

Bay Area Science & Engineering Fair March 24 to March 27, 2010 McMaster University







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Big ideas Infinite possibilities



OUR CONGRATULATIONS TO ALL YOU FUTURE EINSTEINS, NEWTONS AND CURIES

Congratulations to all participants of the Bay Area Science and Engineering Fair. We know you spent long hours building, calculating, researching and testing to get here. OPG is fascinated by science like you are and we're proud to cheer on the scientists of tomorrow.



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THANKS TO:

Cover design for BASEF 2010 Official Fair Program courtesy of Silvia A. Reynaga Original design of our BASEF 50th Anniversary Logo by Brooke Crawford Fair Program printed courtesy of ArcelorMittal Dofasco

Bay Area Science and Engineering Fair c/o Mohawk College 135 Fennell Ave West, Room F175 Hamilton, Ontario L8N 3T2 BASEF 2011 Mohawk College March 23 to March 26, 2011



mail:basef@basef.caweb site:www.basef.ca

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McMaster University welcomes you to the 50th Annual Bay Area Science & Engineering Fair

www.mcmaster.ca





A MESSAGE FROM THE BASEF CHAIR Ray Kranyak



This is the 50th consecutive year of operation for the Bay Area Science and Engineering Fair (BASEF). This year marks a half century milestone of dedicated people being part of the BASEF organizing committee following the same mission: 'to encourage young people in science and engineering'. This year is a truly special year as we hold the 50TH BASEF in McMaster where the BASEF held their first competition under the name Hamilton District Science and Engineering Fair.

During this our 50th Anniversary year, it is also appropriate to note the passing of Roy

Middleton, former circulation manager of the Hamilton Spectator. Roy was instrumental in founding BASEF's pre-cursor, the Hamilton District Science & Engineering Fair. This legacy lives on in BASEF's award for the top junior project at the Fair.

BASEF continues to be a completely volunteer driven registered charity. I would like to acknowledge the tremendous efforts of this year's Organizing Committee members. They have met every month since September and have spent many more hours working individually on their own tasks. Many will have taken personal holidays from their own full time jobs for this week of the Fair. No wonder BASEF is Canada's I#1 Regional Science Fair. They are all amazing volunteers. Please thank them whenever you get the chance. It is people like them that make this fair a long standing success.

A very sincere thank-you to our Honourary Co-Chairs, Joyce Savoline, Member of Provincial Parliament and Urban Issues & Housing Critic, and Hamilton Mayor Fred Eisenberger who continue the tradition of community support to our cause and promote our students whenever they get the opportunity to do so.

A special thank-you is given to the over 200 professionals who served as this year's Merit and Special Awards Judges. These dedicated individuals devoted a full day of their time to meet, encourage and speak with the student exhibitors about their projects.

We are extremely proud that ArcelorMittal Dofasco continues to invest in the leaders of tomorrow through its Community Strength campaign by continuing as the fair's title sponsor for a fifth year. I would also like to thank the 10 new sponsors and 28 returning sponsors who make it possible for BASEF's students to excel in science and engineering. Please support our sponsors wherever possible. Thank you also to our Special Awards donors. This year over the total value of merit awards, special awards, scholarships and trip awards is expected to top \$140,000. As part of our 50th Anniversary celebrations we are recognizing individuals donating to the Fair as "Benefactors" named after prominent Canadian scientists and engineers.

Every year the host site for BASEF plays a critical role in our success. I must extend a very special thank you to the staff of McMaster University. It has taken the better part of a year to plan and stage BASEF 2010. McMaster has been with the organizing committee making every step of the journey easier and for this we are thankful.

Last but certainly not least, I thank the day-to-day volunteers, nearly 60 in total, who help us with running the activities such as project registration, safety checks and chaperoning Activity Morning over the four days of the Fair.

Students, (along with your parents, teachers and mentors) please recognize and enjoy the results of your hard work. Meet new friends, share this unique experience, and above all, capture the passion that will lead you to new research and discoveries of tomorrow. You are now part of the half century of BASEF Alumni. I congratulate each and every one of you all on a job well done and sincerely wish you all the best of luck.

Raymond T. Kranyak

Chairman, BASEF 2010





A MESSAGE FROM HONOURARY CO-CHAIR **Burlington MPP Joyce Savoline**

Congratulations to the participants in the Bay Area Science & Engineering Fair. You have dedicated your time and effort to this event and I look forward to seeing the fruits of your labour. I would also like to take this opportunity to thank all of the people who make this event possible each year; the BASEF committee members, the volunteers, the teachers, and the parents of the participants who together contribute to success of this event.

Now more than ever, science and technological advancements are key to Ontario's future success in a competitive global marketplace. The BASEF provides a wonderful opportunity for students to test their ideas and push the limits of the chosen field with ideas and projects that may one day change the world.

The BASEF event provides an excellent showcase for the talents of Ontario students and offers them a unique opportunity to realize success on a national and international level. I applaud the efforts of each entrant and I wish you every success today and in your future endeavors.

Kind regards,

yoyce Savoline

MPP -Burlington Co-Chair BASEF

Constituency Office: 44 -760 Brant Street Room 440, Burlington ON L7R 4B7 Tel: 905-639-7924 Fax: 905-639-3284



Queens Park Office: Main Legislative Building Toronto ON M7A 1A8 Tel: 416-325-5362 Fax: 416-325-5357

Hamilton-Halton Construction Association

www.hhca.ca



The Hamilton-Halton Construction Association is a non-profit organization serving over 440 members (builders and related professionals) who are actively engaged in the Industrial, Commercial, **Construction Association** Institutional (ICI) construction industry within the Hamilton and Halton areas.

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





A MESSAGE FROM HONOURARY CO-CHAIR Hamilton Mayor Fred Eisenberger

On behalf of the City of Hamilton, I am pleased to extend greetings to all in attendance at the *50th Annual Bay Area Science and Engineering Fair (BASEF)*, being held March 24th – 27th, 2010.

It is a true privilege for me to continue as Honourary Co-Chair for this exciting and creative educational event.

Our youth represents the future and I want to congratulate the organizers of BASEF for providing these students with the opportunity to showcase their scientific and engineering interests and innovations.

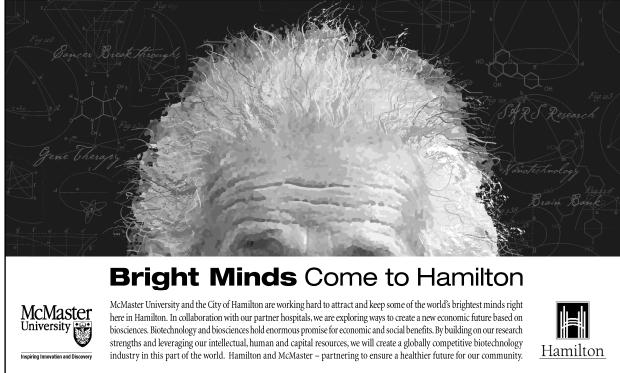
I would also like to acknowledge the hard work of the many parents, teachers, judges, organizers, volunteers and sponsors who have helped to make BASEF such a success year after year.

