

OFFICIAL PROGRAM

BASEF 2017

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57th Annual Bay Area
Science & Engineering Fair
@Mohawk College
March 30 – April 4, 2017



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Big ideas.
Infinite possibilities.

Mohawk College Proud Host of the Annual Bay Area Science and Engineering Fair



Welcome to the
2017 Bay Area
Science and
Engineering Fair.

Congratulations to all the students who have logged many hours on your research projects. Judging by the calibre of the projects submitted every year, our future is in very capable hands. Many students who've competed in BASEF have gone on to win national and international competitions and have gone on to make their mark at colleges and universities.

I also want to commend the sponsors, judges, volunteers, parents and teachers who make BASEF such a resounding success and showcase for remarkable young talent. Your support and mentorship encourages students to dream bigger, aim higher and exceed all expectations.

This year, Mohawk celebrates 50 years of providing students with an excellent education and a great

college experience. As a college with a reputation for academic excellence in health and technology, we are proud to once again host one of Canada's largest and longest-running science and engineering fairs.

Congratulations again to all of the students participating in this year's BASEF. You have represented your schools well and you should be very proud of what you've accomplished.

Good luck!



Ron J. McKerlie
President,
Mohawk College



Learn more at mohawkcollege.ca/50th

MOHAWK
FUTURE READY

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A MESSAGE FROM THE 2017 BASEF CO-CHAIRS

Congratulations to all the participants competing at the 2017 Bay Area Science and Engineering Fair, BASEF's 57th year of operation. This is an opportunity for students to showcase their projects, ideas, dedication and tenacity, and to discover themselves as promising scientists and engineers.



What does our motto "Big Ideas... Infinite Possibilities" mean to the students, and to the judges, parents, sponsors and visitors to our fair? Since BASEF's inception in the 1960s, the scientific community has witnessed the moon landing and discovery of an earth-sized exoplanet; the cloning of Dolly the sheep and the first face transplant; the detection of gravitational waves; the discovery of the first pulsar and high temperature superconductivity; and the first experimental evidence of the Big Bang theory ... just to name a few. What discoveries will be made in the next 57 years that our students could be a part of?

We are grateful for the essential support from our many community sponsors and benefactors, and supporters of special student awards designed to promote additional interest and participation in the Fair.



ArcelorMittal Dofasco has returned for their eleventh year as BASEF's Title Sponsor. We are thankful for their generous funding and ongoing commitment to science, engineering, technology and mathematics for BASEF. BASEF 2017 sponsored by ArcelorMittal Dofasco would not be possible without this support.

Our three Diamond Level sponsors are also key to the success of this year's Fair:

- Primary Fluid Systems Inc. has sponsored BASEF at the Diamond level for many years. Primary Fluid Systems Merit Award Certificates will be given to all Gold, Silver and Bronze merit award winners.
- Mohawk College is again hosting BASEF in its state of the art David Braley Athletic and Recreation Centre. On behalf of the Organizing Committee we extend a special thank you to Mohawk College and its staff and students, who are very generous with their time, resources and enthusiastic support.
- Leggat Auto Group returns for their second year. In addition to generous monetary support, this sponsorship provides BASEF with media expertise and support to help promote science, technology and engineering in youth.

Together with over 50 other sponsors and benefactors, as well as over 50 Special Awards donors, our premier sponsors make it possible for BASEF's students to excel in science and engineering and 'to encourage young people in science and engineering', as is our mission statement.

The BASEF 500 Awards stand out as unique among the Special Awards. Funded by a generous donor who wants to generate interest and encourage participation in the Fair, eighteen \$500 awards will be awarded to projects this year, in addition to \$250 awards to the best two new schools.

This year the total value of merit awards, special awards, scholarships and trip awards is expected to top \$200,000.

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 2017 a success. Our thanks also to the over 300 volunteer Merit and Special Awards Judges and to the more than 100 other volunteers who help run registration, safety and other fair activities.

Be sure to attend the BASEF awards ceremony on Tuesday April 4th at 7:00 pm in the McIntyre Performing Arts Centre at Mohawk College to celebrate our students' successes.

We hope these 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 the participants on a job well done and wish them the best of luck in their future endeavours.

Dan Bowman and Ingrid Munson



BASEF ORGANIZING COMMITTEE

MOHAWK COLLEGE, 2017 HOST

President, Ron McKerlie
V.P. Academic, Paul Armstrong

CO-CHAIRS

Dan Bowman and Ingrid Munson

PAST CHAIR

Helen Barton

FINANCE

Treasurer: Eleanor O'Flynn, C.P.A., C.A.
Helen Martin, Susan Olynyk

REGISTRAR

George Geczy; Assistant: Rob Lenjosek

JUDGE IN CHIEF

Donna Stack-Durwar,
Assistants: George Geczy, Neil Manmohan

SCIENTIFIC REVIEW

Donna Stack-Durward (Judge in Chief), Ming Chong
(Co-Chair), Dan Bowman (Co-Chair), George Geczy
(Co-Chair), Neil Manmohan, Dr. Robert Brown,
Cathy Hayman, Dr. Mark Inman, Rob Lenjosek

SPECIAL AWARDS COORDINATION

Jim Casey, Roslynne Crawford, Eleanor O'Flynn

SAFETY

Neil Manmohan

CANADA-WIDE & INTERNATIONAL CHAPERONES

CWSF: Dan Bowman (Lead), Dana Bee,
George Geczy, Ingrid Munson
IISF: Cathy Hayman (Fair Director), Ming Chong

INFORMATION SYSTEMS

George Geczy, Gerard Chiasson

BASEF BURSARY-BACKBOARD PROGRAM

Linda Hazelden (Chair), Dan Bowman,
Gerard Chiasson, George Geczy, Ingrid Munson,
Eleanor O'Flynn, Shari Typer

STUDENT ADVISORS

Jack Mogus, Maggie Williams

FUNDRAISING

Sue Olynyk (Chair), Mike McNally, Renato De Tina
Helen Martin

STUDENT ACTIVITIES

Kevin Hunt

PHOTOGRAPHY & GRAPHICS

Wayne Bowdish

MARKETING AND PUBLICITY

Roslynne Crawford (Chair), Wayne Bowdish, Gerard
Chiasson, George Geczy, Michelle Lafontaine, Linda Millar,
Karl Zimmermann

MOHAWK COLLEGE LIAISON

Dana Jacobs

SPONSOR REPRESENTATIVE

Sandy Walker

FACILITIES

David Reed, Dana Bee

CHAMPIONS OF BASEF

Ola Lunyk Child (Chair), Linda Hazelden, Ingrid Munson

OUTREACH

Roslynne Crawford, George Geczy, Linda Hazelden,
Michelle Lafontaine, Jack Mogus,
Adree Khondker (YES Initiative)

VOLUNTEER RECRUITMENT AND COORDINATION

Dana Bee, Michelle Lafontaine, Glen Whitwell

OFFICIAL FAIR PROGRAM

Lisa Camara, Katie Cummings

FOOD PLANNING

Dan Prowse

DISTRICT SCHOOL BOARD ADVISORS

HCDSB: Shari Typer, Lorraine Boulos
HDSB: Ingrid Munson
HWDSB: Morris Hucal, Greg Tabone
HWDSB: Sandra Chow
Six Nations (INAC): Alex Randall

Bay Area Science and Engineering Fair
c/o Mohawk College
135 Fennell Ave West, Room F175
Hamilton, Ontario L9C 0E5

e-mail: basef@basef.ca
web site: www.basef.ca



GENERAL FUNDING SPONSORS – 2017



TITLE \$15,000 +

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HAND Association of Sewer, Watermain
and Road Contractors, operating as the
Hamilton & District Heavy Construction Ass'n
McMaster University
The Hamilton Spectator
Nikola Tesla Education Corporation

GOLD \$2,500 +

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Union Gas Ltd

SILVER \$1,000+

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Halton Catholic District School Board
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Hillfield Strathallan College
Halton District School Board
Hamilton-Wentworth District School Board
TD Friends of the Environment Foundation
Ontario Power Generation- Nanticoke
Society of Tribologists & Lubrication Engineers
- Hamilton Section

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D.E.N.M. Engineering
Hamilton Amateur Astronomers
Hamilton Community Awareness
& Emergency Response
Rotary Club of Waterdown
Viziya

Battlegoat
Etratech Inc.
Judy Marsales Real Estate
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Hamilton Wentworth Occasional Teachers
Optimist Club of Stoney Creek
Talkit.ca
TPI Reg

Electrical Construction Association of Hamilton
NewAE Technologies
TACC Construction
Tegs Tools

BENEFACTORS – 2017



Through personal donations, individuals can support BASEF.

BASEF 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

Mike & Sue McNally

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.

Cathy & Steve Hayman
Susan & Peter 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

Helen Barton
Grant Buchan-Terrell
Renato & Enza DeTina
Dr. Nicola Simmons

Dan & Debbie Bowman
Roslynne & Tom Crawford
Eleanor & John 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.

Jim Casey
Elizabeth McCready
Wayne Schaefer

Jo-Anne Connery
Linda Millar

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, is made available for BASEF to support BASEF's mission and goals. As at August 31, 2016, the endowment fund had grown to just over \$36,000.

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.



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

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BASEF 2017 SCHEDULE OF EVENTS

All at Mohawk College Fennell Campus

Gymnasium - David Braley Athletic Centre (DBARC)

Theatre - McIntyre Performing Arts Centre



Thursday, March 30 – On-Site Project Setup/Safety Check

4:00 – 8:00 pm	Registration, set-up and safety checks	Gym
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Friday, March 31 – Student Activity Morning & Judging of Projects

8:30 – 9:30 am	BASEF students arrive for Morning Activity (Theatre Doors Open at 8:30 am)	Theatre
9:00 – 9:15 am	Introduction – Kevin Hunt Welcome from Mohawk College -Paul Armstrong, VP, Academic Mohawk College Program Update – George Miltenburg, Dean of Engineering Technology & Skilled Trades	Theatre
9:15 – 9:40 am	“Human Space Flight: The Good, The Bad, and the... Deadly?” -McMaster Neudose - Erica Dao	Theatre
9:40 – 10:10 am	“The Life and Time of Nikola Tesla and the impact on Hamilton” - Nikola Tesla Educational Corporation - Dr. Colin Campbell and Vic Djurdjevic	Theatre
10:10 – 10:40 am	“The Pizza Oven Engineering Project” McMaster University - Raf Hirmiz	Theatre
10:40 – 11:10 am	“The Past, Present and Future of Planet 9” John Gauvreau - Hamilton Amateur Astronomers	Theatre
11:10 am – noon	McMaster University Chemistry Show Professors Randy Dumont, Paul Harrison, and Lydia Chen	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.	Gym
1:00 – 4:00 pm	Judging interviews for BASEF students (BASEF participants must remain at their projects during judging)	Gym

Saturday, April 1 – Public Viewing

9:00 am - Noon	Public Viewing Projects are to remain in place until end of Public Viewing	Gym
Noon – 12:15 pm	Project take-down. All projects must be removed by 12:15pm	Gym

Tuesday, April 4 – Awards Ceremony

5:15 – 6:30 pm	Champions of BASEF Dinner	By Invitation Mohawk
6:00 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

EMERGENCY PROCEDURES WHILE AT MOHAWK COLLEGE

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

Emergency Evacuation

(Reference Procedure ERP 805)

Upon Discovery of Fire:

- Leave fire area immediately and close doors behind you
- Pull the nearest fire alarm
- Evacuate the building via the nearest exit
- Call Security at 55, or call 9-911 on college phones or 911 on Bell pay phones

Upon Activation of the Fire Alarm:

- Go to the nearest exit and leave the building
- Close doors behind you

Note:

- Do not use elevators or chair lifts
- Use an alternative exit if you encounter smoke
- If a person with a disability cannot be evacuated, assist them to a fire rated room such as an office or classroom that is away from smoke or fire, as close as possible to an exit. Preference should be given to rooms with two exits and a telephone or intercom.
- Notify Security and/or the Fire Department of their specific location.
- Do not re-enter the building until authorized by the Fire Department, Security, Staff or Fire Wardens

For more detailed information, please visit
<https://www.mohawkcollege.ca/about-mohawk/security-and-emergency-management/emergency-procedures>

Emergency Lockdown

(Reference Procedure ERP 809)

Threat Inside the Building:

Upon Hearing the Voice Message Advising Lockdown:

- Exit all Common and Open Areas (including Library and Cafeteria):
 - Disperse... do not congregate in open areas
 - Exit the building or go to a room or area where you feel safe to enter
- If Exit is Not Possible:
 - Enter or stay in a room or area where you feel safe
 - Close and secure doors if possible
 - Turn out lights
 - Cover windows and/or stay away from windows
 - Silence cell phones/use text messaging only
 - Stay alert, quiet and out of sight
 - Disregard fire alarm signal unless in immediate danger
 - Do Not Exit Until "All Clear" Signal is heard

End of Lockdown:

- A recorded announcement of an "all clear" signal will be given to indicate the end of lockdown. Emergency Officials or College Security will conduct a door-to-door confirmation of this announcement.

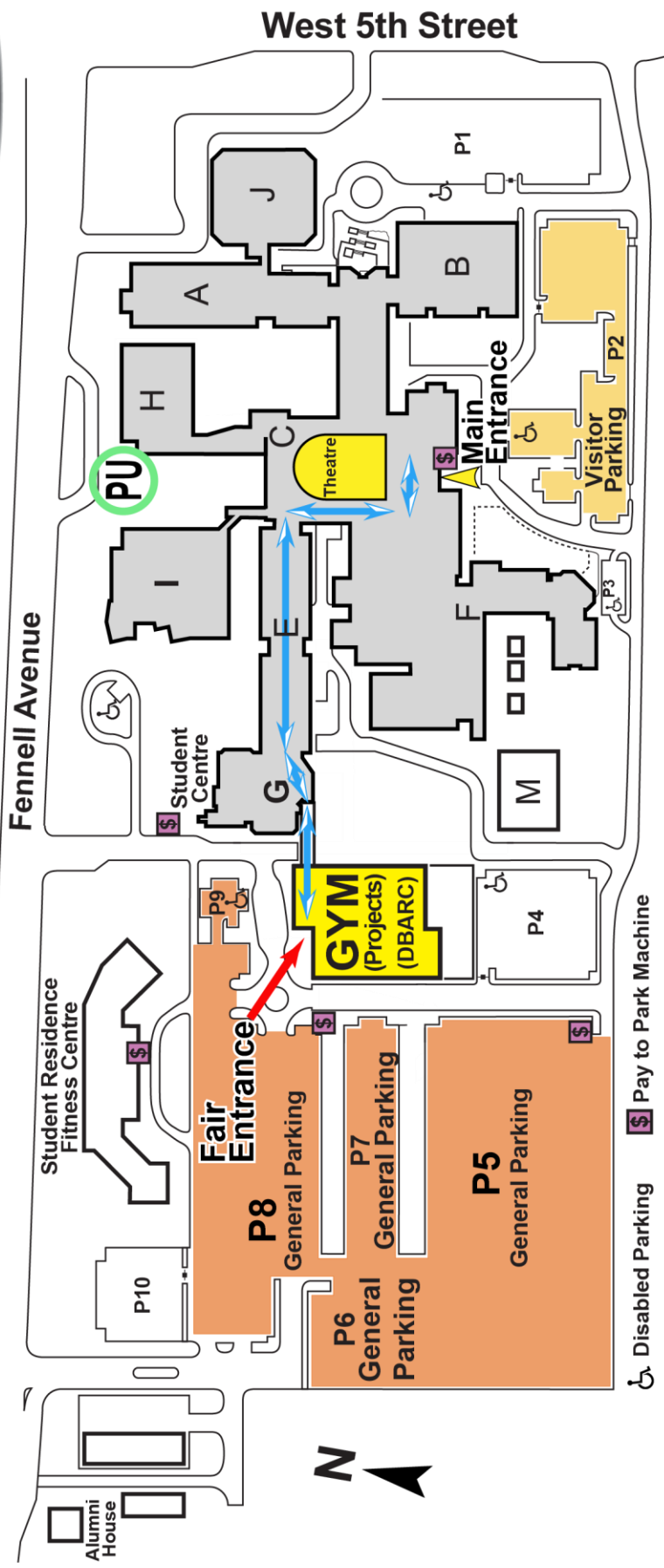
Threat Outside the Building:

Hold and Secure:

- The threat is outside and everyone remains inside the building.
- Notification will be communicated by a voice message.

