2016-2017

# Annual Report

The 35th Annual
GREATER VANCOUVER
REGIONAL SCIENCE FAIR

gvrsf.ca

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## About the Greater Vancouver Regional Science Fair

The Greater Vancouver Regional Science Fair (GVRSF) is the regional science fair for 10 school districts encompassing a wide area of the Lower Mainland area. It is open to over 100,000 students from grades 7 to 12 attending public, separate, independent, private and home schools.

Our annual Science Fair event offers over 300 students in grades 7 to 12 the opportunity to showcase their original scientific research or innovation projects to their peers, university students and professors, parents, industry experts, and more. Students of high caliber projects may be selected by a volunteer group of judges to represent their school at higher levels of competition nationally and internationally. In addition to project exhibition, the Greater Vancouver Regional Science Fair offers various student and educator workshops, research lab tours, fun student activities, and a remarkable science show.

The GVRSF Society is a registered charity and non-profit organization run by a diverse group of dedicated volunteers from business, education, and industry.

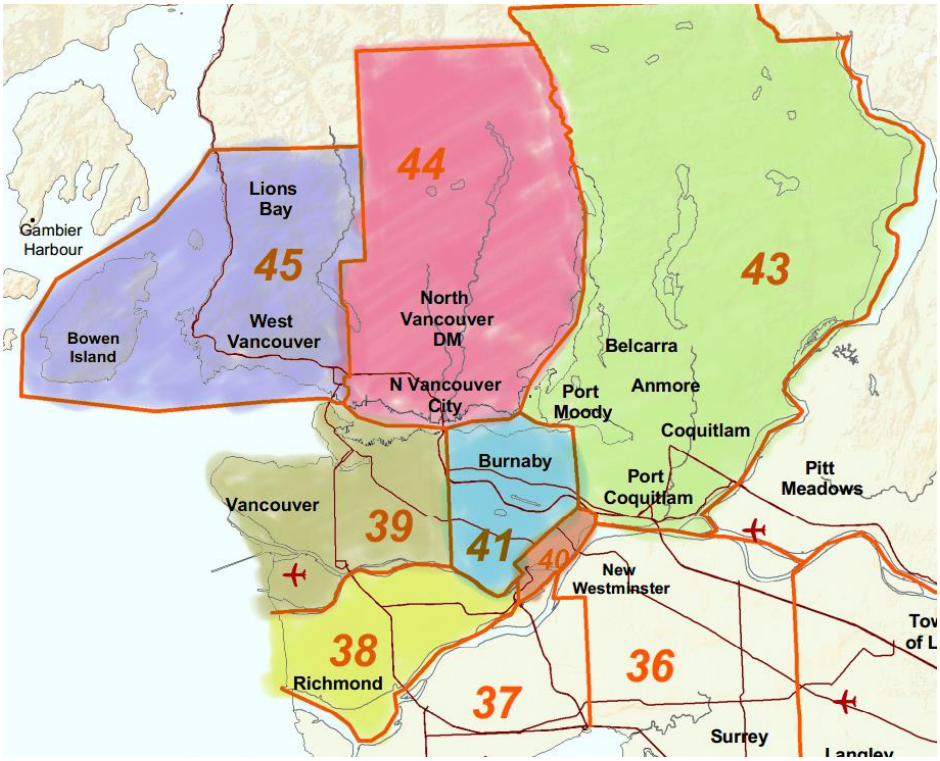



*Figure 1 Highlighted are the 10 school districts in the Greater Vancouver Regional Science Fair area.*

## Why Science Fair?

Our mission is to promote project-based science and encourage youth to conduct research and experimentation in areas of science, technology, engineering, and mathematics.

Science fairs can be found at school, district, regional, national, and international levels for students of all ages. The Greater Vancouver Regional Science Fair provides the opportunity and resources for students in grades 7 through 12 to create and develop original scientific research or innovative projects with the goal of sharing their research and development to their peers and the community.

The networking with other students, educators, researchers, industry experts, parents, and scientists allow for knowledge to be shared and exchanged, and for new opportunities to manifest.

