

CWSF 2010 - Peterborough, Ontario



Noorain Shethwala, Sofia Oke

Chemosensitizers: The Answer to Cancer

Division: International

Category: Senior

Region: Waterloo-Wellington

City: Guelph, ON

School: Centennial Collegiate & Vocational Institute

Abstract: The experiment aimed to reduce the overall side effects of chemotherapy drugs by lowering the dosage of drug used. A BAX tumour suppressor gene and a fowl adenovirus were used as chemosensitizers, to induce apoptosis in colon cancer cells. The experiments proved that chemotherapy side effects can be lowered if patients are administered drug in tangent with a functional BAX gene or a fowl adenovirus.

Biographies

Noorain - Noorain Shethwala is a dedicated, hardworking grade 12 student at Centennial CVI. A few activities after school daily transgressed into a plethora of extra-curricular groups, honing various skills and abilities that have continued to help her in all her ventures. Her résumé now boasts of regional, provincial and national awards in the fields of science, business and the arts. Noorain was selected as a youth editor for the city newspaper, the Guelph Mercury. She is on the Ontario Education Minister's Advisory Council where she has participated in forums and conferences in order to dictate how the school system should be run. Through the va...

Sofia - My name is Sofia Oke, and I am a grade 12 student at Centennial C. V. I Guelph. At WWSEF, my partner Noorain and I recieved Gold in Senior Biotech. This past May, we presented our project at the annual Canada-Wide Science Fair and earned the Petro Canada Peer Innovation award. In my spare time I have been fortunate enough to volunteer with are Habitat for Humanity, Canadian Blood Services, St. Joeseph's Hospital and the Canadian Red Cross. I am a passionate member of Global Outreach, my school's humanitarian club, and the Red Cross Youth International Action Group. Also, this year I have had the pleasure of helping to organize my school'...

Awards

Value

University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Health Sciences - Senior Sponsor: Canadian Institutes of Health Research	\$300
Total	\$2 300

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CWSF 2010 - Peterborough, Ontario



Zach Elgood

Methane Production and Removal in a Denitrifying Streambed

Division: Health Sciences

Category: Intermediate

Region: Waterloo-Wellington

City: New Hamburg, ON

School: Cameron Heights C.I.

Abstract: Denitrifying bioreactors are efficient methods of removing surface water nitrate in agricultural areas. Possible side effects include greenhouse gas production. This study demonstrates a method for limiting methane emissions (up to 73%) from a stream-bed bioreactor. Additional research is required to optimize reactor design and determine the microbial processes occurring. Increasing usage of bioreactors requires technologies to minimize greenhouse gas emissions.

Biography

Zach Elgood is a 16 year old, grade 10, student attending Cameron Heights Colligate Institute. He is enrolled in the International Baccalaureate program and enjoys all types of scientific inquiry, while also having a passion for ancient history. He participates in a variety of school activities, including debate, math and science clubs, DECA (a business club) and a variety of music ensembles. In 2007 and 2008, he attended the Canada Wide Science and Engineering Fair, where he won awards in physical and environmental science. In 2009, Zach was a member of Team Canada at the International Science and Engineering Fair where he was awarded a third place grand award in Environmental Management. Most recently, he was awarded a gold medal at ISWEEP 2010. In his spare time, he enjoys reading and writing, traveling, karate, nature walks and the trampoline.

Awards

Value

The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Earth & Environmental Sciences - Intermediate Sponsor: Suncor Energy Inc.	\$300
Total	\$1 300

CWSF 2010 - Peterborough, Ontario



Daniel Moholia

Solar Wind Hybrids

Division: Life Sciences

Category: Intermediate

Region: Waterloo-Wellington

City: Kitchener, ON

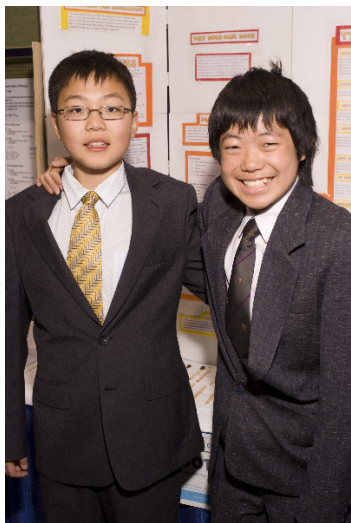
School: Cameron Heights C.I.

Abstract: The Solar Wind Hybrid is a vertical axis wind turbine with solar cells on its blades that is designed to harness the energy of the wind as well as the sun in an efficient way.

Biography

My name is Daniel Moholia and I am a student at W.T. Townshend Public School. I am currently in grade 8 and will be going on to the international Baccalaureate program in September. I am a committed student and thrive in the subjects of English, mathematics, and science. My goal is to become an environmental engineer and this project is one of the two that have prompted me to this dream. I want to serve my community and the world, and this is how I'm going to do it.

