

## CWSF 2015 - Fredericton, New Brunswick



### Aidan Stoker

#### How Many Sugars are in Your Smoothie?

**Challenge:** Health

**Category:** Intermediate

**Region:** Yukon/Stikine

**City:** Whitehorse, YT

**School:** Vanier Catholic Secondary

**Abstract:** Hypoglycemia and diabetes require you to control your blood sugar levels. In my project, I use digestive enzymes to convert sucrose and lactose into glucose, and then measure the sugar concentration in common smoothie ingredients. I want to find out what smoothie ingredients would be best for a quick glucose boost or for a longer lasting sugar release, to help control blood sugar levels.

#### Biography

My name is Aidan Stoker. I'm 14 years old and live in Whitehorse, Yukon. I attend Grade 9 at Vanier Secondary School and my future goal is to be an engineer. I am a car fanatic, so leaning towards automotive engineering. I love to build things, and have earned the top award in our Territorial Bridge Building contest two years in a row. I enjoy mountain biking on our amazing Yukon trails and playing volleyball with my friends. I got the inspiration for my science fair project from my experience being active and playing sports, and needing a quick energy boost to keep my blood sugar levels up. Smoothies are a good snack and I wanted to know what ingredients would be best to keep my hypoglycemia under control. I would like to continue this research by expanding the type of foods tested and by looking deeper into how sugar levels affect the body in hypoglycemia and diabetes.



Youth Science Month  
Mois des jeunes scientifiques

**MARCH 2015**

science is  
**serious**

**fun**

## Celebrate the Next Generation of Scientists, Innovators and Entrepreneurs!

Every fall, Youth Science Canada calls on youth across the country to take up the challenge of doing a science project. More than half a million will do a project this school year and about 25,000 of these will compete in one of 100 regional science fairs held across Canada this winter and spring.

Along the way, these youth develop research, communication and presentation skills; they learn to ideate and innovate; and they learn how they can have an impact on the world. They do all of this while having fun engaging in hands-on science, challenging themselves and making amazing new friends.



As March is Youth Science Month, we invite schools, teachers, students, and families to join us in celebrating the imagination, initiative and innovation of Canada's young scientists by visiting their local science fair. To find the fair closest to where you live visit [youthscience.ca](http://youthscience.ca) and click on Find Your Fair.

Come and be amazed by what the next generation is accomplishing!

## Science In Her Words

Presented by L'Oreal Canada

Ladies, this is your time. Science has no gender, and we are thrilled to see the many women who have made great strides in science and technology over the years. We met up with a few Canada-Wide Science Fair alumni to talk about their experience as women pursuing the sciences.

### Q. From your experience, why do you feel it is important for women to get involved with science and technology?

VP – It is important for women to get involved with science and technology to establish a scientific community of diverse thinkers. This will expand the way science is studied and applied. In my experience, I was initially hesitant to become a Public Health Inspector (PHI) because I wasn't sure I could fit the "profile" of being one. I was worried I wouldn't be able to keep up in a career that involved science, and law enforcement; two disciplines that you wouldn't normally see women in. I got into this field to help change this view. Don't be fearful of what you want to do in life, and know that there is no "profile" in doing a particular job, or career.

### Q. What first drew you to your pursuit in the sciences?

AT – There were so many contributions that led to my pursuit of science – Owl Magazine's Dr. Zed, my grade school class projects and science fairs, an excellent high school chemistry teacher and my grade 12 science fair experience. I still have a distinct memory of taking my HUGE trophy home on the Go Train the night I won. The thought never crossed my mind that I couldn't pursue a career in the sciences.



**Alison Thompson**  
Chair, Canadian  
Geothermal Energy  
Association  
CWSF 1989



**Vivian Pang**  
Ryerson University  
studying to become a  
Public Health Inspector  
CWSF 2008

### Q. What are some of the best skills you developed through participating in science fairs?

VP – Science fairs taught me to not be afraid to ask the tough questions. Instead of just asking "why", ask, "why not?", one that I like to ask is, "Why should we care?", being curious and asking questions. If you are able to articulate scientific research to someone who may not be in sciences, or is in a different research field, you will be surprised how far this can take you.

### Q. Were there any challenges along the way?

AT – More scholarships were definitely needed in this area throughout my experience as a student. Securing lab time was an ongoing concern through my research. Having non-science parents didn't stop me at all. Their appreciation of taking me to science centres along with other things we did together just made science normal for me.

### Q. Do you have any advice for young women interested in science and technology?

VP – Don't be afraid to find ways to follow your scientific passions. Keep an open mind, be persistent, and have confidence in yourself. Young women have the capacity to change the way science and technology is studied and applied in real life, but in order for this to happen, they have to pursue it.

## Canada-Wide Youth Science Challenges

Youth Science Canada wants to engage youth in inquiry and critical thinking through science by answering a question or solving a problem that focuses on issues that are important to them, Canada's future and the world.

