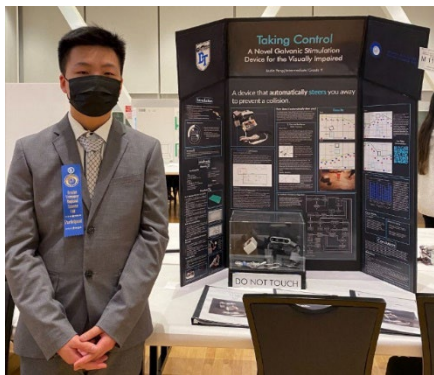


David Thompson's Students at the Greater Vancouver Regional Science Fair Celebrating and Supporting Our Scientists!

This year, 6 students from the DT Science Fair GVRSF team won the Grand Award to participate in the Virtual Canada Wide Science Fair (CWSF) on May 16 to 20, 2022 virtually, from Fredericton, New Brunswick. These students will be presenting their projects to experts and peers on the national level.

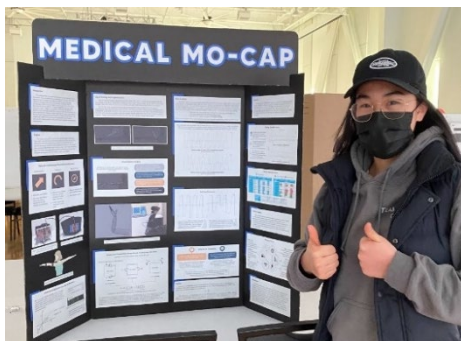
Justin Peng, Tara Zhan, Emily Chan, Pari Goyal, Lucie Li, and Viduni Siriwardana form part of the BC Team heading into the competition. Justin, Tara, and Viduni are 2021 CWSF winners returning to CWSF for the second time! And Justin was a semifinalist in the International Science and Engineering Fair this year. Project ideas range from helping the visually impaired, making physiotherapy more efficient, eco-friendly biodegradable products, DNA forensic kits to energy efficient engineering projects. GVRSF and CWSF are showcasing the student's projects on the Project Board website (<https://projectboard.world/>). Click on the highlighted project titles and enjoy the read!

A quick summary of the students' projects:



[Taking Control: A Novel Galvanic Stimulation Device for the Visually Impaired](#)

Justin Peng's project focused on a person's ability to control and steer a person out of the trajectory of incoming objects and hazards. Although this seems impossible, such a device was created successfully in this project using cameras, python algorithms, and a self-made device utilizing the Galvanic Vestibular Stimulation.



[Medical Mo-Cap](#)

Tara Zhan created a motion capture system for an arm performing rehabilitation exercises that is highly accurate and low-cost, including an automatic evaluation program. IMU sensors are used to precisely track the orientation of the arm to measure exercise quality.



[Sea Scrap Slippers](#)

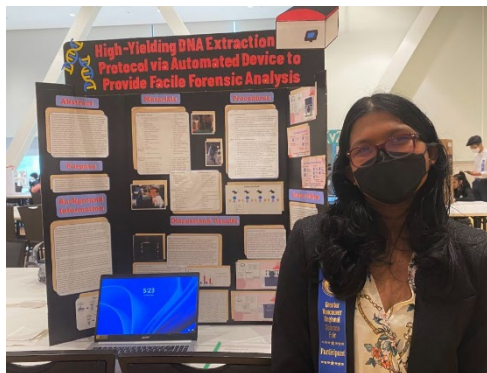
Emily Chan engineered slippers made from Chitosan (a substance in crustacean shells), orange peel fabric and banana fibre threads to innovate biodegradable slippers from sea and food scrap materials to minimize pollution.