Students who build projects and participate in science fairs always agree that they had fun doing the work while learning something new about the world around them. Their science fair project work provides an opportunity to extend science beyond the classroom and to take an in-depth look at a topic that is of personal interest.

# The Greater Vancouver Regional Science Fair Society

The Greater Vancouver Regional Science Fair is organized by a group of dedicated volunteers who meet regularly throughout the year to plan for this incredible event. The committee is comprised of teachers, education administrators, industry professionals, as well as regional, national, and international science fair alumni.

We welcome additional volunteers and encourage you to contact us if you're interested in contributing to promote youth research projects.

## Executive Committee

Robert Young
*Chairperson*

Stephanie Chong
*Treasurer, Sponsorship, Awards*

Dr. Leonard Foster
*Chief Judge*

Dr. Eugene Chu
*Vice-Chair*

Jessica Jiang
*Secretary*

## Committee Members

Alexander Fortin
*Administrative*

Devon Ross
*Regional Coordinator*

Kenzo Vlasman
*Videography*

Anne-Marie Simard
*Registration, Judging*

Dr. David Grant
*Registration, Judging*

Kit Doan
*Supplies and Inventory*

Arooj Hayat
*Ambassador Program*

Dr. Hamid Ghanbari
*APEGBC Liaison*

Madeleine Guenette
*Outreach, School Tours*

Brian Le
*Event Experience*

Jaclyn Ko
*Registration, Front Desk*

Patti Leigh O.B.C. (MSSFE)
*Founder*

Caedmon Nash
*Fundraising, Judging*

Janice Pang
*Student Activities*

Ray Liu
*Student Activities*

Carina Harris
*Sponsorship, Awards*

Jeffrey Mah
*Photography*

Sahar Ziaei
*Marketing, Media*

Carol Dou
*Lab Tours*

Jessica Zhang
*Marketing, Media*

Vlad Pomogaev
*Webmaster*

Clara Westwell-Roper
*Ethics*

Jieqing Xu
*Post-secondary Seminar*

Zahra Pakzad
*Science Show Coordinator*

Dennise Dombroski
*Supplies and Inventory*

Joy Wang
*Graphics and Ceremonies Design*

## Members at Large

Kevin Shi

Len Reimer

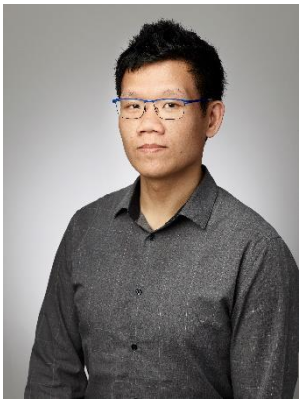
Philip Edgcumbe

Kristin Lee

Michael Peters

# Chair's Message

Dear stakeholders and interested parties,



I am pleased to announce the completion of another successful year for the Greater Vancouver Regional Science Fair (GVRSF). The 2017 GVRSF, the 35th year for our fair, is marked with continuous improvements from feedback of previous years. As we settle in our new venue at the AMS Student Nest at UBC, we look to optimize our event for this generation of students. We have reached capacity again this year with a near record number of students and projects at 306 students and 226 projects – maintaining the momentum from last year.

The Greater Vancouver Regional Science Fair is only possible thanks to the continued support from our sponsors and partners, as well as the dedication and the hard work of our organizing committee and volunteers during the fair.

Looking forward to 2018, our primary goals will be to better develop our marketing profile in order to gain a larger presence within the media, to continue to build our sponsorship base, and to move to an online payment registration system. The big picture goal is to get more and more students involved in developing inquiry based projects around their own personal interests in science, technology, engineering, and mathematics as well as their questions about the world around them.

Having been on the organizing committee for the GVRSF since 2007, I am humbled to have the opportunity and support of the members of the Greater Vancouver Regional Science Fair Society to serve as the Chairperson starting in the 2017 year. Together, the organizing committee will continue to grow the science fair movement in the Lower Mainland.

