

November 201

## NCE confirms AllerGen funding to 2019

AllerGen will receive ongoing federal funding through the Networks of Centres of Excellence (NCE) program to continue its work in allergic disease research, training and innovation to 2019.

"After a review by the NCE's international expert panel on September 17, 2015, AllerGen was deemed eligible for continued funding because it met the NCE's standards for excellence in performance of all five NCE mandate areas - research, networking and partnership, capacity building/training, knowledge and technology exchange and exploitation, and management," says Dr. Judah Denburg, Scientific Director and CEO of AllerGen.

"Over the next four years, working closely with partners, stakeholders and our host institution, McMaster University, we will complete our research and focus on translating and commercializing key findings to promote earlier diagnosis, disease interception, better treatment, and optimal outcomes for Canadians with allergic diseases."

The Canadian government's award to AllerGen from 2005 to 2019 totals \$74.4 million. The ongoing funding was confirmed as part of a review process that assessed AllerGen's achievements midway through its second seven-year term.

Press release | Hamilton Spectator article

#### Responses to the news:

Congratulations to all! Well done! Del Dorscheid, The University of British Columbia

John Kelton, McMaster University

As I say as frequently as I can (because it is true), AllerGen is unquestionably a role model for networks.

Chris Carlsten, The University of British Columbia

Congratulations for what will be singled out in years to come as the jewel of the NCE Program!

James Scott, University of Toronto

Truly a fabulous network that has made us all better.

Canadian allergy research and clinical practice is in better shape because of this Network.

Chris Mody, University of Calgary

My thanks for all that AllerGen has done for allergy research and interdisciplinary, translational research in general.

Fiona Brinkman, Simon Fraser University

### A

### RESEARCH HIGHLIGHTS



# Four gut bacteria decrease asthma risk in infants

A new study, published September 30, 2015, in *Science Translational Medicine*, found that infants at high risk of developing asthma had low levels of four specific gut bacteria in the first three months of life.

It is the first research to establish a causal link between infant gut bacteria and the development of asthma. The study was conducted at The University of British Columbia (UBC) and the BC Children's Hospital, and involved the participation of over 300 families from the CHILD Study.

"This research supports the hygiene hypothesis that we're making our environment too clean. It shows that gut bacteria play a role in asthma, but it is early in life when the baby's immune system is being established," says Dr. Brett Finlay, co-lead researcher and Peter Wall Distinguished Professor in the Michael Smith Laboratories and the Departments of Biochemistry & Molecular Biology and of Microbiology & Immunology at UBC.

"This study is exciting because it emphasizes the importance of the gut microbiome in asthma and opens the door to a whole new way to prevent childhood asthma by supplementing specific bacteria in the first 100 days of life," says co-lead researcher Dr. Stuart Turvey, pediatric immunologist at BC Children's Hospital, director of clinical research and senior clinician scientist at the Child & Family Research Institute, and Professor of Pediatrics at UBC.

Dr. Turvey is also the Vancouver site leader for the CHILD Study.

Read the press release | Watch the interview | Read about media coverage





# Use of antibiotics during childbirth affects infant gut microbiota

New research using data from participants in the CHILD Study explores the impact on the infant gut microbiota of the use of maternal antibiotics during childbirth, and examines whether or not breastfeeding modifies these effects during the infant's first year of life.

Published in *BJOG:* An International Journal of Obstetrics and Gynaecology, the study found that antibiotics used during delivery—whether caesarean or vaginal—are associated with a microbial imbalance (or dysbiosis) in infant gut microbiota, and that breastfeeding modifies some of these effects by the time the infant is 12 months old. The long-term health consequences remain to be determined.

The research examined data and samples from 198 healthy-term infants from the CHILD Study. Maternal antibiotic exposures during birth and birth method were documented from hospital records, and breastfeeding information was reported by mothers. The composition of the infant gut microbiota was characterised through the analysis of fecal samples taken at 3 and 12 months.

AllerGen investigator Dr. Anita Kozyrskyj of the University of Alberta led the study. AllerGen investigator Dr. Meghan Azad of the University of Manitoba was lead author on the article, which was co-authored by numerous other AllerGen and CHILD Study investigators.

