

Let's Talk Science
University of Toronto
St. George Chapter

let's talk science

UNIVERSITY OF TORONTO—ST. GEORGE

2012-2013

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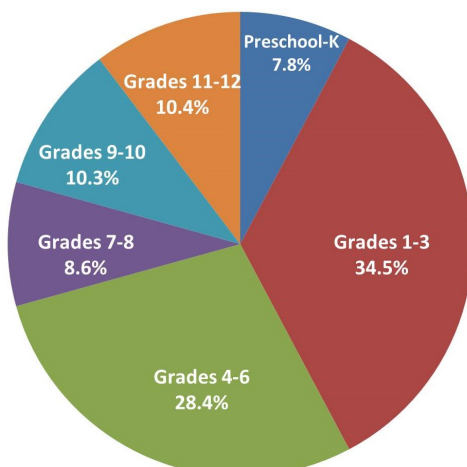
Science Outreach

The Let's Talk Science Partnership Program is a **national science outreach organization** that strives to improve science literacy in the community through leadership, innovative educational programs, research and advocacy. We motivate and empower youth (JK through grade 12) to use science, engineering, and technology to develop critical skills, knowledge and attitudes needed to thrive in our world. Through our science-based programs for youth and

educators, and the science outreach efforts of the award-winning Partnership Program, LTS reaches over **150,000 youth and educators annually**. These programs provide an excellent platform on which to build positive attitudes towards science and to enhance life skills, including critical thinking, problem solving, teamwork and communication.



Our Milestones



- Through partnerships with different departments, we've **reached over 6,000 youth** and this number is still growing with upcoming events!
- **300 student volunteers** from 30 graduate programs
- Over **1,550 hours** of preparation and presentation time logged by Graduate students this year
- Developed **StemCellTalks** into a National stem cell outreach initiative and hosted the fourth annual StemCellTalks in Toronto (see pg. 3)
- Hosted **the All Science Challenge at the Great Hall at Hart House**. Grade 7 & 8 students making up **30 Teams** participated for over **\$1,500** in prizes (see pg. 5)
- Raised **over \$40,000** in cash and in kind support

Immunology & Physiology Day

Physiology Day (April 24th) for Grade 11 students, ran in partnership with the Department of Physiology. Students were invited to the University of Toronto to participate in a day of lab activities and lectures relevant to physiology. Graduate students led workshops about the cardiovascular system, respiratory system and about our DNA.



Immunology Day took place on April 26th, in partnership with the Department of Immunology for high school students across Toronto. With 37 volunteers scattered throughout the city, 61 classrooms from 16 different schools were reached in total! At this event, high school students Grades 9-12 learned about the basics of the immune system and how diseases related to immune malfunc-



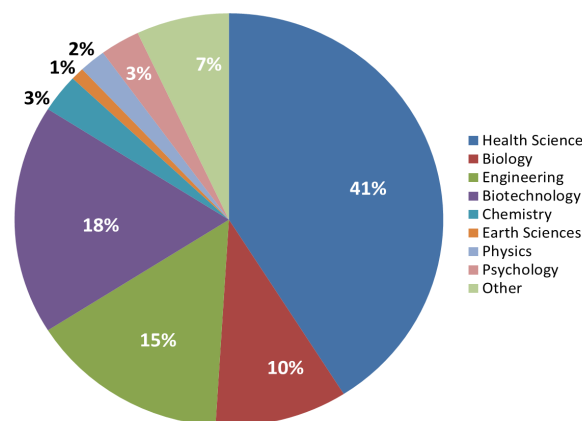
tions. Volunteers led the classes through an in-class lecture followed by a hands-on immunology activity.



Our Impact on Graduate Student Life

Let's Talk Science (St. George) has partnered with the **Graduate Professional Skills (GPS) Program** from the School of Graduate Studies at University of Toronto. In doing so, Let's Talk Science graduate volunteers are able to **earn up to 7 GPS credits** for their involvement in 3 different areas of our program, including: partaking in the Science With Impact Training module, judging science fairs, and career mentorship. These GPS points contribute to the professional development of our volunteers, allowing for their professional growth to be documented in their diploma.

Where do our volunteers come from?



