

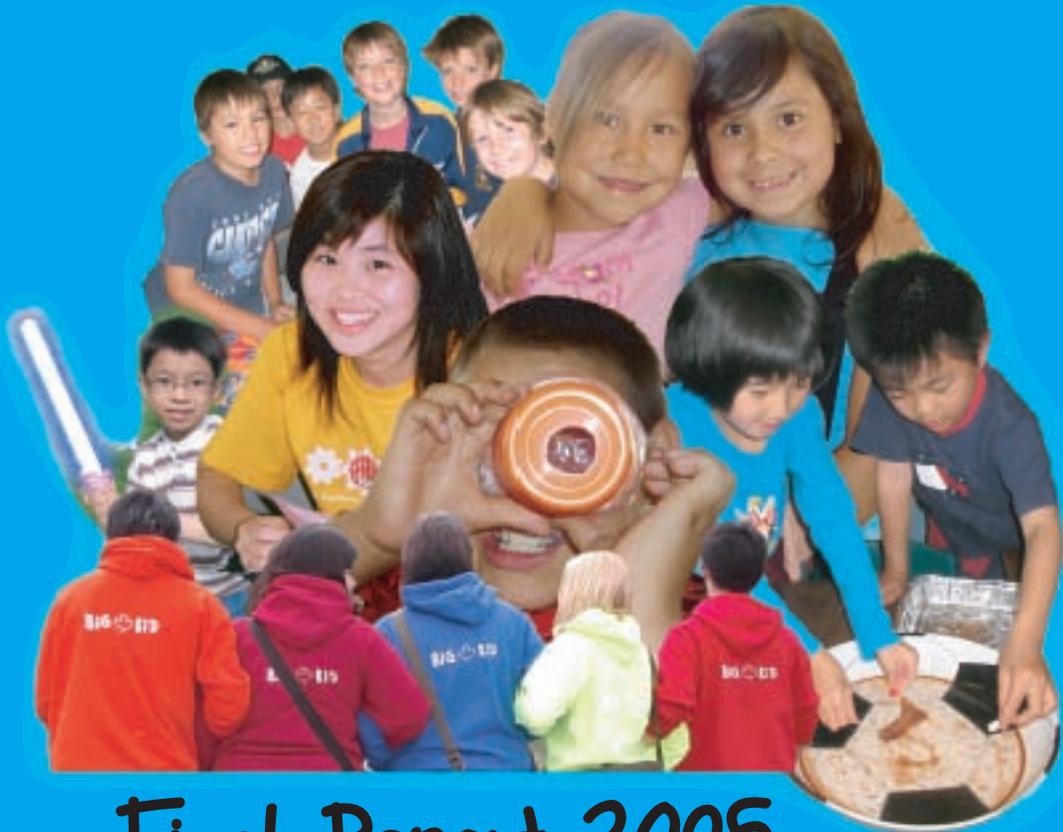


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Learning for Change...
Découvrir pour demain...

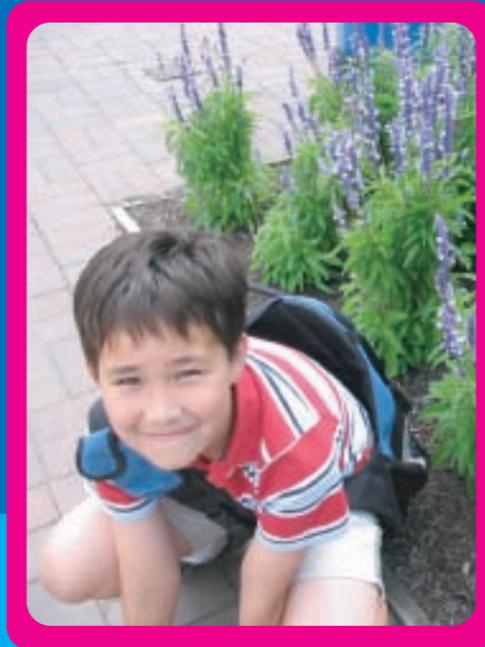
UBC Engineering & Science for Kids



Final Report 2005

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. Affiliated with the Faculty of Applied Science at UBC, GEERing Up! 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.