Press release | Coverage in Maclean's | CHILD Study video

#### Uncovering the link between breastfeeding and early childhood obesity

Using data collected from the CHILD Study, AllerGen investigator Dr. Meghan Azad's research focuses on how breastfeeding and breast milk composition can affect the development of childhood obesity, asthma, allergies, type 2 diabetes and other conditions.



**Dr. Azad (left) with five-year-old Jillian a**nd her mom Melissa, participants in the CHILD Study. Used with permission.

Dr. Azad's work is profiled in a new 'Health Research in Action' feature story by the Canadian Institutes of Health Research (CIHR).





# Eczema by age two linked to food allergies

AllerGen researchers have published the first study to link eczema in the first two years of life with common food allergies.

The study, "Eczema in Early Childhood, Sociodemographic Factors and Lifestyle Habits Are Associated with Food Allergy: A Nested Case-Control Study," was published in the *International Archives of Allergy and Immunology* (April 2015) and featured in an upcoming issue of *Pediatric Chronicle*.

The study concluded that eczema in the first two years of life was a risk factor for egg, peanut, tree nut and fish allergy. The study also found that eczema in early childhood was not associated with allergies to milk and shellfish.

"This research supports the hypothesis that there is a critical age interval in which eczema increases the risk for many food allergies," says AllerGen investigator Dr. Moshe Ben-Shoshan, a pediatric allergist at the Montreal Children's Hospital, who was lead author on the paper.

"It is likely that the impaired skin barrier seen in early childhood eczema allowed abnormal cutaneous exposure to food allergens, promoting allergic sensitization."

"We did not find an association between eczema in the first two years of age and

shellfish or milk allergy," adds Dr. Ben-Shoshan.

"Likely, this is because shellfish is typically introduced after the age of two and milk is introduced very early in life, even before eczema develops."

In addition to eczema, food allergy was also found to be associated with the presence of a food allergy in parents or siblings, and a high household income.

The research was conducted as a population-based nested case-control study within AllerGen's nationwide SPAACE survey (Surveying Prevalence of food Allergy in All Canadian Environments), which surveyed 5,734 Canadian households about food allergies.

AllerGen Research Leader Ann Clarke, a professor in the Department of Medicine at the University of Calgary, was the study's senior author.

The authors not that understanding the role of the skin barrier in relation to the development of food allergies is of particular interest, as it represents a potentially modifiable risk factor.



# New anaphylaxis data from Quebec EMS calls



Anaphylaxis accounts for a substantial number of the cases managed by paramedics in Outaouais, Quebec, new Canadian research reveals.

Of 23,486 ambulance calls requiring transportation to

hospital over a 12-month period in the Outaouis region, 104 cases (0.44%) were identified as anaphylaxis-related, according to the study, published in July 2015 in *Immunity, Inflammation and Disease*.

This proportion is higher than in Quebec emergency rooms, according to Dr. Moshe Ben-Shoshan, a pediatric allergist at the Montreal Children's Hospital and lead author of the AllerGen-funded study.

"The percentage of anaphylaxis was higher in the emergency medical services (EMS) calls requiring transportation as compared to our findings for anaphylaxis visits in both pediatric (0.21%) and adult (0.26%) emergency departments," says Dr. Ben-Shoshan.

"This is not surprising, given that the EMS manages acute cases requiring prompt lifesaving intervention and the emergency department may treat cases that are not considered life-threatening."

The study, "Anaphylaxis in the pre-hospital setting," is part of AllerGen's Cross-Canada Anaphylaxis REgistry (C-CARE) project.

# Experiences of stigma among food allergic children in Ontario schools

A new publication by AllerGen researchers reports on certain social effects of Sabrina's Law, the first legislation in the world to protect children in schools with life-threatening food allergies.

Published in *Health and Social Care in the Community* in May 2015, the study explored students' experiences of felt and enacted stigma in the school setting that resulted from disclosing their food allergies.

Sabrina's Law requires that every school board in Ontario establish and maintain an anaphylaxis policy, and that principals develop individual plans for pupils at risk.

