



2008 FINAL REPORT



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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

Actua's mission is to build science literacy among Canadian youth by providing them with positive hands-on experiences that inspire them to become learners for life and develop self confidence, creativity and critical thinking skills.

Actua supports a growing network of members across Canada who offer hands-on summer camps, workshops and community outreach initiatives to over 225,000 youth in 450 communities annually. Membership in Actua gives GEERing Up! the opportunity to access Actua's vast resource base and support through programs such as member funding (for programs such as girls' camps, Aboriginal Outreach and bursaries), training, national conferences, project development materials, and the opportunity to network with other Actua members. Please visit Actua's website at www.actua.ca for more information.

For more information on our programs and initiatives, please contact us or check out our website.

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A Word from the Co-Directors

GEERing Up!'s 13th season is marked with new partnerships, continued outreach initiatives, strong sponsorship support,, and new heights in programming quality. As a result, we have reached a record number of youth and in schools, community events, outreach programs, and summer camps.

Our outreach initiatives for under-represented youth in engineering and the sciences have expanded to include more girls, inner-city youth and Aboriginal youth in our local community. Through our continued partnership with Girl Guides BC, we expanded our visits to Richmond and Burnaby.

A new partnership this year with CEDAR (Cross-cultural Education through Demonstration, Activity, and Recreation), a UBC program that supports Aboriginal middle school students through interactive projects in science, arts and social studies created a milestone for our program. This partnership allowed us to host the first on-campus engineering camp for Aboriginal youth which prolonged the CEDAR camp experience while adding engineering to their curriculum.

We also had a record-breaking year in sponsorship and in-kind donations. The local community, in particular, was incredibly keen in supporting engineering and science youth programming. Our new sponsors this year expanded to include several non-engineering companies. This shows the great value and respect for engineering and science education across the community!

Our work experience for our instructors was greatly highly amplified with instructors taking on the most ambitious projects in GEERing Up!'s 13 year history. With the leadership of our Senior Instructor, a reintroduced position this year, the instructors had a knowledgeable source of advice, guidance and support. This year's instructor team did a fantastic job delivering a curriculum they were truly passionate about!

Overall, the year was driven by an impressive team of enthusiastic and motivated members that were greatly supported by the Faculty of Applied Science and the local community. We hope to foster the partnerships developed this year and to build upon them for 2009. As demands for camps and workshops are growing, we hope to carry the gain in support this year into helping us expand our team of instructors in 2009

Ian Cowie and Maxime Chin
Co-Directors



Our History



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 and Science for Kids to reflect the change of focus from engineering to both pure and applied sciences.



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 in having a YES camp at UBC was 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.



With continued support, we will grow to meet the demands for high-quality, educational 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. This 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 2008 marked GEERing Up!'s 13th year of success engaging youth across the Greater Vancouver area. We have developed the resources and skills necessary to deliver programs that are fun, innovative, and relevant to the formal school curriculum.

605 Campers

at

26 Summer Camps

with

222 Female Campers

48 Aboriginal Outreach Campers



5654 Students

at

257 Workshops on

4 Workshop Topics

in
20 Elementary Schools

47 Dedicated People

2 Co-Directors

9 Instructors

1 Special Needs Integration
Support Instructor

35 Junior Instructors



Thousands of Adults and Youth at Community Outreach Events

2008 - Workshops and Community Participation

Elementary School Workshops

In May and June, we delivered in-school workshops to elementary schools in six school districts in 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 promoting engineering and science to youth at a young age in hopes of sparking interest and generating excitement for each discipline.

This year we delivered 257 workshops to 5654 students from Kindergarten to Grade 7, a huge increase from the 4526 students we reached last year. Teachers had the option of choosing senior or junior versions of four workshop topics:

- ✦ Feasting Fanatics
- ✦ Science of Sports
- ✦ Much ado about Mechanics
- ✦ Extreme Environments

Each workshop was approximately two hours in length, and incorporated a host of demonstrations, activities, and a hands-on, take-home project to aid in the learning of concepts and theories. Following each workshop, classrooms are given a one year subscription to YES! or KNOW! Science Magazine, Canada's only science, engineering and technology magazines for kids.