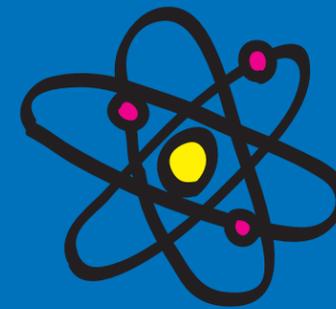
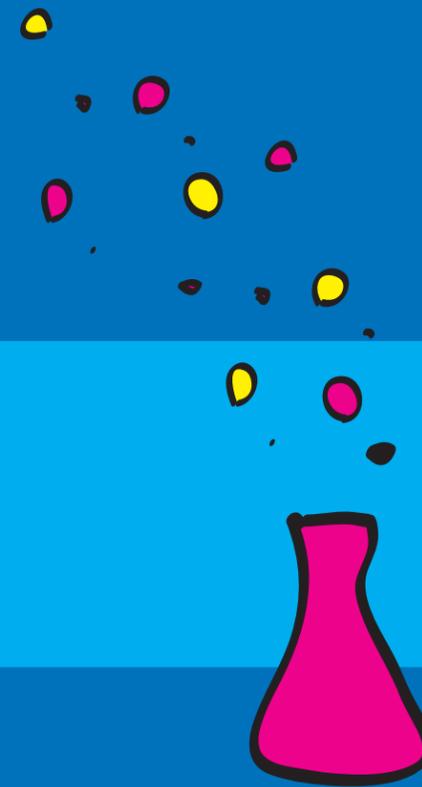
"We've been really lucky! Every year we've had dynamic instructors who interacted enthusiastically with the students and delivered an informative workshop."

-Kam Sahota, teacher

GEERing Up! is proud to be a member of Actua, a not-for-profit organization and registered charity that supports a network of engineering and science programs across Canada. Established in 1993, the mandate of the organization is to increase the scientific and technical literacy of Canadian youth. Actua programs reach over 225,000 children and youth every year through hands-on, interactive programs focused on science, engineering and technology. Membership in Actua provides GEERing Up! access to numerous resources including training, national conferences, project development materials, the opportunity to work with like-minded organizations, member funds, and other forms of support. Please visit Actua on the web at www.actua.ca.

"It's fun to learn about science and engineering!"

- an Inventor camper



"The important thing is not so much that every child should be taught, as that every child should be given the wish to learn."

- John Lubbock

We have a vision for a better British Columbia. A British Columbia where every kid is excited about engineering and science. Where curiosity abounds and imagination is rewarded. At GEERing Up! we reward curiosity, encourage observation and imagination, and turn kids on to engineering, science and technology. Our programs cross barriers, and provide support for children from groups traditionally underrepresented in the sciences. Whether at our Girls Only! camps, our free workshops in some of Vancouver's downtown eastside elementary schools, our Aboriginal Outreach satellite camps, or in our Explorers, Imagineers, Inventors, and Innovators day camps, every child is given the opportunity to explore and discover the wonders of engineering and science.

2005 marked our tenth anniversary as a program, and the occasion has been marked with fantastic growth this summer. We offered more workshops, had more campers, increased our percentage of female enrollment for the second year in a row, piloted a new rural outreach program in Queen Charlotte City, and started a second Aboriginal Outreach satellite camp. Our staff grew, as well, with a new camp instructor position created, and the addition of a Special Needs Integration Support Worker to our team.

The tremendous growth and success we have had did not happen on its own. Our thanks goes out to the UBC Faculty of Applied Science, Actua, our sponsors and our community for all their support of our program. We also send our gratitude and appreciation to our amazing staff and volunteers for all of their hard work and dedication. Their passion for the program is what made this possible. Thank you.

