



2010 FINAL REPORT



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“As far as I know this position of a Special Needs Integration Support worker might be the only one of its kind in summer camps for kids. We have stayed away from summer camps in the past or if our son has gone it has not been nearly such a positive experience. As a parent it felt amazing to be able to explain (and listened to) in terms of what strengths and challenges my child has, and then to collaborate about the best ways to support him and give a heads up to his instructors/volunteers. Our son has looked extremely forward to going to camp every day and comes home feeling confident, inspired and successful.”

- Thea



Contents

A Word from the Co-Directors	1
Our History	2
2010 - Year in Review	3
Fiscal Highlights	6
Our Staff and Volunteers	7



Our Vision

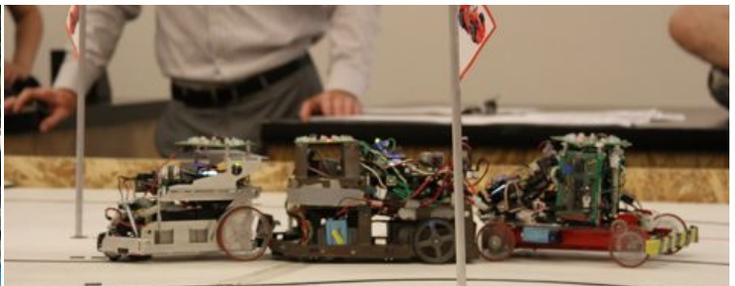
To provide all of the children and youth of British Columbia with the opportunity to investigate engineering, science, and technology in a fun, educational and safe environment.

Our 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 enriches the University and community.

A Proud Member of Actua

GEERING Up! is a member of Actua. They provide training, resources and support to a national network of local organizations offering science and technology education programs. Actua members reach over 225,000 youth per year. Please visit Actua on the web at www.actua.ca.



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A Word from the Co-Directors

GEERing Up!'s 15th anniversary is marked with new and continuing partnerships, outreach initiatives, community involvement, and new program content. As a result, this year's team has reached impacted over 4,700 children and youth in schools, outreach programs, community events, and summer camps.

At UBC, GEERing Up! fostered new ties and strengthened old ones. A partnership with Alumni Affairs allowed GEERing Up! to use a free and supported online registration system, further integration within the Faculty of Applied Science reduced administration costs, and UBC Plant Ops helped GEERing Up! to maintain a new field location, and even donated hoses for the Friday Water Mania events.

Within the Vancouver community, GEERing Up! achieved an unprecedented level of involvement. GEERing Up! wowed kids at APEGBC's E-fest, and UBC's Raising the Barn event. Families were able to try their hands at activities such as film-canister rockets, gooey slime, and paper helicopters, all while learning about science and engineering.

GEERing Up! also partnered with Engineering Student Services and Engineering Recruitment this year to host joint events to better educate high school students about the prospects of engineering. Other events included hosting BC EUCLID Math Contest winners, as part of an effort to congratulate and award them for their achievements. Overall GEERing Up! reached over 2000 youth at community events.

This year was made a great success thanks to the dedication and enthusiasm of the entire GEERing Up! team who were supported greatly by the local community and the University of British Columbia. We hope to foster the partnerships developed this past year and build upon them in 2011. GEERing Up! is poised to do great things in the new year!

Levi Engels & Vishal Hiralal

Co-Directors



Our History



In early 1995, Dr. Ian Gartshore, then Associate Dean of Students in the Faculty of Applied Science at UBC, brought YES Camps to the attention of Christine Yeung, a UBC Mechanical Engineering student. An interest sparked, and Christine and several other students incorporated the planning of camp project ideas into a design project for one of their courses.

During the summer of 1995, a volunteer committee was formed with the intention of designing and implementing a YES camp called GEERing Up! UBC Engineering for Kids for the summer of 1996. Their goal was to show youth in the community that engineering was not just building bridges and driving trains, but incorporated fun science concepts in order to design and construct structures, chemicals, vehicles, and computers.

From our beginnings in 1995, GEERing Up! has evolved from an idea to its current form, with in-school workshops in May and June, and summer camps in July and August. YES became YES-VACC, which then became Actua, a national network of science, engineering and technology camps. We launched our Aboriginal Outreach and all-girls programs in 2000, which have both become huge successes. In 2002, GEERing Up! changed the subtitle of its name to UBC Engineering & Science for Kids to reflect the change of focus from engineering to both pure and applied Sciences.