BASEF 2017

March 30 - April 4, 2017
Mohawk Fennell Campus



Thursday March 30

Project setup in the Gym
4:00 pm to 8:00 pm

Student drop off at lot **(P8)**
Enter **Gym** via **Fair Entrance**
(1 hour complimentary
parking between 4:00pm
and 9:00pm in lot **(P8)** only)

Friday March 31

Activity morning in the Theatre

Students arrive 8:30 am to 9:00 am

Bus dropoff: **Main Entrance** ⚡

Bus pickup: **H-Wing (PU)**

Student car drop off at **Main Entrance** ⚡

Project judging: 1:00pm - 4:00pm in **Gym**

Parking in lot **P8** (complimentary
parking 4:00pm to 5:00pm in lot **(P8)** only)

Saturday April 1

Public viewing in the Gym
9:00 am to 12:00 pm

Project takedown:
12:00 noon to 12:15

Complimentary parking in
lots **(P5) - (P8)**

Tuesday April 4

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

Parking in lots **(P5) - (P8)**
Regular rate \$6.00 (exact change)

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

Congratulations on your decision to support your child's participation in BASEF!

All BASEF student participants are rewarded with an enriching experience, participating 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.

BASEF awards cash prizes, awards and scholarships. The top winners have the chance to win an expense paid trip to either the national (CWSF) or international science fair (IISF).

Location of Events: Mohawk College

Note: Science Fair projects will be located in the 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 Fennell Avenue or West 5th Street entrance. Parents are instructed to please **park in Lot P8** and walk to the DBARC gymnasium with your projects. Parking is free during project setup – but remember, only Lot P8 will be free for an hour. 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 Fennell Avenue or West 5th Street entrance. Parents are instructed to please **park in Lots P5-8**. Volunteers, parking attendants and Security staff will be able to guide you to the events.

Regular parking fees apply during Activity Morning/Judging Day: Parents can buy a Pay-and-Display ticket for Activity Morning and afternoon judging for \$5/hour, for a maximum of \$17 at the parking machines at Mohawk.

Event parking fees apply for Awards Ceremony: Parents can buy a Pay-and-Display ticket for awards on Tuesday evening, April 4th, for a flat rate of \$6 after 5pm.

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 volunteers 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.

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

Day by Day - Parent Responsibilities

Day 1 – Registration and Set-up, Thursday, March 30, 2017 @ 4:00 pm - 8:00 pm

Project set up for the fair occurs **ONLY** on Thursday, March 30, 2017 from 4:00 – 8:00 pm at Mohawk College DBARC Athletic Centre. Parking in Lot P8 is free for an hour. Park, then carry your child's 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 project has passed their safety check.** The registration process and project set-up usually take 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, Friday, March 31, 2017 @ 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 - Friday, March 31, 2017 @ 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. Students will not be allowed to buy food from any of the College vendors.

Day 2 – Afternoon Judging, Friday, March 31, 2017 @ 12:45 pm – 4:00 pm

Students are required to be at their projects for judging between 1:00 pm – 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 P8 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 2 - Evening, after 4pm

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

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

Day 3 - Public Viewing, Saturday, April 1, 2017 9:00 am – Noon

Park in P5-P8. Mohawk College will be hosting their Open House. Parking is free.

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.

Students are asked to pick up their project between 12 noon and 12:15pm. After this time, projects will be removed from the gymnasium as the volunteer staff will need to pack up the gymnasium.

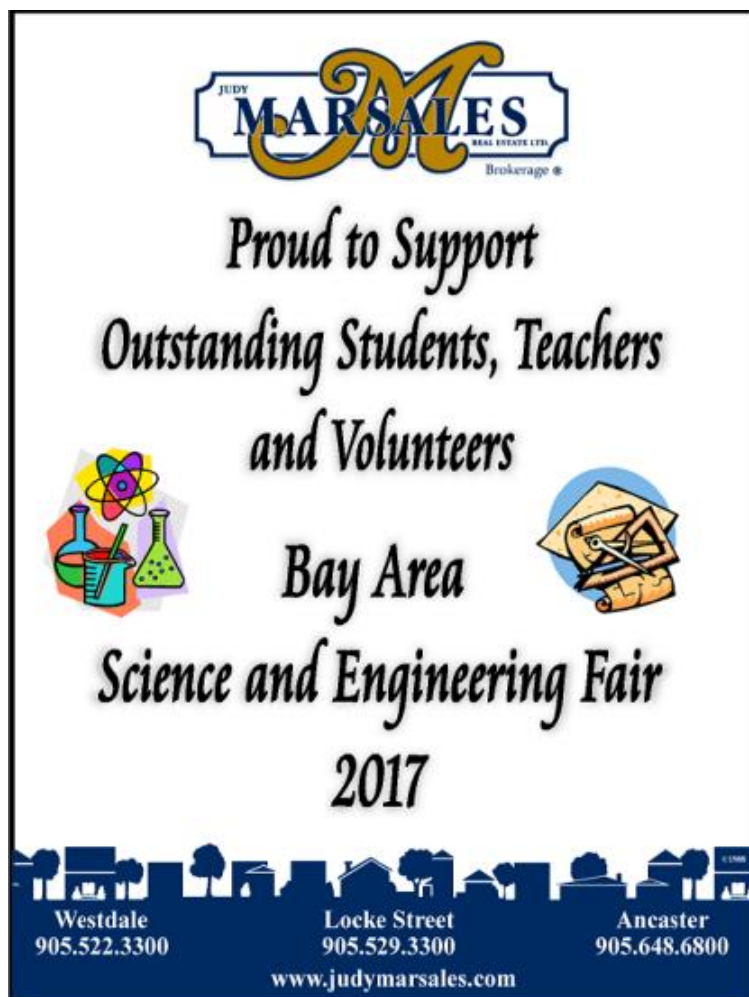
The Awards Ceremony – Tuesday, April 4, 2017 7:00 pm – 9:30 pm

Park in Lots P5-P8. Event parking is a flat rate of \$6 after 5pm.

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. It is recommended to come early, as seating is limited. Doors will open to the theatre at 6:00 pm. If the theater reaches capacity, alternate seating or viewing opportunities will be provided. Details will be announced in the lobby if necessary. Students will be asked to sit near the front of the theater.

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.



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BASEF thanks its 2017 sponsors



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 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. The teacher guide and student workbook are available in both English and French.

The page www.basef.ca/resources contains a large number of links to a **range of resources**, with detailed descriptions. To see what a typical BASEF project looks like, **visit our project archives** at www.basef.ca/pastresults

In 2017, two new and great initiatives were offered to our students:

- The **TECHSEED** program offered a free computer electronics kit to qualifying students who want to explore the use of an Arduino computer in a project. **Mentors** are available to assist students with the kits and answer questions.
- A **PATENT** information booklet and workbook has been developed in collaboration with Gowling WLG, a long-time special awards sponsor. This booklet transforms the legalese into understandable information for students whose project might benefit from patent protection or intellectual property laws.

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, and provide help on how to 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 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

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.

Youth Engaged in Science (YES)

In 2016, BASEF’s YES mentorship program moved from the high school level into elementary schools. Originally designed to encourage science fair participation by students registered in high schools identified in areas commonly associated as “red zones” or “areas of need”, the program took on new life at the elementary level. Students at Hess Street and Queen Victoria schools were provided with science kits (Petri Dishes, Microscope Slides, Chemicals, Bacteria etc.) to assist any student wishing to complete a science fair project for BASEF 2017. A total of 5 projects were completed this year. Heading up this year’s YES mentorship program is BASEF alumnus and McMaster student, Adree Khondker who had support from Mac Engineering, Immunology and other students assisting as mentors. Remember to email us at outreach@basef.ca for assistance for BASEF 2018.

The BASEF Bursary Program

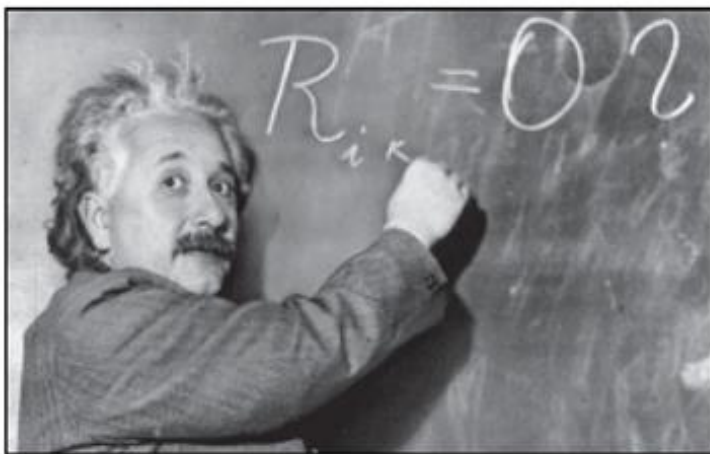
The BASEF Bursary Program was once again offered this year to assist students in grades 7-12 that were in need of financial assistance to complete a science fair project. Based on teacher recommendations, up to 40 students in the BASEF catchment area were eligible for a \$25.00 bursary and a free backboard. The projects could be a classroom activity or be entered into BASEF 2017; we asked only that the students undertake and complete a science project to the satisfaction of their teachers. The goal of the program is to make it easier for at-risk students to participate in project-based science.

BASEF Partners With Local Libraries

BASEF has formed partnerships with the Hamilton and Burlington Public Libraries to support each other in offering joint technology-related programs and workshops at the libraries for students in the BASEF catchment area. The Hamilton Public Library has provided coupons in the BASEF goodie bags for every student to visit and explore their Makerspace (Central branch). These coupons provide \$5.00 towards the materials used in 3D printing, vinyl printing and large format printing (for example to print a backboard panel). The Burlington Public Library has provided some items for the goodie bags, along with more information on how students can get involved in their technology programs and in their makerspaces. We are planning open houses at the libraries where interested students may bring their backboards to designated library branches to display and promote BASEF later this year. Interested students should send an email to us at basef@basef.ca. Stay tuned for more information on our website about upcoming events at the libraries in your area.



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
57 years of
Science Success!**

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

**Patrick J. Daly, Chairperson of the Board
David Hansen, Director of Education**

www.hwcdsb.ca



2017 BASEF Champion Teacher

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



Lisa Brown
St. Joseph School



Hamilton-Wentworth
Catholic District School Board
Believing, Achieving, Serving

"...has always encouraged anyone and everyone to attend BASEF..."

"... works extremely hard in trying to make sure we are all comfortable in science and prepared..."

"I would nominate Ms. Brown because I believe she is the best science teacher in the world."

"I really truly believe that Mrs. Brown deserves to be recognized for all of her hard work."

CONGRATULATIONS TO THE 2017 BASEF CHAMPION TEACHER!

The Champion Teacher Recognition Award for 2017 includes induction into the BASEF Champion Teacher Hall of Fame, a plaque and \$250 for use in the classroom of each winning teacher. The cash awards are funded by the BASEF 500 Awards Program. 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 and technology 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.

THANKS TO BASEF 2017 VOLUNTEERS!

Volunteers

Solange Thomas-Dowden
Jennifer Cui
Haider Khan
Shanon Lo
Brenda Sloane
Nishi Chaudhari
Amreen Saini
Nikhil Saini
Michele Joch
Aangi Shah
Xin Guan
Anna Vu
Vraj Shah
Jagruti Desai
Kevin Luong
Anastasia Drakos
Tom Crawford

Volunteers

Mary Helen
Ed Gillis
Jessica Dekker
Caitlyn Cosby
Marie Armstrong
Noah Smith
Peihua Tan
Lara Macmillan
Manan Patel
Maria VanAken
Sean Delottinville
Yessica Milena
Sirak Haile
Gail T
Jagpreet Singh
Muhammad Asif
Alex Silva-Mahmohan

Photo Team

Alan Bates
Jane Ann Smith
John Novak
Ryan Bowdish

Registration Team

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Amanda Garzo
Jordan Lenjosek
Rob Lenjosek

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David Fisher
Fraser Forrest
Jim Garrett
Dr Shushmita Gupta
Susan Hearst
Jana Jilek
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Sarah Lantz
Daniel Lawlor
Justin Lewis
Mike McNally
Bradley Michell
Mark Mindorff
George Roberts
Nelson Ruiz Blanco
Wayne Schaefer
Rebecca Smith
John van Loon
Cathy VanderVliet
Tony Wallace
Steven Walsh
Paul Wehrle
Norman Young



**Congratulations
to all of the BASEF
Participants!**



MERIT AWARD JUDGES

Unaffiliated

Denise Brennan-Rieder
Ihab Fanous
David Fisher
Linda Hazelden
Miranda MacAulay
Louisa Salemi
Janet Scahefer
Frank Stechey

Alta Technology

Nigel Birch

ArcelorMittal Dofasco

Stephanie Drywood
Daniel Hoeksema
Samiya Jahan
Joydeep Sengupta
Garly Sett
David Starr
Isadora van Riemsdijk
Jane Wood
Shayne Yeaman

AVAR Environmental Inc.

Justin Lewis

Beacontree Technologies

George Roberts

Brock University

Rebecca Ahlin
Cathy VanderVliet

Bruce Power

Robert Balaam

Canadian Red Cross

Nelson Ruiz Blanco

Canmet MATERIALS

Kumar Sadayappan

City of Hamilton

Daniel Lawlor

DARTS

Mark Mindorff

EcoSynthetix Corp.

Peter van Ballegoie

Efoly

Artembype Artembype

Emeritus Professor of Physics

David Brown

EnviroDiamond Technologies Inc.

Daren Swanson

Environment Canada

Patty Gillis

Epson Canada

Christopher Wu

Every1Games Professional Services Inc.

Sarah Saucier

FCA Canada

John McHugh
David Wood

General Motors - St. Catharines

Wayne Schaefer

Green Venture

Erinn Todd

Halton Healthcare

Ferid Rashid

Hamilton Health Sciences

Bev Barbato
Tracy Carrier
Billie Genier
Tara Packham

Hamilton Public Health Services

Steven Walsh

Hamilton Public Works - Hamilton Water

Neil Beesley

HCDSB

Patricia Rumble

Helix Brass Mouthpieces Inc.

Brian Hall

HWCDSD

Laura Pellizzari

HWDSB

Dr. Shushmita Gupta

Independent Consultant

Aleksandra Jeremic

Ivaco Rolling Mills

Craig Hagopian

L-3 Wescam

Andy Johnson

Learning Disabilities Association of Halton

Christina Romano

LHS Engineering

Dave Howard

McMaster and Conestoga

Light Nozomi

McMaster Innovation Park

Mark Stewart

McMaster University

Anita Acai
Sepideh Alibeigi
Krysta Andrews
Jann Ang
Amjad Arrabi
Puja Bagri
Kaushal Baid
David Benzon
Mark Bortolus
Elora Brenneman
Katie Brent
Jessica Breznik
Steven Cass
Manraj Chahal
Roopali Chaudhary
Karen Chen



McMaster University (continued)

Tsz Wing Cheung
Savannah Colameco
Sara Cormier
Rachel Couban
Braeden Cowbrough
Samantha Craigie
Sahar Darvish Molla
Danielle De Rango
John DeBackere
Benjamin Dyer
Luna ElDakiky
Gillian England-Mason
Jason Fan
Victoria Galea
James Goettel
Velma I Grover
David Hare
Nabil Hawwa
Rachael Horne
Jackie Hurley
Bushra Ilyas
Yajur Iyengar
Isaac Jackiw
Peter Jonasson
Stephanie Jones
Tanya Joseph
Amanda Kako
Portia Kalun
Michelle Kang
Zahraa Khalil
Adree Khondker
Nicole Last
Harry Li
Sohail Mahmood
Samuel Marchetti
Katherine Marczenko
Gabriella Mattina
Alison McDonald
Joshua McGrath
Aadil Merali Juma
Xavier Michaud
Alex Mitchell
Caroline Munoz
David Najda
Siddharth Nath
Nia Nijati
John Paul Oliveria
Romy Pabla
Emma Price
Stephanie Rathmann
Cory Richman
Alyssa Schneider

MERIT AWARD JUDGES (Continued)

McMaster University (continued)

Kaesavan Selvakumaran
Helly Shah
Aamir Shaikh
Anastasiya Slyepchenko
Margot Smith
Peter Summers
Saad Syed
Danya Thayaparan
Shawna Thompson
Chris Thomsen
Caressa Tsai
Brian Tuinema
Danielle Vitali
Alyssa Vito
Terry Wagg
Jocelyn Wessels
Kate Whalen
Daniel Wilson
Michael Xu
Ornana Yako
Peter Zeng

Mohawk College

Stephen Adams
Gabriela Covaci
Jennifer Curry Jahnke
Carl Easton
John Holloway
Nicole Howe
Megan Leeming
Ian MacMillan
George Miltenburg
Brian Minaji
Maurine Parzen
Lisa Safian
Shivam Saxena
Brian Stefanchuk
John van Loon
Shantal Woolsey

Mohawk-McMaster

Victoria Flaxman

Natural Resources Canada

Mark S. Kozdras

Newman Hattersley Ltd.