Over the past ten years, GEERing Up! has reached thousands of children and youth and given them the opportunity to begin a lifelong exploration of engineering and science. We hope that you will join us again next year as we introduce even more kids to the possibilities of discovery.

Thank you for sharing this year with us,

Jen and Lana

Jennifer Ross and Lana Rupp
Co-Directors, 2005

2005 Fiscal Highlights

	Actual 2004	Projected 2005*	Budgeted 2006
Revenue			
Registration	\$80,499	\$91,682	\$106,031
Personal Donations	-	\$185	\$160
Industry Donations	\$9,479	\$23,025	\$27,775
Foundation Grants	\$6,560	\$1,500	\$3,000
University Donations	\$10,630	\$3,075	\$3,000
Federal Government - Wage Subsidies	\$4,032	\$6,080	\$4,800
Actua	\$4,600	\$4,640	\$7,000
Other	\$2,802	\$4,016	\$2,928
Previous Surplus	-	\$5,970	\$18,801
Total	\$118,602	\$140,173	\$173,495
Expenses			
Administrative	\$2,622	\$8,453	\$3,100
Advertising / Promotions	\$6,118	\$9,241	\$9,125
Project Materials	\$6,609	\$7,137	\$13,425
Transportation	\$1,474	\$1,689	\$1,815
Salaries and Training	\$68,370	\$79,996	\$113,530
Travel	\$2,731	\$4,755	\$5,300
Receptions	\$2,107	\$2,655	\$3,200
Special Programs	\$6,937	\$6,694	\$8,000
Other	\$512	\$752	\$1,000
2002 Program Expenses	\$15,152	-	-
Contingency Fund	-	-	\$15,000
Total	\$112,632	\$121,372	\$173,495
Revenue - Expenses	\$5,970	\$18,801	-

*Includes actual revenue and expenditures to September 30, 2005 and anticipated revenue and expenditures to December 31, 2005.



Overall revenue is up from 2004, a trend that will continue in 2006 as the program continues to grow.



Registration revenue saw a large increase due to the record number of campers we saw this summer. Industry donations have also continued to grow. Foundation and university donations are down, but this was predicted due to the large one-time donations we saw in 2004. The university was also able to allocate the program a larger share of the federal government Summer Career Placement grants that it receives than previous years.



Administrative expenses were high in 2005 due to a few large expenditures: the creation of an online registration system (which was donated in-kind), and the necessary purchase of computer monitors and a printer. Advertising expenses were also up, as new brochures were printed this year. Salary expenses increased considerably, with the creation of two new staff positions: a seventh instructor for the camp portion of the summer, and the introduction of a Special Needs Integration Support Instructor. Travel expenses also show an increase, due to a change in accounting that now shows our actual expenses before a related donation from Actua.



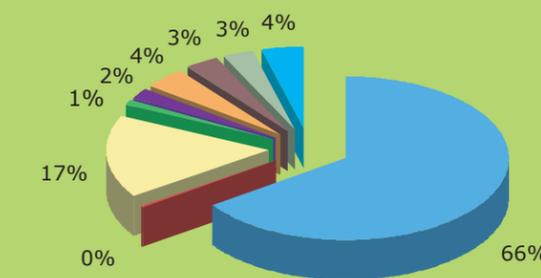
We will be entering into the 2006 fiscal year in a surplus, a planned position that will enable the program to expand considerably by offering a fourth camp each week. Our budgeted increase in registration revenue is accounted for by these additional programs. This corresponds to the budgeted increase in project materials expenses, and many other overall expense increases.



