

OFFICIAL PROGRAM

# BASEF 2012

52<sup>nd</sup> Annual Bay Area  
Science and Engineering Fair

March 28 – March 31, 2012

Mohawk College of Applied Arts and Technology

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Mohawk College welcomes you to the

52nd Annual  
Bay Area Science and Engineering Fair

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## **TABLE OF CONTENTS**

Message from BASEF Chair	1
Schedule of Events	2
Message from Honourary Chair	3
Organizing Committee	4
Emergency Evacuation and Security Procedures	5
Map of Mohawk	6
Parent Pages	7, 8
The YES Mentorship	9
Volunteers	10
BASEF Champion Teachers	11
Sponsors and Benefactors	12
Activity Morning	14
Merit Award Judges	15-17
Special Award Judges	18
Floor Layout	20
Exhibitor Index	21-24
Project Listing	25-41
Special Awards	43-49
Scholarships	50
Merit Awards	51
Grand Prize & Trip Awards	54, 55

Cover image for BASEF2012 Official Fair Programme courtesy of the **ATLAS Experiment © 2012 CERN**.

**A new view of a black hole event** In some theories, microscopic black holes may be produced in particle collisions that occur when very-high-energy cosmic rays hit particles in our atmosphere. These microscopic-black-holes would decay **into** ordinary particles in a tiny fraction of a second and would be very difficult to observe in our atmosphere. The ATLAS Experiment offers the exciting possibility to study them in the lab (if they exist). The simulated collision event shown is viewed along the beampipe. The event is one in which a microscopic-black-hole was produced in the collision of two protons (not shown). The microscopic-black-hole decayed immediately into many particles. The colors of the tracks show different types of particles emerging from the collision (at the center).

The colour image can be found at: <http://www.atlas.ch/photos/events-simulated-black-hole.html>

BASEF2012 Official Program printed courtesy of ArcelorMittal Dofasco



## A MESSAGE FROM THE 2012 BASEF CHAIR

Ray Kranyak

Science Fairs have got to be one of the greatest things going - for three reasons:  
If you love to see excited kids ...  
If you love science and engineering ...  
And if you happen to witness exhibits that really change things in society.

Several former BASEF award winners pop into my head when I ponder society changers.

**Kayla Cornale** of Burlington - Kayla wanted to improve communications with her autistic cousin. She used the young girl's ability to memorize songs to devise a way for her cousin to talk, read and emote through melodies played on a piano. Kayla's now patented teaching system 'Sounds into Syllables' for helping children with autism overcome their communication and social development difficulties started at BASEF. She won top awards at several international science fairs, and her system is now being tested in several Ontario school districts. Kayla is currently studying at Stanford University in California.

**Ben Gulak** of Milton – Ben's prize-winning BASEF project on magnetic levitation morphed into an invention that could lead to a major eco-friendly development in small motor vehicles. Within four years of his first science fair win he developed a revolutionary new self-balancing unicycle/street bike, the electric-powered Uno. Ben is currently studying at the Massachusetts Institute of Technology and, with the help of \$1.25 million of venture capital from the CBC-TV show *Dragon's Den*, has started BPG Technologies to develop the Uno commercially.

**Aaron Hakim** - Aaron won a BASEF bronze medal as a grade 7 Appleby College student, using eggs to study osmosis and diffusion. He then became interested in neurodegenerative diseases such as Parkinson's disease after volunteering in a nursing home. For the next four years he received many top awards for his research at BASEF, the Canada Wide Science Fair, the Intel International Science and Engineering Fair and the SanofiAventis Biotech Challenge. In grade 10 he was the only high school student exhibiting at the Canadian Genetics Society Conference. Aaron is now studying molecular, cellular and developmental biology at Yale University.

This is the 52<sup>nd</sup> year of operation for BASEF, whose mission is 'to encourage young people in science and engineering'.

My hope for this year's student exhibitors is that you meet new friends, enjoy your experience and, above all, capture the passion of science fairs that leads to new research and the discoveries of tomorrow. You students are now part of over a half century of BASEF Alumni. I congratulate each of you on a job well done and wish you the best of luck.

BASEF is a volunteer driven registered charity. I would like to acknowledge the tremendous efforts of this year's Organizing Committee, who have dedicated countless hours toward making BASEF 2012 a success. My thanks also to the over 200 Merit and Special Awards Judges and to the nearly 80 volunteers who help run registration, safety and other fair activities. And a very special thank you to the staff of the host site, Mohawk College.

We'd like to welcome our new Honourary Chair, Zach Douglas. Zach is the President of McMaster Innovation Park, an entity affiliated with McMaster University, which has a mandate to re-develop a 37-acre brown field industrial site and transform it into an internationally recognized world class research and development park.

Arcelor Mittal Dofasco is returning as the Fair's title sponsor for the sixth year. Together with over 35 other sponsors and the many Special Awards donors, they make it possible for BASEF's students to excel in science and engineering. This year the total value of merit awards, special awards, scholarships and trip awards is expected to top \$150,000.

**Raymond T. Kranyak**  
Chairman, BASEF 2012

**Susan Olynyk**  
Interim Co-Chair

**Helen Barton**  
Interim Co-Chair

## **BASEF 2012 SCHEDULE OF EVENTS - All at Mohawk College Fennell Campus**



### **Wednesday, March 28 – On-Site Project Setup/Safety Check**

5:30 – 8:30 pm	Registration, set-up and safety checks	Gymnasium
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### **Thursday, March 29 - Student Activity Morning & Judging of Projects**

7:45 – 9:00 am	BASEF students arrive for Morning Activity	Gymnasium
9:05 – 9:30 am	Venture/Leap – McMaster Video Session	Theatre
9:30 – 10:15 am	Venture/Leap – McMaster Interactive Presentation	Theatre
10:15 – 10:45 am	Keynote speaker: Dr. Mick Bhatia Stem Cell Research at McMaster University	Theatre
10:45 – 10:55 am	Body Break: Ingrid Munson BASEF Committee Member/Teacher	Theatre
10:55 – 11:30 am	Green Age Design Presentation	Theatre
11:30 am – Noon	McMaster Chemistry Presentation - Professors Randy Dumont and Paul Harrison	Theatre
12:00 - 12:15 pm	Visiting Classes will be held in the auditorium until called to return to their buses.	Theatre
12:00 – 1:00 pm	BASEF students to bring their own bagged lunches. Students are not permitted to go elsewhere for lunch and must remain at their projects in the gym.	Gymnasium
1:00 – 4:00 pm	Judging interviews for BASEF students (BASEF participants must remain at their projects during judging)	Gymnasium

### **Friday, March 30 – Teacher Workshop: Project Based Science**

***Fair not open to Public and students.***

9:00 am – 4:00 pm	Teacher Workshop	By Invitation
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### **Saturday, March 31 - Public Viewing & Awards Ceremony**

9:00 am - 12:00 noon	Public Viewing - Projects are to remain in place until end of Award Ceremony.	Gymnasium
12:00 noon	Gym closes. NO project take-down permitted at this time	Gymnasium
11:45 am - 1:15 pm	Champions of BASEF luncheon	By Invitation
1:00 pm	Awards Ceremony seating opens	Theatre
1:30 - 3:30 pm	Awards Ceremony	Theatre
3:30 - 4:00 pm	Project take-down	Gymnasium
4:00 - 5:30 pm	Meeting with chaperones for trip winners and their parents	Gymnasium





175 Longwood Road South, Suite 105, Hamilton, ON, L8P 0A1

## A MESSAGE FROM HONOURARY CHAIR, ZACH DOUGLAS



It is my pleasure as Honourary Chairperson to welcome you to the annual Bay Area Science and Engineering Fair (BASEF).

I know from my own experience how important events like this can be in awakening a love of science and engineering in young people. Through participation in BASEF, students will be exposed to science, engineering and technology in a very important manner. The hands-on, project-based approach to the practice of these disciplines leads directly to thinking innovatively. Ultimately, innovation leads to new solutions to the challenges we face and to new opportunities for growth, both personally and as a society.

The success of an event like this depends on the hard work of teachers, parents, and event organizers. I would like to acknowledge this and thank them for their commitment and efforts.

Finally, to all the students who are participating in the fair, I want to recognize your hard work and dedication. Congratulations and all the best in the future.

Zach Douglas,  
President & CEO  
McMaster Innovation Park

Mr. Douglas is the President of McMaster Innovation Park, an entity affiliated with McMaster University, which has a mandate to re-develop a 37-acre brown field industrial site and transform it into an internationally recognized world class research and development park.

Since its inception, MIP has completed two buildings and has another under construction. As of the end of 2011, there are thirty tenants employing approximately 400 people on-site with the expectation that the number will grow to close to 500 once the McMaster Automotive Resource Centre is completed. Details of MIP's development are available at [www.mcmasterinnovationpark.ca](http://www.mcmasterinnovationpark.ca).

Mr. Douglas has been involved in economic development and business financing for more than 25 years.

Mr. Douglas has been active in the Hamilton Jobs Prosperity Collaborative, The Hamilton Economic Summit and the Hamilton Chamber of Commerce. Mr. Douglas has also served on the Board of Directors of a number of major Saskatchewan and Canadian companies and non-profit organizations including most recently serving on the National Board of the Arthritis Society.

Prior to 2006, Mr. Douglas has held leadership positions with Crown Investment Corporation of Saskatchewan and Saskatchewan Opportunities Corporation. Over the past 25 years, he has established relationships with the business, financial and economic development communities across Canada, and has worked closely with stakeholder groups to encourage collaborative approaches to economic development financing and business development.

Mr. Douglas holds a Bachelor of Law degree from the University of Saskatchewan.

## **BASEF 2012 ORGANIZING COMMITTEE**

### **MOHAWK COLLEGE, BASEF 2012 HOSTS**

President, Rob MacIsaac,  
V.P. Academic, Cheryl Jensen

### **CHAIR**

Ray Kranyak  
Helen Barton, Sue Olynyk – Interim Co-Chairs

### **TREASURER**

Eleanor O'Flynn, C.A.

### **REGISTRAR**

Steve Procyszyn

### **JUDGE IN CHIEF**

George Geczy  
Ass't: Mary Johnston

### **SCIENTIFIC REVIEW**

George Geczy, Tom Crawford  
Dr. Michael Coughlin, Dr. Robert Brown,  
Steve Procyszyn, Donna Stack-Durward

### **SPECIAL AWARDS**

#### **COORDINATING JUDGE-IN-CHIEF**

Jim Casey  
Ass't: Wanda Wray  
Sue Olynyk

### **SAFETY**

Neil Manmohan

### **FUNDRAISING**

Sue Olynyk (Chair), George Geczy, Dr. Peter  
Child, Ola Lunyk Child

### **STUDENT & TEACHER ACTIVITIES**

Kevin Hunt, Tom Crawford

### **CANADA-WIDE & INTERNATIONAL CHAPERONES**

CWSF: Cathy Hamilton (lead)  
George Geczy, Allison Boyd, Dan Bowman  
IISF: Cathy Collins (lead), Ming Chong

### **INFORMATION SYSTEMS**

George Geczy, Gerard Chiasson, Ken Moyle

### **MOHAWK COLLEGE REPS**

Dusty Noble, Peter Olynyk

### **SPONSOR REPRESENTATIVE**

Sandy Walker

### **FACILITIES**

Dan Bowman

### **AWARDS AND CEREMONY**

Gerard Chiasson, Wayne Bowdish  
MC's: Peter Olynyk, Cathy Collins

### **"CHAMPIONS OF BASEF" CHAIR**

Ola Lunyk Child

### **OUTREACH**

Allison Boyd, Wuchow Than, Ming Chong

### **SPECIAL PROJECTS & YES INITIATIVE**

Vanessa Scanga, Ryan Buist

### **VOLUNTEER RECRUITMENT AND COORDINATION**

Helen Barton, Glen Whitwell

### **PHOTOGRAPHY & GRAPHICS**

Wayne Bowdish

### **MARKETING AND PUBLICITY**

George Geczy, Helen Barton,  
Glen Whitwell, Deepa Aditya

### **FOOD PLANNING**

Mike Goulet, Dan Prowse

### **DISTRICT SCHOOL BOARD ADVISORS**

HCDSB: Susan Paradiso  
HDSB: Ron Ballentine, Ingrid Munson  
HWCDSD: Morris Hucal, Rob Lenjosek  
HWDSB: Sandra McEachern  
Six Nations (INAC): Kendra McKinnon

### **OFFICIAL FAIR PROGRAMME**

Janis Johnson, Wayne Bowdish

### **COMMITTEE MEMBERS AT LARGE**

Kristin Spafford, Brooke Chornaby,  
Jordan Higgins

Bay Area Science and Engineering Fair  
c/o Mohawk College  
135 Fennell Ave West, Room F175  
Hamilton, Ontario L8N 3T2

e-mail: [basef@basef.ca](mailto:basef@basef.ca)  
web site: [www.basef.ca](http://www.basef.ca)



**MOHAWK COLLEGE - EMERGENCY PROCEDURES**  
**BAY AREA SCIENCE & ENGINEERING FAIR (BASEF) – MARCH 28-31, 2012**



The following emergency procedures apply to Mohawk College's Fennell Campus. Please review and familiarize yourself with them so you know how to respond quickly and appropriately in the event of an emergency.

**EMERGENCY EVACUATION AND FIRE ALARMS**

- 1) At the sound of the alarm, go immediately to the nearest exit and leave the building.
- 2) Take a position away from the building. Remain outside until an "ALL CLEAR" has been given.
- 3) **EXTENDED EVACUATION** – You will be directed by Security and/or Fire Wardens to a sheltered location. If instructed, please move quickly and calmly to the designated location.

**PERSONAL SAFETY**

If you require immediate assistance for First Aid, Medical or Security reasons, contact Security Services by any of the following methods:

- 1) Dial Extension 55 on any College phone.
- 2) Emergency intercoms are located in the hallways throughout the College. Press the round button to speak directly to a Security Officer.
- 3) Bell pay phones have an emergency button identified by a yellow label. A sign above the phones identifies your location. Press the Emergency button and give your location to the Security Officer.
- 4) Outside Emergency Intercoms. These are recognizable by a blue light. Press the red button to speak directly to a Security Officer.

**Emergency Situations:**

Main Security Desk	Dial 55 on College phones or press the Emergency button on Bell pay phones, or press the button on the intercom
Police/Fire/Ambulance	Dial 9-911 on College phone or 911 on Bell pay phones

**Non-Emergency Situations:**

Main Security Desk	Dial 2003 on College phones
	Dial 905-575-2003 or 905-575-2316 on other phones

**LOCKDOWN AND HOLD AND SECURE**

- 1) If you hear a recorded announcement of a lockdown, immediately cease all activity.
- 2) **REMAIN CALM.** If you are able to do so, safely exit the building immediately.
- 3) **If you are in a hallway**, move to a room or other place of safety immediately.
- 4) **If you are in a classroom or office**, secure the doors, if possible, turn out lights, cover windows or pull shades. Remain quiet and out of sight, staying away from windows or doors.
- 5) Silence cell phones or other sound devices, stay quiet and await instructions. **DO NOT** open the door under any circumstances.
- 6) **If you are in an open area, such as Cafeteria, Library or Gymnasium**, follow the same steps as above. If there are no doors, take shelter under desks, tables, chairs or behind bookcases or other furniture or equipment.
- 7) **END OF LOCKDOWN:** a recorded announcement will be given by Security advising that the emergency situation outside the college has ended.





# BASEF 2012

**MOHAWK**  
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## Fennell Campus

### Wednesday March 28

Project Check-in and setup in **Gym**

5:30 pm to 8:30 pm

Student drop off at Main Entrance

Parking in lot **P10**

### Thursday March 29

Activity Morning in the **Theatre**

Students arrive 7:45 am to 8:30 am

Bus dropoff/pickup at **i Wing Loop**

Student car drop off at **Main Entrance**

Project Judging 12:45 pm to 4:00 pm  
in the **Gym**.

Parking in lot **P10**

### Saturday March 31

Public Viewing in the **Gym**

9:00 am to 12:00 pm

Awards Ceremony in the **Theatre**

1:00 pm to 3:30 pm

Parking in lot **P10**

- Disabled Access
- Pay Telephones (Quick Change Card)
- Pay Telephones with Volume Control
- Washrooms
- Accessible Washrooms
- Elevator
- Wheelchair Lift
- Parking (General Parking  
P10, P11, P13, P15)
- Entrances
- Emergency Phones
- Designated Smoking Area
- Information Kiosk
- Pay & Display Machine

## **The Parent Pages (or how to survive Science Fair!)**

### ***Congratulations on your wise decision to allow your child to participate in BASEF 2012 !***

For many students, it is the first time they are rewarded for their academic endeavours. Make no mistake, all student participants are rewarded with an enriching experience and a certificate of participation, not to mention the opportunity to meet and speak with other top students, and the official BASEF goody bag.