While the intent of Sabrina's Law was to create a safe environment for allergic youth, this research found that some of the practices and policies implemented to ensure safety (e.g. removing allergic students from the classroom, posting photos of allergic students) have resulted in some children feeling stigmatized. On the other hand, the study credited Sabrina's Law with contributing to the cultural shift in awareness of food allergies, including among school personnel, which can have beneficial effects for the allergic population.

AllerGen investigators Drs Susan Elliott (University of Waterloo) and Ann Clarke (University of Calgary); collaborators Drs Nancy Fenton and Jennifer Dean (University of Waterloo); and Sara Shannon, Sabrina Shannon's mother, co-authored the paper.



### **AWARDS & HONOURS**

# Dr. Paul O'Byrne inducted as Fellow of the Canadian Academy of Health Sciences

AllerGen Research Leader Dr. Paul O'Byrne has been elected a Fellow of the Canadian Academy of Health Sciences (CAHS), one of the highest honours for Canadians in the health sciences community.

"This is an important recognition of Dr. O'Byrne's academic contirbution and leadership, including his leadership in AllerGen," observes AllerGen Board Chair Dr. Howard Bergman.

In its announcement of his Fellowship status, CAHS characterizes Dr. O'Byrne's professional accomplishments concisely:

[He is] internationally recognized for seminal contributions into understanding the causes and treatment of asthma, including the first studies of the central role of airway inflammation in its initiation and persistence.

His work has explained the mechanisms of allergen-induced inflammatory responses and aided the development of anti-leukotrienes as a new asthma treatment. He has published extensively in the most highly cited peer-review journals. His studies of asthma treatment have influenced treatment guidelines worldwide.

Read the press release.

Dr. O'Byrne also received the Alfred Soffer Award for Editorial Excellence at the CHEST 2015 Annual Meeting (October 24-28, 2015, in Montreal, QC).

### AllerGen investigator named Vice-Dean, Research & Innovation

AllerGen investigator Dr. Richard Hegele has been appointed Vice-Dean, Research and Innovation, in the Faculty of Medicine, University of Toronto, for a five-year term beginning January 1, 2016.

In his new role, Dr. Hegele will be responsible for oversight of the strategic direction and management of health and biomedical research in the Faculty of Medicine.



**Dr. Richard Hegele** 

Dr. Hegele is an anatomical pathologist and a researcher in the areas of viral and inflammatory lung diseases. He is currently Chief, Department of Paediatric Laboratory Medicine, at The Hospital for Sick Children, and has

been Chair of the Department of Laboratory Medicine and Pathobiology (LMP) at the University of Toronto since 2009.

Dr. Hegele is a collaborator on AllerGen's Canadian Healthy Infant Longitudinal Development (CHILD) Study. He is also deeply committed to the professional development and capacity building of AllerGen trainees through the Network's Highly Qualified Personnel (HQP) program. Dr. Hegele regularly volunteers his time as a mentor at trainee networking events and as a judge for AllerGen Poster Competitions.



### Dr. Peter Paré named 2016 Distinguished Lecturer in Respiratory Sciences

In celebration of his scholarship and creativity in the respiratory sciences, AllerGen investigator Dr. Peter Paré will be presented the 2016 CIHR-ICRH-CTS Distinguished Lecturer in Respiratory Sciences award at the Canadian Respiratory Conference in Halifax, Nova Scotia, on April 16th, 2016. As honouree, he will also present a keynote lecture at the event.

Dr. Paré is Emeritus Professor of Medicine and Pathology in the Faculty of Medicine at The University of British Columbia. He is widely recognized for his significant contributions to the study of the physiological assessment, pathophysiology and, more recently, the genetics of asthma and COPD.

In 2014, his Faculty bestowed upon him the 2014 Bill and Marilyn Webber Lifetime Achievement Award.

Dr. Paré was among the AllerGen Network's first cohort of investigators in 2005 and has continued to collaborate on several AllerGen projects seeking to find susceptibility genes for allergic disease.

Established in 2006 by the CIHR's Institute of Circulatory and Respiratory Health (ICRH) and the Canadian Thoracic Society (CTS), the annual Distinguished Lecturer in Respiratory Sciences award recognizes outstanding contributions to the advancement of respiratory sciences in Canada.