Robert Young, B.ASc., EIT
Chairperson

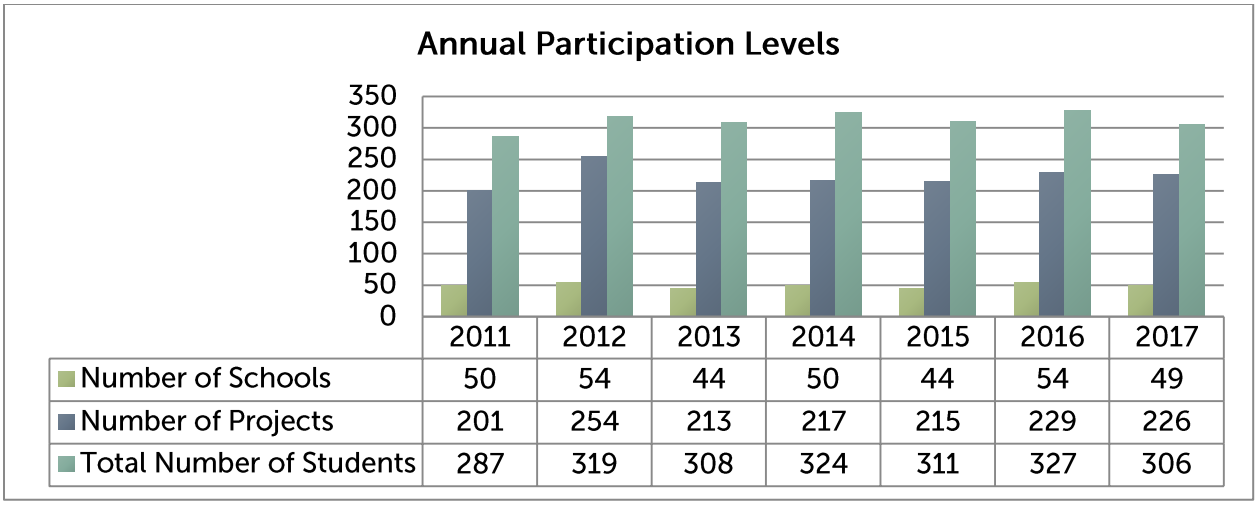
## 2017 Science Fair, A Recap

This year, the 35th annual Greater Vancouver Regional Science Fair was held on April 6th, 7th, and 8th again at the AMS Student Nest at the University of British Columbia (UBC). The University of British Columbia has hosted the Greater Vancouver Regional Science Fair since 1993. The UBC Faculty of Science's generous annual donation to the GVRSF Society includes, among other things, the cost of this venue.

This year, our organizing team of over 30 volunteers hosted 306 students from 49 schools across the Lower Mainland. Together, there were 226 projects; 97 junior (grades 7 and 8), 90 intermediate (grades 9 and 10), and 39 senior (grades 11 and 12). We also hosted over 200 science and technology professionals from industry, research, and academia who volunteered as judges during the adjudication periods.

Students showcased their projects in the fields of discovery, energy, health, information, environment, innovation and resources. Beyond showcasing their projects, participants will also have the opportunity to visit research facilities at the University of British Columbia, attend an exhibition showing the science behind magic by Lon Mandrake, and build lasting friendships with other participants from across their region. As in previous years, school groups and classrooms were invited to tour the exhibition area on the Friday of the fair; and the general public were invited to view the student projects on the Saturday morning of the fair. Awards available this year included trophies, scholarships, travel awards, and cash prizes valued at more than $35,000.

