




# Geering Up

UBC Engineering & Science for Kids

# 2015 Annual Report





*"Both my kids had a fantastic time at Geering Up this year. I have to say - it is one of the best run camps we have been involved in. Keep up the excellent work and grow those scientists and engineers."*

## Vision

To provide the children and youth of British Columbia with the opportunity to investigate engineering, science, and technology in a fun, educational, and safe environment.

## Mission

Geering Up UBC Engineering & Science for Kids is a non-profit, student-run organization dedicated to promoting science, engineering, and technology to the children and youth of British Columbia through fun, innovative, and hands-on experiments and projects. Geering Up also strives to reach all children and youth, regardless of gender, ethnicity, culture, or socio-economic status, with special outreach programs for those groups traditionally underrepresented in the sciences. Geering Up provides valuable work experience to its employees and volunteers, and enriches the University and community.

## National Network

Actua provides training, resources and support to its national network of members located at universities and colleges across Canada in the delivery of science, technology, engineering and mathematics (STEM) education outreach programming. Each year these members engage over 225,000 youth in 500 communities nationwide. Please visit Actua at [www.actua.ca](http://www.actua.ca).

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*"My son is LOVE LOVE LOVING your camp. He keeps saying: "If only school were like this! I would love it too". Bravo to you and your team for engaging my very energetic and inquisitive son to the point that he hasn't been bored once! That is a great feat."*

# Welcome to Geering Up.



## A Word From the Directors

2015 marks the 20th year of Geering Up: two decades of STEM outreach, reaching over 93,000 youth across British Columbia. We may have started small as a fourth year Mechanical Engineering student's "capstone" project, but over the past 20 years we have grown immensely.

This summer we reached 8,750 kids in 17 communities across British Columbia through camps and workshops. We successfully piloted a satellite camp at UBC Okanagan, broadening our scope to both UBC campuses. On the UBC Vancouver campus alone, we held camps in six different buildings!

During July and August we ran 113 weeklong day-camps: up to 12 unique camps per week. Amongst these camps we piloted two specialized computer science and technology "maker" camps. We were ecstatic at the opportunity to partner with Actua and Google to bring computer science to the youth of BC as part of the Codemakers program.

We continue our dedication to providing specialized outreach to groups traditionally underrepresented in STEM. 43% of our participants in both workshops and camps were girls. We visited three Aboriginal communities, and four inner-city schools with our camps. All of these initiatives were a resounding success - next year, we are looking to expand our Girls Only, Aboriginal, and Inner-City Outreach.

This summer, we hired 45 staff members from full-summer instructors to part-time before and after care staff. We are entirely student-run: undergraduate UBC students (mostly engineering & science students) are the driving force behind Geering Up. We could not have asked for a better team.

It has been a fantastic year. Thank you to everyone who makes Geering Up possible: sponsors, staff, volunteers, campers, parents, teachers, mentors & guest speakers, our wonderful faculty UBC Engineering, our excellent umbrella organization Actua, our Board of Advisors, the countless community partners, and the UBC staff & students who are patient and forgiving when our campers are too excited to walk quietly indoors.

Thank you so, so, so much. It has been amazing.

Scientifically yours,



Jeanie Malone & Jakob Manning  
Co-Directors 2015





# The Pillars of Geering Up

## Summer Camps

Summer camps are the core of Geering Up. With up to twelve weeklong daycamps running concurrently each week for nine weeks, **2,600** youth participated in our summer programming.

At camp, we launched rockets, made robots, and ate countless slices of pizza. Sunscreen was squirted, labs were visited, and many little minds were shown the wonder of STEM. We know our participants have immeasurable potential - we can't wait to see what they do next!

CAMP  
REGISTRATION  
GROWTH



## In-School Workshops

In 2015, we premiered a new format of curriculum development for workshops: hiring a spring part-time coordinator to develop one workshop per grade. These grade-specific workshops are aligned with the BC science curriculum. Next year, we plan to focus on expanding our high school workshops, adding kindergarten and grade 7 workshops, and re-aligning content with the new BC science curriculum.

