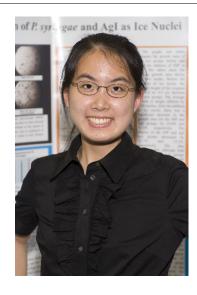




CWSF 2009 - Winnipeg, Manitoba



Mary Zhao

Grasping Water

Division: Engineering & Computing Sciences / Environmental Innovation

Category: Senior

Greater Vancouver Region: City: Vancouver, BC

School: Sir Winston Churchill Secondary

Abstract: This project explores a novel weather modification method: replacing the

> current ice nucleator AgI with the Ice Nucleating Protein (INP) of P. syringae in cloud seeding. Replacing Agl is crucial because silver ions inhibit microorganisms' growth. Agl and INP's effects on the nitrogen intake of ryegrass and catalyzing of ice nucleation were examined. Results indicate that INP is an environmentally-friendly and commercially-viable

alternative for AgI.

Biography

I am a grade 11 student in the International Baccalaureate program at Sir Winston Churchill Secondary School. I love the sciences, especially biology, because I am intrigued by the fascinating array of possibilities that science offers. I hope to enter the biomedical field. In school, I am in a variety of clubs. I am a columnist, secretary, and senior editor of the school science journal Big Bang and a member of the peer tutor club. I was a member of the Model UN club and the school orchestra in the past four years. I have participated in a variety of contests, including placing 5th in Canada for the North American Computational and Linguistics Olympiad and ranking in the top quarter for the Pascal and Cayley math contests. I was selected to write the DNA Day essay and the National Council of Teachers of English essay contests. In my spare time, I play music, read, draw, and swim. I enjoy studying different languages and have obtained Diploma of Studies in French. I am currently working towards my Teacher's diploma with the Royal Conservatory of Music. In the future, I hope to travel around the world and share my passion for science.

Awards	Value
Canadian Stockholm Junior Water Prize	\$2 000
Sponsor: Canadian WEF Member Associations, the Canadian Water and	
Wastewater Association, and Jacobs	
The Manning Innovation Achievement Award	\$500
Sponsor: Ernest C. Manning Awards Foundation	
Dalhousie University Faculty of Science Entrance Scholarship	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: Dalhousie University, Faculty of Science	
UBC Science (Vancouver) Entrance Award	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: The University of British Columbia (Vancouver)	
The University of Western Ontario Scholarship	\$1 500
Silver Medallist - \$1500 Entrance Scholarship	
Sponsor: University of Western Ontario	
University of Ottawa Entrance Scholarship	\$3 000
Senior Silver Medallist - \$3000 Entrance Scholarship	
Sponsor: University of Ottawa	
Honourable Mention - Environmental Innovation - Senior	\$100
Sponsor: EnviroExpo, Presented by VIA Rail Canada	
Silver Medal - Earth & Environmental Sciences - Senior	\$700
Sponsor: Petro-Canada	
Total	\$11 800