With continued support, we will grow to meet the demands for high-quality, education programs for youth. In 2004, we launched our Junior Engineer Leadership Training Volunteer Program, which we renamed to be simply Junior Instructors. In 2005, we introduced a Special Needs Integration Support Instructor. The summer of 2006 marked the debut of Technology Camp, where campers gained hands-on experience with computer-based projects. Last year we expanded our girls outreach with Girl Guide Workshops. Our Instructors visited groups of Girl Guides in the Lower Mainland, leading fun engineering and science activities at their meetings.

The summer of 2010 marked GEERing Up!'s 15th year of successfully engaging youth across the Greater Vancouver area.





Elementary School Workshops

From May to August, we delivered workshops to elementary schools, after school programs, and Girl Guide units across the Lower Mainland. Workshops are by far our best outreach initiative due to the large number of students that are involved. Workshops were aimed at a young age in hopes of sparking interest and generating excitement for each discipline.

The year, we delivered 92 workshops to 2,193 youth from grades K-7. Teachers, after school programs leaders, and Guiders had the choice of three workshop topics: Living Green, Wacky Weights and Wheels, and Myth Busters. Each workshop topic contained two scripts, a Junior and Senior version, for a total of 6 different workshops to choose from. All 6 workshops had a French counterpart for use in French-Immersion schools.

Workshops were designed to be 2 hours long and have at least 1 visual demonstration, 1 interactive activity, and 1 take home project. Often workshops had more than 1 demo, activity or project. All curricula were generated by the GEERing Up! staff, and followed the guidelines and learning objectives of the BC school curriculum, so as to be supplementary to classroom learning.

Community Outreach

GEERing Up! made an extra effort this year to involve itself within the Vancouver community, by participating in community events, such as APEGBC's E-Fest at Vancouver Public Library, and the Raising the Barn UBC community event at UBC. The former was to promote engineering awareness, and the latter to engage families within the UBC community. During the Raising the Barn event, over 1,500 people came and visited GEERing Up's booth to learn about the program and make Alka-Seltzer rockets, non-Newtonian fluids, or just play with LEGO. GEERing Up! also partnered with UBC Engineering Recruitment, EUCLID Math Contest Winners and Engineering Student Development, to participate and educate at community events outside of the normal scope of the program.

- 2 Co-Directors**
- 9 Instructors**
- 1 Special Needs Integration Support Instructor**
- 47 Junior Instructors**



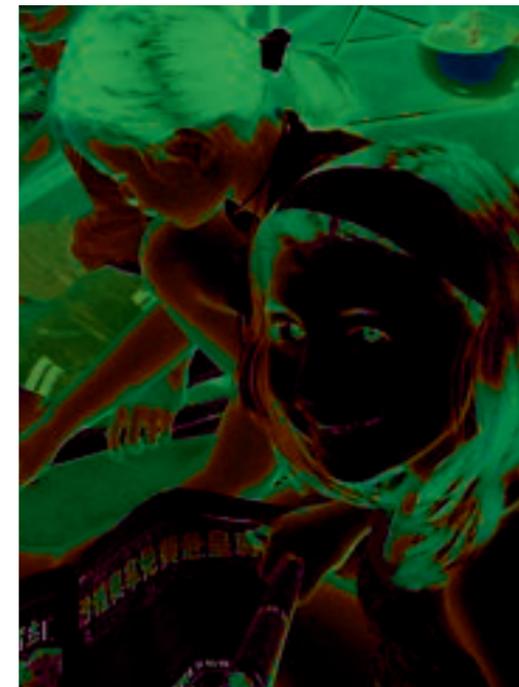
- 23 Summer Camps**
- 2 Girls Only! Camps**
- 2 Aboriginal Outreach Camps**



2000+ Youth at Community Outreach Events



- 466 Campers**
- 184 Female Campers**
- 36 Aboriginal Outreach Campers**



- 92 Workshops**
- 2193 Students**
- 3 Workshop Topics**
- 18 Mentors**

Summer Day Camps at UBC

On-campus summer camps operate in July and August. We hosted 21 on-campus camps in 7 weeks for children and youth aged 6 to 16. We had 430 participants this year, of which 39% were female. Our week-long programs were developed by our Instructors and covered a wide breadth of science and engineering topics. Some of the highlights this year included:

