Vancouver Biotech Novelogics Partners with CDRD to Advance Cancer Treatment

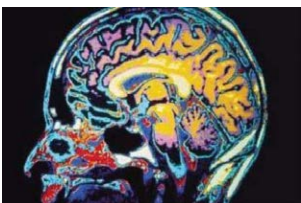
Business in Vancouver



Vancouver virtual life sciences company Novelogics Biotechnology, which focuses on using the immune system to eliminate tumours in ways that have fewer side effects than traditional methods, has developed a technology that involves the discovery and development of antibodies that suppress cancer in patients. They have partnered with the Centre for Drug Research and Development (CDRD) who will be analyzing the technology and moving it toward clinical trials. [Read More](#)

## Imaging Technique May Reduce Cost, Timeline of Clinical Trials in MS

Djavad Mowafaghian Centre for Brain Health (UBC)



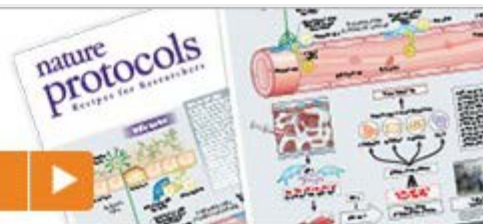
By using an advanced, highly-sensitive magnetic resonance imaging (MRI) techniques called susceptibility mapping, Dr. Alex Rauscher, a Canada Research Chair in Developmental Neuroimaging, is hoping to better understand how damage occurs in multiple sclerosis (MS) and how MRI can be used to monitor if new therapies are protective or have the potential to repair. [Read More](#)

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**FREE Wallchart** CO-AUTHORED BY ARNOLD CAPLAN  
Roles for MSCs as Medicinal Signaling Cells



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## Upcoming Events in Vancouver

- May 31 **2017 Squamish SciComm Course**  
Quest University
- June 7 **Student Biotechnology Network Networking Soiree**  
Telus World of Science
- June 11 - 13 **Personalized Medicine Summit**  
Life Sciences Institute, UBC
- June 13 **LifeSciences BC Salmon BBQ**  
Cecil Green Park House

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## Science Jobs in Vancouver

### **Scientific Communications & Publishing Coordinator**

STEMCELL Technologies Inc.

### **Scientific Inside Sales Representative**

STEMCELL Technologies Inc.

### **Clinical Research Assistant**

Biolux Research Ltd.

### **Postdoctoral Fellow**

BC Cancer Agency

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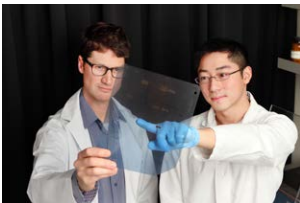


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## Publications of the Week

## SOX4 Allows Facultative $\beta$ -Cell Proliferation through Repression of Cdkn1a

Xu, E.E. and Lynn, F.C., et al. | Diabetes | UBC and BCCHR



The HMG-box transcription factor, SOX4, is the most highly expressed SOX family protein in pancreatic islets, and mutations in *Sox4* are associated with an increased risk of developing type 2 diabetes. Utilizing an inducible  $\beta$ -cell knockout mouse model, the authors demonstrated that SOX4 is necessary for adult  $\beta$ -cell replication through direct regulation of the  $\beta$ -cell cycle. [Profile](#) | [Abstract](#)

## Elevated Dopamine D1 Receptor Availability in Striatum of Göttingen Minipigs after Electroconvulsive Therapy

Doudet, D.J., et al. | Journal of Cerebral Blood Flow and Metabolism | UBC

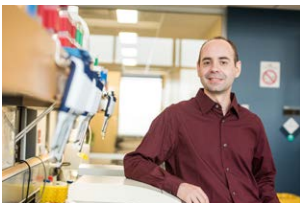


Electroconvulsive therapy (ECT), a direct form of brain stimulation, is an effective antidepressant. Using positron emission tomography, the authors found that the beneficial effects of ECT may be mediated by increased dopaminergic neurotransmission, in which the baseline activity of D1 receptors predict the magnitude of increased binding, up to a maximum binding capacity.

