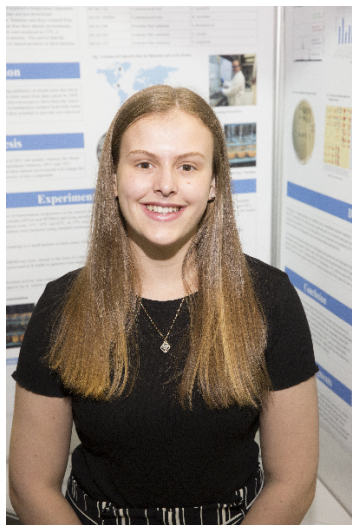


CWSF 2019 - Fredericton, New Brunswick



Abby Chapman

Temperature Dependent Approach to Enhance Drug Discovery from Bacteria

Challenge: Discovery

Category: Intermediate

Region: Prince Edward Island

City: Stratford, PE

School: Charlottetown Rural H.S.

Abstract: Antibiotic resistance is a growing health concern. My project explored a different approach to grow Actinobacteria in hopes of producing new compounds. These bacteria are typically grown at 30 degrees. I used a temperature dependent approach and grew these bacteria at temperatures different than their natural environment. I discovered 7 new compounds, giving evidence that this approach could benefit the drug discovery industry.

Biography

My name is Abby Chapman and I am a 16-year-old from Stratford, Prince Edward Island. I am a grade 10 pre-IB student at Charlottetown Rural High School. In my spare time, I enjoy traveling, playing soccer, skiing, rugby, and anything that involves science. This is my 5th year competing in the provincial science fair, and my 2nd time attending the CWSF. This past April I competed in the Atlantic Sanofi BioGENius Competition and placed 2nd. I am also excited to be attending SHAD at UBC this July. This year I pursued my project in a marine natural products lab at the University of Prince Edward Island. I explored a temperature dependent approach for the fermentation of Actinobacteria in hopes of enhancing the drug discovery process. Seven strains of bacteria, 4 collected from the Bahamas and 3 collected from the Arctic were used and fermented at temperatures different than their natural environment. Using this approach, 7 new compounds were discovered, giving evidence that a fermentation temperature different than the standard of 30 degrees could benefit the drug discovery industry. In the future, I would like to further explore what these new compounds could be used for.

Awards

Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 000