Many students and parents view science fair projects as a dreaded, compulsory school assignment and have no idea of the available rewards for successful science fair participants. At BASEF 2011, over \$140,000 in cash, prizes, awards and scholarships were shared by 375 students. We awarded 105 gold, silver or bronze Merit Awards (including almost \$10,000 in cash and \$67,000 in merit scholarships), 156 Special Awards (cash and scholarships totaling nearly \$22,000) and twenty all expense paid trips to national and international science fairs. Each of our medal winners received a \$500 entrance scholarship to Mohawk or Sheridan College.

### **Location of Events**

**Note:** All science fair activities will take place at Mohawk College, Fennell Campus in the Fennell Gymnasium or the McIntyre Theatre. Any changes or revisions to the plan will be posted on the BASEF website and will be announced at the fair.

**Parking and Science Fair Location at Mohawk College:** There will be signs directing you to the Science Fair as you enter the College from the Fennell Avenue or West 5<sup>th</sup> Street entrance. In general, parents are instructed to **park in Lot P10**. Volunteers, parking attendants and Security staff will be able to guide you to the Fennell Gym. There is a campus map included in this programme, or you can find a similar map at:

<http://www.mohawkcollege.ca/Assets/Documents/Maps/Fennell+PDF+Map.pdf>.

Parking ticket machines are located at P15, P13, and the Main Visitor's Lot. The machines accept cash only: coins, and \$5 & \$10 notes ONLY. The machines **do not** give change. See "Day by Day" for daily parking instructions.

### **Day by Day - Parent Responsibilities**

#### **Day 1 – Registration and Set-up – PLEASE NOTE IMPORTANT TIMING CHANGE THIS YEAR!!**

**Project set up** for the fair occurs **ONLY** on **Wednesday, March 28, 2012 from 5:30 – 8:30 pm at Mohawk College, Fennell Campus. After 5:00 pm parking in Lot P10 is FREE. Park, then carry your projects into the Gym.** Projects not set up by 8:30 pm will be deemed as "no shows" and deleted from the judging process. Your child will visit a registration desk and find out their assigned display area in the gym. They will have their photographs taken for ID badges and receive their goody bag. After the project is set up, one of our many safety inspectors will ensure that the project meets all safety guidelines. **Students cannot leave until their projects have been safety checked and passed.** The registration process and project set up usually takes less than an hour. **Be sure that all of the safety rules and regulations regarding project size, display materials and ethical guidelines with respect to human and animal testing have been followed.** Complete details are available on the official website: <http://basef.ca>

#### **Day 2 - Student Activity Morning, Thursday, March 29, 2012 @ 8:00 am – 12:00 noon**

Students will be welcomed by volunteers in the McIntyre Theatre beginning at 8:00 am. Events start at 9:00 am and include McMaster Leap/Venture, keynote speaker Dr. Mick Battia on Stem Cell Research, and the McMaster Chemistry professors.

## The Parent Pages (or how to survive Science Fair!)

### Day 2 - Lunch - Thursday, March 29, 2012 @ 12:00 noon - 12:45 pm

BASEF student exhibitors must bring their own lunch and eat in the gym, as there are no cafeteria facilities available for Science Fair students.

### Day 2 – Afternoon Judging, Thursday, March 29, 2012 @ 12:45 – 4:00 pm

Students are required to be at their projects for judging between 1:00 – 4:00 pm. **Teachers and parents are not permitted on the Gym floor after 12:45 pm** in preparation for judging, which starts promptly at 1:00 pm. Typically, each student will be interviewed by at least four judges.

When picking up students after Judging at 4:00 pm, Park FREE in P10 for 1 hour. Regular rates at any other time.

### Day 3 - Friday, March 30, 2012

The Fair is NOT open to students or the public on this day, as the Fair Committee will be busy compiling results, writing cheques, engraving trophies and preparing for the awards ceremony.

### Day 4 - Public Viewing and Awards Ceremony, Saturday, March 31, 2012

Park in Lot P10. A flat rate of \$5 will apply.

We ask that your children be at their projects for Public Viewing from 9:00 am - 12:00 noon. This is followed by the Awards Ceremony from 1:30 pm to approximately 3:30 pm in the McIntyre Theatre right across the hall from the gymnasium. Grand Prize trip winners and their parents/guardians will be required to stay after the ceremony for a brief meeting. There will be a break from 12 noon until 1:15 pm. There will be limited food service available on campus so you may want to bring your lunch. **Students may not remove their projects until after the Awards Ceremony.**

We strongly recommend that you attend the public viewing with your child. It will give you an opportunity to view all of the great projects on display, and to see your own child doing presentations for visitors.

**The Awards Ceremony** is the culmination of the Fair and where the hard work of our students is recognized. Project take down occurs after the Awards Ceremony because many of our participants are photographed and interviewed by the press in front of their award winning projects.

**Note:** Our trip award winners and a parent are required to attend a mandatory information meeting immediately after the Awards Ceremony (approximately 4:00 – 5:00 pm).

### Miscellaneous Information

**Dress code:** We suggest neat and casual, with the emphasis on neat.

**Food Allergies and Medical Issues:** We ask that you remind the BASEF folks at the Registration Desk and throughout the fair, of any food allergies or special medical issues that pertain to your children.

**There! Wasn't that easy? Congratulations to you and your young scientists and engineers!**

Be sure to visit the BASEF website ([basef.ca](http://basef.ca)) throughout the year. You'll find project pictures and abstracts from last year's fair, resource materials and important information about the next fair. Also follow the BASEF winners at [basef.ca](http://basef.ca) as they compete at the national and international science fairs. Their progress can be found in "Team BASEF", with links to Facebook and Twitter.

## The YES Mentorship: Our Third Year!

The YES (Youth Engaging in Science) Mentorship pairs at-risk youth with mentors in science and engineering at the university, college and in-school levels. Founded by Bay Area Science and Engineering Fair (BASEF) Organizing Committee members, Vanessa Scanga and Ryan Buist, the YES Mentorship recognizes the needs of primary and secondary school students in Hamilton and provides them with the opportunity of engaged learning. This initiative lends mentorship and guidance towards participating in the regional Bay Area Science and Engineering Fair (BASEF). If you are interested in participating through the YES mentorship, and wish to learn more about its opportunities, please contact Vanessa at [youthengaginginscience@gmail.com](mailto:youthengaginginscience@gmail.com).

BASEF has been instrumental in supporting the YES Mentorship and has created a Special Projects Chair to foster this initiative. The Mentorship is grateful to its partners: BASEF, McMaster Let's Talk Science, Hamilton Roundtable for Poverty Reduction, Hamilton Wentworth Catholic District School Board and Hamilton Wentworth District School Board. We would like to thank our participating mentors at McMaster this year for their outstanding project supervision of our secondary school mentees.

We are proud of all YES Mentorship students for their diligence and engagement in science and we wish all project participants the best of luck in this year's regional fair. GO TEAM YES!



**TAYLOR LEIBOW<sup>LLP</sup>**  
ACCOUNTANTS AND ADVISORS

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## THANKS TO BASEF 2012 VOLUNTEERS!

Ibrahim Abdel Malik  
Dana Bee  
Michael Blair  
Artrina Bowdish  
Wayne Bowdish  
Gail Britton  
Joy Carson  
Joseph Catibog  
Irene Chen  
Peter Child  
Brooke Chornaby  
Kristi Ciardullo  
Helena Collins  
Jenna D'Aurizio  
Vicki D'Aurizio  
Jessica Durance  
Trixie Ellithorn  
Natalie Fair  
Sarah Flaherty  
Victoria Flaxman  
Daxon Flynn  
Eleanor Frank  
Astrik Golendukhin  
Xin Guan

Rohit Gupta  
Mujda Hakime  
Aleah Henry  
Jordan Higgins  
Morris Hucal  
Michele Joch  
Preet Kaur  
Linda Kennedy  
Vitaliy Kolyuskin  
Jacob Krane  
Lorna Krauss  
Nicole Langballe  
Chris Latour  
Rob Lenjosek  
Joy Liu  
Vijay Malhotra  
Nicole Mangiacotte  
Angelica Martinez  
Moga Mathu  
Sandra McEachern  
Nancy Meadows  
Shari Mercer  
Jim Monkelbaan

Jude Morgan  
Erlinde Mulumba  
Bob Nafrada  
Ingrid Munson  
Jason Paquette  
Laura Pellizzari  
Pam Penny  
Elena Ramirez Cortes  
Doug Scott  
Matthew Scudetto  
Karan Seth  
Shirali Shah  
Aamir Shaikk  
Kieran Smith  
Lauren Smith  
Kristin Spafford  
Evgeniya Storozhilova  
David Thompson  
Gail Trevisani  
Bianca Verrecchia  
Sandy Walker  
Wanda Wray  
Norman Young  
Marilyn Young

### **Registration Team**

Rob Lenjosek  
Zenon Holadyk  
Morris Hucal  
Zenon Holadyk  
Kevin MacIsaac  
Jo-Anne Teoh

### **Photo Team**

Al Bates  
Dorothea Dragutoiu  
Jim Hamilton  
John Novak  
Victoria Duffy  
Jennifer Kerr  
Jake Krane  
Calina McNamara  
Omar Mourad

### **Mohawk College "The Agency" Students**

Tracy Delacroix  
Jared Huculiak  
Maria Karambelas  
Matt Mantle  
Darcy Oberding  
Amanda Tallon  
Adam Tuck

### **Mohawk College Event Management Program Students**

Susan Creer  
Victoria Duffy  
Jennifer Kerr  
Calina McNamara  
Stephen Miranda  
Heather Murray  
Jessica Tonelli





## BASEF 2012 Champion Teacher Recognition Award Winners

The Organizing Committee of the  
Bay Area Science and Engineering Fair  
congratulates the following teachers:

**Clive Shepherd**  
**Ancaster Meadow**



"was founder of Ancaster Meadow Intermediate Science Fair 2010 and mentor to two other staff regarding the fair."

"his science class students have improved in science drastically this year – I saw so many Level 4's at our school fair."

"Mr. Shepherd has been talking and raving about BASEF – the opportunity, the experience..."

"served as a volunteer judge BASEF 2006 to present."

**Beth Heska**  
**Oakville Christian School**



" works extremely hard each year to put on our school's fair and to prepare for BASEF."

"her dedication to each and every child."

"her constant hard work and passion for teaching science comes through in all that she does and her smile and genuine love for teaching show every day."

" has helped the grade seven and eight classes to develop projects that will benefit the world around us."

### **CONGRATULATIONS TO THE 2012 BASEF CHAMPION TEACHERS!!**

The Champion Teacher Recognition Award includes induction in the BASEF Champion Teacher Hall of Fame, a plaque, and \$100. A panel of BASEF Organizing Committee members selects the Champion Teacher Recognition Award winners from among those nominated online by their peers, parents and students.

**This award recognizes a science teacher who displays a remarkable ability to empower and excite student interest in science and who actively promotes the Bay Area Science and Engineering Fair.**

## SPONSORS - 2012

### TITLE \$15,000 +

ArcelorMittal Dofasco

### DIAMOND \$10,000 +

Mohawk College  
Primary Fluid Systems

### PLATINUM \$5,000 +

Bell  
McMaster University  
The Hamilton Spectator

### GOLD \$2,500 +

Lifetouch  
Taylor Leibow Accountants & Advisors  
Union Gas Ltd.  
Youth Science Ontario

### SILVER \$1,000

ASECO Integrated Systems  
Boehringer Ingelheim Canada  
Canadian Linen & Uniform Service  
City of Hamilton, Economic Development  
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# ACTIVITY MORNING 2012



McIntyre Theatre, Mohawk College

9:00 am – 12:00 noon - Thursday, March 29, 2012.

This year Activity Morning will be a series of presentations to both BASEF students and Grade 7 & 8 classes. The McIntyre Theatre is booked to capacity.

## Venture & LEAP Programs – McMaster University

Venture is a non-profit organization with a mandate to introduce children to the exciting world of engineering, science, and technology through fun and innovative interactive, hands-on activities. Venture runs two summer camps for elementary school students.

- Engineering and Science Camp for Grades 1-8: activities in chemistry, physics and biology, and mechanical, civil and materials engineering
- Computers and Technology Camp for Grades 3-8: computing and software familiarity through project design and interaction with state of the art technology

LEAP is a non-profit Engineering summer program run by McMaster University, whose main goal is to introduce high school students to the exciting world of Engineering. LEAP Programs introduce high school students to the many varied disciplines of engineering.

- Engineering Technology ( Engineering Physics, Software Engineering, Mechatronics & Robotics)
- Engineering Design (Mechanical, Materials, and Civil & Environmental Engineering)
- BioEngineering (Biomedical, Biochemical and Medical Engineering).

LEAP also offers a Headstart Programme to students entering first year Engineering at McMaster.

## KEYNOTE: Dr. Mick Bhatia

## Stem Cell Research at McMaster University

A recognized leader in human stem cell biology and applications, Dr. Bhatia of the Department of Biochemistry and Biomedical Science will give a presentation about McMaster Stem Cell research. By employing human stem cells as a model system, McMaster's Stem Cell and Cancer Research Institute (SCC-RI) explores the underlying cellular and molecular origins that initiate human cancer. The Institute's impressive shared facilities are designed to help mitigate the high cost of human stem cell research that has made entry into the field almost prohibitive for investigators in Canada. Always on the cutting edge of human stem cell research, Dr. Bhatia is part of a team of scientists at McMaster that integrates expertise and complements the efforts of other stem cell programs and centres in Canada and around the world.

## Green Age Design

Dante Tsafaridis, Sales and Marketing Co-ordinator for Green Age Design will present "From Hera to Tyche", Automation in Cargo Handling Technology. This presentation will open the minds of the students to the future of cargo handling. The future is becoming reality for the Carego Group of Companies which is based in Hamilton.

## McMaster Chemistry Profs

## - COOI- CHe-m CaBaReT

The department of Chemistry & Chemical Biology at McMaster is a vibrant place to study and do research in the chemical sciences. The quality of faculty, the quality of facilities and the strong links between the Chemistry department and other departments and programs means that McMaster Chemistry & Chemical Biology is one of the best departments in Canada to do productive research and gain hands-on access to modern instrumentation.

Dr. Randy Dumont has been a professor of chemistry at McMaster University for 20 years. Over many years teaching first year students, Randy learned a repertoire of chemistry demonstrations from which the show "COOI- CHe-m CaBaReT" evolved. Dr. Randy Dumont and Dr. Paul Harrison will be presenting the show to BASEF this year.

## MERIT AWARD JUDGES

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Matt Baxter

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Alexandru Stan

**ArcelorMittal Dofasco**  
Maureen Crane  
Stephanie Drywood  
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Allison Haluik  
Daniel Hoeksema  
Paul Martin  
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Dan Prowse  
Gavin Sheppard  
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**Barry University**  
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**Brock University**  
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**Canadian Decompression & Pain Centers**  
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The Hamilton-Halton Construction Association is a non-profit organization serving over 390 members (builders and related professionals) who are actively engaged in the Industrial, Commercial, Institutional (ICI) construction industry within the Hamilton and Halton areas.