Community Outreach

GEERing Up! participates in various community outreach events during the year. Highlights of 2008 include:

- ✦ Hosting a booth at APEGBC's E-Fest at Vancouver Public Library
- ✦ Hosting a booth at NSERC and BC Innovation Council's Science Outreach Fair at Vancouver Public Library
- ✦ Facilitating environmental-themed activities for over 1000 students at Delta Landfill's Open House
- ✦ Guest speaking at SCI-Team's Women in Science Event

Community outreach events allow us to promote our program to more parents, kids and teachers.



2008 - Camp

Summer Day Camps at UBC

On-campus summer camps operate in July and August. We hosted 26 camps in 7 weeks for children and youth aged 6-16. We had 605 participants this year, of which 40% were female. Our week-long program was completely developed by our Instructors and covered a wide breadth of science and engineering topics. Some of the highlights of this year include:

- Balsawood airplanes;
- Solar-powered boats;
- Lego Mindstorms NXT Robots;
- Windmills; and
- Water for the world.

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 situations, and learn about possible careers in engineering and science. This year, the campers had the opportunity to visit many facilities at UBC:

- Two different Robotics labs;
- UBC Animal Care Facility;
- Vertebrate Museum;
- Anaechoic Chamber;
- Wind Tunnel;
- Biodiesel Lab;
- Faculty of Forestry; and
- Hydraulics Lab.



BC Hydro Power Smart

Energy efficiency and sustainability were central themes this year for GEERing Up!, and we once again partnered with BC Hydro Power Smart. Two representatives came into our camps each week to teach campers about energy efficiency and being 'Power Smart.' Campers wrote pledges on how they would be more energy efficient in their own lives on reusable lunch bags provided by the Power Smart team.

YES and KNOW Magazines

GEERing Up! is proud to continue to offer subscriptions to YES and KNOW Mag, Canada's only science, engineering and technology magazines for kids, to our campers at a significant discount. YES Mag provides a valuable tie to the fun side of science year-round and promotes reading and independent investigation through experiments and projects.

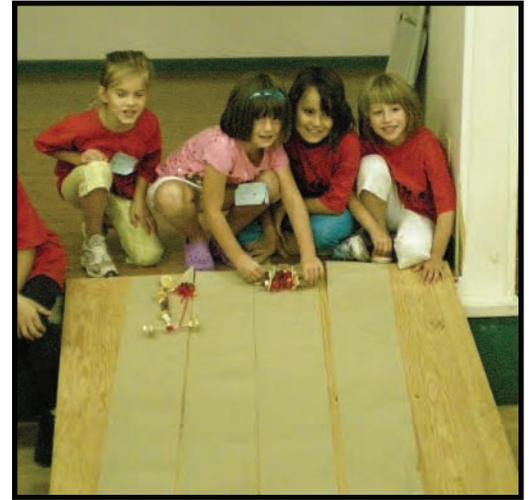
2008 - Outreach

Aboriginal Outreach Camps

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 Comox this summer, and were eager to make a lasting impression on the sixteen participating First Nations youth.

The camp placed an emphasis on sustainability. Projects included solar powered boats, windmills, and cob design. The campers also had the opportunity to learn about electronic circuits, and the older group were able to solder their own electronics project.

In addition to Comox, GEERing Up! pioneered the first annual Inner City Aboriginal Outreach camp at UBC's Point Grey campus. Through a strong partnership with CEDAR, GEERing Up! was able to engage 32 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 \$4000 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.

Girls Only! Programs

GEERing Up! expanded our Girls Only! Camps this summer by introducing an additional Girls Only! Camp. The teaching materials and projects were very similar to regular co-ed camps, but 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, in cooperation with Ms Infinity we brought in several female mentors to promote gender equity in engineering and science, as well as to dispel the perception of males being more dominant in these fields. We want our girls to know that they can be great scientists and engineers too!

