

OFFICIAL PROGRAM

BASEF 2014

54th Annual Bay Area
Science and Engineering Fair
March 26 – April 1, 2014

Mohawk College

Sponsored by



ArcelorMittal
DOFASCO | HAMILTON

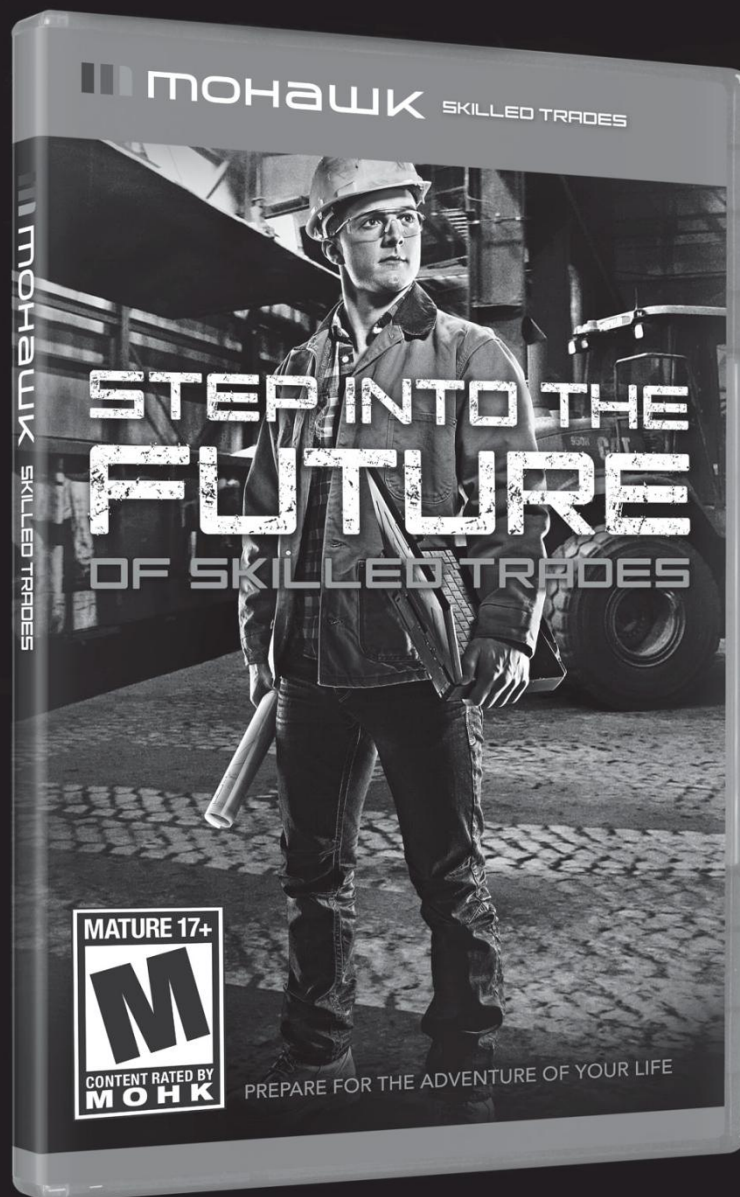
Diamond Sponsors
Mohawk College
Primary Fluid Systems

Platinum Sponsors
The Hamilton Spectator
McMaster University

**Big ideas.
Infinite possibilities.**

Mohawk College welcomes

all Participants in the 2014 Bay Area and
Science Engineering Fair. Good luck!



Learn more
mohawkcollege.ca

Proud Host of the 54th Annual BASEF

mohawk
FUTURE READY

TABLE OF CONTENTS



Message from BASEF Co-Chairs	2
Organizing Committee	3
Message from Honourary Chair	4
Sponsors and Benefactors	5
Schedule of Events	6-7
Emergency Evacuation and Security Procedures	8
Map of Mohawk	9
Parent Pages	10-11
BASEF Outreach and the YES Mentorship	13
BASEF Champion Teacher	14
Activity Morning	15
Volunteers	16
Merit Award Judges	17-18
Special Award Judges	19
Exhibitor Index	20-25
Floor Layout	21
Project Listing	26-41
Special Awards	44-50
BASEF Golf Outing Invitation	45
Scholarships	51
Merit Awards	52
Grand Prize & Trip Awards	55 - 56

**Cover image for BASEF2014 Official Fair Program is courtesy of
Public Domain Images www.public-domain-image.com**

BASEF2014 Official Program printed courtesy of ArcelorMittal Dofasco Inc.

Funding for BASEF 2014 sponsored by ArcelorMittal Dofasco is provided by ArcelorMittal Dofasco's Corporate Community Investment Fund. The views and opinions expressed in this publication do not necessarily reflect those of ArcelorMittal Dofasco.



A MESSAGE FROM THE 2014 BASEF CO-CHAIRS

This is a year of both continued essential support from our many community sponsors and benefactors, and new support for student awards designed to promote renewed interest and participation in the Fair.

ArcelorMittal Dofasco has returned as BASEF's title sponsor for the eighth year. We are thankful for the very generous funding provided by ArcelorMittal Dofasco's Corporate Community Investment Fund to all

aspects of the Fair. BASEF 2014 would not be possible without this. Together with over 30 other sponsors and benefactors, as well as over 30 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 \$175,000.

Primary Fluid Systems continues to invest in BASEF's students, our leaders of tomorrow. They have sponsored the Fair at the Diamond Level for several years. Recipients of Gold, Silver, Bronze and Honourable Mention Merit Awards will recognize the Primary Fluid Systems name on their merit award certificates for years to come.

Mohawk College, also a Diamond sponsor, is hosting BASEF for the first time in its excellent new David Braley Athletic and Recreation Centre (DBARC). On behalf of the BASEF 2014 Organizing Committee we extend a special thank you to Mohawk College and its staff, who have been very generous with their time, energy and resources, and enthusiastic in their support.

BASEF's new "Awards for Excellence in Science & Technology" are funded by a generous donor whose desire is to generate interest and encourage participation in the Fair. These 18 new \$500 prizes, based on merit judging marks, will be awarded to the top 18 first time competitors who win \$200 or less in other cash prizes. In addition, schools can win one of two \$250 New School Awards. Funded by the same donor, who wishes to remain anonymous, these prizes will be awarded to the teachers from the two new schools with the best project scores.

This is the 54th year of operation for BASEF, whose mission is 'to encourage young people in science and engineering'. We hope this year's student exhibitors meet new friends, enjoy their experience, and capture the science fair passion that leads to new research and the discoveries of tomorrow. We congratulate each participant on a job well done and wish them the best of luck in their future endeavours.

BASEF's motto "Big Ideas... Infinite Possibilities" is truly what the BASEF experience is -- to the students, judges, parents, award sponsors, and the many visitors to the fair.

BASEF is a volunteer driven registered charity. We acknowledge with thanks the huge efforts of this year's Organizing Committee members who have dedicated countless hours toward making BASEF 2014 a success. Our thanks also to the over 250 volunteer Merit and Special Awards Judges and to the more than 100 other volunteers who help run registration, safety and other fair activities.

We are grateful to our Honourary Chair, Zach Douglas, who continues the tradition of community support to the BASEF vision. Zach is the President and CEO of McMaster Innovation Park (MIP), an entity affiliated with McMaster University. MIP offers research opportunities that develop from it being recognized as one of the best research parks in Canada for innovative, creativity, learning and research excellence aligned with the research strengths of McMaster University.

Be sure to attend the BASEF awards ceremony, this year at a new time, on Tuesday evening, April 1, at 7:00 pm in the McIntyre Performing Arts Centre at Mohawk College to celebrate our students' successes.

Helen Barton
Co- Chair BASEF 2014

Kevin Hunt
Co-Chair BASEF 2014

BASEF 2014 ORGANIZING COMMITTEE

MOHAWK COLLEGE, BASEF 2014 HOST

Bob Carrington, Acting President
Cheryl Jensen, V.P. Academic

CO-CHAIRS

Helen Barton and Kevin Hunt

PAST CHAIR

Ray Kranyak

TREASURER

Eleanor O'Flynn, C.P.A., C.A.

REGISTRAR

George Geczy; Ass't: Rob Lenjosek

JUDGE IN CHIEF

Neil Manmohan; Ass't: George Geczy

SCIENTIFIC REVIEW

Cathy Hayman (Co-Chair), Dan Bowman (Co-Chair),
George Geczy (Co-Chair), Neil Manmohan (Judge in Chief),
Allison Boyd, Dr. Robert Brown, Rob Lenjosek, Donna
Stack-Durward, Jo-Anne Teoh

SPECIAL AWARDS COORDINATOR

Julianna Giancarlo; Ass't: Jim Casey, David Reed

SAFETY

Neil Manmohan

FUNDRAISING

Sue Olynyk (Chair), Peter Child, George Geczy

STUDENT ACTIVITIES

Kevin Hunt

CANADA-WIDE & INTERNATIONAL CHAPERONES

CWSF: Dan Bowman (lead),
Stephanie Fazzari, George Geczy
IISEF: Cathy Hayman (Fair Director), Ming Chong

INFORMATION SYSTEMS

George Geczy, Gerard Chiasson, Ken Moyle

OFFICIAL FAIR PROGRAM

Lisa Camara

MOHAWK COLLEGE REPRESENTATIVES

Dana Jacobs, Peter Olynyk



SPONSOR REPRESENTATIVE

Sandy Walker

FACILITIES

Dan Bowman; Ass't: Dana Bee

AWARDS AND CEREMONY

Gerard Chiasson (Chair), Wayne Bowdish, Neil Manmohan
MCs: Peter Olynyk, Cathy Hayman

"CHAMPIONS OF BASEF"

Ola Lunyk Child (Chair), Peter Child

OUTREACH

Peter Child (Chair), Allison Boyd, Ryan Buist, Ming Chong,
George Geczy, Ola Lunyk Child, Mark Mindorff, Vanessa
Scanga, Wuchow Than, Glen Whitwell

SPECIAL PROJECTS & YES INITIATIVE

Vanessa Scanga, Ryan Buist

VOLUNTEER RECRUITMENT AND COORDINATION

Glen Whitwell, Jim Monkelbaan, Dana Bee

PHOTOGRAPHY & GRAPHICS

Wayne Bowdish

MARKETING AND PUBLICITY

Helen Barton (Chair), Wayne Bowdish, Roslynn Crawford,
Deidre Date, George Geczy, Antonella Giancarlo, Glen
Whitwell

FOOD PLANNING

Dan Prowse

DISTRICT SCHOOL BOARD ADVISORS

HCDSB: Lorraine Boulos
HDSB: Ron Ballentine, Ingrid Munson
HWCDSD: Morris Hucal, Rob Lenjosek
HWDSB: Teresa Thompson
Six Nations (INAC): Alex Randall

COMMITTEE MEMBERS AT LARGE

Lauren Jewett, Joydeep Sengupta, Sandy Willett

STUDENT ADVISORS

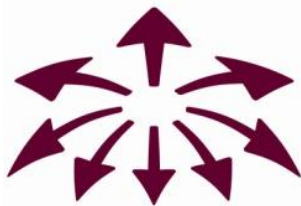
Catharine Bowman, Mohammad Moahid, Alex Tomala

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
web site: www.basef.ca

Registered Charity: BN 11895 1565 RR0001
© Copyright 2014 Bay Area Science and Engineering Fair

BASEF OFFICE PHONE NUMBER
(905) 575-1212 ext 3751
Noon March 26 to 1:00pm March 29
ONLY



M C M A S T E R INNOVATION PARK

175 Longwood Road South, Suite 105
Hamilton, ON, L8P 0A1
905-667-5500 | www.mcmasterinnovationpark.ca

A MESSAGE FROM HONOURARY CHAIR, ZACH DOUGLAS



It is my pleasure as Honourary Chairperson to once again 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 are 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 (MIP), an entity affiliated with McMaster University, which has a mandate to redevelop 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 three buildings. The Atrium@MIP, the first completed building at McMaster Innovation Park is 4-level office, laboratory and conference facility. There are currently over 30 tenants in the building, including the United Nations University Institute for Water, Environment and Health. The CANMET-MTL research centre is dedicated to metals and materials fabrication, processing and evaluation. This second building houses the Canadian Government's Materials Technology Laboratory. In the third facility, the McMaster Automotive Resource Center, hundreds of both private and public sector researchers, students and industry professionals are working to resolve serious issues facing the automotive industry and design the future of human transportation.

Prior to 2006 Mr. Douglas held leadership positions with Crown Investment Corporation of Saskatchewan and Saskatchewan Opportunities Corporation. Over the past 30 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.

SPONSORS – 2014

TITLE \$15,000 +

ArcelorMittal Dofasco

DIAMOND \$10,000

Mohawk College
Primary Fluid Systems

PLATINUM \$5,000 +

McMaster University
The Hamilton Spectator

GOLD \$2,500 +

Lifetouch
Taylor Leibow Accountants & Advisors
Union Gas Ltd.

SILVER \$1,000

Boehringer Ingelheim Canada
Canadian Linen & Uniform Service
City of Hamilton Economic Development Dep't.
Esso Imperial Oil Foundation
Halton Catholic District School Board
Halton District School Board
Hamilton Chamber of Commerce
Hamilton Halton Construction Association
Hamilton-Wentworth Catholic District
School Board
Hamilton-Wentworth District School Board
Hillfield Strathallan College
Investigative Science Inc.
John Deere Foundation
Ontario Power Generation- Nanticoke Station

BRONZE \$500 +

BattleGoat Studios
D.E.N.M. Engineering Ltd
Hamilton Community Awareness
& Emergency Response

FRIENDS \$100 +

Hamilton Wentworth Occasional Teachers
Optimist Club of Stoney Creek



BENEFACTORS - 2014

Through their personal donations, individuals support the BASEF. BASEF relies entirely on donations from corporate, organizational and personal donations to fund its operations. **As Benefactors, individuals help to make the fair what it is. BASEF's benefactor levels celebrate famous Canadian scientists and engineers.**

Banting and Best Benefactors (\$1000+)

Sir Frederick Banting and Dr. Charles Best were the co-discoverers of insulin used in the treatment of diabetes. In 1923, Dr. Banting was awarded the Nobel Prize in Medicine

Dr. Peter Child & Mrs. Ola Lunyk Child
Dr. Ranjan and Dr. Monalisa Sur*
Mr. David Walker*

Bondar Benefactors (\$500+)

Dr. Roberta Bondar was the first Canadian woman to have flown in space as an international astronaut on board the Space Shuttle Discovery. Dr. Bondar is a trained physician, scientist, astronaut and photographer.

Mr. Peter & Mrs. Susan Olynyk

Polanyi Benefactors (\$200+)

John Charles Polanyi won the 1986 Nobel prize for chemistry for using chemiluminescence of molecules to explain energy relationships in chemical reactions

Mr. John & Mrs. Eleanor O'Flynn

McGill Benefactors (\$50+)

Elsie McGill was Canada's first woman graduate in electrical engineering. She also held a master's degree in aeronautical engineering. She is considered the first woman to be a designer of airplanes; During World War II her primary responsibility was the production of the Hawker Hurricane fighter aircraft.

Smith Benefactors (<\$50)

Dr. Michael Smith won the 1993 Nobel Prize in Chemistry for discovering site-directed mutagenesis: how to make a genetic mutation precisely at a spot in a DNA molecule

BASEF'S ENDOWMENT FUND: THE BAY AREA SCIENCE AND ENGINEERING FAIR FUND

In June 2012, BASEF established an endowment fund with the Hamilton Community Foundation (HCF) under their Agency Endowment Program. Contributions are invested by HCF and the income earned, net of management fees, made available for BASEF to support BASEF's mission and goals. The endowment fund has grown to just over \$20,000. It will become operational in support of BASEF's long term sustainability when the amount in the fund reaches \$25,000.

