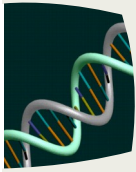




▶ HOT TOPICS: PROPOSED NUTRITION LABELLING CHANGES



▶ FACULTY MEMBER PROFILE: LILIAN THOMPSON



▶ CHECK OUT DNS ACCOMPLISHMENTS

● DEPARTMENT OF NUTRITIONAL SCIENCES

● UNIVERSITY OF TORONTO

# Nutri news

*Nutri-News is issued periodically and features the latest news in the Department of Nutritional Sciences. For more information please contact our Editors at [julie.mason@mail.utoronto.ca](mailto:julie.mason@mail.utoronto.ca)*

## THE CENTRE FOR CHILD NUTRITION, HEALTH & DEVELOPMENT

Three departments in the Faculty of Medicine: Nutritional Sciences, Family and Community Medicine, and Paediatrics, have joined together to respond to rising rates of obesity and nutrition-related problems beginning in the early years of life. Researchers and educators from these three departments will form the **Centre for Child Nutrition, Health & Development**. The Centre provides a trans-disciplinary academic unit for University of Toronto researchers and educators with expertise on nutrition and the prevention of obesity, chronic disease and malnutrition in children. Dr. Harvey Anderson will serve as the Director for the Centre and as Chair of the DNS Mary L'Abbé will serve on the Executive Committee. The Centre also includes an Advisory Council consisting of members of industry, NGOs, government, academia and philanthropy.



In Canada, more than 30 per cent of children and youth are overweight or obese, with related costs of more than \$7 billion yearly. At the same time, there is food insecurity in 8 per cent of Canadian households, affecting more than 1.15 million children. These challenges are too complex for any one discipline or institution to solve alone. Members of the Centre will work with other academics, hospitals, industry, non-governmental organizations and governments to find 21st century solutions to the problems of nutrition, malnutrition and child health. The Centre brings together a critical mass of experts who will shape health policies and guidelines, clinical practice, and product innovations in the food industries to improve the health of children of all ages in Canada and around the world.

# STUDENT ACHIEVEMENTS

## SELECTED PUBLICATIONS

Fernandes J\*, Su W\*, Rahat Rozenbloom S, Wolever TMW, Comelli EM. Adiposity, gut microbiota and fecal short chain fatty acids are linked in adult humans. *Nutr Diabetes*. 2014. Jun 30; 4e121 \*first co-authors

Glenn AJ, Fielding KA, Chen J, Comelli EM, Ward WE. Long-Term Vitamin D<sub>3</sub> Supplementation Does Not Prevent Colonic Inflammation or Modulate Bone Health in IL-10 Knockout Mice at Young Adulthood. *Nutrients*. 2014. Sept 22; 6(9):3847-3862

Jahani R, Fielding KA, Chen J, Villa CR, Ward WE, Comelli EM. Low vitamin D status from conception onwards results in an inflammatory prone status in healthy CD-1 mice but does not alter bone strength. *Mol Nutr Food Res*. 2014. Jul; 58(7):1491-501

Nielsen DE, Shih S, El-Sohemy A. Perceptions of Genetic Testing for Personalized Nutrition: A Randomized Trial of DNA-Based Dietary Advice. *J Nutrigenet Nutrigenomics*. 2014;7(2):94-104.

Pannia E, Cho CE, Kubant R, Sánchez-Hernández D, Huot PS, Chatterjee D, Fleming A, Anderson GH. A high multivitamin diet fed to Wistar rat dams during pregnancy increases maternal weight gain later in life and alters homeostatic, hedonic and peripheral regulatory systems of energy balance. *Behav Brain Res*. 2014 Sep 28;278C:1-11.

Sánchez-Hernández D, Cho CE, Kubant R, Reza-López SA, Poon AN, Wang J, Huot PS, Smith CE, Anderson GH. Increasing vitamin A in post-weaning diets reduces food intake and body weight and modifies gene expression in brains of male rats born to dams fed a high multivitamin diet. *J Nutr Biochem*. 2014 Oct;25(10):991-6.

Santaren ID, Watkins SM, Liese AD, Wagenknecht LE, Rewers MJ, Haffner SM, Lorenzo C, Hanley AJ. Serum pentadecanoic acid (15:0), a short-term marker of dairy food intake, is inversely associated with incident type 2 diabetes and its underlying disorders. *Am J Clin Nutr*, in press.

