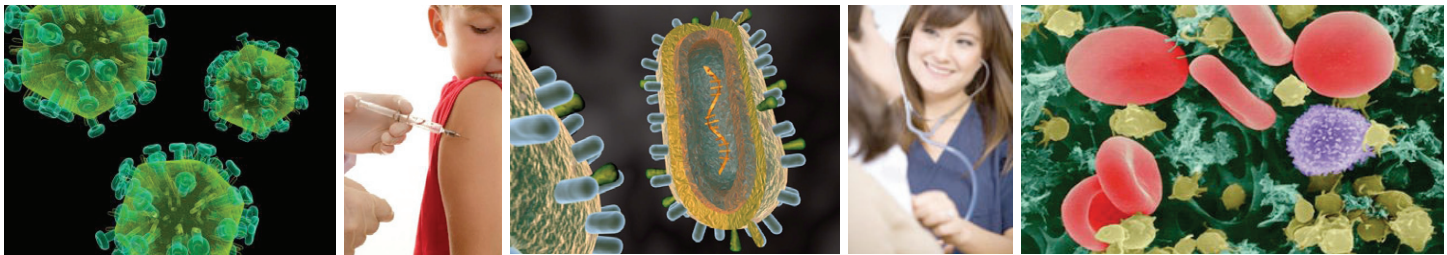


Newsletter

CIHR Institute of Infection and Immunity



Volume 14, number 1, March 2015

The Institute of Infection and Immunity provides national leadership and creates programs that promote innovative research aimed at reducing the global burden of infectious diseases and disorders of the immune system.

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Message from the Scientific Director



It is a great pleasure to reach you through this newsletter. Recently the Government of Canada announced the funding of nine research teams under the second phase of the Inflammation in Chronic Disease Signature Initiative (ICDI) (see p. 2). The Institute of Musculoskeletal Health and Arthritis (IMHA) and IIR are co-leading this Signature Initiative in collaboration with several other CIHR Institutes. In February 2015, teams funded through both the first and second phases of ICDI met in Winnipeg for the inaugural networking meeting (see p. 3). Based on the presentations and discussions at this meeting, we are confident that the strategic research on inflammation in Canada is in good hands and will further our understanding of, and ability to tackle, clinical problems linked to inflammation. The first phase of ICDI included both the microbiome and transplantation

initiatives, and in January, the Institute held a Café Scientifique on transplantation at the CRCHUM in Montreal (see p. 4). The event was well attended and provided an opportunity for the public to interact with an expert panel. Discussions during the Café touched on important topics within the transplantation area including new surgical techniques, family-related organ donation and the experience of a lung-liver transplant patient.

As indicated in the last Newsletter, the Institute is working with several Canadian and international partners on the research response to Ebola. We are supporting two clinical trials of a candidate Ebola vaccine (see p. 6), and are also preparing another funding opportunity focused on innovative research in the field of Ebola. Further details on this opportunity will be announced shortly, and will be widely disseminated to the Infection and Immunity community.

On the HIV front, we have been developing a new strategic plan for the HIV/AIDS Research Initiative, which will be finalized and launched this spring. We have recently announced new grants under the Canadian HIV Vaccine Initiative (see p. 5) and are working

on building a new initiative focused on implementation science. I also met with the hepatitis C research community last month in Banff and witnessed the level of engagement of a new research network that will emerge during exciting times where a HepC cure becomes a real possibility.

It is a pleasure to highlight the research accomplishments of the IIR community. On page 4, we detail the recognition that Dr. John Gordon, Dr. Anita Kozyrskiy, and Dr. Meghan Azad have recently received for their work. The Institute proudly supports the new generation of researchers in the field of infection and immunity, particularly through our popular New Investigator Forum, which will be held from May 29-31, 2015, in Lac Delage, QC. At this meeting we will honour the recipient of the 2014 Bhagirath Singh Early Career Award in Infection and Immunity, Dr. Bebhinn Treanor from the University of Toronto Scarborough (see p. 3).

I wish you all success in your research.

