To: Dr. Erika Paterson

From: Janice Pang

Date: October 5, 2019

Subject: Proposal for Enhancing Participation of Educators in the Greater Vancouver Regional Science Fair

# Introduction

For over 37 years, the Greater Vancouver Regional Science Fair (GVRSF) provided students from grades 7-12 and opportunity to showcase their research and innovations in the fields of discovery, energy, health, information, environment, innovation and resources, as well as win awards and scholarships totalling over $45,000. All science fair projects at the fair are adjudicated by more than 200 science and technology professionals from industry, research, and academia. Beyond showcasing science fair projects, participants have the opportunity to visit UBC research facilities, attend a science show, and network with other participants from across Greater Vancouver. The top 17 students from this regional fair are selected to attend the prestigious Canada-Wide Science Fair. GVRSF provides a unique opportunity for youth to explore project-based science and conduct research and experimentation in areas of science, technology, engineering, and mathematics (STEM). The fair is made possible by the GVRSF committee, which consists of volunteers who are passionate about STEM education and outreach. GVRSF is a life-changing experience for many students in terms of the knowledge and skills gain and the opportunity to earn scholarships for post-secondary education.

Notably, educators within the GVRSF committee play a pivotal role in introducing science fairs to students in Greater Vancouver. By incorporating science fair projects into their own classrooms, these educators expose students to project-based science and enable students to conduct original experimentations and create novel innovations. As a result, many students in Greater Vancouver have discovered passions for science that they would have otherwise never realized without participating in science fairs. This also resulted in GVRSF alumni proceeding to pursue STEM careers following their involvements with science fairs. Evidently, it is important to continue to maintain a network of educators within the GVRSF committee who are passionate about teaching science and aware of science fairs. Educators are pivotal in exposing students to science fairs to help develop science talent within the Greater Vancouver region.

# Statement of Problem

Educators in elementary and high schools play an important role in exposing and encouraging students to science fairs. They are leaders in helping youth to develop interest for project-based science. However, in recent years, there is observed decline in educator participation on the GVRSF committee. The continued decrease of educators on the GVRSF committee could lead to a smaller network of educators who are aware of the science fair program offered in Greater Vancouver. Therefore, there would also be decreased number of new students who will gain exposure to the opportunities presented by science fairs. Consequently, it is vital to identify the potential causes of the decrease in educator participation within the GVRSF committee and determine strategies to encourage more educators to become involved.

# Proposed Solution

To address the issue of decreasing educator participation within the GVRSF committee, a causal study is needed to investigate the major factors that are potentially preventing educators from participating in GVRSF. This can be possible through surveying and interviewing educators around the Greater Vancouver region who may or may not be involved with science fairs or heard about GVRSF. Additional information from other regional science fairs about educator participation in science fairs can also assist with developing strategies to resolve the issue.

# Scope

The proposed research aims to determine potential effective strategies for enhancing educator participation within the GVRSF committee. I plan to investigate the following areas:

1. What are the main reasons preventing educators from participating in GVRSF?
2. Where and when do educators likely hear about GVRSF?
3. Will additional science fair resources help educators learn more about science fairs?
4. How are other regions recruiting educators to their science fair committee?

# Methods

Primary data for proposed research will be collected in the form of surveys and interviews submitted by educators in the Greater Vancouver region. As GVRSF and the Science Fair Foundation of BC have established networks and contacts of educators, I will be collaborating with members of the GVRSF committee and the executive director, Madeleine Guenette, and program manager, Jessica Zhang, at Science Fair Foundation BC, to reach out to the educators for surveys and interviews.

Invitations to complete surveys will be distributed to educators in the form of newsletters sent via email by GVRSF and the Science Fair Foundation BC. The social media platforms of GVRSF and Science Fair Foundation BC will also be leveraged to distribute the surveys. In addition, roundtable discussions with educators will be organized at a BC Science Teachers’ Association professional development day event to investigate potential reasons why they may not participate in science fairs. I will also consult with educators to inquire about the possibility of completing an interview regarding their experiences with science fairs and their familiarity with science fair resources for educators available.

For additional perspective of the problem being studied, invitations for surveys and interviews will be sent to GVRSF alumni using the same methods. I will also consult with educators from other regions to determine the strategies they have implemented to successfully recruit educators to their committee. This will supplement the primary data gathered locally and further assist with formulating recommendations that could potentially be successful in enhancing educator participation within GVRSF. Results and recommendations from this study will be forwarded to the GVRSF committee for implementation.

# My Qualifications

I am familiar with the science fair programs at the regional, national and international level. In the past, I participated in the 2012, 2013, 2015 and 2016 GVRSF and was a finalist representing BC at the 2012, 2013 and 2016 Canada-Wide Science Fair. In 2015, I was selected for Team Canada to attend the world’s largest pre-college science competition, the Intel International Science and Engineering Fair. Through these science fairs, I had the opportunity to connect with students and teachers from across the country. Thus, I can draw upon my first-hand experiences and connections from these fairs as I gather data for the proposed research.

Since 2017, I served as the Treasurer and Sponsorship Coordinator on the GVRSF committee. My responsibilities include preparing sponsorship funding applications and sponsorship funding applications and build solid partnerships with sponsors via email correspondences. I have also coordinated student activities and UBC lab tours for over 300 students attending the regional science fair in collaboration with other GVRSF committee members and UBC Faculty of Science Office of the Dean administration staff. Additionally, I was a speaker at various post-secondary workshops and Science Fair Foundation of BC networking events. At these events, I had the opportunity to interact and connect with students, parents and teachers. Consequently, my extensive network of science fair connections, as well as written and verbal communication and planning skills, will allow me to conduct an in-depth causal study, leading to potential recommendations on enhancing educator participation within GVRSF.

# Conclusion

The involvement of educators on the GVRSF committee is declining and action is needed to identify the potential reasons for this decrease. With the approval of this proposal, I will begin to conduct the above-mentioned surveys and interviews to find possible causes of the decreased involvement of educators. By the end of this research, I aim to forward recommendations to the GVRSF committee that could potentially be used as strategies to resolve the issue.