To all involved in this landmark 50th event, I applaud your commitment and dedication and wish you continued success in the future.

Sincerely,

Fred Eisenberger Mayor







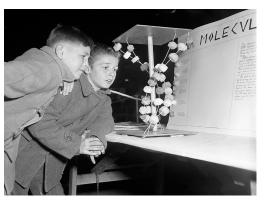
BASEF TURNS 50! Thanks to The Hamilton Spectator and our archives at the Hamilton Public Library for all these photos, and to our dedicated BASEF committee members, Wayne Bowdish, Jim Hamilton, Helen Barton and George Geczy for all their hard work and research into BASEF's history...Take a step back in time throughout our 2010 program and see how BASEF has changed over the years...

And our first fair was in 1961... sponsored by The Hamilton Junior Chamber of Commerce and The Hamilton Spectator. It was held at the Armouries on March 24-25, 1961. Only high school students participated in the fair in our early years.



Some very serious faces at the registration table!





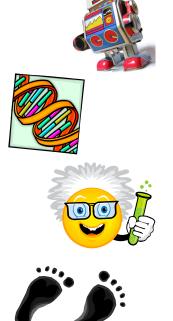
Two young students admire a project on molecules.

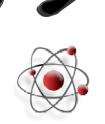


1960's phone technology!



Hey, what's under there?







A student shares his invention with others at the fair...



Fred Williams takes a close look at a student-made wind guage.

There were 12 Divisions in 1961: General Physics, Electronics, Nuclear Science, Chemistry, Botany, Health, Zoology, Geography, Physiography, Mathematics, Engineering (applied science) and Metallurgy.



BASEF 2010 SCHEDULE OF EVENTS Wednesday, March 24 - Project Setup

4:00-8:00 pm	Registration, set-up and safety checks	Smith and East Auxiliary Gymnasiums
Thursday, March 25 - St	udent Activities	
8:30 - 9:00 am 9:00 am 9:30 am 10:30am 11:15 am	Students Arrive for Activity Morning Predictive Services – IR Camera Demonstration McMaster - Fireball show McMaster - Chemistry Show The Electric Vehicle Society of Canada – Electric	Burridge Gymnasium
Noon – 12:45 pm	Cars Visiting classes return to schools. All BASEF students are to bring their own lunch and eat it in the bleachers. They will NOT be permitted to go elsewhere for lunch.	
1:00 pm – 4:00pm	BASEF participants must stay at their projects for judging	Smith and East Auxiliary Gymnasiums

Friday, March 26- Fair not open to the Public

Saturday, March 27 - Public Viewing & Awards Ceremony

9:00 am -noon	Public viewing	Smith and East Auxiliary
	Project take-down at end of Awards Ceremony only	Gymnasiums
11:30 am – 1:00 pm	VIP Luncheon (by Invitation only)	Convocation Hall
12:00 noon	Gyms close	Smith and East Auxiliary
	NO project take-down allowed at this time	Gymnasiums
1:00 pm	Awards Ceremony seating opens	Burridge Gymnasium
1:30 - 3:30 pm	Awards Ceremony	Burridge Gymnasium
3:30- 4:00 pm	Project take-down begins	Smith and East Auxiliary
		Gymnasiums
4:00 - 5:30 pm	Meeting with chaperones for trip winners and their parents	location to be announced (at awards ceremony)
	paronito	awards coromony)

Fair Office during the event will be Room WB113

Fair Phone Number is 905-525-9140 ext 20188 (only valid during days of the fair)



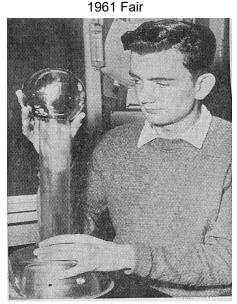
Daniel Cowman (left), Garth Gryer, Wayne Hulme, Keith Smith and Hal Hemp, Grade 12 students at Hill Park High School, prepare their high voltage Tesla coil for the Hamilton Science Fair March 23-25. The instrument creates an electrical-force field which will cause an unconnected, near-by neon light tube to illuminate.



The YES Mentorship: A new initiative in 2010!

The YES (Youth Engaging in Science) Mentorship pairs at-risk youth with mentors in science at the university, college and in-school levels. Founded by Bay Area Science and Engineering Fair (BASEF) Organizing Committee members, Vanessa Scanga and Ryan Buist, the YES Mentorship recognizes the needs of elementary and high school students in Hamilton and provides them with the opportunity of engaged learning. This initiative lends mentorship and guidance towards participating in the annual regional BASEF. If you are interested in participating through the YES Mentorship and in learning more about its opportunities, please contact Vanessa at <u>vscanga@gmail.com</u>.

BASEF has been instrumental in supporting the YES Mentorship and created a Special Projects Chair to spur this initiative. The Mentorship grateful to its partners in helping launch this, its pilot year; they are: BASEF, McMaster Let's Talk Science, Hamilton Roundtable for Poverty Reduction, Hamilton Wentworth Catholic District School Board and Hamilton Wentworth District School Board. We would like to thank our participating mentors, in particular the Bowdish and Provatas research groups. We are proud all YES Mentorship students for their diligence and engagement in science.



"Will I be one of the 11 top winners and get a free trip to the Ontario Science Fair in Toronto in April," ponders Brian Reed of Ancaster High School. Unfortunately, the shiny orb is not a crystal ball, but part of a van der Graaf generator, a high-voltage electro-static machine.

BASEF 2009



THANKS TO BASEF 2010 VOLUNTEERS

Gail Britton Ryan Buist Karen Burkholder Victoria Caron Joy Carson Wilma Chopra Brooke Crawford Trixie Ellithorne Victoria Flaxman Eleanor Frank Kelly Hepworth Ling Mai Iv Mary Johnston Diana Kanlic Linda Kennedy Melanie Kitney Lorna Krauss Kaitlin Lewis Ola Lunyk-Child Natalie Michalski Kathy Overholt Vivian Pang Pam Penny Ajay Rajaram Vanessa Scanga Doug Scott Anne Sinclair Brenda Sloane Zunaira Tarique Diane Watson Glen Allan Whitwell Tobias Williams Freda Wright Marilyn Young Norman Young Steve Zerebny





At McMaster University, our community is committed to innovation and discovery. That's why we're very pleased to welcome participants in the Bay Area Science and Engineering Fair. The brightest and best minds study, conduct research and teach here at McMaster. Today, we're honoured to host the next generation of scientists and engineers, who one day soon could be making the next significant breakthrough or discovery right here at McMaster. Good luck and best wishes.

www.mcmaster.ca





McMASTER UNIVERSITY Emergency Safety and Security Procedures BAY AREA SCIENCE AND ENGINEERING FAIR (March 24 – 27, 2010)

The following emergency procedures and personal safety tips apply to McMaster University's Campus. Please review and familiarize yourself with them so you know how to respond quickly and appropriately in the event of an emergency.

