

CWSF 2011 - Toronto, Ontario



Sarah Hyslop

Biofilm Eradication Using Novel Enzyme and Antibiotic Combinations

Challenge: Discovery

Category: Intermediate

Region: Calgary Youth

City: Calgary, AB

School:

Abstract: Biofilms are cellular communities surrounded by an extracellular polymeric matrix, and are extremely resistant to antibiotics. My novel experiment combined the matrix degrading enzymes deoxyribonuclease and cellulase, with antibiotics to determine if synergy exists. My results showed that enzymes made the antibiotics significantly less effective (up to 50X), indicating that the biofilm matrix does not play as significant a role in resistance as previously believed.

Biography

My name is Sarah Hyslop and I am in grade 10. This is my third year at the Canada Wide Science Fair, sixth year in the Calgary Youth Science Fair, and second year participating in the Sanofi Aventis Biotalent Challenge. I have enjoyed working at the University of Calgary on my project, "Biofilm Eradication: Using Novel Enzyme and Antibiotic Combinations". This project won four awards at the Calgary Youth Science Fair and third place in the Sanofi Aventis Biotalent Challenge. Besides science, I love scuba diving, and have been an open water diver for three years. My most exciting dive has been seeing a five foot Nurse Shark. I also enjoy trampoline and tumbling, squash, skiing, playing Wii, reading, and travelling. I visited Italy last year and am looking forward to travelling to France after the CWSF.

Awards

Value

Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	\$1 500
The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario	\$4 000
Total	\$5 500