Bradley Michell

Oakville Hydro

Sarah Lantz

Oxford Learning Stoney Creek

Matthew Scudetto

Peto MacCallum Ltd. Consulting Engineers

Sean Denham

Princess Margaret Cancer Centre

Douglas Chung
James Han

Quadra Chemicals

Tara Conley
Monika Malig

Region of Peel

Steve Lonz

ReproLabels

Rebecca Smith

Retired

Marianne Bromley
Maureen Crane
Robert de Haan
Renato De Tina
Fraser Forrest
Jim Garrett
Eric Harrison
Marilyn Hollick
Jana Jilek
Warren Johnson
Ramani Leanage
Paul Martin

Retired (continued)

Eric McNair
Mike McNally
Daniel Penrose
Morgan Perigo
Dr. Aadu Pilt
Richard Roberts
Carol Rogerson
Ian Rowe
John Rudy
Alan Rutherford
Beverly Shepard
Donald Stevens
Graham Stratford
George Sweeney
Tony Wallace
Paul Wehrle
Norman Young

Rockwell Automation

Jeff Tod

Securitas Canada

Susan Hearst

Self Employed

Don Bodnar
Helen Graham
Ye Lwin
Liz Pietrzak

SHIFT Energy

Daryl Letto

St. Joseph's Hospital

Cathy Cao

St. Michael's Hospital

Cassandra Francella

Suncor Energy

Nikola Lukenda

Tarjan Management Inc.

Michael Tarjan

Tesla Motors Canada

Tyler Ustrzycki

Thermo Fisher Scientific

Stephen Johnson

Thermo Scientific

Gary Darnel

University of Toronto

Susan He

Ian Sinke

Western University

Christian Pretto

York University

Melissa Galicia

Luana Sciuillo

Zinje Computing

Jerome Miecznikowski



SPECIAL AWARD JUDGES

ArcelorMittal Dofasco Awards

Adam Aglipay, Wasim Asghar, Derek Brisson,
Shannon Clark, Monica Dias, Tim Dietrich,
Cody Fram, Pat Ginnetti, Ryan Grant, Helen Hadcock,
Kevin Hamilton, Stephanie Holko, Michael Kempe,
Josh Korol, Garrett Maynard, Amir Noorafkan, Meet
Pandya, Mike Pomeroy, David Richardson,
Kevin Singer, Graham Stephen, Mansoor Tavassoly,
Mark Tizzard, Isadora van Riemsdijk

Artistically Inspired Display Awards

Cathy Hamilton, Cathy Hayman

Association for Iron & Steel Technology Northern Chapter Awards

Shannon Clark

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

Shannon Clark

Canadian Nuclear Society (Golden Horseshoe Branch) Awards

Mitch Lemieux, Mario Ponce Tovar

Chemical Institute of Canada- Hamilton Section Awards

Don Barclay, Tom Sutton, Ryan Wylie

Doris Casey and Gwen Nicolls Disability Solutions Awards

Jim Casey, Al Nicolls

Conservation Halton Awards

Julia Marko Dunn

Michael G. DeGroote Institute for Infectious Disease Research Internship Award

Dr. Marie Elliott

Dillon Consulting Limited

Chris Gibbons, Trevor Goulet

EcoSynthetix Internship Award

Peter van Ballegoie

Electrical Construction Association of Hamilton Award

Joe Kurpe

Farncombe Family Digestive Health Research Awards

Jan D. Huizinga, Jennifer Lau, Sharif Shajib

Gowling WLG Innovation Awards

Gowling WLG Lawyer

Hamilton Academy of Dentistry Awards

Frank Stechey

Hamilton Amateur Astronomers Awards

Ann Tekatch, Bernie Venasse, Denise White

Hamilton Association for the Advancement of Literature, Science & Art

Michael Jefferson, Richard Morton, Ludvik Prevec

Hamilton Chamber of Commerce Innovation Awards

Rob McCann

Hamilton Wentworth Occasional Teacher Awards

Barry Naidoo, Nguyen Trang

Hillfield Strathallan College Awards of Excellence

Lara De Lazzari, Marc Edgar

Hillfield Strathallan College Entrance Scholarship Award

Lara De Lazzari, Marc Edgar

John W. Howard Materials Research Award

Dr. Nicola Simmons

Indigenous Peoples of Canada Scientific Study Awards

David Reed

IEEE (Institute of Electrical and Electronic Engineers) Hamilton Section Awards

Blair MacCuish

International Science & Engineering Affiliated Fair Awards

Ming Chong, Cathy Hayman, Varsha Jayasankar,
Radhika Khanna, Camilla Michalski

Laurentian Chapter of SETAC Award

Karen Bechard, Oana Birceanu, Sunny Choi, Scott
Hepditch, Ryan Prosser

Dr. Colin J.L. Lock Memorial Chemistry Award

Dr. Nicola Simmons

McMaster Department of Chemical Engineering & Chemical Engineering Club Award

Nick Aubry, Sophie Emerson

McMaster University Faculties of Science and Engineering Entrance Awards

Victoria Larke

McMaster University LEAP Award of Innovation

Steph Elder, Cassandra Green

SPECIAL AWARD JUDGES (Continued)

McMaster University Venture Award of Innovation

Steph Elder, Cassandra Green

McMaster University Women in Engineering Entrance Awards

Victoria Larke

Mechanical Contractors Association of Hamilton Award

Ron Marcotte

Mohawk College Building & Construction Sciences Awards

Dan Havercroft, Sean Nix

Mohawk College Electrical Engineering Technology Awards

Stephen Adams, Simon Galton, Richard Ma,
Brian Stefanchuk, John van Loon

Mohawk College Mathematics Awards

Frosina Stojanovska-Pocuca

Nelson Steel Awards

Shannon Clark

Nikola Tesla Innovation Awards

Colin Campbell, Vic Djurdjevic, Dejan Vicenijevic

Primary Fluid Systems Awards

Sandy Walker

Procor Engineering Awards

David Thorpe

Professional Engineers of Ontario-Hamilton/Burlington Chapter Awards

Michelle Chin, Gary Closson, David Dean, Stephanie Holko, Erika Kadar, Matt Minnick, Jim Sweetman

Professional Engineers Ontario - Oakville Chapter Awards

Susan Reimer

The Research Institute at St. Joe's Hamilton, Health Research Award

Duncan Cameron, Jessica Connelly

Rotary Club of Hamilton-East Wentworth Awards

Paul Crossman

Royal Botanical Gardens Award

Karin Davidson-Taylor

Dr. Nicola Simmons Award in Cognition Studies

Dr. Nicola Simmons

Proud to support the Bay Area
Science & Engineering Fair
(BASEF).



We congratulate all student
participants.

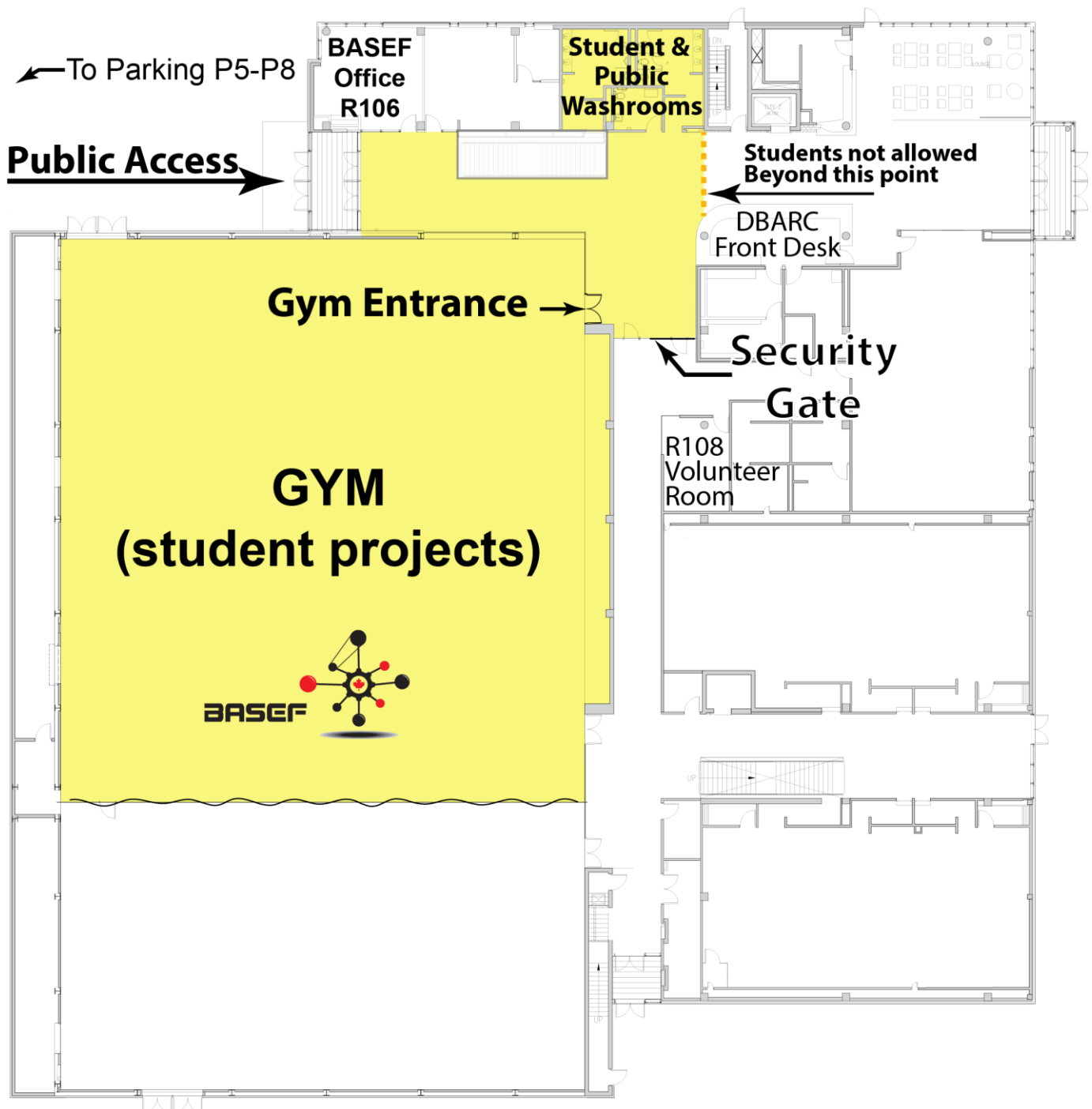


**The David Braley Athletic and Recreation Centre
(DBARC)**

BASEF Student Boundaries

Friday, March 31 - 12 noon to 4 pm.

Students are expected to stay at their projects during lunch and the afternoon judging period.
Mohawk College and BASEF ask that all students stay within the highlighted areas.





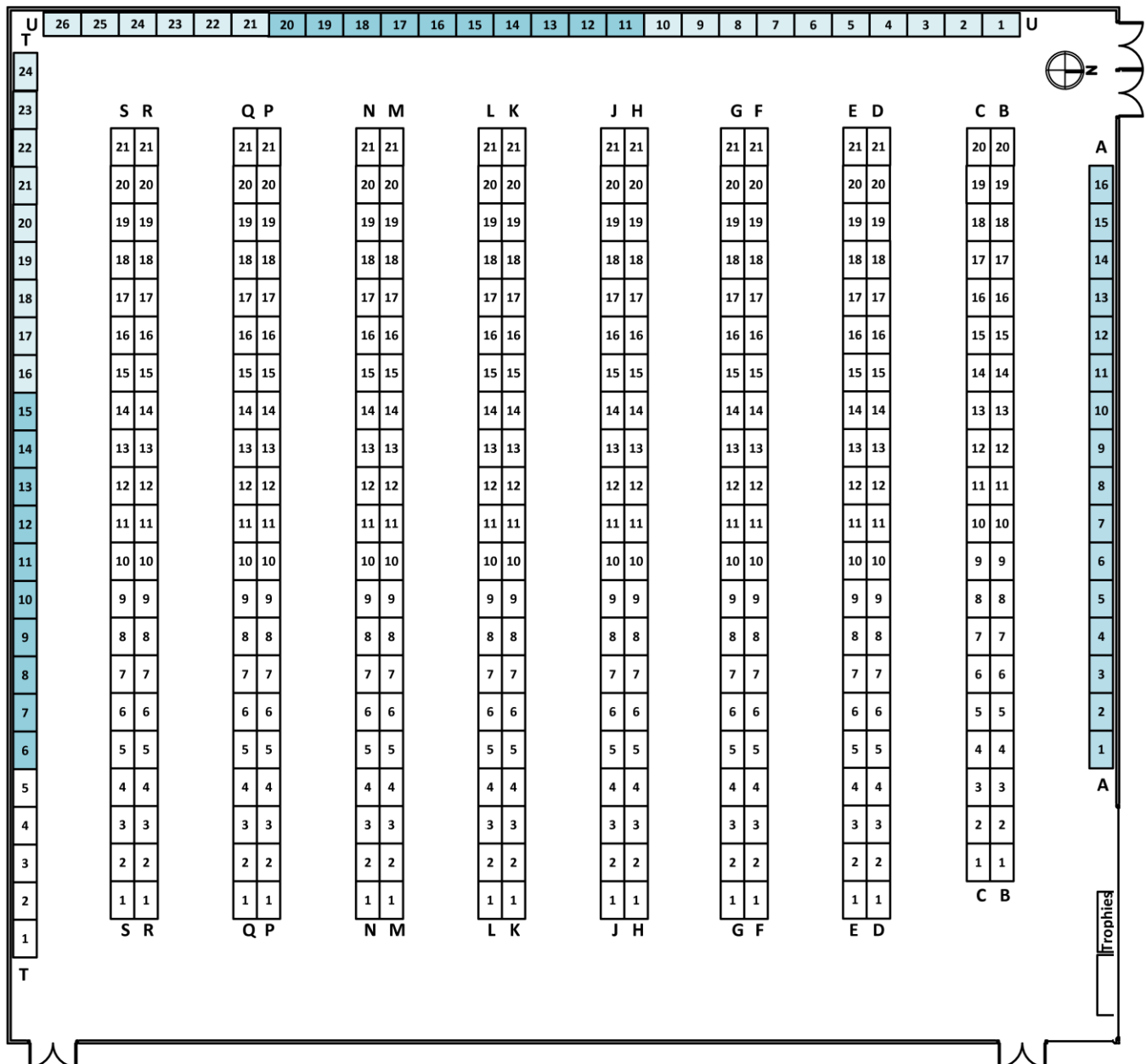
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BAY AREA SCIENCE & ENGINEERING FAIR

PROJECT FLOOR LAYOUT

David Braley Athletic Centre
Mohawk College, Hamilton, ON
March 30 to April 4, 2017



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tag

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McGrath, Liam	E16	Patel, Sheil	B01	Roberts, Jordon	R12
Mcintosh, Tyler	N06	Paul, Madeleine	K08	Roch, Gwen	N12
McIntyre, Natasha	P17	Pearson, Devyn	J03	Roche, Pier	D09
Mckeage, Mackenzie	S01	Perigord, Lachlan	D12	Rodil, Jomel	S07
Mcpherson, Jacob	N06	Phillips, Tyler	R02	Rolf von den Baumen, Kyleise	D06
McVay, Keelan	Q03	Philopos, Mary	R09	Romachyk, Kyla	S02
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Mehmood, Zainab	Q08	Planeta, Nicole	R17	Runco, Sabrina	Q12
Mende-Gibson, Avery	J01	Pontet-DaSilva, Taylor	N07	Saleh, Sarah	S20
Menon, Malaika	N15	Poon, Joshua	N11	Samadder, Sudipta	Q06
Mercer, Brynn	G20	Popowich, Evan	T13	Sampson, Jack	R20
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A Snowy BASEF 2012

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- Professional Corporations
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at BASEF2017
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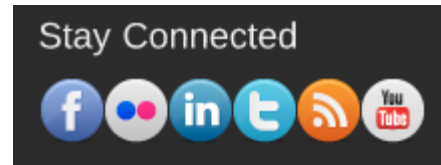
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Society of Tribologists and Lubrication Engineers

Hamilton Section

**To all Participants and Award Winners
of BASEF 2017**

Well done!

What is tribology?

Tribology is the study of science and engineering of interacting surfaces in relative motion. It includes the study and application of the principles of friction, lubrication and wear. Tribology is a branch of mechanical engineering and materials science.

PROJECT LISTING

A01 Black Holes: Not Black, Not Holes, What Are They?

Jessica Freyke
Junior 7/8 Phys & Math Sci
Oakville Christian School, IND

A02 Finding microbeads in facial scrubs

Arianna Mastrolonardo
Junior 7/8 Life Sciences Non-Human
Rotherglen School (Oakville), IND

A03 Household Water Waste and Where it Happens

Madison Taylor
Junior 7/8 Life Sciences Non-Human
Adelaide Hoodless, HWDSB

A04 Kitty City

Sienna Muller
Junior 7/8 Life Sciences Non-Human
W. H. Morden Public School, HDSB

A05 Does the five second rule work?