[Profile](#) | [Abstract](#)

## Genetic Modifiers of Multiple Sclerosis Progression, Severity and Onset

Sadovnick, A.D. and Vilarino-Guell, C., et al. | Clinical Immunology | UBC



The genetic contribution to clinical outcomes for multiple sclerosis (MS) has yet to be defined. The authors performed exome sequencing analysis in 100 MS patients presenting opposite extremes of clinical phenotype, and genotyped variants of interest in 2016 MS patients. Linear and logistic regression analyses were used to identify significant associations with disease course, severity and onset.

[Profile](#) | [Abstract](#)

## Attenuating Immune Pathology Using a Microbial-Based Intervention in a Mouse Model of Cigarette Smoke-Induced Lung Inflammation

Bazett, M. and Hirota, J.A., et al. | Respiratory Research | Qu Biologics, UBC, and iCORD

Cigarette smoke exposure is the major risk factor for developing chronic obstructive



pulmonary disease (COPD). The authors demonstrated that a novel immunotherapy produced from inactivated *Klebsiella* attenuated cigarette smoke-induced lung inflammation, and modulated bronchoalveolar lymphocyte and macrophage levels, while inducing a systemic immune activation and mobilization.

[Abstract](#) | [Press Release](#)

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### Spotlight

## Dr. Julienne Jagdeo Talks Poliovirus, Proteases, and Antiviral Therapies



Dr. Julienne Jagdeo is a recent graduate and current postdoctoral fellow in the laboratory of Dr. Eric Jan at the University of British Columbia. Her research is focused on the identification of novel viral protease cleavage substrates during picornavirus infection. We sat down with Dr. Jagdeo to discuss her project, and its implications for future viral therapies. [Read More](#)

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### Awards

## May 2017 Award Recipient Summary



Discover the Vancouver researchers who received grants, awards, fellowships, and scholarships this past month! Winners include Dr. Michael Hayden (pictured), a Killam professor of Medical Genetics at the University of British Columbia, who was inducted into the Canadian Medical Hall of Fame on May 4th, 2017. [Read More](#)

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### Local News

## Canadian Cure for Manufacturing Next-Generation Pharmaceuticals

National Research Council Canada



New medicines are no longer one-size-fits-all. Therapies are more complex, manufactured in smaller batches and personalized for specific patient groups or even individuals. New pharmaceutical manufacturing technologies with greater flexibility, cost-effectiveness and quality assurance are needed to make those therapies. Christopher Procyshyn and Ross Gold, co-founders of Vancouver's Vanrx Pharmsystems, plan to upend how injectable therapies are manufactured.

[Read More](#)

## Surrey Memorial Begins Brain Stimulation Trial for Youth Suffering from Addiction

CBC News

A clinical trial for a type of brain stimulation therapy is planned at Surrey Memorial



Hospital. Transcranial magnetic stimulation is much less invasive than other methods of brain stimulation, like electroconvulsive therapy or shock therapy. It can be used to help youth suffering from addiction and depression, when all other options have failed. [Read More](#)

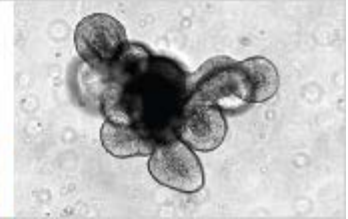
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### **Upcoming Events in Vancouver**

- June 7 **Student Biotechnology Network Networking Soiree**  
Telus World of Science
- June 11 - 13 **Personalized Medicine Summit**  
Life Sciences Institute
- June 11 **JDRF TELUS Walk to Cure Diabetes**  
Stanley Park
- June 13 **LifeSciences BC Salmon BBQ**  
Cecil Green Park House
- June 16 **Frontiers in Biophysics**  
Life Sciences Centre

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### **Science Jobs in Vancouver**

#### **Research Associate**

STEMCELL Technologies Inc.

#### **Validation Manager, Quality Assurance**

STEMCELL Technologies Inc.

#### **Clinical Research Coordinator – Renal Transplant Research**

Providence Health Care Research Institute

#### **Postdoctoral Fellow**

Department of Pediatrics, UBC

#### **Co-op Student, Conjugation Chemistry**

Zymeworks Inc.

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