Please consider the BASEF Endowment Fund as part of your charitable giving. You may send a cheque designated for the BASEF Endowment Fund to BASEF, or send your donation directly to the HCF.

* Indicates these benefactors have made donations to the BASEF Endowment Fund

BASEF 2014 SCHEDULE OF EVENTS



All at Mohawk College Fennell Campus

Gymnasium - David Braley Athletic Centre (DBARC)

Theatre - McIntyre Performing Arts Centre

Wednesday, March 26 – On-Site Project Setup/Safety Check

4:00 – 8:00 pm	Registration, set-up and safety checks	Gymnasium
----------------	--	-----------

Thursday, March 27 - Student Activity Morning & Judging of Projects

8:00 – 9:00 am	BASEF students arrive for Morning Activity (Theatre Doors Open at 8:30 am)	Theatre
9:00 – 9:05 am	Introduction – Sponsor Comments	Theatre
9:05 – 9:30 am	McMaster Engineering Venture / Leap Video session and interactive presentation	Theatre
9:30 – 10:10 am	Hamilton Amateur Astronomy Organization John Gaureau's Short Tour of the Universe	Theatre
10:10 – 10:50 am	Keynote Presentation: General Motors Canada Electrification of the Automobile – The Cadillac ELR ...going beyond the Volt – Paul Hewitt	Theatre
10:50 – 11:15 am	The Journey from Idea to Profit David Cox of CIBC Wood Gundy	Theatre
11:15 am – noon	McMaster University Chemistry Show Professors Randy Dumont and Paul Harrison	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 28 – Fair not open to the public or students

9:00 – Noon	"Be a Science Fair Judge" Class Activity Pilot Two Grade 7 – 8 classes will be participating. This event is fully subscribed for 2014.	Gymnasium
-------------	--	-----------

Saturday, March 29 - Public Viewing

9:00 am - 12:00 noon	Public Viewing - Projects are to remain in place until end of Public Viewing	Gymnasium
12:00 – 1:00 pm	Project take-down. All projects must be removed by 1:00 pm	Gymnasium

BASEF 2014 SCHEDULE OF EVENTS (continued)



All at Mohawk College Fennell Campus

Gymnasium - David Braley Athletic Centre (DBARC)

Theatre - McIntyre Performing Arts Centre

Tuesday, April 1 - Awards Ceremony

5:15 - 6:30 pm	Champions of BASEF Dinner	By Invitation Mohawk
6:30 pm	Awards Ceremony seating opens	Theatre
7:00 - 9:30 pm	Awards Ceremony	Theatre
9:30 - 10:00 pm	Meeting with chaperones for trip winners and their parents	Theatre



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**

MOHAWK COLLEGE EMERGENCY PROCEDURES
BAY AREA SCIENCE & ENGINEERING FAIR (BASEF)
MARCH 26 TO APRIL 1, 2014



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:

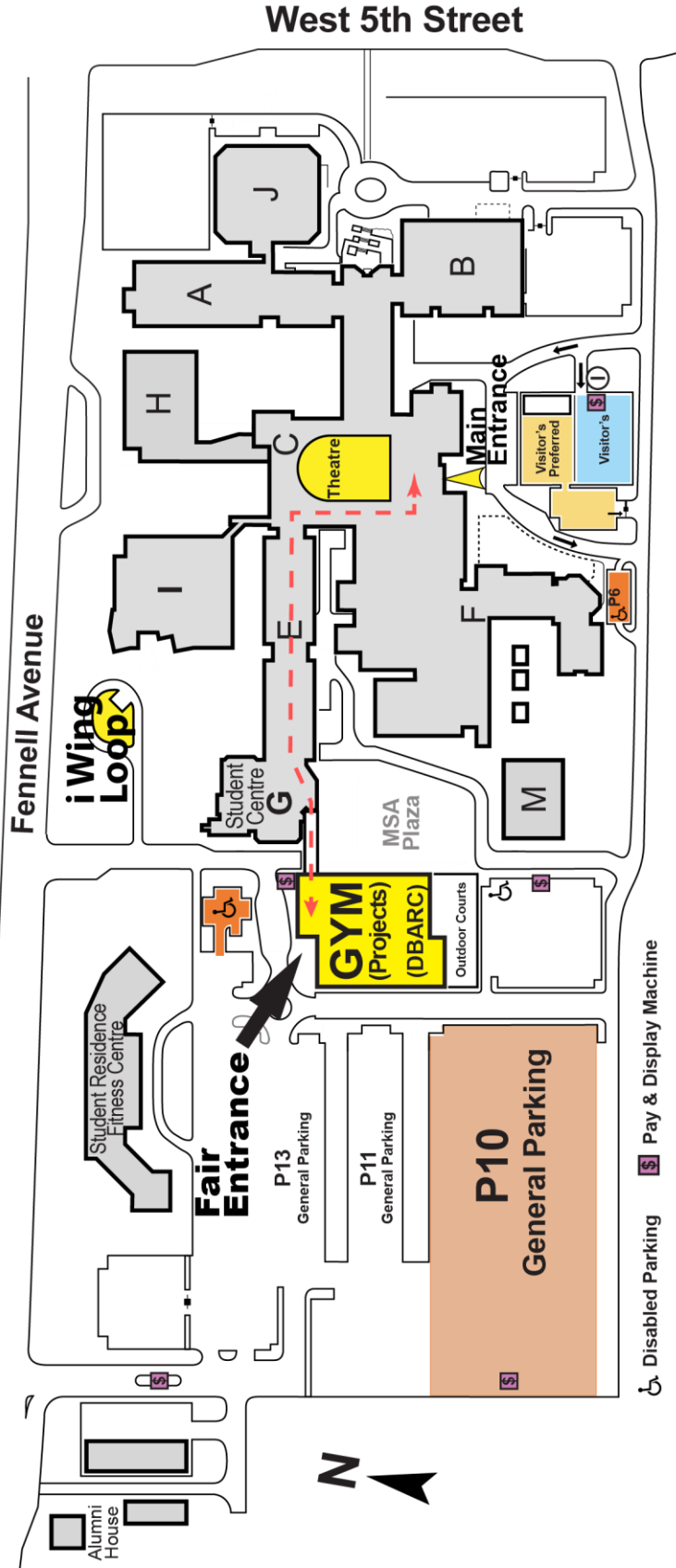
Main Security Desk	Dial 2003 on College phones Dial 905-575-2003 or 905-575-2316 on other phones
--------------------	--

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 2014

March 26 - April 1, 2014
Mohawk Fennell Campus



Wednesday March 26

Project setup in the **Gym**
4:00 pm to 8:00 pm
Student drop off at lot **P10**

Thursday March 27

Activity Morning in the **Theatre**
Students arrive 7:45 am to 8:30 am
Bus dropoff/pickup at **iWing 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 29

Public Viewing in the **Gym**
9:00 am to 12:00 pm
Project takedown 12:00 noon
Parking in lot **P10**

Tuesday April 1

Awards Ceremony in the **Theatre**
7:00 pm to 9:30 pm
Doors open at 6:30 pm
Parking in lot **P10**

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

Congratulations on your decision to allow your child to participate in BASEF 2014!

For many students, BASEF 2014 is the first time they are rewarded for their academic endeavours. All BASEF student participants are rewarded with an enriching experience. Students get to participate both in Activity Morning and Judging. Along with a certificate of participation, students will come away with the experience of meeting new people - both judges and other top students - and with 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 rewards available to successful science fair participants. BASEF awards cash prizes, awards and scholarships. The top winners have the chance to win an expense paid trip to either the national or international science fair.

Location of Events: Mohawk College

Note: Science Fair projects will be located in the new David Braley Athletic and Recreation Centre (DBARC) Activity Morning and the BASEF awards ceremony will be in the McIntyre Performing Arts Centre.

Any changes or revisions to the plan will be posted on the BASEF website and will be announced at the fair.

Parking for Registration and Project Setup: There will be signs directing you to the Science Fair as you enter the College from the Fennell Avenue or West 5th Street entrance. Parents are instructed to please **park in Lot P10** and walk to the DBARC gymnasium with your projects. Parking is free during project setup – but remember, only Lot P10 will be free. The traffic circle at the entrance to DBARC is a main thoroughfare and a fire route so project drop-offs will not be allowed at the DBARC entrance.

Parking for Activity Day, Public Viewing and the Awards Ceremony: There will be signs directing you to the event locations as you enter the College from the Fennell Avenue or West 5th Street entrance. Parents are instructed to please **park in Lot P10**. Volunteers, parking attendants and Security staff will be able to guide you to the events.

Regular parking fees apply during Activity Day, Public Viewing and the Awards Ceremony: Parents can buy a pay-and-display ticket for \$5 from the staffed kiosk at the Visitors Parking Lot near the Main Entrance shown on the campus map, or buy their ticket for \$10 at one of the parking ticket machines located at the P13 and P10 Parking Lots (see marked locations on the map). 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.

There is a campus map included on the previous page of this program.

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. BASEF should be considered a public facility regarding food allergies.

Day by Day - Parent Responsibilities

Day 1 – Registration and Set-up

Project set up for the fair occurs **ONLY** on **Wednesday, March 26, 2014 from 4:00 – 8:00 pm at Mohawk College DBARC Athletic Centre. Parking in Lot P10 is free. Park, then carry your project into the Gym.** Projects not set up by 8:00 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 photograph taken for an ID badge 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**

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

have been safety checked and passed. The registration process and project set up usually takes less than an hour. **Be sure 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: basef.ca/**

Day 2 - Student Activity Morning, Thursday, March 27, 2014 @ 8:30 am – 12:00 noon

Students will be welcomed by volunteers at the McIntyre Performing Arts Centre beginning at 8:30 am. The Activity Morning Event starts at 9:00 am. Program details can be found on the BASEF website at: basef.ca/activities

Day 2 - Lunch - Thursday, March 27, 2014 @ 12:00 noon - 12:45 pm

BASEF student exhibitors will be escorted from the McIntyre Theatre to the DBARC Athletic Centre.

Students must bring their own lunch and eat in the gym. There are no cafeteria facilities available to the students.

Day 2 – Afternoon Judging, Thursday, March 27, 2014 @ 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. Regular parking rates apply.

When picking students up after Judging at 4 pm, parents may **park free in lot P10 for 1 hour**. Other parking lots will have parking enforcement present. Do not wait along the roadway at the DBARC Athletic Centre entrance; this is a fire route.

Day 3 - Friday, March 28, 2014

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

Day 4 - Public Viewing, Saturday, March 29, 2014 9:00 am – Noon

Park in Lot P10. Regular parking fees apply - \$5 from the staffed kiosk/ \$10 from the machines. See details on previous page.

We ask that your children be at their projects in the gymnasium for Public Viewing from 9:00 am - 12:00 noon. At noon the students will be asked to remove their projects. **Students may not remove their projects until after the Public Viewing.**

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.

NEW TIME - The Awards Ceremony – Tuesday, April 1, 2014 7:00 – 9:30 pm

Park in Lot P10. Regular parking fees apply - \$5 from the staffed kiosk/ \$10 from the machines. See details on previous page.

The award ceremony is the culmination of the Fair and where the hard work of the students is recognized. The awards ceremony will begin at 7:00 pm sharp but it is recommended to come early as seating is limited. Doors will open to the theatre at 6:30 pm.

Note: Our trip award winners and a parent are required to attend an information meeting immediately after the Awards Ceremony (approximately one hour).

There! Wasn't that easy? Congratulations to you and your young scientists and engineers! Be sure to visit the BASEF website (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 as they compete at the national and international science fairs. Their progress can be found in "Team BASEF", with links to Facebook and Twitter.

BASEF thanks its 2014 sponsors



ArcelorMittal
DOFASCO | HAMILTON

Diamond
Platinum
Gold
Silver
Bronze

Diamond
Platinum
Gold
Silver
Bronze



\$10,000

\$10,000



\$5,000

\$5,000



\$2,500

\$2,500



\$1,000

\$1,000



\$500

\$500

And the many Friends of the fair

BASEF Outreach: Resources Available to Students, Teachers, and Parents

The Bay Area Science and Engineering Fair offers students the opportunity to explore problems that matter to them using a longer term, project-based approach. BASEF offers a wide range of resources to help students conduct their research; from help getting started, to technical considerations such as how to design a project display, or finding answers to ethical and safety questions. We also offer help to parents and teachers working in support of the young researchers.

The main portal for this help is our website. If you only have time to explore one resource, a definitive guide called “Science Success” is a good place to start. It is available at www.basef.ca/outreach. “Science Success” consists of 4 parts: a guide for teachers, a student workbook, and two slide presentations useful for groups of students, teachers or parents.

www.basef.ca/resources contains a large number of links to a **range of resources**, with a detailed description of what can be found there. There are even design plans for a commonly-used **wooden display board** that can be shipped world-wide. To see what a typical BASEF project looks like, **visit our project archives** at www.basef.ca/2012awards and www.basef.ca/pastresults

Students, teachers and parents can access help directly from BASEF by emailing us at outreach@basef.ca. Experienced science fair veterans, professional scientists, engineers and educators are available to provide **chalk-talks or workshops**. This is particularly valuable for students attending schools not supportive of science fairs in the BASEF catchment area. **Mentors** can be arranged on request by emailing outreach@basef.ca. The BASEF Outreach program can also help you assemble a team of **judges** for your school fair, including how to actually organize the judging and evaluate the results.

Teacher’s Activity Day is an all day seminar for teachers covering everything you wanted to know about science fair projects, including a detailed description of the application process for students entering BASEF, safety, judging, and how to avoid the most common pitfalls encountered during registration. This course can be booked by emailing outreach@basef.ca.

Youth Engaging in Science (YES) offers students from equal opportunity schools the chance to work collaboratively with researchers and engineers toward completion of a science project eligible for entrance into BASEF (see the YES box below).

If you are not a scientist, it can be difficult to advise students on the ways of science. Fortunately, many articles have been written to assist those running science fairs (access these by emailing outreach@basef.ca) Also enquire about our talks on **how science is done**. Recent presentations given by BASEF volunteers include: An introduction to BASEF; How to get started and complete your science fair project; The difficulties science fair participants have with the concept of a hypothesis; How science fairs may encourage the “prepared mind” for innovation; and How science and Aboriginal culture may be related.

Project-based science, as promoted by science fairs, is one of the best ways to engage young people in a longer term, focused initiative where they can explore their own interests, exercise their curiosity, and experience the thrill of discovery. BASEF provides a friendly competition to encourage this in-depth exploration of new ideas. We at BASEF Outreach are here to help you get started with your project. **Need help?** Email outreach@basef.ca or visit our website at www.basef.ca.

The YES Mentorship: Our 5th 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 BASEF Organizing Committee members, Vanessa Scanga and Ryan Buist, the YES Mentorship recognizes the needs of elementary and secondary school students and provides them with the opportunity of engaged learning by lending mentorship and guidance toward participating in the regional BASEF. If you are interested in participating in YES and wish to learn more about its opportunities, please email us at 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, Hamilton Wentworth Catholic District School Board and Hamilton Wentworth District School Board. We thank our participating mentors in the Integrated Science (ISci) program at McMaster for their outstanding supervision of YES projects this year.

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!**



2014 BASEF Champion Teacher

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



Ingrid Munson

**Maple Grove Public School
Halton District School Board**



"... Ingrid's enthusiasm for Science Fair has been contagious. ... Every school she has been at has participated in Science Fair. Even when she moves to a new school ... students continue to attend from those schools.

