



Let's Talk Science at The University of British Columbia

2014-2015 Annual Report



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National Let's Talk Science website: www.letstalkscience.ca

Let's Talk Science at the University of British Columbia website: www.ubclts.com

Let's Talk Science at UBC Overview: Sept 2014-Aug 2015

Number of youth reached: **34,691**
Number of adults reached: **11,627**
Number of active volunteers: **278**
Time donated by volunteers: **3,918 hours**
Number of outreach activities: **373**

Let's Talk Science, A National Organization

Let's Talk Science is a national, non-profit volunteer-driven organization committed to enhancing awareness, understanding, and appreciation of STEM (science, technology, engineering and mathematics) in youth from kindergarten all the way to high school. We focus on making science engaging and accessible, by creating and delivering free hands-on minds-on STEM activities to schools and communities across Canada, through a dedicated network of university/college students and industry professionals.



Founded in 1993 by president and newly appointed member of the Order of Canada, Dr. Bonnie Schmidt, Let's Talk Science has grown from into a national award-winning organization with over **3500 post-secondary student volunteers**, reaching over **230,000 youth across the nation**.

Let's Talk Science at the University of British Columbia



Let's Talk Science was established at the University of British Columbia (UBC) in 1996 and has now grown into the largest university site in the Let's Talk Science organization. Between September 2014 and August 2015 we had **278 active volunteers**. These volunteers are both graduate and undergraduate UBC students who have collectively given **3,918 volunteer hours**. Overall we reached **34,691 youth** with the message that science is fun, engaging and relevant!

Our impact

Educators and our community partners find great educational value in our programs as reflected by the continual positive feedback we receive upon evaluation of their UBC Let's Talk Science experience. Last academic year, educators gave the activities we provided an average rating of **4.7 out of 5!**

“Extremely worthwhile, complicated, fascinating, OUTSTANDING” -

Teacher, McBride School, Vancouver

“Excellent...Hands on and students were allowed to eat the end product! Having some inspiration in the classroom has made me more confident in taking more risks.” - Teacher, Thunderbird StrongStart Centre, Vancouver

“Students were VERY engaged”- Teacher, Queen Elizabeth Elementary School, Vancouver

Following a Let's Talk Science visit, 87% of youth said they would like to have a UBC Let's Talk Science volunteer return to the classroom. A total of 35 % of visited youth reported an increased desire to take or continue optional science classes, while 29% of children reported that their desire to study STEM after graduation from high school had increased after one or more Let's Talk Science visits.

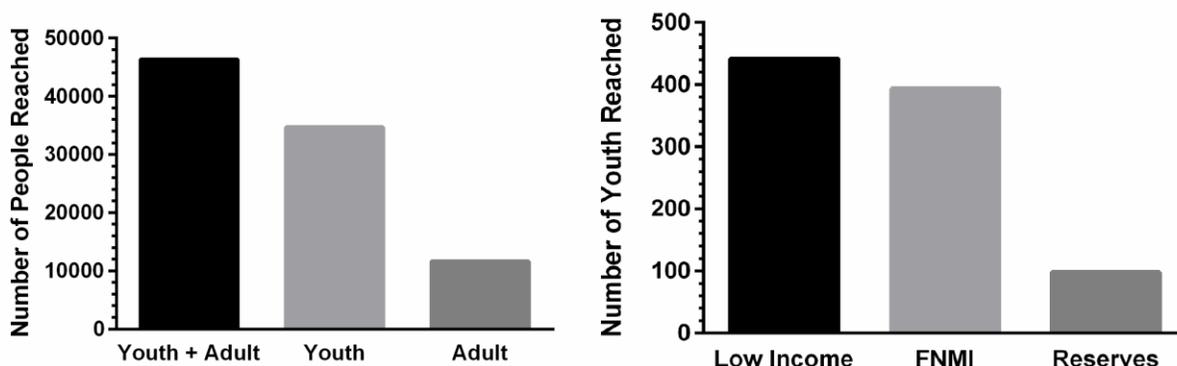


Figure 1. Demographics of people engaged by UBC LTS 2014-2015. (Left) The number of youth and adult members of the general public who were reached by our outreach activities and events. (Right) The demographics of youth reached by our outreach activities and events.