Heeyoung (Angela) Chang
Junior 7/8 Life Sciences Non-Human
Appleby College, IND

A06 Music and reading comprehension

Hailey Close
Junior 7/8 Life Sciences Non-Human
Maple Grove Public School, HDSB

A07 Phytoremediation: Investigating Plant Acclimation to Ameliorate Salinity Tolerance in Broccoli

Dylex Suan
Intermediate 9/10 Life Sciences Non-Human
Corpus Christi Secondary School, HCDSB

A08 Comparing Natural And Commercial Plant Fertilizers

Allison Burke
Junior 7/8 Life Sciences Non-Human
Forest Trail Public School, HDSB

A09 McDonalds vs Homemade

Aidan Moore, Matthew munarolo
Junior 7/8 Life Sciences Non-Human
St. Luke, HWCD

A10 Heads or Tails?

Kirsten Josling
Senior 11/12 Life Sciences Non-Human
North Park Collegiate and Vocational School, GEDSB

A11 What Duration of Exposure to UV Rays Kills Bacteria?

Aaryaman Kantoor
Junior 7/8 Life Sciences Non-Human
Captain R. Wilson Public School, HDSB

A12 Staphylococcus aureus Resistance to Common Pool Disinfectants

Cindy Silwanes
Senior 11/12 Life Sciences Non-Human
King's Christian Collegiate, IND

A13 Start Your Day the Right Way Free Range VS Battery Cage Eggs

Jenna Vos
Junior 7/8 Life Sciences Non-Human
Trinity Christian School, IND

A14 Chickens and colours

Cole Honchar
Junior 7/8 Life Sciences Non-Human
Flamborough Centre, HWDSB

A15 Is Mold Smarter Than You?

Grace McGeachy, Allyson Dundass
Junior 7/8 Life Sciences Non-Human
Dr. John Seaton, HWDSB

A16 Paint v.s weather

Ryleigh Kay, mya baker
Junior 7/8 Life Sciences Non-Human
St. Augustine, HWCD

B01 How Does Physical Exercise Improve Your Grades?

Sheil Patel
Junior 7/8 Health Sciences Human
Fern Hill School (Burlington), IND

B02 Fingerprints Inherited~INK-credible

Alia Breukelman
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

B03 Humans Eat GMO's But Will Oakville's Wildlife?

Jade Beaudry, Sofia Reed
Junior 7/8 Life Sciences Non-Human
St. Mary Elementary School, HCDSB

B04 Invincible Ice Cream

Jacob Colatosti
Junior 7/8 Life Sciences Non-Human
St. Luke, HWCD

B05 I Wet My Plants

Emily Walraven
Junior 7/8 Life Sciences Non-Human
Trinity Christian School, IND

B06 GMO Sugar? Do Ants Have a Preference?

Oliver Brenninkmeijer
Junior 7/8 Life Sciences Non-Human
Oakville Christian School, IND

B07 How Music Affects Plant Growth

Emily Janicki
Junior 7/8 Life Sciences Non-Human
Our Lady of Victory Elementary School, HCDSB

B08 Copper: The Microbe Annihilator

Alexandra Portmann Muñoz
Junior 7/8 Life Sciences Non-Human
Appleby College, IND

PROJECT LISTING (Continued)

B09 How do different liquids affect plants

Julia Savaglio
Junior 7/8 Life Sciences Non-Human
St. Mary Elementary School , HCDSB

B10 Can Hydroponics Solve World Hunger?

Natalia Garbacz
Junior 7/8 Life Sciences Non-Human
St. Mary Elementary School , HCDSB

B11 Mayfly larvae as biological indicators

Avery Deighton, Sam Ecclestone
Junior 7/8 Life Sciences Non-Human
Forest Trail Public School, HDSB

B12 Wifi and bacterial growth

Hudson LaFayette, Griffin Photos
Junior 7/8 Life Sciences Non-Human
Maple Grove Public School, HDSB

B13 UV Spectrophotometric Analysis of Olive Oil

Evlyn Sun
Senior 11/12 Life Sciences Non-Human
King's Christian Collegiate, IND

B14 Hungry Birds

Eila O'Neil
Junior 7/8 Life Sciences Non-Human
W. H. Morden Public School, HDSB

B15 Fishing For A Solution

Juliana Caruso, Riley Borger
Junior 7/8 Life Sciences Non-Human
St. Therese of Lisieux, HWCD

B16 Can Spices Control Fungal Growth?

Kailas Chari
Junior 7/8 Life Sciences Non-Human
Maple Grove Public School, HDSB

B17 A Novel Approach to Treating Parkinson's Disease Using a Neurotrophic Factor and a Synthetic Peptide

Anika Gupta
Intermediate 9/10 Life Sciences
Non-Human
Westdale Secondary School, HWDSB

B18 Does washing your hands with soap really make a difference?

Maggie Yao, Sara Alajrami
Junior 7/8 Life Sciences Non-Human
Captain R. Wilson Public School, HDSB

B19 Colourful chemistry

Jaime Barr, Laila Violin
Junior 7/8 Life Sciences Non-Human
St. Joseph, HWCD

B20 To Grow or Not To Grow - Natural Home Remedies

Sahib Dhanoa
Junior 7/8 Life Sciences Non-Human
Hillfield Strathallan College, IND

C01 The Future of Fitness

Kaitlyn Treleven
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

C02 Corn Bread V.S White Bread

Sierra Green, Kareesa Bomberry
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

C03 Biting Your Nails - Friend or Foe

Lene Wong, Julie Dieroff
Junior 7/8 Health Sciences Human
Aldershot Elementary, HDSB

C04 Age Is A Just Number- Does Age Affect Your Response To The Stroop Effect

Haram Akram
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School, HDSB

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PROJECT LISTING (Continued)

C05 Get a Grip! A Study on the Relationship Between Grip Strength and the Palmaris Longus Muscle.

Riley Bennett
Senior 11/12 Health Sciences Human
Dundas Valley Secondary School, HWDSB

C06 Big Hero 7

Noah Singh, Jan Maurer
Junior 7/8 Health Sciences Human
Holy Name of Mary, HWCD

C07 How does lack of sleep affect our memory

Maya Henderson
Junior 7/8 Health Sciences Human
Pineland Public School, HDSB

C08 Do You Recall?

Katherine Li, Akanksha Pahargarh
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

C09 Gatorade v.s Oj

Jack Latham, Celina Chung
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

C10 Which household liquid was most corrosive to metal and detrimental to your health?

Mahdi Ameer
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

C11 Music And Memory

Emma Prestage
Junior 7/8 Health Sciences Human
Appleby College, IND

C12 Sound Asleep?

Dylan Nogueira
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

C13 HLA: A Map for a Road Less Travelled

Sadhana Jeyakumar
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

C14 Cannabinoids and Cancer

Kyra Ali
Junior 7/8 Health Sciences Human
Alexander's Public School, HDSB

C15 Does Music Make You Smarter?

Maia Bosma
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

C16 Antibacterial effects of the Curcuma longa spice and essential oil on Streptococcus mutans cariogenic bacteria

Lilian Raphael
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

C17 Shady Business

Naseem Anvari
Intermediate 9/10 Health Sciences Human
Hillfield Strathallan College, IND

C18 Treasure Your Bones

Luka Stankovic, Sabrina Giannini
Junior 7/8 Health Sciences Human
Immaculate Heart of Mary, HWCD

C19 Musicial Memory

Cyndi Houghton, Gwyn Cicci
Junior 7/8 Health Sciences Human
Aldershot Elementary, HDSB

C20 Does gender affect the brain processing of fear?

Emily Singh
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School, HDSB

D01 Coca Cola

Darrien Sholhan, noah gagne
Junior 7/8 Health Sciences Human
St. Luke, HWCD

D02 How does ADHD effect a child's education

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

D03 Berenstain or Berenstein?

Nicole Harris
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

D04 Learning in a Virtual World

Jacob Mack
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

D05 Mesmerizing Memory

Param Thakrar, Qais Chatur
Junior 7/8 Health Sciences Human
Rotherglen School (Oakville), IND

D06 Music & Memory

Kyleise Rolf von den Baumen
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

D07 How Stress Affects Your Performance?

Ellie Aling
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

D08 Lazy Learning

Allie Buist
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton), IND

D09 Taste Takes Time

Pier Roche, Mya Joo
Junior 7/8 Health Sciences Human
St. Joseph, HWCD

D10 Y-Fi?

Phoebe Bernardo
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

D11 Who Did It?

Michelle Vuong, Izza Raza
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School, HDSB

D12 Paper VS Pixel

Lachlan Perigord
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

PROJECT LISTING (Continued)

D13 Does Age Affect Your Reaction Time

Nikol Tesic, Nikol Terebilo
Junior 7/8 Health Sciences Human
John William Boich Public School,
HDSB

D14 The Right Foot

Livy Barbisan
Junior 7/8 Health Sciences Human
John William Boich Public School,
HDSB

D15 Light & Darkness: Can You See The Difference? Psychological Experiment relating Vertigo to Light

Syed Amman Waheed
Intermediate 9/10 Health Sciences
Human
Westdale Secondary School, HWDSB

D16 Music 4 The Mind

Ben Boudreau
Intermediate 9/10 Health Sciences
Human
Hillfield Strathallan College, IND

D17 A Study to Remember

Maisha Ahmed, Lubabah Al-Ani
Senior 11/12 Health Sciences Human
St. Thomas More Secondary School,
HWCD

D18 The Hydration Station

Chloe Van Barneveld
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

D19 ALS Disease

William Oliver
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

D20 Triggered! Are we Prepared to Deal with an Asthma Attack?

Areeba Qureshi
Junior 7/8 Health Sciences Human
W. H. Ballard, HWDSB

D21 What Happens if you do 100 Push-Ups everyday for 35 days?

Liam Power
Junior 7/8 Health Sciences Human
Our Lady of Victory Elementary
School, HCDSB

E01 Does the Perception of Time Alter with Distraction

Chloe McAleese
Junior 7/8 Health Sciences Human
Appleby College, IND

E02 Foot Arch Study

Jou-chung (Victoria) Chang
Senior 11/12 Health Sciences
Human
White Oaks Secondary School,
HDSB

E03 The Antimicrobial Efficacy of Steel, Copper and Brass in Reducing Health Care-Associated Pathogens

Margaret Williams
Senior 11/12 Health Sciences
Human
Ancaster High, HWDSB



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PROJECT LISTING (Continued)

E04 Does Chewing Gum Make You Smarter

Jonathan Cutrara
Junior 7/8 Health Sciences Human
Our Lady of Victory Elementary
School, HCDSB

E05 Antibacterial properties of Honey

Farhanna Rashid
Junior 7/8 Health Sciences Human
John William Boich Public School,
HDSB

E06 Do you Recall

Sophia Machiela
Junior 7/8 Health Sciences Human
Calvin Christian School
(Hamilton),
IND

E07 New School Versus Old School Learning

Katelyn Matsumoto
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

E08 Vigorous Thinking

Maahum Ali, Naveen Khan
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

E09 Gel Electrophoresis

Maia Hormoz
Junior 7/8 Health Sciences Human
Corpus Christi, HWCD

E10 The Genetic Basis of Cancer

Jazm Labarentos
Junior 7/8 Health Sciences Human
St. Agnes, HWCD

E11 Pressured Personalities

Katelyn Chung, Miya Takahashi
Junior 7/8 Health Sciences Human
W. H. Morden Public School,
HDSB

E12 Lactose Intolerance

Brendan Morris
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

E13 Why does our Immune System fail against Ebola?

Nidhi Sarkar
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

E14 Colour and Emotion Perception

Madeline Djuk
Junior 7/8 Health Sciences Human
Appleby College, IND

E15 WHAT? I Can't Hear You My Glasses Are Off

Jordana Ferro, Emily Ledgerwood
Junior 7/8 Health Sciences Human
St. Mark, HWCD

E16 Knock! Knock! Probiotics...Are You Really There?

Liam McGrath
Junior 7/8 Health Sciences Human
Immaculate Conception, HWCD

E17 Writing vs Typing

Meagan Demik, Kaitlin Wiersma
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

E18 Colourful Cuisine

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

E19 I Dream A Dream

Nikola Lukezic
Junior 7/8 Health Sciences Human
Our Lady of Peace, HWCD

E20 Destress and Color!

Lina Elsaadi
Intermediate 9/10 Health Sciences
Human
North Park Collegiate and
Vocational School, GEDSB

E21 Subliminal Reality

Myla Webb, Karis Schoon
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

F01 Is Cancer Treatable?

Timothy Li
Junior 7/8 Health Sciences Human
Flamborough Centre, HWDSB

F02 Which Type of Water is Best for You?

Iqra Khan, Zoya Khan
Junior 7/8 Health Sciences Human
Irma Coulson Public School, HDSB

F03 Water U Drinking

Ariana Cirillo
Junior 7/8 Health Sciences Human
Immaculate Heart of Mary, HWCD

F04 Memory Scrawl

Saira Ashfaq, Trisha Parchoor
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

F05 Musical Cubes

Alexander Matwijiw
Junior 7/8 Health Sciences Human
St. Eugene, HWCD

F06 Concussions

Stephanie Kircos
Junior 7/8 Health Sciences Human
St. Luke, HWCD

F07 How does colour affect memory?

Niharika Srivatsa
Junior 7/8 Health Sciences Human
Aldershot Elementary, HDSB

F08 Juice C'erious

Juliana Tendeiro, Madeline Disanto
Junior 7/8 Health Sciences Human
Immaculate Heart of Mary, HWCD

F09 Space Invaders

Neil Smith
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

F10 A Natural Energy Drink Alternative

Sarah Hanna, Madonna Hanna
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

PROJECT LISTING (Continued)

F11 Runs in the blood

Kai Cheng, Liam Foese
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

F12 Does the stride really help?

Renée Leake, Phillis Ong'ete
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

F13 Stomach Acid: The Mush Maker

Matthew Gilbreath
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

F14 What's That Smell?

Sophia Schneider
Junior 7/8 Health Sciences Human
Immaculate Heart of Mary, HWCD

F15 Train Your Brain: An Analysis of Human Brainwaves in Attention and Meditation

Ethan Parikh
Junior 7/8 Health Sciences Human
Appleby College, IND

F16 Thinking on Your Feet

Samir Goberdhan
Junior 7/8 Health Sciences Human
St. Luke, HWCD

F17 Reaction Action

Muhib Ali, Oufan Li
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

F18 5 Second Rule

Jakob Villard
Junior 7/8 Health Sciences Human
St. Anthony of Padua Elementary
School, HCDSB

F19 How does social media effect our mental health?

Martina Gjurjan
Junior 7/8 Health Sciences Human
Irma Coulson Public School, HDSB

F20 Coronary Artery Disease

Nuha Syed
Junior 7/8 Health Sciences Human
Sir William Osler, HWDSB

F21 Paper Covers Laptop? Do you have a paper brain or a plasma brain?

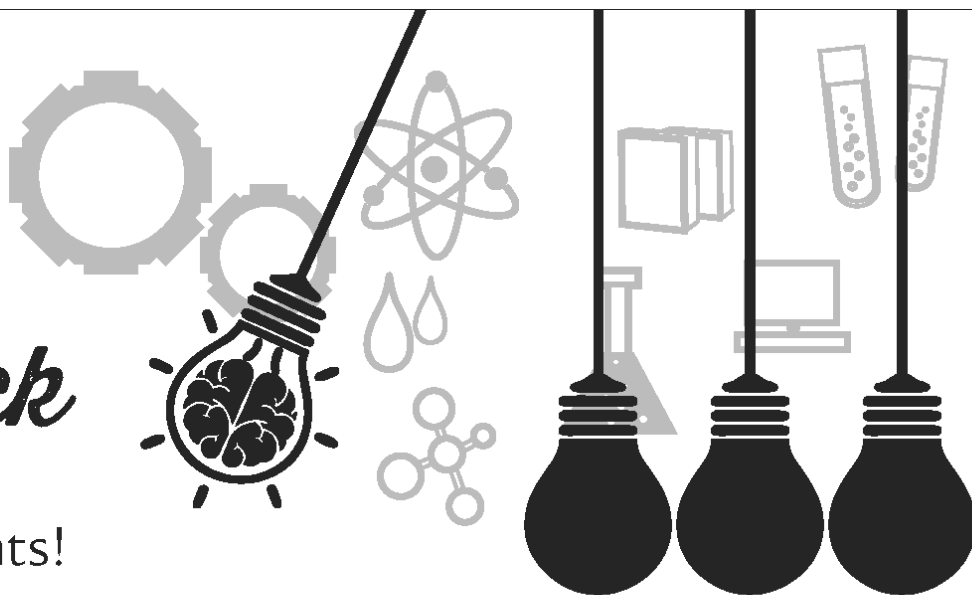
Vanditha Widyalkara
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

G01 Musical Minds

Lauren Mack
Junior 7/8 Health Sciences Human
Trinity Christian School, IND



Good luck
to all the 2017
BASEF participants!