... has been one of the biggest advocates for the fair in Halton Board"

" I would not be where I am today [Stanford University], blessed with the opportunities at my avail if Ms. Munson had not opened my horizons many years ago. I am tremendously grateful for the impact that she has had on my life and interest in science, technology, and innovation."

"... resourcefulness and genuine excitement for science education"

"... continues to foster a growing generation of students invested in science research"

"...incredibly enthusiastic and encouraging of exploratory learning"

CONGRATULATIONS TO THE 2014 BASEF CHAMPION TEACHER!

The Champion Teacher Recognition Award for 2014 includes induction into the BASEF Champion Teacher Hall of Fame, a plaque, and \$350 for use in the classroom of the winning teacher. \$250 of this year's award is funded as part of the Awards for Excellence in Science & Technology. 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.

BASEF ACTIVITY MORNING 2014



Presentation Schedule

March 27, 2014

9am – Noon

McIntyre Theatre, Mohawk College

8:30 am – 9:00 am

BASEF Student Drop Off
Proceed to Main Auditorium

9:00 am – 9:05 am

Introduction
Sponsor Comments

9:05 am – 9:30 am

McMaster University Venture/Leap - Video Session and Interactive Presentation
(Session is designed to accommodate classes arriving after 9 am)

9:30 am – 10:10 am

Hamilton Amateur Astronomers
John Gaureau's Short Tour of the Universe

10:10 am – 10:50am

General Motors Canada – Electrification of the Automobile
The Cadillac ELR...going beyond the Volt – Paul Hewitt

10:50 am – 11:15 am

The Journey from Idea to Profit
David Cox of CIBC Wood Gundy

11:15 am – Noon

McMaster University Chemistry Show
Professors Randy Dumont and Paul Harrison

Note: Grade 7-8 Students will be arriving by bus up until 9:30 am.

THANKS TO BASEF 2014 VOLUNTEERS!

Sabine Andriservich
Khushmeet Aulakh
Ryan Bowdish
Gail Britton
Trina Bowdish
Pauline Broni
Helena Collins
Roz Crawford
Tom Crawford
Lyndsey Dunn
Trixie Ellithorn
Thomas Flaxman
Victoria Flaxman
Ed Gillis
Mary Helen Gillis

Eleanor Frank
Jodi Hanlon
Ahmad Jaber
Lauren Jewett
Michele Joch
Mary Johnston
Linda Kennedy
Jennifer Kerr
Lorna Krauss
Daniel Lin
Shephanie McGill
Michaela McGinn
Nancy Meadows
Palmer Neal

Pamela Penny
Monica Piastun
Obaid Quresh
Tamara Railic
Sue Reaume
Shena Saleh
Tyler Sangster
Doug Scott
Lauren Smith
Brenda Sloane
Borislav Todorov
Anna Vu
Martin Younan
Norman Young

Photo Team

Al Bates
Ryan Bowdish
Ming Chong
Lauren Jewett
John Novak
Chris Stearns
Rosemary Stearns

Registration Team

Rob Lenjosek
Jordan Lenjosek
Kevin MacIsaac
Nancy Carter
Janice Rocchi

| www.uniongas.com | 1-888-774-3111 |



uniongas

A Spectra Energy Company

We are proud to sponsor the Bay Area Science & Engineering Fair

Union Gas is proud of our commitment to the communities we serve.

Together, we're helping to make a positive difference.



MERIT AWARD JUDGES

ArcelorMittal Dofasco Inc.

Richard Aranha
Lynn Austin
Erika Bellhouse
Maureen Crane
Stephanie Drywood
Daniel Hoeksema
Stephanie Holko
Ron Johnson
Graeme McLeod
Joydeep Sengupta
Gavin Sheppard
Mansoor Tavassoly
Jane Wood

AVAR Environmental

Justin Lewis

Ballagh & Edward LLP

Valerie Edward

Brock University

Jeff Irvine

Byrne Engineering

L.H. Ben Van Berkel

C.A.S. of Hamilton

Peter Kalman

Canadian Memorial Chiropractic College

Tracy Chew

Canadian Red Cross

Nelson Ruiz Blanco

City of Hamilton

Daniel Lawlor
Erick Merlos
Carolynn Reid

Columbia International College

Ellier Leng

Crossroads Christian Communications Inc.

Linda Hazelden

DARTS Specialized Transit - Hamilton

Mark Mindorff

Dominy Analytics

Cliff Dominy

Future Stars Sports Photography

Rebecca Smith

Halton District School Board

Ingrid Munson

Hamilton Health Sciences

Mary Nardini
Romaine Sheriff
Deborah Yamamura
Bruce Young

Hamilton-Wentworth Catholic

District School Board

Alan Roy
Donna Stack-Durward

Hamilton-Wentworth District School Board

Bill Forrester
Soula Kritikos

Hillfield Strathallan College

John Hannah

Homestarts Inc.

Jose Martinez Escanaverino

Hospital for Sick Children

Lisa Marie Di Vona

IBI Group

Scott McLaren

Jamnik Graphics

Munazza Ahmad

Juravinski Cancer Centre

Athanasios Paschos

L-3 Wescam

Adam Buggeln

McMaster University

Allison Abdilla
Konstantinos Apostolou
Jonathan Bramson
Ryan Buensuceso
Alisha Butani
Sara Cormier
Neha Dewan
Daniel Dsouza
Danielle Franciscus
Ellis Freedman
Jim Garrett
Tsion Gebremedhen
Sophie Geffros
Richard Hamilton
James SeongJun Han
Zeeshan Haqqee
Laura Holder
Alexander Hume
Peter Jonasson
Wen Kang
Ryan Lamers
Philip Lauman
Izaak Lea
Brian Li
Nikola Lukenda
Ola Lunyk Child
Sohail Mahmood
Monika Malig
Gurditt Mangat
Bhaag Marway
Rabia Mateen
Jose Moran-Mirabal



McMaster University (continued)

Hasib Nadvi
Zainab Naimpoor
Ahmed Negm
Stephanie Neufeld
Uyen Nguyen
Sara Oikawa
Giusepina Pacher
Mawleshan Pathmarajah
Connor Peric
Christian Pretto
Abdullah Raja
Michelle Reid
Tarek Sadek
Luana Sciuillo
Danielle Sexton
Daryl Sivakumaran
Susie Son
Jennifer Stearns
Peter Summers
Netusha Thevaranjan
Brian Tuinema
Meghan Verschoor
Kate Whalen
Wenli Xie`
Fei Xu
Michael Xu
Jonathan Yau
Charles Yin
Sehrish Zehra
Karl Zimmermann

McMaster University Students

Daniel Dyck
Timothy Fernandes
Emily Li
Natalie Raso
Ian Sinke
Fiona Whelan

McMaster University/ MacAUTO

Stephen Bieda

Ministry of Community Family & Childrens Services

Cheryl Pinto

Mohawk College

Jana Jilek
Matt Kovacs
Brian Minaji
Brian Stefanchuk

MERIT AWARD JUDGES (Continued)

Newman Hattersley Ltd.

Bradley Michell

Ontario Environmental Assessment

James Kaspersetz

Ontario Ministry Children and Youth Services

David Lewis

Ontario Power Generation

Gordon Jeung

Retired

Ian David Brown

Allan Crowe

Steve Dawe

Robert de Haan

C. Fraser Forrest

Retired (continued)

Luciano Giancarlo

Helen Graham

Warren Johnson

Mary Johnston

Jennine Kafka

Paul-Benoit Latour

Hansa Patel

Ray Procwat

Beverly Shepard

Robindra Singh

Donald Stevens

George Sweeney

Paul Wehrle

Otto Zander

Self Employed

Eric Harrison

Colin Wu

Sheridan College

Graham Stratford

Student

Aneesha Ghosh

Rachel Kelly

Chantel Markle

Chenwei Ji

Sarnia Nijati

Saba Saiel

Aamir Shaikh

Margot Smith

Nicole Zathey

Unaffiliated

Mike Parchimowicz

Nikesh Patel

Arjun Raha

George Roberts

Tom Themeles

Teala Tyson

University of Toronto

Ranil Sonnadara

William Osler Health

Center

Ferid Rashid

Xerox

Shane Morin



Hillfield Strathallan College
Here Excellence is a Way of Life

**Proud to Support the
2014 Bay Area Science & Engineering Fair**

**Congratulations to all participants:
future science & technology leaders**

www.hsc.on.ca

Excellence – Innovation – Global Citizenship – Leadership - Athletics

SPECIAL AWARD JUDGES

ArcelorMittal Dofasco Awards

John Lundrigan, Adam Aglipay, Christopher Mcneish, Samaneh Alibeigi, John Arkell, Mark Wemekamp, Mike Sohm, Atanas Tchorbadjiysky, Josh Hill, Rose Giles, Lesley Harschnitz

Artistically Inspired Display Awards

Cathy Hayman, Cathy Hamilton

Association of Iron and Steel Technology – Northern Chapter

Shannon Clark

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

Shannon Clark

Canadian Nuclear Society Awards

David Girard, Frank Labonte

Cancer Assistance Program Awards

Helena Streun, Derek Bishop

Chemical Institute of Canada, Hamilton Section Award

Tom Sutton, Dragan Vuckovic, Jim Dickson, Barry Smallbone, Don Barclay,

Colin O’Flynn Electrical Engineering Award

John O’Flynn

Dillon Consulting Awards

Natalie Szponar, Shawn Taylor

Doris Casey Disability Solutions Award

Jim Casey

Dr. Colin J.L. Lock Memorial Chemistry Award

Dr. Nicola Simmons

Dr. Nicola Simmons Award in Cognition Studies

Dr. Nicola Simmons

Electrical Construction Association of Hamilton Award

Joe Kurpe

Farncombe Family Digestive Health Research Institute Award

Elena Verdu

Gowling Lafleur Henderson LLP

Alex Ross

Hamilton Academy of Dentistry Award

Dr. Frank Stechey

Hamilton Association daVinci Award

Tony Petric, Ludvik Prevec, Michael Jefferson

Hamilton Wentworth Occasional Teacher Local Awards

Barry Naidoo, Trang Nguyen

Hidden Science Award

Victor Starecky, Cheryl St. James

Hillfield Strathallan College Awards of Excellence

Marc Edgar

IEEE (Institute of Electrical And Electronic Engineers) Hamilton Section Award

Blair MacCuish, Leyden Martinez-Fonte

International Science & Engineering Affiliated Fair Awards

Cathy Hayman, Lauren Reid

James A. Winger Award sponsored by the Hamilton Association of Astronomers

Jim Wamsley, Matthew Mannering

John. W. Howard Materials Research Award

Dr. Nicola Simmons

Laurentian Chapter of SETAC Award

Eve Gilroy, Mary Ellen Starobud, Joel Nichols, Julie Marentette, Ryan Prosser, Cici Chen

LEAP Award of Innovation

Jen Mills

McMaster University Department of Chemistry And Chemical Biology Award

Dr. Jose Moran-Mirabal

McMaster University Faculties of Science & Engineering Tuition Awards

Dr. Robert Fleisig, Ms. Arlene Fajutrao Dosen

Mechanical Contractors Association of Hamilton Award

Anthony DeChellis, Pat Cimek

M.G. DeGroot Institute for Infectious Disease Research Internship Award

Dr. Karen Mossman, Jianping Xu

Mohawk College Building & Construction Sciences Awards

Chris Blackwood

Mohawk College Mathematics Awards

Chris Blackwood

Nelson Steel Award

Shannon Clark

Primary Fluid Systems Awards

Sandy Walker

Procor Engineering Awards

David Thorpe

Professional Engineers Ontario Hamilton-Burlington Chapter Awards

Michelle Chin, Erika Kadar, Jim Sweetman, Gary Closson

Professional Engineers Ontario Oakville Chapter Engineering Awards

Shannon Pole, Susan Reimer

Royal Botanical Gardens Award

Barb McKean

SPIE Optics & Photonics Science Fair Award

Alexndr (Sasha) Douplik, Kevin Blake

Venture Engineering Innovation & Science Award

Jen Mills

EXHIBITOR INDEX

Abdo, Nawal	A12
Abela, Kayla	P02
Adeel, Komal	H16
Adnan, Haroon	A14
Agro, Hanna	E07
Ahilan, Akshayan	D03
Ahmed, Adiba	K02
Ahmed, Husnain	B06
Ahmed, Nusaybah	A18
Akther, Kazi	K01
Al Sayed, Daniel	R06
Al-Najjar, Zinnia	G03
Aldighieri, Dante	L13
Allain, Deanna	N04
Altmann, Victoria	E03
Aquino, Josie	N03
Ascencio-arriola, Jacob	L03
Aziz, Samna	P10
Babin, Nolan	J17
Babra, Jessie	G05
Badu, Oforiwa	M08
Badzioch, Kirsten	M10
Bailey, Josiah	A06
Bajwa, Muhammad	B01
Baldeon, Valeria	M04
Barbato, Sophie	J13
Barileva, Nart	A01
Barzetti, Vincent	M14
Batth, Sonya	R20
Bauer, Lukas	Q13
Becks-D'Souza, Noah	G11
Beed, JJ	H10
Begic, Alma	B07
Begic, Vanessa	M03
Belanger, Aimee	C13
Bengizi, Alla	B07
Bennett, Riley	K06
Berchie, Maureece	G04
Besseling, Andrew	C11
Best, Alannah	N01
Bhimani, Afif	R22
Bhinder, Abdul-kareem	A15
Biro, Joseph	F08
Boenisch, Kevin	Q12
Bohm, Jessica	L15
Bomberry, Angelina	J03
Bomberry, Darrien	E15
Bomberry, Erin	F04
Bomberry, Hannah	E18
Borer, Coral	K10
Bowman, Catharine	R15

Bozzo, Paolo	N01
Bremermann, Anna	G15
Breninkmeijer, Eduard	H05
Brent, Katie	R05
Britnell, Aidan	H12
Bruce, Rachel	M01
Buggeln, Nathan	C16
Burkhart, Paige	G10
Burning, Clarisa	E18
Cabral, Brendon	L03
Cale, Morgan	K10
Calotti, Randy	C11
Cameron, Nishel	M18
Cao, Federico	R21
Caza, Noah	B11
Chan, Eunice	B05
Chaudhary, Omaina	C05
Chaudhry, Maha	Q02
Ciancone, Steven	M15

Cibic, Angela	C06
Cinquina, Alyssa	M18
Clark, Jacklyn	C03
Clasper, MacKenzie	H06
Claus, Chantel	E14
Clyde, Jacob	P03
Colborne, Ross	K08
Corrado, Nico	E01
Correia, Blake	H08
Corry, Kayla	R11
Costelloe, Beatrice	F09
Cousens, Rob	R03
Czebe, Travis	N12
D'Angelo, Serena	L01
Dababneh, Farah	C18
Dao, Vivian	Q04
Darcel, Brandon	E07
Daugavietis, Julie	M11
Davies, Michela	M09