Students' feedback about the Greater Vancouver Regional Science Fair continues to be positive, with many students walking away at the conclusion of the fair with new knowledge, new friends, and bigger passions in science, technology, engineering, and mathematics.




| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Number of Schools | 50 | 54 | 44 | 50 | 44 | 54 | 49 |
| Number of Projects | 201 | 254 | 213 | 217 | 215 | 229 | 226 |
| Total Number of Students | 287 | 319 | 308 | 324 | 311 | 327 | 306 |

## Greater Vancouver Regional Science Fair Results

- Over $35,000 in cash, prizes, trips, scholarships, and participation awards.
- 116 projects received Merit Awards.
- 57 special awards were awarded, totalling over $4,000 cash plus $20,000 in scholarships.
- Award winners are found at https://secure.youthscience.ca/sfiab/gvrsf/main_winners.php

## Canada Wide Science Fair Results

Each year, the top GVRSF winners advance to become a finalist on the national stage (the Canada-Wide Science Fair). Team members travel, meet people from across the country and around the world, make new friends, and stretch themselves intellectually and socially, competing with some of their brightest peers and interacting with professional scientists and engineers.

- 17 students were selected to represent the Greater Vancouver Region.
- These finalists returned with awards and scholarships totalling $37,000 including 2 Gold medals, 5 Silver, 3 Bronze, 3 Challenge Awards, and 2 Special Awards.
- Award winners are summarized on the next page, and found at http://www.sciencefairs.ca/website/media/ScienceFairs/Team-BC-Results.pdf

| Team GVRSF Award Winners at the Canada Wide Science Fair | | |
|---|---|---|
| **Ollie Zhao**<br>Grade 9 | Amp Tree | Gold Medal<br>Challenge Award<br>$4000 in Scholarships |
| **Yimeng Li**<br>Grade 9 | Anaerobic Respiration: A Novel Bioelectrochemical Copper Recovery System? | Gold Medal<br>Challenge Award<br>$4000 in Scholarships |
| **Bill Chen**<br>Grade 12 | Graphene Oxide Enhanced Proton Exchange Membrane Fuel Cell | Silver Medal<br>$8500 in Scholarships |
| **Phyllis Lesnikov**<br>Grade 11 | Phytoremediation of Zinc Contaminated Mines Using Novel Transgenic A.Thaliana | Silver Medal<br>Challenge Award<br>$8500 in Scholarships |
| **Megan Syho, Kai Leong**<br>Grade 10 | An Ankle-Dorsiflexion Exercise Program to Improve Seniors' Balance and Gait | Silver Medal<br>$2000 in Scholarships |
| **Jonathan Cao**<br>Grade 9 | reduce, reuse, reCompass | Silver Medal<br>$2000 in Scholarships |
| **Jay Botham**<br>Grade 8 | The Effect of Hair Dye on Hair Strength | Silver Medal<br>$2000 in Scholarships |
| **Selina Zhou**<br>Grade 11 | Changes in Volatile Organic Compounds Emission Under Stressed Conditions | Bronze Medal<br>$2000 in Scholarships |
| **Laura Cunningham**<br>Grade 8 | Salt in Fast Food: No Great Shakes for Your Health | Bronze Medal<br>$1000 in Scholarships |
| **Jonah Haliburton**<br>Grade 8 | The Anchovy: Remotely Operated Submersible | Bronze Medal<br>$2000 in Scholarships |

## Taiwan International Science Fair Results

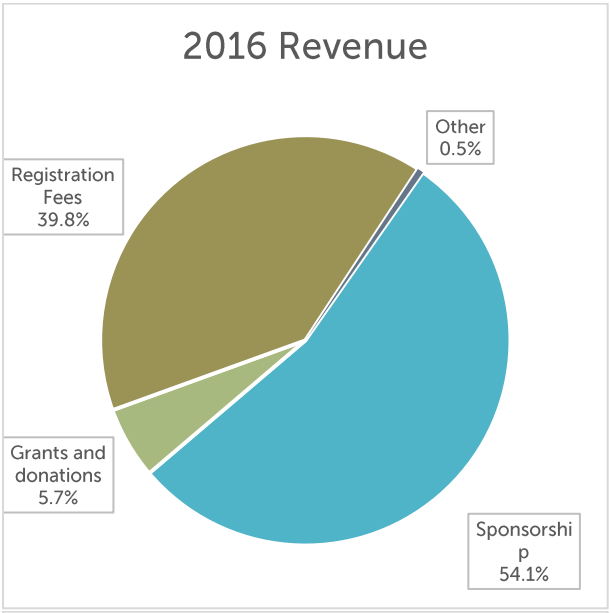
British Columbian students have attended the Taiwan International Science Fair since its inception in 1991, a legacy of the Pan Pacific component of the 1991 Canada-Wide Science Fair hosted in British Columbia.