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PROJECT LISTING (Continued)

G02 I Love Music

Camilla Hepner, Sofia Ferraro
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

G03 Make It Pop

Sarah Nasser, Jacqueline Delaney
Junior 7/8 Health Sciences Human
Rotherglen School (Oakville), IND

G04 Easier Done Than Said

Jassy Singh, Sunny Singh
Senior 11/12 Health Sciences
Human
North Park Collegiate and
Vocational School, GEDSB

G05 EYES VS TONGUE

Kara De Jong
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

G06 Hand Cream Wars

Alexander Yip
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

G07 HeartBeatSong

Brooke Graham
Junior 7/8 Health Sciences Human
Alexander's Public School, HDSB

G08 Odontogenesis and Water Fluoridation

Maryam Raheel
Junior 7/8 Health Sciences Human
Al-Falah Islamic School, IND

G09 Cell Stress

Aalia Mehdi, Julie Fitzpatrick
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

G10 Aluminum Transfer in Different Conditions

Darla Gall
Junior 7/8 Health Sciences Human
Appleby College, IND

G11 Brainaholic

Shailee Sandy, Takia Greene
Junior 7/8 Health Sciences Human
J. C. Hill Elementary, SNS

G12 Look Listen Learn

Michelle Moussa
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

G13 Remember Me???

Sarah Toy, Kate Dinniwel
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

G14 Athletes V.S Artists: Memory Challenge

Talia Ventura, Jathusa Balamurali
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

G15 Sugar Consumption and Cognitive Performance

Delia Jansen
Junior 7/8 Health Sciences Human
Home Schooling, IND

G16 Pain Tolerance

Priya Reddy, Hana Al-Issa
Junior 7/8 Health Sciences Human
Alexander's Public School, HDSB

G17 Bouda Kiki Effect

Claire Millar, Tessa Mander
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

G18 Physical literacy

Maria DiMatteo, Paulina Kobylarz
Junior 7/8 Health Sciences Human
St. Agnes, HWCD

G19 Busting the Myth that Microwave Ovens are Dangerous

Michael Kovacs
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

G20 Healthy Healers

Brynn Mercer
Intermediate 9/10 Health Sciences
Human
Hillfield Strathallan College, IND

G21 Is Your Smoothie a Sugar Bomb?

Vikram Arora
Junior 7/8 Health Sciences Human
Hillfield Strathallan College, IND

H01 Microgravity and Food: A Combination Bound to be Interesting

Joshua Ainabe
Junior 7/8 Health Sciences Human
Emily Carr Public School, HDSB

H02 Air Heads: Are school children regularly exposed to harmful levels of CO and CO2?

Megan Marshall, Clara Healey
Junior 7/8 Health Sciences Human
Forest Trail Public School, HDSB

H03 Investigating The Affects Of Domestic Violence

Jaden Squire, Jersee Hill
Junior 7/8 Health Sciences Human
Oliver M. Smith Kawennio:io, SNS

H04 Developing a dermal colorimetric test patch to identify iron loss in sweat

Krish Joshi
Junior 7/8 Health Sciences Human
St. Thomas the Apostle
(Waterdown), HWCD

H05 Boost Your Brain , Play a Video Game

Owen Belbeck
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

H06 Mag-nificent breakfast cereal

Kaitlyn Cook
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

H07 How Different Foods Affect Your Heart Rate

Tatiana Marchetti
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

PROJECT LISTING (Continued)

H08 How Was Your Sleep?

Julie Shadd
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

H09 Interactive Medical Imaging in Augmented Reality

Ibrahim Iftikhar
Intermediate 9/10 Health Sciences
Human
Hillfield Strathallan College, IND

H10 Colour Me....

Joelle Schaafsma
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

H11 Membrane-Based Nanostructured Biosensor to Detect Pathogens

Camila Moran-Hidalgo
Intermediate 9/10 Health Sciences
Human
Westdale Secondary School, HWDSB

H12 The Scoop on Stroop

Grace O'Leary
Junior 7/8 Health Sciences Human
St. Augustine, HWCD

H13 BPA? Not Today!

Alexandra Trojak
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

H14 Sports and Video Games: Is there a Connection? A study in Cognitive Science

Sophia Herrington
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

H15 Hocus Focus

Yalda Azari
Junior 7/8 Health Sciences Human
W. H. Morden Public School, HDSB

H16 The Inhibitory Effects of Cinnamon on

Propionibacterium Acnes
Faith Winters
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

H17 Can You "Tune" It Out?

Hannah Whetstone, Jane
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

H18 Candy Chromatography

Arvi Dhaliwal
Junior 7/8 Health Sciences Human
Rotherglen School (Oakville), IND

H19 The Perception Of Colour

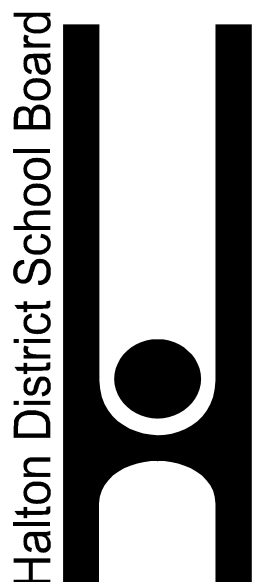
Grace Murray, Penelope Costelloe
Junior 7/8 Health Sciences Human
John William Boich Public School,
HDSB

H20 The Science of Languages - The Benefits of a Multilingual Brain

Brenda Zamora
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

H21 Appearance Pays

Sierra Barnes, Juhee Baek
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School, HDSB



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PROJECT LISTING (Continued)

J01 Let's Talk About Stress!

Avery Mende-Gibson
Junior 7/8 Health Sciences Human
Tiger Jeet Singh Public School,
HDSB

J02 It's Written All Over Your Face

Carly Sluys
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

J03 Can food affect your mood? If so, how?

Devyn Pearson, Aimee Lowe
Junior 7/8 Health Sciences Human
Maple Grove Public School, HDSB

J04 Taste Vision

Christina Lin, Dikshya Kafle
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

J05 Music For The Mind

Eliana Fioraso
Junior 7/8 Health Sciences Human
Corpus Christi, HWCD

J06 Is Dementia Curable?

Emma Walker
Junior 7/8 Health Sciences Human
Alexander's Public School, HDSB

J07 Synthesis of a Natural Mouthwash to Reduce Calcium Erosion of Teeth

Christina Hanna
Senior 11/12 Health Sciences Human
King's Christian Collegiate, IND

J08 Brains and Computer Games

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

J09 Savours or Snake Oil? Testing Radiofrequency Radiation Reducing Cellular Phone Cases

Grace Kemper
Intermediate 9/10 Health Sciences
Human
Hillfield Strathallan College, IND

J10 T.V vs Brain Speed

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

J11 Age, the Mastermind Behind Memory Loss?

Anna Liu
Junior 7/8 Health Sciences Human
Appleby College, IND

J12 Mixed handedness and memory

Heather Sutherland
Junior 7/8 Health Sciences Human
Burlington Christian Academy, IND

J13 How do optical illusions trick the eye and the brain?

Devanshi Parikh, Iman Ahsan
Junior 7/8 Health Sciences Human
Escarpment View Public School,
HDSB

J14 Fear Factor, Do Fears Change With Age?

Sarah Veerman
Junior 7/8 Health Sciences Human
Trinity Christian School, IND

J15 The Power Of Music

Arjun Sarao
Junior 7/8 Health Sciences Human
Dalewood, HWDSB

J16 Developing a Wearable Device to Treat Cold Urticaria

Amanda Adam
Senior 11/12 Health Sciences Human
St. Mildred's - Lightbourn School,
IND

J17 Thanks For The Memories

Tomas Rozman
Junior 7/8 Health Sciences Human
Immaculate Heart of Mary, HWCD

J18 Skin Sensitivity

Willow Fawcett
Junior 7/8 Health Sciences Human
Aldershot Elementary, HDSB

J19 Mindset Power

Gerard Thudugala, Luis Do Carmo
Junior 7/8 Health Sciences Human
St. Joseph, HWCD

J20 SPF Testing of Commercial and Natural Sunscreens

Joseph Smith, Alexander Flannery
Intermediate 9/10 Health Sciences
Human
King's Christian Collegiate, IND

J21 Whats the price of your health?

Alejandra Hernandez-Lizarazo
Junior 7/8 Health Sciences Human
St. Mary Elementary School , HCDSB

K01 Paper : Stronger than it looks

Thomas Kendall
Junior 7/8 Phys & Math Sci
Our Lady of Victory Elementary
School , HCDSB

K02 Is Bigger Better? Does Height Matter in Tennis?

Jacob Rudolph
Junior 7/8 Phys & Math Sci
Hillfield Strathallan College, IND

K03 A Study in Flute Harmonics

Aanya Grewal
Junior 7/8 Phys & Math Sci
Lee Academy, IND

K04 Let It Glow

Nicholas Schmalz
Junior 7/8 Phys & Math Sci
St. Augustine, HWCD

K05 The exothermic reaction with iron powder to create heat packs

Mariah Evans
Senior 11/12 Biotechnology
Brantford Collegiate Institute and
Vocational School, GEDSB

K06 Power Of Mud: Harnessing The Electricity In Mud

Kishore Jaiswal, Myles McArthur
Junior 7/8 Biotechnology
Hillfield Strathallan College, IND

PROJECT LISTING (Continued)

K07 World of Yeast: Controlling Yeast Growth

Zarif Zaman, Tahmidur Rahman
Junior 7/8 Biotechnology
Hess Street, HWDSB

K08 You can't hide from the blue glow

Madeleine Paul
Junior 7/8 Biotechnology
St. Mary Elementary School, HCDSB

K09 GMO: future or failure

Andrew Elgersma, Isaac Whitehead
Junior 7/8 Biotechnology
Calvin Christian School (Hamilton),
IND

K10 Development of a portable system for rapid and sensitive detection of bacteria using DNA-based biomarkers

Neha Gupta
Junior 7/8 Biotechnology
Sir William Osler, HWDSB

K11 Substitutes For Dirt

Kennedy Bee, Mateo Garraway
Junior 7/8 Biotechnology
Escarpment View Public School,
HDSB

K12 Painless and Effective: Microneedle Vitamin Delivery

Tomas Stojanovic
Intermediate 9/10 Biotechnology
Orchard Park Secondary School,
HWDSB

K13 Synthesis and Analysis of Methanol Based Jatropa and Canola Biodiesel

Mervin Thomas
Senior 11/12 Biotechnology
King's Christian Collegiate, IND

K14 Like, Comment, Subscribe

Iman Mahmood, Justine Renaud
Junior 7/8 Health Sciences Human
John William Boich Public School,
HDSB

K15 Which Organic Pesticide Works Best?

Hiba Fatima, Fiona Hall
Junior 7/8 Biotechnology
Escarpment View Public School,
HDSB

K16 Mold Growth!

Matthew Spina, Hayden Hartley
Junior 7/8 Biotechnology
Escarpment View Public School,
HDSB

K17 The Effect of Tesla Coil Radiation on Cells

Leanne Johnson, Milica Kljajic
Intermediate 9/10 Biotechnology
Glendale, HWDSB

K18 Do Horror Movies Affect Blood Pressure?

Josh Mahavongthapanya
Junior 7/8 Health Sciences Human
Escarpment View Public School,
HDSB

K19 Chewing Gum VS Listening To Music VS Nothing

Enuri Dissanayake, Sarah Shikaze
Junior 7/8 Health Sciences Human
Sunningdale Public School, HDSB

K20 Survival of the Fittest: How Cancer Adapts to Metabolic Stress

Rafael Gacesa
Intermediate 9/10 Health Sciences
Human
Hillfield Strathallan College, IND

K21 Online or Offline?

Ian Dekker
Junior 7/8 Health Sciences Human
St. Joseph, HWCD

L01 Energy from our streets

Mirna Aziz
Junior 7/8 Phys & Math Sci
St. Mary Elementary School, HCDSB

L02 Do Drills Equal Skills?

Ally Demik, Charlotte Teeuwesen
Junior 7/8 Health Sciences Human
Calvin Christian School (Hamilton),
IND

L03 Natural Thermal Insulators from Household Waste

Kaushihan Ahilan
Junior 7/8 Phys & Math Sci
Dalewood, HWDSB



PROJECT LISTING (Continued)

L04 MAKE IT COUNT

Madison Restauri, Grace Opsteen
Junior 7/8 Phys & Math Sci
St. Augustine, HWCD

L05 Magnetic Magic

Jaismir Dulay, Mansoor Hussaini
Junior 7/8 Phys & Math Sci
Tiger Jeet Singh Public School,
HDSB

L06 Durability of Tapes

Jake Storey
Junior 7/8 Phys & Math Sci
Our Lady of Victory Elementary
School, HCDSB

L07 The Lotus Effect

Charlie Wong
Junior 7/8 Phys & Math Sci
Lee Academy, IND

L08 Insane Hydraulic Crane

Darlyn Nguyen, Alias Nastos
Junior 7/8 Phys & Math Sci
Queen Victoria, HWDSB

L09 How Does Pipe Length Affect Pitch of Note

India Lawrence
Junior 7/8 Phys & Math Sci
Maple Grove Public School, HDSB

L10 Freezing Flavored Ice Cubes

Garrett Greene Summers
Junior 7/8 Phys & Math Sci
J. C. Hill Elementary, SNS

L11 Effects of humidity on electrostatic levitation

Thomas Lawford
Junior 7/8 Phys & Math Sci
Dalewood, HWDSB

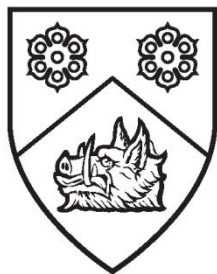
L12 Perpetual Motion Machine Experiment: The Overbalanced Wheel

Qiao (John) Huang, Hayden
Sommer-Ng
Junior 7/8 Phys & Math Sci
Maple Grove Public School, HDSB

L13 What Household Product Removes Coin Oxidation Best?

Paige Stanley
Junior 7/8 Phys & Math Sci
Escarpment View Public School,
HDSB

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PROJECT LISTING (Continued)

L14 Measuring The Speed of Light Using Microwaves

Will Assad
Intermediate 9/10 Phys & Math Sci
Hillfield Strathallan College, IND

L15 M&M vs. Skittles candy chromatography

Anna Maximova
Junior 7/8 Phys & Math Sci
Hamilton Academy of Performing Arts, IND

L16 Mpemba Wha?

Hareem Ahmad, Shalom Oladele
Junior 7/8 Phys & Math Sci
Escarpment View Public School, HDSB

L17 Liquid vs. Liquid - A Battle of Heat

Ayesha Nainar, Maya Syroid
Junior 7/8 Phys & Math Sci
Dalewood, HWDSB

L18 Aerodynamics Of A Quadcopter: Using Coding And Technology

Nazia Nusrat, Mariam Siyad
Junior 7/8 Phys & Math Sci
Queen Victoria, HWDSB

L19 Electrochemical Synthesis of Ammonia

Edward Lombo
Junior 7/8 Phys & Math Sci
St. Andrew Elementary School , HCDSB

L20 The Effect of Friction on Paper

Ghishawa Ishfaq
Junior 7/8 Phys & Math Sci
Al-Falah Islamic School, IND

L21 Burn and Learn

Julia Stayshyn
Junior 7/8 Phys & Math Sci
St. Augustine, HWCD

M01 Dissecting Dr. Nim

Miki Simkins
Junior 7/8 Eng & Comp Sci
Hillfield Strathallan College, IND

M02 You've Got S'mail

Reuben Zuidema
Intermediate 9/10 Eng & Comp Sci
Home Schooling, IND

M03 Roads Wet, Benches Dry.

Michael Chen, Jerron Zhang
Junior 7/8 Eng & Comp Sci
Dalewood, HWDSB

M04 From a Single Moment of Force to Sustainable Energy: Achieving Optimal Frequency for Piezoelectricity

Arielle Ainabe
Intermediate 9/10 Eng & Comp Sci
Garth Webb Secondary School, HDSB

M05 Can Magnets Power a Generator?

Kai Abdool, Eugene Tannikas
Junior 7/8 Eng & Comp Sci
St. Mary Elementary School , HCDSB

M06 Which Insulation Material Will Best Reduce Air Leakage to Efficiently Conserve Heat

Maryam Chaudhry
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

M07 Which Metal is Most Resistant to Rust?

