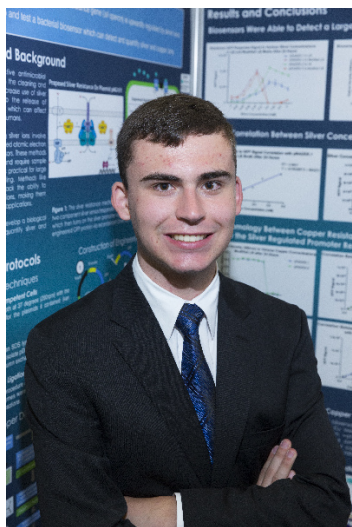


# CWSF 2018 - Ottawa, Ontario



## Adam Martinez

### An Engineered Biosensor for Detecting and Quantifying Silver & Copper Ions

**Challenge:** Environment

**Category:** Intermediate

**Region:** Waterloo-Wellington

**City:** Conestogo, ON

**School:** Waterloo Collegiate Institute

**Abstract:** Silver and copper ions are commonly used as antimicrobials in the cleaning and medical industries. However, there are medical and environmental concerns regarding their use, making detecting and quantifying these metals important. Presented here are two genetically engineered bacterial biosensors which are able to detect and quantify a variety of silver and copper ion concentrations.

#### Biography

My name is Adam Martinez and I am a grade 10 student from Conestogo-Waterloo, Canada. My main interests are in Molecular Biology, Biotechnology and Pure Mathematics. My research mainly deals with heavy metal antimicrobials, resistance mechanisms in bacteria, and applications in medicine and environmental sustainability. In Mathematics, I have a particular interest in Linear and Abstract Algebra. I also like playing the piano (grade 10 RCM) and violin, and studying foreign languages. Additionally, I enjoyed playing Macbeth and Oberon in school plays.

#### Awards

#### Value

Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	
Challenge Award - Environment - Intermediate Sponsor: Youth Science Canada	
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$4 000</b>