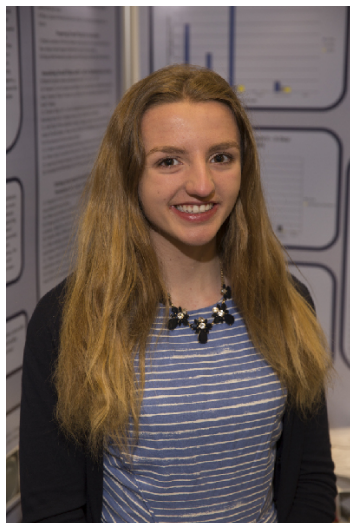


# CWSF 2016 - Montreal, Quebec



## Margaret Williams

### The Role of Fabric in the Prevention of Nosocomial Illness

**Challenge:** Health

**Category:** Senior

**Region:** Bay Area

**City:** Ancaster, ON

**School:** Ancaster H.S.

**Abstract:** Studies have shown that environmental surface contamination can play a marked role in the nosocomial transmission of microorganisms such as methicillin-resistant *Staphylococcus aureus* (MRSA) and *E. coli*. This experiment tested the viability of these pathogens on different types of fabric to demonstrate which provided the best antimicrobial surface for use in medical settings.

#### Biography

My name is Maggie Williams and I'm a grade 11 student at Ancaster High School in Ontario. My project for CWSF is entitled "The Role of Fabric in the Prevention of Nosocomial Illness: Environmentally Friendly Solutions". I became interested in this topic when I read a number of studies that suggested that environmental surface contamination plays a marked role in the transmission of microorganisms such as methicillin-resistant *Staphylococcus aureus* (MRSA) and *E. coli* in hospital settings. Consequently, this experiment was designed to test ten possible fabric choices for potential use in a hospital setting to see if they were microbial resistant and/or environmentally sustainable. My research indicates that fabric containing copper and silver alloys is the most effective, but because I am worried about the environmental impact of mining for metals, I am currently trying to devise a filtration system that can remove the copper that is discharged into, and wreaks havoc in, our wastewater in order to reclaim it for use in the manufacture of fabric. When I'm not studying science, I am busy with school and athletic activities such as rowing and field hockey. I'm also very involved in school environmental initiatives and leadership activities.

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$8 500