

Airways

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INNOVATION
from cell to society⁶
Vancouver, British Columbia
February 6 - 8, 2011

SIXTH ANNUAL RESEARCH CONFERENCE
Mark the dates in your calendar now!
NEW timeframe: 9 a.m. Sunday, February 6 to 2 p.m. Tuesday, February 8, 2011
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Mark your calendars for AllerGen's
Sixth Annual Research Conference
– *Innovation from Cell to Society*⁶

Sunday, February 6 - Tuesday, February 8, 2011, Westin Bayshore, Vancouver, British Columbia

Registration is now open for AllerGen's sixth annual research conference, which is taking place in Vancouver, British Columbia from Sunday, February 6 to Tuesday, February 8, 2011 at the Westin Bayshore hotel on the waterfront. The 2011 conference is slated to be a stimulating three-days, featuring leading research experts in allergy, asthma and related immune diseases. AllerGen investigators and their research partners will share research results from across AllerGen's three core research programmes: *Gene-Environment Interactions, Diagnostics and Therapeutics and Public Health, Ethics, Policy and Society*.

Featured speakers include:

- **Dr. Wesley Burks**, Kiser-Arena Professor of Pediatrics and Chief of the Division of Pediatric Allergy and Immunology at Duke University Medical Center.
♦ **Presentation focus:** *Developing New Treatment Options for Food Allergy and Anaphylaxis*
- **Dr. Marc Rothenberg**, Director of the Division of Allergy and Immunology at Cincinnati Children's Hospital Medical Center, and a tenured Professor of Pediatrics at Cincinnati Children's and the University of Cincinnati College of Medicine.
♦ **Presentation focus:** *Bench-to-bedside-to-community: eosinophilic disorders of the gastrointestinal tract*
- **Dr. Geoff Maksym**, Associate Professor, School of Biomedical Engineering and Physics and Atmospheric Science at Dalhousie University.
♦ **Presentation focus:** *Lessons learned: biomedical research and commercialization from cell to patient.*

The conference organizing committee anticipates attendance by over 200 delegates from a range of sectors - academic, industry, healthcare, government, not-for profit organizations as well as clinicians, patients and members of the general public.

The annual poster competition provides trainees with the opportunity to learn from and network with national and international leaders in the field of allergy and related immune diseases. It is a major opportunity to showcase their research, gain feedback from these renowned researchers and also have the chance to win cash prizes. There are some exciting changes to the poster competition this year including the addition of *Lightning Round* sessions, which will allow each poster presenter to make a short presentation to the conference delegation.

For information regarding the preliminary conference programme, registration, submitting a poster abstract (trainees only) please visit the AllerGen website at www.allergen-nce.com.

In this issue:

- 2011 Annual Research Conference. 1
- AllerGen CAIDATI Awards 2
- SCAAALAR Media Event 2
- ASNPN 2010 Executive Committee 3
- NCE Full Review 4
- AllerGen Travel Awards Report 5
- 5th Annual Training Symposium. 5
- Karolinska Institute Exchanges: Dividends 6
- Karolinska Institute - My Experience. 6
- Recent AllerGen Publications 6
- AllerGen Trainees Take Top Honours 7
- The Paul Man Award for Translational Research 7



AllerGen is supported by the Government of Canada through the Networks of Centres of Excellence program.

Trainees Receive \$325,500 from AllerGen's Canadian Allergy and Immune Diseases Advanced Training Initiative (CAIDATI) Research Fellowship Program, Promoting Allergic and Related Immune Disease Research

AllerGen's CAIDATI Awards provide new training opportunities for undergraduate summer students and students pursuing MD, Masters and PhD degrees as well as post-doctoral fellows specializing in research relevant to biomedical, health, social and/or natural science and engineering research in the area of allergy, asthma and related immune/inflammatory processes and disease.

AllerGen's investment of \$162,750 through the 2010 CAIDATI awards was matched by partner organizations for a total investment of \$325,500 and will support research that aims to train future allergy, asthma and anaphylaxis researchers. The awards are intended to contribute to a significant increase in Canada's research

capacity in allergy, asthma and related immune diseases/inflammatory processes through joint funding of new fellowships in partnership with other programmes across Canada.

After peer review by AllerGen's Advanced Education and Training Opportunities Advisory Committee (AETOAC), fourteen outstanding students (2 Undergraduates, 6 MSc, 1 MD, 3 PhD and 2 Postdoctoral Fellows) from six academic institutions across Canada were selected for funding.