During our workshop season, we continued our Girl Guide Workshop Program, a successful pilot program from last year. Teams of female instructors visited groups of Girl Guides in the Lower Mainland, leading activities related to their STEM (Science, Technology, Engineering and Math) modules. The girls were engaged in engineering and science and earned some badges along the way!



Staff and Volunteers



Our Instructors

We are thrilled to have hired nine amazing Instructors this year. The diversity of their academic backgrounds 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 great team!

Senior Instructor

This year we re-introduced the Senior Instructor Position to oversee learning outcomes and curriculum development. Pamela, a returning staff member, created Teacher Packages that included Engineering and Science curriculum resources, workshop specific learning outcomes, and follow-up activities for students to reinforce the concepts taught during our in-school workshop. Pamela also provided us with training in age appropriate concepts, prescribed learning outcomes, and classroom management strategies. The Senior Instructor gives GEERing Up! confidence in our ability to deliver appropriate and challenging curriculum to our campers.

Junior Instructors

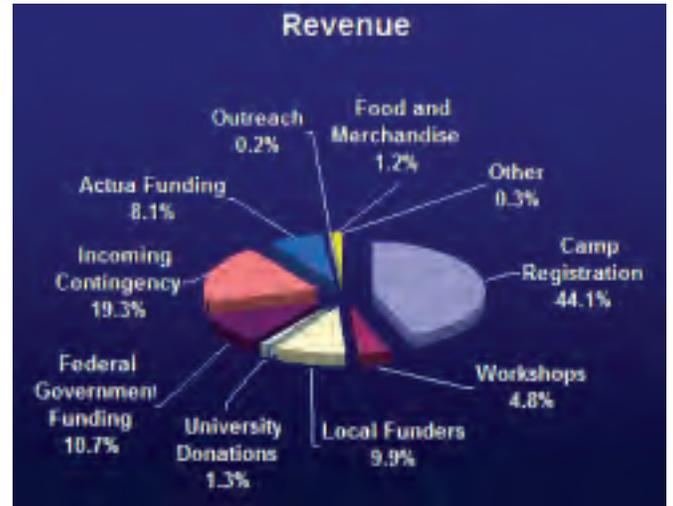
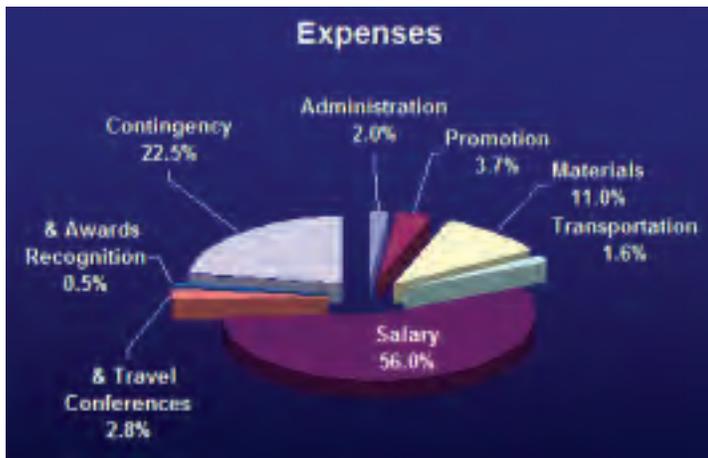
Each year, GEERing Up! invites high school students in grades 11 and 12, as well as university students to volunteer as Junior Instructors at our summer camp. This year, we had a total of 45 JI's, several of whom were past campers. This summer we piloted a new Junior Instructor Challenge Program that allowed our Junior Instructors to collaborate with our Instructors to create a memorable Engineering and Science Performance for campers and parents during our Open House. GEERing Up! would not have been able to function without their help, and so we would like to extend our gratitude to the students who volunteered this summer.

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 us with a training session on exceptionalities. 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 our campers, regardless of ability.