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## MERIT AWARD JUDGES (Continued)

### McMaster University

Stephen Bieda (MacAUTO)  
 Sarah Daisy Kosa  
 Tomasz Czarny  
 Russ Ellis  
 Jane A. Foster  
 Danielle Franciscus  
 Velma I. Grover  
 James SeongJun Han  
 Angela Huynh  
 Preethi Jayanth  
 Mathy Jeyanathan  
 Lindsay Kalan  
 Andrew Kasza  
 Sarrah Lal  
 Kyuwon (Rosa) Lee  
 Nikola Lukenda  
 Ola Lunyk Child  
 Monika Malig  
 Marie McKeary  
 Jonathan O'Brien  
 Michael Parchimowicz  
 Parth Patel  
 Alicja Puchta  
 Jacqueline Roberts  
 Tarek Sadek  
 Peter Summers

Stephanie Taylor (iSci Program)

Brian Tuinema  
 Chris Verschoor  
 Elizabeth Weretilnyk  
 Kate Whalen  
 Michael Xu  
 Jonathan Yau  
 Charles Yin  
 Sehrish Zehra  
 Eva Szabo

### McMaster University Students

Jordan Bowman  
 Krupesh Patel  
 Ian Sinke  
 Perri Tutelman  
 Mischa Thesberg  
 Fiona Whelan

### Mohawk College

Cassandra Brait  
 Robert Gerritsen  
 Matt Kovacs  
 Miranda MacAulay  
 Brian Minaji  
 Peter Ormond  
 Sumant Patel  
 Vishal Patel  
 Brian Stefanchuk

### Montgomery Sisam Architects

Quinn Greer

### Natural Resources Canada

Kumar Sadayappan

### Ontario Ministry Children and Youth Services

David Lewis

### Quick Stop Variety

Preet Kaur

### Redeemer University College

Kyle Spyksma

### Retired

Paul Wehrle  
 Lars Nielsen (Acrylon Plastics)  
 Beverly Shepard (McMaster University)  
 Jennine Kafka (Microbiology Technologist)  
 Ray Procwat (Instructional Ass't, McMaster University)  
 Donald Stevens (St. Joseph's Hospital)  
 George Holliday (Elementary teacher)  
 Rose McQueen (Lab Technologist, St. Joseph's Hospital)

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## MERIT AWARD JUDGES (Continued)

### Retired (Cont'd.)

Ian David Brown (McMaster University, Physics)  
Robindra Singh (Mechanical Engineer)  
William Gizyn (Ontario Ministry of the Environment)  
Hansa Patel (Research Assistant In Biochemistry)  
Jennifer van Leeuwen  
Hans Bastel  
Otto Zander (Part-time Teacher, Sheridan College)  
Warren Johnson (High school teacher)  
Kathryn Lafferty (Medical laboratory technologist in  
Molecular Microbiology)  
Gary Closson (Dean, Sheridan College)  
Norman P. Young (Teacher)

### Royal Botanical Gardens

Dr. David A. Galbraith

### Self Employed

Peter Maxymuik  
Eric Harrison

### Spectrum Educational Supplies

Matthew Thompson

### Toronto General Hospital


Uswa Shahzad

### Trivaris Ltd. at McMaster Innovation Park

Michal Konstanty

### Unaffiliated

Aakash Bhargava  
Robert de Haan  
Jim Garrett  
Luciano Giancarlo  
Paige Hansen  
Jacqueline Rotondi  
Ravi Sagar



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### **Acquired Brain Injury Awards**

Susan Olynyk

### **ArcelorMittal Dofasco Awards**

Carolyn Barnes, Colin Chisholm, Dan Creces,  
Chris D'Angelo, Leslie Harschnitz, William Khuu,  
Vanessa Mazzetti, Jackie Stainton, Brent Steele,  
Mark Wemekamp, Ben Brady

### **Artistically Inspired Display Awards**

Cathy Collins, Cathy Hamilton

### **Bell Technology Awards**

Carol Adamo, Trish Jacobs

### **Canadian Institute of Mining, Metallurgy and Petroleum (Hamilton Branch) Award**

Shannon Clark

### **Canadian Nuclear Society (Golden Horseshoe Branch) Awards**

Kurt Stoll, Stephanie Langton

### **Cancer Assistance Program Awards**

Helena Streun, Derek Bishop

### **Chemical Institute of Canada, Hamilton Section Award**

Barry Smallbone, Don Barclay, Bert Halliday

### **Dillon Consulting Awards**

Ravi Mahabir, Alana Evers

### **Doris Casey Disability Solutions Award**

Jim Casey, Al Nicolls

### **Dr. Colin J.L. Lock Memorial Chemistry Award**

Dr. Nicola Simmons, Kit Simmons

### **Dr. Nicola Simmons Award in Cognition Studies**

Dr. Nicola Simmons, Kit Simmons

### **Electrical Construction Association of Hamilton Award**

Joe Kurpe

### **Farncombe Family Digestive Health Research Institute Award**

Elena Verdu

### **Hamilton Association daVinci Award**

Tony Petric, Ludvik Prevec, Michael Jefferson

### **Hamilton Chamber of Commerce Innovation Award**

Kevin Browne, Brett Moore, Jim Rudnick,  
Carolann Bosett

### **Hamilton-East Wentworth Rotary Awards**

Jack Hawes, Wayne Dingell

### **Hamilton Wentworth Occasional Teacher Local Awards**

Barbara Wallace, Erini Zacharidis

### **Hidden Science Award**

Victor Starecky

### **Hillfield Strathallan College Awards of Excellence**

Marc Edgar

### **Horizon Utilities Corporation Award**

Carmine Calabrese, Paul Wardell

### **IEEE (Institute of Electrical & Electronic Engineers)**

### **Hamilton Section Awards**

Blair MacCuish

### **International Science & Engineering Affiliated Fair Awards**

Cathy Collins, Megan Schlorff, Lexie Penny

### **James A. Winger Award sponsored by Hamilton**

### **Amateur Astronomers**

Don Pullen, Brenda Frederick

### **John. W. Howard Materials Research Award**

Dr. Nicola Simmons, Kit Simmons

### **Laurentian Chapter of SETAC Award**

Eve Gilroy, Dave Rogers, Joel Nichols, Oana Birceanu

### **LEAP Award of Innovation**

Rachel D'Agostino

### **McMaster Engineering Society Award**

Joyce Lam, Zachary Strong, Vinodh Rodrigues

### **McMaster University Faculties of Science & Engineering Tuition Awards**

Dr. Spencer Smith, Ruth Nicholson

### **Mechanical Contractors Association of Hamilton Award**

Anthony DeChellis

### **M.G. DeGroote Institute for Infectious Disease Research Internship Award**

Dr. Karen Mossman, Dr. Dawn Bowdish

### **Mohawk College School of Engineering Technology Awards**

Chris Blackwood, Bruce Johnston, Brian Minaji,  
Brian Stefanchuk, Robert Gerritsen

### **Nelson Steel Award**

Shannon Clark

### **OCRIT-SCCRI Regenerative Medicine Award**

Ryan Mitchell, Alison Boyd

### **Primary Fluid Systems Awards**

Sandy Walker

### **Procor Engineering Awards**

David Thorpe

### **Professional Engineers Ontario Hamilton-Burlington Chapter Awards**

David Dean, Heather McClintock, John Stockton, Brian McCormick, Erika Kadar,  
Michelle Chin, Ken Attard

### **Professional Engineers Ontario (Oakville Chapter) Engineering Awards**

Zack Teclemariam, Van-Thiet Huynh,  
Raymond Lennark

### **SPIE Optics & Photonics Science Fair Award**

Sara Hoffman, Ostman Ahmed, Gregory Gomes

### **Venture Engineering Innovation & Science Award**

Erin Middaugh

### At ISEF2011



In May 2011, Westdale Secondary School Grade 9 student Sarah Flaherty advanced from BASEF2011 to the Intel International Science & Engineering Fair held in Los Angeles, California.

There she earned a \$10,000 Google Secret Change Agent Special Award.

Her project involved designing and testing a filter using clothing fabric from a T-shirt to reduce the turbidity — or cloudiness — of water, allowing Solar water Disinfection (SODIS) to be implemented in a wider variety of scenarios. Her work caught the eye of judges, who picked her for the prestigious prize.



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## EXHIBITOR INDEX

Abbas, Hiba	R08
Abbas, Momina	K19
Abdalaal, Nadeen	M15
Adams, Finley	G11
Adams, Nicholas	L12
Aditya, Ishan	D25
Ahmed, Eisha	R21
Ahmed, Sana	K20
Ahmed, Sanaa	R03
Akdeniz, Isabelle	K04
Alama, Yvonne	N05
Albano, Andrew	P15
Aldridge, Paige	B19
Alsaqqar, Marwa	G17
Anacleto, Victoria	Q18
Anand, Manan	K14
Anazodo, Daphne	D01
Anderson, Danielle	B15
Anderson, Malcolm	G16
Antoun, Andrew	D17
Anvari, Bijan	G04
Arski, Nicole	F19
Arski, Olivia	F19
Ashurst, Patrick	L16
Ayoub, Tiffany	L05
Aziz, Nabiha	K10
Baccala, Michela	P20
Badowski, Natasha	F15
Badzioch, Nicole	B11
Badzioch, Rachel	B10
Bailey, Hannah	R16
Bajwa, Hamza	K26
Barbato, Skye	D04
Bastel, Ryan	P19
Begon, Jenna	C07
Behnke, Katrina	P09
Bell, Amy	L02
Bennett, Katie	K08
Bennett, Ryan	L19
Bercik, Alex	A02
Bercik, Erik	A02
Bergman, Jackson	N07
Bhadresa, Dhwani	L11
Bhambra, Shaan	L06
Bohm, Graham	B23
Borsellino, Christian	A03
Bourgeois, Robin-Lynn	G20
Bowman, Catharine	C02
Boyd, Isabel	C24
Boytchuk, Shelby	K01
Brenninkmeijer, Charles	D15
Brent, Katie	M11
Broader, Madison	H21
Bogan, Nicola	M09

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Bromke, Cadi	M12
Bronsard, Sylvie	N05
Bruins, Neuman	A03
Bryers, Madison	P20
Bucher, Nathan	D21
Buretic, Jacqueline	A19
Button, Lourdes	B19
Bzowey, Daniel	N19
Calotti, Martin	E08
Campanella, Lucas	B13
Campbell, Spencer	R10
Campolo, Grace	P12
Carbone, Michael	A12
Carleton, Miranda	E01
Carr, Leah	F07
Carroll, Johnny	H02
Cayenne, Adama	E15
Cayenne, Kai	E15
Centritto, Corrina	D12
Ceranic, Hunter	P17
Cerilli, Olivia	H11

## EXHIBITOR INDEX (Continued)

Challen, Henry	G15	DiFeo, Ian	C09	Hanlon, Jasper	R13
Chan, Eunice	K15	DiMaria, Joseph	N12	Harper, Shane	B05
Charet, Isabella	B18	DiSalle, Chris	D02	Harrison, Tyler	A09
Chen, Andy	L03	Dissanayake, Sarah	F21	Heidary, Courtney	D22
Cheng, Couby	P05	Djurfeldt, Samuel	D02	Hendy, AbdelAziz	K22
Chisholm, Aidan	A17	Dobrovolskis, Nick	L18	Hilbert, Lucy	G07
Chow, Derrek	A05	Dolan, James	D07	Hinds, Daniel	E16
Chowdhury, Nader	M08	Donnachie, Brendan	E10	Hobbes, Carson	F10
Christiansen, Sydney	C04	Dosunmu, Tayo	E05	Hogg, Ashley	E06
Chu, Abby	F18	Drake, Sarah	G08	Holford, Robert	C16
Chu, Emily	H22	Dreger, Kaitlin	F04	Horn, Kelsey	D03
Chu, Kim	G22	Duan, Xiaorong	K17	Houldsworth, Nayiri	D19
Cianciosi, Sabrina	P10	Dunlop, Jack	F26	Howley, Connor	M10
Ciardullo, Sophie	B18	Dunn, Lyndsey	B08	Hronyecz, Hanna	C17
Clark, Jessica	N13	Dunn, Maggie	B08	Huang, Lucy	N08
Clarke, Brevin	H01	Dunne, Holly	F22	Hucal, Adrian	D10
Clasper, Cameron	D14	Dyer, Brianna	E26	Hull, Andrew	L19
Clements, Simon	P07	Earn, Arielle	M05	Hunt, Ryan	A15
Cline, McKenzie	Q20	Edwards, Kayley	N16	Hyder, Areeb	M19
Collyer, Mackenzie	E20	Eggink, Cassandra	E24	Islam, Saif	K25
Connelly, Clarisse	F23	Elliott, Rachael	R14	Islic, Martin	B05
Conti, Natalie	B12	Esposito, Christina	H15	Iwachiw, Christine	F03
Cooke, Ryan	L01	Estrada Larios, Emanuel	A13	Jain, Netaasha	G01
Costie, Hayley	A14	Falco, Laura	G01	Jang, HwiWon	E02
Coutinho, Lyndsey	F06	Fan, Jason	N06	Jelinek, Jack	K03
Cowe, Justice	M12	Fenner, Cassie	B04	Johnson, Malik	F05
Cowell, Brynne	E13	Fenwick, Shannon	N10	Johnstone, Olivia	K18
Cubelic, Joseph	B06	Ferenszkiewicz, Kacper	B06	Joice, Calyssa	R14
Cuervo-Lorens, Isabella	F14	Filice, Adrian	F09	Jones, Chrystyn	G25
Cui, Shuming	R11	Firth, Shelby	C18	Jordan, Esmee	B22
Cupido, Annie	A16	Fishman, Scott	F24	Jorey, Grace	R18
Cupido, Patrick	A16	Fletcher, Ryan	K12	Kabelin, Olivia	E14
Curtis, Michelle	D22	Forrester, Wadia	E04	Kahzam, Aisha	A08
Curto, Sophia	M07	Fortino, Mark	A11	Kamps, Tate	F14
Czarnuch, Connor	G13	Freedman, Beatrice	M05	Kannenbergh, Rachel	H14
da Silva, Madeline	C07	Frey, Alysha	K07	Kelly, William	F20
Da Silva, Malton	F05	Fulton, Daniel	F10	Keranovic, Mediha	K13
Daly, Jaedon	R20	Fusch, Alina	M16	Keravica, Samuel	F08
Daly, Tai	M20	Gallagher, Ryan	H16	Kerman, Keleila	P09
D'Andrade, Tanya	P13	Gavran, Ivona	Q15	Khalid, Rumaina	R06
D'Angelo, Julia	B11	Gillett, Hannah	C12	Khan, Khadeja	K24
D'Attoma, Meagan	D24	Gima, Sam	A05	Kinzie, Liam	G15
Davies, Colton	R11	Gingrich, Scott	F13	Klid, Nicholas	G03
Davies, Dalaura-Angel	H15	Giustizia, Nathan	B21	Kluge, Steven	D07
Daynes, Noah	B02	Gong, Sunny	N08	Knight, Jessica	B09
Deery, Molly	G23	Grebe, Danielle	D18	Kocsis, Jayde	F04
Dela Cruz, John Marc	N18	Grebenc, Jack	N09	Kolios, Christopher	G02
Deng, Jiayi	H06	Greyvenstein, Alexander	L08	Koo, Samuel	D13
Dennison, Isabella	H04	Gunnell, Sarah	R15	Krishnan, Rohit	D03
Denomey, Christopher	C14	Habicht, Carolyn	L15	Krnjeta, Sophia	K18
Denomey, Nick	M04	Habicht, Thomas	L14	Krzmaric, Paul	M01
Desjardins, Annagrace	R17	Hall, Hanna	H03	Kuhad, Abhiti	K09
Dhillon, Himmat	H24	Hamilton, Hailey	P12	Kuhn, Rebecca	M02
Dhillon, Karan	E17	Hamilton, Holly	L20	Labarentos, Jaivynz	C10
Dietrich, Genevieve	C06	Hamilton, Karley	B25	Laitar, Jamie	L11

