

# CWSF 2019 - Fredericton, New Brunswick



## Emily Mah, Jazlyn McGuinty

### Bannin' with Tannins: A Heavy Metal Extraction Process for Contaminated Water

**Challenge:** Environment

**Category:** Senior

**Region:** North Bay

**City:** North Bay, ON

**School:** Widdifield Secondary

**Abstract:** Biopolymer was embedded with mechanically isolated tannins then used to extract sample heavy metals from contaminated water. The results were measured using the change in mass, change in clarity, change in concentration of metal in water, and the effects on radish seedling germination. Overall, it was found that using biopolymer was an eco-friendly way to remove heavy metals from water.

#### Biographies

Emily - My name is Emily Mah and I am in grade 11 at Widdifield Secondary School in North Bay, Ontario. My favourite sport is gymnastics, and I am in level 8. I have been competing in gymnastics since I was 7 years old. I have been fortunate enough to win second at provincial gymnastics and to qualify to provincials four years in a row. I train 18 hours a week, and this has helped me develop great time management skills. At school, my favourite subjects are math and science, so I would like to pursue these subjects at university. My science fair partner Jazlyn and I got our inspiration for our project after discovering how many places around the world...

Jazlyn - My name is Jazlyn McGuinty, and I am a grade 11 student attending Widdifield Secondary School, North Bay, ON. I have a published research paper in the Journal of Child and Adolescent Psychiatric Nursing. I have also presented two poster presentations at the 2018 CMHO Annual Conference and Geneva Centre for Autism International Symposium, 2018. I enjoy volunteering at the North Bay Regional Health Centre Pharmacy, One Kids Place: Children's Treatment Center, and Marina Point Retirement Home. Before moving to Canada, I participated in cleaning the shoreline while living in Jeju-do, South Korea. Currently, I play competitive badminton on a pro...

#### Awards

#### Value

Canadian Stockholm Junior Water Prize - Senior Sponsor: Canadian WEF Member Associations, the Canadian Water and Wastewater Association, and Jacobs	\$2 000
<b>Total</b>	<b>\$2 000</b>