- LEGO Mindstorms NXT Robots
- Slime! (non-Newtonian fluids)
- Breadboard Scuttlebots
- Rube Goldberg Machines
- Building parachutes, windmills and sail cars (for testing at the UBC Wind Tunnel)

In addition to projects, we also incorporated lab tours and special guest mentors into the camps. The tours and mentors allow campers to experience how the theories they are learning are applied to real life, and learn about careers in engineering and science. This year, the campers had the opportunity to visit many facilities at UBC:

- UBC Animal Care Facility
- UBC ciTr Radio Station
- UBC Wind Tunnel
- Pacific Museum of the Earth
- CARIS Labs and Eng Phys Project Labs

Special Needs Integration Support

One of the most successful and noticeable initiatives GEERing Up! had this summer, was the incredible performance of the Special Needs Integration Support Program. Every week there were campers with life threatening allergies, and cognitive disabilities, ranging from ADHD, to autism and Down Syndrome. The Special Needs Integration Support Instructor had all of the staff trained in how to support these needs, and communicated with parents before camp to get as much detailed information as possible. All campers were treated equally within the safe space of the camp group, while staff paid close attention to warning signs, and effectively handled concerns as they happened. There were multiple success stories and lots of gratitude from parents, who had yet to find a camp with this kind of support.

2010 - Year In Review

Aboriginal Outreach Camp

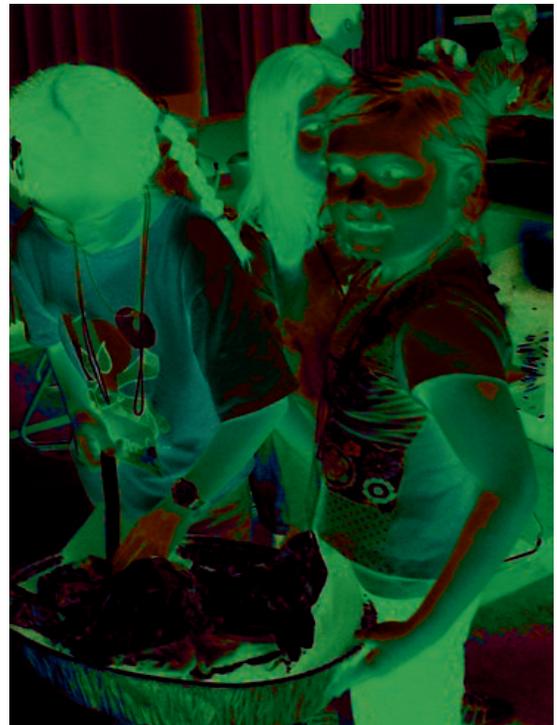
GEERING Up! has a long history of visiting the K'omoks First Nations each year to bring our programs to their community. Two Instructors and one Co-Director visited K'omoks this summer, and were eager to make a lasting impression on the nineteen participating First Nations youth.

The camp included a five day schedule with different disciplines emphasized each day. Projects included challenges with LEGO Mindstorms, creating slime, chromatography, electronic circuits, and building windmills, bridges and parachutes.

In addition to K'omoks, GEERING up! continued its annual Inner City Aboriginal Outreach camp at UBC's Point Grey campus. Through a strong partnership with CEDAR, GEERING Up! was able to engage seventeen aboriginal youth in our program.

Bursaries and Inner-City Workshops

GEERING Up! strives to make our programs accessible to all youth, regardless of their family's financial status. This year, GEERING Up! offered more than \$4,000 of bursaries to campers from low-income families with the help of Actua, Urban Systems, the GET to Camp Fund, and personal Donations. We also offered free and discounted workshops to inner-city schools. We look forward to offering more bursaries to expand our reach to youth who would be unable to attend our camps otherwise.