Marc Ouellette

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Inflammation in Chronic Disease Funding Announcement

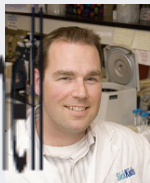
On December 22nd, 2014, the Government of Canada announced the funding of nine new research projects that will investigate the relationship between inflammation and chronic disease. This funding is made under the CIHR Inflammation in Chronic Disease Signature Initiative, which is co-led by the Institute of Musculoskeletal Health and Arthritis (IMHA) and Institute of Infection and Immunity (III), and in partnership with

the Institute of Aging (IA), Institute of Cancer Research (ICR), Institute of Circulatory and Respiratory Health (ICRH), Institute of Nutrition, Metabolism, and Diabetes (INMD), and Institute of Neurosciences, Mental Health and Addiction (INMHA). The projects will be supported with funding of \$22 million over five years from CIHR and its partners – The Arthritis Society and Crohn’s and Colitis Canada.

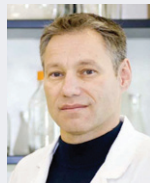


From left to right: Dr. John Brumell; patient and family representatives Kate and Robbie Murray; Dr. Serge Desnoyers, III's Assistant Director; Dr. Janet Rossant, Chief of Research at SickKids; Parliamentary Secretary Eve Adams; Crohn's and Colitis Canada's Aida Fernandes; The Arthritis Society's Jonathan Riley; Dr. Phil Sherman, Scientific Director of CIHR's Institute of Nutrition, Metabolism and Diabetes.

The [nine supported teams](#) from the “[Health Challenges in Chronic Inflammation](#)” funding opportunity are:



John Brumell
The Hospital for Sick Children
NADPH oxidase function in the pathogenesis of paediatric IBD and JIA



Paul Kubes
University of Calgary
Intravascular Immunity In Chronic Inflammatory Lung Diseases.



Dana J. Philpott
University of Toronto
Nod-like receptors: linking innate immunity and inflammation to chronic disease



Bertus Eksteen
University of Calgary
A Multidisciplinary Approach To Target Chronic Inflammation Of The Gut, Liver And Joint.



Jean S. Marshall
Dalhousie University
Restitution Enhancement in Arthritis and Chronic Heart disease.



Mark G. Swain
University of Calgary
Brain Dysfunction in Chronic Inflammatory Disease: Reciprocal Effects of CNS and Periphery Crosstalk



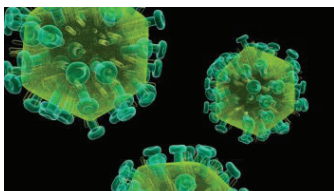
John Esdaile
University of British Columbia
PRECISION: Preventing Complications from Inflammatory Skin, Joint and Bowel Conditions.



David Park
University of Ottawa
Insights into Parkinson's disease, Crohn's disease, and leprosy: a common role for LRRK2.



Ruth Ann Marrie
University of Manitoba
Defining the burden and managing the effects of psychiatric comorbidity in chronic immunoinflammatory disease.



Inaugural Networking Meeting with Research Teams Supported under the Inflammation in Chronic Disease Signature Initiative



Last February, IMHA and IIR gathered the research teams supported under both phases of the Inflammation and Chronic Disease Signature Initiative in Winnipeg for the inaugural networking meeting. This meeting was also attended by the Institute of Nutrition, Metabolism and

Diabetes (INMD), the Institute of Gender and Health (IGH), the Institute of Neuroscience, Mental Health, and Addiction (INMHA) and the Institute of Cancer (ICR). The objectives of this meeting were to facilitate sharing of project plans and innovative ideas for reducing inflammation in chronic disease; to provide opportunities and information on knowledge translation and partnership; and to discuss metrics for what research success will look like in five years.

Also participating were representatives from the Cana-

dian Microbiome Initiative (Dr. Kenneth Croitoru), and from the Canadian National Transplantation Research Program (CNTRP) (Dr. Lori West, and Dr. Marie-Josée Hébert). We were pleased to have with us representatives from The Arthritis Society, Crohn's and Colitis

Canada, Roche, AbbVie, and GSK. Patients were represented by Ms. Marta Kisiel, Lynn Pike and Mr. Mike Bellhouse. The meeting helped in framing critical aspects of the initiative such as knowledge translation, communications and partnership.