We reached **6,150** youth in workshops this year across BC. We continued to offer bilingual workshops for French Immersion and Francophone schools. This year, we were able to deliver **17%** of our workshops in French.

- GRADE K-1: Ecosystems Everywhere
- GRADE 2: Matter Everywhere
- GRADE 3: Materials & Structures
- GRADE 4: Lighten Up
- GRADE 5: The Digestion Question
- GRADE 6-7: Charge Up!
- GRADE 8-9: Optics
- GRADE 8-12: Dynamics & Design
- GRADE 8-12: Electrifying Design

## After-School Clubs

Last year, we introduced after-school clubs - and they were a resounding success. They allow us to reach youth year-round, and provide opportunities to explore STEM in a creative environment outside of the classroom.

This year, we are pleased to be able to offer **eight** concurrent after school clubs - five at UBC Vancouver, one at UBC Okanagan, and two off-campus at inner-city elementary schools. Every Wednesday evening kids come explore STEM with us for an hour and a half - robots are built, slime is inspected, chemistry is observed and curiosity is sated.

### UBC VANCOUVER CLUBS

- GRADE 1-3: MiniGeers
- GRADE 4-5: Imagineers
- GRADE 6-7: Inventors
- GRADE 4-7 GIRLS: GeerGals
- GRADE 8-10: MasterMinds

### INNER CITY VANCOUVER

- Mackenzie Elementary
- John Henderson Elementary
- Elsie Roy Elementary
- Lord Roberts Elementary

### UBC OKANAGAN

- Kelowna Boys & Girls Club



# Areas of Growth

## High School

Our high school program continued to expand this year, with a full camp season of grade 8-10 programming, additional capacity for our grade 11-12 **MasterMinds** camp, and three unique grade 8-12 workshops. We were excited to be able to reach **325** high schoolers in camps and **575** in workshops. We are especially proud of the quality of content we produced for MasterMinds this year - it truly is a taste of UBC Engineering. But our high school programming isn't restricted to camps: we also provided volunteer experience for over **150** high school students.

TOTAL HIGH SCHOOL REACH



## Codemakers

Earlier this spring, Google partnered with our umbrella organization, Actua, to bring computer science programming to youth across Canada. We took this opportunity and ran with it: we offered free computer science workshops in inner city schools, developed two brand new tech-focused summer camps (**Codecreators** and **Tech-Makers**), and made sure to include computer science components in all our camps and clubs. We even had a Google employee come to visit! Over the course of the summer, we have given **475** participants a computer science experience through workshops and camps.

475

TOTAL CODEMAKERS REACH

## Geering Up: Kelowna

Perhaps our most exciting new initiative this year: a satellite camp at the UBC Okanagan (UBC-O) campus! Thanks to support from the UBC-O School of Engineering, we were able to launch a new base camp. We hired a team of instructors, as well as a Kelowna director, who taught workshops and camps from UBC-O. In total, our Kelowna team reached over **1,500** youth. We are excited to be able to offer clubs in Kelowna this Fall and Spring!

