CWSF 2018 - Ottawa, Ontario

Simran Singh

The Development of a Novel Diagnostic Method for Parkinson's Disease

Challenge: Health
Category: Junior
Region: Ottawa
City: Ottawa, ON
School: Bishop Hamilton Private

Abstract: This project introduces a novel method for the detection of Parkinson's disease. A procedure was established to create an aptamer-based method for the detection of alpha-synuclein, a protein that accumulates and forms plaque in multiple neurodegenerative disorders. Using an aptamer that is bound to a fluorescent tag, alpha-synuclein was detected in mice brain tissue. This method shows great promise in the future disease detection.

Biography

My name is Simran Singh and I am a grade 7 student at Bishop Hamilton Montessori School. I enjoy a different variety of sports including badminton, swimming and taekwondo. I have been doing taekwondo since I was seven, and currently obtain a black stripe. I have always had a passion for science, specifically neurology. In my school, I had ranked 1st place at the science fair, and 1st place at the Ottawa Regional Science Fair. I was also awarded the "Future Leader in Science" award at Parliament Hill by the Intellectual Property Institute of Canada. In this project, I have created a novel diagnostic method for Parkinson's disease. It is hoped that this project will advance the future diagnostic tools for Parkinson's disease. In the future, I would like to pursue neurosurgery and become a neurological surgeon. My advice to students who are thinking of doing a science project is: if you have a passion for something that seems impossible to do, go for it, because you never know that it may just be possible.

Awards	Value
Youth Can Innovate Awards - Junior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	$500
Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	
Western University Scholarship Gold Medallist - $4000 Entrance Scholarship Sponsor: Western University	$4 000
Total	$4 500