Taibi A, Comelli EM. Practical approaches for probiotics use. *Appl Physiol Nutr Metab*. 2014 Aug;39(8):980-6

## POSTER PRESENTATIONS

**Canadian Nutrition Society Annual Meeting 2014, St. John's, NL:** JoAnne Arcand, Laura Chiavaroli, Vivian Choo, Grace Lee, Akilen Rajadurai, Effie Vigouliouk, Christina Wong

**International Society for the Study of Fatty Acids and Lipids, 2014 Biennial Congress in Stockholm, Sweden:** Chuck Chen, Anthony Domenichiello, Kathryn Hopperton, Alex Kitson, Lauren Lin, Lin Lin, Julie Mason

**Experimental Biology 2014, San Diego, CA, USA:** JoAnne Arcand, Yen-Ming Chan, Mahsa Jessri, Anna Ly, Sudaba Mansuri, Chelsea Murray, Tracy Moreira-Lucas, Stephanie Nishi, Effie Vigouliouk, Carly Visentin

## ORAL PRESENTATIONS

**Canadian Nutrition Society Annual Meeting 2014, St. John's, NL:** Shannan Grant

**Experimental Biology 2014, San Diego, CA, USA:** Joanne Arcand, Joanna Baxter, Clara Cho, Teri Emerich, Shannon Masih, Dawn Ng, Emmanuela Pannia, Mary Scourboutakos, Sohana Shafique, Shirley Vien, Joanna Warzyszynska

**International Society for the Study of Fatty Acids and Lipids, 2014 Biennial Congress in Stockholm, Sweden:** Chuck Chen, Luke Johnston, Ingrid Santaren, Marc-Olivier Trepanier

# AWARDS

**Canadian Nutrition Society PhD Dissertation Award:** Bibiana Garcia-Bailo

**Canadian Nutrition Society New Scientist Award for Outstanding Research:**  
Ahmed El-Soheemy

**University of Toronto Alumni Association Graduate Scholar Award :**  
Kathryn Hopperton (Runner Up: Adel S. Sedra Distinguished Graduate Award)

**Vanier Canada Graduate Scholarship:** Kathryn Hopperton

**CIHR Doctoral Research Award:** Jessica Omand

**Canada Graduate Scholarship Masters Award: NSERC:** Lauren LeMay-Nedjelski,  
Bijun Wen; **CIHR:** Vivian Choo, Alison Mildon, Effie Vigouliouk, Carly Visentin

**CIHR Fellow in Population Intervention from Chronic Disease Prevention:**  
Jodi Bernstein, Mahsa Jessri

**CIHR Training Program in Public Health Policy Award:** Jodi Bernstein,  
Anthea Christoforou

**Ontario Graduate Scholarship Award:** Evan Lewis, Hannah Da Silva, Joseph Jamnik,  
Jieun (Grace) Lee, Anthony Domenichiello, Alain Carlson, Susan Tran,  
Elena Jovanovski

**Canadian Diabetes Association, Doctoral Student Research Award:** Luke Johnston

**Banting and Best Diabetes Centre, Graduate Novo Nordisk Studentship:**  
Luke Johnston, Evan Lewis, Ingrid Santaren, Effie Vigouliouk, Christopher Villa

**James F. Crothers Family Fellowships in Peripheral Nerve Damage Award:** Evan  
Lewis

**Peterborough KM Hunter Graduate Studentship:** Yen-Ming Chan, Evan Lewis, Julie  
Mason

**New Investigator Award, International Society for the Study of Fatty Acids and Lipids:** Anthony Domichiello, Kathryn Hopperton,  
Luke Johnston, Alex Kitson, Julie Mason, Ingrid Santaren, Marc-Olivier Trépanier



*Bibiana Garcia-Bailo receiving the Canadian Nutrition Society PhD Dissertation Award*



*PhD Candidate, Kathryn Hopperton, receiving the UTAA Graduate Scholar Award*

## DNS-AFFILIATED RESEARCHERS RECEIVE LARGE RESEARCH

### INVESTMENT

The Canadian Government and the Canadian Breast Cancer Foundation announced a \$5.7 million investment to support a multidisciplinary and pan-Canadian team of researchers investigating breast cancer in young women. **Dr. Steven Narod**, Senior Scientist and Director of the Familial Breast Cancer Research Unit of Women's College Hospital is the program leader. **Dr. Joanne Kotsopoulos** (Dalla Lana School of Public Health, Women's College Research Institute) and **Beatrice Boucher** (Cancer Care Ontario) are involved in the aspect of the program investigating the impact of modifiable lifestyle factors in breast cancer survival in young women.