ISI INVESTIGATIVE
SCIENCE
INCORPORATED
Scientists and Technical Consultants

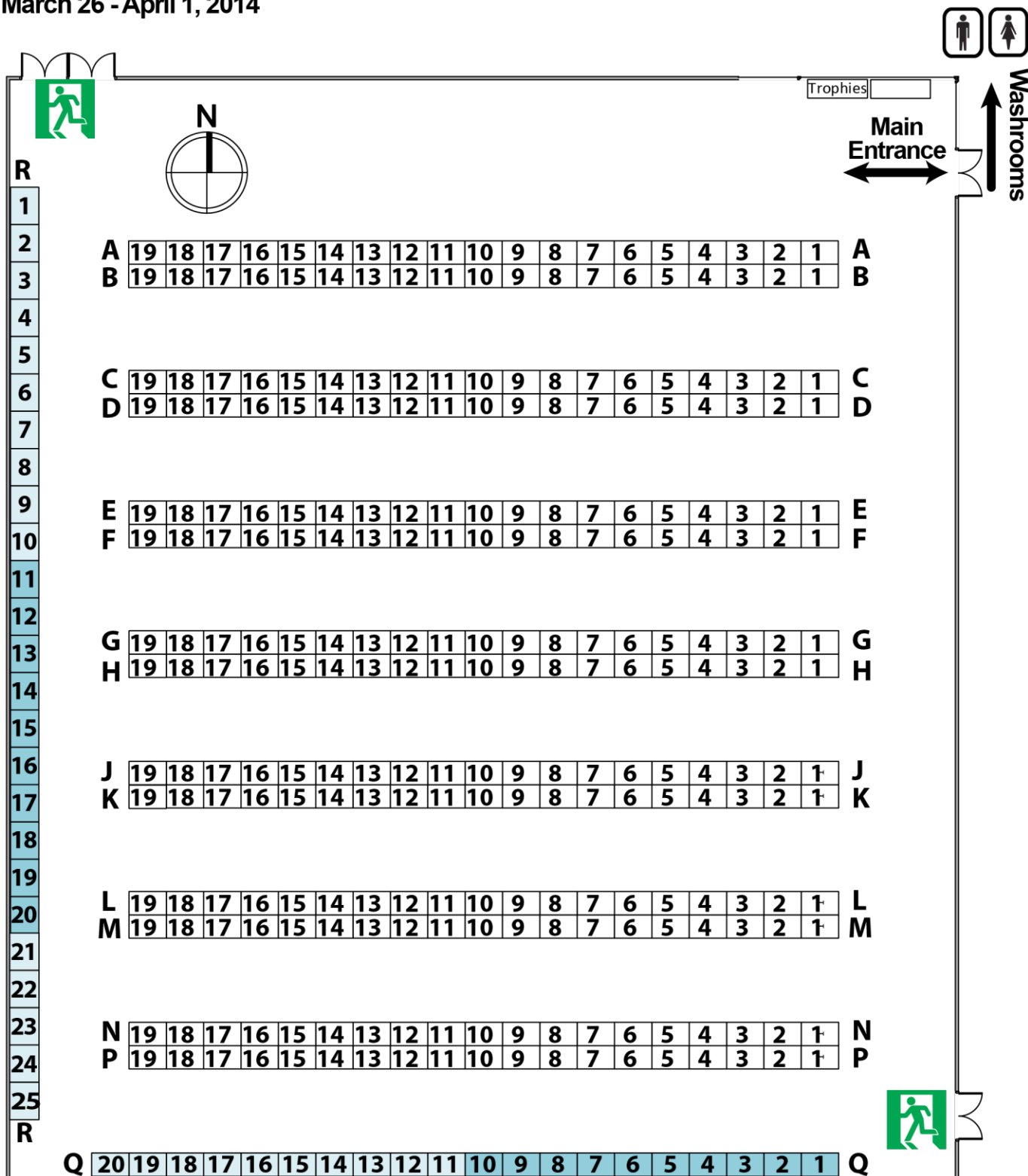
1050 Cooke Blvd. Unit 2 Burlington ON L7T 4A8

Tel (905) 634-4200

www.investigativescience.com

**Best wishes to all
BASEF 2014 student exhibitors.
Congratulations on your scientific investigations!**

BAY AREA SCIENCE & ENGINEERING FAIR
PROJECT FLOOR LAYOUT
 David Braley Athletic Centre
 Mohawk College, Hamilton ON
 March 26 - April 1, 2014



EXHIBITOR INDEX (Continued)



De Gelder, Derek	K09	Greenberg, Jack	A04	Lavalle, Sophia	L17
Degruchy, Megan	E12	Gupta, Sohini	P07	Lawford, Nicola	Q10
Dell, Sofia	G13	Habicht, Thomas	Q17	Le Donne, Gabrielle	D02
Della Ventura, Adam	R09	Hampson, Zach	K14	Leach, Charlotte	M17
DeNardis, Hannah	N06	Han, Samuel	A04	Lebel, Stephanie	G03
Denomey, Benjamin	L10	Harding, Sara	N09	LeBlanc, Keegan	D16
Denys-Varghese, jared	R18	Headrick, Iain	N17	Lee, Do Eon	G01
Devic, Bianca	J09	Helmy, Carol	M04	Lee, Harrison	E01
Dhillon, Devaun	R18	Hill, Avery	H17	Lepper, Maya	N05
Dhillon, Jodh	B10	Hill, Fiyonna	J01	Liu, Chelsea	A03
Dhillon, Priynka	K01	Hill, Jason	J06	Loret, Talia	E10
Dietrich, Cecelia	L02	Hill, Jenna	J02	Louie, Nathan	P03
DiSalle, Sofia	J16	Hill, Kaya	F01	Lowes, Ella	G13
Divittorio, matthew	K18	Hill, Laura	H17	Lutz, Patrick	L12
Dobrovolskis, Julia	Q15	Hill, Rowann	J02	Lynds-Martin, Austen	R22
Don-Wauchope, Xander	N17	Holmes, Viv	K04	MacLeod, Colin	R07
Douglas, Madeline	E14	Hopkins, Karen	M06	Macpherson, Christine	J15
Drakos, Anastasia	E08	Hopkins, Victoria	R13	Maharaj, Amrit	F14
Dyer, Liam	Q18	Horne, Max	D12	Maharaj, Arjuna	Q03
Egan, Emily	K12	Houldsworth, David	H14	Maharaj, Lexi	G10
Egan, Gwyneth	B17	Hudda, Kayden	F16	Mahdavi, Darius	E09
El-Aawar, Ahmed	F14	Hunter, Claire	L11	Mahut, Caroline	R01
Emerson, Maya	B03	Hussey, Kieran	A02	Malhotra, Neha	H03
Estrada Larios, Emanuel	Q07	Iyer, Shivaani	N18	Maracle-Jamieson, Cheerokee	F05
Faber, Robert	R17	Jasper, Matthew	C08	Marchetti, Sophie	M11
Filipponio, Michael	B09	Jayatilaka, Dimuthu	Q11	Mariglia, Aidan	K17
Finerty, Declan	H01	Jayne, Dallas	H18	Markovic, Jacob	C09
Flaherty, David	P09	Jayne, Denver	H18	Marshall, Kenji	Q13
Flaherty, Jacob	P09	Jeeva, Deepthy	B13	Martin, Alexis	E16
Flores, Carl	J18	Jelinek, Josie	B16	Martin, Dion	J05
Fonseca, Sioma	M12	Jeyanathan, Vidthiya	Q10	McBain, Jack	R19
Ford, Mitchell	J18	Joby, Ann	M13	McDaniel, Isabelle	M06
Fram, Jacob	J10	John, Rebecca	G05	McIsaac, Olivia	F15
Frankel, Karlie	E03	Johnston, Eryn	K05	McNaughton, Jessica	F02
Furtado, Rianna	L18	Kapur, SAhana	D14	Medeiros, Dante	L04
Fusch, Kira	B04	Keith, Hannah	G06	Mehta, Karishma	D17
Gallardo Velez, Elizabeth	E13	Kell, Tansley	C07	Meikle, Graham	R12
Gandhi, Krish	F08	Kemper, Sara	E08	Merrick, Christopher	G17
Gao, David	C01	Khalil, Ayat	C03	Mertin, Nicholas	Q14
Gardiner, Olivia	G18	Khan, Niloufer	N11	Michelsen, Noah	K15
Gaskin, Samuel	B15	Khan, Saifullah	Q01	Miller-Loft, Victoria	J01
Ge, Jennifer	G09	Khondker, Adree	R21	Mondal, Tuneer	P11
Gerend, Stephanie	E10	Kim, Daniel	L08	Monson, Lara	B08
Ghobrial, Maria	H09	Kim, Kate Kyuri	R04	Moore, Jonah	R03
Goater, Christopher	E05	Kirkpatrick, Kimberley	P01	Moore, Patrick	R17
Gobran, Mark	H11	Knight, Daniel	C10	Moraes, Eduardo	Q06
Gogia, Abhiraj	D10	Konnerth, Delia	N10	Mosca, Drake	E06
Gomez Vargas, Santiago	D16	Kuhn, Daniel	E05	Muhammad, Maaria	A13
Grande, Simon	E06	Ladipo, Yosi	G04	Mule, Samantha	B08
Grebe, Jonathan	H13	Langley, Madison	Q20	Mutnjakovic, Iva	M12
Green, Mariah	E15	Larrazabal, Elias	D11	Naeem, Mahnoor	A10

tag



we
want
you
to be
it

Being **it** means you make a difference
in a child's life.

Give back. Give time. Give words.

**You're the key
to making it happen.**

The Hamilton Spectator supports our Community's Children.

www.thespec.com

2275-01



**THE
HAMILTON SPECTATOR**



EXHIBITOR INDEX (Continued)

Natarajan, Nikhil	E11	Reigate, Max	G12	Smith , Connor	F03
Navarro, Natalie	B12	Rent, Sydney	C17	Smith, Ethan	G11
Neibert, Christopher	E04	Rieder, Calvin	N07	Smith, Jacob	F03
Nemy, Alexandra	D17	Ritchie, Mikayla	J04	Sohal, Jayden	D18
Nguyen, Jennifer	R13	Rivas-Gonzalez, Frank	J08	Spero, Jack	P08
Nguyen, Tiffany	K02	Robotham, Jonah	K03	Spitman, Sophia	J12
Nicholls, Sydney	G15	Robson, Paul	K15	Sreekumar, Lakshmi	C04
Norman, Matthew	G02	Roque, Nicholas	R12	Stefanchuk, Seth	R10
Norouzian, Parsa	K08	Rose, Madison	A05	Stephen, Allison	D09
O'Brien, Isabella	L14	Rosenzweig, Sarah	G12	Stewart, Megan	R14
Opsteen, Rachel	L07	Rotella, Lucas	K16	Storey, Isabella	E12
Orfei, Victoria	H02	Roth, Zachary	H04	Strathdee, Dylan	N15
Ozimok, Jaslyn	L01	Ruetz, Alexandra	G18	Suchit, Adesh	P05
Paikin, Sasha	D13	Ruggiero, Chloe	N06	Sumner, Moira	N09
Pant, Aagnik	A01	Ryan , James	M02	Supra, Zaina	P02
Paravinja, Nikola	F12	Salman, Maria	G09	Sutcliffe, Christine	D09
Park, Sang Woo	F18	Saunders, Matthew	G17	Swanson, Kyler	R02
Parker, Karly	G07	Sbrissa, Matthew	R08	Swirski, Ryan	G02
Pascall, Mia	C12	Scarcelli, Nicholas	M05	Szigeti, Anna-Leila	D06
Pashkja, Claudia	J11	Schmalz, Avery	L05	Tahir, Subhan	A16
Patel, Radha	K07	Scime, Katelyn	L16	Tarnopolsky, Milla	D05
Pathak, Kaitlyn	K07	Sekhri, Lina	A11	Tasneem, Maham	H16
Pathak, Ria	K04	Shah, Isha	P04	Tasneem, Mohibe	A07
Patrick, Dylan	K11	Shamkhi, Fatemah	C04	Tassone, Nolan	L09
Patterson, Eric	F05	Sharpe, Crystal	P06	Tatone, Dante	H07
Paul, Mayne	L06	Shea, Alexander	D04	Tedesco, Andrew	E11
Payyapilly, Kenneth	D10	Sheikh, Ameera	Q20	Terhljan, Naomi	K05
Pearson, David	E02	Shelley, Sarah	N08	THAPAR, AKASH	Q05
Peetsma, Alexandra	F10	Shiwram, Ariya	N08	Thomas, Anaka	J07
Peever, Helen	N14	Siddiqui, Azza	A08	Thomas, Hannah	E16
Penfold, Devon	P01	Singh, Elyse	F17	Thomas, Nigel	A06
Peros, Bridget	G14	Skerret, Antony	K14	Thompson, Kyle	R02
Perreault, Stacie	K13				
Perry, Max	P05				
Perusini, Reid	K06				
Peyvandi, Rose	F07				
Phillips, Edan	C14				
Philopos , Karen	H09				
Porter, Samantha	E17				
Postma, Brayden	C15				
Power, Lauren	G16				
Prevost, Sophie	C02				
Quon, Zach	G08				
Qureshi, Moeyyad	P11				
Racheva, Dani	L17				
Rajkumar, Lakshmi Tharmika	D01				
Ralliaran, Tanya	G07				
RAMELLI, JULIANA	M16				
Rashid, Shakeel	F11				
Rayner, Daniel	P08				
Raynor, Elizabeth	J14				
Reavley, Kate-Lynn	A05				



A Snowy BASEF 2012

EXHIBITOR INDEX (Continued)

Tirabassi , Lucas	B09	Wain-Lowe, Haydn	D07	Wirasinghe, Sheanna	M07
Tomala, Alex	Q08	Webb, Madeline	R16	Wong, Victoria	C05
Torbin, Dana	B14	Webber, Avery	E09	Wu, Lily	B02
Trovarello, Cameron	M02	Wei, Elizabeth	R20	Xing, Zyana	B18
Tsounis, William	L10	Wei, Ruihan	D08	Yee, Shannin	H03
Tymstra, Julia	H15	Wereha, Alyssa	H02	Yeung, Edward	N16
Ullah, Taysir	D03	West, Elizabeth	K13	Younger, Liam	D15
Urday, Daniela	M07	Wettlaufer, Rachel	F13	Zaidi, Abdullah	A17
Van Hoffen, Erica	N13	Williams-Habibi, Sarah	Q16	Zegarac, Alex	K09
Vandenbosch, Mackenzie	N02	Williamson, Lauren	N05	Zerrouk, Hanna	A09
Varanesi, Faye	M08	Willows, Theodore	Q19	Zhao, Chelsey	F06
Vibangco, Hyacinth	J07	Wilson, Garen	F12	Zubkavich, Jennifer	Q09
Vieira, Emily	H15	Wilson, Sam	K11	Zwiers, Emma	N14
Wadie, Juliana	M03	Wirashinghe, Noah	R11		



TAYLOR LEIBOW LLP
ACCOUNTANTS AND ADVISORS

... THE DIFFERENCE IS LEADERSHIP



- *Auditing & Accounting*
- *Business Consulting*
- *Succession & Estate Planning*
- *Tax Minimization*
- *Litigation Support*
- *Business Valuations*
- *Corporate Finance*
- *Mergers & Acquisitions*
- *SR&ED Tax Credits*
- *Corporate & Personal Bankruptcy*
- *Corporate & Personal Debt Restructuring*

HAMILTON
Tel: (905) 523-0000

BURLINGTON
Tel: (905) 637-9959

www.taylorleibow.com



PROJECT LISTING

A01 Solvent-Based Cellulose Crystallinity Minimization to Increase Cellulolysis Efficacy

Nart Barileva, Aagnik Pant
Senior 11/12 Biotechnology
Abbey Park High School, HDSB

A02 Go Green. No Green, Save Green

Kieran Hussey
Intermediate 9/10 Earth & Env Sci
Abbey Park High School, HDSB

A03 Mechanisms of Misfolding the Native Form of Prion Protein PrPC into Toxic Form PrPSc

Chelsea Liu
Senior 11/12 Health Sciences
Human
Abbey Park High School, HDSB

A04 Novel Approach of Reducing Toxic Effects of Mutant Huntingtin Gene (mHtt) on Striatal Neurons by Upregulating the Expres

Samuel Han, Jack Greenberg
Intermediate 9/10 Health Sciences
Human
Abbey Park High School, HDSB

A05 Can hot water freeze faster than cold water?