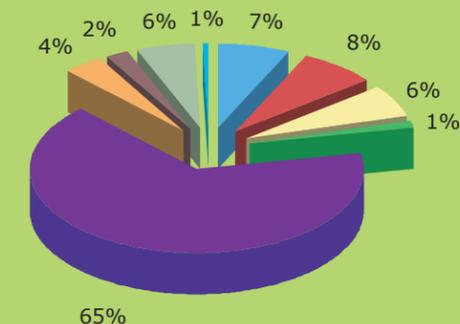
The large increase in salary and training expenses for 2006 reflect the creation of the two new instructor positions to run our fourth camp, and the expansion of one of the Director positions to be a year-round, full-time position. GEERING Up! has undergone substantial growth over the last few years, and is now primed to grow further. The growth is not sustainable without this added administrative and teaching support. The position will also allow us to plan further expansions and more outreach opportunities in future years.

A contingency fund of 8.5% is also included in the 2005 budget.

2005 Revenue Sources



- Registration
- Personal Donations
- Industry Donations
- Foundation Grants
- University Donations
- Federal Government - Wage Subsidies
- Actua
- Other
- Previous Surplus



- Administrative
- Advertising / Promotions
- Project Materials
- Transportation
- Salaries and Training
- Travel
- Receptions
- Special Programs
- Other

2005 Expenses

GEERING Up! 10 Years of Discovery

When Dr. Ian Gartshore, then Associate Dean of the Faculty of Applied Science at the University of British Columbia, first approached a group of students about starting a non-profit group to introduce youth to the world of engineering back in 1995, he could never imagine what the idea could become. In ten short years, GEERING Up! UBC Engineering & Science for Kids has become a dynamic and highly visible organization of dedicated undergraduate students with a vision of exposing every student in the province to the wonders of science, engineering and technology.

Dr. Gartshore introduced the group of students to Actua (then known as YES (Youth Engineering and Science) Camps Canada), and the remarkable work that had begun at other institutions across our country. Excited by the possibilities, Ms. Christine Yeung and a group of other dedicated undergraduate volunteers started planning GEERING Up! UBC Engineering for Kids as part of their fourth year design project. Their goal was to show youth in the community that engineering was not just building bridges and driving trains, but a complex profession mixing science and theory with the real world in order to design and construct everything imaginable, from industrial chemical processes, to aircraft, to environmental models, to cities.

In 1996, after securing a solid commitment from the Faculty of Applied Science, the students set out, offering in-class workshops to elementary schools in the Lower Mainland and engineering camps to youth during the summer. Both children and parents alike were receptive to the idea of learning about science and engineering through fun, hands-on projects, and the program flourished. In 1999, the program expanded by running additional camps in the summer and a high school camp program in the fall of 1999.

By the year 2000, the organizational structure of GEERING Up! had substantially evolved to accommodate the increasing number of youth being reached and the growing number of undergraduate students becoming involved in running the program. The year also marked the beginning of our Aboriginal Outreach and All-Girls initiatives, the next steps in our continuing commitment to reach out to children in areas traditionally underrepresented in science, engineering and technology fields.

As GEERING Up! continued to change and evolve, it became apparent that the focus of the program was not purely engineering as kids needed to learn the science basics before they could apply them, and so in 2002 the program changed its name to GEERING Up! UBC Engineering & Science For Kids. The year was also one of growth and market testing, which unfortunately left the summer of 2003 faced with financial difficulties. The program quickly rebounded from this setback, and has continued to grow, with more campers reached every summer since, and the debt was completely eliminated in 2004.

2004 also saw the restructuring and development of several programs, including the creation of the Junior Engineer Leadership Program (to replace the former volunteer program), and the retooled and renamed Young Women in Science, Engineering and Technology program (replacing a mentorship program retired several years prior).