Impact on volunteers

A national survey revealed that Let's Talk Science volunteers felt their experience with the organization helped to build their self-confidence and additionally augment their skills in communication, teaching, leadership, planning and organization. Early development of these crucial soft skills have made Let's Talk Science volunteers more competitive in the job market and successful in their professional and personal lives.

“Volunteering for Let's Talk Science has been an incredibly rewarding experience that has allowed me to communicate my passion for science to future scientists, further develop my leadership skills and build valuable connections within the community.” - Sherrie, Volunteer

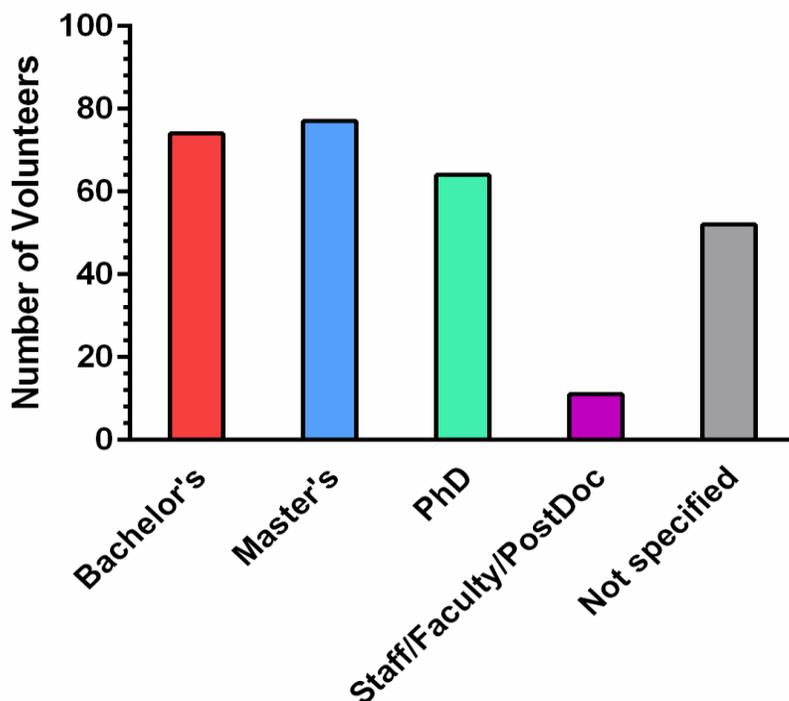


Figure 2. Degree level of UBC Let's Talk Science Volunteers. This graph shows the distribution of UBC Let's Talk Science volunteers (2014-2015) across the undergraduate, graduate and professional level.

Our programs

Teacher Partnership Program (TPP)

Coordinator: Claire Bompkamp, PhD Neurology

Truly unique to Let's Talk Science, the teacher partnership program (TPP) continues to be the flagship program of the organization. Volunteers are paired with a teacher in the Vancouver community, and work with their teacher partner to coordinate classroom visits 3 or more times during the academic year. During these visits, the volunteer (i.e. visiting scientist) leads the class in fun, age-appropriate, hands-on STEM-based lesson plans (1-2hr) that supplement the classroom science curriculum.



Our volunteers form a lasting relationship with their classroom(s) and teachers over the school year and the experience is deeply rewarding for all parties involved.

“BEST PROGRAM EVER!!” - Teacher, Queen Mary Elementary School, Vancouver

“This got the kids excited ... and made them feel like scientists in the field.”
- Teacher, Thunderbird StrongStartCentre, Vancouver

During the 2014-2015 academic year over 100 volunteers were placed in 85 classrooms in Vancouver and surrounding areas. In total, our volunteers completed 143 classroom visits with some volunteers going the extra mile to also visit multiple classrooms in a school in response to requests from enthusiastic teachers who had observed the popularity of our volunteer visits in classrooms of their colleagues!

Volunteer Highlight: Alyssa Kirlin PhD Biochemistry

Alyssa Kirlin, started her journey as a UBC Let's Talk Science volunteer in 2014, drawn to the organization by the opportunity to give back to the community and say 'thank you' to those who inspired her to pursue a PhD in a STEM field. Primarily involved in the Teacher Partnership Program Alyssa really loves science outreach:

"The kids were excited by the activities I brought and the teachers were thrilled to have me there. It was a lot of fun interacting with the same group of students multiple times, and I found that each visit was better than the last as the students and I got to know each other."