## EXHIBITOR INDEX (Continued)

Lam, Alicia	A08	Mikhaeil, John	L10	Rintoul, Sidney	C20
Lamarche, Gracie	P06	Miller, Dominique	K02	Rivas-Gonzalez, George Robert	D08
Lamy, Gabrielle	L20	Mirza, Manaal	R04	Robertson, Emma	G05
Lapko, Spencer	D15	Misale, Sarah	P11	Robertson, Matthew	F12
LaPointe, Alex	B03	Moahid, Mohammad	R07	Robillard, Jess	R09
Laskowski, Andrew	D13	Mondal, Tuneer	N04	Rodriguez, Jerome	H13
Lavallee, Dhestinee	P06	Montaque, Tyler	A10	Roglich, Christina	F01
Lavoie, Ross	P08	Morales, Natalia	H09	Rolland-Mills, Jenna	P04
Lawson, Emma	C17	Morris, Emily	L05	Rosha, Sehajpal	D26
Le, Michael	B07	Mossman, Curtis	M09	Rotella, Anthony	C11
Le, Nancy	H19	Muhammad, Imran	F11	Rucchin, Zach	C19
Leadbetter, Sophie	G11	Mulholland, Evan	L13	Rudolph, Benjamin	L17
Leaker, Victoria	Q19	Mullens, Alexander	R12	Rudolph, Josh	F11
Lekhram, Varshinie	E11	Mun, Amir	L13	Ruggiero, Asia	E11
Lesiuta, Megan	B22	Murphy, Shannon	C04	Rzepka, Anna	C05
Levey, Alyssa	P13	Nair, Devika	C21	Salahuddin, Arisha	F16
Li, Pei Yuan	N11	Najda, Michael	H17	Saleri, Omema	K21
Liang, Daicheng	C23	Naseem, Wafa	K13	Samson, Shane	A18
Lindo, Kyrelle	H08	Nash, David	A21	Sangha, Manjot	E25
Liszek, Izabella	H14	Nasir, Addia	R02	Sanguenza, Julia	B12
Lorenz, Bailey	N11	Nguyen, Lily	K16	Santin, Joshua	L17
Lounsbury, Emma	C25	Nie, Cherry	M15	Savage, Jacob	E12
Lourenco, Filipe	G26	Nielsen, Sarah	D24	Scarlett, Amber	M20
Lyengar, Yajur	M06	Nong, Elaine	K19	Schneider, Sophie	B17
Lywood, Kassidy	R15	Norris, Meghan	E09	Scholes, Matt	F24
Mackereth, John	N07	Novosel, Hunter	G18	Schredl, Nicole	B17
Mahetaji, Kaushar	N17	Odetunde, Tori	E07	Schreutelkamp, Hannah	E03
Mahmood, Danya	G21	Okumura, Michaela	B15	Schwarz, Olivia	P03
Makino, Matt	R19	Orlando, Michael	B24	Scott, Jacob	A12
Malikov, Mikayil	A01	Palumbo, Natalie	H23	Sebastian, Navya	B16
Maly, Isie	D01	Panag, Nishan	L09	Sharp, Brooke	P11
Manzella, Mario	L07	Panunto, Ashley	B16	Sharpley, Beth	B25
Marfisi, Julianna	B10	Papangelakis, George	N12	Shaw, Srinidhi	G10
Mariglia, Elia	C08	Patel, Shri	A21	Shyamkumar, Krishnan	G03
Marin, Julia	E10	Peirce, Mackenzie	C15	Silva, Sonia	H07
Markar, Aaqib	M18	Pellizzari, Sierra	P16	Simpson, Samantha	F07
Marshall, Keiko	F22	Phillips, Claire	N10	Skoczny, Mikayla	Q15
Martin, Jade	G09	Pigorsch, Jacob	L01	Skotar, Ivanna	F03
Martinez-Guasch, Fernando	H20	Potter, Nicholas	B01	Slye, Shannon	Q16
Marway, Bhaag	L03	Prodger, Joshua	F20	Sobaan, Hasaan	E21
Mastai, Daniel	F08	Proudfoot, Erin	R09	Socha, Konrad	B03
McAllister, Krista	P16	Pyziak, Moya	D09	Sood, Swati	G19
McAlpine, Grace	C22	Quinlan, Benjamin	K05	Springer, Elizabeth	R20
McArthur, Taylor	F25	Qureshi, Moeyyad	A01	Spytkowsky, Ariana	F02
McBrien, Heather	N03	Radic, Milan	E19	Stanton, Charlie	N09
McDonald, Matthew	B01	Radwan, Khalid	R01	Starr, Liam	N04
McFarland, Maria	D05	Randell, Nick	H26	Stevens, Tyson	G14
McGregor, Olivia	N20	Rank, Devon	C26	Stewart, Trevor	B14
Mckelvie, Hayle	R16	Rego, Natasha	M07	Stoll, Kathleen	D11
McLean, Maisie	D16	Reurink, Alec	D06	Strathdee, Ethan	N14
McNeil, Holly	G09	Rey, Alexander	H12	Stremble, John	C01
Medina, Katrina	D09	Rezk, Melissa	B20	Suwala, Emilie	B04
Mercer, Mariah	R17	Ribau, Dylan	H05	Swenor, Gordon	G06
Messom, Kaitlyn	A09	Richardson, Nicholas	G02	Szafran, Andréa	A20
Michalski, Camilla	H18	Riewald, Gabriella	E24	Tackey, Joel	E17
Michelsen, Christian	C13	Rillo, Michael	P14	Tam, Giovanna	A19

## EXHIBITOR INDEX (Continued)



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Tam, Michael	A18	Van Dyk, Meghan	E23	Williams, Margaret	K06
Tam, Mikayla	Q17	van Voorst, Jacob	N19	Williamson, Justin	M14
Tassone, Accalia	B26	VanDeventer, Kaitlyn	Q20	Wilson, Joren	E16
Taylor, Chace	R10	Vastis, Peter-George	M01	Wong, Geoffrey	K14
Taylor, Destiny	F06	Vavallo, Antonio	P18	Xu, Dennis	E25
Tam, Mikayla	R25	Vickramasinghe, Amy	A04	Xu, Kayley	G12
Tasneem, Rafia	R05	Viddayakorn, Arisa	H25	Yee, Shannin	L09
Tassone, Accalia	B26	Vieira, Adam	D23	Yuen, Lucas	E19
Taylor, Chace	R10	Vinken, Emily	M13	Yung, Spencer	P07
Taylor, Destiny	F06	Vis, Jaden	G24	Yusuf, Arjuna	M17
Tersteege, Ariana	E22	Vo, Kiet	D17	Zamora, Edmund	A07
Thirakul, Johnny	G18	Vu, Anna	L04	Zandstra, Laura	E23
Thomas, Harrison	D20	Walter, Jakob	C03	Zarankin, Connor	H10
Tobias-Murray, Hannah	C20	Wang, Jeffrey	A06	Zarankin, Jacob	H10
Toure, Moustapha	M08	Wang, Michelle	N16	Zeng, Amy	G19
Tutty, Matthew	F09	Way, Whitney	F17	Zerrouk, Miriam	K23
Uhlman, Larissa	E18	Weaver, Jacob	M03	Zhang, Boya	N15
Urosevic, Mila	P05	Wiepjes, Amanda	K08	Zhou, Kevin	A06
Valchuk, Christopher	L16	Williams, Ainsleigh	P10		

## PROJECT LISTING

### **A01 Video games : The mind's breaking point**

Moeyyad Qureshi, Mikayil Malikov  
Jr 7/8 Health Sciences Human  
Westview, HWDSB

### **A02 A Novel Rooftop Wind Turbine for Convenient Residential Use**

Alex Bercik, Erik Bercik  
Int 9/10Eng & Comp Sci  
Westdale, HWDSB

### **A03 The Farnsworth Fusor, a Star in a Jar**

Christian Borsellino, Neuman Bruins  
Int 9/10Eng & Comp Sci  
Westdale, HWDSB

### **A04 Turn Down that Music!**

Amy Vickramasinghe,  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **A05 Microwaves: Helpful or Harmful**

Derrek Chow, Sam Gima  
Jr 7/8 Life Sciences Non-Human  
W. H. Morden Public School, HDSB

### **A06 Hocus Pocus, Colourful Light in Focus!**

Jeffrey Wang, Kevin Zhou  
Jr 7/8 Phys & Math Sci  
W. H. Morden Public School, HDSB

### **A07 Double Trouble - The Effects of Multitasking**

Edmund Zamora,  
Jr 7/8 Health Sciences Human  
Trinity Christian School,  
Independent

### **A08 Oil Spill Clean Ups, Working Or Not?**

Aisha Kahzam, Alicia Lam  
Jr 7/8 Earth & Env Sci  
Sunningdale Public School, HDSB

### **A09 Fillers and Chemicals Have Got Nothing on Us**

Kaitlyn Messom, Tyler Harrison  
Jr 7/8 Earth & Env Sci  
Sunningdale Public School, HDSB

### **A10 Carbonation Explosion Theory**

Tyler Montaque,  
Jr 7/8 Phys & Math Sci  
Sts. Peter & Paul, HWCDSB

### **A11 The Electrical Conductor**

Mark Fortino,  
Jr 7/8 Phys & Math Sci  
St. Therese of Lisieux, HWCDSB

### **A12 Oil and the Environment Do they mix?**

Michael Carbone, Jacob Scott  
Jr 7/8 Earth & Env Sci  
St. Paul, HWCDSB

### **A13 Flow and Matter**

Emanuel Estrada Larios,  
Jr 7/8 Phys & Math Sci  
St. Mark, HWCDSB

### **A14 Can You Feel The Beat?**

Hayley Costie,  
Jr 7/8 Health Sciences Human  
St. Mark, HWCDSB

### **A15 Was Edison Right?**

Ryan Hunt,  
Jr 7/8 Earth & Env Sci  
St. Margaret Mary, HWCDSB

### **A16 What's A Little Bump On The Head ?**

Annie Cupido, Patrick Cupido  
Jr 7/8 Health Sciences Human  
St. Margaret Mary, HWCDSB

### **A17 Total Chaos**

Aidan Chisholm,  
Jr 7/8 Phys & Math Sci  
St. John the Baptist, HWCDSB

### **A18 A Wii Concussion**

Michael Tam, Shane Samson  
Jr 7/8 Health Sciences Human  
St. David, HWCDSB

### **A19 Do You Hear What I See?**

Giovanna Tam, Jacqueline Buretic  
Jr 7/8 Health Sciences Human  
St. David, HWCDSB

### **A20 Solar Power A Brighter Future**

Andréa Szafran,  
Jr 7/8 Earth & Env Sci  
St. Agnes, HWCDSB

### **A21 Mission: Military Medical Evac Device**

David Nash, Shri Patel  
Jr 7/8 Eng & Comp Sci  
Sir William Osler, HWDSB

### **B01 The Placebo Effect**

Nicholas Potter, Matthew McDonald  
Jr 7/8 Health Sciences Human  
St. Paul, HWCDSB

### **B02 De-icers and the Environment**

Noah Daynes,  
Jr 7/8 Earth & Env Sci  
St. Paul, HWCDSB

### **B03 Foods That Cause Cancer**

Alex LaPointe, Konrad Socha  
Jr 7/8 Health Sciences Human  
St. Mark, HWCDSB

### **B04 Spoiler Alert**

Emilie Suwala, Cassie Fenner  
Jr 7/8 Life Sciences Non-Human  
St. Mark, HWCDSB

### **B05 Numerology**

Martin Islic, Shane Harper  
Jr 7/8 Phys & Math Sci  
St. Mark, HWCDSB

### **B06 Solar Water Disinfection Glass Versus Plastic**

Kacper Ferenszkiewicz, Joseph Cubelic  
Jr 7/8 Earth & Env Sci  
St. Luke, HWCDSB

### **B07 The Dirty Truth**

Michael Le,  
Jr 7/8 Earth & Env Sci  
St. Luke, HWCDSB



## PROJECT LISTING (Continued)

### **B08 Brainy bacteria**

Lyndsey Dunn, Maggie Dunn  
Jr 7/8 Life Sciences Non-Human  
St. John the Baptist, HWCDSB

### **B09 MOTHER NATURE'S MEDICINE**

Jessica Knight,  
Int 9/10 Health Sciences Human  
St. Jean de Brebeuf, HWCDSB

### **B10 Ready, Set, Multitask!**

Julianna Marfisi, Rachel Badzioch  
Jr 7/8 Health Sciences Human  
St. David, HWCDSB

### **B11 Electra Fruit**

Julia D'Angelo, Nicole Badzioch  
Jr 7/8 Earth & Env Sci  
St. David, HWCDSB

### **B12 The Super Sorbent**

Julia Sanguenza, Natalie Conti  
Jr 7/8 Eng & Comp Sci  
St. David, HWCDSB

### **B13 GO GREEN! CLEANING WITH MICROFIBER**

Lucas Campanella,  
Jr 7/8 Life Sciences Non-Human  
St. David, HWCDSB

### **B14 Solar Speedway**

Trevor Stewart,  
Jr 7/8 Eng & Comp Sci  
St. David, HWCDSB

### **B15 The Friends In Your Hockey Bag**

Michaela Okumura, Danielle Anderson  
Jr 7/8 Health Sciences Human  
St. Bernadette, HCDSB

### **B16 Do the always fresh containers work?**

Ashley Panunto, Navya Sebastian  
Jr 7/8 Life Sciences Non-Human  
St. Bernadette, HCDSB

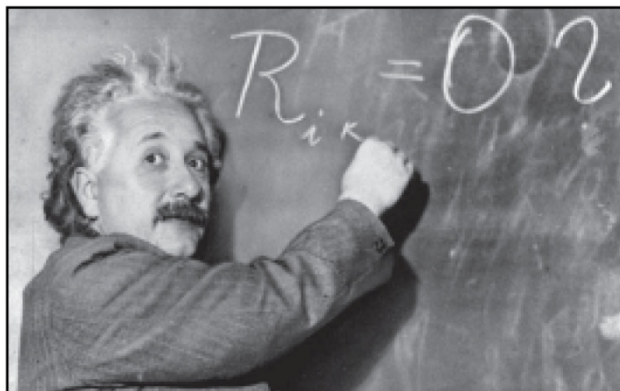
### **B17 Are Fingerprint Patterns Inherited?**

Sophie Schneider, Nicole Schredl  
Jr 7/8 Health Sciences Human  
St. Bernadette, HCDSB



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### **B18 Music Therapy**

Sophie Ciardullo, Isabella Charet  
Jr 7/8 Health Sciences Human  
St. Bernadette, HCDSB

### **B19 Statistics and Probability**

Paige Aldridge, Lourdes Button  
Jr 7/8 Phys & Math Sci  
St. Bernadette, HCDSB

### **B20 Is white light actually white?**

Melissa Rezk,  
Jr 7/8 Eng & Comp Sci  
St. Bernadette, HCDSB

### **B21 How does a ferro liquid work?**

Nathan Giustizia,  
Jr 7/8 Phys & Math Sci  
St. Bernadette, HCDSB

## PROJECT LISTING (Continued)

### **B22 Why do people get scared of horror films?**

Megan Lesiuta, Esmee Jordan  
Jr 7/8 Health Sciences Human  
St. Bernadette, HCDSB

### **B23 From Salted Streets To Salty Streams**

Graham Bohm,  
Jr 7/8 Earth & Env Sci  
St. Augustine, HWCDSB

### **B24 Water, Water, Everywhere. Is There Enough To Drink**

Michael Orlando,  
Jr 7/8 Earth & Env Sci  
St. Augustine, HWCDSB

### **B25 Still Want That Kiss?**

Karley Hamilton, Beth Sharpley  
Jr 7/8 Life Sciences Non-Human  
St. Augustine, HWCDSB

### **B26 Smile Bright**

Accalia Tassone,  
Jr 7/8 Health Sciences Human  
St. Augustine, HWCDSB

### **C01 Does H2O2 Grow Too?**

John Stremble,  
Jr 7/8 Earth & Env Sci  
St. Augustine, HWCDSB

### **C02 Get a Grip on It!**

Catharine Bowman,  
Jr 7/8 Health Sciences Human  
St. Augustine, HWCDSB

### **C03 Power Scam**

Jakob Walter,  
Jr 7/8 Health Sciences Human  
St. Augustine, HWCDSB

### **C04 Musical Memory**

Sydney Christiansen, Shannon Murphy  
Jr 7/8 Health Sciences Human  
St. Augustine, HWCDSB

### **C05 Folk's Medicine at Work**

Anna Rzepka,  
Jr 7/8 Health Sciences Human  
St. Andrew, HCDSB

### **C06 Practical Blood Glucose Control Effect of Low Glycemic Index Diet**

Genevieve Dietrich,  
Jr 7/8 Health Sciences Human  
St. Andrew, HCDSB

### **C07 OMG..These Phones R 2 Cool**

Jenna Begon, Madeline da Silva  
Jr 7/8 Eng & Comp Sci  
St. Agnes, HWCDSB

### **C08 Energy Converter**

Elia Mariglia,  
Jr 7/8 Phys & Math Sci  
St. Agnes, HWCDSB

### **C09 Supa Fries or Supa Bad Fries?**

Ian DiFeo,  
Jr 7/8 Health Sciences Human  
St. Agnes, HWCDSB

### **C10 LUNG CANCER**

Jaivynz Labarentos,  
Jr 7/8 Health Sciences Human  
St. Agnes, HWCDSB

### **C11 The Effects Of Video Games On The Human Brain**

Anthony Rotella,  
Jr 7/8 Health Sciences Human  
St. Agnes, HWCDSB

### **C12 Perceptions of Mounted Patrol Community Policing Among School Aged Children**

Hannah Gillett,  
Jr 7/8 Health Sciences Human  
Sir William Osler, HWDSB

### **C13 Is The Grass Always Greener?**

Christian Michelsen,  
Jr 7/8 Life Sciences Non-Human  
Sir William Osler, HWDSB

### **C14 It's a legume life**

Christopher Denomey,  
Jr 7/8 Earth & Env Sci  
Sir William Osler, HWDSB

### **C15 Rhythm and Blues, Music and Moods**

Mackenzie Peirce,  
Jr 7/8 Health Sciences Human  
Sir William Osler, HWDSB

### **C16 A Gusty Problem**

Robert Holford,  
Jr 7/8 Earth & Env Sci  
Sir William Osler, HWDSB

### **C17 Now You Hear it Now You Don't**

Emma Lawson, Hanna Hronyecz  
Jr 7/8 Eng & Comp Sci  
Sir William Osler, HWDSB

### **C18 Friction Pollution Speed How Are They Related?**

Shelby Firth,  
Jr 7/8 Earth & Env Sci  
Sir William Osler, HWDSB

### **C19 What AA Alkaline Battery Lasts the Longest?**

Zach Rucchin,  
Jr 7/8 Eng & Comp Sci  
Sir William Osler, HWDSB

### **C20 The Beauty Myth**

Hannah Tobias-Murray, Sidney Rintoul  
Jr 7/8 Health Sciences Human  
Sir William Osler, HWDSB