Madison Rose, Kate-Lynn Reavley
Junior 7/8 Phys & Math Sci
Adelaide Hoodless, HWDSB

A06 Magic Magnets

Josiah Bailey, Nigel Thomas
Junior 7/8 Phys & Math Sci
Adelaide Hoodless, HWDSB

A07 The Effect of Heat on Chemical Reactions

Mohibe Tasneem
Junior 7/8 Phys & Math Sci
Al-Falah Islamic School, IND

A08 The Effect of Different Fabrics on Water Temperature

Azza Siddiqui
Junior 7/8 Phys & Math Sci
Al-Falah Islamic School, IND

A09 The effect of pain killers dissolving the fastest in a human body?

Hanna Zerrouk
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

A10 Which Metal is Most Resistant to Acid Corrosion?

Mahnoor Naeem
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

A11 Which anti-rust paint is the best?

Lina Sekhri
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

A12 Which wire powers electric motors best?

Nawal Abdo
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

A13 The Effect of Food Wrappings on Spoilage

Maaria Muhammad
Junior 7/8 Life Sciences Non-Human
Al-Falah Islamic School, IND

A14 The Reflection of Wi-Fi Waves

Haroon Adnan
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

A15 Relationship between walking and diabetes.

Abdul-kareem Bhinder
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

A16 Which liquids affect a eighth grades pulse rate?

Subhan Tahir
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

A17 Does Age Affect the Stroop Effect?

Abdullah Zaidi
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

A18 Which Antacid Is Most Potent

Nusaybah Ahmed
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

B01 Blood Type and Transfusion The Hemolytic Transfusion Reaction

Muhammad Bajwa
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

B02 Clean It

Lily Wu
Intermediate 9/10 Life Sciences Non-Human
Ancaster High, HWDSB

B03 Targeting Cancer: This Is Personal!

Maya Emerson
Intermediate 9/10 Health Sciences
Human
Ancaster High, HWDSB

B04 Staphylococcus, Streptococcus, Pseudomonas & Co.

Kira Fusch
Intermediate 9/10 Health Sciences
Human
Ancaster High, HWDSB

B05 So, Like, You, Um, Talk, Uh, Like This?

Eunice Chan
Intermediate 9/10 Health Sciences
Human
Ancaster High, HWDSB

B06 Texting Vs Talking On A Phone

Husnain Ahmed
Junior 7/8 Phys & Math Sci
Ancaster Meadow, HWDSB

B07 The Selfish Gene

Alla Bengizi, Alma Begic
Junior 7/8 Health Sciences Human
Ancaster Meadow, HWDSB

PROJECT LISTING (Continued)

B08 H2O...WHICH WAY TO GO?

Samantha Mule, Lara Monson
Junior 7/8 Earth & Env Sci
Annunciation of Our Lord, HWCD

B09 Hot! Cold! Magnetism

Lucas Tirabassi, Michael Filipponio
Junior 7/8 Earth & Env Sci
Annunciation of Our Lord, HWCD

B10 Different Materials Melting Ice at Varying Temperatures

Jodh Dhillon
Junior 7/8 Earth & Env Sci
Appleby College, IND

B11 Correlation Between Colour and Taste Perception

Noah Caza
Junior 7/8 Health Sciences Human
Appleby College, IND

B12 Is Your Brain to Blame?

Natalie Navarro
Junior 7/8 Health Sciences Human
Appleby College, IND

B13 Spread Soap, Not Germs

Deepthy Jeeva
Junior 7/8 Health Sciences Human
Appleby College, IND

B14 Ultrasonic Vision

Dana Torbin
Junior 7/8 Eng & Comp Sci
Appleby College, IND

B15 Flexing a Hockey Stick

Samuel Gaskin
Junior 7/8 Phys & Math Sci
Appleby College, IND

B16 Knock Knock

Josie Jelinek
Junior 7/8 Health Sciences Human
Appleby College, IND

B17 SMILE!

Gwyneth Egan
Junior 7/8 Health Sciences Human
Appleby College, IND



www.hamiltoncaer.com

Community Awareness and Emergency Response (CAER) is a community-based volunteer organization that has been established since 1980. CAER members plan, practice and co-ordinate activities to enhance safe operating practices and reduce the risk of emergency situations that could threaten the Hamilton-Wentworth Community

B18 Conduction vs. Convection

Zyana Xing
Junior 7/8 Earth & Env Sci
Appleby College, IND

C01 The Power of Subconscious Mind

David Gao
Junior 7/8 Health Sciences Human
Appleby College, IND

C02 The Effects of Fertilizers on Bean Germination

Sophie Prevost
Junior 7/8 Earth & Env Sci
Appleby College, IND

C03 Using Daphnia as a Bioassay to Measure Water Toxicity

Ayat Khalil, Jacklyn Clark
Senior 11/12 Earth & Env Sci
Barton, HWDSB

PROJECT LISTING (Continued)

C04 Diagnosis: Osteoporosis

Fatemah Shamkhi, Lakshmi
Sreekumar
Senior 11/12 Health Sciences Human
Barton, HWDSB

C05 The Effectiveness of Sunscreen in Preventing UV Damage

Victoria Wong, Omaina Chaudhary
Senior 11/12 Life Sciences Non-Human
Barton, HWDSB

C06 Testing the Ozone

Angela Cibic
Junior 7/8 Earth & Env Sci
Bellmoore, HWDSB

C07 Popcorn!

Tansley Kell
Junior 7/8 Life Sciences Non-Human
Bellmoore, HWDSB

C08 Tide vs Purex Who Will Win the Battle of the Laundry

Matthew Jasper
Junior 7/8 Earth & Env Sci
Bellmoore, HWDSB

C09 Oxidation

Jacob Markovic
Junior 7/8 Earth & Env Sci
Bellmoore, HWDSB

C10 SNIFF, SNIFF, Mmmmmmm

Daniel Knight
Junior 7/8 Health Sciences Human
Blessed Teresa of Calcutta, HWCD

C11 What Drink Stains Teeth the Most?

Andrew Besseling, Randy Calotti
Junior 7/8 Health Sciences Human
Burlington Christian Academy, IND

C12 Which Household Cleaner is Most Corrosive?

Mia Pascall
Junior 7/8 Earth & Env Sci
Burlington Christian Academy, IND

C13 What Liquid Keeps Cut Flowers Alive the Longest?

Aimee Belanger
Junior 7/8 Earth & Env Sci
Burlington Christian Academy, IND

C14 Get A Grip

Edan Phillips
Junior 7/8 Phys & Math Sci
Burlington Christian Academy, IND

C15 Increased or Decreased Yeast

Brayden Postma
Junior 7/8 Life Sciences Non-Human
Caledonia Centennial Public School, GEDSB

C16 The Pull and Buzz

Nathan Buggeln
Junior 7/8 Eng & Comp Sci
Caledonia Centennial Public School, GEDSB

C17 Stress Test

Sydney Rent
Junior 7/8 Health Sciences Human
Caledonia Centennial Public School, GEDSB

C18 Charge it up

Farah Dababneh
Junior 7/8 Phys & Math Sci
Canadian Martyrs, HWCD

D01 Effect of telomeres in females life expectancy

Lakshmi Tharmika Rajkumar
Junior 7/8 Health Sciences Human
Central Baptist Academy, IND

D02 Texting With Vodka

Gabrielle Le Donne
Junior 7/8 Eng & Comp Sci
Corpus Christi, HWCD

D03 Spices vs Bacteria

Akshayan Ahilan, Taysir Ullah
Junior 7/8 Life Sciences Non-Human
Dalewood, HWDSB

D04 Lego Impacts

Alexander Shea
Junior 7/8 Phys & Math Sci
Dalewood, HWDSB

D05 Active Mitochondria

Milla Tarnopolsky
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

D06 Honeybee Population and Fruit Production

Anna-Leila Szigeti
Junior 7/8 Earth & Env Sci
EEC Monseigneur-de-Laval, CSDCC

D07 Should Trucks Wear Skirts?

Haydn Wain-Lowe
Intermediate 9/10 Earth & Env Sci
Hillfield Strathallan College, IND

D08 Relationship between viscosity and surface tension

Ruihan Wei
Intermediate 9/10 Phys & Math Sci
Hillfield Strathallan College, IND

D09 Temperature and Nutrition

Christine Sutcliffe, Allison Stephen
Intermediate 9/10 Life Sciences Non-Human
Hillfield Strathallan College, IND

D10 K'need A Break?

Abhiraj Gogia, Kenneth Payyapilly
Intermediate 9/10 Health Sciences Human
Hillfield Strathallan College, IND

D11 Ethanol:The Future of Green Energy

Elias Larrazabal
Intermediate 9/10 Biotechnology
Hillfield Strathallan College, IND

D12 Five Materials Tested for Sound Amplification and Absorption

Max Horne
Intermediate 9/10 Phys & Math Sci
Hillfield Strathallan College, IND

PROJECT LISTING (Continued)

D13 Are braces doing more harm than good?

Sasha Paikin
Intermediate 9/10 Health Sciences Human
Hillfield Strathallan College, IND

D14 Light Up My World

SAhana Kapur
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

D15 Can You Hear Me Now? (The Effectiveness of Non-Electronic, Bone Conduction, Hearing Aids)

Liam Younger
Intermediate 9/10 Health Sciences Human
Hillfield Strathallan College, IND

D16 Benefits of Endurance Exercise on Human Energy Metabolism

Santiago Gomez Vargas, Keegan LeBlanc
Intermediate 9/10 Health Sciences Human
Hillfield Strathallan College, IND

D17 Grow to the Beat

Alexandra Nemy, Karishma Mehta
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

D18 Go the Distance

Jayden Sohal
Junior 7/8 Eng & Comp Sci
Hillfield Strathallan College, IND

E01 Does Taste Affect Memory

Harrison Lee, Nico Corrado
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E02 Micro gravity and the affects of plants

David Pearson
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

E03 Are You Being Foodeld?

Victoria Altmann, Karlie Frankel
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E04 Beeting the Ice

Christopher Neibert
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

E05 Pop Decay

Christopher Goater, Daniel Kuhn
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E06 Go With The Flow

Simon Grande, Drake Mosca
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

E07 The Science of Willy Wonka

Hanna Agro, Brandon Darcel
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E08 Sunware or Funware?

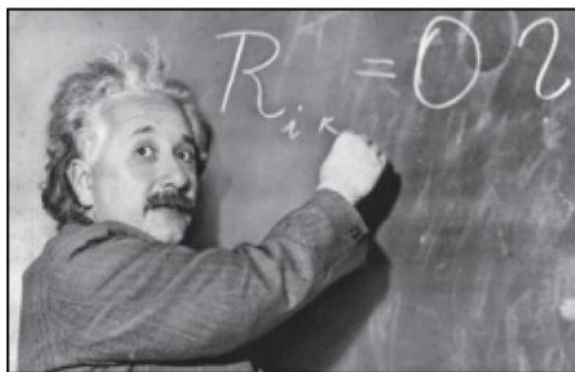
Sara Kemper, Anastasia Drakos
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E09 The EYES Have It

Darius Mahdavi, Avery Webber
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND



Hamilton-Wentworth Catholic Schools
150+ years of 'Believing, Achieving, Serving'



"Science without religion is lame; religion without science is blind."

~ Albert Einstein

Congratulations to BASEF on 50+ years of Science Success!

Thank you to all the participants & volunteers who make it happen.

Patrick J. Daly, Chairperson of the Board
Patricia Amos, Director of Education

www.hwcddb.ca

PROJECT LISTING (Continued)

E10 Tastebudsters

Talia Loreti, Stephanie Gerend
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E11 Making It Rain

Nikhil Natarajan, Andrew Tedesco
Junior 7/8 Biotechnology
Hillfield Strathallan College, IND

E12 THE BRAIN GAME

Isabella Storey, Megan Degruichy
Junior 7/8 Health Sciences Human
Immaculate Conception, HWCD

E13 Plant Investigation

Elizabeth Gallardo Velez
Junior 7/8 Earth & Env Sci
Immaculate Conception, HWCD

E14 Natural Native Medicines

Madeline Douglas, Chantel Claus
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

E15 Six Nations in 50 Years.

Darrien Bomberry, Mariah Green
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

E16 Diabetes

Hannah Thomas, Alexis Martin
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

E17 'Beany Babies'

Samantha Porter
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

E18 Can You See The Difference?

Clarisa Burning, Hannah Bomberry
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

F01 Were They Really Gifts?

Kaya Hill
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

F02 Can I Save The World

Jessica McNaughton
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

F03 Trapping

Jacob Smith, Connor Smith
Junior 7/8 Eng & Comp Sci
J. C. Hill Elementary, SNS

F04 Foods That Keep Us Alive

Erin Bomberry
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

F05 EFFECTS OF LATERAL EROSION

Eric Patterson, Cheerokee Maracle-Jamieson
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

F06 The air

Chelsey Zhao
Junior 7/8 Earth & Env Sci
John T. Tuck Public School, HDSB

F07 Needs vs. Greed

Rose Peyvandi
Junior 7/8 Health Sciences Human
John William Boich, HDSB

F08 Galvanic Cell Powered Boat

Krish Gandhi, Joseph Biro
Junior 7/8 Eng & Comp Sci
John William Boich, HDSB

F09 Peppermint and Reaction Time

Beatrice Costelloe
Junior 7/8 Health Sciences Human
John William Boich, HDSB

F10 An evaluation of the adhesiveness of various waterproof bandages

Alexandra Peetsma
Junior 7/8 Health Sciences Human
John William Boich, HDSB

F11 Electro-Magnetic Radiation: Is it Safe?

Shakeel Rashid
Junior 7/8 Health Sciences Human
John William Boich, HDSB

F12 Free Electricity

Nikola Paravinja, Garen Wilson
Junior 7/8 Eng & Comp Sci
John William Boich, HDSB

F13 The Book Flip

Rachel Wettlaufer
Junior 7/8 Eng & Comp Sci
John William Boich, HDSB

F14 Relationship Between Eye Colour and Vision

Ahmed El-Aawar, Amrit Maharaj
Junior 7/8 Health Sciences Human
John William Boich, HDSB

F15 The Effects of Activated Carbon in Polluted Water

Olivia McIsaac
Junior 7/8 Earth & Env Sci
John William Boich, HDSB

F16 How To Prolong The Life Expectancy

Kayden Hudda
Junior 7/8 Earth & Env Sci
John William Boich, HDSB

F17 The Controversy of Fluoride

Elyse Singh
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

F18 Mathematical Approach To Predator - Prey Dynamics

Sang Woo Park
Senior 11/12 Phys & Math Sci
King's Christian Collegiate, IND

G01 Ethanol Extraction from Food Waste

Do Eon Lee
Senior 11/12 Earth & Env Sci
King's Christian Collegiate, IND

G02 Corrosion Inhibitors in Ethanol

Matthew Norman, Ryan Swirski
Senior 11/12 Eng & Comp Sci
King's Christian Collegiate, IND

PROJECT LISTING (Continued)

G03 Help! I Think My Drink is Making Me Ill!

Zinnia Al-Najjar, Stephanie Lebel
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G04 It's Food, It's Medicine

Maureece Berchie, Yosi Ladipo
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G05 Nature over Science: Is Flu Vaccination Just a Placebo?

