

# Geering Up

UBC Engineering & Science for Kids



**Annual Report  
2014**

# Who we are

Welcome to Geering Up UBC Engineering & Science for Kids!

## Vision

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

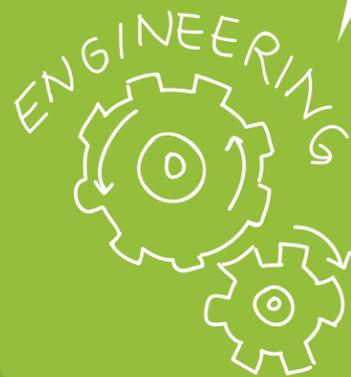
## Mission

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 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

Geering Up is a member of the Actua 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).

A member organization of **actua**  
[www.actua.ca](http://www.actua.ca)  
Learning for Change -  
Découvrir pour demain.



## A Word from the Directors

The 19th season of Geering Up UBC Engineering & Science for Kids was marked by tremendous growth, new projects, and the strengthening of community partnerships, both old and new. In 2014, Geering Up doubled in camp capacity, serving nearly 1500 campers while providing rewarding employment opportunities to 25 university students.

Geering Up was filled with energy and wisdom with the introduction of two new age groups, MiniMinds (Grade 1) and MasterMinds (Grade 11 and 12).

Geering Up also expanded its outreach programs in Northern and Aboriginal communities. Our outreach team delivered workshops for the first time in Hope and Penticton, and camps were run in collaboration with the Squamish and Tsleil-Waututh Nations communities.

For 2015, we look forward to strengthening old friendships and investing in new partnerships, creating innovative education opportunities in our communities, and inspiring youth in BC to get their hands on STEM!

Scientifically yours,

Tanjot Singh & Jakob Manning  
2014 Geering Up Co-Directors

## IN-CLASS WORKSHOPS

Kindergarten to Grade 12

Vancouver, Kelowna, Prince George, Hope, Penticton

**33% of workshops provided for free, reaching 972 inner city students**

## SUMMER CAMPS

Kindergarten to Grade 12

Vancouver, Kelowna, Prince George, Squamish Nation, Tsleil-Waututh Nation

**98% growth in camps**

## AFTER SCHOOL CLUBS

Grade 4-7, 10-12

UBC's Point Grey Campus  
Fall and spring programming

**5017 youth reached**  
**210+ hours of unique curriculum**  
**6 communities outside Vancouver**  
**\$10,380 in bursaries**

"This is the most organized and enthusiastically staffed day camp I have ever sent any of my kids to."

"My son came home mid week and said he wants to take astro-physics, physics, engineering, mechanical engineering, mathematics, and I can't remember what else - because of this camp."

"Thank you so kindly to your scholarship program and the generosity of your donors. Geering Up was one of the biggest highlights of my child's summer."

"This is the most impressive and best summer day camp my boys have ever done. The staff are amazing and the instruction and content of the curriculum is outstanding. All my boys had a fantastic week and we look forward to many more summers at Geering Up!"

"I am impressed by how well organized the camp is and really appreciate the end-of-the-day messages reporting on each day's activities."

"This camp will definitely be on our list for next summer. Until then, thanks again for offering such an amazing, empowering camp."

"I cannot express my full gratitude to all of you who made the camp possible. My thanks goes out especially to the Integration Support Instructors who made sure that [my child] had the best experience at camp."

"[My child] loved this camp. He already loved learning about science and building things, and this camp made him love it all even more."

"They had so much fun, and wow, their days ever filled with awesome experiments and projects!"

"I really loved the chemistry show, obleck, and the robots!!! :) It was my favourite part of my summer, I want to go next year! Thank you so much."



# Year in Review

## Girls Only!

Geering Up strives to reach groups traditionally underrepresented in STEM, which includes girls. This summer, we ran 7 camps of Girls Only! programming during our Girls Only! week, reaching **155** girls during that time. Overall, **41%** of the kids who came to camp this summer were girls!

## In-Class Workshops

Geering Up reaches thousands of youth in the spring through in-class workshops. This year, we offered three unique workshops for schools to choose from: The Wonderful World of Water, Sounds enLightening, and Ohm My Gauss: Electricity and Circuits. We also offered two high school workshops: Dynamics & Design and Microelectronics.

Geering Up also continued to offer workshops in French, delivered by our bilingual French instructors. Our workshops were delivered in Vancouver, Kelowna, Prince George, Hope, and Penticton in schools, community centers and at BC Children's Hospital.



## Summer Camps

Summer camps continue to be the heart and soul of Geering Up. With up to eight camps running concurrently each week for eight weeks, **1497** youth participated in our summer programming at UBC Vancouver and at our Outreach communities. At camp, we launched rockets, made squishy circuits, and ate countless salads and 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!

## After School Clubs

This fall, we premiered our after school clubs with GeerBots (Gr. 4-7 Co-ed), GeerGals (Gr. 4-7 Girls Only), and MasterMinds Fall (Gr. 10-12).