### **C21 How do you like your glowsticks served? Hot or Cold? (Effect of Variable Water on luminescence)**

Devika Nair,  
Jr 7/8 Phys & Math Sci  
Sir William Osler, HWDSB

### **C22 Operation Green**

Grace McAlpine,  
Jr 7/8 Earth & Env Sci  
Sir William Osler, HWDSB

### **C23 Pop-cans; Don't throw it away, step on it first!**

Daicheng Liang,  
Sr 11/12 Eng & Comp Sci  
Sir John A. Macdonald, HWDSB

## PROJECT LISTING (Continued)

### **C24 The Big Crunch**

Isabel Boyd,  
Jr 7/8 Phys & Math Sci  
Ryerson, HWDSB

### **C25 Water Filtration With Household Fabrics**

Emma Lounsbury,  
Jr 7/8 Earth & Env Sci  
Ryerson, HWDSB

### **C26 Corrosion Explosion**

Devon Rank,  
Jr 7/8 Eng & Comp Sci  
Rotherglen School (Oakville),  
Independent

### **D01 Orange Juice**

Daphne Anazodo, Isie Maly  
Jr 7/8 Biotechnology  
Rotherglen School (Oakville),  
Independent

### **D02 Gatorade is overpaid, Orange Juice is a natural boost**

Samuel Djurfeldt, Chris DiSalle  
Jr 7/8 Health Sciences Human  
Rotherglen School (Oakville),  
Independent

### **D03 Hot Hand warmers**

Rohit Krishnan, Kelsey Horn  
Jr 7/8 Eng & Comp Sci  
Rotherglen School (Oakville),  
Independent

### **D04 Can D.P.A. Just Do It?**

Skye Barbato,  
Jr 7/8 Health Sciences Human  
Rolling Meadows Public School,  
HDSB

### **D05 Digestive Enzymes - Is Raw Food More Alive?**

Maria McFarland,  
Jr 7/8 Health Sciences Human  
Regina Mundi, HWCDSB

### **D06 Solar Powered Heat**

Alec Reurink,  
Jr 7/8 Eng & Comp Sci  
Regina Mundi, HWCDSB

### **D07 EMF: A Hidden Hazard**

Steven Kluge, James Dolan  
Jr 7/8 Health Sciences Human  
Regina Mundi, HWCDSB

### **D08 Is it Wise to Sanitize**

George Robert Rivas-Gonzalez,  
Jr 7/8 Life Sciences Non-Human  
Pope John Paul II, HWCDSB

### **D09 Wonder With Waves**

Katrina Medina, Moya Pyziak  
Jr 7/8 Earth & Env Sci  
Pope John Paul II, HWCDSB

### **D10 Where Does the Wind Test Best?**

Adrian Hucal,  
Jr 7/8 Earth & Env Sci  
Our Lady of Peace, HWCDSB

### **D11 Manatee GPS**

Kathleen Stoll,  
Jr 7/8 Eng & Comp Sci  
Our Lady of Peace, HCDSB

### **D12 Let Your Java Flow**

Corrina Centritto,  
Jr 7/8 Health Sciences Human  
Our Lady of Peace, HWCDSB

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### **D13 To Salt or Not to Salt**

Samuel Koo, Andrew Laskowski  
Jr 7/8 Earth & Env Sci  
Our Lady of Peace, HWCDSB

### **D14 Does Density Matter?**

Cameron Clasper,  
Jr 7/8 Eng & Comp Sci  
Oakville Christian School,  
Independent

### **D15 Under Pressure**

Spencer Lapko, Charles  
Brenninkmeijer  
Jr 7/8 Eng & Comp Sci  
Oakville Christian School,  
Independent

### **D16 That's Unsaturated Phat!**

Maisie McLean  
Jr 7/8 Health Sciences Human  
Oakville Christian School,  
Independent

### **D17 Dementia Forget Me Not...**

Kiet Vo, Andrew Antoun  
Jr 7/8 Health Sciences Human  
Oakville Christian School,  
Independent

### **D18 The Wonders of Chocolate**

Danielle Grebe,  
Jr 7/8 Health Sciences Human  
Oakville Christian School,  
Independent

### **D19 Light For Flight**

Nayiri Houldsworth,  
Jr 7/8 Eng & Comp Sci  
Oakville Christian School,  
Independent

### **D20 Battle of the Bit Rates**

Harrison Thomas,  
Jr 7/8 Eng & Comp Sci  
Oakville Christian School,  
Independent

### **D21 The G Series - Science or Hype**

Nathan Bucher,  
Jr 7/8 Health Sciences Human  
Oakville Christian School,

### **D22 Energy Drinkz**

Courtney Heidary, Michelle  
Curtis  
Jr 7/8 Health Sciences  
Human  
Oakville Christian School,  
Independent

### **D23 Tear and Repair**

Adam Vieira,  
Jr 7/8 Health Sciences  
Human  
Oakville Christian School,  
Independent

### **D24 Aiming For Perfection**

Meagan D'Attoma, Sarah  
Nielsen  
Jr 7/8 Health Sciences  
Human  
Oakville Christian School,  
Independent

### **D25 The Effect of High Fat Diet on Skeletal Muscle Inflammation in Obesity**

Ishan Aditya,  
Sr 11/12 Health Sciences  
Human  
MacLachlan College,  
Independent

### **D26 Battle of the Generators**

Sehajpal Rosha,  
Jr 7/8 Eng & Comp Sci  
MacLachlan College,  
Independent

### **E01 The Effect of the Environment on Corrosion**

Miranda Carleton,  
Sr 11/12Phys & Math Sci  
King's Christian Collegiate,  
Independent

### **E02 Jatropa Cucas Seed Cake as an Organic Fertilizer**

HwiWon Jang,  
Sr 11/12Earth & Env Sci  
King's Christian Collegiate,  
Independent

### **E03 Synthesis of Natural Shea Butter Soap**

Hannah Schreutelkamp,  
Sr 11/12Phys & Math Sci  
King's Christian Collegiate,  
Independent

### **E04 Sorrel: The Natural Medicine**

Wadia Forrester,  
Sr 11/12Health Sciences Human  
King's Christian Collegiate,  
Independent

### **E05 Natural Sunscreen**

Tayo Dosunmu,  
Int 9/10Health Sciences Human  
King's Christian Collegiate,  
Independent

### **E06 Acids in Drinks**

Ashley Hogg,  
Sr 11/12Health Sciences Human  
King's Christian Collegiate,  
Independent

### **E07 Reducing the Flammability of Paint**

Tori Odetunde,  
Sr 11/12Phys & Math Sci  
King's Christian Collegiate,  
Independent

### **E08 Neem Plant Extract against Bacteria and Fungi**

Martin Calotti,  
Sr 11/12Life Sciences Non-Human  
King's Christian Collegiate,  
Independent

### **E09 Four In One Cupcake decorator**

Meghan Norris,  
Jr 7/8 Eng & Comp Sci  
John William Boich, HDSB

### **E10 Rust Deceleration**

Julia Marin, Brendan Donnachie  
Jr 7/8 Eng & Comp Sci  
John William Boich, HDSB

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### E11 Crutches Tips - How They Can Be Improved

Varshinie Lekhram, Asia Ruggiero

Jr 7/8 Health Sciences Human

John William Boich, HDSB

### E12 Hockey Helmet Communication Device

Jacob Savage,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E13 The Maglev Train

Brynne Cowell,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E14 The Everything Laptop Case

Olivia Kabelin,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E15 The Extreme Weather Kit

Kai Cayenne, Adama Cayenne

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E16 Plate Moderna

Joren Wilson, Daniel Hinds

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E17 The Finger Protector

Joel Tackey, Karan Dhillon

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E18 A Soluble Separation Solution

Larissa Uhlman,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E19 Phone Hook Case

Milan Radic, Lucas Yuen

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E20 The Multi-Dog Walker

Mackenzie Collyer,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E21 River Current Power Generation

Hasaan Sobaan,

Jr 7/8 Eng & Comp Sci

John William Boich, HDSB

### E22 Sweet Satisfaction

Ariana Tersteeg,

Jr 7/8 Health Sciences Human

Jarvis District Christian School, Independent

### E23 Behold the Power of Toothpaste

Laura Zandstra, Meghan Van Dyk

Jr 7/8 Health Sciences Human

Jarvis District Christian School, Independent

## PROJECT LISTING (Continued)

### **E24 Sleepless Nights**

Gabriella Riewald, Cassandra Eggink  
Jr 7/8 Health Sciences Human  
Jarvis District Christian School,  
Independent

### **E25 Construction of Folate Conjugated Antibodies to Target Shigella flexneri to Specifically Infect Colorectal Cancer Cells**

Manjot Sangha, Dennis Xu  
Sr 11/12Health Sciences Human  
Iroquois Ridge High School, HDSB

### **E26 How Healthy is Your Orange?**

Brianna Dyer,  
Jr 7/8 Life Sciences Non-Human  
Home Schooling, Independent

### **F01 Don't Bug My Board!**

Christina Roglich,  
Jr 7/8 Life Sciences Non-Human  
Holy Spirit, HWCDSB

### **F02 It's A Rusty Business**

Ariana Spytkowski,  
Jr 7/8 Phys & Math Sci  
Holy Spirit, HWCDSB

### **F03 Think Twice About Ice**

Christine Iwachiw, Ivanna Skotar  
Jr 7/8 Life Sciences Non-Human  
Holy Spirit, HWCDSB

### **F04 Gender Defender**

Jayde Kocsis, Kaitlin Dreger  
Jr 7/8 Health Sciences Human  
Holy Name of Jesus, HWCDSB

### **F05 Time We Grow It Up A Notch!**

Malik Johnson, Malton Da Silva  
Jr 7/8 Life Sciences Non-Human  
Holy Name of Jesus, HWCDSB

### **F06 Colours In Effect**

Lyndsey Coutinho, Destiny Taylor  
Jr 7/8 Health Sciences Human  
Holy Name of Jesus, HWCDSB

### **F07 Apples; To Delay... To Decay**

Samantha Simpson, Leah Carr  
Jr 7/8 Life Sciences Non-Human  
Holy Name of Jesus, HWCDSB

### **F08 How Healthy Are 8th Graders; The Ugly Truth**

Daniel Mastai, Samuel Keravica  
Jr 7/8 Health Sciences Human  
Holy Name of Jesus, HWCDSB

### **F09 Natural Born Killers**

Matthew Tutty, Adrian Filice  
Jr 7/8 Earth & Env Sci  
Hillfield Strathallan College,  
Independent

### **F10 Germs On Wheels**

Carson Hobbes, Daniel Fulton  
Jr 7/8 Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **F11 Put Your Best Arm Forward: An Innovation in Mechanical Hydraulics**

Josh Rudolph, Imran Muhammad  
Jr 7/8 Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **F12 Keen for Sunscreen**

Matthew Robertson,  
Jr 7/8 Earth & Env Sci  
Hillfield Strathallan College,  
Independent

### **F13 The Wheat Effect**

Scott Gingrich,  
Jr 7/8 Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **F14 Something Smells Fishy**

Isabella Cuervo-Lorens, Tate Kamps  
Jr 7/8 Life Sciences Non-Human  
Hillfield Strathallan College,  
Independent

### **F15 Got 2b Glued**

Natasha Badowski,  
Jr 7/8 Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **F16 Doors To Power**

Arisha Salahuddin,  
Jr 7/8 Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **F17 Competing for Life: The Impact of Mulches on Tree Growth**

Whitney Way,  
Int 9/10Earth & Env Sci  
Hillfield Strathallan College,  
Independent

### **F18 Water: Safe for Drinking?**

Abby Chu,  
Int 9/10Earth & Env Sci  
Hillfield Strathallan College,  
Independent

### **F19 Cry, Cry, Cry**

Nicole Arski, Olivia Arski  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **F20 As Easy as ABC ?**

Joshua Prodger, William Kelly  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **F21 Acid vs. Alkaline For Plant Growth**

Sarah Dissanayake,  
Int 9/10Life Sciences Non-Human  
Hillfield Strathallan College,  
Independent

### **F22 Just Face IT**

Keiko Marshall, Holly Dunne  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **F23 Low Fat, Low Carb, Low Taste?**

Clarisse Connelly,  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent



## PROJECT LISTING (Continued)

### **F24 Jabulani... A supermarket ball?**

Matt Scholes, Scott Fishman  
Jr 7/8 Phys & Math Sci  
Hillfield Strathallan College,  
Independent

### **F25 Waste Ahoy!**

Taylor McArthur,  
Int 9/10Earth & Env Sci  
Hillfield Strathallan College,  
Independent

### **F26 Is your Neighbour a Martian?**

Jack Dunlop,  
Jr 7/8 Biotechnology  
Hillfield Strathallan College,  
Independent

### **G01 Strong or Wrong?**

Laura Falco, Netaasha Jain  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **G02 Sudoku Within You**

Christopher Kolios, Nicholas  
Richardson  
Jr 7/8 Health Sciences  
Human  
Hillfield Strathallan College,  
Independent

### **G03 Watts the Current?**

Nicholas Klid, Krishnan  
Shyamkumar  
Jr 7/8 Phys & Math Sci  
Hillfield Strathallan College,  
Independent

### **G04 Do Cell Phones Fry Your Brain?**

Bijan Anvari,  
Jr 7/8 Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **G05 Pollution Solution**

Emma Robertson,  
Int 9/10Eng & Comp Sci  
Glendale, HWDSB

### **G06 Does your foul shot routine affect the success rate of your foul shooting**

Gordon Swenor,  
Jr 7/8 Health Sciences Human  
Glen Brae, HWDSB

### **G07 I Heart Coffee**

Lucy Hilbert,  
Jr 7/8 Health Sciences Human  
Glen Brae, HWDSB

### **G08 Effectiveness of Common Household Liquids As Fabric Marker Remover.**

Sarah Drake,  
Jr 7/8 Eng & Comp Sci  
Glen Brae, HWDSB

### **G09 Break It Down Now**

Holly McNeil, Jade Martin  
Int 9/10Earth & Env Sci  
Georgetown District High  
School, HDSB



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## PROJECT LISTING (Continued)

### **G10 Green Car: Self-refuelling with Zero emission**

Srinidhi Shaw,  
Jr 7/8 Eng & Comp Sci  
Dalewood, HWDSB

### **G11 Let them Eat Cake**

Finley Adams, Sophie Leadbetter  
Jr 7/8 Health Sciences Human  
Dalewood, HWDSB

### **G12 It's... Blue?**

Kayley Xu,  
Jr 7/8 Health Sciences Human  
Dalewood, HWDSB

### **G13 Stay on the Ground**

Connor Czarnuch,  
Jr 7/8 Eng & Comp Sci  
Dalewood, HWDSB

### **G14 It's What's Inside That Counts**

Tyson Stevens,  
Jr 7/8 Life Sciences Non-Human  
Dalewood, HWDSB

### **G15 veggitaes what's in your veggies**

Liam Kinzie, Henry Challen  
Jr 7/8 Earth & Env Sci  
Dalewood, HWDSB

### **G16 Water Wheels WORK!**

Malcolm Anderson,  
Jr 7/8 Eng & Comp Sci  
Dalewood, HWDSB

### **G17 Magnetic Beach**

Marwa Alsaqqar,  
Jr 7/8 Earth & Env Sci  
Dalewood, HWDSB

### **G18 Harmonic Oscillators**

Johnny Thirakul, Hunter Novosel  
Jr 7/8 Phys & Math Sci  
Cathy Wever, HWDSB

### **G19 A study of Osmosis and Osmotic Pressure**

Swati Sood, Amy Zeng  
Jr 7/8 Phys & Math Sci  
Cathy Wever, HWDSB

### **G20 Tsunamis**

Robin-Lynn Bourgeois,  
Jr 7/8 Earth & Env Sci  
Cathy Wever, HWDSB

### **G21 Is It Green or Environmentally Mean?**

Danya Mahmood,  
Jr 7/8 Earth & Env Sci  
Cardinal Heights, HWDSB

### **G22 Evanescio**

Kim Chu,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **G23 Mhh Muffins Mhh**

Molly Deery,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **G24 Soak It Up**

Jaden Vis,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **G25 All's Well That Falls Well**

Chrystyn Jones,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **G26 SPINARAMA**

Filipe Lourenco,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **H01 Video Game for the Blind**