Dr. Bebhinn Treanor, Recipient of the 2014 Bhagirath Singh Early Career Award in Infection and Immunity



Dr. Bebhinn Treanor from University of Toronto-Scarborough, is the recipient of the Bhagirath Singh Early Career Award in Infection and Immunity for 2014. Dr. Treanor, from Ontario, obtained her Ph.D. from the Imperial College London, under the supervision of Pr. Daniel M. Davis, studying Natural Killer cell inhibi-

tory receptor signaling. She then went on to complete postdoctoral studies at the London Research Institute of Cancer Research UK in the laboratory of Dr. Facundo Batista establishing single particle tracking techniques to understand the regulation of receptor mobility at the cell surface and the implications this has for cell signaling. Since 2011 she has been an Assistant Professor in the Department of Biological Sciences at the University

of Toronto-Scarborough. The overarching theme of her current research is to identify novel regulators of B cell activation which could be targets for therapeutically modulating B cell signalling. Dr. Treanor is currently supported by grants from CIHR, NSERC, and has received support from the Canada Foundation for Innovation as well as the Ontario Research Fund Infrastructure Grant. She has received several awards including the Canadian Society for Immunology New Investigator Award in 2014, and the Connaught New Researcher Award in 2012.

The Bhagirath Singh Early Career Award recognizes the excellence of research being done in Canada in the fields of infection and immunity. It is given annually to a new investigator (less than five years as an independent researcher) with the highest percent ranking in the Open Operating Grant program.

Members of the Infection and Immunity Research Community Recently Honoured



Dr. John Gordon

Dr. John Gordon received the 2014 Saskatchewan Health Research Foundation's Achievement Award for outstanding contribution to innovative and collaborative health research in Saskatchewan, work that has been mostly supported by CIHR. Dr. Gordon is a Professor in the Division of Respiratory, Critical Care & Sleep Medicine at the University of Saskatchewan. He is an expert immunologist and his work on asthma and allergies provided the basis for a potential new therapy. Dr. Gordon is the Chair of the CIHR peer review committee on Immunology and Transplantation. He is currently supported by an operating grant from CIHR for research on immune tolerance.



Dr. Meghan Azad

Dr. Anita Kozyrskij (lead) and Dr. Meghan Azad, two members of the SyMBIOTA research team funded through part of the Canadian Microbiome Initiative, have seen their publication "Gut microbiota of healthy Canadian infants: profiles by mode of delivery and infant diet at 4 months" (CMAJ 2013;185:385-94) rewarded with the Bruce Squires Award. The Bruce Squires Award is presented annually to the authors of a research article that promotes high standards of reporting and evidence-based medicine, and also for research that is likely to have a high impact on patient care.



Dr. Anita Kozyrskij

Café Scientifique on Transplantation

The Institute of Infection and Immunity held a Café Scientifique on transplantation January 16th at the CR-CHUM in Montréal. The Café "Transplantation in Canada: Success and Challenges of the Gift of Life and the Hope of Research" attracted more than 60 participants, several of which were transplant patients and their relatives. The Institute wishes to thank the expert panellists and the moderator for their participation. A special thanks to Dr. Marie-Josée Hébert, Nephrologist at the CRCHUM, co-director of CNTRP and panellist, for her help in making this Café a great success. The Café was filmed and will be broadcasted later in the year on the Canal Savoir channel (Québec).



From left to right Mr. Michel Rochon, moderator, Dr. Marie-Josée Hébert, Dr. Steven Paraskevas, Dr. Michel Carrier, patient Alexandre Grégoire.



Congratulations to Funding Recipients

[Team Grant: Mucosal Immunology for HIV Vaccine Development](#)

Three new teams composed of Canadian and international researchers will aim to improve our understanding of the mucosal immune response to HIV. Under the auspices of the Canadian HIV Vaccine Initiative (CHVI), the teams will be supported through grants totalling \$3.4 million from CIHR, in partnership with the Bill & Melinda Gates Foundation (BMGF). Congratulations to the teams!

Dr. Adam Burgener, University of Manitoba. *Mucosal Predictor of HIV Acquisition.*

Dr. Rupert Kaul, University of Toronto. *Understanding mucosal protection against HIV: delineating interactions between the immune system, microbiome and mucus.*

Dr. Charu Kaushic, McMaster University. *Interaction between sex hormones, microbiome and innate immunity in the female reproductive tract: Impact mucosal immunity and HIV susceptibility.*

[Pathways Implementation Research Teams Component 1 – Tuberculosis](#)

Richard Long, University of Alberta. *Implementing the “Patient’s charter of tuberculosis care” in high incidence Indigenous communities and across jurisdictional borders.*

[Planning and Dissemination Grant – Institute Community Support – August 2014 Competition](#)

Canadian Society for Immunology and Aaron J. Marshall. *The Microbiome and Chronic Disease.*

Amit Garg. London Health Sciences Centre Research Inc. *Hospital Donation Physicians: Building an Evaluation Framework.*