CAIDATI funding was awarded to trainees located at:

- Dalhousie University - \$54,600
- McGill University - \$54,600
- McMaster University - \$53,550
- University of British Columbia - \$108,150
- University of Calgary - \$17,850
- University of Guelph - \$36,750

The CAIDATI awards are aligned with AllerGen's three research programmes and are of strategic importance to the generation of new knowledge with potential for social and economic impact in the areas of: *Gene-Environment Interactions, Diagnostics and Therapeutics and Public Health and Ethics, Policy and Society.*

SCAAALAR Media Event



From left to right:
Lianne Soller, Ann Clarke, Claude Roy, Susan Elliott, Samuel Godefroy Judah Denburg

Montreal, QC (20 September 2010) – On September 20, 2010, in the heart of Montreal, Canadian allergy experts shared significant research findings from a recently completed study, *Surveying Canadians to Access the Prevalence of Common Food Allergies and Attitudes towards Food Labelling and Risk* (SCAAALAR), regarding food allergy prevalence and perceptions in Canada.

The event, hosted by AllerGen NCE Inc. (AllerGen), with special guest Dr. Samuel Godefroy of Health Canada, featured leading allergy experts Dr. Ann Clarke, a practicing allergist at McGill University Health Centre and Professor in the Department of Medicine at McGill University in Montreal and Dr. Susan Elliott, Professor and Dean in the Faculty of Applied Health Sciences at the University of Waterloo. Drs Clarke and Elliott spoke about their current AllerGen-funded research project, the *Surveying Prevalence (of food) Allergy (in) All Canadian Environments* (SPAACE) Study, set to be complete in 2012. AllerGen ASNPN member, and SCAAALAR Research Assistant and Coordinator, Lianne Soller actively participated in the presentation and interpretation of research findings. The SPAACE Study has a particular focus on vulnerable Canadian populations and will build upon their current research findings and knowledge about food allergy prevalence and perception in Canada. This research was highlighted by André Picard in the *Globe & Mail* on September 21, 2010.

AllerGen's Student and New Professionals Network (ASNPN) 2010 Executive Committee

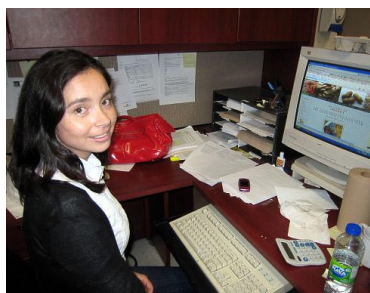


ASNPN President: Jennifer Protudjer, M.Sc., (PhD candidate)

Jennifer Protudjer is a PhD candidate in the Department of Applied Health Sciences at the University of Manitoba, under the supervision of Dr. Allan Becker and Dr. Gustaaf Sevenhuysen. Her research focuses on childhood obesity and asthma, from a mixed-methods approach. For this work, she received a Canadian Institutes of Health Research *Banting and Best Doctoral*

Research Award and a Manitoba Graduate Scholarship. Throughout her academic training (MSc 2007; BSc 2005), she has also received institution-specific scholarships.

Recently, Jennifer received an *AllerGen NCE Inc.-Karolinska Institutet HQP Research Exchange Award* and spent 6 weeks training at the Karolinska Institutet in Stockholm, Sweden. Upon completion of her doctorate, she plans to do post-doctoral studies in obesity and asthma, and ultimately pursue an academic career.



ASNPN Vice-President: Lianne Soller, BA&Sc, (M.Sc candidate)

Masters of Science candidate: Department of Epidemiology, Biostatistics and Occupational Health, McGill University

Research Coordinator: Division of Clinical Epidemiology, McGill University Health Centre

In 2008, Lianne graduated from McGill University with a Bachelors of Arts and Science in Biomedical Sciences, History and Italian Studies.

abstracts of studies being conducted at McGill University. She won the Trainee Poster Competition at the Allergy, Genes and Environment Network's 4th Annual Conference in Ottawa, Ontario (February 2009), and at the Canadian Society of Allergy and Clinical Immunology's Annual Meeting in Halifax, Nova Scotia (October 2009).