*"Breast cancer in this age group tends to be more advanced at the time of diagnosis, more aggressive and more resistant to treatment. Prognosis is therefore generally worse for women under 40 years than for older women. That's why this research program is so important."- Dr. Steven Narod*

# ALUMNI ACHIEVEMENTS



*Pictured are Farhan (center) with CMA President Dr. Lou Francescutti (left) and CMA's Past President and Past President for the World Medical Association, Dr. Dana Hanson (right).*

**Dr. Farhan Asrar**, alumnus of the Department of Nutritional Sciences in the Faculty of Medicine (MSc 2005 from Dr. Deborah O'Connor's lab), and also former Nutri-News editorial board member, is currently a medical doctor based in the GTA. He's the recipient of several local and international awards including from the Governor General of Canada, Royal College of Physicians and Surgeons, Public Health Physicians of Canada, the Govt. of Ontario, College of Family Physicians, etc. He was recently awarded the 2014 Canadian Medical Association (CMA) Young Leaders Award at a ceremony in Ottawa on August 20th 2014. The CMA is Canada's national physician body representing over 80,000 doctors.

**Dr. Chuck Chen** recent alumnus of the Department of Nutritional Sciences (PhD 2014 from Dr. Richard Bazinet's lab) was selected to participate in the DSM Science and Technology Award competition. As one of four finalists for this prestigious award, Chuck gave a presentation during a special symposium at the International Society for the Study of Fatty Acids and Lipids (ISSFAL) congress in Stockholm, Sweden on July 1, 2014. Finalists were selected based on their innovative research in the field of polyunsaturated fatty acid nutrition. All finalists received travel funding and a €1,000 cash prize.



*The Nutri-News editorial board encourages DNS alumni to send in information on their achievements for inclusion in our newsletter.*



# DNS Alumni Association Events

By Kathryn Hopperton, Joanne Brathwaite and Fiona Wallace

## ***Spring Academic Lecture and Networking Night***

On June 10, 2014, The Department of Nutritional Sciences Alumni Association and Dr. Mary L'Abbé, Chair of the Department of Nutritional Sciences hosted a Lecture & Networking Event. This event was also the finale to the 2013-2014 Mentorship season. The guest speaker was Dr. Deborah L. O'Connor, Ph.D., R.D., Professor, Department of Nutritional Sciences, Senior Associate Scientist, Physiology & Experimental Medicine Program, The Hospital for Sick Children. Dr. O'Connor's topic was: "Optimizing human milk for the hospitalized infant with unique nutritional requirements". Dr. O'Connor's engaging talk highlighted the benefits of breast milk through the story of human donor milk banks across the world. Thank you Dr. O'Connor and all the alumni, students and friends who came out to make this event a success!



## ***DNSAA Mentorship and Young Alumni Pub Night***

The 2014-2015 DNS Manulife Mentorship program kicked off the season on September 25<sup>th</sup> at the Medical Science Building with a special talk from Shannan Grant, MSc, RD, who is a previous participant in the program. Shannan has experience both as a mentee and a mentor and has found the relationships built through mentorship programs to have been invaluable to her professional development. Shannan shared her key learnings and insights from this program and others she has been involved with and a lovely story of how her mentor helped her to negotiate the next steps on her career path. She will be starting a new role in January at Mt St Vincent University in Halifax, and we wish her all the best!



On September 25<sup>th</sup> 2014, the DNS Alumni Association held its first Young Alumni Networking Night. The goal of this event was to bring together alumni navigating the first ten years out of the department in a social setting, and to allow them to forge new connections and share their experiences of transitioning into the workforce. Seventeen young alumni attended this event, which took place at O'Grady's, a pub less than a block from the Fitzgerald Building which serves as a common haunt for DNS students past and present. We at the DNSAA hope this will be the first of several Young Alumni focused events and hope you will join us in the future!

*Thank you to our sponsor!*



# HOT TOPICS

In July 2014 Health Canada proposed an updated nutrition facts table and ingredients list for prepackaged foods...

## Proposed Changes to the Nutrition Facts Table

Nutrition Facts Valeur nutritive		
Per 3/4 cup (175 g) / par 3/4 tasse (175 g)		
<b>Calories</b>	<b>170</b>	<b>% Daily Value (DV)* % valeur quotidienne (VQ)</b>
<b>Fat / Lipides</b>	<b>5 g</b>	<b>1 %</b>
Saturated / saturés	3.5 g	18 %
Trans / trans	0.2 g	10 %
<b>Cholesterol / Cholestérol</b>	<b>20 mg</b>	
<b>Sodium / Sodium</b>	<b>450 mg</b>	<b>20 %</b>
<b>Carbohydrate / Glucides</b>	<b>23 g</b>	
Total Sugars / Sucres totaux	18 g	18 %
Added Sugars / Sucres ajoutés	12 g	
<b>Fibre / Fibres</b>	<b>0 g</b>	
<b>Protein / Protéines</b>	<b>7 g</b>	
<b>Vitamin D / Vitamine D</b>	<b>1.3 µg</b>	<b>9 %</b>
<b>Calcium / Calcium</b>	<b>220 mg</b>	<b>17 %</b>
<b>Iron / Fer</b>	<b>2 mg</b>	<b>10 %</b>
<b>Potassium / Potassium</b>	<b>150 mg</b>	<b>4 %</b>