StemCellTalks

Opening dialogue on stem cell science and practical ethics

What first started out as a few in-class presentations to high school students quickly grew into a one-day symposium, and now StemCellTalks has become a national stem cell outreach/education initiative. StemCellTalks was developed by the Let's Talk Science program at the University of Toronto in partnership with the Stem Cell Network in 2010 with the goal of facilitating knowledge transfer between academia and high school students pertaining to the science and practical ethics of stem cells.

StemCellTalks reached over 100 Grade 11 and 12 students through in-class visits and was highlighted by a one-day symposium held on March 8th 2013 at the MaRS Collaboration auditorium. At the symposium, 130 students were welcomed

with an introductory lecture, Stem Cells 101, presented by Dr. Penney Gilbert. This was followed by several debates between leading experts in the stem cell field, including Dr. Peter Zandstra, Dr. Peter Tonge, Dr. Armand Keating and Dr. Ronnan Foley, regarding the ideal cell source for clinical stem cell applications. The students then had the opportunity to discuss what they had heard and then vote on which side of the debate they agreed with.

Students spent the rest of the morning learning about issues pertaining to stem cell biology. They were given case studies to discuss amongst smaller groups which were led by Graduate students or Post-Doctoral Fellows.

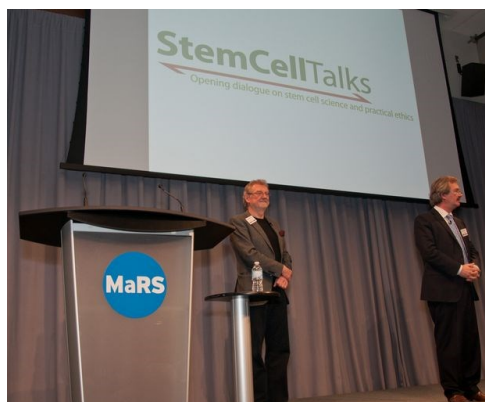
Switching gears, bioethics Dr. Shane Green set the stage for an afternoon of talks on practical ethics. Students were engaged in questions about the marketing strategies of cord



blood banking, what roles of the government should play, and, if any, funding and regulating public cord blood banks. A panel of representatives from the public and private cord blood banks, clinician scientist and from the biotechnology sector were present for a Q&A session.

Students were highly engaged at the cross-section of science, research and ethics at this year's StemCellTalks, who were eagerly lining up to share their thoughts and questions with the panel of experts at the end of each session!

The StemCellTalks symposium has been so successful that satellite symposia are currently being held in Vancouver, Edmonton, Calgary, Hamilton and Ottawa with plans to expand towards Montreal. The development of a StemCellTalks National Advisory Committee consisting of representatives from each city hosting a StemCellTalks event as well as representatives from the Stem Cell Network and Let's Talk Science National Office is also underway.



"The information was very interesting and the debates were very helpful in understanding of the problems in science and ethics of the stem cells research field."

-Gr. 12 student, Wiliam Lyon
McKenzie Collegiate

Thank You for Your Support!

Sick Kids

Sunnybrook

Stem Cell Network

IBBME, UofT

CCRM

OSCI

Stem Cell Technologies

Let's Talk Science in the Media

The Canada-wide conversation about the science of stem cells and stem cell research ethics has certainly caught the attention of eager high school students, teachers and world-leading scientists (see pg 3). Rooted deeply in the University of Toronto, StemCellTalks has created considerable excitement and has been making news waves throughout the community.

The Institute of Biomaterials & Biomedical Engineering at UofT spotlighted organizers Nika Shakiba and David Lee at what they call the day-long symposium as “oddly personal, important and revolutionary”. “It’s not just a one-way transfer of knowledge but a dialogue that happens between generations who are stakeholders in stem cells research,” says Shakiba.

IMMpress Magazine, a student

-led magazine developed and published by the Graduate students of the Department of Immunology were also “Talking Stem Cells”. Their very own Graduate students took part as roundtable leaders, and highlights of the Symposium were featured in their Spring 2013 edition of the magazine.

Outside of the University, buzz about StemCellTalks also caught the interest of [Signals Blog](#), which highlights a variety of opinion pieces and stories relevant to stem cells and regenerative medicine. Blogger and Director of Communications at Centre for Commercialization of Regenerative Medicine, Stacey Johnson, attended the heated debates on March 8th.

“Oddly personal, important and revolutionary.”