Since her second year of university, Lianne has worked with Dr. Ann Clarke's Food Allergy research team on various research projects including SCAALAR and SPAACE as both a research assistant and coordinator. She has attended medical and research conferences in allergy and immunology in Canada and the United States, where she presented

Lianne is currently a Masters student in Epidemiology at McGill University. Her thesis work involves looking at the treatment and management of food allergy. She hopes to complete her thesis in August of 2011, and to pursue a PhD in Epidemiology at McGill University with Dr. Clarke's team.



ASNPN Secretary/Treasurer: Umme Akhtar, M.Sc., (PhD candidate)

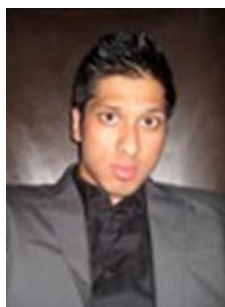
Doctor of Philosophy candidate: Department of Chemical Engineering and Applied Chemistry, University of Toronto

Umme S. Akhtar received her bachelor's degree in Chemical Engineering from Bangladesh University of Engineering & Technology, Bangladesh in 2005. Due to her passion for the environment, she did her Master's in Environmental Engineering at the

University of Windsor in 2008. She worked on urban atmospheric mercury concentration measurement and identification of potential sources. To continue her studies in the air pollution field, she joined the SOCAAR laboratory as a PhD student in 2008 under the supervision of Dr. Greg J. Evans (Department of Chemical Engineering) and Dr. Jeremy A. Scott (Department of Medicine, University of Toronto).

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Her research involves investigation of particulate matter toxicology on human health. More specifically, human lung epithelial cells will be exposed *in vitro* to size segregated particulate matter to develop dose-response relationships between PM and biological responses such as oxidative stress, inflammation and cytotoxicity, and to identify the biomarkers for observed biological responses. The knowledge obtained from this research will help to better understand the biological pathway involved between PM exposures and the development of adverse health effects.



ASNPN Events/Communications Director: Farzian Aminuddin, B.Sc. (Honours)

Research Coordinator: Heart + Lung Institute UBC James Hogg Research Centre, University of British Columbia

In 2009, Farzian graduated from the University of British Columbia with a Bachelor of Science (Honours) in Biotechnology, with Co-op designation. He also received a Diploma of Technology in Biotechnology from the British Columbia Institute of Technology in 2007.

Thoracic Society Conference, where he presented an abstract on the study he conducted as a co-op student. After graduation, Farzian continued working as a research technician at the Heart + Lung Institute UBC James Hogg Research Centre under the supervision of Drs Peter Paré and Andrew Sandford. Farzian's research interests include functional genetics in disease. Aside from research, he is currently a part-time student of the Graduate Diploma of Business Administration Program at Simon Fraser University. He hopes to complete the business program in order to complement his scientific background.

As an undergraduate, Farzian worked with Drs Peter Paré and Andrew Sandford for eight months as a Co-op student looking at genetic associations in Chronic Obstructive Pulmonary Disease. He attended the *American*

AllerGen's Student and New Professionals Network (ASNPN) 2010 Executive Committee (continued)



ASNPN: Regional Director – Pacific West Central: Matthew Gold, B.Sc., (PhD candidate)

Doctor of Philosophy candidate: Faculty of Medicine, Department of Experimental Medicine, University of British Columbia

Matthew Gold obtained his Bachelor of Science degree in the department of Physiology at McGill University. He started his research in the laboratory of Dr. Alice Mui at UBC, studying the role of the inositol phosphatase SHIP-1 in non-canonical IL-10

signaling pathways. Matthew then began his PhD studies under the supervision of Dr. Kelly McNagny at *The Biomedical Research Centre* at UBC. His research focuses on characterizing the role of the cell-surface sialomucin CD34 in mast cell signaling and leukocyte

trafficking to the lung during inflammation, including testing the applicability of novel CD34 targeting drugs to treat lung inflammatory diseases. Current findings suggest a clear role for CD34 in promoting immune cell migration and dampening mast cell signaling during degranulation.

He has attended research conferences in both Canada and the United States, including the 96th Annual American Association of Immunologists Conference, AllerGen NCE and Stem Cell Network Conference's and was a Trainee in the Canadian Institutes of Health Research and Michael Smith Foundation for Health Research Transplantation Training Program.