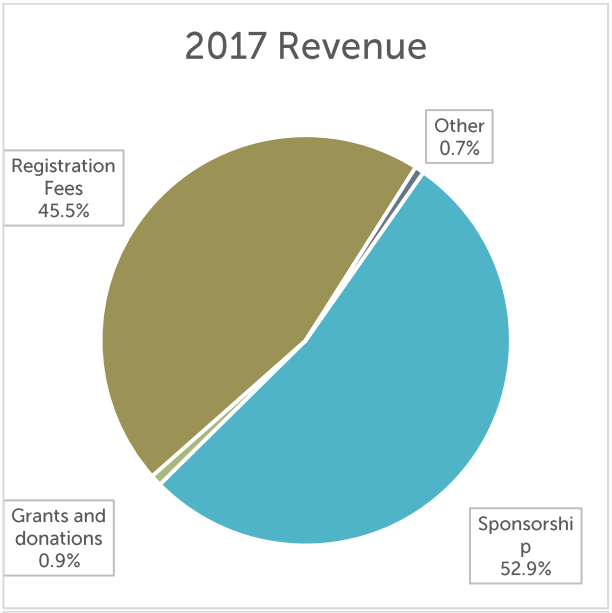
- One of two students attending represented the Greater Vancouver Region for 2017
- This student returned with a Bronze Medal in the microbiology category for his project titled *A Novel Selection Process for the Conversion of Conventional Bacteria into Electrotrophs*.

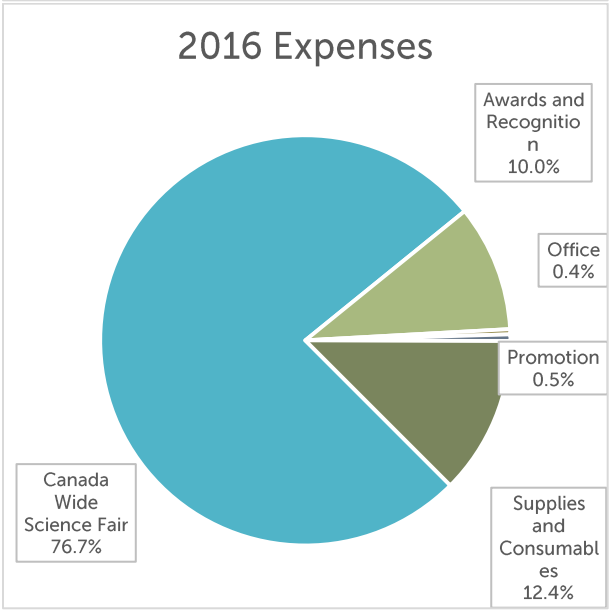
## Financial Summary

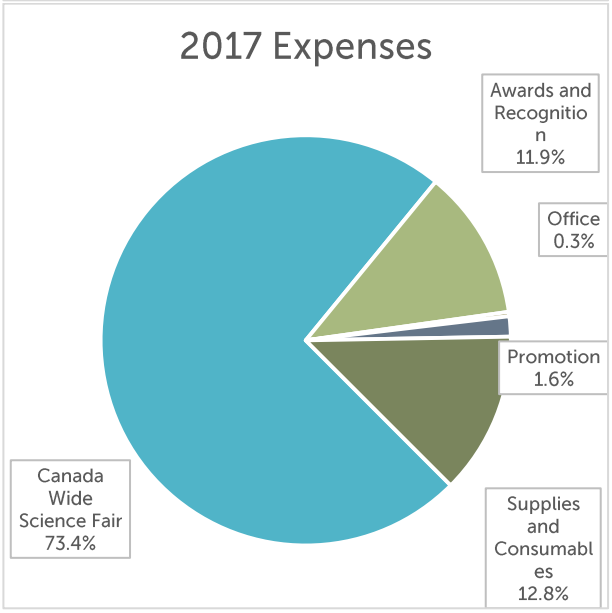
The following summarizes the proportions of revenues and expenses for the Greater Vancouver Regional Science Fair Society, comparing 2016 and 2017. Detailed financial information can be made available upon request.