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

M08 Light it and Bright it- making electricity from air and saltwater

Ashwin Unnithan
Junior 7/8 Eng & Comp Sci
Our Lady of Peace, HWCD

M09 ThumbLock

Charlotte Bloor, Julia Lupton
Junior 7/8 Eng & Comp Sci
St. Mary Elementary School, HCDSB

M10 Baby Proof Me

Keegan Skye, Breanna Stewart
Junior 7/8 Eng & Comp Sci
I. L. Thomas Odadrahonyanita, SNS

M11 The Power Of Sound

Ali Jumani
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

M12 Pneumatic Engine

Kassandra Almas, Shane Williams
Junior 7/8 Eng & Comp Sci
Caledonia Centennial Public School, GEDSB

M13 Fatigue Free Throws

Andrew Jung, Eli Schat
Junior 7/8 Phys & Math Sci
Calvin Christian School (Hamilton), IND

M14 What Affects the Flight of a Paper Airplane?

Tyler Steptoe
Junior 7/8 Phys & Math Sci
Our Lady of Victory Elementary School , HCDSB

M15 The Effect of Heat and Thermal Conductivity of Disparate Metals

Zainab Nauman
Junior 7/8 Phys & Math Sci
Al-Falah Islamic School, IND

M16 Circuits

Mattia Vieira
Junior 7/8 Phys & Math Sci
St. Mary Elementary School, HCDSB

M17 The Marvellous Materials: Strength of Materials by Young's Modulus

Tanisa Bakht, Najiat Chaklader
Junior 7/8 Phys & Math Sci
Hess Street, HWDSB

M18 Music and its effect on concentration

Alessia Solano
Junior 7/8 Phys & Math Sci
St. Therese of Lisieux, HWCD

PROJECT LISTING (Continued)

M19 The Hyperloop: The Future of Transportation?

Angad Deshpande
Intermediate 9/10 Phys & Math Sci
Ancaster High, HWDSB

M20 The Big Swing

Michael Ballantyne
Junior 7/8 Phys & Math Sci
Regina Mundi, HWCD

M21 Marblelous Coaster

Leo Munisteri, Mark Pagliuso
Junior 7/8 Phys & Math Sci
Immaculate Heart of Mary, HWCD

N01 Go HHO!

Ethan Van Adel
Junior 7/8 Eng & Comp Sci
Hillfield Strathallan College, IND

N02 Can the Theory of Garage Doors and Folding Doors be Used to Create A Dock?

Andrew Probert
Junior 7/8 Eng & Comp Sci
Maple Grove Public School, HDSB

N03 Regulating Temperature with the Peltier-Seebeck Effect

Ellie Xu
Intermediate 9/10 Eng & Comp Sci
Garth Webb Secondary School, HDSB

N04 Drone Delivery: From your phone, to your home, via drone

Charlie Bontis, Troy Line
Junior 7/8 Eng & Comp Sci
Hillfield Strathallan College, IND

N05 Be safe in the sun wearable uv detecting button

Ellie McGowan-Hill
Junior 7/8 Eng & Comp Sci
St. Mary Elementary School, HCDSB

N06 Liquid cooling system

Jacob Mcpherson, Tyler McIntosh
Junior 7/8 Eng & Comp Sci
Caledonia Centennial Public School, GEDSB

N07 The Talker App

Taylor Pontet-DaSilva
Junior 7/8 Eng & Comp Sci
St. Mary Elementary School, HCDSB

N08 Volume Up- Science of Sound with an Acoustic

Tatyana Okanlomo
Junior 7/8 Eng & Comp Sci
Appleby College, IND

N09 Personal Hydro-Electric Generator

Emma Martino
Junior 7/8 Eng & Comp Sci
St. Margaret Mary, HWCD

N10 Pedal Your Way to Power

Shaun Brennan
Junior 7/8 Eng & Comp Sci
Calvin Christian School (Hamilton), IND

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PROJECT LISTING (Continued)

N11 Increasing the Efficiency of Batteries through Temperature Control

Joshua Poon
Senior 11/12 Eng & Comp Sci
King's Christian Collegiate, IND

N12 Memory vs Font

Reese Clements, Gwen Roch
Junior 7/8 Eng & Comp Sci
St. Augustine, HWCD

N13 Sound Vibes

Isabela Jumao-as, Mahek Patel
Junior 7/8 Eng & Comp Sci
Tiger Jeet Singh Public School,
HDSB

N14 The No Sound Alarm

Matthew Goehner, Kai Sullivan
Junior 7/8 Eng & Comp Sci
John William Boich Public School,
HDSB

N15 The Effect of Heat on Deformed Nitinol Wire

Malaika Menon
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

N16 Wearable Technology and IoT

Joseph Saturnino
Junior 7/8 Eng & Comp Sci
St. Margaret Mary, HWCD

N17 Do You Feel the Heat

Nichole Fajardo
Junior 7/8 Eng & Comp Sci
St. Joseph, HWCD

N18 Typing Electricity

Mete Koc, Andres Concha
Junior 7/8 Eng & Comp Sci
Maple Grove Public School, HDSB

N19 Which building material can stand up the best against acid rain?

Aisha Chaudhry, Amna Siddiqui
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

N20 Gloves of the Future

Isabella Micci, Giovanni Kohlberger
Junior 7/8 Eng & Comp Sci
St. Francis Xavier, HWCD

N21 Seeing the Light: Cold Driven Seebeck Effect to Power Emergency Beacons

Kepler Pyle
Junior 7/8 Eng & Comp Sci
Our Lady of Mount Carmel, HWCD

P01 Exploring Clouds

Grace White, Samantha Glenn
Junior 7/8 Earth & Env Sci
Guy B. Brown, HWDSB

P02 Solar Mill

Giulia Pirrera, Gabriela Pagliari
Junior 7/8 Earth & Env Sci
St. Francis Xavier, HWCD

P03 Water Filtration

Amy Sandy, Aiyana Jonathan
Junior 7/8 Earth & Env Sci
Oliver M. Smith Kawennio:io, SNS

P04 The Impacts of Ocean Acidification on Calcifying Organisms

Riddhi Bhatt
Senior 11/12 Earth & Env Sci
Assumption College School, BHNCD

P05 The Power of Mud V2.0: Using Microbial Fuel Cells to Generate Electricity and to Charge a 1.5V Battery

Samuel Coleman, Caleb Wong
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

P06 Sailing the Cosmos

Jaden Van Oosterhout
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

P07 A New Way to Sort Information

Rico Zhu
Junior 7/8 Eng & Comp Sci
Maple Grove Public School, HDSB

P08 Up The Creek With The Correct Paddle

Joshua Sienna
Junior 7/8 Eng & Comp Sci
St. Augustine, HWCD

P09 Energy Down The Drain

Nimrit Dhillon
Junior 7/8 Eng & Comp Sci
Appleby College, IND

P10 The "Helical Water Coil": A Residential and Commercial Thermoelectric Generator

Paul Drakos
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

P11 The Effect of Salinity of Water on the Oxidation of Different Metals

Rizvan Ahmed
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

P12 The Vocal Visualizer

Dushan Veljkovic, Marko Curgus
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

P13 The Effect of Cleaning Solutions on Oxidized Iron

Nasrin Musa
Junior 7/8 Eng & Comp Sci
Al-Falah Islamic School, IND

P14 Creating a Low-Cost and Efficient Atmospheric Water Generator

Rishi Popuri
Intermediate 9/10 Eng & Comp Sci
Hillfield Strathallan College, IND

P15 Synthesis of ZnO Nanorod Thin Films for Thermoelectric Energy Conversion

Andres Lombo
Senior 11/12 Eng & Comp Sci
St. Thomas Aquinas Secondary
School, HCDSB

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PROJECT LISTING (Continued)

P16 Future of Fuels: The Thermodynamics of Coffee oil

Zeena Abdi omer, Janirur Jayatunge
Junior 7/8 Eng & Comp Sci
Hess Street, HWDSB

P17 Auto Waterer

Natasha McIntyre, Victoria
Mahlmann
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

P18 BCI- Brain Computer Interface — A Novel method to detect neural network using Dynamic Electromagnetic Resonance; Revolut

Ahmed Ibrahim
Senior 11/12 Eng & Comp Sci
Glendale, HWDSB

P19 Gears for the Rear

Seth Stortz, Ryan Moscardini
Junior 7/8 Eng & Comp Sci
St. Joachim, HWCD

P20 All Season Shovel

Max Medeiros, Eden, vasica,
Junior 7/8 Eng & Comp Sci
John William Boich Public School,
HDSB

P21 Which Nail Is Better

Isaac Brennan
Junior 7/8 Eng & Comp Sci
Aldershot Elementary, HDSB

Q01 Self Inflating Balloon

Christian Cappelli, Kevin Sos
Medeiros
Junior 7/8 Earth & Env Sci
St. Luke, HWCD

Q02 Swiftly Sweeping our World Away!

Jude Hynes
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

Q03 Clean Green

Keelan McVay
Junior 7/8 Earth & Env Sci
St. Mary Elementary School, HCDSB

Q04 Can Sand Grow Plants

Mark McCready
Junior 7/8 Earth & Env Sci
St. Bernadette Elementary School,
HCDSB

Q05 Colour My World

Katelyn Zwiers
Junior 7/8 Earth & Env Sci
Trinity Christian School, IND

Q06 Study on effectivity of plants filtering air

Shiza Hassan, Sudipta Samadder
Intermediate 9/10 Earth & Env Sci
White Oaks Secondary School,
HDSB

Q07 Plants VS Juglone

Hillary Power
Junior 7/8 Earth & Env Sci
Appleby College, IND

Q08 How does fabric softener affect the flammability of different fabrics?

Zainab Mehmood
Junior 7/8 Eng & Comp Sci
Sir Ernest Macmillan Public School,
HDSB

Q09 Dirt Free, Worry Free

Mimi Han
Senior 11/12 Earth & Env Sci
King's Christian Collegiate, IND

Q10 The Universal Solar Oven

Mikayla Schoner
Junior 7/8 Earth & Env Sci
Hamilton Academy of Performing
Arts, IND

Q11 Not A Drop To Drink

Jessica Benedict
Junior 7/8 Earth & Env Sci
St. Joachim, HWCD

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Supreme Ruler 1936
Supreme Ruler Cold War
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SR2010: Global Crisis
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PROJECT LISTING (Continued)

Q12 Are you Drinking Plastic

Sabrina Runco, Sarah Korah
Junior 7/8 Earth & Env Sci
Immaculate Conception, HWCD

Q13 Fresh as can be!

Talia Nicholls, Sydney Macey
Junior 7/8 Earth & Env Sci
Sunningdale Public School, HDSB

Q14 Garden Food vs Grocery Store Food

Erin Greene
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

Q15 The Biodegradation of Plastic and Bioplastic

Angel Lu
Junior 7/8 Earth & Env Sci
Appleby College, IND

Q16 The Paper Caper

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

Q17 Grow With The Flow

Connor McCourt
Junior 7/8 Earth & Env Sci
Oakville Christian School, IND

Q18 Eco Friendly Grey Water System

Alex Marinier, Ryan Williams
Junior 7/8 Earth & Env Sci
John William Boich Public School, HDSB

Q19 How to Create a Solar Oven

Sufyaan Kotwal
Junior 7/8 Earth & Env Sci
Al-Falah Islamic School, IND

Q20 Is Pool Water Killing Your Plants?

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

Q21 Rains & Roads

Kaylee Hill, Owen Hill
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

R01 Drinking Water Quality

Savanna Jackson
Junior 7/8 Earth & Env Sci
Immaculate Heart of Mary, HWCD

R02 How can the usage of water save more power than using it

Minseok KIM, Tyler Phillips
Junior 7/8 Earth & Env Sci
John William Boich Public School, HDSB

R03 Earthquakes don't kill people... Buildings do.

Corbin Sims
Junior 7/8 Earth & Env Sci
Alexander's Public School, HDSB

R04 Could Electricity be Produced by the Earth?

Claire Desormeaux
Junior 7/8 Earth & Env Sci
Escarpment View Public School, HDSB

R05 Air And Water : Pollution And pH

Rand Amer
Junior 7/8 Earth & Env Sci
Dalewood, HWDSB



CONGRATULATIONS
To all BASEF2017 participants and

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your endeavours!



We meet
Wednesdays at 7:15 AM
William's Fresh Cafe
47 Discovery Dr
Hamilton, ON L8L 8K4

PROJECT LISTING (Continued)

R06 A Solar Solution: The SunLight Purifier

Laura Legzdins
Junior 7/8 Earth & Env Sci
Montclair Public School, HDSB

R07 Take a Pass on Greenhouse Gas

David Ribkoff, Ethan Song
Junior 7/8 Earth & Env Sci
Oakville Christian School, IND

R08 Teiethinonhweraton ne onekahshona

Zoey Powless, Jewellz Hill
Junior 7/8 Earth & Env Sci
Oliver M. Smith Kawennio:io, SNS

R09 Analysis of Chloride in Water

Tabitha Gaynor, Mary Philopos
Senior 11/12 Earth & Env Sci
King's Christian Collegiate, IND

R10 Pervious Concrete and Stormwater Management

Azeem Khan
Intermediate 9/10 Earth & Env Sci
Hillfield Strathallan College, IND

R11 How soil affects the growth of green beans

Sydney Taylor, Rachel Majpruz
Junior 7/8 Earth & Env Sci
Guy B. Brown, HWDSB

R12 Carbon Dioxide Chemical Absorption

Jordon Roberts, Joshua Rampersad
Senior 11/12 Earth & Env Sci
King's Christian Collegiate, IND

R13 Ice Ice Baby / Which substance melts ice the fastest...salt, sand, or sugar.

Ruth Ann Bos
Junior 7/8 Earth & Env Sci
Calvin Christian School (Hamilton), IND

R14 Harnessing The Power Of Rivers

Devansh Kaloti
Intermediate 9/10 Earth & Env Sci
Hillfield Strathallan College, IND

R15 Can Nanotechnology clean up oil spills

Adyan Tanveer
Junior 7/8 Earth & Env Sci
Al-Falah Islamic School, IND

R16 Growing a Brownfield Solution: The Phytoremediation of Zinc-Contaminated Soil Using Brassica Juncea and Lolium

Madeline Welch
Intermediate 9/10 Earth & Env Sci
Hillfield Strathallan College, IND

R17 Plastics-Master of Economy

Naomi Duval, Nicole Planeta
Intermediate 9/10 Earth & Env Sci
King's Christian Collegiate, IND

R18 Micro windmill

Hussein Shireen
Junior 7/8 Earth & Env Sci
John William Boich Public School, HDSB

R19 Get Out Salt!

Jocelyn Mattka, Annelise Forbes
Junior 7/8 Earth & Env Sci
Hamilton Academy of Performing Arts, IND

R20 Star Trails and the Earth's Rotation

Jack Sampson, Keenan Weber
Junior 7/8 Earth & Env Sci
Maple Grove Public School, HDSB

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PROJECT LISTING (Continued)

R21 How temperature affects the corrosion of iron, copper, and aluminum when placed in salt water and bottled water

Mashal Nihal

Junior 7/8 Earth & Env Sci

Al-Falah Islamic School, IND

S01 Bug's off non-toxic bug repellent

Mackenzie Mckeage, Nicole Sonnlichler

Junior 7/8 Earth & Env Sci

St. Mary Elementary School , HCDSB

S02 New Paper, New Future

Jessie Fowler, Kyla Romachyk

Junior 7/8 Earth & Env Sci

John William Boich Public School, HDSB

S03 The Curious Case of UIV Resistance

Emmett Zych

Junior 7/8 Earth & Env Sci

Appleby College, IND

S04 Bean Beverages

Seoyeon Kim

Junior 7/8 Earth & Env Sci

Trinity Christian School, IND

S05 Acid Rain What a Pain!