Girls Only! Programs

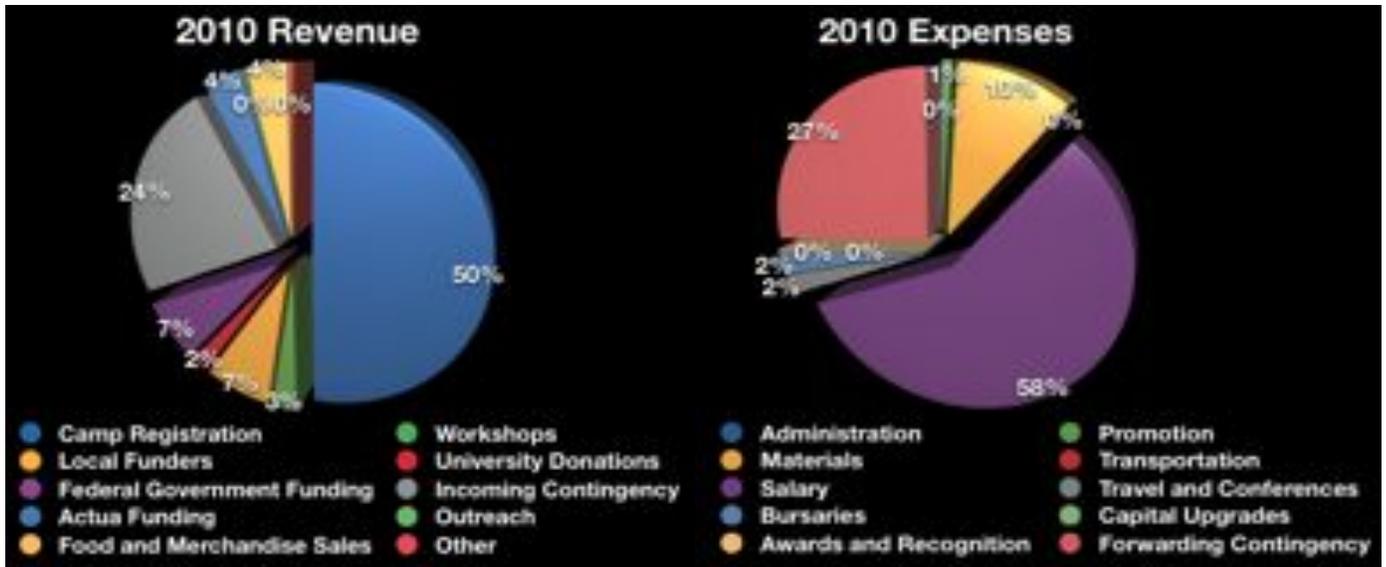
GEERING Up! fostered female representation in science, engineering and technology through Girls Only! camps this summer. The teaching materials and projects were very similar to the regular co-ed camps, but were taught in a Girls-Only! environment. Studies have shown that girls are more likely to feel comfortable learning about engineering and science in an all-girls environment, which empowers them to explore their potential.

This year, we introduced the Girls Only! campers to many female mentors to promote gender equity in engineering and science, as well as to dispel the perception of males being the more dominant in these fields. We want our girls to know that they can be outstanding scientists and engineers too!

Mentorship

This summer 18 different mentors, including professors, university students, and professionals volunteered their time to guide tours, and teach camps. Campers toured museums, robotics laboratories, and even got to touch sea turtles! These mentors were vital to the GEERING Up! camps and awesome to work with.

Fiscal Highlights



2009 Actual	2010 Projected*	2011 Budgeted	Description
REVENUE			
\$99,947.91	\$84,850.01	\$90,000.00	Camp Registration
\$8,565.38	\$4,494.00	\$6,000.00	Workshops
\$18,024.00	\$12,272.03	\$12,000.00	Local Funders
\$2,000.00	\$2,791.13	\$3,000.00	University Donations
\$15,680.00	\$11,760.00	\$10,000.00	Federal Government Funding
\$56,246.97	\$40,391.64	\$45,314.95	Incoming Contingency
\$14,450.00	\$6,300.00	\$7,000.00	Actua Funding
\$750.00	\$300.00	\$300.00	Outreach
\$7,610.52	\$6,468.00	\$7,000.00	Food and Merchandise Sales
\$624.24	\$524.63	\$0.00	Other
\$223,899.02	\$170,151.44	\$173,314.95	TOTAL REVENUE
EXPENSE			
\$7,782.57	\$242.92	\$100.00	Administration
\$8,400.00	\$1,319.18	\$1,000.00	Promotion
\$25,345.36	\$16,748.65	\$15,000.00	Materials
\$4,500.00	\$68.70	\$100.00	Transportation
\$125,010.76	\$98,328.56	\$100,000.00	Salary
\$5,900.00	\$3,789.49	\$4,000.00	Travel and Conferences
\$4,694.50	\$4,041.00	\$4,500.00	Bursaries
\$500.00	\$200.00	\$500.00	Capital Upgrades
\$1,374.19	\$97.99	\$500.00	Awards and Recognition
\$40,391.64	\$45,314.95	\$47,614.95	Forwarding Contingency
\$223,899.02	\$170,151.44	\$173,314.95	TOTAL EXPENSE