Jessie Babra, Rebecca John
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G06 Determining Calcium Absorption in Top Calcium Rich Foods and Supplement Pills

Hannah Keith
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G07 Antimicrobial Activity of Essential Oils

Karly Parker, Tanya Ralliarum
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G08 Reducing Concussions through custom orthotic methods

Zach Quon
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

G09 Baby Don't Herd Me

Maria Salman, Jennifer Ge
Junior 7/8 Earth & Env Sci
Maple Grove Public School, HDSB

G10 How Does Music Affect Your Heart

Lexi Maharaj, Paige Burkhart
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

G11 Resisting Rust

Noah Becks-D'Souza, Ethan Smith
Junior 7/8 Eng & Comp Sci
Maple Grove Public School, HDSB

G12 Are You Dirty

Max Reigate, Sarah Rosenzweig
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

G13 How does Coca-Cola Affect Your Body

Ella Lowes, Sofia Dell
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB



*Good luck to all
the participants!*

2014 BASEF

 **HAMILTON-WENTWORTH
DISTRICT
SCHOOL
BOARD**

*To find out more about
the great programs we
offer, please visit*

www.hwdsb.on.ca

ALL STUDENTS ACHIEVING THEIR FULL POTENTIAL

PROJECT LISTING (Continued)

G14 Sweet Dreams...

Bridget Peros
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

G15 Breaking Soil

Sydney Nicholls, Anna
Bremermann
Junior 7/8 Earth & Env Sci
Maple Grove Public School, HDSB

G16 Bottle Of Cavities

Lauren Power
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

G17 Battle of the brakes

Matthew Saunders, Christopher
Merrick
Junior 7/8 Phys & Math Sci
Maple Grove Public School, HDSB

G18 Conventionally Grown Soybeans vs. Organically Grown Soybeans

Olivia Gardiner, Alexandra Ruetz
Junior 7/8 Earth & Env Sci
Maple Grove Public School, HDSB

H01 Memory Recall in Different Genders

Declan Finerty
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

H02 Salt of the Earth

Victoria Orfei, Alyssa Wereha
Junior 7/8 Life Sciences Non-Human
Mother Teresa, HWCD

H03 Pass Me the Caffeine!

Neha Malhotra, Shannin Yee
Senior 11/12 Life Sciences Non-
Human
North Park Collegiate and
Vocational School, GEDSB

H04 Metal Corrosion: Is Corrosion Faster in Salt Water or Distilled Water

Zachary Roth
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

H05 FLOOD WATER PURIFICATION AT HOME

Eduard Brenninkmeijer
Junior 7/8 Earth & Env Sci
Oakville Christian School, IND

H06 'Bitter Sweet' How much sugar is really in that drink?

MacKenzie Clasper
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H07 Another One Bites the Rust!

Dante Tatone
Junior 7/8 Earth & Env Sci
Oakville Christian School, IND

H08 Pain, Pain go Away

Blake Correia
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H09 A Brighter Smile

Karen Philopos, Maria Ghobrial
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H10 Storage Wars

JJ Beed
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H11 Robotic Guide Dog Walking the Future

Mark Gobran
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

H12 Stressing the Limits

Aidan Britnell
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H13 Feel The Attraction

Jonathan Grebe
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

H14 Bridging Limits

David Houldsworth
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

H15 I 'C' Vitamin C

Emily Vieira, Julia Tymstra
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H16 Impact of Road Salt on Environmental Health

Komal Adeel, Maham Tasneem
Senior 11/12 Earth & Env Sci
Oakville Trafalgar High School,
HDSB

H17 How Headaches Effect the Academic Performance

Laura Hill, Avery Hill
Junior 7/8 Health Sciences Human
Oliver M. Smith Kawennio:io, SNS

H18 Does Diabetes Discriminate

Dallas Jayne, Denver Jayne
Junior 7/8 Health Sciences Human
Oliver M. Smith Kawennio:io, SNS

J01 Protecting your Noodle

Victoria Miller-Loft, Fiyonna Hill
Junior 7/8 Eng & Comp Sci
Oliver M. Smith Kawennio:io, SNS

J02 Stress

Jenna Hill, Rowann Hill
Junior 7/8 Health Sciences Human
Oliver M. Smith Kawennio:io, SNS

J03 Alternative Approaches to Knee Pain Care

Angelina Bomberry
Junior 7/8 Health Sciences Human
Oliver M. Smith Kawennio:io, SNS

J04 How can we clean oil spills without harming the planet and what is the best way?

Mikayla Ritchie
Junior 7/8 Earth & Env Sci
Oliver M. Smith Kawennio:io, SNS

J05 Why are sharks scary

Dion Martin
Junior 7/8 Earth & Env Sci
Oliver M. Smith Kawennio:io, SNS

PROJECT LISTING (Continued)

J06 Reaction

Jason Hill
Junior 7/8 Phys & Math Sci
Oliver M. Smith Kawennio:io, SNS

J07 The Golden Look

Hyacinth Vibangco, Anaka Thomas
Junior 7/8 Health Sciences Human
Pope John Paul II, HWCD

J08 Do We Share Equal Air

Frank Rivas-Gonzalez
Junior 7/8 Earth & Env Sci
Pope John Paul II, HWCD

J09 The Effect Of Surface Temperature on Fingerprints

Bianca Devcic
Junior 7/8 Phys & Math Sci
Pope John Paul II, HWCD

J10 Mobile Phone Radiation

Jacob Fram
Junior 7/8 Eng & Comp Sci
Regina Mundi, HWCD

J11 Waking Up! The Battle of the Brain

Claudia Pashkja
Junior 7/8 Health Sciences Human
Regina Mundi, HWCD

J12 Do YOUth know how to safely use OTC pain relievers?

Sophia Spitman
Junior 7/8 Health Sciences Human
Regina Mundi, HWCD

J13 Beat to the Beat

Sophie Barbato
Junior 7/8 Health Sciences Human
Rolling Meadows Public School, HDSB

J14 Smile! Your Teeth are on Trial

Elizabeth Raynor
Junior 7/8 Life Sciences Non-Human
Rolling Meadows Public School, HDSB

J15 Gel well

Christine Macpherson
Junior 7/8 Phys & Math Sci
Rotherglen School (Oakville), IND

J16 Surface Tension

Sofia DiSalle
Junior 7/8 Phys & Math Sci
Rotherglen School (Oakville), IND

J17 Changing Our Path

Nolan Babin
Junior 7/8 Earth & Env Sci
Sacred Heart of Jesus, HWCD

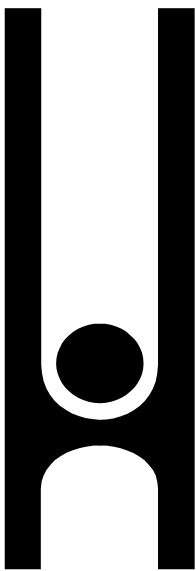
J18 Human Behavior

Mitchell Ford, Carl Flores
Junior 7/8 Health Sciences Human
Sacred Heart of Jesus, HWCD

K01 Some Like It Spicy: The Antibacterial Effects of Assorted Spices on Foodborne Illness-Causing Bacteria and Probiotic Bac

Priynka Dhillon, Kazi Akther
Senior 11/12 Health Sciences Human
Sir John A. Macdonald, HWDSB

Halton District School Board



*The Halton District School Board
would like to congratulate
all participating students in the 2014
Bay Area Science and Engineering Fair.
Best wishes for continued success!*

*Rich in Tradition, Progressive in Practice,
Building our Future Together*

J.W. Singleton Education Centre ♦ 2050 Guelph Line, PO Box 5005 ♦ Burlington, Ontario L7R 3Z2
Phone (905) 335-3663 ♦ (905) 842-3014 ♦ (905) 878-8451 ♦ Fax: (905) 335-9802

www.hdsb.ca

PROJECT LISTING (Continued)

K02 Algae as Renewable Energy

Adiba Ahmed, Tiffany Nguyen
Senior 11/12 Earth & Env Sci
Sir John A. Macdonald, HWDSB

K03 The Nematode Diversity Project

Jonah Robotham
Senior 11/12 Life Sciences Non-Human
Sir John A. Macdonald, HWDSB

K04 Highlighters

Viv Holmes, Ria Pathak
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K05 Micro What?

Eryn Johnston, Naomi Terhlan
Junior 7/8 Life Sciences Non-Human
Sir William Osler, HWDSB

K06 Helmet Worth It

Reid Perusini, Riley Bennett
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K07 Turmeric: Spice or Antibacterial Does Turmeric Have an Antibacterial Effect

Radha Patel, Kaitlyn Pathak
Junior 7/8 Life Sciences Non-Human
Sir William Osler, HWDSB

K08 Young Money

Parsa Norouzian, Ross Colborne
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K09 Force, area, pressure and hovercrafts

Derek De Gelder, Alex Zegarac
Junior 7/8 Phys & Math Sci
Sir William Osler, HWDSB

K10 Personality Disorders in Young Teens

Morgan Cale, Coral Borer
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K11 Walking In Circles

Dylan Patrick, Sam Wilson
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K12 Messy Makeup

Emily Egan
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K13 Miracle Drug?

Elizabeth West, Stacie Perreault
Junior 7/8 Earth & Env Sci
Sir William Osler, HWDSB

K14 Breakfast and Nutrition

Antony Skerret, Zach Hampson
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

K15 Gas Vs. Electric - Are You Really Saving \$\$\$?

Noah Michelsen, Paul Robson
Junior 7/8 Phys & Math Sci
Sir William Osler, HWDSB

K16 Frankenfood: Effects of Genetically Modified Foods on Humans

Lucas Rotella
Junior 7/8 Life Sciences Non-Human
St. Agnes, HWCD

K17 A Modern Math for A Modern World

Aidan Mariglia
Junior 7/8 Phys & Math Sci
St. Agnes, HWCD

K18 Peat Moss cleans up

matthew Divittorio
Junior 7/8 Earth & Env Sci
St. Agnes, HWCD

L01 Bublicious Brainpower

Jaslyn Ozimok, Serena D'Angelo
Junior 7/8 Health Sciences Human
St. Agnes, HWCD

L02 Bumper Tomato Crop: When to fertilize and what to use

Cecelia Dietrich
Junior 7/8 Earth & Env Sci
St. Andrew, HCDSB

L03 Fuego! Fuego! The Roof is on Fire!

Brendon Cabral, Jacob Ascencio-arriola
Junior 7/8 Eng & Comp Sci
St. Ann (Hamilton), HWCD

L04 Shoot 2 Score

Dante Medeiros
Junior 7/8 Eng & Comp Sci
St. Augustine, HWCD

L05 Changing Shades

Avery Schmalz
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

L06 More Than The Eye Can See

Mayne Paul
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

L07 Got Milk?

Rachel Opsteen
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

L08 Pestilential Antacid Risk

Daniel Kim
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

L09 Rock Solid

Nolan Tassone
Junior 7/8 Earth & Env Sci
St. Augustine, HWCD

L10 SO DIS IS HOW TREAT H2O?

Benjamin Denomey, William Tsounis
Junior 7/8 Earth & Env Sci
Sir William Osler, HWDSB

L11 Breathe! A Study of Vital Lung Capacity in Singers and Non-Singers

Claire Hunter
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

L12 Eco Melt

Patrick Lutz
Junior 7/8 Earth & Env Sci
St. Augustine, HWCD

PROJECT LISTING (Continued)

L13 HOW DOES THE SURFACE THAT A CAR MOVES ON IMPACT THE ACCELERATION?

Dante Aldighieri
Junior 7/8 Phys & Math Sci
St. Augustine, HWCD

L14 TROUBLE IN PARADISE: Can recycling shells help buffer the effects of Ocean Acidification?

Isabella O'Brien
Junior 7/8 Earth & Env Sci
St. Augustine, HWCD

L15 How Crude is Your Oil?

Jessica Bohm
Junior 7/8 Earth & Env Sci
St. Augustine, HWCD

L16 Can citris fruit clean copper pennies

Katelyn Scime
Junior 7/8 Eng & Comp Sci
St. Bernadette, HWCD

L17 Do Font and Page Color Affect Our Memory?

Sophia Lavalle, Dani Racheva
Junior 7/8 Life Sciences Non-Human
St. Bernadette, HCDSB

L18 Biodiversity and its consequences

Rianna Furtado
Junior 7/8 Earth & Env Sci
St. Bernadette, HCDSB

M01 Comparing Line Symmetry Of Celebrities

Rachel Bruce
Junior 7/8 Health Sciences Human
St. Bernadette, HCDSB

M02 Artificial intelligence

James Ryan , Cameron Trovarello
Junior 7/8 Eng & Comp Sci
St. Bernadette, HCDSB

M03 Evolution of the flower

Vanessa Begic, Juliana Wadie
Junior 7/8 Earth & Env Sci
St. Bernadette, HCDSB

M04 How much nutritional value?

Carol Helmy, Valeria Baldeon
Junior 7/8 Health Sciences Human
St. Bernadette, HCDSB

M05 The brain theory

Nicholas Scarcelli
Junior 7/8 Health Sciences Human
St. Bernadette, HCDSB

M06 Glass VS. Plastic

Isabelle McDaniel, Karen Hopkins
Junior 7/8 Earth & Env Sci
St. Bernadette, HCDSB

M07 Cell Phone Radiation

Daniela Urday, Sheanna Wirasinghe
Junior 7/8 Phys & Math Sci
St. Bernadette, HCDSB


M08 Do the wave!

Oforiwa Badu, Faye Varanesi
Junior 7/8 Life Sciences Non-Human
St. Bernadette, HCDSB

M09 Bio-plastics

Michela Davies
Junior 7/8 Earth & Env Sci
St. Clare of Assisi, HWCD

Value through Innovation




Ingraining Hope
for the future of Health Care

We have committed ourselves to the goal of serving humankind through research into diseases and the development of new drugs and therapies.

We are dedicated to improving the outlook for a healthier life and world.

www.boehringer-ingelheim.ca


**Boehringer
Ingelheim**

PROJECT LISTING (Continued)

M10 Drink Up - Desalination

Kirsten Badzioch
Junior 7/8 Phys & Math Sci
St. David, HWCD

M11 In Pursuit of the Cold Truth: Are Brain Freezes and Migraine Headaches Related?

Julie Daugavietis, Sophie Marchetti
Junior 7/8 Health Sciences Human
St. John (Oakville), HCDSB

M12 COLOURS TO DYE FOR

Iva Mutnjakovic, Sioma Fonseca
Junior 7/8 Biotechnology
St. Joseph, HWCD

M13 Household Liquids vs. Commerical Disinfectants

Ann Joby
Junior 7/8 Life Sciences Non-Human
St. Joseph, HWCD

M14 How Does Temperature Affect Dry Ice?

Vincent Barzetti
Junior 7/8 Phys & Math Sci
St. Luke, HWCD

M15 What is the Best Type of Insulation for Your Home?

Steven Ciancone
Junior 7/8 Earth & Env Sci
St. Margaret Mary, HWCD

M16 'GO WITH THE FLUO-RIDE'

JULIANA RAMELLI
Junior 7/8 Health Sciences Human
St. Margaret Mary, HWCD

M17 Plants Stayin' Alive

Charlotte Leach
Junior 7/8 Life Sciences Non-Human
St. Margaret Mary, HWCD

M18 Does Packaging Infulence a Child's Decsion?

Nishel Cameron, Alyssa Cinquina
Junior 7/8 Life Sciences Non-Human
St. Marguerite d'Youville, HWCD

N01 Germ Invasion

Alannah Best, Paolo Bozzo
Junior 7/8 Life Sciences Non-Human
St. Marguerite d'Youville, HWCD

N02 Colours For All Ages

Mackenzie Vandenbosch
Junior 7/8 Health Sciences Human
St. Mark, HWCD

N03 Tropospheric Ozone Testing

Josie Aquino
Junior 7/8 Earth & Env Sci
St. Michael, HWCD

N04 Not Your Average Headache

Deanna Allain
Junior 7/8 Health Sciences Human
St. Michael, HWCD

N05 Is Your Dog Seeing 'Red?'