Claire M. Brown. McGill University. *Canadian Cytometry and Microscopy Association – From Technologies to Treatments.*

Ahmed M. Bayoumi. St. Michael’s Hospital (Toronto). *Establishing Longitudinal Cohort Studies of People who Use Drugs in Ontario.*

Kristy L. Buccieri. Trent University. *Pandemic Preparedness: Knowledge Translation in the Ontario Homelessness Sector.*

Aslam H. Anis. University of British Columbia. *Engaging Bangladeshi Partners in Cohort Development.*

Brad H. Nelson. University of British Columbia. *Canadian Cancer Immunotherapy Consortium (CCIC) Symposium 2015.*

Joyce A. Wilson. University of Saskatchewan. *Fourth Canadian Symposium on Hepatitis C Virus.*

Innovating for Maternal and Child Health in Africa Program

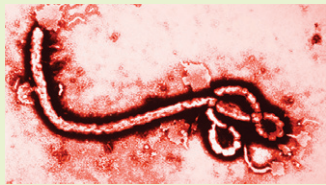


On February 25th, the Prime Minister of Canada announced that Foreign Affairs, Trade and Development Canada (DFATD), International Development Research

Centre (IDRC), and CIHR support for 20 implementation research teams. The teams are one of two components of the 7-year, \$36 million Innovating for Maternal and Child Health in Africa Program (along with the two African-based [Health Policy Research organizations](#) previously announced last fall). The [20 teams](#) will identify, test, and deliver practical, cost-effective

solutions to improve maternal and child health in 13 countries across sub-Saharan Africa, including one team working on research on malaria. The Institute of Infection and Immunity is a proud partner of the Innovating for Maternal and Child Health in Africa Program, which is part of the Global Health Research Initiative.

Canadian Research Response to Ebola



The Ebola outbreak, that has been affecting West Africa since May 2014, has elicited an almost unprecedented international health, humanitarian and research response. Canada has played an integral

part in this response, particularly in the area of vaccine research and development. CIHR, along with other Government of Canada partners, have designed and supported a number of funding opportunities aimed at combatting the threat of Ebola.

Canadian Phase I Ebola Vaccine Clinical Trial

In November 2014, CIHR and the Public Health Agency of Canada (PHAC) announced their support of a phase I clinical trial of the VSV-EBOV candidate Ebola vaccine, originally developed by researchers at the PHAC National Microbiology Laboratory (NML). [This trial](#) is currently underway at the Halifax site of the Canadian Immunization Research Network (CIRN), a network created in 2014 through a CIHR-PHAC partnership. The safety

of the vaccine, as well as its ability to induce an immune response against Ebola, is being evaluated in 40 healthy adult volunteers. Assessment of this, and other candidate Ebola vaccines is a critical part of the overall response to the Ebola pandemic.

Phase III Ebola Vaccine Clinical Trial in Guinea

Due to the urgent need to find an effective mechanism to stem the spread of Ebola in West Africa, and based on promising results from the phase I vaccine trials underway in Canada and at other sites worldwide, the research

community is moving rapidly to assess the effectiveness of candidate Ebola vaccines. A number of Canadian government partners including CIHR, the International Development Research Centre (IDRC), Foreign Affairs, Trade and Development Canada (DFATD), and PHAC, are part of an international consortium supporting a phase III clinical trial of the VSV-EBOV vaccine in Guinea. The goal of this trial is to generate expanded safety data on the vaccine, and assess its ability to prevent infection in people at risk. Additional details about this trial can be found [here](#).

Funding Opportunities

[Team Grant : National Hepatitis C Collaborative Network](#)

The primary objective of this National Hepatitis C Collaborative Network is to create a cohesive, collaborative research program in Canada that links researchers, knowledge users and decision makers from multiple pillars and jurisdictions across the country.

Application Deadline: 2015-03-23
Anticipated Notice of Decision: 2015-05-15
Funding Start Date: 2015-04-01

[Programmatic Grants in Environments, Genes and Chronic Disease](#)

CIHR Institute of Nutrition, Metabolism and Diabetes, and its Partners will provide funding for applications that are determined to be relevant to one of the following four funding pools: (Updated: 2015-01-05)

1. Environment-**microbiome**-gene interactions in chronic non-communicable diseases (e.g. cystic fibrosis).
2. Environment-gene interactions in chronic, non-communicable, **immunologically-mediated diseases** (e.g. IBD, type 1 diabetes, celiac disease).
3. Environment-gene interactions in chronic, non-communicable metabolic diseases (e.g. type 2 diabetes, NAFLD, obesity).
4. Environment-gene interactions in chronic, non-communicable diseases related to reproduction, fetal and/or early childhood development.