[Windblade](#)

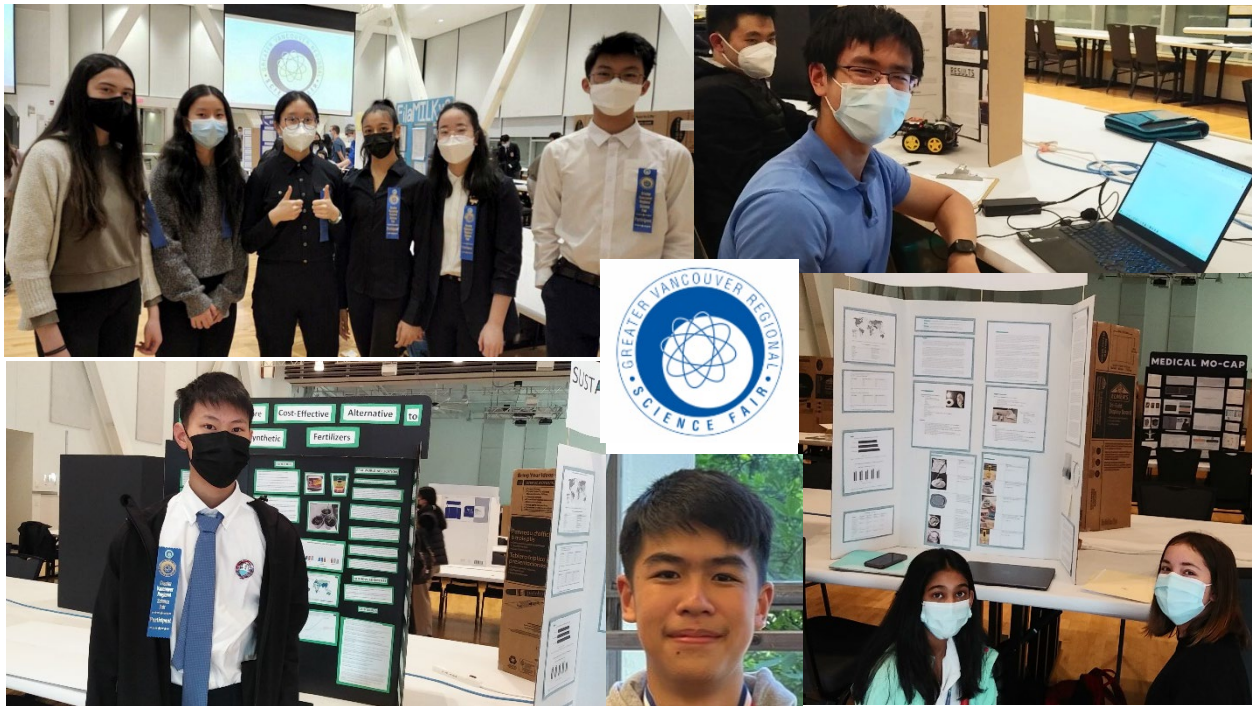
Pari Goyal and Lucie Li designed and studied turbine blades to maximize effective energy production in Downtown Vancouver. The optimal wind turbine blade, comprised of polycarbonate and aramid fiber, had three different twist angles used in the 24-hour average Vancouver wind speed simulation.

[A Novel and Cost-Effective DNA Extraction Protocol via a Streamlined Automated Device to Provide Facile Access for Forensic Analysis](#)



Viduni Siriwardana demonstrated a novel, cost-effective, efficacious DNA extraction protocol which can accommodate higher DNA yields compared to commercial kits commonly used in forensic labs. A fully autonomous DNA extraction system was designed to perform this protocol to alleviate the need for costly, labor-intensive manual extractions. This novel automated DNA extraction system would prevent future evidence backlogs, reduce costs, and improve efficiency within forensic laboratories.

DT Science Fair GVRSF team composed of 15 students, and they all had amazing projects that were designed with passion to solve real-life problems. Students were rewarded for their work. The list of awards received can be found <https://blogs.vsb.bc.ca/thompson-odyssey/science-fair-2021/>.



DT students would like to thank the VDSF, GVRSF, Youth Science Canada, Dr. J. McEwen, Mr. Austin Wang, VSB, UBC, SFU, mentors, family members, and DT staff for their support. Without the community's support, the science fair will not be available for youths to showcase their passion for science and their will to solve real-life problems.

Congratulations to all our bright scientists!

Written by S. Leong