Brevin Clarke,  
Jr 7/8 Eng & Comp Sci  
Canadian Martyrs, HWCDSB

### **H02 Cleaning With Different Fluids**

Johnny Carroll,  
Jr 7/8 Eng & Comp Sci  
Canadian Martyrs, HWCDSB

### **H03 Recrystalizing Borax**

Hanna Hall,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **H04 Do You Remember?**

Isabella Dennison,  
Jr 7/8 Health Sciences Human  
Canadian Martyrs, HWCDSB

### **H05 THEY ALL FALL DOWN**

Dylan Ribau,  
Jr 7/8 Eng & Comp Sci  
Canadian Martyrs, HWCDSB

### **H06 Vitamin C Titration**

Jiayi Deng,  
Jr 7/8 Life Sciences Non-Human  
Canadian Martyrs, HWCDSB

### **H07 TO BURN OR NOT TO BURN**

Sonia Silva,  
Jr 7/8 Phys & Math Sci  
Canadian Martyrs, HWCDSB

### **H08 Fresh Fruit, Anyone?**

Kyrelle Lindo,  
Jr 7/8 Life Sciences Non-Human  
Canadian Martyrs, HWCDSB

### **H09 Electricity and Potatoes?**

Natalia Morales,  
Jr 7/8 Life Sciences Non-Human  
Canadian Martyrs, HWCDSB

### **H10 Food vs Food**

Jacob Zarankin, Connor Zarankin  
Jr 7/8 Life Sciences Non-Human  
Canadian Martyrs, HCDSB

### **H11 Paw Prints Through the Forest**

Olivia Cerilli,  
Jr 7/8 Life Sciences Non-Human  
Canadian Martyrs, HCDSB

### **H12 More than Just Brushing**

Alexander Rey,  
Sr 11/12 Health Sciences Human  
Brantford Collegiate Institute and  
Vocational School, GEDSB

### **H13 Picture Perfect**

Jerome Rodriguez,  
Jr 7/8 Eng & Comp Sci  
Blessed Sacrament, HWCDSB

## PROJECT LISTING (Continued)

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### **H14 Red Eye Effect**

Rachel Kannenberg, Izabella Liszek  
Jr 7/8 Health Sciences Human  
Blessed Sacrament, HWCDSB

### **H15 Bizzy Being Dizzy**

Christina Esposto, Dalaura-Angel  
Davies  
Jr 7/8 Health Sciences Human  
Blessed Sacrament, HWCDSB

### **H16 KEEP THE GAME CLEAN**

Ryan Gallagher,  
Jr 7/8 Life Sciences Non-Human  
Blessed Kateri Tekakwitha,  
HWCDSB

### **H17 Round 2**

Michael Najda,  
Jr 7/8 Eng & Comp Sci  
Blessed Kateri Tekakwitha,  
HWCDSB

### **H18 BDNF Transcript Expression in Hippocampus of Alzheimer's Disease Subjects**

Camilla Michalski,  
Sr 11/12 Health Sciences Human  
Bishop Ryan, HWCDSB

### **H19 Did You Soil Yourself?**

Nancy Le,  
Int 9/10 Earth & Env Sci  
Bishop Ryan, HWCDSB

### **H20 A Sweaty Situation**

Fernando Martinez-Guasch,  
Jr 7/8 Biotechnology  
Appleby College, Independent

### **H21 Plants, You and CO<sub>2</sub>**

Madison Broader,  
Jr 7/8 Earth & Env Sci  
Appleby College, Independent

### **H22 Memory... Typing vs. Writing**

Emily Chu,  
Jr 7/8 Health Sciences Human  
Appleby College, Independent

### **H23 That's Cheesy**

Natalie Palumbo,  
Jr 7/8 Life Sciences Non-Human  
Appleby College, Independent

### **H24 Lifting a Load With Pulleys**

Himmat Dhillon,  
Jr 7/8 Eng & Comp Sci  
Appleby College, Independent

### **H25 Near-infrared Photography**

Arisa Viddayakorn,  
Jr 7/8 Phys & Math Sci  
Appleby College, Independent

### **H26 Is It Really Forever? Permanent**

Nick Randell,  
Jr 7/8 Eng & Comp Sci  
Appleby College, Independent

### **K01 Helicopter Lift off**

Shelby Boytchuk,  
Jr 7/8 Eng & Comp Sci  
Appleby College, Independent

### **K02 Jell-o-in with fruit or not**

Dominique Miller,  
Jr 7/8 Life Sciences Non-  
Human  
Appleby College, Independent

### **K03 The Cleaning Olympics**

Jack Jelinek,  
Jr 7/8 Earth & Env Sci  
Appleby College, Independent

### **K04 Twisted Light**

Isabelle Akdeniz,  
Jr 7/8 Phys & Math Sci  
Appleby College, Independent

### **K05 Algae Growth**

Benjamin Quinlan,  
Jr 7/8 Earth & Env Sci  
Appleby College, Independent

## PROJECT LISTING (Continued)

### **K06 Creating an Effective Lead test kit**

Margaret Williams,  
Jr 7/8 Phys & Math Sci  
Ancaster Senior, HWDSB

### **K07 The Fresh Loaf- Natural preservatives that help bread stay mold-free longer**

Alysha Frey,  
Jr 7/8 Biotechnology  
Ancaster Senior, HWDSB

### **K08 Secrets to a Green Thumb**

Amanda Wiepjes, Katie Bennett  
Jr 7/8 Life Sciences Non-Human  
Ancaster Meadow, HWDSB

### **K09 ANTIBIOTIC RESISTANCE**

Abhiti Kuhad,  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **K10 Highlight Your Memory - But in Which Colour?**

Samna Aziz,  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **K11 Who are your fingerprints most similar to?**

Nabiha Aziz,  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **K12 Organic versus Non Organic Fruits**

Ryan Fletcher,  
Jr 7/8 Life Sciences Non-Human  
Ancaster Meadow, HWDSB

### **K13 Which Detergent Works Better?**

Wafa Naseem, Mediha Keranovic  
Jr 7/8 Earth & Env Sci  
Ancaster Meadow, HWDSB

### **K14 Shocking Graphite**

Manan Anand, Geoffrey Wong  
Jr 7/8 Eng & Comp Sci  
Ancaster Meadow, HWDSB

### **K15 Your Pillow Is A Home?**

Eunice Chan,  
Jr 7/8 Life Sciences Non-Human  
Ancaster Meadow, HWDSB

### **K16 Paper Towel Absorbency**

Lily Nguyen,  
Jr 7/8 Eng & Comp Sci  
Ancaster Meadow, HWDSB

### **K17 Bacteria**

Xiaorong Duan,  
Jr 7/8 Life Sciences Non-Human  
Ancaster Meadow, HWDSB

### **K18 Weathering With Rocks**

Olivia Johnstone, Sophia Krnjeta  
Jr 7/8 Earth & Env Sci  
Ancaster Meadow, HWDSB

### **K19 Rightie, Leftie or Inbetweenie**

Momina Abbas, Elaine Nong  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **K20 Tuberculosis: A Monstrous Disease of Today**

Sana Ahmed,  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **K21 Alternative Oils**

Omema Saleri,  
Jr 7/8 Earth & Env Sci  
Al-Falah Islamic School,  
Independent

### **K22 Which Liquid Best Rusts Metal Pt. 2: How to Best Prevent Rust**

AbdelAziz Hendy,  
Jr 7/8 Eng & Comp Sci  
Al-Falah Islamic School,  
Independent

### **K23 Aspirin And Carbohydrates**

Miriam Zerrouk,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School,  
Independent

### **K24 Extracting DNA from a Strawberry?**

Khadeja Khan,  
Jr 7/8 Life Sciences Non-Human  
Al-Falah Islamic School,  
Independent

### **K25 Does Fish oil actually affect the body's physical and mental abilities**

Saif Islam,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School,  
Independent

### **K26 Lemon: Biological Electricity**

Hamza Bajwa,  
Jr 7/8 Eng & Comp Sci  
Al-Falah Islamic School,  
Independent

### **L01 Solar Eagle - Solar Powered Boat**

Ryan Cooke, Jacob Pigorsch  
Jr 7/8 Eng & Comp Sci  
Sir William Osler, HWDSB

### **L02 Gliding on Air**

Amy Bell,  
Jr 7/8 Eng & Comp Sci  
Sir William Osler, HWDSB

### **L03 Quantum Dispositions**

Andy Chen, Bhaag Marway  
Sr 11/12 Phys & Math Sci  
Sir John A. Macdonald, HWDSB

### **L04 Attention and Vocal Attractiveness in Men and Women**

Anna Vu,  
Sr 11/12 Health Sciences Human  
Sir John A. Macdonald, HWDSB

### **L05 Candy Chromatography**

Emily Morris, Tiffany Ayoub  
Jr 7/8 Health Sciences Human  
Rotherglen School (Oakville),  
Independent

## PROJECT LISTING (Continued)

### **L06 Portmanteau Inhibitors and Retroviruses: Discovering a Cure?**

Shaan Bhambra,  
Sr 11/12Health Sciences Human  
Robert Bateman High School, HDSB

### **L07 Shocking discovery**

Mario Manzella,  
Jr 7/8 Eng & Comp Sci  
Our Lady of Peace, HWCDSB

### **L08 It's in his Kick**

Alexander Greyvenstein,  
Jr 7/8 Health Sciences Human  
Oakville Christian School,  
Independent

### **L09 Quantity of Bacteria on an Apple's Skin**

Nishan Panag, Shannin Yee  
Int 9/10Life Sciences Non-Human  
North Park Collegiate and Vocational  
School, GEDSB

### **L10 Detoxification of Jatropha oil-Cake from Phorbol Esters**

John Mikhaeil,  
Sr 11/12Earth & Env Sci  
King's Christian Collegiate,  
Independent

### **L11 Wireless Electricity**

Jamie Laitar, Dhvani Bhadresra  
Jr 7/8 Eng & Comp Sci  
John William Boich, HDSB

### **L12 eJournal**

Nicholas Adams,  
Jr 7/8 Eng & Comp Sci  
John William Boich, HDSB

### **L13 Xbox 360 Cooler**

Amir Mun, Evan Mulholland  
Jr 7/8 Eng & Comp Sci  
John William Boich, HDSB

### **L14 The Battle Against Bad Bacteria**

Thomas Habicht,  
Jr 7/8 Life Sciences Non-Human  
Home Schooling, Independent

### **L15 Parkinson's Disease and the Hidden Power of Music**

Carolynn Habicht,  
Int 9/10Health Sciences Human  
Home Schooling, Independent

### **L16 Does Relaxing Improve Reaction Timing**

Patrick Ashurst, Christopher Valchuk  
Jr 7/8 Health Sciences Human  
Holy Name of Jesus, HWCDSB

### **L17 Get Hacked!**

Benjamin Rudolph, Joshua Santin  
Int 9/10Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **L18 Cranial Impact Attenuation of Athletic Shoes**

Nick Dobrovolskis,  
Int 9/10Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **L19 Gaming Education**

Ryan Bennett, Andrew Hull  
Jr 7/8 Eng & Comp Sci  
Hillfield Strathallan College,  
Independent

### **L20 Sunny...with a Chance of Cancer**

Holly Hamilton, Gabrielle Lamy  
Jr 7/8 Health Sciences Human  
Hillfield Strathallan College,  
Independent

### **M01 What's Watching your Watch? - Measuring the Level of Bacteria on the Watchbands of various Professionals**

Peter-George Vastis, Paul Krznaric  
Int 9/10Biotechnology  
Hillfield Strathallan College,  
Independent

### **M02 Make-up be Gone !**

Rebecca Kuhn,  
Jr 7/8 Health Sciences Human  
Hillfield Strathallan College,  
Independent



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## PROJECT LISTING (Continued)

### **M03 The Lazarus Project**

Jacob Weaver,  
Sr 11/12Eng & Comp Sci  
Highland, HWDSB

### **M04 Prevention is the Best Medicine**

Nick Denomey,  
Int 9/10Health Sciences Human  
Highland, HWDSB

### **M05 Invasive Species Behaving Badly**

Arielle Earn, Beatrice Freedman  
Jr 7/8 Earth & Env Sci  
Dalewood, HWDSB

### **M06 A simple fruit fly behaviour assay to study the Circadian Effect**

Yajur Lyengar,  
Jr 7/8 Life Sciences Non-Human  
Dalewood, HWDSB

### **M07 You Light Up My World**

Sophia Curto, Natasha Rego  
Jr 7/8 Eng & Comp Sci  
Corpus Chirsti, HWCDSB

### **M08 Liquid Lenses**

Nader Chowdhury, Moustapha Toure  
Jr 7/8 Phys & Math Sci  
Cathy Wever, HWDSB

### **M09 Brain Works**

Nicola Brogan, Curtis Mossman  
Sr 11/12Health Sciences Human  
Cardinal Newman, HWCDSB

### **M10 Photo-bioreactor and process**

Connor Howley,  
Sr 11/12Earth & Env Sci  
Cardinal Newman, HWCDSB

### **M11 Physio Assist**

Katie Brent,  
Jr 7/8 Eng & Comp Sci  
Canadian Martyrs, HCDSB

### **M12 Granny Fruit DNA**

Justice Cowe, Cadi Bromke  
Jr 7/8 Life Sciences Non-Human  
Ancaster Senior, HWDSB

### **M13 Sleep Deprivation**

Emily Vinken,  
Jr 7/8 Health Sciences Human  
Ancaster Meadow, HWDSB

### **M14 Earth Moving Experience**

Justin Williamson,  
Jr 7/8 Eng & Comp Sci  
Ancaster Meadow, HWDSB

### **M15 Rock Erosion**

Cherry Nie, Nadeen Abdalaal  
Jr 7/8 Earth & Env Sci  
Ancaster Meadow, HWDSB

### **M16 Garlic: Bactericidal Effect on Milk**

Alina Fusch,  
Int 9/10Life Sciences Non-Human  
Ancaster High, HWDSB

### **M17 A Comparison of test performance on subjects pre-exposed to either baroque music or silent sitting in grade ten students**

Arjuna Yusuf,  
Int 9/10Health Sciences Human  
Ancaster High, HWDSB

### **M18 Does microwave radiation effect plant growth?**

Aaqib Markar,  
Jr 7/8 Earth & Env Sci  
Al-Falah Islamic School, Independent

### **M19 can you turn frequencies into sound**

Areeb Hyder,  
Jr 7/8 Eng & Comp Sci  
Al-Falah Islamic School, Independent

### **M20 Plants and the Environment**

Amber Scarlett, Tai Daly  
Jr 7/8 Earth & Env Sci  
Adelaide Hoodless, HWDSB

### **N03 Seed Sprouts**

Heather McBrien,  
Int 9/10Earth & Env Sci  
Westmount, HWDSB

### **N04 To Pry-on the Secrets of the Prion**

Tuneer Mondal, Liam Starr  
Jr 7/8 Life Sciences Non-Human  
Westview, HWDSB

### **N05 In Search of the Rings!**

Sylvie Bronsard, Yvonne Alama  
Sr 11/12Phys & Math Sci  
Westdale, HWDSB

### **N06 Neuroprotective efficacy of ligustrazine (chuanxiong ) on an in vitro model of hydrogen peroxide induced apoptosis**

Jason Fan,  
Sr 11/12Health Sciences Human  
Westdale, HWDSB

### **N07 The Benefits of Activity**

Jackson Bergman, John Mackereth  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N08 Food is your Mood**

Lucy Huang, Sunny Gong  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N09 Battle of the Bandages**

Jack Grebenc, Charlie Stanton  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N10 Mathercise**

Claire Phillips, Shannon Fenwick  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HD

### **N11 What effects do drinks have on teeth?**

Bailey Lorenz, Pei Yuan Li  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB



## PROJECT LISTING (Continued)

### **N12 Microbial Fuel Cell**

George Papangelakis, Joseph DiMaria  
Jr 7/8 Eng & Comp Sci  
W. H. Morden Public School, HDSB

### **N13 Soda Pop**

Jessica Clark,  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N14 An Investigation of Water Quality In Bronte Creek, Halon Region and Possible Implications**

Ethan Strathdee,  
Jr 7/8 Earth & Env Sci  
W. H. Morden Public School, HDSB

### **N15 Lookin' Delicious - But is it Nutritious?**

Boya Zhang,  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N16 Sleep On It**

Michelle Wang, Kayley Edwards  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N17 Corresponding With the Brain**

Kaushar Mahetaji,  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N18 Optical Illusions**

John Marc Dela Cruz,  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N19 PowerBalance or Placebo**

Jacob van Voorst, Daniel Bzowey  
Jr 7/8 Health Sciences Human  
W. H. Morden Public School, HDSB

### **N20 Desirable Design**

Olivia McGregor,  
Jr 7/8 Health Sciences Human  
Trinity Christian School, Independent