FIRE SAFETY

All buildings located on McMaster University campus except the Hospital have a single-stage fire alarm. This means the fire alarm sounds *CONTINUOUSLY* for an **EVACUATION**.

IN CASE OF FIRE

1. If the alarm sounds go quickly and calmly to the nearest exit and "VACATE THE BUILDING".

IF YOU DISCOVER A FIRE

- 1. Evacuate persons in immediate danger and leave the area. Close all doors.
- 2. Activate the building fire alarm system using the closest fire alarm pull station and evacuate the building using the nearest exit.
- 3. Telephone Security Services at 88.

PERSONAL SAFETY

Emergency Intercoms and Phones

In addition to regular University telephones there are two types of emergency phones or intercoms for contacting Security directly should you require assistance.

- 1) <u>Bell pay phones</u>. Dial 88 to speak directly to Security Services.
- <u>Outside Emergency Intercoms</u>. These are recognizable by a blue light/red pole. Press the <u>red button</u> to speak directly to Security Services.

Emergency Directory

Emergency Situations

Police/Fire/Ambulance-----Dial 88 on University Phones or 88 on Bell pay Phones

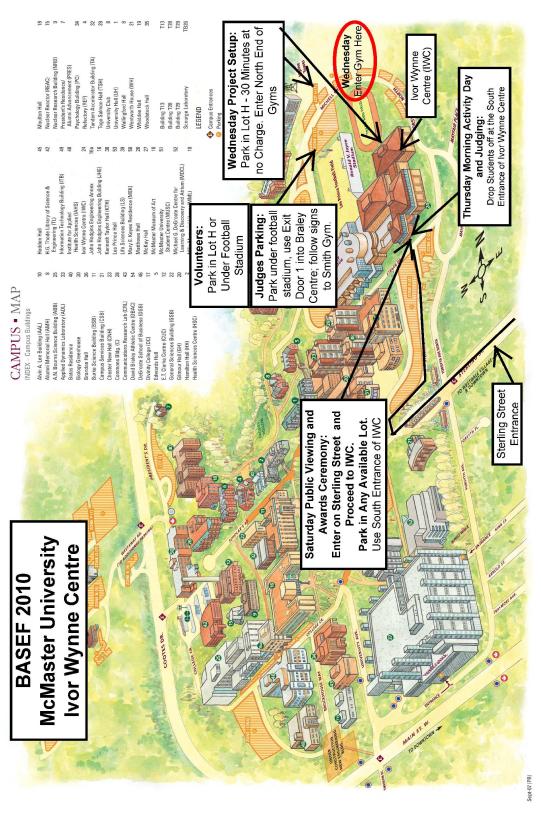
Security Dispatch-----Dial 88 on University phones

Security Dispatch-----Dial 88 on Bell pay phones

Non-Emergency Situations

Security Dispatch-----Dial 24281 on University phones

Security Dispatch ------Dial 905-525-9140, x 24281 on other phones



MCM0462 PR_map_v7.indd 3-4

BASEF

V26/07 10:58:13 AM

ORGANIZING COMMITTEE

HONORARY CO-CHAIRS Joyce Savoline, MPP Burlington Fred Eisenberger, Mayor, City of Hamilton

OUR HOSTS FOR BASEF 2010 MCMASTER UNIVERSITY President, Peter George,

Dianne Carment, Larry Marsh (Paradise Catering)

CHAIRPERSON Ray Kranyak

ASSISTANT TO THE CHAIR Nelson Ruiz Blanco

TREASURER

Eleanor O'Flynn, C.A.

REGISTRAR Steve Procyszyn

LEGAL SECRETARY Tom Crawford

INFORMATION SYSTEMS

Ken Moyle, Gerard Chiasson

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JUDGE-IN-CHIEF Tom Crawford

SPECIAL AWARDS JUDGE-IN-CHIEF Jim Casey

JUDGING TEAM

Tom Crawford, Roslynne Crawford, George Geczy, Shannon Clark, Clive Shepherd, Nelson Ruiz Blanco, Jim Casey, Cathy Hamilton **SAFETY** Nelson Ruiz Blanco

SCIENTIFIC REVIEW

Tom Crawford, Dr. Michael Coughlin, Dr. Elizabeth O'Brien, Steve Procyszyn, Donna Stack-Durward, Vanessa Scanga, Wuchow Than, Dr. Robert Brown OUTREACH Wuchow Than

SPECIAL PROJECTS Vanessa Scanga (Chair), Ryan Buist

STUDENT ACTIVITY DAY Kevin Hunt, Kirk McDonald

FACILITIES Dan Bowman

FOOD COORDINATION Mike Goulet, Mimi Spearing

PHOTOGRAPHY/AV/GRAPHICS

Wayne Bowdish, Jim Hamilton, Al Bates, John Novak, Chris Stearns, Viola Freeman

VIP RELATIONS & LUNCHEON Pam Penny

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Jo-Anne Teoh, Christine Rowthorn, Zenon Holadyk, Wuchow Than, Kevin MacIsaac, Lino Pin, Morris Hucal, Janice Rocchi, Steve Luby

VOLUNTEER COORDINATION Sunny Buskermolen, Helen Barton

AWARDS CEREMONY Gerard Chiasson (Chair) Jim Hamilton, Wayne Bowdish AWARDS CEREMONY MC's Cathy Collins, Peter Olynyk

RECORDING SECRETARY Roslynne Crawford

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TRIP CHAPERONES

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SPONSOR REPRESENTATIVE Sandy Walker

MEMBERS AT LARGE Carolynn Reid, Ola Lunyk Child

POST SECONDARY ADVISORS

McMaster: Dianne Carment Mohawk: Peter Olynyk

ALL THE FUN OF THE FAIR ... FROM INSECTS TO ATOM BOMBS



Hamilton Spectator, 1964

Kenneth McLeod, 16 - analogue computer



SPONSORS 2010

TITLE \$15000 + ArcelorMittal Dofasco

DIAMOND \$10,000 +

Primary Fluid Systems Youth Science Ontario with funding support from Ontario Ministry of Research & Innovation

PLATINUM \$5,000 +

McMaster University Mohawk College Ontario Power Generation The Hamilton Spectator

GOLD \$2,500 +

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SILVER \$1,000

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BENEFACTORS 2010

BANTING & BEST \$1000+

Mr. David Walker Drs. Ranjan & Monalisa Sur Ms. Heide Bell Mr. Peter Child

POLANYI \$200+

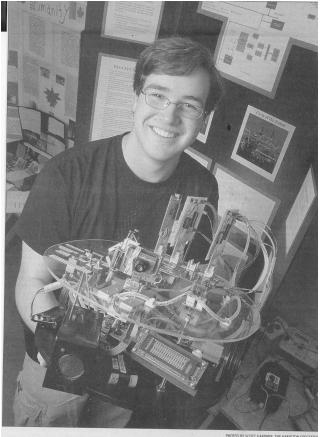
Ms. Karen Ellithorne Mr. & Mrs. John & Eleanor O'Flynn

