

## CWSF 2011 - Toronto, Ontario



### Andrew Martin, Eric Stubley

#### Modelling Population Growth

**Challenge:** Innovation

**Category:** Senior

**Region:** Waterloo-Wellington

**City:** Cambridge, ON, Waterloo, ON

**School:** Cameron Heights C.I.

**Abstract:** This project aimed to create a computer model of bacterial population growth. It functions through modelling single cells and their environment, allowing the properties of a population to emerge. The cells and their environment are governed by original differential equations, which are numerically integrated using the Runge-Kutta method.

#### Biographies

Andrew - My name is Andrew, and as of CWSF I am 19 years old. I graduated high school last year, and I am taking this time before going to university in the fall to work and participate in some personal projects (like science fair!). I work as a junior software developer with a micro satellite company in Cambridge, Ontario, and am learning quite a lot about computer science and signal processing. I have been accepted at and plan to attend McGill University in the fall, pursuing an Honours Physics degree. A few personal hobbies of mine include music (writing, playing and singing) and athletics; I play the piano and am a self-taught guitarist, and I hav...

Eric - My name is Eric Stubley and I am 18 years old. I finished high school in February after completing the International Baccalaureate Program at Cameron Heights in Kitchener, Ontario. I currently work as a software developer at a company called exactEarth in Cambridge, Ontario. In September I plan to attend McGill University in Montreal for a combination of computer science and music.

#### Awards

#### Value

The Actuarial Foundation of Canada Award - Senior	\$1 000
Challenge Award - Innovation - Senior	\$1 000
Sponsor: Research In Motion	
Excellence Award - Senior - Gold Medal	\$1 500
Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship	\$5 000
Senior Gold Medallist - \$5000 Entrance Scholarship	
Sponsor: Dalhousie University, Faculty of Science	
UBC Science (Vancouver) Entrance Award	\$4 000
Senior Gold Medallist - \$4000 Entrance Scholarship	
Sponsor: The University of British Columbia (Vancouver)	
University of Manitoba Entrance Scholarship	\$5 000
Senior Gold Medallist - \$5000 Entrance Scholarship	
Sponsor: University of Manitoba	
The University of Western Ontario Scholarship	\$4 000
Gold Medallist - \$4000 Entrance Scholarship	
Sponsor: University of Western Ontario	
University of Ottawa Entrance Scholarship	\$4 000
Senior Gold Medallist - \$4,000 Entrance Scholarship	
Sponsor: University of Ottawa	
<b>Total</b>	<b>\$25 500</b>