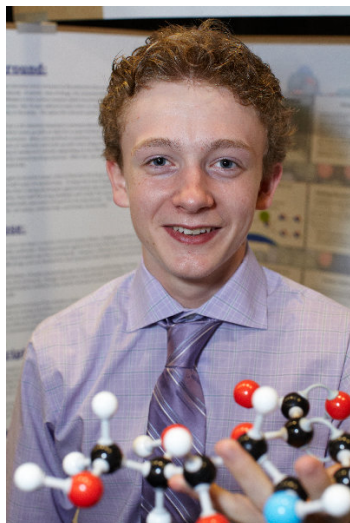


CWSF 2012 - Charlottetown, Prince Edward Island



Eric LeGresley

Computational Methods for the Screening of Novel Neuraminidase Inhibitors

Challenge: Innovation

Category: Senior

Region: Fraser Valley

City: Chilliwack, BC

School: St John Brebeuf

Abstract: Influenza viruses cause illness ranging from "the flu" to deadly pandemics. All available anti-influenza agents target viral neuraminidase. By inhibiting this enzyme, these agents prevent new viruses from proliferating. Influenza immunity to these agents is increasing. It is of interest, then, to discover more resilient inhibitors. This research explores the use of Molecular Dynamics simulations to screen potential next-generation drug candidates.

Biography

I first became interested in antivirals following the 2009 H1N1 pandemic flu. The flu virus is slowly evolving to become more resistant to our current antivirals and new ones need to be developed. This is where my research comes in. After finishing the algorithm presented in my project, I will be using it to develop and test antivirals that I have proposed. This kind of research is exciting because you can see its significance for the real world. My two pieces of advice for other students pursuing research are: work hard and have fun. The most pressing scientific issue of the day is the threat of a flu pandemic due to the H5N1 virus as it is resistant to all currently available antivirals.

Awards

Value

The Manning Innovation Achievement Award Sponsor: Ernest C. Manning Awards Foundation	\$500
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University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
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