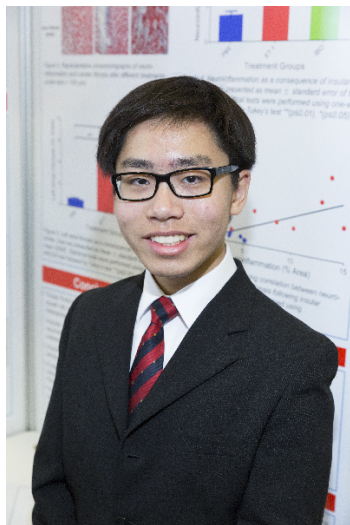


CWSF 2018 - Ottawa, Ontario



Matthew Zhou

From Brain to Heart: Complications following Insular Ischemic Stroke

Challenge: Health

Category: Senior

Region: Thames Valley

City: London, ON

School: Central S.S.

Abstract: Neuroinflammation and cardiac fibrosis are complications of stroke and cardiovascular disease respectively. This project quantifies these two complications in order to study the brain-heart interaction following an ischemic stroke in a novel rat model. Results demonstrate a significant positive correlation between neuroinflammation and cardiac fibrosis. This novel relationship could have significant clinical value in the development of alternative diagnostic techniques for heart diseases.

Biography

My name is Matthew Zhou and I am a Grade 11 student at London Central Secondary School. My interests include music, mathematics, chess, and science. I started playing piano at the age of six and I have won several awards at both regional and provincial competitions, including a Gold medal for the top Grade 10 RCM mark in Ontario. My interest in mathematics has led me to win multiple awards in math contests. I also enjoy playing chess and I have won many awards in regional chess tournaments. My strong passion for life sciences allowed me to win a Gold medal at the Canada-Wide Science Fair last year. This year, I received the inspiration for my science fair project through my strong interest in understanding the interactions between biological systems, especially ones of a pathophysiological nature. After learning about brain-heart interactions following insular ischemic stroke, I found that a relationship existed between the neurogenic and cardiogenic factors involved. With my strong interest in life sciences, I hope to pursue a career in medicine. My advice for any newcomers to the science fair is to never ignore ideas that seem too difficult. With hard work and dedication, anything can be achieved!

Awards

Value

Canadian Society for Clinical Chemists Award - Senior Sponsor: Canadian Society for Clinical Chemists	\$1 000
Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
Carleton University Entrance Award Senior Bronze Medallist - \$1,000 Entrance Award Sponsor: Carleton University	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$4 000