BRONZE \$500 +

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FRIEND \$100 +

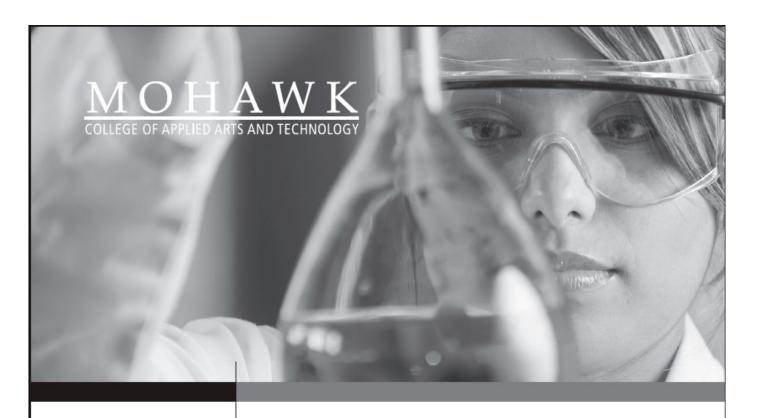
Allegra Footprint Fund American Society for Quality (ASQ) – Hamilton Section Hamilton Wentworth Occasional Teachers Optimist Club of Stoney Creek McMaster University, Faculty of Science, McMaster University, Faculty of Engineering McMaster University Titles Bookstore



Colin O'Flynn, a Grade 11 student at Westdale High School, developed a robot that can track a coloured ball. His interest in electronics began with a trip to Radio Shack. He took second place in the Bay Area Science and Engineering Fair.

Hamilton Spectator 2003





TECHNOLOGY AT ITS FINEST!

Mohawk College's vision of excellence in technology is clear. We offer the finest in technology education and training.

Welcome to the Annual Bay Area Science and Engineering Fair.

Best Wishes to all participants!



ACTIVITY MORNING



"Activity Morning" 2010 will be held in the Burridge Gym at McMaster University on the morning of Thursday, March 25, 2010.

Presentations by:

Predictive Services- Biography

http://www.predictiveservice.com/About/info.aspx

Al Hines will demonstrate the capabilities of IR technology.

Al is responsible for overseeing Predictive Service Canada's operations such as business and functional planning and development of business relationships.

His background experience in the Non-Destructive Evaluation and Predictive Technologies industries span for almost 3 decades. He had enjoyed a 27-year career at Dofasco Steel (ArcelorMittal Hamilton) where he worked for the Engineering & Maintenance Technology, Predictive Technologies and Equipment Reliability Departments. For most of his career he served as the Infrared Specialist where he dedicated his efforts to provide greater value in predictive / preventive applications. His work ethics and energy, along with the company's vision and support led to the practice of combining the technologies. Working in unison with the other various technologies such as vibration analysis, lube oil and others delivered a better understanding for early process and equipment changes. These early changes and an understanding of the failure methods increased the value of the reliability program. The practices also lead to a greater competitive advantage in the industry through overall cost reductions, increased productivity and quality and a safer and environmentally healthier place to work.

Prior to joining Predictive Service, he served as General Manager of Absolute Thermography, which specialized in reliability service, consulting and training.

Allan attended Mohawk College in Hamilton, Ontario, were he studied Non-Destructive Testing along with Airconditioning and Refrigeration. He has several Infrared certifications from various training institutes in Canada and the United States as well as Non-Destructive Evaluation (NDE) certification with the Canadian Government. Allan is an executive member with the Society of Maintenance and Reliability Professionals (SMRP) - Hamilton Chapter.

The Engineering & Science Fireball Show - McMaster - Biography

http://www.eng.mcmaster.ca/fireball/

The Engineering & Science Fireball Show is McMaster's educational and entertaining travelling presentation which utilizes science demonstrations and multimedia to increase students' awareness of and interest in engineering programs, careers, and related futures. The one-hour Show highlights the wonder and relevance of applied science in the many varied fields of engineering, as well as outlining ways a future career in engineering can benefit society as a whole. The Show emphasizes the value of key skills, strengths, and abilities that scientists and engineers contribute as creative problem solvers in a wide range of possible applications.

McMaster Engineering has brought the Fireball Show back to BASEF for a special presentation.

McMaster Chemistry - COOI- CHe-m CaBaReT - Biography

http://www.chemistry.mcmaster.ca/

The world of atoms and molecules moves very fast. We experience this motion as chemical reactions or physical processes. This show highlights the dance of the atoms with explosions - we make water from a hovering balloon, colors - we see metal atoms in flames, and electricity - we drive a chemical reaction backwards with an electric current. Even if we slow the dance to -200 degrees Celsius, interesting things can happen.

Professor Randy Dumont has taught first year chemistry for many years. Though his research is in the area of theory of molecular dynamics, and involves only numerical experiments in the cpu of a computer, he enjoys being reminded that chemistry deals with the real world of stuff around us when he does wet chemistry demonstrations for students of all ages.



The Electric Vehicle Society of Canada - Biography http://www.eysociety.ca/index.php

Howard Hutt, President of The Electric Vehicle Society of Canada will present on the topic of Electric Cars. Electric Vehicle Society of Canada Mission Statement:

To investigate and promote clean transportation technologies with a focus on Electric Energy for Propulsion. We are enthusiasts, engineers and environmentalists.

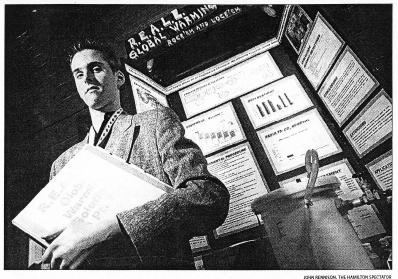
The Electric Vehicle Society of Canada (EVSC or EVS for short) provides a forum for members to discuss and promote personal experiences in building or converting a variety of vehicles to Electric Propulsion. Our members examine cars, electric bicycles, scooters, boats, possibly aircraft, and other modes of electric transportation. EVS members have participated in various events from the annual world Electric Vehicle Symposium (EVS), the Tour de Sol, the Toronto Auto Dealer Association (TADA) Auto Show, and the Molson Indy (Now Called "GrandPrix Toronto"). We Have Also Exibited at the Green Living Show.

Encouraging Electric Vehicle Conversions in High Schools is an important activity that is ongoing, and is supported by our Conversion Manual.



