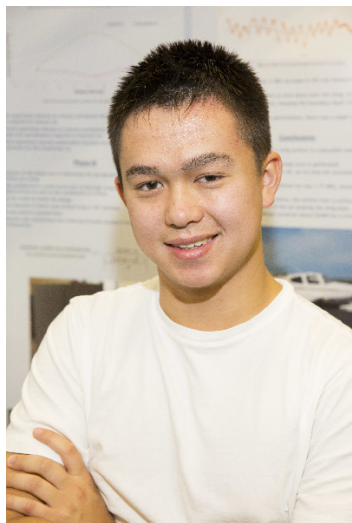


CWSF 2014 - Windsor, Ontario



Bennett Leong

De-icing Light Aircraft

Challenge: Innovation

Category: Senior

Region: Calgary Youth

City: Calgary, AB

School: Webber Academy

Abstract: This project is the development and evaluation of a new technique to remove accumulated ice from light aircraft using compressed air forced through perforations on a wing. It consisted of computer modeling to generate a feasible design, finite element analysis to determine the optimal arrangement of perforations, as well as wind tunnel tests to determine the aerodynamic properties of this design.

Biography

I was born in Calgary, Alberta, and have lived there all my life. My interests include playing in the Calgary Youth Orchestra, cycling, and flying. I have had a passion for flying since I was 3, and I am currently working towards my pilot's license. This is where the inspiration for my project came from. I was looking for a project to do for science fair this year, and I thought of alternative ways of deicing aircraft. After a few scrapped designs, I finally came up with this one. Next year, I hope to further my research with the help of a professor, including building a model of my design and testing it in a wind tunnel. Post secondary, I hope to earn a degree in Aerospace Engineering, and eventually be involved in air crash investigation. I would like to thank my parents for supporting whatever I do, my teachers, and those in the aviation community who have given me advice and picked apart my designs.

Awards

Value

CAP Physics Prize - Senior Sponsor: Canadian Association of Physicists	\$1 000
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
Total	\$9 800