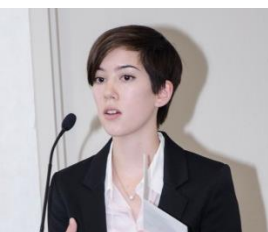


Undergraduate students excel in AllerGen Poster Competition

Eight AllerGen HQP, including three undergraduate students, took top honours at the Network’s annual Trainee Poster Competition on October 4, 2013, in Toronto. Held in conjunction with the Canadian Society of Allergy and Clinical Immunology (CSACI) Annual Scientific Meeting, the competition attracted 31 trainees, young professionals and research staff, including eight undergraduates.

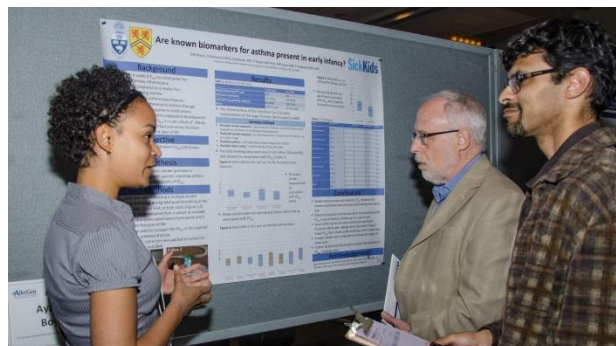


Laura Feldman, University of Toronto, presents her research in the one-minute lightning round

The competition was adjudicated by a panel of 12 judges, chaired by **Dr. Richard Hegele**, Professor of Medicine & Pathobiology, University of Toronto, and member of AllerGen’s Board of Directors. The judges expressed enthusiasm for the research excellence and exceptional

presentation skills demonstrated by this year’s participants. “It was truly impressive to see the consistently high quality of research in this year’s competition. Not only were the students very well prepared in delivering their presentations, they were able to think effectively on their feet and answer challenging questions,” Dr. Hegele said.

Ayanna Boyce, a fourth-year Health Studies student at the University of Waterloo, was one of three undergraduates honoured at the competition. Her poster, titled *Are known biomarkers for asthma present in early infancy?*, evaluated the association between known asthma risk factors and exhaled nitric oxide within a subset of infants participating in the Canadian Healthy Infant Longitudinal Development (CHILD) Study. Boyce participated in the project during an eight-month placement at The Hospital for Sick Children under the supervision of **Dr. Padmaja Subbarao**, funded by an AllerGen Summer Studentship.



Ayanna Boyce, University of Waterloo, presents her research to judges Terry Delovitch and Theo Moraes

“Presenting my project alongside graduate students and post-doctoral fellows allowed me to see options for next steps in my education and to appreciate the scope and calibre of research being conducted by young Canadian scientists in the fields of allergies and asthma,” Boyce said. “The one-minute ‘lightning round’ oral presentations were challenging, but it was valuable to learn how to communicate key scientific messages in just 60 seconds!”

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For further information on any HQP program or related questions, contact:

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AllerGen Poster Competition Participants



Posters were judged within the context of the three foci of the AllerGen research program: Gene-Environment Interactions; Biomarkers and Bioinformatics; and Patients, Policy and Public Health. Winners received \$500 for a first-place finish, \$300 for second place and \$200 for the top undergraduate posters. The winners were:

Top Undergraduate Students

Laura Feldman, University of Toronto

Supervised by Dr. Teresa To, The Hospital for Sick Children

Estimating the impact of temperature and air pollution on cardiopulmonary and diabetic health during the TORONTO 2015 Pan Am/Parapan Am Games

Timothy Chung, University of Toronto

Supervised by Dr. Brian Rowe, University of Alberta

Pre-hospital management of anaphylaxis in one Canadian urban centre

Ayanna Boyce, University of Waterloo

Supervised by Dr. Padmaja Subbarao, The Hospital for Sick Children

Are known biomarkers for asthma present in early infancy?

Gene-Environment Interactions

First Place

Dr. Elinor Simons, University of Toronto

Supervised by Dr. Teresa To, The Hospital for Sick Children

Longitudinal association between neighbourhood walkability and incident childhood asthma

Second Place

Dr. Michelle North, Queen's University

Supervised by Dr. Anne Ellis

Epigenetic upregulation of β 1-syntrophin correlates with rhinitis symptoms in the Environmental Exposure Unit

Honourable Mention

Sami Shariff, University of Calgary

Supervised by Dr. Richard Leigh

Human rhinovirus infection of human bronchial epithelial cells results in migration of human airway smooth muscle cells

Biomarkers and Bioinformatics

First Place

Amrit Singh, The University of British Columbia

Supervised by Dr. Scott Tebbutt

Th17/Treg ratio derived using DNA methylation analysis discriminates allergen-induced early from dual asthmatic response