# AllerGen Board Members receive CSACI Awards

Two members of AllerGen's Board of Directors were honoured at the Awards Dinner of the 2015 Canadian Society of Allergy and Clinical Immunology (CSACI) Annual Scientific Meeting held October 21-24, 2015, in Vancouver, BC.

**Dr. Charles Frankish** received the CSACI Jerry Dolovich Award for his contributions to the field of allergy and clinical immunology in Canada. The award is named after the late Dr. Jerry Dolovich, a highly respected allergy researcher, clinician, and educator.

**Dr. Donald Stark** (The University of British Columbia) received the CSACI Distinguished Member Award.



Dr. Stark (L) receives his award from CSACI President Sandy Kapur at the 2015 Annual Scientific Meeting

AllerGen investigators and collaborators Drs Louis-Philippe Boulet, Martin Post, Qutayba Hamid and Paul O'Byrne were, respectively, the 2014, 2013, 2011 and 2008 CIHR-ICRH-CTS Distinguished Lecturers in Respiratory Sciences.



## **KNOWLEDGE MOBILIZATION**

# VOTE for the CHILD Study video in a CIHR competition

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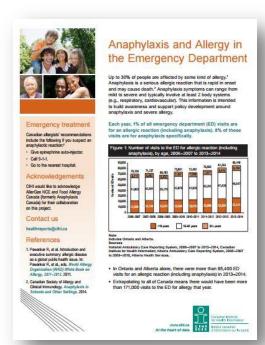
The CHILD Study whiteboard video is one of 13 entrants in the 2015 CIHR-"IHDCYH Talks" Video Competition.

For the entire month of November, 2015, the general public can access, view and "vote" on the videos by clicking the thumbs up ("like") button. Online public voting accounts for 10% of each video's overall score. Winners will be announced in early 2016.

To vote for the CHILD video and to watch all of the submissions to this competition, please visit the IHDCYH Talks Video Competition YouTube Channel.



# New report on Canadian anaphylaxis and allergic reactions in the emergency department



How many Canadians visit emergency departments (ED) each year due to allergic reactions and anaphylaxis? Are the numbers growing? Which months are the most common for anaphylactic emergencies? How have prescription patterns for epinephrine autoinjectors changed over time?

A new anaphylaxis information sheet released September 10, 2015, by the Canadian Institute for Health Information (CIHI) answers these questions using data collected from EDs in several provinces and prescription medication records in British Columbia, Saskatchewan and Manitoba.

AllerGen experts Drs Moshe Ben-Shoshan, Ann Clarke and Susan Elliott collaborated with CIHI to develop the fact sheet, which provides the latest snapshot of Canadian anaphylaxis statistics.



### TRAINEE NEWS

### Allergy research shines at 2015 Poster Competition



L to R: Dr. Diana Royce and Dr. Dean Befus with poster award winners: Anne-Marie Boucher-Lafleur, Stephanie Legere, Laura Feldman, Mena Soliman, Young Woong Kim, Amrit Singh, Linda Warner, Saiful Huq, Dr. Meghan Azad and Dr. Elinor Simons

Ten AllerGen HQP were recognized for their knowledge translation skills at the 2015 AllerGen Trainee Poster Competition. See the winners list.

With entries spanning research across the Network (see the Abstract Booklet), 27 HQP joined the competition. The judges' panel included Drs Dean Befus, Moshe Ben-Shoshan, Jeremy Hirota, Fiona Brinkman, Richard Hegele, Bruce Mazer, Mohsen Sadatsafavi, Andrew Sandford, Scott Tebbutt and Chris Rider.

The competition was held in conjunction with the Annual Scientific Meeting of the Canadian Society of Allergy and Clinical Immunology (CSACI), which took place October 21-24, 2015, in Vancouver, BC.

The next competition will be held in conjunction with AllerGen's 8<sup>th</sup> Research Conference, May 29-June 1, 2016.

