



CWSF 2015 - Fredericton, New Brunswick



Gayashan Tennakoon

CEEP - A Novel Approach for Environmental Trace Elemental Analysis

Challenge: Environment

Category: Senior
Region: Ottawa
City: Ottawa, ON
School: Colonel By S.S.

Abstract: Measurement of low levels of trace elements, analytes, in aqueous samples

poses two challenges: (a) transport of large volumes of liquid samples (b) their determination at natural low levels. This led to the development of a novel, simple, and cost-effective approach of analyte concentration using a solid carrier namely, "carrier enhanced evaporative pre-concentration". The

feasibility of silica gel, activated carbon, and organic resins were

investigated.

Biography

As a Grade 12 student attending Colonel By Secondary School in Ottawa, ON, I am more than excited to be attending my last Canada Wide Science Fair at Fredericton. Having attended it in previous years, it's helped me realize my understanding of the scientific method, and what it's like to be with of Canada's brightest students. Science has always been a big part of my life. I co-founded the regional branch of the organization, Project Pulse which organizes conferences for high school students to meet university students and professionals in the field of health sciences. Alongside this, I also came up with the idea for my project. It really came to be after understanding an issue, known as Chronic Kidney Disease of Unknown Origin, which has been a worldwide medical enigma. What saddened me the most was understanding how devastating this epidemic has been in my home country, Sri Lanka. I looked to help further develop environmental monitoring systems, to keep track of drink water sources for those in remote areas around the world. As a word of advice for other students, if you have a curious idea, always test it out. You never know where it may lead you.

Awards	Value
Canadian Stockholm Junior Water Prize - Senior	\$2 000
Sponsor: Canadian WEF Member Associations, the Canadian Water and	
Wastewater Association, and Jacobs	
The Manning Innovation Achievement Award - Senior	\$500
Sponsor: Ernest C. Manning Awards Foundation	
The Manning Innovation Achievement Award	\$4 000
and \$4000 Manning Young Canadian Innovation Award and also receive	
an additional \$3000 towards their post-secondary education.	
Sponsor: Ernest C. Manning Awards Foundation	
Excellence Award - Senior - Silver Medal	
Sponsor: Youth Science Canada	
Challenge Award - Environment - Senior	
Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship	\$2 500
Senior Silver Medallist - \$2500 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)	
University of New Brunswick Canada-Wide Science Fair Scholarship	\$2 500
Silver Medallist - \$2500 Entrance Scholarship	
Sponsor: University of New Brunswick	
University of Ottawa Entrance Scholarship	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: University of Ottawa	
Western University Scholarship	\$2 000
Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: Western University	047.500
Total	\$17 500