With help from Mary Anderson's exhibit, Kristina Zambon (right) makes a point in her anti-smoking project

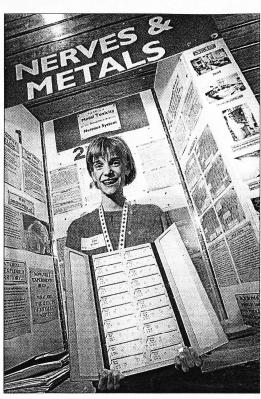
Picture by Ron Pozzer Hamilton Spectator, 1985



Geoff Olynyk, above, of Aldershot High School, placed first at Saturday's Hamilton-Wentworth and Halton Science and Engineering Fair. Eva Vertes, right, of Dundas Highland Secondary School, was second. Both will attend California fair.

Young scientists head south

Winning projects earn two berths at international fair



MERIT AWARD JUDGES

ArcelorMittal Dofasco Collins, Dianne Crane, Maureen Edwards, Kyle Lasowski, Joseph Spearin, Don Stewart, Ron Wood, Jane

ASECO Integrated Systems Manmohan, Neil

AVAR Environmental Inc.Lewis, Justin

Ballagh & Edward LLP Edward, Valerie

BattleGoat Studios Geczy, George

Bombardier Transportation Wolfsgruber, Richard

BorgWarner Canada Inc. Shannon, Dan

Brock University Themeles, Tom Capgemini Cote, Charles

City of Hamilton Lawlor, Daniel

City of Hamilton Public Health Services Walsh, Steven

CRS Electrical Design Seles, Robert

DPCDSB Jacobs, Stephen

Singh Financial Services Bedi, Jaswinder

Gravenhurst High School Rosewarne, Jennifer

Hamilton Police Service Mejia, Diego

Hamilton Health Sciences Nardini, Mary Rutherford, Alan McEneny, Linda Young, Bruce Hamilton Health Sciences, McMaster Pfeiffer, Leanna Freeman, Viola

HCDSB, HWCDSB Coderre, Mary

HDSB, Georgetown HS Hicks, Jenn MacDougall, Stephen Michalopoulos, Olga

HWDSB Yau, Jonathan

Henderson Research Centre Tittarelli, Anthony

HWCDSB Bedi, Amrinder Kaur Kritikos, Soula Mathieson, Lisa

HWDSB, retired Whitwell, Glen Allan

Jarvis District Christian School Osborn, Douglas Juravinski Cancer Centre Paschos, Athanasios

L-3 Wescam Buggeln, Adam McAnanama, James

McMaster University Anipindi, Varun Bowdish, Dawn Bowman, Jordan Brady, Lauren DeWitte-Orr, Stephanie Duong, Andrew Ferreira, Victor Francisus, Danielle Goward, Gillian Hortelano, Dr Gonzalo Lin. Dollv Malik, Dr. Keshena Martin. Gail Paladino, Patrick Prieur, Adam Procwat, Ray Sahota, Derek Sciullo, Luana Sharma, Mohit Smith, Greg Summers, Peter Swiercz, Julia Szabo, Eva



The Halton District School Board would like to congratulate all participating students in the 2010 Bay Area Science and Engineering Fair. Best wishes for continued success!

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

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

www.hdsb.ca



MERIT AWARD JUDGES Continued...

McMaster University Tuttle, Anne Mulligan Yousef, Mary Jacobs, Shelley Patel,Hansa

McMaster Prof Emeritus Ryan, Ellen

McMaster University, retired Dawson, Peter Johnston, Mary

McMaster - student Webber, Brandon

McMaster Univ., Juravinski Cancer Centre Sur, Ranjan

Medical Technologist (retired) Ellithorn, Trixie (Karen)

Mohawk College Minaji, Brian Stefanchuk, Brian

Mongeon Consulting Mongeon, Marcel

Newman Hattersley Michell, Brad

Ontario Power Generation McAnanama, Leslie

Raymond Industrial Equipment, retired Riddle, Ernest James

Region of Peel Lonz, Steve

Retired teacher Young, Norman Johnson, Warren

Retired principal Giancarlo, Luciano

Retired Closson, Gary Easton, Carl Roberts, Jacqueline Rudy, John Shepard, Beverly Wehrle, Paul Rockwell Automation Tod, Jeff

Semi-retired Tiley, John

Self-employed Stevens, Jo-Anne

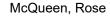
Harrison, Eric Maxymuik, Peter Sandwell Consulting Engineers Ltd. Johnson, Ross K.

Sheridan College Stratford, Graham Zander, Otto SNC-LAVALIN INC. Shanishchara, Ketan .

Spectrum Educational Supplies Ltd. Thompson, Matthew

St.Joseph's Hospital Lafferty, Kathryn

St Joseph's Hospital, retired



Student Sur, Romita

TLC Alert Nursing Teoh, Jo-Anne

UGDSB, retired Holliday, George

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Susan Olynyk Tom Sutton Victor Srarecky James Crumb Bill Tekatch Nicole Rich-Portelli Kyle Heywood Heather Sheardown Dave Dean Anthony Chryassafis Zahraa Al-Al Benard Le Blanc Vanessa Scanga Leslie McKenzie Adrian Knight **Cheryl St James** Jianwei Mu



Karen Mossman Dawn Bowdish Romita Sur Jennifer Ahluwalia Joydeep Sengupta Blair MacCuish **Maurice Hughes** Ron Soldaat **Carolyn Barnes** Ian Reid Dave McCaw Dr. Chin William Khuu Paola Morrone Ralph Krueger Al Nichol **Rian McLaughlin** Nancy Meehan