### Calls for Applications

AllerGen is now accepting applications for the following HQP awards:

Emerging Clinician-Scientist Fellowship

Deadline: April 1, 2016
Call for applications & Application form

Stanford/AllerGen Research Award

Deadline: Open until awarded
Call for applications & Application form

Summer Studentships

Deadline: February 12, 2016
Call for applications & Application form



## **PEOPLE & PARTNER NEWS**

# "Big Ideas, Better Cities" showcase features AllerGen research

AllerGen's Scientific Director delivers dynamic "soapbox" speech

In a 90-second "soapbox" speech delivered to an audience of 140 community members, city officials and McMaster faculty, staff and students, AllerGen's Scientific Director, Dr. Judah Denburg, recently spoke about how AllerGen and McMaster researchers are using "big data" to transform healthcare and influence public policy.

Dr. Denburg spoke on November 2, 2015, at the David Braley Centre in downtown Hamilton as part of *Big Ideas, Better Cities*, a year-long series showcasing how McMaster research can help cities respond to 21<sup>st</sup> century challenges.

**Soapbox:** a raised platform on which one stands to make an impromptu speech, designed to inspire and motivate an audience.

The first speaker in a line-up of eight experts and community leaders, Dr. Denburg urged the audience to "imagine a crystal ball into early life, from the womb to 100 days after birth: imagine knowing how to set in motion a path to healthy living in families and communities."



Dr. Denburg (top R) kicks off the "big data" soapbox challenge

He described how AllerGen is helping to make that vision a reality, through birth cohort studies such as the CHILD Study, involving tens of thousands of Canadians, and the work of other teams of researchers using "big data" to try to stop allergic diseases even before they start.

As part of the same event, Dr. Malcolm Sears, co-Director of the CHILD Study, was featured in a three-minute **video** highlighting how the CHILD Study uses "big data" to explore the early origins of allergy and asthma.



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#### AllerGen in Africa:

#### Scientific Director speaks in Cape Town, South Africa

In early November 2015, AllerGen's Scientific Director, Dr. Judah Denburg, delivered an *Allergy in Africa* webinar organized by the Division of Paediatric Allergy of the University of Cape Town in South Africa.

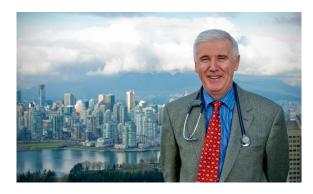
Dr. Denburg's webinar topic was "The Canadian Allergy, Genes & Environment Network (AllerGen): Innovation and Impact." His presentation surveyed the history, major accomplishments and future aspirations of the Network.

The 48-minute talk, described by its organizers as "extremely inspirational," can be viewed online.



The Allergy in Africa lecture series is run out of the Red Cross Children's War Memorial Hospital in Cape Town. The lectures cover issues relating to allergy and asthma, with a special focus on allergy practice in developing countries.

# Dr. Mark FitzGerald is new Director of VCHRI's Centre for Heart and Lung Health



Dr. FitzGerald (compliments of VCH Research Institute)

AllerGen investigator Dr. Mark FitzGerald, head of Respiratory Medicine at The University of British Columbia (UBC) and codirector of the UBC Institute for Heart and Lung Health, has been appointed Director of the Vancouver Coastal Health Research Institute's Centre for Heart and Lung Health.

"I'm looking forward to the significant opportunities that this will bring," Dr. FitzGerald commented in the VCHRI announcement.

Dr. FitzGerald's clinical and research interests include asthma, chronic obstructive pulmonary disease (COPD) and tuberculosis. His current research focuses on health literacy and ethnicity in the management of asthma and COPD, as well as the economic evaluation of asthma and its cost effective treatment.

Within AllerGen, Dr. FitzGerald is involved in the evaluation of new asthma therapies.

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# Anaphylaxis Canada becomes Food Allergy Canada



In August 2015, AllerGen's partner formerly known as Anaphylaxis Canada changed its name to "Food Allergy Canada" and launched a new website.

### AQAA becomes Allergies Québec



In October 2015, AllerGen's partner formerly known as Association québecoise des allergies alimentaires (AQAA) became "Allergies Québec."

# Asthma Society of Canada head elected to Parliament

On October 30, 2015, Dr. Rob Oliphant stepped down as President and CEO of AllerGen's partner organization the Asthma Society of Canada (ASC) to serve in the House of Parliament as Liberal MP for the Toronto riding of Don Valley West.