Lauren Williamson, Maya Lepper
Junior 7/8 Life Sciences Non-Human
St. Michael, HWCD

N06 The Green Team

Hannah DeNardis, Chloe Ruggiero
Junior 7/8 Earth & Env Sci
St. Therese of Lisieux, HWCD

N07 Passive Manipulation of Thermal Radiation - Dual Purpose Condensers to Provide Potable Water

Calvin Rieder
Senior 11/12 Eng & Comp Sci
St. Thomas Aquinas, HCDSB

N08 Horoscopes

Sarah Shelley, Ariya Shiwram
Junior 7/8 Life Sciences Non-Human
Sunningdale Public School, HDSB

N09 Why does the moon change colour?

Moiria Sumner, Sara Harding
Junior 7/8 Earth & Env Sci
Sunningdale Public School, HDSB



Diane Rabenda Paula Dawson
Chair of the Board Director of Education

*Serving the Catholic Communities
of Burlington, Halton Hills, Milton
and Oakville*

CONGRATULATIONS

To all BASEF2014 participants and
BEST WISHES

For your continued success in all
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)

N10 Is It Acidic or Is It Alkaline

Delia Konnerth
Junior 7/8 Life Sciences Non-Human
Sunningdale Public School, HDSB

N11 Do we really have a good night sleep?

Niloufer Khan
Junior 7/8 Health Sciences Human
Sunningdale Public School, HDSB

N12 What flies, how to fold a paper aeroplane that works

Travis Czebe
Junior 7/8 Eng & Comp Sci
Sunningdale Public School, HDSB

N13 The Changing Shape of Fear

Erica Van Hoffen
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

N14 Bright Backgrounds

Emma Zwiers, Helen Peever
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

N15 The Dirt on Dirt: Soiled Soil and What Our Perfect Lawns Are Doing To the Environment

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

N16 Too Much Pressure For You?

Edward Yeung
Junior 7/8 Phys & Math Sci
W. H. Morden Public School, HDSB

N17 Walking With Water

Xander Don-Wauchope, Iain Headrick
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

N18 Colour Your Memory

Shivaani Iyer
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P01 Distraction Reaction

Devon Penfold, Kimberley Kirkpatrick
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P02 Using smell to enhance memory?

Zaina Supra, Kayla Abela
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P03 Buy Into This

Jacob Clyde, Nathan Louie
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P04 The Brain Workout Works Out!

Isha Shah
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P05 Can You Hear It? The Correlations Between ADHD and Audio Pareidolia

Max Perry, Adesh Suchit
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P06 The Taste of Colour

Crystal Sharpe
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P07 Blood Pressure, A Safe Measure

Sohini Gupta
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

P08 Reac-tune Time

Jack Spero, Daniel Rayner
Junior 7/8 Phys & Math Sci
W. H. Morden Public School, HDSB

P09 Freggie Zombies vs the Light Saver: The Effect of Circadian UVB Light on Spoil Rates of Postharvest Produce

David Flaherty, Jacob Flaherty
Intermediate 9/10 Life Sciences
Non-Human
Westdale, HWDSB

P10 In with the Old - The Antifungal Effects of Natural Compounds against *Saccharomyces cerevisiae*

Samna Aziz
Intermediate 9/10 Health Sciences
Human
Westmount, HWDSB

P11 The Effects of Labour Conditions on Intraocular Pressure and the Risk of Open-Angle Glaucoma: A Comparative Study

Moeyyad Qureshi, Tuneer Mondal
Intermediate 9/10 Health Sciences
Human
Westmount, HWDSB

Q01 Comparing Thermal Insulation

Saifullah Khan
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

Q02 Which type of insulation best protect against windchill

Maha Chaudhry
Junior 7/8 Earth & Env Sci
Al-Falah Islamic School, IND

Q03 The Effect of Antidepressant Treatment on Brain-Derived Neurotrophic Factor Levels in Serum of Female Patients with Major

Arjuna Maharaj
Senior 11/12 Health Sciences Human
Ancaster High, HWDSB

Q04 The Relationship Between Spatial Reasoning and the Duration of Weekly Video Game Playing Time on Males Aged 14-16

Vivian Dao
Intermediate 9/10 Health Sciences
Human
Ancaster High, HWDSB

Q05 Mitosis in Onion Root Tip Cells

AKASH THAPAR
Junior 7/8 Life Sciences Non-Human
Ancaster Meadow, HWDSB

PROJECT LISTING (Continued)

Q06 Hot or Cold? Fast or Slow?

Eduardo Moraes
Junior 7/8 Eng & Comp Sci
Appleby College, IND

Q07 Fold My Clothes

Emanuel Estrada Larios
Intermediate 9/10 Eng & Comp Sci
Bishop Ryan, HWCD

Q08 An Innovative Approach to Multi-core Processor Interconnection Networks

Alex Tomala
Senior 11/12 Eng & Comp Sci
Cardinal Newman, HWCD

Q09 Colours affecting heart rate

Jennifer Zubkavich
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

Q10 Herbs for Healthier Hydration

Vidithya Jeyanathan, Nicola Lawford
Junior 7/8 Earth & Env Sci
Dalewood, HWDSB

Q11 DaleRover

Dimuthu Jayatilaka
Junior 7/8 Eng & Comp Sci
Dalewood, HWDSB

Q12 Robotic Object Movement System

Kevin Boenisch
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

Q13 Heads up: Attentive Driving Device

Lukas Bauer, Kenji Marshall
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

Q14 THE SXSR SIGNATURE RECOGNITION ENGINE

Nicholas Mertin
Junior 7/8 Eng & Comp Sci
Hillfield Strathallan College, IND

Q15 Lead It Steep

Julia Dobrovolskis
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

Q16 Cool Sun: Series II

Sarah Williams-Habibi
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

Q17 Energy-Conservation Calculation Application

Thomas Habicht
Intermediate 9/10 Eng & Comp Sci
Home Schooling, IND

Q18 Battery Selection Tool

Liam Dyer
Junior 7/8 Eng & Comp Sci
Home Schooling, IND

Q19 Viable FDM Printing Methods for Electronic Circuitry

Theodore Willows
Junior 7/8 Eng & Comp Sci
John William Boich, HDSB



Do the math:

1 innovative and
world-class institution
+ 1 diverse and open economy

unlimited investment opportunities



Hamilton

To learn how McMaster University and
the City of Hamilton are working together
to grow Hamilton's economy, visit:
investinhamilton.ca

PROJECT LISTING (Continued)

Q20 The Proactive Cooking Method

Ameera Sheikh, Madison Langley
Junior 7/8 Eng & Comp Sci
John William Boich, HDSB

R01 Feeding, Fueling and Forging the Future

Caroline Mahut
Intermediate 9/10 Biotechnology
M. M. Robinson High School, HDSB

R02 iDry

Kyler Swanson, Kyle Thompson
Junior 7/8 Eng & Comp Sci
Maple Grove Public School, HDSB

R03 The Effects on Reaction Time Due to Distracted Driving

Rob Cousens, Jonah Moore
Senior 11/12 Health Sciences Human
North Park Collegiate and Vocational
School, GEDSB

R04 Characterization of Toll-like Receptors 10 Using Multiple Sequence Alignment

Kate Kyuri Kim
Intermediate 9/10 Biotechnology
Notre Dame, HCDSB

R05 Telemetric Vest: Wearable Computing for Patient Welfare

Katie Brent
Intermediate 9/10 Eng & Comp Sci
Notre Dame, HCDSB

R06 The New Iphone

Daniel Al Sayed
Junior 7/8 Eng & Comp Sci
Regina Mundi, HWCD

R07 Can Roundabouts Help You Get Around?

Colin MacLeod
Junior 7/8 Eng & Comp Sci
Ryerson, HWDSB

R08 Efficient Lightbulbs

Matthew Sbrissa
Junior 7/8 Earth & Env Sci
St. Agnes, HWCD

R09 Motor magic

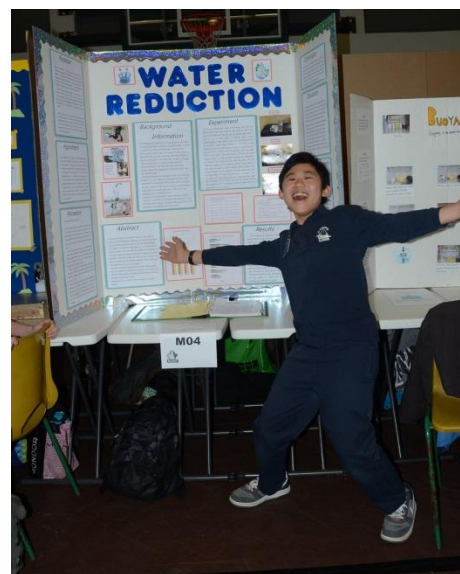
Adam Della Ventura
Junior 7/8 Eng & Comp Sci
St. Augustine, HWCD

R10 Airfoil Design

Seth Stefanchuk
Junior 7/8 Eng & Comp Sci
St. Bernadette, HWCD

R11 The Drive To Change

Kayla Corry, Noah Wirashinghe
Junior 7/8 Earth & Env Sci
St. Bernadette, HCDSB



Competitors at BASEF 2013



BASEF students attended the 2013 Intel International Science & Engineering Fair in Phoenix, Arizona

Congratulating all BASEF 2014 participants



Intelligent Strategy Games

Supreme Ruler 2010

Supreme Ruler 2020

Supreme Ruler Cold War

Supreme Ruler 1936

"detailed and heavily researched, a cross between computer war games and in-depth geo-political strategy games"

www.battlegoat.com

@battlegoat

*BASEF students and chaperones in
Lethbridge, Alberta at the
2013 Canada-Wide Science Fair*



PROJECT LISTING (Continued)

R12 How To Build A Homemade Speaker

Nicholas Roque, Graham Meikle
Junior 7/8 Eng & Comp Sci
St. Bernadette, HCDSB

R13 Personality's Affect on Short Term Memory

Jennifer Nguyen, Victoria Hopkins
Junior 7/8 Health Sciences Human
St. David, HWCD

R14 Let There Be Light

Megan Stewart
Junior 7/8 Earth & Env Sci
St. Margaret Mary, HWCD

R15 The Effects of Apigenin, Diosmetin and Chicoric Acid on TNF α and COX-2 levels of Stimulated RAW 264.7 Macrophages

Catharine Bowman
Intermediate 9/10 Life Sciences
Non-Human
St. Mary, HWCD

R16 HYDRO-ELECTRICITY - flow rate vs energy output

Madeline Webb
Junior 7/8 Eng & Comp Sci
St. Michael, HWCD

R17 Up and Away We Go

Robert Faber, Patrick Moore
Junior 7/8 Eng & Comp Sci
St. Teresa of Avila, HWCD

R18 Gliding on Air-Our Hovercraft

Devaun Dhillon,
Jared Denys-Varghese
Junior 7/8 Eng & Comp Sci
Sunningdale Public School, HDSB

R19 Nuclear Power: Fusion vs Fission

Jack McBain
Junior 7/8 Earth & Env Sci
Sunningdale Public School, HDSB

R20 The Sound of Autism

Sonya Batth, Elizabeth Wei
Junior 7/8 Health Sciences
Human
W. H. Morden Public School,
HDSB

R21 Application of the Thermoelectric Effect on Photovoltaic Cells

Federico Cao, Adree Khondker
Senior 11/12 Eng & Comp Sci
Westdale, HWDSB

R22 Practicable Cryopresrvation. Des it Exist?

Afif Bhimani,
Austen Lynds-Martin
Intermediate 9/10 Health
Sciences Human
White Oaks School, HDSB



BASEF Alumnus *Ben Gulak*,
recipient of the first annual
CWSF Alumni Award
(at CWSF2013)

120 King St. W. Plaza Level, Suite 507 Hamilton, ON L8P 4V2
Ph. (905) 522-1151 E-Mail: hcc@hamiltonchamber.ca

hamilton
chamber of commerce
your voice in business

**Congratulates all the
Participants and
Award Winners of
BASEF 2014!**

*Vision to See!
Faith to Believe!
Courage to Do!*



SPECIAL AWARDS – 2014

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



ArcelorMittal Dofasco Awards

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.

Material Handling & Logistics Department Award

Prize: \$100

Criteria: Project that best displays the use of scientific principles in exploring or solving a problem related to material conveyance, transportation or logistics.

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.

Research & Development Award

Prize: \$100

Criteria: To a project that best displays investigative research & scientific principles to explore a technical problem

SPECIAL AWARDS (Continued)

Artistically Inspired Display Awards

Prize: Two cash awards of \$50 each.

Criteria: To the most artistically inspired displays.

Association of Iron and Steel Technology – Northern Chapter Award

Prize: 2 prizes of \$100 each

Criteria: For outstanding projects related to one of the following fields: metallurgy, materials science, chemical, electrical, mechanical, industrial, environmental, civil and computer engineering

Bell Technology Award

Prize: 1st: \$150, 2nd: \$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 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.

Colin O'Flynn Electrical Engineering Award

Prize: One Binary Explorer Board with common creative teaching material.

Criteria: An outstanding engineering project at the intermediate or senior level

Dillon Consulting Science/Engineering and Biological Sciences Awards

Prize: Two cash prizes of \$250 each

Criteria: To projects showing excellence in science and/or engineering.



*2013 ArcelorMittal Dofasco
Best in Fair Pinnacle Award Winners*

SPECIAL AWARDS (Continued)



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 \$225 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.

Electrical Construction Association of Hamilton Award

Prize: \$250

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

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 Academy of Dentistry Award

Prize: Two awards of \$100 each

Criteria: Projects related to dentistry in general; to one specific area of dentistry; or related to oral hard & soft tissues specifically; to some aspect of the delivery of dentistry to the general (or specific) population; or an aspect related to prevention of dental disease.

Hamilton Association da Vinci 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: 1st \$250, 2nd \$150, 3rd \$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 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.

Saturday May 31, 2014

**Southern Pines Golf Course
8453 Airport Road East, Mount Hope**

BASEF Golf Outing

PIGSKIN PETE
The Day's Emcee

BASEF Golf Outing includes:

9 or 18 Holes of Golf
Best Ball Format
Hole in One Competition
Longest Drive (M/F) Prizes
Closest to the Pin (M/F) prizes
Highest Score Putting Competition
Silent Auction
Buffet Dinner

PLAY 18-holes for \$100/golfer
Or 9-holes for \$78/golfer



Registration Open: 10am Arrive Early

Shotgun Start: 11am for 18-holes

1pm for 9-holes

Dinner: 5pm (ish)

Funds raised will be used to
support the annual Bay Area
Science and Engineering Fair!

For information or to register
please contact:

Dana: dana.e.bee@gmail.com

Jim: jmonkelbaan@shaw.ca

BASEF: basef@basef.ca

www.basef.ca



SPECIAL AWARDS (Continued)

Hidden Science Award

Prize: \$100 with a library of Nikola Tesla's ideas and discoveries

Criteria: Project that best reflects Nikola 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.

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.

James A. Winger Award sponsored by the Hamilton Association of Astronomers

Prize: \$200 award

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

SPECIAL AWARDS (Continued)



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: Free registration for the 2014 LEAP Summer Program

Criteria: Senior project (grades 9-12) by a female participant that demonstrates creativity and innovation.