\*5% DV or less is a little; 15% DV or more is a lot  
5% VQ ou moins c'est peu; 15% VQ ou plus c'est beaucoup

**Annotations:**

- Move calories up, bold and increase font size
- Remove thin line between Fat and Saturated
- Nutrients of public health concern to limit have a %DV and are above the thick line
- Nutrients of public health concern to get enough of have a %DV and are below the thick line
- Add footnote explaining how to use % DV
- Right justify Serving Size
- Add asterisk referring to footnote
- Add thick lines (3x)
- Separate DV's for trans and saturated fat
- Updated Daily Values
- Have a %DV for total sugars
- Add a declaration for "added sugars"
- Add absolute amounts for vitamins/minerals; Remove Vitamin A and C, add Vitamin D and Potassium

## Proposed Changes to the List of Ingredients

### EXAMPLE OF A CURRENT LIST OF INGREDIENTS

INGREDIENTS: WHEAT FLOUR, FANCY MOLASSES, VEGETABLE OIL SHORTENING (SOYBEAN AND/OR CANOLA AND MODIFIED PALM OIL), BROWN SUGAR, LIQUID WHOLE EGG, SUGAR, SALT, SODIUM BICARBONATE, SPICES, COLOUR  
CONTAINS: WHEAT, EGG, SOY

### EXAMPLE OF PROPOSED CHANGES TO THE LIST OF INGREDIENTS

**Ingredients**

Sugars (fancy molasses, brown sugar, sugar) • Wheat flour • Vegetable oil shortening (soybean and/or canola and modified palm oil) • Liquid whole egg • Salt • Sodium bicarbonate • Spices • Colour  
Contains: Wheat • Egg • Soy

**Annotations:**

- Separate title
- Grouping of sugars-based ingredients
- White background
- The outline rule to create a box
- Black font; upper and lower case
- Bullets to separate ingredients

Here's what members of our department had to say about it...

## What's "good" about the proposed changes?

### Dr. Mary L'Abbé

"I like the grouping of positive nutrients and nutrients to limit, but they don't clarify which are which..."

I like how they (made) the calories and serving size bigger and bolder

The percent daily value for total sugar is a good addition...

I love that they're going to standardize the ingredients list. They're also proposing grouping nutrients together (such as sugars)...they should do (this) for other nutrients"

### Dr Tarasuk

"I think the attempt to differentiate positive and negative nutrients is good, (but) I don't think they've got it right yet, because these dark lines (separating the good and bad) are mysterious. I think it's a big mistake to make the understanding of the label contingent on secondary education, there needs to be some text that enables people to understand what that organization is about. Nevertheless I think (this is) a step forward."

### Ashleigh Wiggins (on behalf of the Program in Food Safety Nutrition and Regulatory Affairs)

"The increased prominence of calorie content is the best proposed change. (If) the main health concern is obesity and related diseases, reduction in calories is the simplest way to make an impact..."

Updating the daily values based on the IOMs newest DRIs is needed as many are outdated...

(I like) the addition of potassium to the core nutrients."

## What's "not so good" about the proposed changes?

### Dr. Mary L'Abbé

"How (will they) deal with the different types of fat, will they be up at the bad part on the top, or the good part on the bottom? ..."

Defining added sugars may be problematic...

Consumers (said they) wanted interpretive, traffic light labelling (this has been) totally overlooked...

They left all of the exemptions for labelling for restaurant foods, take-out foods and prepared foods...

I still think they don't have serving size right, serving size has to be standardized...

In the US nutrition labelling legislation they've defined healthy (and use this to regulate content claims) there is none of that in the Canadian labelling regulations."

### Dr Tarasuk

"I think it's a big mistake that they have identified vitamin D as a mandatory component (of the NfT)...most Vitamin D in our food is fortified, so fortified foods will be labelled and we'll see all other foods having zero vitamin D...(this) gives the impression that the better choices are processed fortified foods...the justification for including vitamin D is very weak on many fronts... and it will give primacy to fortified foods, it is a tragedy."

The use of the highest RDA (for the %DV) will systematically understate the nutrient levels in foods relative to people's needs. It will make foods look less nutritionally dense, and I think that's a mistake..."

I would not set a DV for total sugar or added sugar (and) I would absolutely change the basis for the sodium DV."