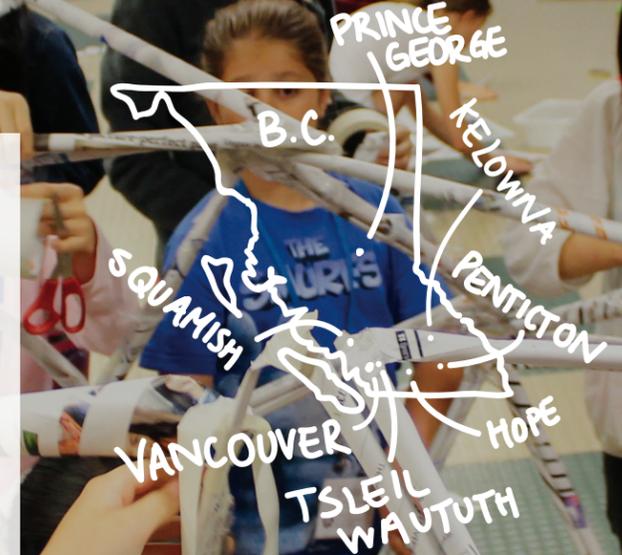
Clubs met every two weeks at UBC, and went on field trips around campus - including venturing over to the UBC Farm, the Chemical Engineering department, and the Engineering Design Centre.

This fall, the two younger clubs filled to capacity, and so we are pleased to be able to offer two additional clubs for grade 8-9s in the spring!



## Outreach

At Geering Up, we are proud of our Outreach presence in six communities this summer. We were happy to return again to Prince George and Kelowna with both spring workshops and summer camps. This year, we made many new partnerships! Workshops were offered for the first time in Hope and Penticton, and camps for the first time in Tsleil-Waututh Nation and Squamish Nation. We reached **1109** kids through our Outreach workshops and **103** kids through Outreach camps.



## High School

Geering Up was thrilled to introduce high school workshops and camps this year, with the help of the UBC Faculty of Applied Science. This was our first foray into programming for grades 11 and 12. Our new high school workshops reached **392** students, and our new MasterMind camps reached **83** students. By all measures, this surpassed our expectations!

Two workshops were offered for high school: one that focused on soldering and microelectronics, and another that explored Newton's forces. Both were very well received by teachers, and we plan to add a third high school workshop next year to better support the 8th grade curriculum.

Our high school camps are one of our most high-impact programs. The MasterMinds program included both a week of leadership training and STEM activities, and one to two weeks of volunteer experience in our camps. We were delighted that in its first year, **32%** of MasterMind campers were females.

# Finances

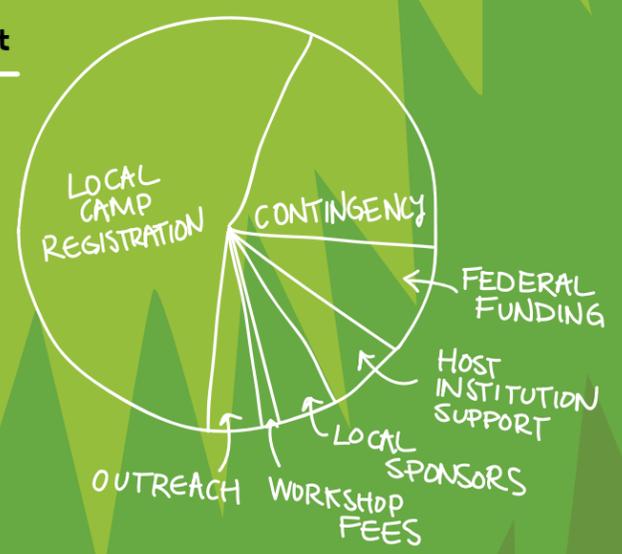
## 2014: The Budget at a Glance

There were two big stories in 2014. The first was the BC teacher strike. This strike, which lasted through May and June, caused schools to close early. This decreased our efficiency - we were not able to reach as many kids per budget dollar. The entire process of booking and running workshops was turned on its head as teachers and principals were unable to communicate via email, and schools were routinely shut down with only a few days notice.

The second major financial story of 2014 was much more positive. We doubled the capacity of our Vancouver based programming, while sustaining a high rate of camp fill. This was accomplished by introducing a younger camp (MiniMinds), and a high school camp (MasterMinds), and doubling the space in our grade 2-5 camps. Through this, we were able to offer twice as many campers a Geering Up STEM experience. This positive growth helped to counter the financial effects of the teacher strike, and has set us up for a successful 2015.

## Revenue

	2014 Projected	% of Total Budget
Incoming Contingency	\$83,920	20.0%
Local Camp Registration	\$230,000	55.0%
Outreach Registration	\$17,500	4.2%
Workshop Registration	\$5,500	1.3%
Local Donors and Sponsors	\$20,000	4.8%
Host Institution Support	\$24,000	5.7%
Federal Funding	\$37,500	9.0%
<b>Total</b>	<b>\$418,420</b>	



### Federal Funding

Federal funding includes support received from NSERC PromoScience and Canada Summer Jobs (CSJ). NSERC funding is earmarked for Outreach, and allowed us to reach over 1,000 youth in Prince George and Kelowna this year. CSJ is a federal program that encourages organizations to employ university students in fields of their study. CSJ has been extremely vital to our success as staff costs are our largest expense, and the quality of our programming depends largely on our staff-student ratio.