Volunteering has boosted her confidence as a science authority, a valuable skill in her eyes. *"Prior to my first arrival, the teachers had their students write and draw journal entries about what they thought a scientist was. Not unexpectedly, most of the kids described a male, "Albert Einstein-esque" character. I will never forget the looks of wonder when their special guest for science class turned out to be me, a woman scientist. In particular, was the reaction of one of the girls in the class, whose expression completely brightened upon this discovery, in a way that made me remember how I reacted to meeting my own role models when I was younger."*

Science Fair Mentorship

Coordinator: Yoichiro Watanabe, PhD Botany

Volunteers partner with schools in Vancouver's Downtown East Side to mentor both high school and elementary school student with their science fair projects. During the 2014-2015 school year, 15 volunteers mentored 75 high school students (primarily in grade 8-10) at Britannia Community Secondary School. A total of **11 science fair projects proceeded onto the District Science Fair**, from which **two projects went on to compete in the Regional Science Fair**.



Four volunteers (2 graduate and 2 undergraduate) mentored a grade 6 class at Hastings Elementary

School through a series of 5 afternoon visits. In the final visit, volunteers helped to host a mini-science fair at the school in which their grade 6 students presented their project to grade 4 and 5 students.

“Talking to the students about their projects because you can really see their excitement and passion about what they’ve done.” - Teacher, Greater Vancouver Regional Science Fair

Science Methods and Research Training (SMaRT) Coordinator: Sabine Lague, PhD Zoology

The SMaRT Program facilitates STEM learning in under-served schools in lower-income areas of East Vancouver by delivering fun and engaging science experiments via volunteer teams or pods. Pods are formed of 3-5 undergraduates who are led by a graduate student facilitator. These pods are paired with elementary school classrooms (grades 5-7) and visit three times over the term. Similar to our TPP program, the repeated visits of the SMaRT program allows volunteer pods to form a rewarding relationship with their assigned teacher and classroom thus enhancing the value of the experience.



During 2014-2015 we had **18 pods** comprised of approximately 80 undergraduate students, and 20 graduate students/postdoctoral fellows, visiting **18 classrooms**.

“This is really an awesome program” - Undergraduate volunteer, UBC
“I loved interacting with grade 5 students and teaching them about science.”
- Undergraduate volunteer, UBC

Volunteer retention from training to program completion was 100% and in program evaluation feedback, SMaRT volunteers reported to find the program to be an eye-opening experience and an opportunity for personal growth while increasing interest in local science outreach. All of our undergraduate SMaRT volunteers reported that their experience was enjoyable and rewarding!

Community Events

Coordinator: Brent Gali (retired), MSc (Epidemiology and Population Health)

Our community events program collaborates with our community partners such as Richmond Public Library Science Club, Girl Guides and Scouts, community centers and Vancouver's Science World, to engage youth in STEM through local events. Throughout the year UBC Let's Talk Science volunteers are involved in these events such as festivals, science fair judging, summer camps and Science World and Genome BC hosted events.

Event Highlights



Let's Talk Science Challenge (May 8th 2015): A day-long event held on UBC campus, quiz-styled science showdown for teams of grade 6-8 students, was a huge success with 180 students attending.

Participating students at the LTS Challenge also had the opportunity to tour the UBC Beatty Museum of Biodiversity during their visit to campus. UBC LTS has been hosting the Let's Talk Science Challenge for 9 years and this tradition had once again garnered press coverage from Shaw TV <https://www.youtube.com/watch?v=HTkdbqe6bX4>

Let's Talk Science Challenge: Volunteer Highlight

Passionate and dedicated volunteers are crucial for us to plan and host large scale events. Andrew Santos (PhD, Microbiology and Immunology) and Karen Wang (BSc, Pharmacy) are two such exceptional volunteers who were instrumental in the execution of the 2015 Let's Talk Science Challenge. The skills and personality traits demonstrated by Andrew Santos has since led to his appointment as our new Community Events Coordinator for UBC Let's Talk Science in September 2015.