### Ashleigh Wiggins (on behalf of the Program in Food Safety Nutrition and Regulatory Affairs)

The proposals very heavily focused on labelling sugars...due to the thought that Canadians are consuming too much sugar and this is leading to obesity ...Studies show that there is no weight gain in high sugar groups when calories are controlled for, so the huge focus on sugars is unjustified..."

The separation of 'good' and 'bad' nutrients on the NfT has led to some confusion surrounding the separation of fibre and carbohydrates, as well as placement of healthy fats..."

The population-coverage RDA basis for the %DV leads to overestimation of actual nutrient needs and potential excess calorie consumption to attain these high levels."



# NSGSA UPDATE

## NSGSA Welcome Pub Night

*By Thanh Ho, NSGSA Social Co-Representative*

NSGSA welcomed the new academic year at O'Grady's Tap & Grill on September 25, 2014. New and returning students spent the evening enjoying some traditional pub grub, fun trivia and of course, wonderful company. The NSGSA would like to thank everyone who came out to the event, Lin Lin for taking photos and the social co-reps, Ingrid Santaren and Thanh Ho, for planning the event. Next on the agenda is the annual Departmental Halloween Party at the end of October. Keep an eye out for pictures from the costume and pumpkin carving contests in the next issue of Nutri-News.



*DNS students enjoying some refreshments and stimulating conversation at O'Grady's.*

*Photo credit: Lin Lin*

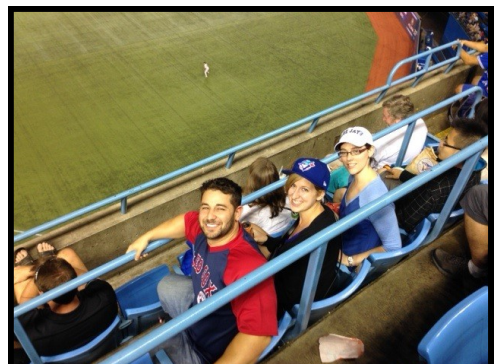
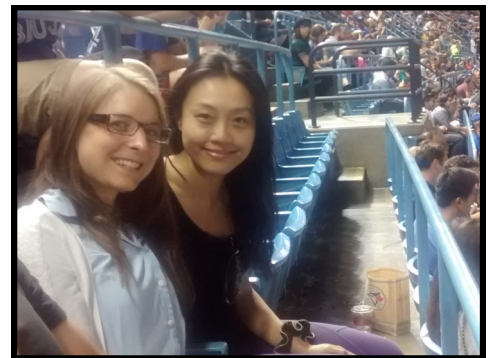
## Take me out to the ball game!

*By Hannah Da Silva, NSGSA Hospital Co-Representative*

The Blue Jays win! The Blue Jays win! Unfortunately, us Torontonians don't hear this very often (and apparently never in the playoffs) but on August 27<sup>th</sup> DNS headed to the Rogers Centre where the Jays did indeed beat the Boston Red Socks 5 to 2. The NSGSA Hospital Representatives, Hannah Da Silva and Carly Visentin, hosted 22 DNS students, faculty, and guests including Dr. Hanley and his son who are true Jays fans. This was the second year that DNS went out to the ballgame and after two wins we better make it a tradition.

Hannah and Carly are eager to continue to get hospital-based students out to DNS events so please keep an eye out for emails about upcoming events like coffee breaks and the quickly approaching Halloween party! See you there!

*Photos: Sarah Stewart and Lin Lin (top), Chris Villa, guest and Hannah Da Silva (bottom) enjoying the game.*





# NSGSA UPDATE



## NSGSA COFFEE BREAK



The NSGSA kicked off our first two Coffee Breaks featuring Fall flavor favorites and Halloween treats, including pumpkin butter pecan muffins, cinnamon sugar cookies, black bean chia brownies, graveyard cupcakes and more! A big thank you to everyone who contributed baked goods and for your generous donations towards making our first two bake sales a “sweet” success! With your support, we managed to raise \$75 towards the Alzheimer Society and \$74.25 towards the Ronald McDonald House.

**Missed your chance to join us at our first 2 Coffee Breaks?** Don't sweat a drop! The **NSGSA Movember Coffee Break** is just around the corner on **November 20** from **3:30-4 pm** in **FG103**. All proceeds will be going towards Movember Canada in support of prostate cancer research. If you are interested in contributing Movember-themed baked goods for this event, please contact Vivian ([vivian.choo@mail.utoronto.ca](mailto:vivian.choo@mail.utoronto.ca)) or Effie ([effie.viguiliouk@mail.utoronto.ca](mailto:effie.viguiliouk@mail.utoronto.ca)) for more information.