### Local Camp Registration

This represents the income from the camps we run at UBC-Vancouver. Thanks to prudent financial management our elementary camp programs in Vancouver are self supporting.

### Workshop Registration

Our workshops are only made possible thanks to our supporters. Workshop fees are nominal and represent the \$90 we charge per classroom we visit. We work hard to make workshop fees low in order to make our workshops an attractive option for teachers and PAC's when choosing how to spend the class field trip budget.

## Expenses



	2014 Projected	% of Total Budget
Admin Costs	\$24,000	6.1%
Promotional Costs	\$9,000	2.3%
Workshop Costs	\$13,000	3.3%
Camp Costs	\$65,000	16.4%
Outreach Expenses	\$27,000	6.8%
Staff Costs	\$209,000	52.6%
Contingency	\$20,000	5.0%
Carry Forward	\$30,000	7.6%
<b>Total</b>	<b>\$397,000</b>	

## 2015: What's Coming Down the Pipeline?

With a budget surplus in 2014, we look forward to increasing our role in our community in 2015. One focus of growth will be after-school clubs. These biweekly clubs support the STEM learning that kids are exposed to in school. This initiative will be high-impact and hands-on, which will allow us to create a year-round learning community.

2015 will also see new outreach initiatives. Geering Up has begun conversations with community centres and schools downtown about offering a camp program at more accessible locations. Geering Up also looks forward to increasing our presence at UBC-Okanagan, our sister campus and a gateway to interior BC.

Lastly, Geering Up will further expand our workshop programming. We plan to create a position to expand our workshop curriculum. By May 2015 we will offer a unique STEM workshop for each grade level, tailored specifically to provincial learning outcomes.

**Admin Costs**  
Admin costs include \$10,000 in credit card fees, and \$9,000 in registration service fees.

**Promotional Costs**  
Google ads, pamphlet printing, and poster printing were the primary promotional expenses.

**Workshop Costs**  
Workshop costs cover the supplies we provide during workshops. At the core of our workshop model is the idea that every child will build something and take it home at the end of the day. These creative design projects are only made possible through sponsorship, as the cost of what we send home is always more than the fee we charge for the workshop.

**Camp Costs**  
Camp costs represented here include the materials and equipment costs for Vancouver based camps.

**Outreach Expenses**  
Outreach expenses include the cost of flights, hotels, meal per diems, and room rentals while on outreach. We are extremely grateful to the many partners who provide us with discounted services while we teach in communities outside the Lower Mainland.

# Thank you.

We would like to thank the supporters make Geering Up possible.

## Supporters

Betty Wong  
Bernard Laval  
Blair Kloos  
Cheryl Kinkaid  
Clara Soyris  
Charles Savard  
Elizabeth Croft  
Emily Wyatt  
Engineers Without Borders  
ErinRose Handy  
Jennifer Pelletier  
Laura Bouwman  
Leanne Lewis  
Lees Electronics  
Leo Marchand

Lindsay Hubley  
Luke deBruijn  
Mavalicious Kids Eat  
Nadine Jankowski  
Nancy Forhan  
Paul Harrison  
Rafael Jacinto  
Ron Siy  
SailBots  
Science ALIVE  
Shaina Somers  
Squamish First Nation  
Tanya O'Neill  
Tseil-Waututh First Nation  
UBC Engineering Co-op

UBC Engineering Undergraduate Society  
UBC Faculty of Applied Science  
UBC Greenhouse  
UBC MECH & WWEST Office  
Uncle Fatih's Pizza  
Verena Facundo  
All of our lovely staff & volunteers!

**2014 Actua National Funders**  
Suncor Energy Foundation  
GE Canada  
Natural Sciences and Engineering Research Council of Canada  
Shell Canada



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA  
Faculty of Applied Science



**NSERC  
CRSNG**



Professional Engineers  
and Geoscientists of BC

**UBC Science**



FORTIS BC™

**URBAN**  
systems

**FLUOR**



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

Mechanical Engineering  
Faculty of Applied Science



Engineering | CIVIL

**BChydro**



CHEMISTRY



Westcoast Women in  
Engineering, Science  
& Technology



ASSOCIATION OF CONSULTING  
ENGINEERING COMPANIES  
BRITISH COLUMBIA



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

Chemical & Biological Engineering  
Faculty of Applied Science

## Geering Up Staff 2014

Alan Ehrenholz  
Alison Sturrock  
André Clerc  
Ashley Dobroszek  
Bailey Komishke  
Cameron Johnston  
Charlaine Chiu

Christina Saxvik  
Christopher Russell  
Courtney Markin  
Dennis Wong  
Gursimran Rekhi  
Jakob Manning  
Jeanie Malone

Jian Lik Ng  
Jill Barnett  
Julia Kubik  
Lauren Taaffe  
Louis Rivest  
Melanie Friedman  
Patrick Louie

Rebekah Glum  
Tanjot Singh  
Yvonne Ma  
Wen-Ling Lin