10 UBC Undergraduate students employed
29 High school and university student volunteers
Over 2000 volunteer hours total



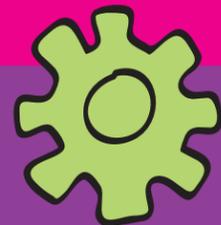
May/June:
6 communities
20 schools
143 workshops
3400 kids



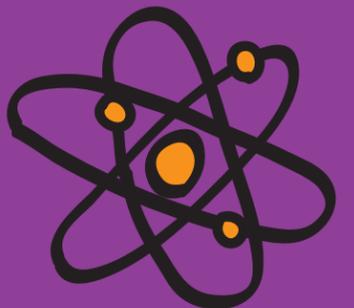
July/August:
560 campers
43.5% female
56.5% male
15 with bursaries
58 in Aboriginal Outreach



BY THE NUMBERS



200 youth at community events:
APEGBC's E-Fest at Vancouver Public Library,
Vancouver CAGIS' opening event, UBC Euclid
Day, elementary school visits to Mechanical
Engineering department at UBC, Indigo Books'
Midnight Harry Potter book launch



21 Rural Outreach participants

Our Programs!

New Initiatives!



Junior Engineer Leadership Program

Started in 2004, our Junior Engineer Leadership Program welcomes high school and university students to the GEERING Up! team with a fifteen hour training weekend and continued career and educational planning support throughout the summer. This year 29 students participated in the program and were trained in classroom management, public speaking, activity planning and execution, working with people with exceptionalities, teamwork and taking initiative. Many of our Junior Engineers also participated in the optional resume writing, job interview and college planning workshops taught by the GEERING Up! instructor team.

We strongly believe that the experiences and education received by our Junior Engineers will give them the confidence and skills to succeed in all their future endeavors. The program is free to the participants, thanks to the generous support of BC Hydro. We are also pleased to note that this year two of last year's participants became 2005 Actua member camp staff, one at GEERING Up! and one at our sister camp, Science Alive (in Burnaby).

Workshops and Teacher Packages

Each May and June GEERING Up! takes to the streets with a series of workshops offered to elementary classrooms across the Lower Mainland. These two hour interactive presentations are designed to complement the school curricula and engage young minds through demonstrations and hands-on projects. This year our talented team of undergraduate instructors brought Sensational Structures, Project K: Elasticity and Springs, and The World Surrounds Us: Environmental Awareness to 3400 young minds.

This year our workshop season was a resounding success with every available spot booked and rave reviews from teachers and students. "What an incredible program!" said one teacher, "Keep up the good work! Super instructors." The season's workshops were sponsored by British Columbia Transmission Corporation.

One feature that makes GEERING Up! workshops distinct from those of other science resource groups in the Lower Mainland is our in-depth teacher packages. Containing an overview of the lessons and projects taught in addition to potential follow-up activities and useful resources, the packages help teachers integrate GEERING Up! workshops into their overall teaching strategies, and helping our impact go beyond the two hours we are in the classroom.

Summer Day Camps at UBC

In the summer of 2005, GEERING Up! hosted 21 week-long summer day camps for children and youth aged 6 to 18, including specialty camps such as Aboriginal Outreach, Girls Only! camps, and our Young Women in Science, Engineering and Technology Mentorship program. We reached record numbers of campers this year, with 560 participants, 43.5% of which were girls! Our project-based camps are designed to introduce young minds to the fun and challenging aspects of engineering, science and technology, with projects ranging from computer programming to roller-coaster building to chemical electroplating. This year we were fortunate enough to continue our partnership with the UBC Botanical Garden, as well as having the chance to visit the UBC Thunderbird Autonomous Jeep project.

This spring we introduced online registration services and demand for the summer camps far exceeded the number of students we could host. For 2006, we hope to expand to an extra camp per week and hopefully introduce a technology based stream. We are especially proud to have improved our accessibility with the addition and expansion of several initiatives, such as the opening of a second Aboriginal Outreach satellite location in Keremeos, BC, and the introduction of a Special Needs Integration Support Instructor. We are proud to continue offering high quality, original programming that is affordable and accessible to all interested families. This year marked the GEERING Up!'s 10th year of camps and it was a spectacular one!

