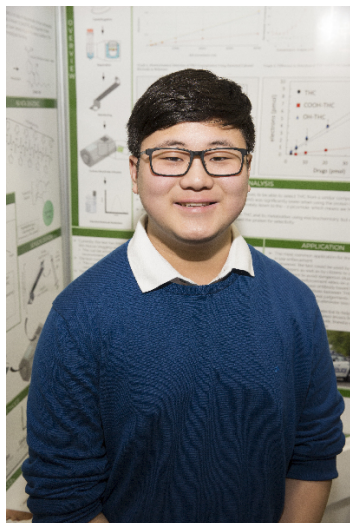


# CWSF 2019 - Fredericton, New Brunswick



## Jesse Lee

### Protein Based Biosensor: Roadside Detection of THC

**Challenge:** Innovation

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Western Canada Senior High School

**Abstract:** Inspired by the growing cannabis legalization movement, this innovation has the potential to solve an upcoming problem. Since the new laws were passed, we are seeing an increase in vehicular accidents from people driving under the influence of marijuana. With no equivalent of the alcohol breathalyzer for cannabis, this project aims to create a sensor capable of not only detecting but quantifying cannabis impairment.

#### Biography

Hello! I'm Jesse Lee, a grade 11 high school student from Western Canada High School, as well as a student researcher at both the University of Calgary and the University of Alberta. When I'm not in the lab, you can find me re-watching episodes of House M.D. or writing down new ideas. When I am thinking of new ideas, I find it helpful to look at what's going on in the world. For example, this marijuana impairment detection device idea originated from Canada's legalization of recreational use of cannabis. Aside from improving this project, I have a few plans on what to do next. However, that's a secret for now, so stay tuned! If you're thinking of starting a project yourself, my advice would be to take some inspiration for the world's greatest engineer of all: mother nature. She has billions of years of experience on earth, and it may be helpful to learn a thing or two. Some notable examples of nature-inspired inventions include the bullet train (which was modeled off the beak of a bird), and even flight (which was created after studying the flight of birds).

#### 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 New Brunswick Canada-Wide Science Fair Scholarship Silver Medallist - \$2500 Entrance Scholarship Sponsor: University of New Brunswick	\$2 500
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
<b>Total</b>	<b>\$11 000</b>