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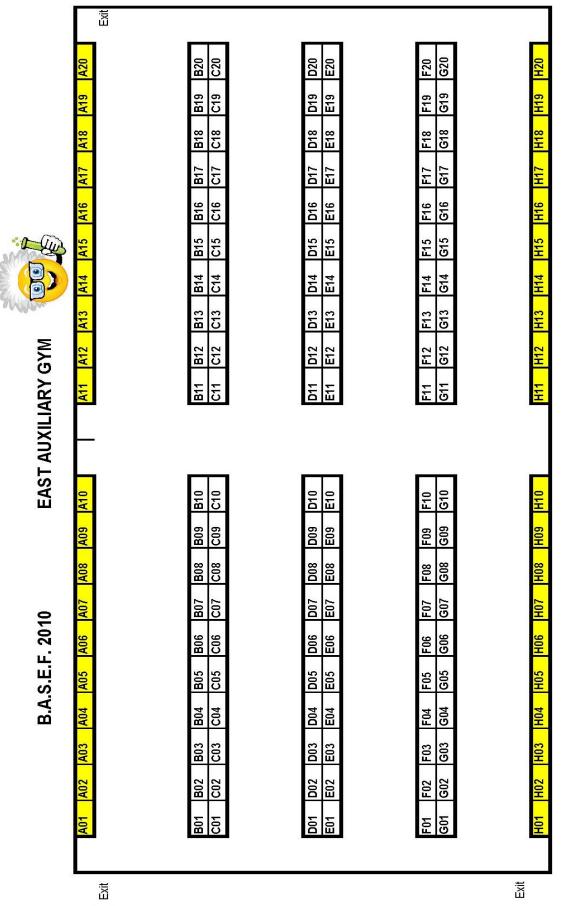
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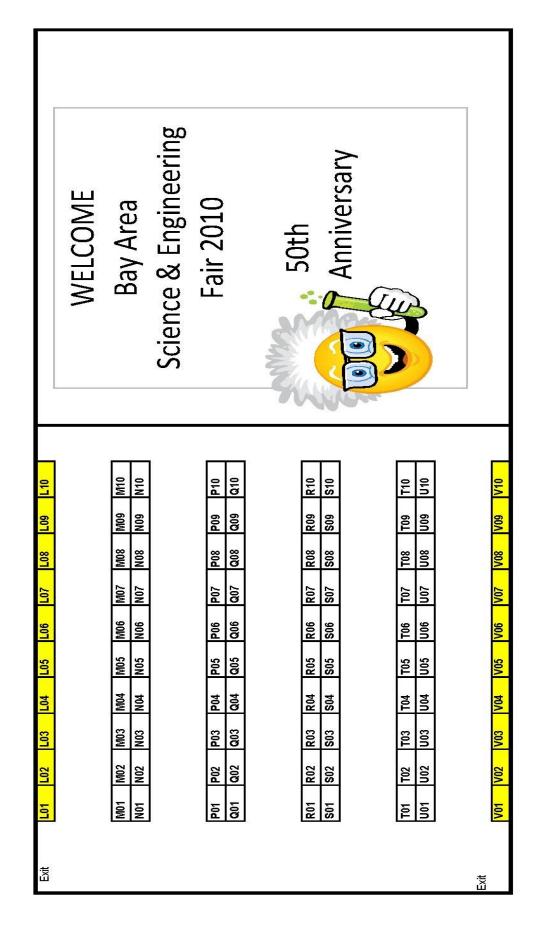
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Nancy Field, Grade 10 Westmount student, with cat skeleton , 3rd Hamilton Science Fair 1963 The Hamilton Spectator



EXHIBITOR LISTING

A01, Orange Juice

Olivia Sant, Marlo Rosart J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

A02, Expanding Air

Lee Immanuel, David Zhang J 7-8, Physical Sciences & Math Ryerson, HWDSB

A03, Which is the Best to Drink? It's not always clear

Robert Bohlken, J 7-8, Physical Sciences & Math McKenzie Smith Bennet Public School, HDSB

A04, Modeling Motion of Dislocations in Binary Alloys using Phase Field Crystal

Stephanie Pell, Kim Phan S 11-12, Physical Sciences & Math Hill Park, HWDSB

A05, Hot Flying

Kerala Brendon, J 7-8, Physical Sciences & Math Dalewood, HWDSB

BALLAGH

A06, DNA extraction

Gaven Mann, J 7-8, Physical Sciences & Math W. H. Morden Public School, HDSB

A07, DNA Extraction Heating Cooling

David Elchuk, J 7-8, Physical Sciences & Math Mother Teresa, HWCDSB

A08, Eco car wash

Haley Mayer, Kyra White J 7-8, Earth and Environmental Sunningdale Public School, HDSB

A09, The Effect of Various Water

Samples on Plant Growth Emily Schnarr, J 7-8, Earth and Environmental St. Elizabeth Seton, HCDSB

A10, Geothermal Energy: Is It Really Worth It?

Anisha Roa, Jennifer Harrison J 7-8, Earth and Environmental Sir William Osler, HWDSB

A11, Wild Wind

William Carmichael, J 7-8, Engineering and Computing Dalewood, HWDSB

A12, Greener Vs Beemer

Alim Ladha, Alex MacLeod J 7-8, Earth and Environmental Hillfield Strathallan College, Independent

A13, Catch The Wind

Cavelle Van Nest, J 7-8, Earth and Environmental Appleby College, Independent

A14, Hydrogels a "Shamwow" for Africa

Alexander Smith, Timothy Schiappa J 7-8, Earth and Environmental Hillfield Strathallan College, Independent

A15, Battle Of the Powers

Matthew Sajgo, Shaina Gould J 7-8, Earth and Environmental St. Mark, HWCDSB



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A16, Wicked Wind

Mathew Remmelzwaal-Simmons, J 7-8, Engineering and Computing Lisgar, HWDSB

A17, Green Power

Blake Babin, Declan Turner J 7-8, Engineering and Computing Sacred Heart, HWCDSB

A18, Insulation Situation

Francesco Calvise, Michael Stramenga J 7-8, Physical Sciences & Math St. David, HWCDSB

A19, HOW LEDS ARE BRIGHTER AND SAFER

Dorian Sciamanna, J 7-8, Earth and Environmental St. Ann (Ancaster), HWCDSB

A20, Mobile Diabetes

Carbohydrate Calculator for Restaurants Michael Lenover, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

B01, Wood Gas: A Blast From The Past

William Lutz, J 7-8, Engineering and Computing St. Augustine, HWCDSB

B02, Rocket Design

Andrew Roberts, J 7-8, Engineering and Computing Appleby College, Independent

B03, Building Dams

Adriana Roberts, J 7-8, Engineering and Computing Appleby College, Independent

B04, LOL HBU? Is MSN Confusin' U?

Christina Minicucci, J 7-8, Health Sciences Mother Teresa, HWCDSB

B05, Better Insulation, to win the energy war at home Hosam Sennah, J 7-8, Physical Sciences & Math Al-Falah Islamic School, Independent

B06, Mirror, Mirror on the Wall...Which Fruit or Vegetable is the Most Powerful of All? Sarah Shawky, Stephanie Riczu J 7-8, Engineering and Computing Forest Trail Public School, HDSB

B07, The Flex Affect Jared Kuypers, J 7-8, Engineering and Computing Forest Trail Public School, HDSB

B08, Music Made Simple

Mark Rukavina, Daniel Fascione J 7-8, Engineering and Computing St. Agnes, HWCDSB

B09, Awesome Antennas

Michael Tiganila, J 7-8, Engineering and Computing Appleby College, Independent

B10, Homemade Batteries

David Tiganila, J 7-8, Engineering and Computing Appleby College, Independent

B11, Caution: Slow Killing Poisons

Sarah Hussain, J 7-8, Health Sciences Al-Falah Islamic School, Independent

B12, What's the Danger? A Study on Injuries In Ametuer Hockey and Football Players. Jacob Rynn, J 7-8, Health Sciences St. Elizabeth Seton, HCDSB

B13, Twirls, Whirls, and Spins! The Science Behind Dizziness and its Effects Abby Preuss,

J 7-8, Health Sciences Oakville Christian School, Independent



BASEF 2009



Look-alikes Martin & Mike Hannsman, 15 year-old twins, also think alike, which is pretty good thinking. They won the Steel Company of Canada Ltd. Prize.

