

# CWSF 2011 - Toronto, Ontario



## Adam Noble, Shayla Larson

### The Hazards of Nanosilver Uncovered

**Challenge:** Environment

**Category:** Senior

**Region:** Peterborough

**City:** Lakefield, ON, Lakefield, ON

**School:** Lakefield District Secondary & Intermediate

**Abstract:** This investigation examined the effect of nanosilver, an increasingly common commercial and industrial antimicrobial agent, on *Euglena*. This photosynthetic protozoan may represent an indicator of the potential impact of nanosilver on living organisms in fresh water ecosystems. Results of this study indicated that absorbed nanosilver is toxic to *Euglena* cells resulting in structural and functional changes and cell death.

#### Biographies

Adam - I am 17 years old and in grade 11 at Lakefield District Secondary School. My favourite subjects are science and math. I have been on the Honour roll every year. I am on the cross country running, Nordic skiing, rugby, badminton and track and field teams at school. Outside of school, I run with the Quinte Track Club, play rugby with the Peterborough Pagans, and Nordic ski provincially with the Kawartha Nordic team. I am active on the Student Council where I chair the dance committee. During high school, I have earned two medals at OFSSA for Nordic skiing, several COSSA medals for Nordic skiing and rugby and a Silver medal for cross country run...

Shayla - I am a 16 year old, grade eleven student at Lakefield District Secondary School. I have been on the Honour Roll every year and have earned the highest mark honour in many of my high school courses: four courses in grade nine and five courses in grade ten. I am also a member of my school's Student Advisory Council and volunteer at the Peterborough Regional Health Centre. I played boys' hockey until I was thirteen, with four of those years on the AAA Peterborough Petes team. In soccer, I played for Peterborough City Representative A girls' teams for five years. In 2008, I suffered a serious leg injury which prevented further participation...

#### Awards

#### Value

Canadian Stockholm Junior Water Prize Sponsor: Canadian WEF Member Associations, the Canadian Water and Wastewater Association, and Jacobs	\$2 000
The Manning Innovation Achievement Award Sponsor: Ernest C. Manning Awards Foundation	\$500
The Manning Innovation Achievement Award and \$4000 Manning Young Canadian Innovation Award Sponsor: Ernest C. Manning Awards Foundation	\$4 000
Challenge Award - Environment - Senior Sponsor: Encana Corporation	\$1 000
Excellence Award - Senior - Gold Medal Sponsor: Youth Science Canada	\$1 500
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$5 000
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
University of Manitoba Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: University of Manitoba	\$5 000
The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario	\$4 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
<b>Total</b>	<b>\$31 000</b>

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