James Benson, Liam Tasker

Junior 7/8 Earth & Env Sci

Immaculate Heart of Mary, HWCD

S06 Rogue Tomato: A Plant Wars Story

Thomas Jeneway, Hayden Lapko

Junior 7/8 Earth & Env Sci

Oakville Christian School, IND

S07 Water Filter Wars

Jomel Rodil

Junior 7/8 Earth & Env Sci

Immaculate Conception, HWCD

S08 Snow at Home

Addi Arnold

Junior 7/8 Earth & Env Sci

Hillfield Strathallan College, IND

S09 Water

Brody Simpson, Henry Klinck

Junior 7/8 Earth & Env Sci

W. H. Morden Public School, HDSB

S10 Exposing Laundry Detergent's Dirty Laundry: How Laundry Detergent Affects the Growth of Plants

Haidi Wu

Intermediate 9/10 Earth & Env Sci

Robert Bateman High School, HDSB

S11 FlashBoard 2.0

Transportation for the Future

Mathew Maradin

Intermediate 9/10 Earth & Env Sci

Hillfield Strathallan College, IND

S12 Vivaldi's Plants

Christiana Lammers

Junior 7/8 Earth & Env Sci

Trinity Christian School, IND

S13 Environmental Impact of Smoking

Sebastian Currie

Junior 7/8 Earth & Env Sci

Escarpment View Public School, HDSB

S14 Biodegradable Plastica

Veronia Hanna

Senior 11/12 Earth & Env Sci

King's Christian Collegiate, IND

S15 Wastewater Purification and Disinfection

Sandra Hanna

Senior 11/12 Earth & Env Sci

King's Christian Collegiate, IND



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*Paula Dawson
Director of Education*

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challenges*

PROJECT LISTING (Continued)

S16 Coast Nets

Katherine Shen
Junior 7/8 Earth & Env Sci
Escarpment View Public School,
HDSB

S17 Robo Weed Killer

Rachel Wu, Zoish Mujib
Junior 7/8 Earth & Env Sci
Escarpment View Public School,
HDSB

S18 Nanosilver: Spectacular or Scary? Investigating the Effects of Nanosilver on Juvenile Daphnia magna in Pond and Tap Wat

Anne Fu
Junior 7/8 Earth & Env Sci
Dalewood, HWDSB

S19 Cottage Lake Pollution ; The Human Effect

Olivia DiPaolo
Junior 7/8 Earth & Env Sci
John William Boich Public School,
HDSB

S20 A Helping Hybrid

Yusra Hassan, Sarah Saleh
Junior 7/8 Earth & Env Sci
P.L. Robertson Public School, HDSB

S21 Solving the water crisis, one drop at a time...

Daniel Ma
Junior 7/8 Earth & Env Sci
Appleby College, IND

T02 Grand River Water Effect

Madison YellowEagle
Junior 7/8 Earth & Env Sci
J. C. Hill Elementary, SNS

T03 It's A Jungle In There

Shantel Berrio
Junior 7/8 Earth & Env Sci
Immaculate Conception, HWCD

T04 Holey Concrete

Christopher Zanon
Junior 7/8 Earth & Env Sci
St. Francis Xavier, HWCD

T05 Contaminated To Clean

Michael Arruda, Nicolas Landers
Junior 7/8 Earth & Env Sci
St. Bernadette, HWCD

T06 The Power of Hydrogen

Mowa Ayibiowu
Junior 7/8 Eng & Comp Sci
Oakville Christian School, IND

T07 Sound Bored

Marcus Tjia, Travis fisher
Junior 7/8 Eng & Comp Sci
John William Boich Public School, HDSB

T08 Flying Higher

Alex Medrecki
Junior 7/8 Eng & Comp Sci
St. Luke, HWCD

T09 THE ECO MOTOR

AIVONA IBHAWOH
Junior 7/8 Eng & Comp Sci
St. Augustine, HWCD

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PROJECT LISTING (Continued)

T10 Wind Turbines

Anastasia Anastasakis
Junior 7/8 Eng & Comp Sci
St. Mary Elementary School, HCDSB

T11 Dam - Magnets

Maddison Dugas - Blank, Ashley
Cooper
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

T12 Coins Reloaded

Andrei Trasca
Junior 7/8 Phys & Math Sci
St. Joachim, HWCD

T13 Solid Mercury's Properties

Evan Popowich
Junior 7/8 Phys & Math Sci
St. Mark Elementary School, HCDSB

T14 Using X-Ray Data to Analyze Supernovas

Sabrina Stojanovic
Junior 7/8 Phys & Math Sci
Winona, HWDSB

T15 Properties and Potential Industrial Applications of Graphene

Joe Thomas
Senior 11/12 Phys & Math Sci
King's Christian Collegiate, IND

T16 Mud Power!

Jose Corral
Junior 7/8 Biotechnology
Burlington Christian Academy, IND

T17 What's Your Beef?

Declan Allan
Junior 7/8 Health Sciences Human
Oakville Christian School, IND

T18 Gaming Reward Systems and Addiction

Sophia Imran
Junior 7/8 Health Sciences Human
Escarpment View Public School, HDSB

T19 Genetically Engineering the Future

Graham Morrison, Adam Zielinski
Junior 7/8 Health Sciences Human
Alexander's Public School, HDSB

T20 Targeted Therapies: The Key In Cancer Treatment?

Tharani De Silva, Ella Jackson
Junior 7/8 Health Sciences Human
St. Joseph, HWCD

T21 Empathetic Generation?

Gina Giovannetti
Junior 7/8 Health Sciences Human
St. James the Apostle, HWCD

T22 Everyday Conversation: How Do We Lie?

Sarah Walker, Maya Clapperton
Junior 7/8 Health Sciences Human
Guy B. Brown, HWDSB

T23 Milk-Tastic Plastic

Thomas Millar
Junior 7/8 Life Sciences Non-Human
Immaculate Heart of Mary, HWCD

T24 Sick of School

Taylor Wilson
Senior 11/12 Life Sciences Non-Human
North Park Collegiate and
Vocational School, GEDSB

U01 Prevent Data Theft

Arya Pisharody
Junior 7/8 Eng & Comp Sci
John William Boich Public School, HDSB

U02 Don't FEAST On Your FLEECE

Sabrina Mogus
Junior 7/8 Eng & Comp Sci
Emily Carr Public School, HDSB

U03 CO2 Garage Vacuum

David Vidican
Junior 7/8 Eng & Comp Sci
St. Matthew Elementary School, HCDSB

U04 Recapturing Waste Energy from a Natural Gas Furnace using Thermoelectric Technology

Benjamin Waldie
Intermediate 9/10 Eng & Comp Sci
King's Christian Collegiate, IND

U05 The Deco-Vac

Lina Lukavicius, Cynthia Min
Junior 7/8 Eng & Comp Sci
St. Joseph, HWCD

U06 Vapor Compression Distillation (VCD)

Vishwak Turaga
Senior 11/12 Eng & Comp Sci
Garth Webb Secondary School, HDSB

U07 From Coast to Coast: Improving Electric Vehicle Range and Safety Via Intelligent Coasting Energy Recovery

Michael Wolfe
Intermediate 9/10 Eng & Comp Sci
King's Christian Collegiate, IND

U08 The crystal radio

Christian Cortina
Junior 7/8 Eng & Comp Sci
Immaculate Heart of Mary, HWCD

U09 Wound 4 Sound

Daniel Bonomo
Junior 7/8 Eng & Comp Sci
Immaculate Heart of Mary, HWCD

U10 A Technological Travel Solution For The Visually & Hearing Impaired

Riya Karumanchi, Heather Thomas
Junior 7/8 Eng & Comp Sci
Alexander's Public School, HDSB

U11 Voice Interactive Personal Assistant for Cognitive Impairment

Thomas Habicht
Senior 11/12 Eng & Comp Sci
Home Schooling, IND

PROJECT LISTING (Continued)

U12 Will a device run by a Raspberry Pi 3 help improve the safety in a visually-impaired person's home?

Mehak Khangura
Junior 7/8 Eng & Comp Sci
Escarpment View Public School,
HDSB

U13 Catch the Wave: Harnessing Electricity from Sinusoidal Oscillations in Aqueous Environments

Caroline Mahut
Senior 11/12 Eng & Comp Sci
M. M. Robinson High School, HDSB

U14 GEARS: Gravitational Electricity Accumulating Renewable Storage

Monica Mahut
Intermediate 9/10 Eng & Comp Sci
M. M. Robinson High School, HDSB

U15 Can Anyone Make a Video Game

Alden Panicker
Junior 7/8 Eng & Comp Sci
St. Joachim, HWCD

U16 NEWT: New Efficient Wind Turbine

Stefanie Mahut
Junior 7/8 Eng & Comp Sci
Rolling Meadows Public School, HDSB

U17 G - GLOVE: An Environmentally Friendly and Cost Effective Alternative to Present Day Surgical Gloves

Jack Mogus
Senior 11/12 Eng & Comp Sci
Garth Webb Secondary School, HDSB

U18 Renewing Energy

Thomas Stickland, Chen Qing
Junior 7/8 Eng & Comp Sci
Rotherglen School (Oakville), IND

U19 Effect of Voltage and Current on the Production of Hydrogen Using Electrolysis

Ahmed Syed
Junior 7/8 Earth & Env Sci
Al-Falah Islamic School, IND

U20 Power from Above

Damian Botbol, Mark Roman
Junior 7/8 Earth & Env Sci
Immaculate Conception, HWCD

U21 It's a Salty Situation

Darian Ellis
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

U22 Mud Power

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

U23 One Step at a Time

Julie Taylor, Olivia Calbeck
Junior 7/8 Earth & Env Sci
Hillfield Strathallan College, IND

U24 Climate change vs Tornado size

Haroon Chughtai, Zaeem Farhan
Junior 7/8 Earth & Env Sci
Escarpment View Public School, HDSB

U25 Radioactivity in your home

Roshan Dayananda
Junior 7/8 Earth & Env Sci
Dalewood, HWDSB

U26 The Crazy World of Plants

Sam Hayduk, Christian Shemilt
Junior 7/8 Earth & Env Sci
Adelaide Hoodless, HWDSB



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SPECIAL AWARDS – 2017

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



Alectra Utilities Corporation Awards

Prize: Three awards of \$300 each

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

ArcelorMittal Dofasco Awards

Central Trades & Services Department Award

Prize: \$100

Criteria: Project that best displays the use of scientific principles in applying technology for the betterment of people or machines.

Chemical Testing Award

Prize: \$100

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

Commercial Department Award

Prize: \$100

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

Engineering Award

Prize: \$100

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

Environmental 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 & 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.

Ironmaking Award

Prize: \$100

Criteria: Project that best displays the use of Metallurgical or Material Science principles 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.

SPECIAL AWARDS (Continued)

ArcelorMittal Dofasco Awards (continued)

Product Development Business Process Award

Prize: \$100

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

Market Development and Product 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.

Research and Development Award

Prize: \$100

Criteria: Project that best displays investigative research & scientific principles to explore or solve a technical problem.

Steelmaking Award

Prize: \$100

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

Transforming Tomorrow Award

Prize: \$1,000

Criteria: A project displaying rigorous scientific or engineering methods that investigates steelmaking processes or steel products.

Artistically Inspired Display Awards

Prize: Two awards of \$50 each

Criteria: To the most artistically inspired display.



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Best Wishes to all BASEF 2017



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SPECIAL AWARDS (Continued)



Association for Iron & Steel Technology Northern Chapter Awards

Prize: Two awards 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.

Dr. Laura Blew Social Sciences Awards

Prize: Two awards of \$50 each

Criteria: Best two social science based projects.

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

Prize: Two awards of \$100 each

Criteria: Outstanding projects relating to mining, metallurgy and petroleum, any level.

Canadian Nuclear Society (Golden Horseshoe Branch) Awards

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

Criteria: Projects relating to nuclear science and engineering, energy research, or climate sciences.

Chemical Institute of Canada - Hamilton Section Awards

Prize: Three awards of \$100 each

Criteria: Projects relating to chemistry, chemical engineering, or chemical technology.

Doris Casey and Gwen Nicolls Disability Solutions Awards

Prize: Two awards of \$100 each

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

Conservation Halton Awards

Prize: Two awards of \$100 each

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



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SPECIAL AWARDS (Continued)



Dillon Consulting Limited

Science and Engineering Award

Prize: \$250

Criteria: Project showing excellence in science and/or engineering.

Biological Sciences Award

Prize: \$250

Criteria: Project showing excellence in biological sciences.

Dr. M. Doyle Biology Award

Prize: \$200, a plaque, and a trophy for the winner's school

Criteria: Best biology project.

Electrical Construction Association of Hamilton Awards

Prize: Two awards of \$250 each

Criteria: Projects displaying the best and safest use of electricity in the most creative manner.

Farncombe Family Digestive Health Research Awards

Prize: Two awards of \$250 each

Criteria: Projects that explore digestive health, related diseases or general family nutrition through experimentation or in depth literature.

Gowling WLG Innovation Awards

Grand Winner

Prize: \$300. The prize includes a complimentary consultation with a patent or trademark agent at the Gowling WLG Hamilton office.

Criteria: Best project demonstrating potentially patentable subject matter.

Runner Up

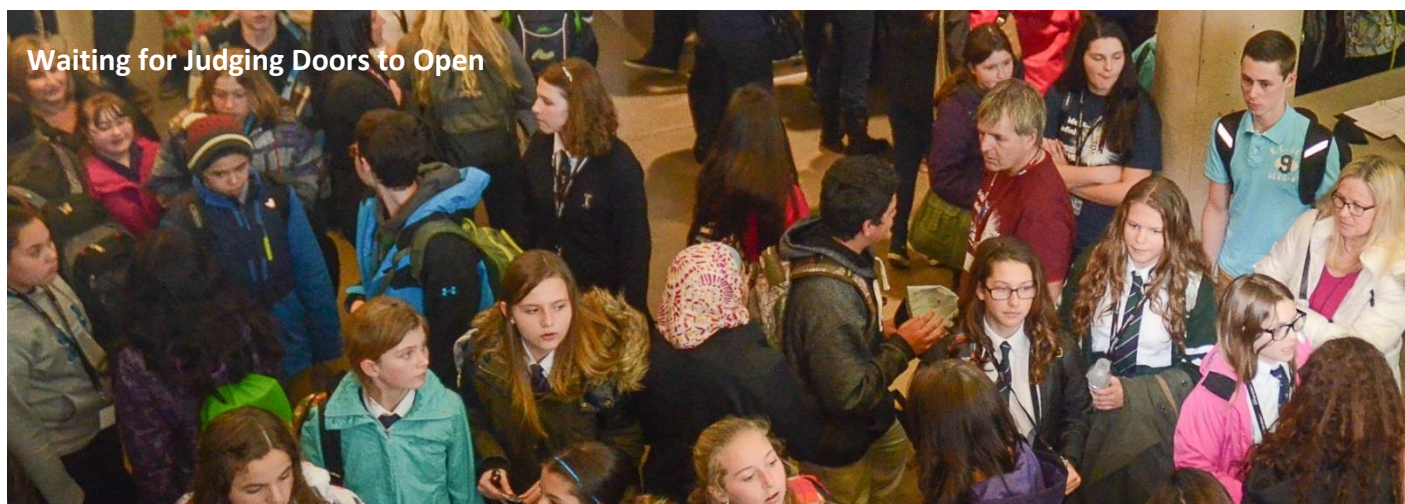
Prize: \$200

Criteria: An excellent project demonstrating potentially patentable subject matter.

Hamilton Academy of Dentistry Award

Prize: \$200

Criteria: Intermediate or senior project 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.



SPECIAL AWARDS (Continued)



Hamilton Amateur Astronomers Award

James A Winger Award sponsored by the Hamilton Amateur Astronomers

Prize: \$200

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

Hamilton Association for the Advancement of Literature, Science & Art da Vinci Award

Prize: \$250

Criteria: The candidate who best combines personal initiative and creativity with a sound, demonstrated understanding of the scientific method.

Hamilton Chamber of Commerce Innovation Awards

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

Criteria: 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 Awards

Environment and Education Award

Prize: \$50

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

Healthy Lifestyles Award

Prize: \$50

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

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

Hillfield Strathallan College Awards of Excellence

Life Sciences Award

Prize: \$100

Criteria: Junior project that best displays excellence in life sciences.

Physical Sciences Award

Prize: \$100

Criteria: Intermediate project that best demonstrates an understanding of the scientific process in the physical sciences.

Innovation Award

Prize: \$100

Criteria: Senior project that best displays innovation related to environmental sciences or biotechnology.

John W. Howard Materials Research Award

Prize: \$100

Criteria: A project demonstrating innovation in engineering materials, especially concrete.

Indigenous Peoples of Canada Scientific Study Awards

Prize: 1st \$140, 2nd \$80, 3rd \$80

Criteria: For the application of established scientific methods to topics relevant to the culture, heritage or issues of the indigenous peoples of Canada.

IEEE (Institute of Electrical and Electronic Engineers) Hamilton Section Awards

Prize: Two awards of \$100 each

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

SPECIAL AWARDS (Continued)

International Science & Engineering Affiliated Fair Awards

Prize: Certificates

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

American Meteorological Society (2 awards)

Creative scientific endeavour in the areas of atmospheric and related oceanic and hydrologic sciences.

American Psychological Association

Outstanding research in psychological science in the category of behavioural and social sciences or any category related to psychology.

ASM Materials Education Foundation

Project demonstrating either the use of materials related concepts or a demonstration of some aspect of the materials paradigm.

Association for Women Geoscientists

Project done by a female(s) exemplifying a high standard of innovativeness and scientific excellence in the geosciences.

ASU Walton Sustainability Solutions Initiative (2 awards)

Projects which seeks innovative solutions to society's most challenging problems. Projects must convey intent to solve a complex problem that involves social justice, environment and economic prosperity.

