

CWSF 2005 - Vancouver, British Columbia



Butterflies and Knees

Division: Health Sciences

Category: Junior

Region:

City: ,

School:

Abstract: The butterfly movement of a goalie can cause knee injuries. Tests discovered the effects of torque, force, and overextension on the knee. It was found that torque and force were likely to cause injuries but overextension of the knee was less likely. Ways to prevent these injuries were developed.

Awards	Value
The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
Silver Medal - Health Sciences - Junior Sponsor: Canadian Institutes of Health Research	\$700
Total	\$2 200

CWSF 2005 - Vancouver, British Columbia



Marianne Suwalski

Chlorine and Hair

Division: Health Sciences

Category: Junior

Region: Waterloo-Wellington

City: Waterloo, ON

School: Kitchener-Waterloo Bilingual School

Abstract: I investigated whether chlorine in water would change my hair and how. I tested chlorine concentrations at levels used in pools and spas. The changes in hair condition were observed by naked eye and under the microscope. Chlorine concentration variations had an observable effect on hair.

CWSF 2005 - Vancouver, British Columbia



Luke Santi, Jon Ruffolo

Einstein vs. Water Flea

Division: Physical & Mathematical Sciences

Category: Junior

Region: Waterloo-Wellington

City: Kitchener, ON

School: St. Paul Catholic School

Abstract: In "The (De)mystifying of Einstein's Speed of Light Postulate", The Perimeter Institute for Theoretical Physics uses the analogy of waves on a pond. This project extends this analogy to the other postulates of Special Relativity. Experimental results were in agreement. A quantum ether model is proposed that does not violate Special Relativity.

CWSF 2005 - Vancouver, British Columbia



Mihail Buse

Ergonomics Today

Division: Health Sciences

Category: Intermediate

Region: Waterloo-Wellington

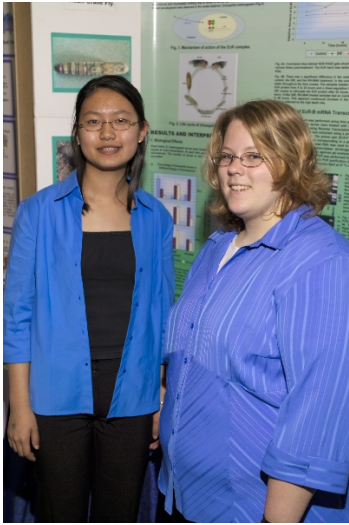
City: Kitchener, ON

School: St. Johns-Kilmarnock

Abstract: I researched the effects of repetitive movements and work environment demands on the human body. Using advanced statistical methods, the goal of the experiment was to minimize muscle contraction and to quantify the amount of impact each variable has on the upper body.

Awards	Value
The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Health Sciences - Intermediate Sponsor: Canadian Institutes of Health Research	\$300
Silver Medal - Automotive - Intermediate Sponsor: AUTO21	\$700
Total	\$3 500

CWSF 2005 - Vancouver, British Columbia



Katherine Sowden, Xue Liang

Hormonal Insecticides

Division: Biotechnology

Category: Senior

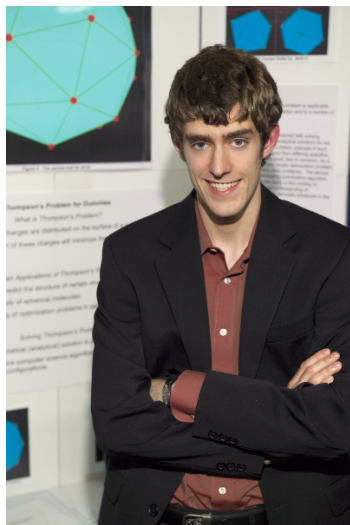
Region: Waterloo-Wellington

City: Guelph, ON

School: Centennial Collegiate and Vocational Institute

Abstract: The effects of the non-steroidal ecdysone agonist, RH-5849, on the development of insect larvae and the expression of ecdysone receptor (EcR) protein were investigated in *Drosophila melanogaster*. RH-5849 resulted in the apparent up-regulation of the EcR protein coincident with a significant death rate of larvae.

CWSF 2005 - Vancouver, British Columbia



Peter Forsyth

The Attraction of Repulsion

Division: Physical & Mathematical Sciences

Category: Senior

Region: Waterloo-Wellington

City: Waterloo, ON

School: St. Johns-Kilmarnock

Abstract: Thompson's Problem is the problem of distributing N identical point charges on the surface of a sphere so that total Coulomb electric energy is minimized. An original program was written in Java to find solutions to Thompson's Problem and a number of novel methods were used to analyze these solutions.

Awards	Value
Canadian Mathematical Society Award Sponsor: Canadian Mathematical Society	\$1 000
CAP Physics Prize - Senior Sponsor: Canadian Association of Physicists	\$1 000
CAP/TRIUMF World Year of Physics Award Sponsor: Canadian Association of Physicists	\$1 200
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
The University of Western Ontario Scholarship Gold Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
Gold Medal - Physical & Mathematical Sciences - Senior Sponsor: Encana Corporation	\$1 500
Total	\$10 700