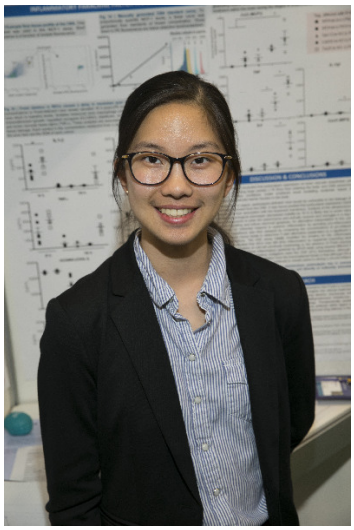
CWSF 2017 - Regina, Saskatchewan



Winnie Xu

Function of Podocalyxin in the Maintenance of the Blood Brain Barrier

Challenge: Health
Category: Senior
Region: South Fraser
City: Surrey, BC
School: Elgin Park Secondary

Abstract: Podocalyxin (Podxl) on vascular endothelial cells maintains the proper morphology and integrity of the blood brain barrier (BBB). During systemic inflammation, its expression is required to maintain structural integrity. To further assess the BBB ultrastructure, a dye tracing assay, transmission electron microscopy (TEM) at cell-cell junctions, and ELISA paracrine factor analyses were completed. These discoveries indicate novel mechanisms involved in maintaining proper physiology during pathogenesis.

Biography

My name is Winnie Xu, and I am a senior at Elgin Park Secondary in Vancouver BC. Although I only realized one of my biggest passions as a junior last year when completing at my first science fair, I immediately knew that scientific research would become a household favorite. This year's project explored the various mechanisms governing the blood brain barrier's strict surveillance. I was intrigued by one of the biggest challenges in drug administration- crossing this barrier without disrupting its regular functions- and decided to investigate further. Beyond my heavy involvement in research, I actively promote scientific literacy and youth innovation as Regional Chair for The Foundation for Student Science and Technology's Ambassador Program, as well as a leader of many other federally registered non-profit organizations. When not wearing close-toed shoes and lab coats, I also really enjoy the permanent damage of pointe shoes and gracing a stage with balletic and contemporary movement. Coming face to face with scientific development had me constantly inspired by the many pioneers in the fields of biotechnology and medicine, and I definitely hope to continue developing my passions and ideas throughout the years to come.

Awards	Value
Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - $2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - $2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - $2000 Entrance Scholarship Sponsor: University of Ottawa	$2 000
Western University Scholarship Silver Medallist - $2000 Entrance Scholarship Sponsor: Western University	$2 000
Total	$8 500