-IBBME in the News, *Spreading the Word*



A message from our Faculty Advisor:

By Dr. Michael Reid, Dunlap Institute for Astronomy & Astrophysics, University of Toronto

When I was studying astronomy in graduate school, I felt a strong desire and obligation to share all the great stuff I was learning and discovering with the public. I was so delighted to learn about Let's Talk Science and quickly volunteered. I spent several happy years visiting classrooms and judging science fairs. Now, ten years later, talking to the public about science has become the core of my job, whether as a lecturer for the largest introductory astronomy class in Canada, as the Coordinator of Public Outreach and Education for the Dunlap Institute, or as Faculty Advisor for Let's Talk Science.

It is so exciting and inspiring to me to see all of the great projects produced every year by the Let's Talk Science volunteers at the University of Toronto. This year's All Science Challenge brought over 100 enthusiastic young people to campus to try their hands at scientific design challeng-

es. This summer's excursion to Sandy Lake First Nation will again pair LTS volunteers with eager students to talk about nutrition and the health sciences. One of our long-term aspirations is to get more students from physics and astronomy involved in LTS. For the first time this year, the Sandy Lake volunteers will be bringing a set of telescopes and computer programs with them to teach astronomy in a part of the country where students are exceptionally well-positioned to see the stars clearly. And, of course, the bread-and-butter program of classroom visits continues apace at the University of Toronto.

I look forward to great things in the coming year!



Michael Reid
LTS Faculty Advisor
Coordinator of Public Outreach and Education, Dunlap Institute



Challenge, Accepted!

Thinking caps are a must! The All Science Challenge is a day-long trivia challenge for Grades 6, 7, and 8 students across Canada. On May 13th, over 100 students making up 30 teams converged onto the University of Toronto, St. George campus to participate in an exciting question & answer competition with a fun, hands-on design challenge.

Beginning in January, teams of two to four students were provided with the All Science Challenge handbook, which covers a range of science materials and topics. True to its name, the All Science Challenge inspires students to acquire knowledge that go beyond their school curriculum and to use the knowledge they have culminated at this one day event. The competition was intense!

The event began with a question & answer competition followed by a design challenge. With an inspirational prep talk from Canada's beloved Chris Hadfield, students this year were tasked to build a functioning Canadarm replica out of popsicle sticks! Needless to say, Hart House was abuzz with creativity, excitement, endless cheering, and even some wacky costumes!

Our volunteers had their share of fun as well. Not only were they found guiding students through the challenge, they were also showcasing fun, cool experiments at the Science Funhouse that left students awe-struck.

This year we congratulate the winning team The Olympiads on winning the Challenge!



Thank You for Your Support!

Science Engagement, UofT

IBBME, UofT



Sandy Lake Aboriginal Outreach

There is no summer camp quite like the Let's Talk Science Sandy Lake! (LTS SL!) Summer Camp. The LTS SL! Summer Camp is an educational outreach initiative for children and youth in Sandy Lake First Nation. This initiative builds on an existing partnership Sandy Lake First Nation and researchers in Southern Ontario (including Dr. Anthony Hanley, Department of Nutritional Science, University of Toronto) called the Sandy Lake Health and Diabetes Program (established in 1991).

Sandy Lake is a fly-in First Nation community located in the boreal forested area of Northwestern Ontario. Sandy Lake is 2,000 km northwest of Toronto, Ontario and/or 600 km northwest of Thunder Bay, Ontario. Sandy Lake has a land base of approximately 17 square miles and a population of approximately 2,650.

The program mission is to build capacity within Sandy Lake First Nation to integrate both basic and applied science into diabetes education

programming. The overall goal of the camp is to excite Sandy Lake's children and youth about science using interactive educational activities with the aim of reiterating messages already taught by the SLHDP. The curriculum for the 2013 camp builds on topics covered last year with an emphasis on topics including the cardiovascular system, blood glucose regulation, nutrition, exercise science, immunology and ecology. The camp took place from August 19-23rd, 2013.

On July 11th, the team hosted an evening of music, art, poetry and storytelling at The Supermarket in Toronto to raise funds for the camp. The night featured The Jessica Stewart Few (Folk-Jazz Power Trio) with Ryan Boggs (Story Teller and Poet), Maneli Jamal (Solo Acoustic Guitarist) and DJ Dickie (Local Toronto House DJ) who certainly got people dancing! To date, this event has raised \$1,500 towards camp activities!



Let's Talk Science Sandy Lake Outreach Field Team. From left to right: Oscar A. Aguilar, Peter Chen, Shannan Grant, Zoryana Salo and Elsa Dinsdale.