ASNPN Regional Director – Ontario: Steven Smith, M.Sc, (PhD candidate)

Doctor of Philosophy candidate: Department of Medical Science, Physiology and Pharmacology, McMaster University

Steve graduated from Queen's University with a Bachelors of Science in Life Science Research in 2004. His undergraduate honours thesis examined *the role of the vanilloid receptor 1 in the pulmonary chemoreflex response to lactic acid* under the mentorship of Dr. J.T. Fisher. For his work, Steve received the David S. Bruce Award from the American Physiological Society and the

Health Science Research Trainees Award from Queen's University. He continued to study vanilloid receptors and completed a Masters of Science in 2006 in the same laboratory. His thesis titled, *the transient receptor potential vanilloid 1 is a molecular integrator in*

the lung, examined the molecular control of afferent reflexes (apnea, bradycardia and hypotension). Steve is currently a PhD student in the department of Medical Science at McMaster University under the mentorship of Dr. G.M. Gauvreau. His PhD thesis examines *the effects of peroxisome proliferator-activated receptor agonists on eosinophil function*.

Steve has presented his work at international conferences, including Experimental Biology, American Thoracic Society and Chest (American College of Chest Physicians). He has been awarded funding from the Ontario Thoracic Society and currently holds a Canadian Allergy and Immune Diseases Training Award from the Allergy, Genes and Environment Network NCE. He plans to complete his PhD in August of 2011 and to further pursue allergic asthma in a postdoctoral fellowship.



ASNPN Regional Director – Québec Atlantic: Megan Knoll, B.Sc., (M.Sc.candidate)

Masters of Science candidate: Department of Epidemiology, Biostatistics and Occupational Health, McGill University

Megan graduated from Queen's University with a BSc in Biology in 2009. She is now in Montreal, enrolled as a Masters student in Epidemiology at McGill University. Her thesis work will focus on allergy prevalence and development as she is

working on the SPAACE project with Dr. Ann Clarke. She is currently working as sample coordinator for SPAACE and hopes to complete her thesis by August 2011.

NCE Full Review

It is that time yet again in AllerGen's life cycle... As AllerGen approaches the end of its first seven years of NCE support, research leaders and administrative centre staff are ramping up towards the development and submission of an exhaustive proposal outlining the Network's progress to date and future strategic priorities in order to secure a

second and final seven years of NCE support for the period 2012-2019.

Final documentation is due early August 2011.

In support of this exercise, all current and former AllerGen trainees and ASNPN members are invited to submit testimonials

about the impact that their AllerGen experience has had on their career development (between .5 and 1.5 pages in length) are asked to submit testimonials directly to Melissa Shuker, Programme Coordinator at shuker@mcmaster.ca

We look forward to hearing from you!

AllerGen Travel Awards Report

HQP Capacity Building Travel Grants

Through this program AllerGen supports a portion of travel and accommodation costs necessary for AllerGen investigators and HQP to attend events (meetings, symposiums and conferences etc.) offered by non-Network organizations that will contribute to their professional development.

Who, Where, What?

The following students are recent travel award recipients, who have attended or will be attending major national and international conferences thanks to partnered support from AllerGen's HQP Travel Awards program.

Canadian Pediatric Society Annual Conference (June 2010 – Vancouver, BC)

Kristin Stawiarski, Undergraduate, McMaster University, Supervisor, Dr. Susan Waserman

Sophia Xu, MD, McMaster University, Supervisor, Dr. Susan Waserman

Advanced Multi-Colour Flow Cytometry Course (June 2010 – Vancouver, BC)

Delia Heroux, Research Technician, McMaster University, Supervisor, Dr. Judah Denburg

International Congress on Obesity (July 2010 – Stockholm, Sweden)

Jennifer Protudjer, PhD Candidate, University of Manitoba, Supervisor, Dr. Allan Becker

European Respiratory Society Congress (September 2010 – Barcelona, Spain)

Michelle North, PhD, University of Toronto, Supervisor, Dr. Jeremy Scott

Canadian Society of Allergy and Clinical Immunology (November 2010 – Victoria, BC)

Jennifer Protudjer, PhD Candidate, University of Manitoba, Supervisor, Dr. Allan Becker

AllerGen's 5th Annual Trainee Symposium, *Training for Excellence in Science and Society*, Toronto, ON, June 6-8, 2010

Over 40 AllerGen trainees gathered at the Chestnut Conference Centre at the University of Toronto from June 6 to 8, 2010 to participate in AllerGen's 5th Annual Trainee Symposium. The event was organized by the AllerGen Students and New Professionals Network (ASNPN) with administrative support from the AllerGen Administrative Centre.