Second Place

Claudia Hui, McMaster University

Supervised by Dr. Judah Denburg

Thymic stromal lymphopoietin promotes human eosinophil-basophil lineage commitment: a key role for tumor necrosis factor-alpha

Honourable Mention

Jenny Thiele, Queen's University

Supervised by Dr. Anne Ellis

The Allergic Rhinitic Clinical Investigator Collaborative - nasal allergen induced eosinophilia

Patients, Policy and Public Health

First Place

Linda Warner, The University of British Columbia

Supervised by Dr. Stuart Turvey

Optimizing subject retention in a longitudinal birth cohort study: lessons learned from the Vancouver site of the CHILD study

Second Place

Laura Feldman, University of Toronto

Supervised by Dr. Teresa To, The Hospital for Sick Children

Estimating the impact of temperature and air pollution on cardiopulmonary and diabetic health during the TORONTO 2015 Pan Am/Parapan Am Games

Honourable Mention

Timothy Chung, University of Toronto

Supervised by Dr. Brian Rowe, University of Alberta

Pre-hospital management of anaphylaxis in one Canadian urban centre



AllerGen Poster Competition Winners

Front Row - Elinor Simons, Laura Feldman, Michelle Harkness

(HQP Coordinator), Michelle North, Ayanna Boyce and Linda Warner

Back Row - Timothy Chung, Amrit Singh and Claudia Hui

AllerGen trainees receive prestigious Postdoctoral Fellowships



Two early career researchers from the AllerGen Network have been named

2013 Banting Postdoctoral Fellows. The fellowships, each valued at \$70,000 per year for two years, are Canada's most prestigious awards for post-doctoral research.

Drs Meghan Azad from the University of Alberta and Jeremy Hirota from The University of British Columbia are among an elite group of researchers being recognized for both research excellence and leadership in their fields of study. The announcement was made on September 23, 2013, by The Honourable Greg Rickford, Minister of State (Science and Technology), at Université Laval.

"Drs Azad and Hirota are exceptional early career scientists that are making substantial contributions to our understanding of the genetic and environmental influences of allergy and asthma," said Dr. Judah Denburg, Scientific Director and CEO of AllerGen.

Meghan Azad studies the role of gut bacteria in childhood asthma and allergies. Trillions of intestinal microbes (known as the gut microbiota) are essential for stimulating immune system development. Disruption of the infant gut microbiota is a suspected cause of immune disorders that develop later in childhood, including asthma and allergies. Dr. Azad's research uses information and biological samples from



AllerGen's Canadian Healthy Infant Longitudinal Development (CHILD) Study to investigate the impact of antibiotics and environmental factors on infant gut microbiota and the subsequent development of allergic disease.

Dr. Azad holds a PhD in Biochemistry and Medical Genetics from the University of Manitoba. She joined the University of Alberta as a Killam Postdoctoral Fellow in 2011, under the supervision of AllerGen researcher Dr. Anita Kozyrskyj, who is an Associate Professor in the Department of Pediatrics and Research Chair in the Women's and Children's Health Research Institute.

Jeremy Hirota's research is focused on understanding the contribution of environmental exposures to asthma development and exacerbations. Dr. Hirota examines how air pollution interacts with airway epithelial cells by collecting samples from subjects, with or without asthma, who have been exposed to diesel exhaust. His research will demonstrate how the body responds to air pollution to influence asthma, provide biological data to support public health initiatives aimed at protecting vulnerable populations from air pollution, and help to identify new targets for the development of drugs for the treatment of asthma.



Dr. Hirota completed his B.Sc. and PhD at McMaster University specializing in asthma and is now a postdoctoral fellow at The University of British Columbia under the supervision of AllerGen researcher Dr. Chris Carlsten, who is an Associate Professor of Medicine and Chair in Occupational and Environmental Lung Disease.



UPCOMING ALLERGEN APPLICATION DEADLINES

International Trainee Research Visits - Wednesday, January 15, 2014

Undergraduate Summer Studentships - Friday, February 7, 2014

Emerging Clinician-Scientist Research Fellowship - Friday, April 11, 2014

Young Canadians Roundtable on Health includes AllerGen trainees



AllerGen trainees **Timothy Chung** from the University of Toronto and **Ryan Persaud** from the University of Manitoba are among a select group of 17- to 26-year-olds from across Canada chosen for The

Sandbox Project's inaugural Young Canadians Roundtable on Health (YCRH).

The YCRH brings together motivated young Canadians from coast-to-coast-to-coast in order to positively transform the health prospects of children and youth. The group will provide leadership in research, public debate and education on topics related to the present and future health of Canadian youth, including: injury prevention; mental health; growing, healthy bodies; and the environment.