Fiscal Highlights



2007 Actual	2008 Projected*	2009 Budgeted	Description
REVENUE			
\$101,047.00	\$99,990.00	\$125,000.00	Camp Registration
\$12,320.00	\$10,816.00	\$12,000.00	Workshops
\$8,330.00	\$22,458.00	\$15,000.00	Local Funders
\$160.00	\$3000.00	\$2,000.00	University Donations
\$19,320.00	\$24,360.00	\$10,000.00	Federal Government Funding
\$39,172.19	\$43,721.94	\$52,121.94	Incoming Contingency
\$13,750.00	\$20,000.00	\$15,000.00	Actua Funding
\$700.00	\$500.00	\$500.00	Outreach
\$2,446.61	\$2764.15	\$2,500.00	Food and Merchandise Sales
\$535.76	\$687.26	\$500.00	Other
\$197,781.56	\$199,481.56	\$231,621.94	TOTAL REVENUE
EXPENSES			
\$6949.95	\$3,805.00	\$9,000.00	Administration
\$10,480.34	\$7,091.80	\$10,000.00	Promotion
\$17,045.36	\$21,337.00	\$25,000.00	Materials
\$4,403.46	\$3,047.51	\$7,000.00	Transportation
\$103,311.74	\$108,572.10	\$120,000.00	Salary
\$6,345.42	\$5,374.51	\$6,500.00	Travel and Conferences
\$511.89	\$950.00	\$1000.00	Awards and Recognition
\$43,721.94	\$43,721.94	\$43,721.94	Forwarding Contingency
\$197,781.56	\$197,781.56	\$199,821.94	TOTAL EXPENSES

Stability and Sustainability

The 2008 fiscal year for GEERing Up! was extremely positive. The Co-Directors focused on bringing in new local sponsors to pave the way for additional Girls Only and Aboriginal Outreach camps. By doing so, GEERing Up! was able to secure \$20,128.00 in new funding and guarantee the stability and sustainability of future GEERing Up! initiatives.

Amount	Description
\$1,000.00	National Bursary Fund
\$3,700.00	Aboriginal Outreach Fund
\$2,900.00	Girls Outreach Fund
\$1050.00	Travel Subsidy
\$6,100.00	Go Where Kids Are Fund
\$3,750.00	BC Provincial Partners
\$1,500.00	Health Sciences Fund

Overall expenses were up from last year due to an increased camp materials budget. We also added an online registration system that saved hundreds of hours in administration work that was needed with last year's paper registration.

To summarize, 2008 was a year that focused on quality and not quantity. Although, we did increase our camps slightly from last year, the quality of the camps saw dramatic improvement. In 2009, GEERing Up! will have the financial capabilities to expand camp once again by adding two additional instructors. It is a very exciting time for GEERing Up!; the sky is the limit for our future endeavors.

* Includes actual revenue and expense to October 1, 2007 and anticipated revenue and expense to December 31, 2007.



UBC Engineering & Science for Kids

Thanks to everyone who supported us this year!

2008 Local Funders



UBC Food Services

Raquets & Runners

Fluor Canada Ltd.

2008 Actua Provincial Partner



2008 Actua National Funders



Dr. Bruce Dunwoody
 Ellen Siu
 Erin Biddlecombe
 Kishani Gibbons
 GEERING Up! Board of Advisors
 COE Lumber
 John Gendron
 Cheryl Kinkaid
 UBC Faculty of Applied Science
 UBC Classroom Services
 UBC Custodial Services
 UBC Department of
 Civil Engineering
 UBC Pottery Club
 GET to Camp Fund
 Actua National Office
 and Member Camps
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 Joanna Mackie
 Elise Ng
 Dan
 Monique Desroches
 Dr. Mackenzie Parker
 Dr. Michele Ng
 Dr. Gail Murphy
 Dr. Andre Marziali
 Dr. Peter Ostafichuk

and all of our amazing Junior Instructors!