- NSGSA Community Outreach Directors



## NSGSA & The BASKETEERS

This upcoming Christmas season the NSGSA will be participating in The Basketeers!

### **What is The Basketeers?**

The Basketeers is a grass roots community based organization that was founded in 2000 by Cheryl Stoneburgh "to support abused women in new beginnings". Every year thousands of baskets are donated with the hope that "by supporting single women and mothers, they will, in turn, find the strength to create new lives for themselves and their children".

### **How can the NSGSA help?**

For the past couple of years the NSGSA has been involved in supporting the Basketeers. This year the NSGSA will be donating 6 baskets to The Basketeers, where each basket will be filled with items a woman leaving a shelter and starting a new life might need. Baskets will be sent out in the first or second week of December.

### **How to get involved**

We will be sending out an e-mail in November with more information on this initiative and how you and your lab can get involved, so stay tuned!

Looking forward to a successful turnout and thank you in advance for your generous support!

- NSGSA Community Outreach Directors



# Community Outreach

## Let's Talk Science at the Red Door Family Shelter

By Daiva Nielsen & Olivia Chan

We are flooded daily with new reports describing what we should and should not eat, so sometimes it's important to go back to basics!

In partnership with [Let's Talk Science \(LTS\)](#), the graduate students of the Department of Nutritional Sciences (DNS) at the University of Toronto led a series of hands-on activities at the Red Door Family Shelter. Volunteers from the Department developed and led a number of enriching science activities with the over-arching theme of *"Healthy Bodies, Healthy Minds"*.

The Red Door Shelter is a space that provides critical services for families who are in need of a safe and supportive shelter. Families who are fleeing abusive households, refugees, or those who are evicted find a safe haven at the Red Door Shelter. Residents of the Red Door are provided basic needs items as well as support services that include medical assistance, child care, counselling, legal aid, and educational programs for children. To supplement their system of support, Let's Talk Science volunteers were invited to lead monthly science workshops, which served to support the children's educational development with fun activities focused on nutritional sciences.



***Eating Well with Canada's Food Guide*** – Let's Talk Science volunteers showcase their artistic side with MyPlate activities with children at the Red Door Shelter

### **"The children were always very enthusiastic and ready to participate"**

The goal of having activities focused on Healthy Bodies and Healthy Minds was to provide children at the Red Door who take part in these activities with information to help them make informed choices about healthy, active living. Children at the Red Door are as young as 3 years old and some as old as 13 years of age.

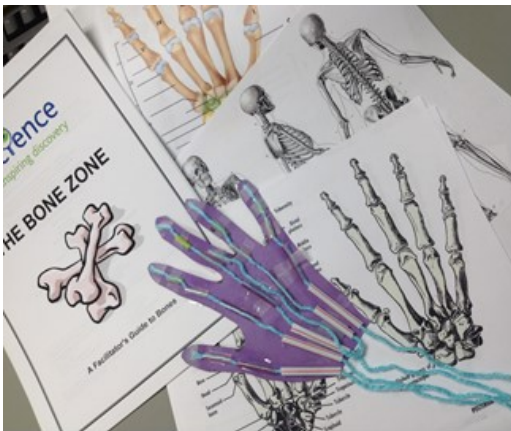
"Volunteering at the Red Door has been a privilege and a very rewarding experience. I really enjoyed working on activities with the children that ranged from things like learning about neurons to eating a healthy balanced meal," says Effie Vigouliouk, who is currently pursuing her Master's degree in the laboratory of Dr. Jenkins and Dr. Sievenpiper in Nutritional Sciences, "The children were always very enthusiastic and ready to participate, which was something I really looked forward to every time I came in." Effie was one of the active volunteers who took part in the activities that were hosted at the Red Door Shelter. Along with fellow volunteers in the Department, she helped develop and deliver activities about dental health and healthy eating.



# Community Outreach

**“Having the opportunity to share our scientific backgrounds by creating hands-on activities is a fun way to engage the children and spark an interest in science in a memorable way”**

The activities were just as exciting for the volunteers to build up and deliver, as it was for the children who took part in them! With topics that touched upon the cardiovascular system, the effects of stress on neurons, and even the science of yoga, volunteers couldn't resist doing a few tree poses and downward dogs for the fun of it! “Having the opportunity to share our scientific backgrounds by creating hands-on activities is a fun way to engage the children and spark an interest in science in a memorable way,” says Stephanie Nishi, MSc, a recent graduate from the Department of Nutritional Sciences.



## **Let's Talk Science “Bone Zone Activity –**

Part of this “bone-ified” activity introduces the skeletal system, its function, and children build a model hand to test strength and mobility.

strives to improve science literacy in the community through interactive and hands-on educational programs. They focus on *motivating* and *empowering* youth (kindergarten through grade 12) to use science, technology, engineering and mathematics to develop critical skills, knowledge and attitudes needed to thrive in our world.