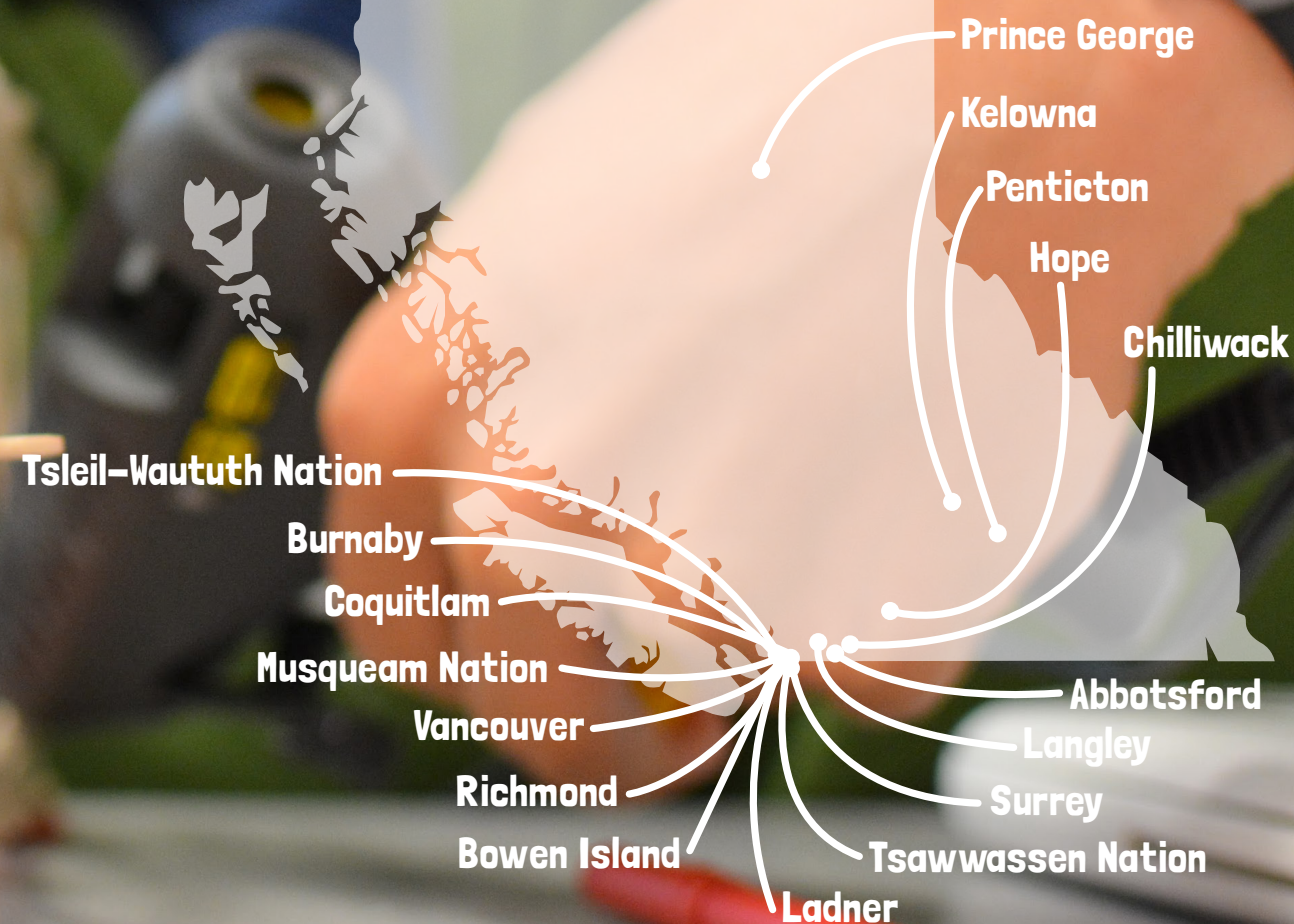
TOTAL KELOWNA REACH



## New Outreach Locations

We visited **17** communities this summer in workshops and camps: Vancouver, Surrey, Richmond, Burnaby, Coquitlam, Bowen Island, Abbotsford, Langley, Hope, Chilliwack, Prince George, Tsleil-Waututh Nation, the Musqueam community, Tsawwassen Nation, Ladner, Penticton and Kelowna!

17 communities





A background image showing a group of children in a workshop setting. They are seated at a wooden table, working with white carnations and colored liquids (red, blue, and black) in clear plastic containers. One child in the foreground is wearing a blue shirt and has their arm raised. Another child in the background is wearing a red hoodie. The scene is brightly lit, suggesting an indoor space with large windows.

## Aboriginal Outreach

This summer Geering Up brought our outreach camps to three Aboriginal communities: we returned to Tsleil-Waututh Nation for the second year, and visited the Tsawwassen and Musqueam communities for the first time. We dedicated staff members to tailoring our Aboriginal outreach camps to fit each community, which gave our programming a depth and level of connection that we had not seen before. We were excited to be able to work with all three groups, and we hope to be able to come back next year! We reached a total of **657** youth through camps, clubs, and workshops this year, including **90** youth in these specialized outreaches.