Chung and Persaud both held AllerGen Summer Studentships in 2013. Timothy Chung worked with **Dr. Brian Rowe**, Professor, Department of Emergency Medicine, at the University of Alberta on the management of acute asthma in an urban Emergency Medical Service. Under the supervision of **Dr. Anita Kozyrskyj**, Associate Professor, Department of Pediatrics and Research Chair, Women's and Children's Health Research Institute at the University of Alberta, Ryan Persaud researched the impact of perinatal infant antibiotic exposures on allergic outcomes in the Winnipeg cohort of AllerGen's CHILD Study.



Ryan Persaud



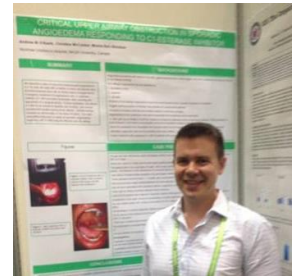
Timothy Chung

[Learn More:](#)

Fellows-in-Training attend EAACI/WAO Congress



With funding support from an AllerGen Travel Award, **Dr. Andrew O'Keefe**, a Clinical Fellow in Pediatric Allergy and Clinical Immunology at McGill University, attended the European Academy of Allergy and Clinical Immunology - World Allergy and Asthma Congress (EAACI-WAO), held in July in Milan. Dr. O'Keefe presented a case report of sporadic angioedema responding to C1-esterase inhibitor and received feedback on the management of this case. "Events such as this offer not only an educational opportunity to discuss current literature and clinical practice, but to provide trainees with important career networking opportunities and a venue in which to present research," states Dr. O'Keefe.



Dr. Andrew O'Keefe

Fellows-in-training **Dr. Gina Tsai** (Western University) and **Dr. Tahira Batool** (McMaster University) also received AllerGen Travel Awards to attend this event. Dr. Tsai presented her groundbreaking clinical research on the needle length of epinephrine auto-injectors.

AllerGen welcomes new ASNPN members

Trainees and new professionals working on AllerGen-funded research automatically become ASNPN members. Students and new professionals not directly involved in AllerGen research, but training or working in the field of allergy, asthma and/or anaphylaxis, may apply for membership.

The following trainees were recently approved for ASNPN membership:

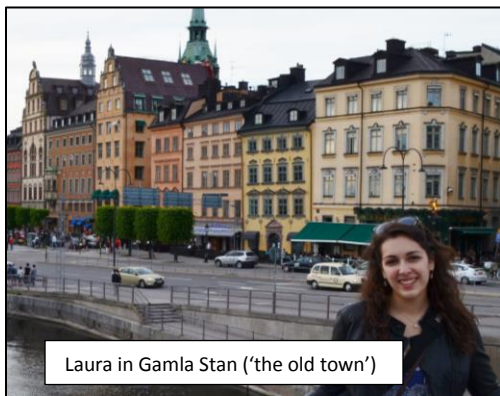
Vidyanand Anaparti, PhD (c), University of Manitoba; supervisor: Dr. Redwan Moqbel, Professor and Head, Department of Immunology (to October 2013)

Sarah Bridgman, Research Administrator, University of Alberta and M.Sc. (c) London School of Hygiene; supervisor: Dr. Anita Kozyrskyj

Leah Shaver, M.Sc. (c), University of Waterloo; supervisor: Dr. Nancy Fenton, Assistant Professor

Karolinska lab exchange draws attention

“Working at such a world-renowned research institute definitely impressed my supervisors, family and peers,” states AllerGen trainee, **Laura Zuccaro**, regarding her two month stay this summer at the Karolinska Institutet (KI) in Stockholm, Sweden. There, Laura worked under the supervision of long-time AllerGen collaborator, Professor **Sven-Erik Dahlén**, as well as **Anna James** and **Mikael Adner**, members of his research group. AllerGen has a long-standing partnership with the KI, which hosts the first Clinical Investigator Collaborative site outside of Canada.



Laura in Gamla Stan ('the old town')

During her visit, Laura successfully completed a project that examined the expression of bitter taste (TAS2R) receptors on human bronchial smooth

muscle (hBSM) after stimulation with different cytokines and drugs. Her results will be added to earlier work, and will eventually be submitted for publication. Laura hopes to present her work with Professor Dahlén at a respiratory/allergy conference once the results are finalized.



Hood in cell lab where Laura would feed cells, stimulate them, and eventually lyse them for RNA extraction

Laura graduated with a B.HSc. from McMaster University in April 2013, where she worked with Dr. **Parameswaran Nair's** research group. In September, she started medical school at the University of Ottawa. Laura describes her time at the KI as an incredible experience that has fueled her desire to continue in research. “I definitely see myself in a career that allows me to directly research scientific problems related to my patients,” says Laura. “This is an exciting realization; I am looking forward to beginning my medical training with this goal in mind.”