**Are you a Graduate student, Post-Doctoral Fellow, or Faculty that is interested in getting involved with Let's Talk Science at the University of Toronto?** Simply visit <https://lts.escalator.utoronto.ca/home/how-to-volunteer/> for more details on how to be part of a very exciting team. You can also contact the Let's Talk Science Coordinators by emailing [lts.grad@utoronto.ca](mailto:lts.grad@utoronto.ca).

Stephanie has been a volunteer with LTS since 2012. She first became involved through the Royal Agricultural Winter Fair, one of Canada's largest agricultural fairs and has been actively participating in science outreach initiatives through LTS as well as through the Department of Nutritional Sciences. “Being a part of the LTS sessions at the Red Door Family Shelter is a really rewarding experience.”

## **You can turn kids into future Scientists!**

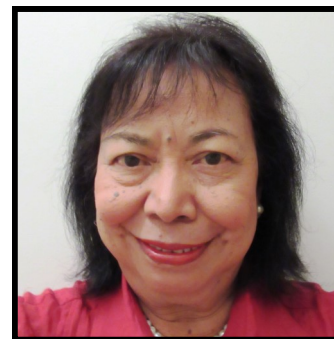
Let's Talk Science at the University of Toronto, St. George campus, is always looking for enthusiastic volunteers to take part in various science outreach activities in and around our community! LTS is a national science outreach program that



# Faculty Profile

## **Dr. Lilian Thompson, Professor Emeritus**

Dr. Thompson holds a B.Sc. Chemistry from the Mapua Institute of Technology, Philippines, an M.Sc. Agricultural Chemistry and Food Technology from the University of the Philippines, and a Ph.D. Food Science minor in Biochemistry from the University of Wisconsin. She was hired as Assistant Professor at the Faculty of Food Sciences at U of T in 1969 where she worked at the Lillian Massey Building at Avenue and Bloor. In 1975, the Faculty of Food Sciences combined with the Nutrition staff in the School of Hygiene to form the Department of Nutritional Sciences (DNS) at the Faculty of Medicine. Dr. Thompson has been working in the Fitzgerald building since the DNS moved In 1977. She kindly agreed to an interview for this issue of the Nutri-News.



### ***Over the course of your career, how has your research program evolved?***

In the 1970's, great interest in isolating proteins from waste products for human consumption led me to study oilseed meals particularly canola, soy and cheese whey. I developed several protein isolation techniques and the resulting isolates and concentrates were then incorporated into various food products. However, a problem particularly with canola protein, is its high phytic acid and phenolic compounds, which reduce nutrient availability. We developed techniques to eliminate these compounds; however, I noted that high fiber foods such as legumes, which are rich in these compounds and other antinutrients, have beneficial effects including lowering glycemic response and reducing cancer risk. This suggested that these antinutrients, may in fact have beneficial effects and should not be completely eliminated. We then used animal and clinical trials to show that antinutrients including phytic acid and phenolics indeed have benefits. In later years, such compounds were referred to as nutraceuticals. While working on antinutrients and breast cancer in the 1980's, I became interested in one type of phenolic compounds- phytoestrogens. Literature reported that vegetarians, who have low breast cancer risk, show higher urinary excretion of enterolignans (ENL) compared to omnivores and breast cancer patients. This indicated that ENL which are produced by colonic bacteria from precursors found in plant foods and have chemical structural similarity to natural estrogens, may play a role in reducing breast cancer risk. At that time, it was difficult to prove the relationship between ENL and breast cancer as these compounds are not commercially available. It was unclear which plant food is richest in lignans and can be used as a food model to test the hypothesis. Thus, I screened 66 plant foods for the presence of ENL precursors and found flaxseed to be the richest source with levels 100-800x higher than in all the other plant foods. This led to my two decades of work on flaxseed and its lignan and oil components. My research group, together with several collaborators, eventually showed in a systematic series of animal, clinical and observational studies, that flaxseed and lignans can play a role in the prevention and treatment of breast cancer. We isolated and tested the main plant lignan in flaxseed, identified as secoisolariciresinol diglucoside (SDG), and further confirmed that lignans, particularly SDG, has anticancer effects and are in part responsible for the effects seen with flaxseed. Subsequent studies showed that n-3 fatty acid-rich oil in flaxseed also has anticancer effects. Our work in this area continues to look at the interaction of breast cancer drugs with flaxseed and its lignan and oil components and the physiological, cellular and molecular mechanisms whereby they exert effects on breast cancer.