### Discovery

**Create** new fundamental knowledge based on your curiosity by asking a question and using the techniques of scientific inquiry to develop an answer.

### Energy

**Improve** our use of current energy sources, enable the transition to alternative energy sources, or reduce our energy footprint.

### Environment

**Reduce** our impact on, improve our understanding, and ensure the quality of water, air, soil, and the diversity of living things.

### Health

**Increase** our understanding of the human body, or apply science and technology to improve health, control disease, or support an aging population.

### Information

**Enhance** communication and our use of information using digital and networking technologies, or applications of new media.

### Innovation

**Combine** scientific principles with your creativity to develop a new material, structure, device, or system to solve a problem or improve an existing solution.

### Resources

**Develop** better ways to use our natural resources that provide sustainable sources of food, products, or prosperity.



# Canada-Wide Science Fair 2014 Platinum Award Winners

A week-long national event each May, the Canada-Wide Science Fair (CWSF) brings together 500 top young scientists from grades 7-12 (Sécolaire I-V and Cégep in Québec) from across the country to compete for nearly \$1 million in cash, scholarships and exclusive science opportunities. These finalists are selected at the 100 regional science fairs across the country, mostly in March and April, leading up to the national competition.

Below are profiles of the three Platinum Award winners at CWSF 2014 held in Windsor, Ontario.

For more information on CWSF 2015 in Fredericton, New Brunswick, May 11-16, visit [cwsf.youthscience.ca](http://cwsf.youthscience.ca).

## Au rythme de l'haptique

Thomas Imbeault-Nepton is a 13-year-old from St-Honore, QC whose project aimed to improve the quality of life for individuals suffering from Parkinson's disease. Thomas made this possible through a vibration system, similar to the common auditory system but with less constraints.

Thomas won a gold medal and the Platinum Award for Best Junior Project at the 2014 Canada-Wide Science Fair in Windsor. He also won the Junior Health - Challenge Award and an entrance scholarship to Western University and the University of Windsor.



## The Time-Integral of Distance: Uncovering A New Property of Fundamental Physics



Maya Burhanpurkar is a 15-year-old from Oro-Medonte, ON. Her project marks the discovery of a new fundamental property of physics, specifically the time-integral of distance.

Maya was already a Canada-Wide Science Fair Platinum Award winner, for her project at the CWSF 2012 in Charlottetown. She won her second gold medal and Platinum Award for Best Intermediate Project in Windsor along with The Actuarial Foundation of Canada Award and the Discovery - Challenge Award at the intermediate level. Maya also won an entrance scholarship to Western University and the University of Windsor.

## Picture This!: A Novel Approach to Limb Donor Identification & Prosthetic Design



Daniel McInnis, a 16-year-old from Ottawa, ON, developed a low-budget 3D scanner that is a valid option for making comfortable prosthetic limbs that are aesthetically accurate for the users wearing them.

In 2011, Daniel won a Gold Medal and a Platinum Award for Best Junior Project at the Canada-Wide Science Fair. For this project, Daniel won his second Gold Excellence Medal and the Best Project Award along with the Manning Innovation Achievement Award, the senior level Innovation - Challenge Award and entrance scholarships to Dalhousie University, the University of British Columbia, the University of Manitoba, the University of Ottawa, Western University and the University of Windsor.

## Are your students learning Smarter Science?

Your students could be **DOING** science, not just talking about it!

Smarter Science is a framework for K-12 science teaching and learning and developing the skills of inquiry, creativity, and innovation in any curriculum unit. Students in Smarter Science classrooms learn to DO science - not just talk about it - by questioning and investigating. Smarter Science is used by thousands of teachers - in every grade - who are engaging their students in real science.

Smarter Science workshops prepare teachers to successfully implement scientific inquiry in their classroom. Our team has trained teachers from coast to coast - in English and French. We currently offer three full-day workshops.

For more information, visit [smarterscience.ca](http://smarterscience.ca)

To book a workshop, call our toll-free number: 866-341-0040



Youth Science Month - Serious Fun!



Youth Science Canada  
Sciences jeunesse Canada

is published each March by Youth Science Canada for Canadian educators.

Youth Science Canada exists so Canadian youth are engaged through science in inquiry and critical thinking. To learn more about our programs, visit [youthscience.ca](http://youthscience.ca).



May 11-16, 2015  
Fredericton, NB

Youth Science Canada's  
54th annual  
Canada-Wide Science Fair

University of New Brunswick

School groups\* and public welcome:

Thursday May 14 - 1:00pm-8:00pm  
Friday May 15 - 9:00am-12:00pm  
Saturday May 16 - 9:00am-12:00pm

\*(Thu & Fri - advance booking required)

[cwsf.youthscience.ca](http://cwsf.youthscience.ca)