## Girls Only

Geering Up has always been dedicated to sharing our love of STEM with girls. During our annual **Girls Only Week**, we invite female campers to experience camp in a single gender environment. This year we were able to offer **12** Girls Only camps in Vancouver and Kelowna, including a special **Maker Camp** in partnership with the Michael Smith Labs. We also offer single gender environments in our clubs programming. In the past year, Geering Up reached **278** girls through girls-only camps and clubs at programs in downtown Vancouver, and at both UBC campuses.

Making girls feel confident is woven into all aspects of Geering Up. Staff are trained in the issues surrounding women in STEM. We strive to portray a gender-balance with the adults involved in the classroom, to ensure we are sending a positive message about gender abilities across all of our programming. Over **43%** of all Geering Up participants in 2015 were female - a statistic we are proud of considering that the majority of STEM students are male.

## Go Where the Kids Are

One of the largest barriers we face in Vancouver when engaging kids in STEM is simply geographical - our main location at the UBC Point Grey campus is hard to reach. This hits low-income families in particular, as time and transportation costs add up. This is one of the reasons we offer workshops in schools: it provides us a much broader reach. Our sponsors allowed us to offer free or discounted workshops to **37** classes in inner-city schools. This year, Geering Up also partnered with the Vancouver School Board to reach at-risk youth in downtown Vancouver. We hosted two summer daycamps, as well as two semesters full of after school clubs.

In Kelowna, we face similar issues, and we are excited to have partnered with the Kelowna Boy's & Girls Club to offer our after-school clubs at an accessible location.