CWSF 2010 - Peterborough, Ontario



Steven Liu, Kevin Peng

Stick It To The Man

Division: Physical & Mathematical Sciences

Category: Junior

Region: Waterloo-Wellington

City: Waterloo, ON

School: Centennial P.S.

Abstract: The strengths of different adhesives were investigated, including our all natural and edible glue, GLeu. It is composed of three active ingredients, water, sugar and mochiko (sweet flour rice). Once microwaved for 45 seconds at a high setting, a translucent paste is created. GLeu was tested against LePage's children's glue. The results show a 1.5 Newton advantage for our glue over LePage's children's glue.

Biographies

Steven - Steven is an active grade 7 boy in Waterloo, who goes to Centennial Public School. He has several hobbies which include basketball and chess. Steven plays on the Waterloo Wildhawks, the Waterloo rep basketball team. He also enjoys to play chess. He is currently the 7th top rated chess player in Canada for his age group, which is Under 13 Boys. This is Steven's first year participating in a science fair in secondary school.

Kevin - Kevin Peng is a grade 7 student at Centennial Public School. He is currently in the congregated gifted program. He continues to be involved in school art and science clubs, as well as the mentor program and athletic council. He enjoys playing musical instruments, which includes the electric guitar, acoustic guitar, piano and trumpet. He is not quite sure about his future post secondary career plans, however he enjoys math, science and arts. In the Waterloo-Wellington Regional Science Fair, Kevin and his partner, Steven, won numerous awards, including a gold medal and best in division. They also won the Sir Issac Newton Junior award, the Onta...

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Mackenzie Carter

STOL 'n Lift

Division: Life Sciences

Category: Senior

Region: Waterloo-Wellington

City: Maryhill, ON

School: St. John's-Kilmarnock School

Abstract: This project tested a new wing design that provides short take-off and landing characteristics for aircraft by redirecting the high velocity air from the engines ovetop of the wing. The effect of the design on both thrust and lift were tested to determine that the stall speed of any aircraft can be greatly reduced.

Biography

My name is Mackenzie Carter and this is my second time attending the Canada-Wide Science Fair. I build and fly model airplanes as a hobby. I am on the varsity soccer team at my school and I am a competitive Alpine snowboard racer. This year I trained with the Ontario Snowboard Club and represented Ontario at the Canadian Junior National Snowboard Championships. I have won best of fair at my school science fair for three years. At the 2008 Canada-Wide Science Fair, I was awarded bronze medals in Engineering and Automotive. During the summer I work as a soccer referee and kiteboard. Next year I will be attending university to pursuing my career as an Aerospace Engineer.

Awards

Value

International Summer School for Young Physicists Award Sponsor: Perimeter Institute for Theoretical Physics	\$2 500
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$4 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$20,000 Entrance Scholarship (\$5,000 each year for 4 years) Sponsor: University of Ottawa	\$20 000
The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario	\$4 000
Gold Medal - Engineering - Senior Sponsor: Youth Science Canada	\$1 500
Total	\$32 000

CWSF 2010 - Peterborough, Ontario



Jenny Tian, Leslie Bothwell

The Relation of Total Resistant Starch Concentration in Potatoes

Division: Earth & Environmental Sciences

Category: Senior

Region: Waterloo-Wellington

City: Guelph, ON

School: Centennial Collegiate & Vocational Institute

Abstract: This experiment will determine the effects of variations in environmental conditions to the resulting concentrations of resistant starch in the potatoes tested. Starch concentrations were analyzed using Englyst method and spectrophotometer readings against glucose standards. Results indicate refrigerated potatoes contain higher resistant starch and slowly digestible starch content.

Biographies

Jenny - My name is Jenny Tian, a grade 12 student in Centennial C.V.I. I enjoy involving myself to gain valuable experiences. In school, I am the executive for Nutrition Club and Prefects. As well, I have been a member of the MBA program, Music knights, OSAID, Mentor program, Chemistry club, Terry Fox committee and DECA. I have also competed in the International Career Development Conference, Kiwanis Music Festival, WWSEF, and Sanofi-Aventis Bio-talent Challenge. During my spare time, I enjoy playing badminton and fencing. Furthermore, as part-time jobs, I am an enthusiastic babysitter and a dedicated piano teacher. I enjoy challenging myself with ev...

Leslie - Leslie Bothwell has been a driving force behind environmental initiatives at community and school levels. In 2008, Leslie was among the youngest applicants selected as one of 270 Canadians to be trained by Al Gore and David Suzuki to deliver the "An Inconvenient Truth" presentation. As the Student Council's Environmental Coordinator, Leslie raises environmental awareness by organizing litter-less lunch campaigns, campus cleanups and recycling awareness programs. She also formed a recycling team and implemented the first functional recycling program at her high school in over 30 years. The model that was developed under Leslie's dynami...

Awards

Value

Honourable Mention - Biotechnology & Pharmaceutical Sciences Senior Sponsor: Youth Science Canada	\$100
Total	\$100