### **P03 Scrub A Dub Dub**

Olivia Schwarz,  
Jr 7/8 Health Sciences Human  
Trinity Christian School, Independent

### **P04 An Apple A Day... Brings Germs Your Way**

Jenna Rolland-Mills,  
Jr 7/8 Life Sciences Non-Human  
Sunningdale Public School, HDSB

### **P05 The stories of Fingerprints**

Couby Cheng, Mila Urosecic  
Jr 7/8 Health Sciences Human  
Sunningdale Public School, HDSB

### **P06 Ecological technology: Solar panels vs Wind turbines**

Gracie Lamarche, Dhestinee Lavallee  
Jr 7/8 Earth & Env Sci  
Sunningdale Public School, HDSB

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## PROJECT LISTING (Continued)

### **P07 What Affects The Brain**

Simon Clements, Spencer Yung  
Jr 7/8 Health Sciences Human  
Sunningdale Public School, HDSB

### **P08 The Archimedes screw**

Ross Lavoie,  
Jr 7/8 Eng & Comp Sci  
Sunningdale Public School, HDSB

### **P09 Does Pop Music Affect Short-Term Memory and Reading Comprehension**

Katrina Behnke, Keleila Kerman  
Jr 7/8 Health Sciences Human  
Sunningdale Public School, HDSB

### **P10 Hold In Them Tears**

Ainsleigh Williams, Sabrina  
Cianciosi  
Jr 7/8 Health Sciences Human  
St. Therese of Lisieux, HWCDSB

### **P11 You Have To See It To Believe It**

Sarah Misale, Brooke Sharp  
Jr 7/8 Life Sciences Non-Human  
St. Therese of Lisieux, HWCDSB

### **P12 Can a Kid Open a Lid**

Grace Campolo, Hailey Hamilton  
Jr 7/8 Health Sciences Human  
St. Therese of Lisieux, HWCDSB

### **P13 Music...Therapy or Distraction?**

Tanya D'Andrade, Alyssa Levey  
Jr 7/8 Health Sciences Human  
St. Therese of Lisieux, HWCDSB

### **P14 A Slick Situation**

Michael Rillo,  
Jr 7/8 Earth & Env Sci  
St. Therese of Lisieux, HWCDSB

### **P15 Pendulum Power**

Andrew Albano,  
Jr 7/8 Eng & Comp Sci  
St. Therese of Lisieux, HWCDSB

### **P16 Spice It Up!**

Krista McAllister, Sierra Pellizzari  
Jr 7/8 Life Sciences Non-Human  
St. Therese of Lisieux, HWCDSB

### **P17 The Angle of Attack!**

Hunter Ceranic,  
Jr 7/8 Eng & Comp Sci  
St. Therese of Lisieux, HWCDSB

### **P18 The heart- A tight squeeze**

Antonio Vavallo,  
Jr 7/8 Health Sciences Human  
St. Therese of Lisieux, HWCDSB

### **P19 Here Comes The Sun**

Ryan Bastel,  
Jr 7/8 Eng & Comp Sci  
St. Therese of Lisieux, HWCDSB

### **P20 Yoga Me Calm**

Michela Baccala, Madison Bryers  
Jr 7/8 Health Sciences Human  
St. Paul, HWCDSB

### **Q15 Hot Vs Cold-Blood Pressure**

Mikayla Skoczny, Ivona Gavran  
Jr 7/8 Health Sciences Human

### **Q16 Yo Ho Make The Wind Blow**

Shannon Slye,  
Jr 7/8 Earth & Env Sci  
St. Paul, HWCDSB

### **Q17 Why Straw Bale?**

Mikayla Tam,  
Jr 7/8 Earth & Env Sci  
St. Paul, HWCDSB

### **Q18 Kan U Spell Memorization?**

Victoria Anacleto  
Jr 7/8, Health Sciences Human  
St. Paul, HWCDSB

### **Q19 Waste Not Want Not**

Victoria Leaker,  
Jr 7/8 Earth & Env Sci  
St. Paul, HWCDSB

### **Q20 Paint It Up**

McKenzie Cline, Kaitlyn  
VanDeventer  
Jr 7/8 Phys & Math Sci  
St. Paul, HWCDSB

### **R01 Does hair affect static electricity?**

Khalid Radwan,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School,  
Independent

### **R02 Solar Power**

Addia Nasir,  
Jr 7/8 Earth & Env Sci  
Al-Falah Islamic School,  
Independent

### **R03 unsaturated fat in cooking oil**

Sanaa Ahmed,  
Jr 7/8 Life Sciences Non-Human  
Al-Falah Islamic School,  
Independent

### **R04 The Sharps behind Sharpies**

Manaal Mirza,  
Jr 7/8 Eng & Comp Sci  
Al-Falah Islamic School,  
Independent

### **R05 Shakeless Structures**

Rafia Tasneem,  
Jr 7/8 Eng & Comp Sci  
Al-Falah Islamic School,  
Independent

### **R06 Are Bar Soaps defenders or offenders of Human Skin?**

Rumaina Khalid,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School,  
Independent



Alice Anne LeMay  
*Chair of the Board*

Michael W. Pautl  
*Director of Education*

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of Burlington, Halton Hills,  
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# CONGRATULATIONS

to all BASEF 2012 participants and

# BEST WISHES

for continued success in all  
of your endeavours!

**From the Halton Catholic District School Board  
– committed to developing inquiring minds,  
which will create solutions to tomorrow's challenges.**

## PROJECT LISTING (Continued)

**R07 Does Gatorade really affect  
pulse rate**

Mohammad Moahid,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School, Independent

**R08 A Pain in the Back: Backpacks**

Hiba Abbas,  
Jr 7/8 Health Sciences Human  
Al-Falah Islamic School, Independent

**R09 Optical Illusions**

Jess Robillard, Erin Proudfoot  
Jr 7/8 Health Sciences Human  
Adelaide Hoodless, HWDSB

**R10 Light v.s Dark?**

Spencer Campbell, Chace Taylor  
Jr 7/8 Life Sciences Non-Human  
Adelaide Hoodless, HWDSB

**R11 Die Bacteria Die**

Colton Davies, Shuming Cui  
Jr 7/8 Life Sciences Non-Human  
Adelaide Hoodless, HWDSB

**R12 Oil Oil Go Away These Plants Are  
Here To Stay**

Alexander Mullens,  
Jr 7/8 Earth & Env Sci  
Adelaide Hoodless, HWDSB

**R13 The dichotomy of the humble  
chip: Are there healthy options?**

Jasper Hanlon,  
Jr 7/8 Health Sciences Human  
Adelaide Hoodless, HWDSB

**R14 Chemical Effects**

Calyssa Joice, Rachael Elliott  
Jr 7/8 Earth & Env Sci  
Adelaide Hoodless, HWDSB

## PROJECT LISTING (Continued)

### **R15 Colour vs Gender**

Kassidy Lywood, Sarah Gunnell  
Jr 7/8 Health Sciences Human  
Adelaide Hoodless, HWDSB

### **R16 Quench Your Thirst**

Hannah Bailey, Hayle Mckelvie  
Jr 7/8 Phys & Math Sci  
Adelaide Hoodless, HWDSB

### **R17 How does music affect test scores?**

Annagrace Desjardins, Mariah Mercer  
Jr 7/8 Health Sciences Human  
Adelaide Hoodless, HWDSB

### **R18 When you eat your Smarties do you eat the red ones last?**

Grace Jorey,  
Jr 7/8 Health Sciences Human  
Adelaide Hoodless, HWDSB

### **R19 Will the Plants Grow, When the Music Flows?**

Matt Makino,  
Jr 7/8 Life Sciences Non-Human  
Adelaide Hoodless, HWDSB

### **R20 rust 'n' ator**

Jaedon Daly, Elizabeth Springer  
Jr 7/8 Phys & Math Sci  
Adelaide Hoodless, HWDSB

### **R21 Unlocking the GENEius behind Telomerase Control**

Eisha Ahmed,  
Sr 11/12 Health Sciences Human  
Abbey Park High School, HDSB



***We are proud to sponsor the  
Bright young innovators at  
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They make our support of BASEF 2012 possible.



Please visit us at

[www.youthscienceontario.ca](http://www.youthscienceontario.ca)

**Congratulations and good luck  
to all participants of  
the 2012 Bay Area  
Science and Engineering Fair!**



**JOHN DEERE**

## **SPECIAL AWARDS – 2012**

*Special Awards are donated by organizations and groups to recognize deserving projects that deal with topics of interest to the donor.*

### **Acquired Brain Injury Awards**

Prize: 1st: \$75, 2nd: \$25

Criteria: Two projects relating to the brain, especially acquired brain injuries, their causes, or therapies.

### **ArcelorMittal Dofasco**

#### ***Chemical Testing Award***

Prize: \$100

Criteria: Use of chemical testing and/or chemical principles to solve a technical problem.

#### ***Commercial Award***

Prize: \$100

Criteria: Commercial and business planning tools in developing a potentially new or improved commercial product

#### ***Engineering & Maintenance Technology Award***

Prize: \$100

Criteria: Engineering & Maintenance Technology principles and design to solve a technical problem.

#### ***Environment Award***

Prize: \$100

Criteria: Physics, chemistry or engineering to explore or solve a technical problem associated with environmental issues.

#### ***Hot Mill Award***

Prize: \$100

Criteria: Creative principles and design to solve a manufacturing or process problem.

#### ***Human Resources Training and Development Award***

Prize: \$100

Criteria: Teaching and training techniques in explaining or exploring a technical problem.

#### ***Information Systems Award***

Prize: \$100

Criteria: Information Systems and design to solve a technical problem.

#### ***Medical Department Award***

Prize: \$100

Criteria: Scientific principles in exploring or solving a problem related to human health issues.

#### ***Process Automation Award***

Prize: \$100

Criteria: Project best displaying the use of Process Automation principles and design to solve a technical problem.

#### ***Product Development Business Process Award***

Prize: \$100

Criteria: Product Development principles and design in developing a new consumer product with commercial potential.

#### ***Product Research & Automotive Applications Award***

Prize: \$100

Criteria: Project that best displays the innovative application of materials, products, processes or design principles.

#### ***Quality Systems Award***

Prize: \$100

Criteria: Quality Systems principles and design to solve a technical problem.

#### ***Steelmaking Award***

Prize: \$100

Criteria: Engineering and Materials Science principles to solve a technical problem.

## SPECIAL AWARDS (Continued)



### Artistically Inspired Display Awards

Prize: Two cash awards of \$50 each

Criteria: To the most artistically inspired displays

### Bell Technology Award

Prize: 1<sup>st</sup> - \$150, 2<sup>nd</sup> - \$100

Criteria: Projects regarding communication between people, between machines or between people and machines

### Canadian Institute of Mining, Metallurgy and Petroleum (Hamilton Branch) Awards

Prize: Two cash awards of \$100 each.

Criteria: For projects relating to mining, metallurgy or petroleum

### Canadian Nuclear Society (Golden Horseshoe Branch) Awards

Prize: Two cash awards at the intermediate or senior levels for \$125 each & two at the junior level for \$75 each.

Criteria: For projects relating to nuclear science and engineering, energy research or climate sciences

### Cancer Assistance Program Awards

Prize: Two cash awards of \$100 each.

Criteria: For outstanding projects on topics related to cancer prevention.

### Chemical Institute of Canada, Hamilton Section Award

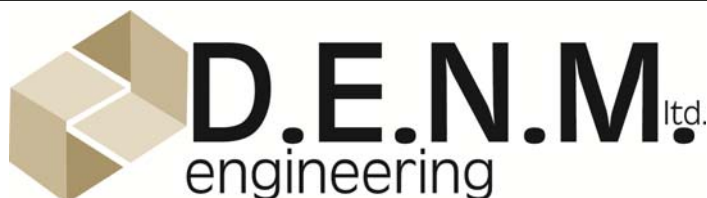
Prize: Three cash awards of \$100 each.

Criteria: Deserving projects related to chemistry, chemical engineering, or chemical technology.

### Conservation Halton Environmental Sciences Award

Prize: Two awards, \$100 each

Criteria: Top science projects that contribute to environmental research, protection, conservation, restoration or awareness done by Halton students



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***with many more to follow !***



## SPECIAL AWARDS (Continued)

### **Crownpoint Family Health Centre Award**

Prize: Two cash awards of \$80 each

Criteria: Project that involves the study of human social interaction

### **Dillon Consulting Science/Engineering and Biological Sciences Awards**

Prize: Two cash prizes of \$300 each

Criteria: To one project showing excellence in Science and or Engineering and to a second project showing excellence in Biological Sciences

### **Doris Casey Disability Solutions Award**

Prize: \$100

Criteria: Most innovative and creative technical solution focused on assisting individuals to overcome or compensate for physical or cognitive disabilities.

### **Dr. M. Doyle Award**

Prize: A \$250 cash award, a plaque and a trophy for the winner's school

Criteria: Best biology project.

### **Dr. Colin J.L. Lock Memorial Chemistry Award**

Prize: \$100

Criteria: Project demonstrating the best application of chemistry.

### **Dr. Nicola Simmons Award in Cognition Studies**

Prize: \$100

Criteria: An exemplary project in cognition studies.

### **Dr. Tunks Innovations Award**

Prize: Two cash awards of \$100 each

Criteria: Most creative or innovative projects

### **Electrical Construction Association of Hamilton Award**

Prize: \$250

Criteria: Best and safest use of electricity in a creative manner.



Thanks to our sponsors we're going places!

## National & International Science Fair Competitors



The BASEF Students and Volunteers gratefully  
acknowledge the support of all of our sponsors



## SPECIAL AWARDS (Continued)

### Farncombe Family Digestive Health Research Institute Award

Prize: Two awards of \$250 each

Criteria: Project that scientifically explores the fields of digestive health, related diseases or general family nutrition through experimentation or in depth literature

### Gowlings Innovation Award

Prize: \$250

Criteria: Best project exploiting multiple areas of intellectual property protection, namely trademarks, patents, industrial design and copyright. The prize includes a complimentary consultation with a patent or trademark agent at the Gowlings Hamilton office.

### Hamilton Association daVinci Award

Sponsored by the Hamilton Association for the Advancement of Literature, Science & the Arts

Prize: \$300, honorary membership in the Association and an invitation to attend meetings

Criteria: The candidate who best combines personal initiative with the use of the scientific method

### Hamilton Chamber of Commerce Innovation Award

Prize: 1<sup>st</sup> \$250, 2<sup>nd</sup> \$150, 3<sup>rd</sup> \$100

Criteria: Awarded to the most deserving projects with potential commercial applications for students from Hamilton focused on improving our local environment, communities or quality of life

### Hamilton-East Wentworth Rotary Awards

Prize: Cash awards: 1<sup>st</sup> \$250, 2<sup>nd</sup> \$150, 3<sup>rd</sup> \$100

Criteria: Three projects best displaying high academic achievement, chosen from schools within the core Hamilton and Regional Communities and re striving to excel in Science and Technology.

### Hamilton Wentworth Occasional Teacher Local

#### ***Environment and Education Award***

Prize: \$50 and certificate

Criteria: Junior project which most effectively educates others about an environmental issue

#### ***Healthy Lifestyles Award***

Prize: \$50 and certificate

Criteria: Junior project which most effectively educates others regarding the role of nutrition and/or exercise in maintaining a healthy lifestyle

#### ***Presentation and Aesthetics Award***

Prize: \$50 and certificate

Criteria: Junior project which demonstrates a high level of visual appeal, creativity and overall quality of presentation

### Hidden Science Award

Prize: \$150 with a library of Nikula Tesla's ideas and discoveries

Criteria: Project that best reflects Nikula Tesla's ideas and discoveries with emphasis on protecting the planet or alternate energies or increasing the efficiency of the human body.

### Hillfield Strathallan College Awards of Excellence

#### ***Design and Engineering***

Prize: \$100

Criteria: Senior project that best displays innovation in identifying an ergonomic design problem

#### ***Environmental Sciences***

Prize: \$100

Criteria: Junior or Intermediate project that best displays innovation in identifying an environmental problem

#### ***Biological Sciences***

Prize: \$100

Criteria: Intermediate project that best displays excellence in sampling design in a health science project

### Horizon Utilities Corporation Award

Prize: Three awards of \$300 each

Criteria: Projects that best demonstrate the production of electrical energy from "green sources" or new, viable approaches to using electrical energy more efficiently

## SPECIAL AWARDS (Continued)

### Hydro One Energy Ambassador Award

Prize: Cash award of \$100, to be sent after the fair.

