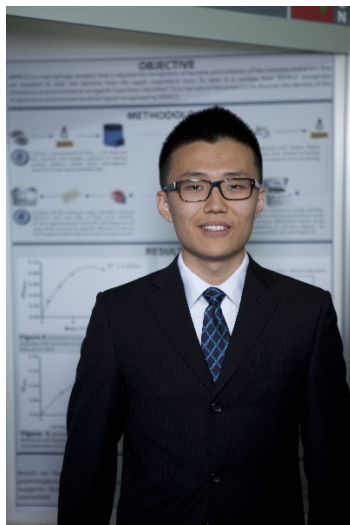


# CWSF 2013 - Lethbridge, Alberta



## Jason Fan

### Saving the World - One Ligand at a Time: Novel Streptococcus pneumoniae Ligand

**Challenge:** Discovery

**Category:** Senior

**Region:** Bay Area

**City:** Hamilton, ON

**School:** Westdale S.S.

**Abstract:** Streptococcus pneumoniae kills millions of individuals each year. Combated by macrophages, surface protein receptors such as macrophage receptor with collagenous domain (MARCO) bind to ligands present on the bacteria. The purpose of this project was to elucidate the identity of such binding partner to MARCO via pneumococcal purification and NF-κB luciferase assays. The results suggest a non-protein ligand as a potential MARCO binding partner.

#### Biography

Growing up, I have had a strong passion towards the biological sciences. Ever since the age of 5, I have wanted to pursue a medical profession. In Grade 10, I competed in the National Brain Bee - a competitive neuroscience competition - hosted at McMaster University. From the first science fair I ever did in Grade 7 (a study on human stress) to my Grade 11 project (studying the neuroprotective efficacy of a herbal drug), I have truly appreciated the sophistication and absolute beauty that the world of science entails. In the summer of my Grade 11 year, I was fortunate enough to work in the Bowdish lab at McMaster University as a student researcher. This experience led to my current project and has introduced me to the field of immunology. To students who wish to enter a science fair - regardless of topic - it should be done with no hesitation. From my experience (and the experience of others), entering these competitions is not for the great prizes but for the amazing and invaluable lessons one will learn. Without a doubt, every student who has a strand of curiosity for science should pursue a project.

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
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
<b>Total</b>	<b>\$8 800</b>