A camp with a difference! At GEERING Up! we believe that engineering, science and technology should be for everyone, regardless of gender, background, skill level, special considerations or resources.

Rural Outreach

GEERING Up! piloted a new Rural Outreach project this year at the Living and Learning School in Queen Charlotte City. Our goal in running rural programs is to expose kids to engineering and science who would normally never be able to attend a program like ours. We ran four full days of programming in this small school of 21 students in grades one through six. The program was met with great success. As one student said at the sharing circle at the end of one of the camp days, "My wing [best part of the day] was the whole day, and my root [worst part of the day] was that I have to go home!" For another testimonial on this new initiative, please see the back cover of this report.

Special Needs Integration Support Instructor

This summer, with the support of the Leon and Thea Koerner Foundation, GEERING Up! was able to add an exciting new member to our summer team. Our Special Needs Integration Support Instructor, Jacqui, provided students with identified exceptionalities and those just requiring an extra boost with the extra attention they needed to succeed and excel. This year we were also able to offer camp spaces through the Developmental Disabilities Association to kids who would normally not be able to experience a camp like ours. Our Special Needs Integration Support Instructor contacted parents of children with identified special needs and tailor our program to meet their specific needs. She then provided adjustments, extra help and modifications to students in all of our camps wherever it was needed. Additionally Jacqui provided training to the GEERING Up! staff on identifying and helping those with exceptionalities in the camp environment. We feel that this initiative benefits all children at our camps by providing diversity and inclusion.



Free Workshops

With the support of British Columbia Transmission Corporation, GEERING Up! was able to offer more than a dozen free workshops to classrooms in socio-economically disadvantaged areas this spring. By bringing our exciting and interactive programming into these classrooms, we are reminding these kids that science is for everyone - including them. When we leave their classrooms, we leave behind hope for continued education and a good career - and a note for the teacher that explains our camp bursary program.

Our Initiatives!

Community Outreach

We at GEERing Up! believe soundly in giving back to and participating in our community during the fall, winter and spring. This past year we have promoted science, engineering and technology through a variety of guest appearances and activities, including APEGBC's E-Fest in March, this summer's Harry Potter book launch at Indigo books, and a variety of workshops and competitions for guest groups to UBC. Look for us and bowls of icky, gooey slime at a community event near you!

Girls Only! Week

Several studies have shown that girls are more likely to get in there and get dirty when they are in a single-gender environment, so GEERing Up! once again kicked off the summer with our Girls Only! camps, Discoverers (ages 6-8) and Developers (ages 9-12). These camps are similar to our standard summer camps but provide a unique environment where girls rule the roost, encouraging them to explore and challenge themselves in the sciences. This camp is run in conjunction with York House School.

Bursary Program and Affordability

GEERing Up! strives to keep all of our programs affordable. Our camp fees (\$160 for campers aged 6-12 and \$180 for campers aged 12-18) have remained constant again this year, making our program one of the most affordable in the Lower Mainland. Additionally, we offer full and partial bursaries to any family demonstrating need. Full bursaries also include a year's subscription to YES Mag to keep the excitement of science, engineering and technology alive year round. Generous support from Actua (through RBC Financial Group), the UBC Pottery Club, and personal donors makes this program possible.

Young Women in Science, Engineering & Technology Mentorship Program

Introduced in 2004, YWSET is a truly unique week for young women in highschool. Coupled with a half week of camp, the mentorship experience takes girls out into their desired fields for a day at work with a talented, dynamic and interesting female mentor. This year's participants did everything from exploring the world of marine biology at the UBC branch of Project Seahorse, to investigating medicine in the UBC Biomechanical Injury Labs and at Vancouver General hospital. Then the young women passed on the experience and excitement to Girls Only! week campers by creating slideshow presentations at camp. This program was offered with generous support from BC Hydro.