Hamilton Spectator, 1974





B14, BURNING CALORIES: HOW MUCH CHEMICAL ENERGY IS STORED IN DIFFERENT TYPES OF FOOD?

Brian Morris, Daniel Haas J 7-8, Health Sciences McKenzie Smith Bennet Public School, HDSB

B15, Preservatives that don't "preserve" your health

Alice Song, S 11-12, Health Sciences King's Christian Collegiate, Independent

B16, Does Caffeine Affect Blood Pressure? Shaheer Jah.

J 7-8, Health Sciences Al-Falah Islamic School, Independent

B17, "Don't Put Words in my Mouth!" Just because I can't. Emma Hosein.

J 7-8, Health Sciences Oakville Christian School, Independent

B18, The Sleeping Brain

Zachary Guitor, J 7-8, Health Sciences W. H. Morden Public School, HDSB

B19, Do You Remember?

Kira Foreman-Tran, Haley Fulkerson J 7-8, Health Sciences W. H. Morden Public School, HDSB

B20, Memory Matters: An Examination of the Extent to Which Colour, Formatting, at

Which Colour, Formatting, and Presentation of Material Affect Memory Daniel Biggs,

I 9-10, Health Sciences Hillfield Strathallan College, Independent

C01, You Are What You Drink

Natasha Paikin, I 9-10, Health Sciences Hillfield Strathallan College, Independent

C02, Will You See it Coming

Alex Hayman, Chris Chiasson J 7-8, Health Sciences W. H. Morden Public School, HDSB

C03, Body Beautiful

Sama Anvari, J 7-8, Health Sciences Hillfield Strathallan College, Independent

C04, Medicine Meltdown

Hannah Bauer, Mackenzie Hamilton J 7-8, Health Sciences Hillfield Strathallan College, Independent

C05, Kids+Energy Drink=Boom Elliot Smith, Cassidy Leblanc

Elliot Smith, Cassidy Leblanc J 7-8, Health Sciences Hillfield Strathallan College, Independent

C06, What's in the P. Dish? You

Never Can Tell Kate Kim, Christie Condron J 7-8, Health Sciences Canadian Martyrs, HWCDSB

C07, Phantom Limb Phenomenon

Andrew Semelhago, Yixiong Lok I 9-10, Health Sciences Hillfield Strathallan College, Independent



C08, Read For Speed Nicole Lipari, J 7-8, Health Sciences Holy Name of Jesus, HWCDSB

C09, Don't You Forget About Me -A Project on Memory Adaptability Sara Fackrell, I 9-10, Health Sciences Aldershot High School, HDSB

C10, Oral bacteria Ashley Leger, Brittany Barnard J 7-8, Health Sciences St. Therese of Lisieux, HWCDSB

C11, Did you hear that ? Arzen Edillo, J 7-8, Health Sciences St. Therese of Lisieux, HWCDSB

C12, Praise vs. Prize Taylor Floris, Ally Pugliese J 7-8, Health Sciences St. Therese of Lisieux, HWCDSB

C13, Germ Warfare : 2010 Jennifer Coreas, Stephanie Kiely J 7-8, Health Sciences St. Augustine, HWCDSB **C14, Game On!** Connor Morris, Matthew Phillips J 7-8, Health Sciences St. Augustine, HWCDSB

C15, Amusement Rides Not So Amusing? Andrew Lagrotteria, J 7-8, Health Sciences Hillfield Strathallan College, Independent

C16, Most Common Learning Styles Chloe Milligan.

J 7-8, Health Sciences W. H. Morden Public School, HDSB

C17, Human Clock

Andrew Taylor, Justin Connolly J 7-8, Health Sciences Holy Name of Jesus, HWCDSB

C18, Healthy Living Michelle Zhitomirsky, Danielle Henry J 7-8, Health Sciences Sir William Osler, HWDSB C19, Coloured Thinking ?

Jacob Wain-Lowe, I 9-10, Health Sciences Hillfield Strathallan College, Independent

C20, Reader's Block Erin McHarge, J 7-8, Health Sciences St. Therese of Lisieux, HWCDSB

D01, Medication Mishap

Montana Manning, J 7-8, Health Sciences St. Therese of Lisieux, HWCDSB

D02, Electrolytes: Sports Drinks vs. Orange Juice

Hailey Vlahos, Alyssa Pugliese J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

D03, The Effects of distractions Tim Holford, Andrew McMurray J 7-8, Health Sciences Sir William Osler, HWDSB

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D04, Is your brain in the game? Has your homunculus been updated?

Dhruv Jain, Christopher Rowley S 11-12, Health Sciences North Park Collegiate and Vocational School, GEDSB

D05, Drinks on Trial

Brooklyn Joyce, Dimitra Bednar I 9-10, Health Sciences Hillfield Strathallan College, Independent

D06, Now You "C"I it Now You Don't

Breanne Flood, J 7-8, Physical Sciences & Math Corpus Chirsti, HWCDSB

D07, What Material and Color

Blocks the Most U.V.? Harry Lau, J 7-8, Physical Sciences & Math Appleby College, Independent

D08, You are what you eat Eman Abbas, J 7-8, Health Sciences

Al-Falah Islamic School, Independent

D09, Whats growing on you?

Alexa Santucci, Brooke Resendes J 7-8, Health Sciences Corpus Chirsti, HWCDSB

D10, Lying Could You Ever Determin One ? Stephanie Rae, J 7-8, Health Sciences Lisgar, HWDSB

D11, Look Mom, No Tears! Kevin Samardzic, J 7-8, Health Sciences Appleby College, Independent

D12, A comparision of the effects of exercise on blood pressure and heart rate between youths and adults

Kurt Barbato, Jessica Raynor J 7-8, Health Sciences Rolling Meadows Public School, HDSB

D13, Pay Attention To This Annie Kramar,

J 7-8, Health Sciences Holy Spirit, HWCDSB

D14, Stop The Clock Sydney Duerksen, Jelena Predojevic J 7-8, Health Sciences Lisgar, HWDSB

D15, THE TWIN CONNECTION

Sarah Flaherty, J 7-8, Health Sciences Ryerson, HWDSB

D16, Are You My Type? Christopher Pitre, J 7-8, Health Sciences St. Mark, HWCDSB

D17, Dry as A Desert

Anjali Sergeant, Allison Covert J 7-8, Health Sciences Dalewood, HWDSB

D18, Would You Like Vitamins With That?

Julia Ajandi, Julia Gennaccaro J 7-8, Health Sciences Guardian Angels, HCDSB

D19, How safe is your driving?