The Ins and Outs of Antibiotics High School Symposium (May 29th 2015)

In the spring of 2015, this high school symposium was introduced as a new UBC LTS event that we hope will become an annual event. Pioneered by one of our passionate volunteers, Connie Leung (PhD Pharmaceutical Sciences), this symposium brought over 100 high school students to the university campus to participate in a full-day symposium, exploring the world of microbiology through lectures and discussions about bacteria and antibiotic resistance with workshops and iconic UBC professors such as Dr. Julian Davies.



Other Community Events (2014-2015) include:

- BC Science Expo-Viral Vaccines and Ebola Workshop (Nov 29th 2014)
- TEDx Kids conference (Nov 16th 2014)
- Stem Cell Talks (March 15th 2015)
- Science World Murder Mystery (Oct 10th 2014)
- Science World Community Science Celebration Weekend (Sept 28th 2014)

Rural Trips

Coordinator: Sherie Duncan, Post-doc Centre for High-Throughput Biology

Our rural trips program, in partnership with Genome BC sends volunteers to rural areas of BC including First Nation, Metis and Inuit (FNMI) communities. In 2014-2015, the Rural Trips program successfully completed **7 trips** and visited **11 communities** (see figure 3), reaching **1,943 youth in BC** with only **19 volunteers**. Our biggest trip this year was to the Cowichan valley in February where we visited 30 classrooms and reached 793 students with 7 outstanding volunteers.

Coordinator Highlight: Sherie Duncan (Postdoc, Centre for High-Throughput Biology and Chanel Mustoe (PhD Chemistry)

Sherie Duncan has been the UBC Let's Talk Science Rural Trips Coordinator program and our Genome BC liason for 8 years. Her hard work, dedication and substantial contribution to the success of this program was recognized as she was a runner-up in Let's Talk Science David Colcleugh Leadership Award 2015.

Chantal Mustoe has always been keenly involved in youth and science outreach and described her first Let's Talk Science rural trip as "whirlwind of activity but one of the most rewarding experiences of my volunteer life". As an international student new to the university, this rural trip afforded her the opportunity to see BC, bond with her fellow volunteers all while engaging in STEM. Chantal's demonstration of quiet leadership has led to her appointment as an assistant coordinator for Dr. Sherie Duncan under our Genome BC partners in September 2015.

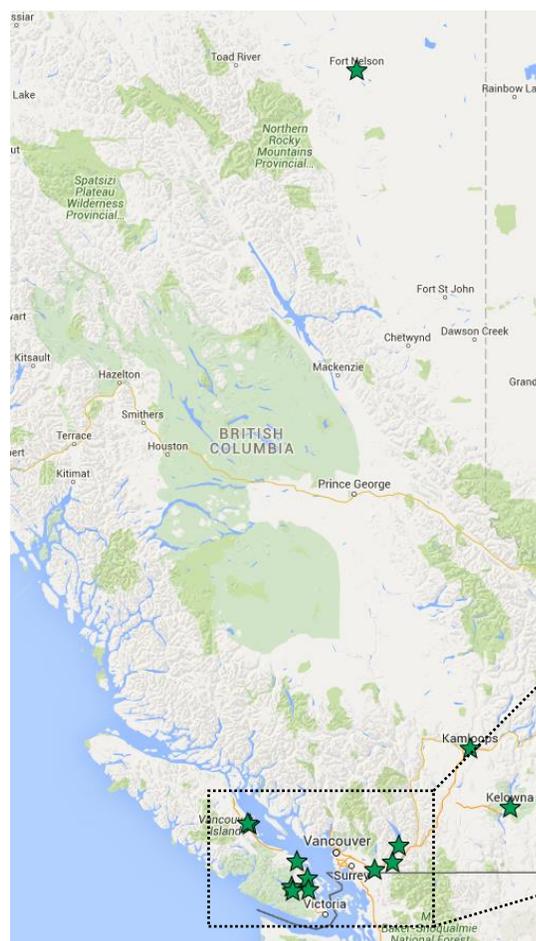
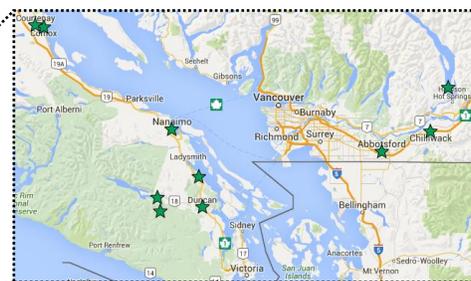


Figure 3: Geographical distribution of UBC Let's Talk Science 2014-2015 rural trips visits in the province of British Columbia Map. Green stars represent communities visited by UBC Let's Talk Science.