Application deadline: 2015-09-17 (for those invited following acceptance of a letter of intent).
Anticipated notice of decision: 2016-01-29
Funding start date: 2016-01-01

[Team Grant - Pathways Implementation Research Team – Component 2](#)

Application: 2015-09-15 (for those invited following acceptance of a letter of intent).

Application Notice of Decision: 2016-01-29

Funding begins: 2016-01-01

[Catalyst Grant - HIV/AIDS Community-Based Research \(2015\)](#)

Application: 2015-04-15

Application Notice of Decision: 2015-08-24

Funding begins: 2015-10-01

EXTERNAL

[Horizon Prize – Better use of antibiotics](#)

This €1 million prize addresses the issue of the unnecessary use of antibiotics, which is contributing to the growing problem of antibiotic resistance. Upper respiratory tract infections (such as the common cold, bronchitis and infections of the sinuses, the middle ear and the throat) are a major reason for the prescription of antibiotics, even though many of these infections are due to viruses, where antibiotics are neither effective nor necessary. The **Horizon Prize for better use of antibiotics** will be awarded for a rapid test to identify, at the point of care, patients with upper respiratory tract infections that can be treated safely without antibiotics. Find more [here](#)

Scientific Meetings of Interest

[Association of Medical Microbiology and Infectious Disease \(AMMI\) Canada](#) - Annual Meeting, April 16 to 18, 2015, Charlottetown, P.E.I.

[4th Annual Canadian Human and Statistical Genetics Meeting](#) and [Canadian GE3LS and Health Services and Policy Research Conference](#). April 18 au 21, 2015, Vancouver, BC.

[Canadian Association of HIV Researchers \(CAHR\) - 24th Annual Conference](#). April 30 to May 3, 2015, Toronto, ON.
[Public Health 2015](#). May 25 to 28, 2015. Vancouver, BC.

[Canadian Society for Immunology \(CSI\) - 28th Annual Conference](#). June 4 to 7, 2015, Winnipeg, MB.

[Canadian Society of Microbiologists \(CSM\) – 65th Annual Conference](#). June 15 to 18, 2015, Regina, SK.

[International AIDS Society - 8th Conference on HIV Pathogenesis, Treatment and Prevention](#), July 19 to 22, 2015, Vancouver, BC.

[2015 Towards an HIV Cure Symposium](#). July 18 & 19, 2015. Vancouver, BC.

Live Stream Opportunity- Listen to the [CIHR 2014 Applied Public Health Chairs](#)

The Canadian Institutes of Health Research, Institute of Population and Public Health (CIHR-IPPH), partnering CIHR Institutes/Initiatives, Fonds de recherche du Québec-Santé and Alberta Innovates-Health Solutions and the Public Health Agency of Canada (PHAC) would like to invite you to tune into a live stream knowledge exchange featuring the [newly funded 2014 Applied Public Health Chairs](#).

Click [here](#) to access the live stream on Monday March 23 at 9h00-12h00 ET.

The CRDCN: your network to access Statistics Canada’s detailed microdata files

The [Canadian Research Data Centre Network \(CRDCN\)](#) offers researchers access to an array of social, economic and health microdata that are collected and administered by Statistics Canada. Researchers who have approved projects and security clearance have access to the data in secure computer laboratories (Research Data Centres or RDCs) located on 26 university campuses across Canada and in one research institute in Yellowknife.

While the RDCs offer data in many areas of the social sciences, approximately half of all projects undertaken using the RDCs have a health focus and rely on health-related data from Statistics Canada, including the following surveys and collections:

- | | |
|--|---|
| <ul style="list-style-type: none"> • Canadian Health Measures Survey • Canadian Community Health Survey • National Population Health Survey • Mental Health Survey • Nutrition Survey • Healthy Aging Survey • Canadian Cancer Registry | <ul style="list-style-type: none"> • Vital Statistics • Experiences with Primary Health Care Survey • Canadian Survey on Disability • Survey on Living with Chronic Disease in Canada • Survey on Living with Neurological Disease in Canada |
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Visit the CRDCN web site for a complete list of the [data sets that are available](#) and for information on how to [access RDC Data](#).