Criteria: Project with outstanding scientific quality and whose primary focus is the distribution, supply management, use or conservation of electrical energy (or alternatively, other forms of energy if suitable projects relating to electrical energy are not available)

### IEEE (Institute of Electrical & Electronic Engineers) Hamilton Section Awards

Prize: Two cash awards of \$100 each

Criteria: Best use of Electronics in a science or engineering project, any level

### Intel Excellence Awards (*affiliated with the Intel International Science & Engineering Fair*)

Prize: \$200 (U.S.) (to be forwarded after the fair.)

Criteria: The top winner of Computer Science category in Intermediate or Senior level.

### *International Science & Engineering Affiliated Fair Awards for regional science fairs affiliated with the Intel International Science & Engineering Fair*

Prize: certificates

Criteria: deserving **intermediate and senior** projects related to topics of interest to the following organizations:

American Meteorological Society: Best ability and creativity in an atmospheric science exhibit.

American Psychological Association: Outstanding research in Psychology under the category of behavioural and social sciences.

ASM Materials: Outstanding exhibit in materials science.

Association for Women Geoscientists: Project by female student(s) demonstrating high standards of innovativeness and scientific excellence in the geosciences.

MU Alpha Theta: Project demonstrating the most challenging, original, thorough and creative investigation or problem involving mathematics.

Ricoh Americans Corporation: Most outstanding project offering the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses.

Society for In Vitro Biology: Project exhibiting in the areas of plant or animal in vitro biology or tissue culture.

Yale Science & Engineering Association: Most outstanding grade 11 project exhibiting in the areas of Computer Science, Engineering, Physics, or Chemistry.



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## Best Wishes to all BASEF 2012 Participants



Proudly outfitting **TEAM BASEF** at the  
Canada Wide Science Fair and the Intel International Science & Engineering Fair

## **SPECIAL AWARDS (Continued)**

### **James A. Winger Award sponsored by Hamilton Amateur Astronomers**

Prize: \$100 award plus an astronomy book

Criteria: Best project in demonstrating an understanding of a topic related to astronomy or physics

### **John. W. Howard Materials Research Award**

Prize: \$100

Criteria: Project demonstrating innovation in engineering materials, especially concrete.

### **Laurentian Chapter of SETAC Award**

Prize: \$200

Criteria: Best project and presentation on a topic related to Environmental toxicology, chemistry, pollution, contamination, remediation or environmental protection.

### **LEAP Award of Innovation**

Prize: \$200 off of a \$600 registration fee for the 2012 LEAP Summer Program

Criteria: Senior project (grades 9-12) that demonstrates creativity and innovation

### **McMaster Engineering Society Award**

Prize: Two cash awards of \$200 each

Criteria: Best junior engineering project demonstrating excellent understanding of engineering and its applications.

### **Mechanical Contractors Association of Hamilton Award**

Prize: \$250

Criteria: Best intermediate or senior engineering project.

### **M.G. DeGroote Institute for Infectious Disease Research Internship Award**

Prize: Determined by interview - one paid Summer Internship of 6 weeks as a research assistant in a laboratory of at the M.G. DeGroote IIDR Institute at McMaster University (value of \$2,152.50)  
OR cash equivalent

Criteria: Best senior student project in infectious disease, drug discovery or human health.



*Good luck to all  
the participants!*

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## SPECIAL AWARDS (Continued)



### Mohawk College School of Engineering Technology Awards

#### **Civil Engineering Award**

Prize: \$50

Criteria: Project related to any branch of civil engineering

#### **Building Sciences Award**

Prize: \$50

Criteria: Project related to building sciences, building materials, energy conservation in structures

#### **Transportation Engineering Award**

Prize: \$50

Criteria: Project related to planning, design, operation of any transportation mode or facility

#### **Chemical and Environmental Engineering Technology Awards**

Prize: \$100

Criteria: Intermediate or senior project related to applied chemistry.

Prize: \$50

Criteria: Junior project in environmental studies

#### **CSAIT Computer Excellence Award**

Prize: \$50

Criteria: Project which demonstrates a thorough understanding of computer applications and design in today's world.

#### **Electro-technology Department Engineering Technology Awards**

Prize: Two cash awards of \$50 each

Criteria: \$50 to junior project in engineering studies and \$50 to a deserving project in engineering studies

#### **Mechanical & Industrial Engineering Technology Awards**

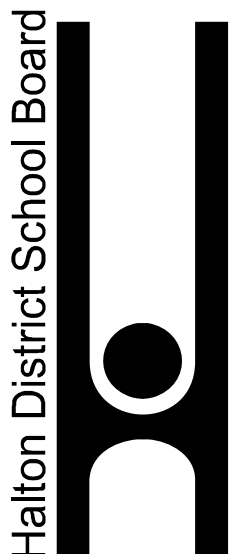
Prize: \$100

Criteria: Project related to industrial engineering or manufacturing, must be industry applicable and can include quality systems and instruments

#### **Mathematics Awards**

Prize: Two cash awards of \$50 each

Criteria: Deserving projects in categories of mathematics or statistics, any level



***The Halton District School Board  
would like to congratulate  
all participating students in the 2012  
Bay Area Science and Engineering Fair.  
Best wishes for continued success!***

---

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## **SPECIAL AWARDS (Continued)**

### **National Science & Engineering Research Council (NSERC) Awards**

Prize: \$250 to each of two projects.

Criteria: Projects demonstrating innovative and creative research by the student.

### **Nelson Steel Award**

Prize: Two cash awards of \$50 each

Criteria: Related to two of the following fields: Steel, Environmental or Chemistry. Preference given to junior levels

### **OCRIIT-SCCRI Regenerative Medicine Award**

Prize: Two awards of \$250 each

Criteria: Awarded to outstanding projects in the field of biology that demonstrate creative and critical thinking. Preference will be given to projects that relate to regenerative medicine and its applications to human health.

### **Ontario Association of Medical Laboratories Award**

Prize: One cash award of \$100, to be sent after the fair

Criteria: Outstanding project in disciplines such as biochemistry, chemistry, microbiology, toxicology, and forensic science, and incorporating analytical laboratory methods, such as techniques or physical methods of analysis. The project must display exemplary use of analytical laboratory methods.

### **Primary Fluid Systems Awards**

#### **Junior or Intermediate Engineering Awards**

Prize: Two cash awards each of: \$250, \$150, \$100

Criteria: Deserving projects in junior or intermediate engineering.

#### **Junior or Intermediate Physical Sciences Awards**

Prize: Two cash prizes each of: \$125, \$75, \$50

Criteria: Deserving projects in junior or intermediate physical sciences.

#### **Junior or Intermediate Earth & Environmental Sciences Awards**

Prize: Two cash prizes each of: \$125, \$75, \$50

Criteria: Deserving projects in junior or intermediate earth & environment.

### **Procor Engineering Awards**

Prize: Junior: \$50, Intermediate: \$100, Senior: \$150

Criteria: Excellent engineering projects

### **Professional Engineers Ontario Hamilton-Burlington Chapter Awards**

Prize: 1<sup>st</sup>: \$250, 2<sup>nd</sup>: \$150, 3<sup>rd</sup>: \$100

Criteria: Top 3 outstanding Engineering Projects, any level

### **Professional Engineers Ontario (Oakville Chapter) Engineering Awards**

Prize: Two awards of \$100 each

Criteria: Deserving engineering projects.

### **Royal Botanical Gardens Award**

Prize: \$100 gift certificate from RBG shop plus 1 year RBG Family Membership

Criteria: Best project in botanical or environmental sciences

### **SPIE Optics & Photonics Science Fair Award**

Prize: Three awards: 1<sup>st</sup> \$250, 2<sup>nd</sup> \$150, 3<sup>rd</sup> \$100; to be requested by winners after the fair

Criteria: Projects best demonstrating scientific research and engineering applications of optical, photonic, imaging and optoelectronic technologies or related discipline, any level.

### **Susan Joyce Memorial Award**

Prize: A certificate to each student and \$50 to each project

Criteria: For top project in each of the six categories, Junior level

### **University of Ontario Institute of Technology Innovation Award**

Prize: One award of \$100 to be sent after the fair.

Criteria: Outstanding project demonstrating the most innovative development, adaptation, or use of technology in any subject area.

### **Venture Engineering Innovation & Science Award, McMaster University**

Prize: Free registration to Venture Engineering Science Camp – August 7-10, 2012

Criteria: One junior project that demonstrates creativity and originality.



# SCHOLARSHIPS



## Judged and Awarded by Special Award Donors

### **McMaster University Faculties of Science & Engineering Tuition Awards**

Prize: Five \$500 tuition awards, to be redeemed upon acceptance of successful admission to either of the Faculties of Science or Engineering.

Criteria: Projects demonstrating excellence in Science or Engineering research.

### **McMaster-Mohawk Bachelor of Technology Tuition Award**

Prize: Five \$500 tuition awards, to be redeemed upon acceptance of successful admission to the Bachelor of Technology program.

Criteria: Preference will be given to senior projects that are on topics that have application in Automotive and Vehicle Technology, Biotechnology, and Process Automation Technology

### **Nipissing University Regional Science Fair Award**

Prize: One scholarship award of \$1,000

Criteria: To a senior project, any category to be paid out upon registration at Nipissing University

### **University of Ottawa Admission Scholarship**

Prize: \$1,000 admission scholarship (or two \$500 scholarships for a pair project) toward tuition fees, upon being accepted into and registration in an undergraduate program in the Faculties of Engineering, Science or Health Sciences at the University of Ottawa

Criteria: The most deserving Senior project

## Awarded to all projects earning Gold, Silver or Bronze Merit Medals

### **Mohawk College Tuition Scholarship**

Mohawk College will provide \$500 scholarships to ALL BASEF 2012 Merit Award Medal (Gold, Silver, Bronze) winners. The scholarship may be used toward first year tuition upon the recipients' acceptance and registration in any full-time program at Mohawk College. If multiple scholarships are accumulated over more than one year, only one of these scholarships may be used.



Thanks to our sponsors we're going places!

## **National & International Science Fair Competitors**



**The BASEF Students and Volunteers gratefully  
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# MERIT AWARDS

*Sponsored by Primary Fluid Systems*



Merit Awards recognize the tremendous amount of thought and effort that has gone into the projects entered into the Bay Area Science and Engineering Fair. They are the result of an extensive judging process undertaken by up to 150 independent judging volunteers who have come forward from educational institutions, local government organizations, business and industry in our regions. All participants in the Bay Area Science and Engineering Fair are eligible to win Merit Awards.

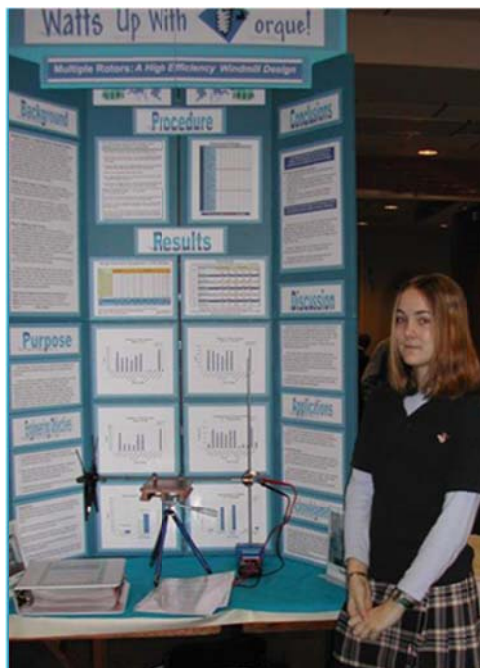
***The Awards are issued to projects that meet the following criteria:***

**For Junior, Intermediate, Senior levels in:**

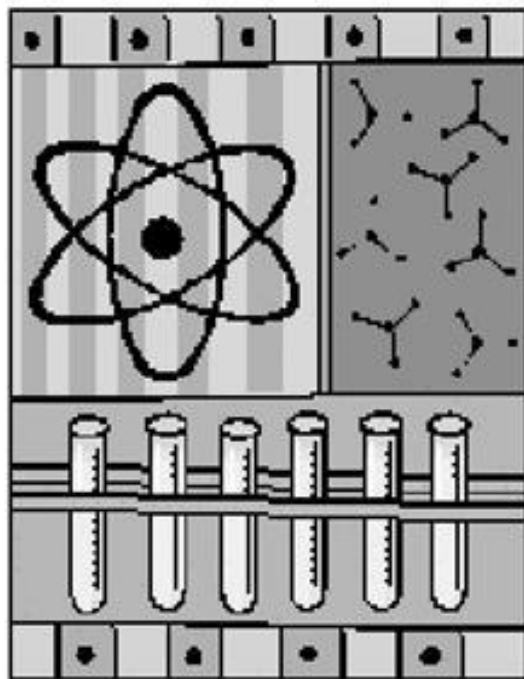
- Health Sciences (Human)
- Life Sciences (Non-human)
- Physical and Mathematical Sciences
- Biotechnology
- Engineering and Computing Sciences
- Earth & Environmental Sciences

***Scoring:***

over 90% & ranking in top 7.5% of category:	earns <b>Gold medal</b> & cash award
over 80% & next 10% of category:	earns <b>Silver medal</b> & cash award
over 75% & next 12.5% of category:	earns <b>Bronze medal</b> & cash award
over 75% & not in the top 30% of category:	earns <b>Honourable Mention</b> certificate & cash award



# Proud sponsor of BASEF and the 2012 Merit Awards



"Opportunity is missed  
by most people  
because it is dressed  
in overalls and  
looks like work"

Thomas A. Edison



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## GRAND PRIZE AWARDS

Winners of Grand Awards have designed, researched and presented excellent projects.

### **ARCELORMITTAL DOFASCO PINNACLE AWARDS**

BASEF's Pinnacle Awards are presented to each of the top three projects in the fair. These awards are based on the project's Merit Award score. Each winner receives an engraved plaque; trophies are awarded to the winner's schools.



### **DRS. RANJAN SUR AND MONALISA SUR AWARD**

Best Intermediate or Senior level project at the fair, a plaque to the winner's school.



### **ROY MIDDLETON MEMORIAL AWARD**

Best Junior Level Project at the fair, a plaque to the winner's school.



### **HERB GILDEA MEMORIAL TROPHY**

A trophy is awarded to the secondary school accumulating the most points. Points are earned from the number of projects entered from the Intermediate and Senior levels of each school and those projects earning Gold, Silver, Bronze and Honourable Mention Merit Awards.



### **BASEF COMMITTEE TROPHY**

A trophy is awarded to the elementary school accumulating the most points. Points are earned from the number projects entered from the Junior level of each school and those projects earning Gold, Silver, Bronze and Honourable Mention Merit Awards.





## GRAND PRIZE TRIP AWARDS



### INTEL INTERNATIONAL SCIENCE & ENGINEERING FAIR TRIP AWARDS



All-expense-paid advancements to the 2012 Intel International Science & Engineering Fair, to be held in Pittsburgh, Pennsylvania, USA from May 13 to 18, 2012. Up to 3 projects will be chosen from excellent exhibits at the secondary school (Intermediate & Senior) level. Winners will be chosen from those high school entrants that declared they were able to travel into the USA (Canadian citizenship or landed immigrant status, with valid passport in-hand) as part of the BASEF registration process.

Sponsors are:

- McMaster University
- Mohawk College
- Union Gas

### CANADA WIDE SCIENCE FAIR TRIP AWARDS

Advancement to the 2012 Canada Wide Science Fair (all trip expenses paid), to be held in Charlottetown, PE from May 12 to May 19, 2012. Up to 16 trips (dependent on funding levels) will be awarded for excellent projects. All projects entered in BASEF 2012 are eligible.

Sponsors are

- ASECO Integrated Systems
- Boehringer Ingelheim Canada
- City of Hamilton, Economic Development Dept.
- Dell Chemists
- D.E.N.M. Ltd.
- Halton Catholic District School Board
- Halton District School Board
- Hamilton-Halton Construction Association
- Hamilton Wentworth Catholic District School Board
- Hamilton Wentworth District School Board
- Hillfield Strathallan College
- McMaster-Mohawk Bachelor of Technology Program Partnership
- McMaster Xerox Centre for Engineering Entrepreneurship & Innovation
- Ontario Power Generation - Nanticoke Generating Station
- Youth Science Ontario in partnership with  
Ontario Ministry of Research & Innovation and Youth Science Canada



Charlottetown 2012

### TEAM ONTARIO at CWSF

Along with all other Ontario CWSF trip winners, BASEF students awarded CWSF trips will be named to "Team Ontario". Each Ontario CWSF trip-winner will receive a Team Ontario jacket.







# future ready

Congratulations to our next generation of hometown inventors, innovators and entrepreneurs.

## 52nd

### Technology at its Finest!

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Community strength is a remarkable thing. It removes barriers, builds confidence and changes lives. It brings people together and moves cities forward. It's our reason for supporting the arts, education, the environment, sports, health and social services.

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