Let's Talk Science Sandy Lake Summer Camp Project Coordinators. From left to right: Adam McKillop, Julie Mason and Shannan Grant



To Infinity and Beyond!

No matter where you are located on Earth, all you have to do is to look up into the evening sky and a myriad of stories will reveal itself to you. This year, our site is looking towards the stars, and are developing a new **Astronomy Activity** in joint efforts with the Department of Astronomy at the University of Toronto.

With the aim of educating, inspiring and evoking a sense of wonder about the universe, this new As-

tronomy Activity will provide an Astronomy 101 and will also touch on exciting topics such as radiation effects, space travel, as well as the search for life beyond earth!

Stay tuned for the up and coming Astronomy Activity from the Let's Talk Science St. George chapter!

Welcome Incoming Coordinators:



Name:
Rachel Newsome

Program/Department:
PhD Candidate, Department of Psychology

Let's Talk Science volunteer since 2011

I'm very excited to begin taking on a leading role with this fantastic program! Aside from coordinating Let's Talk Science, I study memory and perception in people with amnesia and Alzheimer's disease, using neuroimaging and eye-tracking to explore the brain. In my free time, I love to travel, and I volunteer with a local animal adoption agency, fostering dogs. I'm looking forward to meeting and getting to know all the new volunteers, and starting some new projects this year!



Name:
Olivia Chan

Program/Department:
Research Technician, Princess Margaret Hospital

Let's Talk Science volunteer since 2008

I am so thrilled to be taking on a leading role in a program that makes such a significant contribution to science outreach. There is nothing more rewarding than the opportunity to share my passion for science and to watch light bulbs go off as students engage in novel concepts not traditionally taught in the classroom. I am extremely excited about working with my fellow Coordinators, and am looking forward to meeting our wonderful volunteers that make this program so unique and inspiring.

Volunteer Tales

The classroom visits have always been my favorite part of volunteering with LTS. I enjoy working with young, enthusiastic students and discussing topics that have material consequences in their lives. My most memorable experience for me as a volunteer was visiting a classroom at Westview Centennial with my friend Jaehun, and we had a class that was the brightest and most enthusiastic group of students I had ever seen! They were asking us questions and engaged in discussion about topics that went beyond the scope of materials that we had introduced. These are the moments that remind me of why we do what we do!"

— Oscar A. Aguilar

Doctoral Student in

Dept. Immunology

Let's Talk Science Volunteer since 2006

I was first introduced to LTS by colleagues in my Department. They got me interested in becoming involved with LTS for an event at the Royal Winter Fair in November of 2012. This event was a lot of fun and a good learning experience for both myself and the children participating, hence it sparked my interest in further pursuing becoming an official volunteer with the organization. I am grateful to have the opportunity to be a part of LTS because of the fun, interactive, and engaging approach it takes to teaching science to children and youth. I think acquainting children with science in a non-daunting way, inspiring them to try new things, and to continue learning is important because this generation will one day be entering the work force, in addition to their role as citizens in general."

— Stephanie Nishi

Doctoral Student in

Dept. Nutritional Science

Let's Talk Science Volunteer since 2012

My volunteer experience with Let's Talk Science was fantastic! As a graduate student, I feel that it is important to inspire young minds and get them excited about science. Volunteering for Stem-CellTalks allowed me to do just that! At this event, I was able to share my passion for science and my experience with these enthusiastic students. The most memorable part of this experience was seeing how engaged the students were into the lectures and how fast they were able to absorb the information and come up with incredibly intelligent questions."

— Theresa Chow

Doctoral Student in

Dept. Immunology

Let's Talk Science Volunteer since 2013



University of Toronto St. George Chapter

Coordinators:

Nika Shakiba

Emily Beckett

Michael Weiss

Rachel Newsome (incoming)

Olivia Chan (incoming)

Its.grad@utoronto.ca

Lasting Partnerships

University of Toronto School of Graduate Studies
Graduate Professional Skills Program

Science Rendezvous at the University of Toronto

Royal Winter Fair

Boys & Girls Club

Red Door Family Shelter

Girl Guides of Canada

Sandy Lake Health and Diabetes Project

Canadian Centre for Victims of Torture

Elementary and Secondary Schools throughout the GTA

**Our program would not be possible without your
generous and continued support!**