The symposium featured talks by experts in several fields of interest to researchers-in-training including knowledge translation,

research ethics, engaging the media, research funding, oral presentation skills, and careers outside academe. Symposium participants learned about ASNPN President Jennifer Protudjer's experience at the Karolinska Institute as part of the AllerGen – Karolinska Exchange Program and were encouraged to get involved in exchange programs.

Participants also had an opportunity to attend a Clinical Workshop for Non-Clinicians that was held at The Hospital for

Sick Children on June 9th, 2010. In addition, 20 AllerGen trainees also visited the Gage Occupational and Environmental Health Unit at The Hospital for Sick Children where they toured the air pollution exposure facility and saw two demonstrations - methacholine challenge testing and skin prick testing.

A full report on the 2010 AllerGen Trainee Symposium is available at www.allergen-nce.com.



AllerGen trainees practice using professional voice and body language.

Karolinska Institute Exchanges Pay Dividends for AllerGen Trainees

In 2007, AllerGen and the Karolinska Institutet (KI) Centre for Allergy (CfA) agreed to internationalize and further enrich the training environment for their respective trainees through joint AllerGen-Karolinska HQP Research Exchanges.

This international collaboration has enabled, on a matching funding basis, AllerGen HQPs to be associated with a KI CfA research project in Sweden, and KI CfA HQPs to be similarly associated with an AllerGen research project undertaken at a Canadian University.

This opportunity was open to Masters, PhD, MD, postdoctoral students, summer students, undergraduates and allied health professionals. Participant support

was matched and sponsored jointly by agreement between AllerGen and Karolinska CfA research project supervisors. Each participant spent at least one month in the other jurisdiction, working on similar or complementary AllerGen or Karolinska CfA projects with counterpart investigators and their research teams.

The HQP exchange awards have:

- Enhanced AllerGen researcher and trainee partnerships and strengthened international networking and collaborative research and training opportunities with one of the foremost international centres of excellence in allergy and immune disease research.

- Created new, unique opportunities for research training, knowledge sharing, knowledge exchange and partnered research that will contribute to the excellence of AllerGen's research programme and enhance the capacity of a new generation of Canadian research professionals;
- Provided AllerGen and KI HQPs with valuable short-term international research and training exposure in leading allergy research jurisdictions;
- Exposed HQPs to cutting-edge international discovery and development efforts contributing to reductions in the impact of allergic diseases.

My Karolinska Institute Experience: Sarah Burke-McAlpine, Dalhousie University

The AllerGen-Karolinska Institutet (KI) Research Exchange program was introduced to me as a rare opportunity to experience research abroad at a world-renowned facility in a major European city. However, I could never have imagined just how rare this opportunity really was, and I am so grateful that I was able to participate in such an excellent program. As a PhD student at Dalhousie University, I had never lived outside of Nova Scotia. Born and raised near Halifax, I had only vacationed abroad and had never experienced working life in another culture.

My PhD studies with Dr. Jean Marshall focused on mast cells. Rather than examining them as directors of allergy and asthma, I studied their role in helping the body to fight viruses during infections. During this time, I was looking for new opportunities that would broaden my knowledge and experience and perhaps reveal new avenues for my future. Dr. Gunnar Nilsson at KI was introduced to me by my PhD supervisor as someone who could provide just that. After successfully defending my PhD thesis, I travelled to Stockholm in March of this year as a postdoctoral fellow to study mast cells in the context of allergy and infection. One hour after arriving in Stockholm, I attended a luncheon with my new lab and supervisor and was welcomed with warmth and kindness. From the very beginning, Dr. Nilsson and his lab members made me feel like Stockholm was my second home. I was encouraged to act independently in



From left to right: Rohit Saluja, Barbara Fuchs, Gunnar Nilsson, Sarah McAlpine, Camilla Engblom, Katarina Lyberg, Mattias Enoksson, Mikael Adner, Lisa Sjöberg, Agnetha Beinhoff

designing the key questions and protocols for my project. Overall, the transition to living in Europe and working in a completely different laboratory environment was nearly flawless because of the hospitality shown to me.

For my project, I investigated whether viral or bacterial infections could change the way that mast cells respond to allergens. This enabled me to study mast cells in their classic role as allergic mediators, while carrying forward my experience working with viruses that I gained during my PhD. To do this, I pretreated human mast cells with components of viruses and bacteria that are well known to initiate the immune response, and then activated those mast cells to respond in an allergic manner.