McMaster University Department of Chemistry and Chemical Biology Award

Prize: \$100 cash award and a certificate

Criteria: An outstanding senior or intermediate project connected to chemistry.

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: \$2,000 or a 6-week paid summer internship as a research assistant in a laboratory at the M.G. DeGroote IIDR at McMaster University. Two runner-ups will be identified and given a certificate.

Criteria: Best senior student project in infectious disease, drug discovery or human health.

Hamilton-Halton Construction Association

www.hhca.ca



The Hamilton-Halton Construction Association is a non-profit organization serving over 350 members (builders and related professionals) who are actively engaged in the Industrial, Commercial, Institutional (ICI) construction industry within Hamilton

**370 York Blvd., Suite 100, Hamilton, ON L8R 3L1
Tel: 905-522-5220 Fax: 905-572-9166 Email: info@hhca.ca**

SPECIAL AWARDS (Continued)



Mohawk College School of Engineering Technology Awards

Building & Construction Sciences Award - Civil Engineering

Prize: \$50

Criteria: Project related to any branch of civil engineering.

Building & Construction Sciences Award – Building Sciences

Prize: \$50

Criteria: Project related to building sciences, building materials, energy conservation in structures.

Building & Construction Sciences Award – Transportation Engineering Award

Prize: \$50

Criteria: Project related to planning, design, or operation of any transportation mode or facility.

Mathematics Awards

Prize: Two cash awards of \$50 each

Criteria: Deserving projects in categories of mathematics or statistics.

Nelson Steel Award

Prize: Two cash awards of \$50 each

Criteria: Related to two of the following fields: Steel, Environmental or Chemistry.

Congratulations to all Science Fair participants!

- Lifetouch has dedicated over 65 years to preserving memories with high quality photography in the school portrait business.
- Lifetouch is committed to education and our Partners-in-Education program offers a wide array of recognition materials specially designed for students and staff.

Ontario Offices:

• Barrie	705-792-9603	• Brampton	905-840-9933
• Chatham	519-352-3811	• Hamilton/Niagara/Halton	905-573-1402
• Kingston	613-545-7888	• Kitchener/Waterloo	519-744-1146
• London	519-652-0016	• Ottawa	613-833-0707
• Oshawa	905-571-1103	• Toronto	416-298-1842
• Sturgeon Falls	705-753-4355	• N.W. Ontario	204-255-1388

Lifetouch
SCHOOL
PORTRAITS

www.lifetouch.ca

SPECIAL AWARDS (Continued)

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: 1st: \$250, 2nd: \$150, 3rd: \$100

Criteria: Top 3 outstanding Engineering Projects.

Professional Engineers Ontario Oakville Chapter Engineering Awards

Prize: Three 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: Outstanding project that addresses a pressing environmental issue and incorporates an artistic discipline.

SPIE Optics & Photonics Science Fair Award

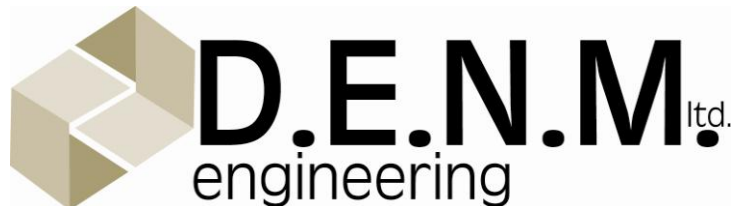
Prize: Three awards: 1st \$250, 2nd \$150, 3rd \$100; to be requested by winners after the fair

Criteria: Projects best demonstrating scientific research and engineering applications of optical, photonic, imaging and optoelectronic technologies or related discipline.

University of Ontario Institute of Technology Venture Engineering Innovation & Science Award, McMaster University

Prize: Free registration to the 2014 Venture Engineering Science Camp (\$650 value).

Criteria: One junior project that demonstrates creativity and originality.



**Suite 300-10, 1100 Burloak Drive
Burlington, ON L7L 6B2
PH 905-332-2323
Fax 905-332-2003
www.denmengineering.com**

Engineering, procurement, construction management, and
commissioning (EPCM/C)
for the supply of processing systems and equipment
within the precious, base, and industrial minerals industries
worldwide.

D.E.N.M. Engineering Ltd.

congratulates all student exhibitors

***Proud supporter of the Bay Area Science & Engineering Fair
for the 8th year***

AWARDS FOR EXCELLENCE IN SCIENCE & TECHNOLOGY

NEW PRIZES for 2014 FOR NEW STUDENTS AND NEW SCHOOLS



Eighteen first time competitors* will win a \$500 prize.

The "Awards for Excellence in Science & Technology" are funded by a generous donor who wants to generate interest and encourage participation in the Fair.

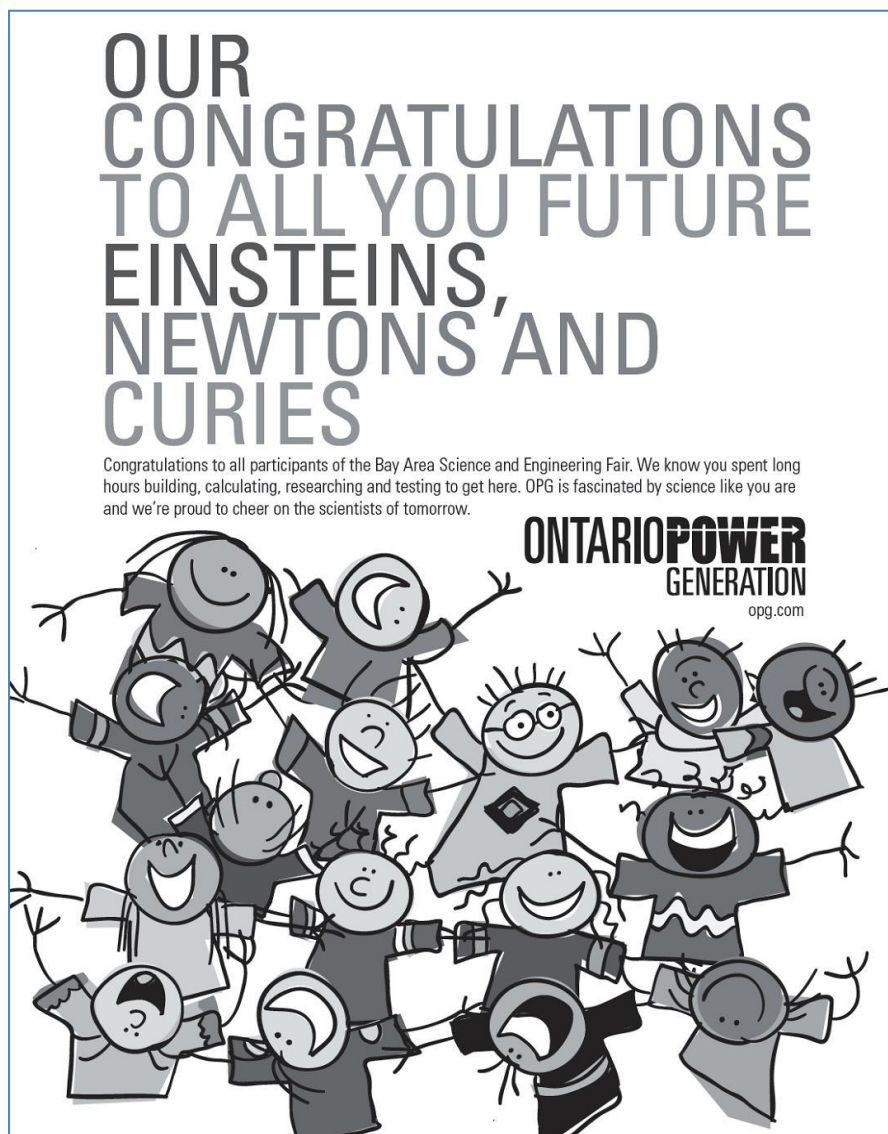
The awards, based on merit judging marks, will be awarded to the top 18 first-year competitors who win \$200 or less in other cash prizes.

* Must be first time for both partners of a pairs project. Award will be split between the partners.

Two schools will each win a \$250 New School Award.

Funded by the same donor, the teachers from the two new** schools with the best project scores will win these awards for use in their classroom.

** schools that have not had projects in BASEF for at least 5 years



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. (Joint student winners will split the award).

Criteria: Projects demonstrating excellence in Science or Engineering research.

Awarded to all projects earning Gold, Silver or Bronze Merit Medals

Mohawk College and Sheridan College – Award of Excellence Tuition Scholarship



Mohawk College and Sheridan College will provide a \$500 scholarship to ALL BASEF 2014 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 either Mohawk College or Sheridan College. If multiple scholarships are accumulated over more than one year, only one of these scholarships may be used.



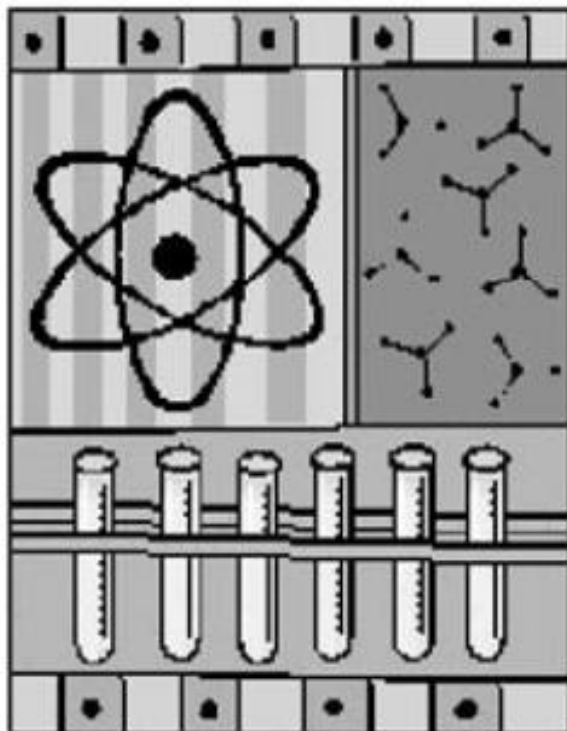
75 Norfinch Drive, Toronto, Ontario M3N 1W8 Toll free 1-866-539-7575

Best Wishes to all BASEF 2014 participants



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

Proud sponsor of **BASEF and the 2014 Merit Awards**



"Opportunity is missed
by most people
because it is dressed
in overalls and
looks like work"

Thomas A. Edison



Primary Fluid Systems Inc.

Burlington, Ontario
www.primaryfluid.com

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 Gold medal & cash award
over 80% & next 10% of category:	earns Silver medal & cash award
over 75% & next 12.5% of category:	earns Bronze medal & cash award
over 75% & not in the top 30% of category:	earns Honourable Mention certificate & cash award

Stay connected



facebook.com/TeamBASEF



youtube.com/TeamBASEF



twitter.com/basef

We are honoured to support the 54th Annual Bay Area Science and Engineering Fair

We applaud the achievements of all BASEF 2014 participants
as future innovators, entrepreneurs and leaders of tomorrow!

McMaster University has gained an international reputation for the
innovative educational programming offered by each of its six faculties.

Undergraduate teaching is conducted through the DeGroote School of
Business, the Faculties of Engineering, Health Sciences, Humanities,
Science, and Social Sciences, and the distinctive Arts & Science program.

future.mcmaster.ca



GRAND PRIZE AWARDS



Winners of Grand Awards have designed, researched and presented excellent projects.

ARCELOMITTAL 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 2014 Intel International Science & Engineering Fair, to be held in Los Angeles, USA from May 11 to 16, 2014.

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.

Sponsored by



CANADA WIDE SCIENCE FAIR TRIP AWARDS

Advancement to the 2014 Canada Wide Science Fair (all trip expenses paid), to be held in Windsor, Ontario, from May 10 to May 17, 2014.



Windsor 2014

Up to 16 students who have presented excellent projects will be chosen (dependent on funding levels).

All projects entered in BASEF 2014 are eligible.

Sponsors are

- Boehringer Ingelheim Canada
- City of Hamilton Economic Development Dep't
- Esso/ Imperial Oil Foundation
- 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
- John Deere Foundation
- Ontario Power Generation - Nanticoke Generating Station

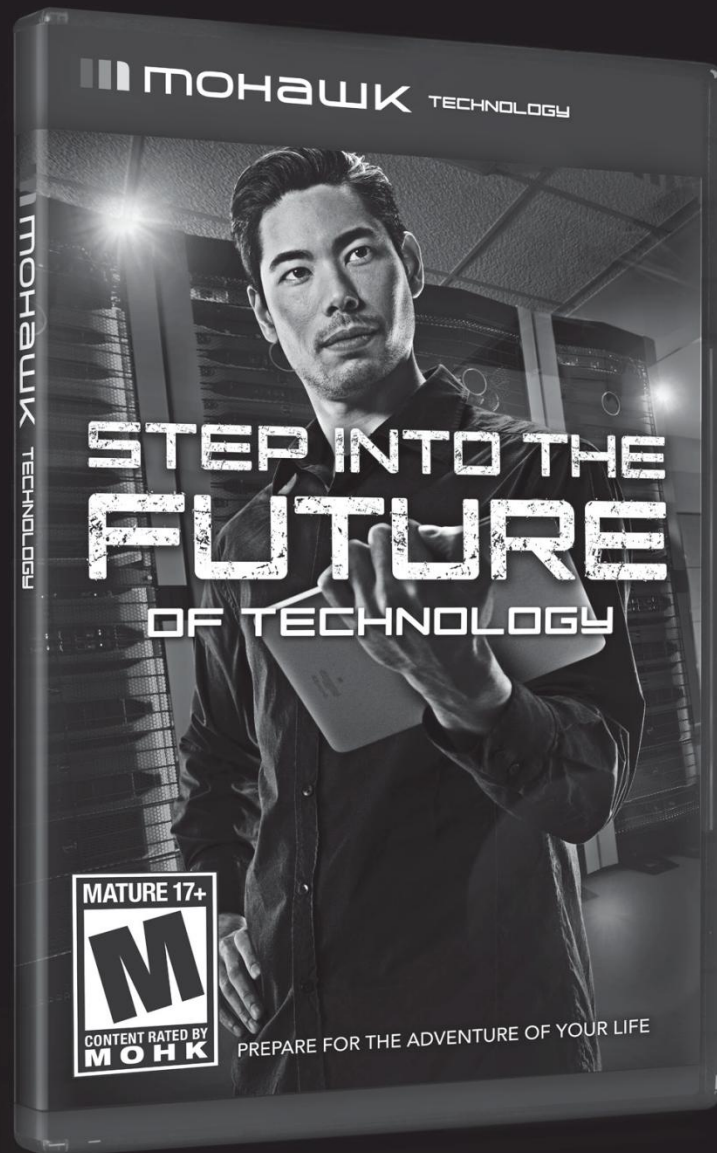


Hillfield Strathallan College
Here Excellence is a Way of Life



Congratulations

to our next generation of hometown inventors,
innovators and entrepreneurs



Learn more
mohawkcollege.ca

Proud Host of the 54th Annual BASEF

MOHAWK
FUTURE READY



transforming
tomorrow

Sparking Innovation.



A Hamilton spark is igniting new possibilities for manufacturing around the globe. Part of a worldwide network of researchers, ArcelorMittal Dofasco's Research and Development Team is partnering with local innovators like McMaster University and CANMET Materials Technology Laboratory to reimagine everyday products. From the car in your driveway, to the roof on your home. Together, we're making more than steel, we're transforming tomorrow.

www.arcelormittal.com



facebook.com/arcelormittaldofasco



[@ArcelorMittal_D](https://twitter.com/ArcelorMittal_D)