Goals for 2014-2015

- To secure funding to establish the high school symposium as an annual UBC LTS event
- To provide greater encouragement for capable volunteers to take part in the development or planning of new LTS ventures.
- To continue and strengthen our partnership with Genome BC and reconnect with rural communities we have not visited within the last 2 years as well as expand our visits to new under-served areas of the province.
- We plan to expand Teacher Partnership in 2015-2016. Volunteer teams will be sent for full-day visits at a school outside of Vancouver, visiting several classrooms in the same school. This option has been met with great enthusiasm by educators with schools in North Vancouver, New Westminister, Delta, and Surrey already enrolled.
- Integrate the new UBC outreach program Modules in Ecology and Evolution Development (MEED) into UBC Let's Talk Science. MEED is a program that aims to enhance grades 1-12 students' knowledge pertaining to ecology and evolution. To achieve this, we will pair graduate students studying biology (ecology specialization) with teachers in grade schools to develop a 1-hour module on topics in ecology and/or evolution. Our goal is to successfully pair 25 graduate students with teachers in the Vancouver community.
- To expand Let's Talk Science programs into more elementary schools in East Vancouver and maintain our excellent relationships with current school partners.

Budget and supporters at the University of British Columbia

2013-2014 Expenses

Operational Expenses

Office Operations (phone, printing, website)	\$500.00
Volunteer Engagement	\$194.47
Volunteer Training	\$870.40
Volunteer Appreciation	\$817.73
Marketing and promotion	\$750.00

Honoraria and Benefits

Graduate Coordinator (2 positions)	\$12,166.50
Communication Coordinator	\$1833.00
Partnership Program Coordinator	\$6,000.00
Community Events Coordinator	\$5,000.00
Rural Trips Project Leader Honorarium	\$500.00
Mentorship Coordinator	\$2,000.00
SMaRT Coordinator Honoraria	\$4,000.00
Employee Benefits (11.5%)	\$2,794.96

Outreach Program supplies

Partnership Program	\$631.18
Rural Trips	\$7,000.00
Let's Talk Science Challenge	\$787.51
Science Fair Mentorship	\$80.32
SMaRT	\$1,539.24

Collaborative special events training

Community Events	\$318.7
StemCellTalks	\$555.00

TOTAL EXPENSES **\$48,339.01**

2013-2014 Supporters

UBC Support

Faculty of Medicine	\$1,500.00
Faculty of Science	\$5,000.00
Faculty of Graduate Studies	\$2,000.00
Faculty of Applied Science	\$1,500.00
Faculty of Pharmaceutical Science	\$500.00
Faculty of Forestry	\$500.00
Faculty of Land and Food Systems	\$500.00
VP Student Office	\$10,000.00
Centre for Community Engaged Learning	\$9,838.80
Work Learn Reimbursement	\$5,186.00

National Office Support

Let's Talk Science National Office Site Stipend	\$3,870.00
Stem Cell Talks	\$555.00

Grants

Westcoast Women in Engineering, Science, & Technology (Wwest)	\$500.00
Eng.Cite	\$250.00

In Kind Support

UBC Bookstore (in kind donation)	\$750.00
National Office (rural and remote trips/Aboriginal outreach)	\$7,000.00
National Office (promotional items)	\$750.00

TOTAL REVENUES **\$50,199.80**

Supporters

Thank you to our generous local sponsors who make this program possible!

UBC Office of the VP, Students

UBC Faculty of Science

UBC Faculty of Applied Science

UBC Faculty of Medicine

UBC Faculty of Graduate Studies

UBC Faculty of Pharmaceutical Science

UBC Faculty of Land and Food Systems

UBC Faculty of Forestry

UBC Bookstore

UBC Centre for Community Engaged Learning (formerly Community Learning Initiative)

Wwest

Eng.Cite