Aboriginal Outreach

GEERing Up! prioritizes outreach to groups traditionally underrepresented in the pure and applied sciences. This year we expanded our Aboriginal Outreach program and were able to offer two satellite camps in the BC communities of Courtenay (in conjunction with the K'omoks First Nation) and Keremeos (with the Lower Similkameen First Nation). The outreach camps offer an exciting hands-on approach to science, engineering and technology and help how kids that science is fun! Generous support from local partners, the Shell Actua Aboriginal Outreach Fund, McGill and Associates Engineering, BC Hydro, and Terasen has made these camps possible.

YES Mag Literacy Program

GEERing Up! is proud to continue offering subscriptions to YES Mag, Canada's only science, engineering and technology magazine for kids, to our campers at significant discount. One year subscriptions, normally \$22, are available at the camp for the cost of \$15. Additionally, YES Mag subscriptions are included in our full bursary packages and individual copies are provided to elementary school classrooms along with our workshops. YES Mag provides a valuable tie to the fun side of science year-round and promotes reading and independent investigation through experiments and projects.

Thank You To Our 2005 Sponsors

Platinum:

BC Hydro
British Columbia Transmission Corporation
Government of Canada Summer Career Placement Program, with support from the UBC Faculties of Applied Science and Science

Gold:

7 Breaths - Jesse Sherlock

Silver:

Leon and Thea Koerner Foundation
McGill and Associates Engineering
Terasen
UBC Botanical Gardens
UBC Department of Mechanical Engineering
Weyerhaeuser

Bronze:

Fluor Canada
UBC Faculty of Science

Iron:

Staples - UBC Village
UBC Pottery Club

Personal Contributions:

Jacqui Moffatt
Marika and Ron Townshend

Provincial:

Scientists and Innovators in the Schools

Actua National Funders:

NSERC
RBC Financial Group
L'Oréal Canada
Canadian Engineering Memorial Foundation
Merck Frosst Canada



We would also like to thank the following individuals and organizations for their help and support this year:

John and Corinne Ross, Lila and Andy Rupp, Marcia Wilson, UBC Faculty of Applied Science, Dr. Bruce Dunwoody, Peter Grant, Paul de Leon, Cheryl Kinkaid, Yuki Matsumura, Brian McMillan, Hillary Gosselin, Ruth Kwok, Mary Murphy, Susanne Milner, Rob Bacon, UBC Engineering Undergraduate Society, UBC Department of Mechanical Engineering, Dr. Gary Schajer, Barb Sage and York House School, all of our YWSET mentors, UBC Farm Wonders, CEDAR camp, UBC Summer Science, the Developmental Disability Association, Comox Indian Band, Wachiay Friendship Centre, the Lower Similkameen Education Centre, the Actua National Office, and all of the other Actua camps.

"This program was fantastic. Students were engaged in active, hands on learning experiences. This motivated students to investigate, question and communicate in advanced scientific terms. The program was instrumental in expanding student's awareness of the scientific process in a fun and exciting way. The GEERING Up! program demonstrates how science is all around us and applies to everyday life. Teaching students how Newton's Laws relate to their everyday lives allows students to relate to science in a real, fun and exciting way. Our school fully supports the GEERING Up! program and hopes that it continues to have the opportunity to engage and expand the minds of our youth."

- Rebecca Horton
Principal of the Living and Learning School
Queen Charlotte City

Thanks to the Staff of 2005:

Co-Directors:

Jennifer Ross, Education

Lana Rupp, Biology / Mechanical Engineering

Head Instructor:

Stacey Shkuratoff, Electrical and
Computer Engineering

Instructors:

Lindsay Holliday, Education

Brian Lee, Mechanical Engineering

Alex Leung, Integrated Sciences

David Riendl, Honours Chemistry / Education

Doug Skinner, Chemical Engineering

Kristy Wiens, Mechanical Engineering

Special Needs Integration Support Instructor:

Jacqui Moffatt, Human Kinetics

Your commitment and dedication
makes this program possible.

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