I then examined the short-term and long-term production of classic mast cell chemicals. During this time I had multiple opportunities to learn about state-of-the-art equipment and new techniques which enabled me to further my skills and experience for the future. In addition, I was invited to formally collaborate with members of the lab, resulting in a peer-reviewed publication focusing on mast cell responses to bacterial products. I also participated in writing a review article regarding the response of mast cells to allergens and infections.

Not only did I enjoy working at KI, I also enjoyed exploring Stockholm and Sweden.

In the Nilsson lab there is a very social environment that made my colleagues feel like a family. We had many tourist days and social gatherings outside the lab, and because of that I became close friends with all of them. This whole experience was one of learning, collaboration, friendship, and personal growth. I networked with new researchers, acquired new skills and knowledge, and gained a great deal of career and life experience. I have made life-long relationships and I will always be thankful to Dr. Marshall, Dr. Nilsson, KI, and AllerGen for this wonderful and successful opportunity. Tusen tack! A thousand thanks!

Sarah McAlpine
Dalhousie University

Recent AllerGen Publications

As of 30 September 2010, AllerGen investigators have recorded a total of 772 publications, which include refereed and non-refereed publications, presentations and posters. This represents an average of 172 publications per year over the 4.5 years of Network operations, showing significant productivity among AllerGen researchers. Recent publications of note that feature Network research are:

- i. The New England Journal of Medicine (September 2010), *A Large-Scale, Consortium-Based Genomewide Association Study of Asthma* (Moffatt MF, Gut IG, Demenais F, Strachan DP, Bouzigon EM, Heath S, von Mutius E, Farrall M, Lathrop M, Cookson W, Gabriel Consortium);
- ii. American Journal of Pathology (August 2010), *CD34 is required for infiltration of eosinophils into the colon during DSS-induced ulcerative colitis* (Maltby S, Wohlfarth C, Gold M, Zybtsnik L, Hughes MR, McNagny KM);
- iii. The Journal of Allergy and Clinical Immunology (June 2010), *A population-based study on peanut, tree nut, fish, shellfish, and sesame allergy prevalence in Canada* (Ben-Shoshan M, Kagan R, Primeau M, Alizadehfar R, Verreault N, Yu J, Nicolas N, Joseph L, Turnbull E, Dufresne C, St Pierre Y, Clarke AE.); and
- iv. The Journal of Immunology (April 2010), *MIP-2 Is a Critical Mediator of Neutrophilia in Pulmonary Host Defence Against Heterologous Pathogens* (Zavitz C, Gordon J Gaschler, Carla MT Bauer, Katie M Fraser, Cory M Hogaboam, and Martin R Stampfli).

AllerGen Trainees Take Top Honours at the 2010 Canadian Society for Allergy and Clinical Immunology (CSACI) Annual Scientific Meeting

Salma Bahreinian, a Master's student from the University of Alberta, won first place in the Best Poster Awards – Asthma and Allergic Rhinitis category at the CSACI 2010 Annual Scientific Meeting for her poster titled, *Comorbidity with Depression and*

Overweight in Children with Asthma.

Doug Houlbrook, a student from the University of Manitoba, won second place in the Best Poster Presentation at the CSACI 2010 Annual Scientific Meeting for his poster

titled, *Association of Maternal FEF 25-75% during a Methacholine Challenge and Children's Diagnosis of Asthma Project 2.1 Asthma Prevention Gender Related Biologic and Sociologic Impact of Obesity.*



AllerGen Administrative Centre is located at McMaster University Michael G. DeGroot Centre for Learning and Discovery 1200 Main Street West Room 3120 Hamilton ON L8N 3Z5 (905) 525-9140, ext. 26502

AllerGen NCE Inc.

Scientific Director and CEO:
Dr. Judah A. Denburg, MD, FRCP(C)
Managing Director and COO:
Diana Royce, EdD

AllerGen Trainee Awarded the Paul Man Award for Translational Research

Eduardo Campos, a Post-Doctoral Fellow from the University of Alberta, won the *Paul Man Award for Translational Research* at the Department of Medicine Annual Research Day at the University of Alberta.



From left to right:
Dr. Barbara Ballermann, Dr. Darryl Rolfson and Eduardo Campos