### ***Where do you envision the field of nutrition and cancer moving in the next few years?***

Personalized nutrition in cancer will likely increase in focus. Tailoring of diets based on the individual's genetic, anatomical and physiological factors and the genetic characteristics of the tumors, will contribute to success in the prevention and treatment of cancer. Nutrition can be a part of personalized medicine.

### ***What advice would you offer to young scientists starting out in their career?***

Learn as many experimental techniques during graduate work; they may come handy as you develop your own research program. Time management is important to increase productivity and publication, which may then lead to fellowship and research grants success. Collaborations are important as it isn't always possible to do all necessary work in your lab to answer your scientific questions. Don't be discouraged when research results are unexpected and do not support your hypothesis; they may lead to different research directions which may be more interesting.

# UPCOMING EVENTS

The Household Science & Nutritional Sciences Alumni Association  
University of Toronto

Presents

## The Professor Edna W. Park Lecture for 2014

**Genetic and Environmental Factors contributing  
to Childhood Obesity in the Hispanic Population:  
VIVA LA FAMILIA Study**

**Nancy F. Butte, PhD, RD, MPH**  
Professor of Pediatrics

Baylor College of Medicine  
Department of Pediatrics

USDA/ARS Children's Nutrition Research Center

Health Sciences Building, Rm. 610  
155 College Street, University of Toronto

**5:00 p.m., November 17, 2014**

Reception to follow

*Save the Date*

*Department of Nutritional Sciences*

*Holiday Party*

*Thursday, December 11, 2014*

*Hart House, Music Room*

**Saturday, January 10, 2015**

Toronto Marriott Downtown Eaton Centre Hotel, 525 Bay Street, Toronto, ON



**ADVANCES IN PROTEIN  
NUTRITION ACROSS  
THE LIFESPAN**



Canadian Nutrition Society  
Soci t  canadienne de nutrition

## CALL FOR POSTERS AND ABSTRACTS

**Abstract submission period: October 31, 2014 – November 30, 2014**

### INTRODUCTION

The Canadian Nutrition Society (CNS) is pleased to provide attendees and especially trainees with an opportunity to highlight and present their research on protein nutrition and human health. Also, posters related to any area of nutrition and health research are welcome. This is an opportunity to showcase local talent. Presenters do not need to submit original research and may present recent posters.

### KEY DATES

- Abstract submission deadline: November 30, 2014
- Notification of abstract review: December 12, 2014
- Early Bird registration deadline: December 11, 2014

Please visit: <http://www.cns-scn.ca/proteinconference/overview> for more information and event details.





Canadian Nutrition Society  
Société canadienne de nutrition



Nutritional Sciences  
UNIVERSITY OF TORONTO

# CNS-UofT Seminar and Bake Sale

Save the Date! Wednesday November 26<sup>th</sup> 5:00-6:00 pm

150 College St., FitzGerald Bld, Room 103

Join us in welcoming Nanci Guest, MSc, RD, CSCS, PhD (c)

## ***["Sports Nutrition: Now and Tomorrow"]***

*Light refreshments will be available for purchase*

Nanci will be discussing current topics in sports nutrition, the role of the sports dietitian, and the future of personalized nutrition by using the nutrigenomics framework. Predicting optimal diets (and training strategies) for sports performance will incorporate the use of an athlete's DNA to determine genetic variations that affect nutrient or supplement response. This will allow sport dietitians to individualize recommendations to an unprecedented level, in contrast to the current broad-based recommendations paired with a 'trial and error' approach.



Nanci is a Registered Dietitian with both the Ontario and BC College of Dietitians, and a sport dietitian with the Coaching Association of Canada, in addition to being a Certified Personal Trainer and an NSCA Strength and Conditioning Specialist. Nanci completed her BSc and MSc at the University of British Columbia where she studied dietetics as well as exercise physiology. Nanci specializes in advanced sports nutrition as an international consultant, and she is currently researching high performance athletes and their response to dietary nutrients/supplements based on individual genetic variations (DNA) as her PhD research project at the University of Toronto. She was the head dietitian for the 2010 Winter Olympics in her

If you have any questions, please email Vivian and Effie at: [dns.cns.uoft@gmail.com](mailto:dns.cns.uoft@gmail.com)



## DNS Halloween Party

**We are looking for students to join the Nutri-News Editorial Committee. If you are interested, please contact Mary at [maryjsco@gmail.com](mailto:maryjsco@gmail.com)**



Editorial Committee (Editors and Writers)  
 Julie Mason, Mary Scourboutakos  
 Dr. Carol Greenwood, Acting Chair



## DNS at the Royal Winter Fair

Department of Nutritional Sciences, University of Toronto  
 150 College St., Toronto, ON  
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