The year 2010 saw a major decline in sponsorship funding, with an overall decrease of 38%. In order to compensate for the lack of revenue, GEERING Up! scaled back programming to 21 camps operated by 10 staff compared to the 26 camps operated by 13 staff in 2009. Registration and workshop revenue was lower due to decreased programming, but this was offset by the savings on salaries.

2010 Actua Funding Breakdown	
Amount	Description
\$1,000.00	Girls Only! Tech Camps
\$1,000.00	Girls Only! Explorers Camp
\$500.00	National Bursary Program
\$300	Boys & Girls Club Workshops
\$2,500.00	Inner City Workshops
\$1,000.00	Actua Travel Subsidies
\$6,300.00	TOTAL

GEERING Up! made great savings in administration costs by integrating itself further into UBC. UBC Alumni Affairs provided a free online registration system with support, and Engineering Student Development covered nearly all office costs, such as paper and printing. The savings gained and relationships formed through cooperation with members at UBC, puts GEERING Up! in a strategic position for next year.

Fortunately BC families did not reflect the same trend as funders, enthusiastically enrolling their kids in camp, and donating generously. There was an average of 3.5 more kids per camp compared to 2009, and end of camp surveys reflected the high and enduring quality of GEERING Up! programming. GEERING Up! is pleased to have achieved another successful and sustainable year, and is well positioned to be even more prosperous.

* Includes actual revenue and expense to October 10, 2010 and anticipated revenue and expense to December 31, 2010.

Staff and Volunteers



Our Instructors

We are thrilled to have hired nine amazing instructors this year, including one Special Needs Integration Support Instructor and two French Integration Support Instructors. The diversity of their academic background provides more depth to the development of our workshops and camp curriculum. The creativity, dedication, and passion of our Instructors were evident at workshops and camps each and every day. We are very grateful to have assembled such a fantastic team!

Junior Instructors

Each year, GEERing Up! invites high school students in grades 11 and 12, as well as university students to volunteer as Junior Instructors at our summer camps. This year, we had a total of 47 JIs, several of whom had already participated in GEERing Up!. GEERing Up! continued the Junior Instructor Challenge Program, which allowed the JIs to collaborate with our Instructors to create a memorable Engineering and Science demonstrations for campers and parents during the Open House. We expanded on our pre-camp training program and restructured the JI volunteer schedule to allow JIs to participate in every camp. This well rounded approach meant that JIs could develop their leadership skills in a variety of situations, and gain a strong sense of the program as a whole. GEERing Up! would not have been able to function without their hard work, and so we would like to extend our gratitude to the students who volunteered this summer. Thank you!

Special Needs Integration Support Instructor (SNIS)

The Special Needs Integration Support Instructor position was first introduced in 2005, and due to its success, it is now a permanent part of our program. The SNIS Instructor's main role is to help integrate youth with exceptionalities into our regular camp program. Prior to the start of camp, our SNIS Instructor Michelle provided our entire team with the tools to adapt our camp programming to include campers of all types and abilities. These exceptionalities range from mild to severe and encompass challenges from learning disabilities, to ESL, to autism, to Asperger's, to physical disabilities. She provided support to campers with special needs during camps, working closely with parents, Instructors and Junior Instructors. The SNIS Instructor gives GEERing Up! Instructors support to deliver fun and exciting camps to all of our campers, regardless of ability.



"I want to pass on our thanks and enthusiasm for the GEERING Up! program. My seven year old son and his two friends attended this past week. We've done many camps with the boys over the summers and this by far is one of the best, and certainly the only program we've found that covers the concepts explored in the GEERING Up! program. The staff are bright, caring, and fun and the boys were eager to attend camp every morning. At the end of the day, all three boys were brimming with excitement about the experiments they had done, the facts they had learned, and the trips they had participated in that day."

- Catherine

UBC Engineering & Science for Kids

Thank You Sponsors!

2010 Local Funders



GET to Camp Fund

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2010 Actua National Funders



A special thanks to the following individuals and organizations for their help and support this year:

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