Recognized students will also be nominated to enter for the Grand Prize, a trip to Arizona for the 2018 Sustainability Solutions Festival.

Intel Excellence in Computer Science

Additional Award: US\$200

Top winner in Computer Science category.

MU Alpha Theta

Most challenging, original, thorough and creative investigation of a problem involving mathematics.

Ricoh Americas Corporation

Project must have principles & technical innovations that offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses.

Society for Invitro Biology

Most outstanding Grade 11 project exhibiting in the areas of plant or animal in vitro biology or tissue culture.

Yale Science & Engineering Association

Most outstanding Grade 11 project in Computer Science, Engineering, Physics or Chemistry.



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SPECIAL AWARDS (Continued)

Dr. Colin J.L. Lock Memorial Chemistry Award

Prize: \$100

Criteria: The project demonstrating the best application of chemistry.

McMaster University Department of Chemistry and Chemical Biology Award

Prize: \$100

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

McMaster University Department of Chemical Engineering & Chemical Engineering Club Award

Prize: \$250

Criteria: An outstanding intermediate or senior project demonstrating aspects of chemical engineering, particularly in the fields of biomaterials, polymer science, process systems design, or water and energy systems.



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SPECIAL AWARDS (Continued)

McMaster University LEAP Award of Innovation

- Prize: Free registration to LEAP summer program for one session (July 4-14 or July 17-28 or July 31-August 11, 2017) valued at \$750-\$775.
- Criteria: An Intermediate or Senior project of a female participant that demonstrates creativity and originality. Prize must be claimed by April 14, 2017.

McMaster University Venture Award of Innovation

- Prize: Free registration to Engineering & Science Week 1 (July 4-7, 2017) valued at \$255.
- Criteria: A Junior project of a female participant that demonstrates creativity and originality. Prize must be claimed by April 14, 2017.

Mechanical Contractors Association of Hamilton Award

- Prize: \$250
- Criteria: Best engineering project at the intermediate or senior level.

Mohawk College Building & Construction Sciences Awards

Civil Engineering Award

- Prize: \$50
- Criteria: Project related to the field of civil engineering.

Transportation Engineering Award

- Prize: \$50
- Criteria: Project related to planning, design, or operation of any transportation mode or facility.

Building Sciences Award

- Prize: \$50
- Criteria: Project related to building sciences, building materials, or energy conservation in structures.

Mohawk College Electrical Engineering Technology Awards

Electrical Engineering Award

- Prize: \$50
- Criteria: A deserving project in electrical engineering studies.

Energy Systems Award

- Prize: \$50
- Criteria: A deserving project in energy systems.

Computer Engineering Technology Award

- Prize: \$50
- Criteria: A deserving project in computer science and information technology.

Mohawk College Mathematics Awards

- Prize: Two awards of \$50 each, one at the Junior and one at the Senior level.
- Criteria: Deserving projects in the category of mathematics or statistics.

Nelson Steel Awards

- Prize: Two awards of \$50 each
- Criteria: Outstanding projects at the junior level related to two of the following fields: Steel, Environmental or Chemistry.

New Health Scientist Award

- Prize: \$50
- Criteria: A worthy project at the Junior level showing good potential for improving the health of our community.

SPECIAL AWARDS (Continued)

Nikola Tesla Innovation Awards

Prize: Gold \$250, Silver \$150, Bronze \$100

Criteria: Projects which best display the most innovative application of the body of knowledge associated with Nikola Tesla's work, and/or acknowledgement in the display of Nikola Tesla's contribution by way of his work and inventions.

Nikola Tesla Honourable Mention Awards

Prize: Up to 40 awards of \$25 each

Criteria: Projects with electricity as a key element.

Primary Fluid Systems Awards

Prize: Twenty awards of \$100 each

Criteria: Outstanding projects in Earth and Environmental, Engineering or Physical Sciences categories, any level.

Procor Engineering Awards

Prize: Junior \$50, Intermediate \$100, Senior \$150

Criteria: Excellent engineering projects.

Professional Engineers of Ontario - Hamilton/Burlington Chapter Awards

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

Criteria: Deserving, exceptional, outstanding projects in engineering at any level.

National Engineering Month Prize for Exceptional Engineering Innovation

Prize: \$500

Criteria: To be awarded to the project that best exemplifies innovation in engineering applied to scientific discovery.

Professional Engineers Ontario - Oakville Chapter Awards

Prize: Three awards of \$100 each

Criteria: Deserving engineering projects - one at each level.

The Research Institute at St. Joe's Hamilton, Health Research Award

Prize: One \$100 award at the intermediate level, and one \$50 award at the junior level

Criteria: Outstanding projects that use strong scientific principles in exploring or solving a problem related to human health issues and communicates the results of their project through an effective visual display.

Rotary Club of Hamilton-East Wentworth Awards

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

Criteria: Best three projects from schools situated in the Hamilton core displaying high academic achievement and striving to excel in science and technology.



JOHN DEERE

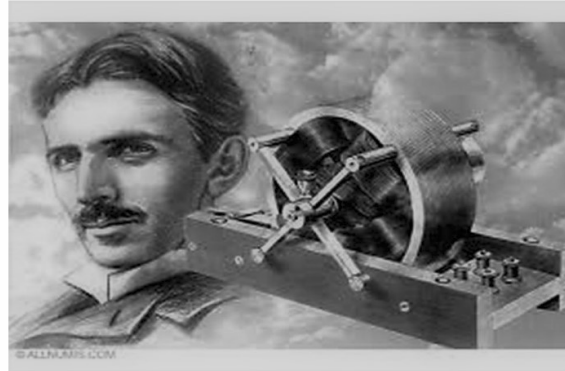


NTEC is proud, for the 3rd year, to be a sponsor for BASEF

BASEF 2017: NTEC is PLATINUM sponsor and will award over 40 special awards in the name of Nikola Tesla.

OUR MISSION:

To educate the public about Nikola Tesla's work and to inspire the youth to understand his work. Furthermore, Tesla's life is a catalyst to encourage our youth to pursue his innovative spirit and higher education.



NTEC has:

- Uncovered Hamilton's History as the 1st major Canadian City to receive AC Electricity – August 25, 1898
- Renamed a section of Burlington Street to Nikola Tesla Blvd and paid 100% of costs,
- Introduced the McMaster University – Nikola Tesla Scholarship in the amount of \$10,000 per year.
- Approved over 100 awards for BASEF and Grade 8 graduating students in Nikola Tesla's name for 2017.

NTEC future plans:

- "Name that School" – plans to submit a proposal to HWDSB to name the Hamilton North High School, "Nikola Tesla Secondary School", petition in progress seeking support and recognition
- Fund NTEC's share of the approved Public Art Project titled "Hamilton, the Electric City, Nikola Tesla and the 5 Johns" with a new campaign "X marks the Spot" along Waterfront Trails by Lakeview
- Introduce Nikola Tesla into Ontario school curriculum starting in Hamilton

Support NTEC goal to "Name that School"

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for **NIKOLA TESLA SECONDARY SCHOOL**



www.change.org/p/nikola-tesla-secondary-school

www.teslaeducational.ca

www.facebook.com/teslaeducational

Contact: info@teslaeducational.ca

SPECIAL AWARDS (Continued)



Royal Botanical Gardens Award

- Prize: \$100 gift certificate from the RBG shop plus a 1 year RBG family membership
Criteria: Best project in plant or environmental sciences.

Dr. Nicola Simmons Award in Cognition Studies

- Prize: \$100
Criteria: An exemplary project in cognition studies.

SPIE - The International Society for Optics & Photonics Awards

- Prize: 1st US\$250, 2nd: US\$150, 3rd US\$100; to be requested by winners after the fair
Criteria: Best projects in optics or photonics where students apply optics or photonics technology, techniques or principles to his/her project.

Talkit.ca Computer Engineering Awards

- Prize: One award of \$100, and one award of \$50
Criteria: For outstanding projects using computer electronics or software that do not win a trip award.

Dr. Tunks Innovation Awards

- Prize: Two awards of \$100 each
Criteria: Most creative or innovative projects, any level.

120 King Street West Plaza Level Suite 507 Hamilton ON L8P 4V2
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**Congratulates all the
Participants and Award Winners of
BASEF 2017**

Small Business

The vast majority of members of the Hamilton Chamber of Commerce are small- and medium-sized business owners that have access to an incredible array of resources we deliver through a variety of affiliations, events and services

City Building

We share a vision of Hamilton being Canada's top mid-size city defined by talent, investment and quality of life

Thought Leadership

As Hamilton's oldest institution, the Chamber produces thought-provoking events and generates policy solutions by tapping into the collective knowledge and experience of our membership.

The BASEF 500 AWARDS



Eighteen projects* will win a \$500 prize

The "BASEF 500 Awards" 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 projects that win \$250 or less in other cash prizes.

* The winners must be first time recipients of these \$500 awards. 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



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SCHOLARSHIPS & INTERNSHIPS

SCHOLARSHIPS

McMaster University Faculties of Science & Engineering Entrance Awards

- Prize: Five \$500 tuition awards, to be redeemed upon acceptance of 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.

McMaster University Women in Engineering Entrance Awards

- Prize: Two \$500 tuition awards, to be redeemed upon acceptance of admission to the Faculty of Engineering. (Joint student winners will split the award).
- Criteria: Projects led by female students that demonstrate excellence in health sciences, science or engineering.

University of Ottawa Entrance Scholarship

- Prize: \$1,000 entrance scholarship applied to tuition fees upon being accepted into and registered in an undergraduate program in the Faculties of Engineering or Science at the University of Ottawa.
(In the case of a two-student project, each student will receive a \$500 admission scholarship if they register in appropriate undergraduate programs at the University of Ottawa).
- Criteria: The most deserving Senior project.

Hillfield Strathallan College Entrance Scholarship Award

- Prize: One \$5,000 entrance scholarship toward tuition fees, to be redeemed upon acceptance as a full time senior school student entering Hillfield Strathallan College in any of grades 9 to 11 for the 2017-18 academic year. (Will be awarded to both students in a team project – maximum \$10,000 value).
- Criteria: The best project demonstrating excellence in scientific learning with joy and purpose.

Mohawk College and Sheridan College – Award of Excellence Tuition Scholarships

- Prize: Mohawk College and Sheridan College will provide a \$500 scholarship. 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.
- Criteria: All BASEF 2017 Merit Award Medal (Gold, Silver, Bronze) winners will earn this scholarship

INTERNSHIPS

EcoSynthetix Internship Award

- Prize: A 10-week paid summer internship to work under the guidance of one of EcoSynthetix's senior scientists at the EcoSynthetix Centre of Innovation, Burlington, valued at \$5,000.
- Criteria: A deserving project by a Grade12 student in one of the following fields: Chemistry, Chemical Engineering or Materials Science.

Michael G. DeGroot Institute for Infectious Disease Research Internship Award

- Prize: A 6-week paid summer internship as a research assistant in a laboratory at the Michael G. DeGroot Institute for Infectious Disease Research at McMaster University, valued at \$2,000. Two runner-ups will be identified and given a certificate.
- Criteria: Best senior student project in infectious disease, drug discovery or human health

**Congratulations to all students
At BASEF2017**



**We're proud to support the
Bay Area Science & Engineering Fair**

Discover McMaster

Founded in 1887, McMaster University is one of only four Canadian universities consistently ranked in the Top 100 in the world.

A medical-doctoral, research-intensive university, McMaster is dedicated to teaching, learning and service. In the 1960s, we pioneered the problem-based approach to learning that came to be known around the world as "the McMaster model".

Home to more than 70 research centres and institutes, McMaster is comprised of six faculties: The DeGroote School of Business, and the Faculties of Engineering, Health Sciences, Humanities, Science, and Social Sciences.

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**Come.. Discover us at
www.mcmaster.ca**



*“Somewhere,
something incredible
is waiting to be known”*

Carl Sagan



PRIMARY FLUID SYSTEMS INC.

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Proud sponsor of BASEF's Merit Awards since 2004.

MERIT AWARDS

Sponsored by Primary Fluid Systems Inc.



Merit Awards recognize the tremendous amount of thought and effort that has gone into the projects entered in the Bay Area Science and Engineering Fair. They are the result of an extensive judging process undertaken by over 175 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.

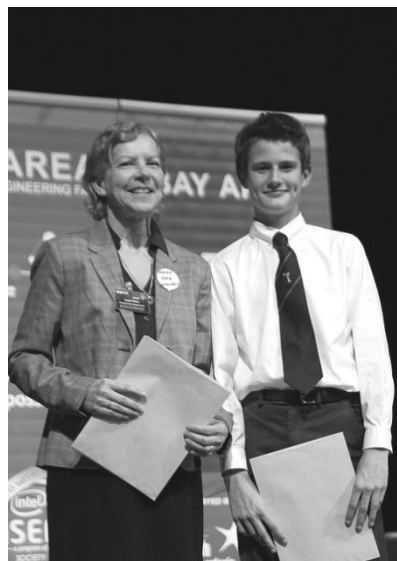
The Awards are issued to projects that meet the following criteria:

For Junior, Intermediate and Senior levels in:

- Health Sciences (Human)
- Life Sciences (Non-human)
- Physical and Mathematical Sciences
- Biotechnology
- Engineering and Computing Sciences
- Earth & Environmental Sciences

Scoring:

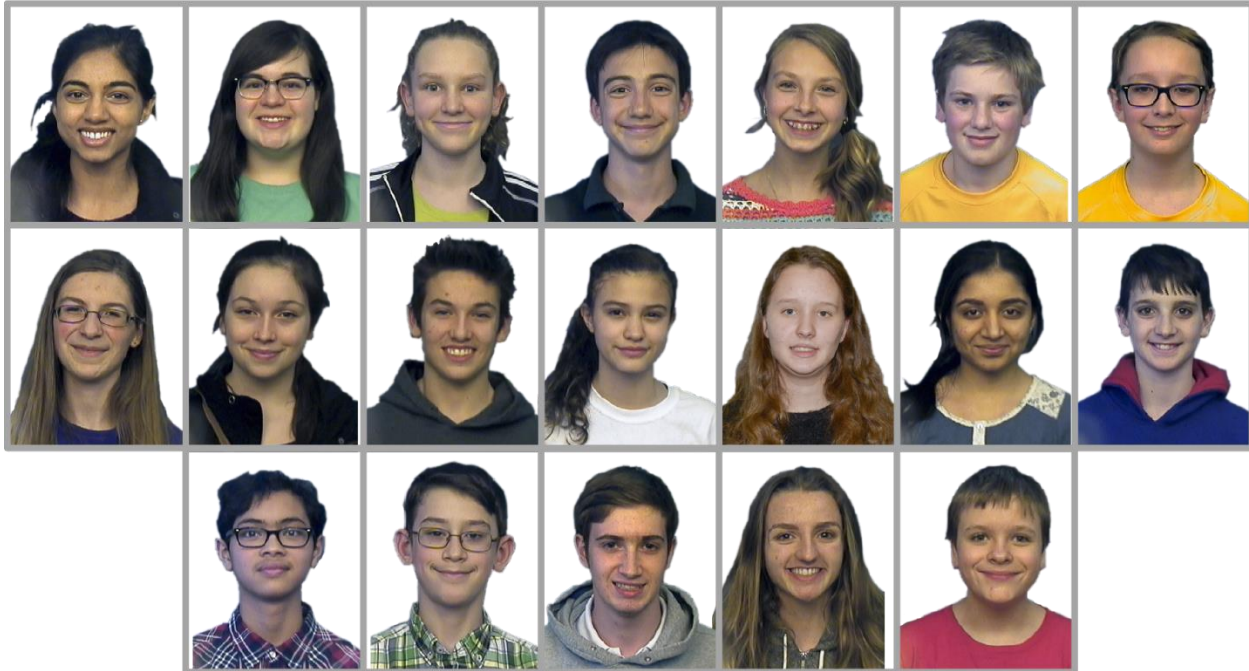
over 90%	earns Gold medal & cash award
over 80%	earns Silver medal & cash award
over 75%	earns Bronze medal & cash award





Thanks to our sponsors we're going places!

2016 National & International Science Fair Competitors



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

Images courtesy of *Lifetouch Canada*

**Congratulations
to all Student Participants
at BASEF 2017**



Sales: 1 (877) 552-2711 Service: 1 (877) 545-2139 Parts: 1 (888) 700-4274
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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.

Best-in-Fair \$1000



2nd Best-in-Fair \$800



3rd Best-in-Fair \$500



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

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

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



Advancement to the 2017 Intel International Science & Engineering Fair, to be held in Los Angeles, California from May 14 to 19, 2017. All trip expenses paid.

Up to 5 projects (depending on funding level) 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 2017 Canada Wide Science Fair (all trip expenses paid), to be held in Regina, Saskatchewan from May 15 to May 20, 2017.

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

All projects entered in BASEF 2017 are eligible.



Regina 2017

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