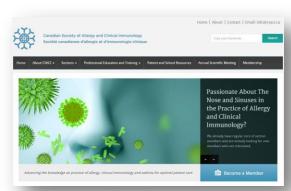
Dr. Oliphant took the helm of ASC in November 2011, succeeding current AllerGen Board Member Dr. Christine Hampson. His electoral victory returns him as MP to the same riding he represented previously, from 2008-2011.

Noah Farber is serving as Acting President and CEO of ASC until the ASC's Board of Directors names a replacement.

#### CSACI launches new website

AllerGen's partner, the Canadian Society of Allergy and Clinical Immunology (CSACI), launched a new website in November 2015.

http://csaci.ca/





## **MEDIA**

# Asthma study makes international headlines

Research findings from a study led by Drs Brett Finlay and Stuart Turvey and published in *Science Translational Medicine* (see "Four gut bacteria decrease asthma risk in infants") were reported widely in national and international media, with over 400 hits in 10 languages registered by Google News.



# Maclean's features CHILD Study research

Maclean's magazine featured the Canadian Healthy Infant Longitudinal Development (CHILD) Study and recent scientific discoveries generated from CHILD Study data in its November 16, 2015, issue.



The feature article, titled "Gut feelings: A baby's gut bacteria shape her health, and may partly explain rising rates of asthma, allergies and obesity," highlights two new studies that point to the importance of the first three months of life in shaping the gut microbiome—a "critical window" that may lead to health effects down the road.

AllerGen investigators Dr. Stuart Turvey (The University of British Columbia), Vancouver site leader for the CHILD Study, and Dr. Anita Kozyrskyj (University of Alberta), co-Investigator for the CHILD Study, were both interviewed by *Maclean's*.

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# AllerGen launches webinar series on the business side of research planning

# Jason Ding of TEC Edmonton offers abundance of business tools in inaugural webinar

On November 13, 2015, AllerGen hosted the first webinar of this series. In a resource-packed presentation, Jason Ding offered the 20 attendees a wealth of helpful business planning tools and expert tips on IP valuation.



viewed here.

Next webinar: December 1, 2015



Know your "Customers"

Jonathan Jafari
Senior Director,
Business Development, CDRD

AllerGen is pleased to offer members of its Network a series of free webinars on "Planning for Research Success" between November 2015 and April 2016.

The series has been designed to impart skills and know-how that will help researchers to maximize the sustainability and impact of their research.

Registration is open.

Space is limited so sign up early!



Register | Read more about the series | Download the flyer

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### Keynote speaker confirmed for 2016 Research Conference

#### Dr. Susan Prescott



Dr. Susan Prescott, an internationally renowned specialist in childhood allergy and immunology, will be a keynote speaker at AllerGen's 8th Research Conference in 2016.

Read more about Dr. Prescott.

#### **Meet the Conference Planning Committee**

#### Dr. Michael Kobor (Chair)

The University of British Columbia

**Dr. Meghan Azad** University of Manitoba

**Dr. Allan Becker** University of Manitoba

**Dr. Dean Befus**University of Alberta

**Dr. Jeff Brook**Environment Canada

**Prof. Tim Caulfield** University of Alberta

**Dr. Ann Clarke**University of Calgary

**Dr. Susan Elliott**University of Waterloo

**Dr. Andrew Halayko**University of Manitoba

**Dr. Christine Hampson**The Sandbox Project

**Dr. Nicole Letourneau** University of Calgary

**Dr. Diana Royce**AllerGen NCE Inc.

**Dr. Andrew Sandford**The University of British Columbia

**Dr. Malcolm Sears**McMaster University

**Amrit Singh** 

The University of British Columbia

Dr. Stuart Turvey

The University of British Columbia

### PRE-REGISTER

### for AllerGen's 2016 Research Conference

**Sign up now** to let us know that you are planning to attend and we will notify you when registration opens.

### vancouver2016

May 29 Innovation from Cell to Society 8

#### AllerGen's 8th Research Conference

Connecting and Collaborating:
Globalizing Advances in Allergic Disease Research

#### Send newsletter enquiries and comments to:

Kim Wright, Manager, Communications and Knowledge Mobilization Tel: 905.525.9140 x26641 Email: <a href="mailto:kimwright@allergen-nce.ca">kimwright@allergen-nce.ca</a>