AllerGen trainee monitors pollution in 'real time'

Natalia Mykhaylova, a PhD candidate in chemical engineering at the University of Toronto, is part of an AllerGen-funded research team that is developing inexpensive air-quality monitoring devices. These devices could eventually be used to increase monitoring across cities (by mounting them on utility poles, for example), or to improve personal exposure measurement by being carried by individuals or placed in the homes of research subjects such as those in the CHILD Study.



These devices are equipped with an array of sensors to monitor local concentrations of nitrogen oxide (NO₂), ozone (O₃) and particulate matter (PM_{2.5})—pollutants known to contribute to the development of asthma and other chronic diseases. Placing a network of monitors around a city would help to map the variability of air pollution across neighbourhoods and allow individuals to measure their personal exposure to pollutants in 'real time', according to Mykhaylova and Professor Greg Evans, the AllerGen Investigator who leads the study. This is part of AllerGen's Gene-Environment Interaction research under the subproject BEAM (Better Exposure Avoidance Measures), led by Dr. Jeff Brook.

[Read more.](#)

Former ASNPN President featured in *Success Stories*



The sixth issue of Allergen's *Success Stories* is now available in print and electronically on the Allergen website at www.allergen-nce.ca. This popular publication showcases Network-supported research and the accomplishments of leading Canadian allergy, asthma, anaphylaxis, genetics, environment and

education researchers, their students and partners.

Jennifer Protudjer, former ASNPN President, is featured in this issue. The accomplishments of Allergen trainees and new professionals will continue to be featured in future editions. In addition to Jennifer's story, this issue highlights four Allergen-supported research projects in feature stories that explore:

- how diesel exhaust can change our genes;
- why some people are allergic to peanuts and others are not;
- a new way of thinking about the nose and lungs; and
- the challenge of measuring indoor exposure to phthalates.

In sharing these stories, Allergen aims to accelerate the dissemination, discussion and mobilization of Network research results. We hope you enjoy reading this latest issue!

[Click here to read *Success Stories* 6](#)

Join Us!



New Karolinska Solna University Hospital under construction



The cranes in the background show the construction site of the New Karolinska Solna University Hospital, one of the largest building construction projects in Europe. When it opens in 2016, NKS will be one of the largest and most innovative healthcare projects in the world.

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McMaster University

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University of Alberta

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Stephanie Nairn, PhD (c) Québec/Atlantic Director;
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Carlo de Olim Rugginenti Member-at-Large;
Université de Montréal

A fond remembrance of an asthma and allergy pioneer



Dr. Redwan Moqbel, an internationally renowned authority on the pathophysiology of asthma, passed away on October 9, 2013, in Winnipeg, Manitoba, after a protracted battle with cancer. Dr. Moqbel was best known for his work to elucidate the immunobiology of human eosinophils and their potential role in airway disease. He received his PhD from the University of London in 1976 and was among the first to identify the immunological cell types that regulate asthma and allergy.

In 1995, Dr. Moqbel joined the Department of Medicine at the University of Alberta as a Full Professor. There, he served as the Director of the Pulmonary Research Group and received numerous prestigious awards, such as Alberta Heritage Medical Senior Scholar, Heritage Scientist and Heritage Senior Investigator. In 2008, Dr. Moqbel became Professor and Head of the Department of Immunology at the University of Manitoba and Professor Emeritus at the University of Alberta.

at the University of Manitoba and Professor Emeritus at the University of Alberta.

Dr. Moqbel provided vision and leadership to the AllerGen Network since its inception. In 2005-2006, during the Network's first full year of operation, Dr. Moqbel sat on the Board of Directors and served as a joint Theme Leader for the Diagnostics and Therapeutics research area. He also served on the Research Management Committee and acted as a Principal Investigator and Co-Investigator on numerous AllerGen research projects. Dr. Moqbel has been a Co-Investigator on the Canadian Healthy Infant Longitudinal Development (CHILD) Study since 2007.

Known as an outstanding teacher and mentor, Dr. Moqbel touched the lives of many young biomedical scientists, students and AllerGen trainees. Throughout his life and career, he promoted the ideals of 'oneness' and unity in diversity, and in January 2013 Dr. Moqbel was honoured with the Lieutenant Governor of Manitoba's Award for the Advancement of Interreligious Understanding.

Dr. Moqbel leaves behind his wife, Shar Mitchell, as well as children, grandchildren, family, friends, and a scientific community in Canada and abroad who are saddened by his passing.

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