Our primary sources of revenue include registration fees, grants and donations, and sponsorship amounts. Our primary annual expenses are for student awards and recognitions at our annual fair, and in supporting our Canada Wide Science Fair team.



## A Thank You to Sponsors

Thank you to all of our sponsors, partners, and friends! The Greater Vancouver Regional Science Fair (GVRSF) Society is a not-for-profit charitable organization that depends upon donations from individuals and corporations to finance activities. Without the on-going support of our generous community, we would not be able to bring together over 300 of the region's top science students to share their progress and adventures in science. With this support, the Greater Vancouver Regional Science Fair propels students to the national level Canada-Wide Science Fair and encourages all students to continue to think critically about science and the world around them. We are fortunate to have outstanding sponsors and supporters that contribute to the fair each year and we are always looking for additional contributors to help support youth in science within our community. Monetary donations and award sponsorships are accepted throughout the year.

If you would like to donate to the GVRSF in any way or know of an organization that would like to contribute, please contact chair@gvrsf.ca. Tax receipts for donations are available upon request. By supporting the GVRSF with a donation, you will make a positive impact within the community by empowering youth to continue to be innovative and ask questions through project-based science.

# Greater Vancouver Regional Science Fair Sponsors

## Partners

UBC Faculty of Science

Dr. Simon Peacock
Dean
Honourary Chair

## Supporter

Science World at Telus World of Science

## Gold Sponsors

Lightbox Technologies Ltd.

## Bronze Sponsors

BC Hydro For Generations

## Friends

Action Athletics
Pacific Northwest Society Coatings Technology, Vancouver Section
Stratford Hall
York House School

## Award Sponsors

AIHA BC Yukon Section Award (American Industrial Hygiene Association)
Al Appleton Worksafe - Worksafe BC
Association of Professional Engineers and Geoscientists of BC
BC Agriculture in the Classroom Foundation
BC Greenhouse Growers Association
BC Hydro Power Pioneers
BCIC Young Innovator Scholarship
BC Nature (Federation of British Columbia Naturalists)
BC Science Teachers' Association
Canadian Meteorological and Oceanographic Society
Chief Judge (Walter Olson)
Clarkes Recognition Products
David Laugharne
DAWEG - Division for Advancement of Women in Engineering and Geosciences
Genome British Columbia
Greater Vancouver Mining Women's Association
In Ink Scientific Writing
James International Sales Ltd.
John O'Connor
Michael Crooks - British Columbia Association of Physics Teachers
Science World at TELUS World of Science
Simon Fraser University:
- Department of Chemistry
- Simon Fraser University, Faculty of Science

Society for Canadian Women in Science & Technology
Structural Engineering Association of BC, Young Members Group
The University of British Columbia:
- Faculty of Applied Science
- Faculty of Education
- Faculty of Land & Food Systems
- Faculty of Pharmaceutical Sciences
- Department of Botany
- Department of Chemistry
- Department of Computer Science
- Department of Earth & Ocean Sciences
- Department of Mathematics
- Department of Microbiology & Immunology
- Department of Physics & Astronomy
- Department of Statistics
- Department of Zoology
- Biodiversity Research Centre
- Curriculum Studies
- Institute for Resources, Environment and Sustainability
- Life Sciences Institute
- Michael Smith Laboratories
- School of Population and Public Health

The Vancouver Aquarium Marine Sciences Centre
The Vancouver Mycological Society
Vancouver School Board SD #39
W.E. Coates

## Affiliated With

Youth Science Canada

## The Future

Join us next year for the 36th Annual Greater Vancouver Regional Science Fair at the University of British Columbia, the AMS Student Nest, from Thursday April 12th to Saturday April 14th, 2018.

gvrsf.ca