# Special Initiatives



# Finances

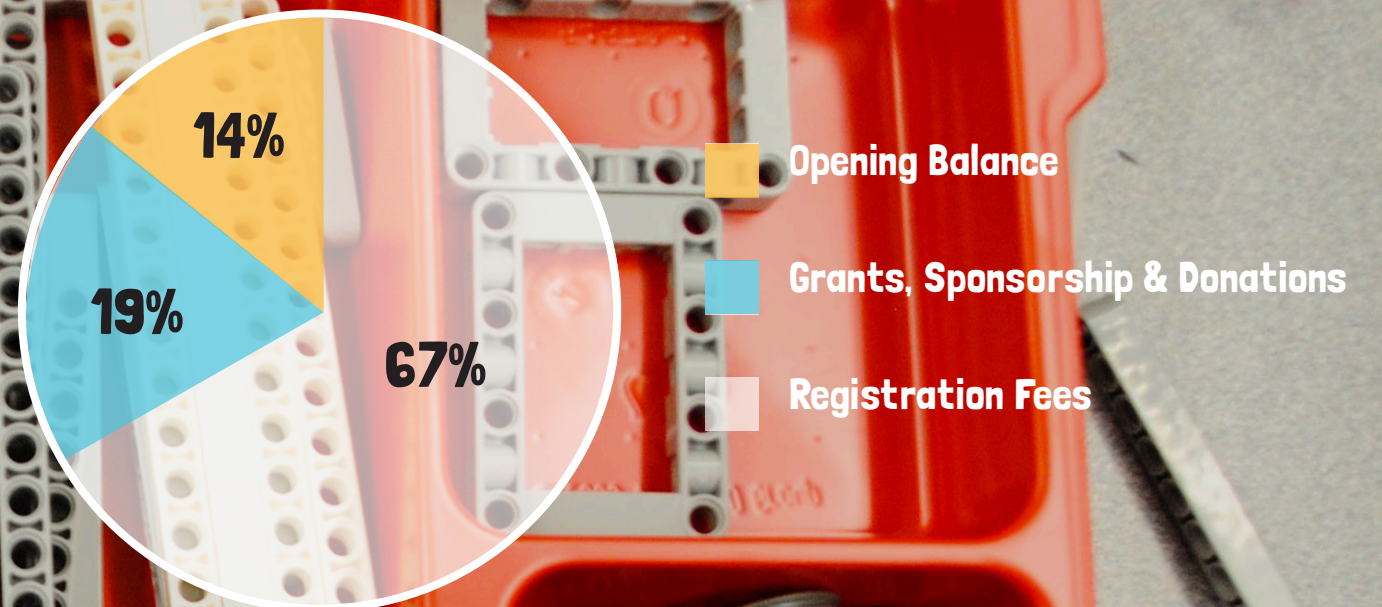
## 2015 Financial Overview

This past year was another phenomenal success. We would like to extend our sincerest thanks to all of the sponsors and partners who helped make this year possible. A healthy contingency allowed us to take on the risks associated with seeding a new program in Kelowna. At home in Vancouver, we dramatically increased camp size - doubling our capacity for the second year in the row. But even with our ambitious growth, we were not able to keep up with demand. Our local camp registration reached 95%. Our growing carry forward will allow us to achieve our goal of hiring a full-time administrator. Transitioning to this new model will ensure our program is sustainable, while greatly increasing our capacity to take on new initiatives.

## 2015 Financial Highlights

- Receiving a \$29,000 NSERC Promo Science Award for Outreach in Kelowna and Prince George
- Raising over \$20,000 in local sponsorship
- Obtaining 95% camp registration
- Seeding a self-sustaining program in Kelowna

## Revenue



## Expenses

### Program Development & Administration

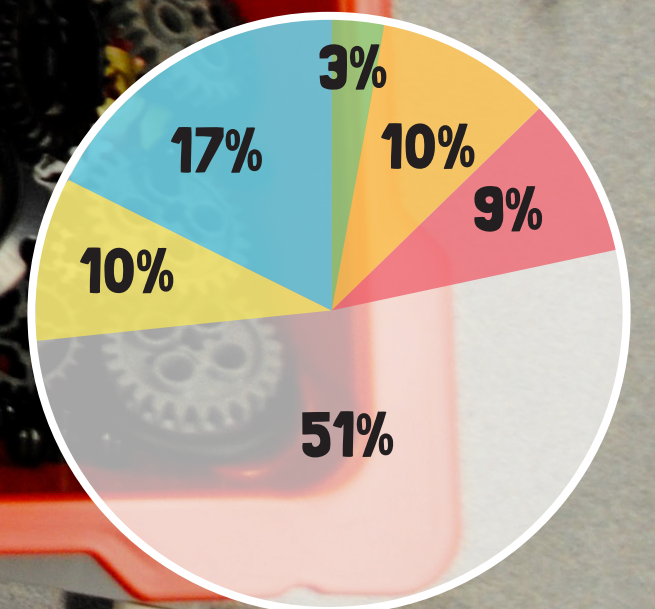
### Materials

### Outreach

### Staff Costs

### Contingency

### Carry Forward





# What's Next?

## Expanded Special Initiatives

Geering Up is constantly looking for ways to reach more youth across British Columbia, especially those underrepresented in the sciences. In 2016, Geering Up will be increasing the number of Aboriginal Outreach camps, Girls Only programming and in-school and after-school workshops provided throughout the year. We have already begun the groundwork for expansion in these areas with a successful application to NSERC Promoscience focusing on Aboriginal outreach, as well as a new application to the Canadian Women's Foundation focusing on Girls Only programming.

## Geering Up Returns to Kelowna

We are ecstatic that our Kelowna satellite program was such a success this year, and we can't wait to continue to grow the Geering Up Kelowna program in 2016. We are looking to add additional weeks of camps next summer, as well as additional age groups. Get ready UBC Okanagan: more STEM is coming your way soon!

## Fulltime Staff Member

Geering Up is transitioning from being an entirely student-run program, to having a full-time, year-round staff member. Our rapid expansion in the past three years has drawn our attention to the need for a permanent staff member: reaching thousands of youth each summer is no mean feat! We are excited for Jakob Manning (Co-Director 2012-15) to be continuing his work with Geering Up in the new role of Program Manager. This position will support the Co-Directors with a variety of administrative tasks, but Geering Up will maintain its student-driven nature by continuing to hire two student Co-Directors.

# 2015 Supporters

To our generous sponsors, to our wonderful community partners, to our amazingly supportive faculty, to the university we call home, to the mentors who donate their time to visit us, to our tireless staff members, to our energetic volunteers, to the excited parents and teachers, and to our ever-curious, innovative, brilliant campers: **thank you.** This wouldn't be possible without you.

### Diamond Supporters



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