



## CWSF 2017 - Regina, Saskatchewan



## Biography

My name is Nicole and I am a IB high school student from Calgary. I have participated in seven Calgary Youth Science Fairs to date, and this is my second CWSF. My projects in previous years have been focused on fluid mechanics, with application geared towards petrochemical processing improvements. I began my current project after learning about the difficulties that several prominent Canadian industries face when processing effluent wastewater, and the need for a sustainable, cost-effective solution. When I'm not working on science fair, I am involved extensively with my high school's Model United Nations team. I have been awarded for my efforts as a MUN delegate, and have had the opportunity to attend conferences across Canada. I am a nationally ranked Open-Championship level Irish dancer, and I will be competing at the North American championships this summer. My other extracurricular activities include Yearbook team, UNICEF club, and community volunteering efforts. Next year I will be pursuing a combined undergraduate degree in arts and sciences at the University of Calgary. I am incredibly excited to be attending the CWSF in Regina, as I believe that this event is a fantastic platform to promote the importance of science to young Canadians.

## **Nicole Schmidt**

## **Optimizing Fluid Flow Systems**

Challenge: Innovation		
Category:	Senior	
Region:	Calgary Youth	
City:	Calgary, AB	
School:	Sir Winston Churchill High School	
Abstract:	I developed a method to create and stabilize bulk bubble foam, which was then used to successfully separate ultrafine heavy metal particles dispersed in industrial processing water and groundwater. Through a reduction in the frequency of bubble coalescence, I increased the agglomeration rate of the foam, improving overall stability and density, which increased the total recovery percentage of particulate matter from the fluid system.	

Awards	Value
Canadian Stockholm Junior Water Prize - Senior	\$2 000
Sponsor: Canadian WEF Member Associations, the Canadian Water and	
Wastewater Association, and Jacobs	
S.M. Blair Family Foundation Award - Senior	\$1 000
Sponsor: S.M. Blair Family Foundation	
Excellence Award - Senior - Bronze Medal	
Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship	\$1 000
Senior Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: University of Ottawa	
Western University Scholarship	\$1 000
Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: Western University	
Total	\$5 000



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