Jacob Young, Zachary Burley J 7-8, Health Sciences Lisgar, HWDSB

D20, Personality as a Result of Birth Order

Victoria Shalygin, Alyssa Hobbs J 7-8, Health Sciences Forest Trail Public School, HDSB

E01, Flatulence

Mackenzie Potts, Tiana Junor J 7-8, Health Sciences Lisgar, HWDSB

E02, Pearly Whites

Anna Radisic, Dina Hansen J 7-8, Health Sciences Canadian Martyrs, HWCDSB

Hamilton Spectator 2007



Vivesh Vickinadas, 13 Grade 8 Dalewood Middle School, Hamilton Project: Hovercraft "I had to do research on air pollution, then engineering, then how the air comes out. When I saw it on TV, I didn't know how it was hovering. My

teacher said find out for yourself."

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E03, Tickling

Hannah Lange, Sadie Lange J 7-8, Health Sciences Ryerson, HWDSB

E04, The Curse of the Immune Disorder

Blair Somerville, Bronwyn Pellett J 7-8, Health Sciences Forest Trail Public School, HDSB

E05, Brain Hemispheres

Alka Mutnjakovic, Saige Patti J 7-8, Health Sciences St. Joseph, HWCDSB

E06, Age Vs. Memory

Lushwana Anderson-Stewart, J 7-8, Health Sciences St. Agnes, HWCDSB

E07, Brain Power

Erika Savelli, Melissa Tam J 7-8, Health Sciences St. Paul, HWCDSB

E08, Caffeine

Taylor Stones-O'Brien, Taylor Bomberry J 7-8, Health Sciences Lisgar, HWDSB

E09, It's Stoopifyin'

Matthew Malec, Romneil Malaluan J 7-8, Health Sciences St. Paul, HWCDSB

E10, Detection of UV Protection: Assesing SPFs in a Bacterial Model Wardah Nasir, I 9-10, Life Sciences Westmount, HWDSB

E11, Bull's-eye

Moez Shahzad, Joel Merino J 7-8, Life Sciences Sir Wilfrid Laurier, HWDSB

E12, Waste Not...Want Not!

Meagan Santa, Kayla Carruthers J 7-8, Life Sciences Sir Wilfrid Laurier, HWDSB

E13, A Clove a Day Keeps the Doctor Away Jovana Zelenovic, Amanda

Okanovic J 7-8, Life Sciences Sir Wilfrid Laurier, HWDSB

E14, Don't Do Drugs Crustacean Bugs!

Emma Robertson, Aliyah Bryant J 7-8, Life Sciences Sir Wilfrid Laurier, HWDSB

E15, Hold The Mold Ashley Prinzen, J 7-8, Life Sciences Jarvis District Christian School, Independent

E16, Hmmm What Happened To My Apple

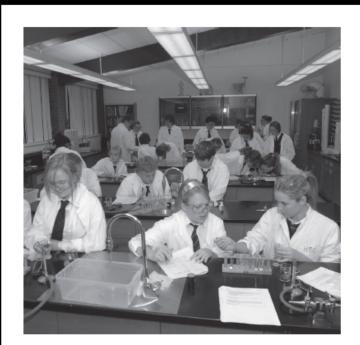
Lizzie Zandstra, J 7-8, Life Sciences Jarvis District Christian School, Independent

E17, Pulp Fiction: Do Fruit peel Antioxidants Protect UV Treated Escherichia coli?

Lauren Sehdev, Kate Bauer I 9-10, Life Sciences Hillfield Strathallan College, Independent

E18, DNA Extraction

Nadia Ebrahim, J 7-8, Physical Sciences & Math Al-Falah Islamic School, Independent



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E19, What Do You "C" ? Hannah Elston, J 7-8, Physical Sciences & Math Oakville Christian School, Independent

E20, Juicy Electricity

Jamie Chan, Georgia Dryden J 7-8, Physical Sciences & Math St. Joachim, HWCDSB

F01, Hand it to the Dogs

Laura Juhas, Amy Guild J 7-8, Life Sciences St. Joachim, HWCDSB

F02, The Battle of the Cleansers

Claire van Baardwijk, Zenobia Jeejeebhoy I 9-10, Life Sciences Hillfield Strathallan College, Independent

F03, Mendelian Genetics

Oliver Smith, Bryce Kwiecien-Delaney J 7-8, Life Sciences Hillfield Strathallan College, Independent

F04, What's Growing on Your Uniforms? Ian Coomes, J 7-8, Life Sciences

J 7-8, Life Sciences Appleby College, Independent

F05, Are You Dying For a Tan?

Nick Denomey, J 7-8, Physical Sciences & Math St. Bernadette, HWCDSB

F06, Bacteria Wars

Emily Politeski, J 7-8, Life Sciences Forest Trail Public School, HDSB

F07, Yum! Mould Sandwich!

Brad Bermingham, J 7-8, Life Sciences Forest Trail Public School, HDSB

F08, The Tragic Tale of 4 Apples Danelia Evangelista,

J 7-8, Physical Sciences & Math Forest Trail Public School, HDSB

F09, Whats The Secret To A Good High-Rise?

Nicolette Crummy, J 7-8, Physical Sciences & Math Forest Trail Public School, HDSB

F10, Don't Cry Over Spoiled Milk Austin Constable, Jared Chen

J 7-8, Physical Sciences & Math Forest Trail Public School, HDSB

11, Friend Or Foe

Stefanie Scornaienchi, Makayla Berta J 7-8, Physical Sciences & Math Mother Teresa, HWCDSB

F12, Singing Wine Glasses

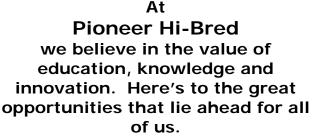
Quyen Nguyen, J 7-8, Physical Sciences & Math St. Mark, HWCDSB

F13, Brand Name vs. No Name

Jessica Knight, Elisa Bertling J 7-8, Physical Sciences & Math Mother Teresa, HWCDSB

F14, Antibiotic Resistance and Misuse: The Father of Superbugs Savannah Norman, S 11-12, Health Sciences King's Christian Collegiate, Independent

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F15, Smoking? You Must Be Joking!

Aashiya Patel, Katarina Tatomir J 7-8, Physical Sciences & Math Sir Wilfrid Laurier, HWDSB

F16, Is Crest The Best?

Emina Dzambic, Erica Nguyen J 7-8, Physical Sciences & Math Sir Wilfrid Laurier, HWDSB

F17, C It To Believe It!

Kaylene Nguyen, Arin Leffler J 7-8, Physical Sciences & Math Sir Wilfrid Laurier, HWDSB

F18, The Popcorn Test

Clara Skerrett, J 7-8, Physical Sciences & Math Jarvis District Christian School, Independent

F19, mentos eruption

Iman Samadmoten, J 7-8, Physical Sciences & Math Al-Falah Islamic School, Independent

F20, Phoney Friction

Zachary Kroezen, Taylor Kroezen J 7-8, Physical Sciences & Math McKenzie Smith Bennet Public School, HDSB

G01, How do Pop Rocks pop?

Komal Javed, J 7-8, Physical Sciences & Math Al-Falah Islamic School, Independent

G02, Something From Nothing

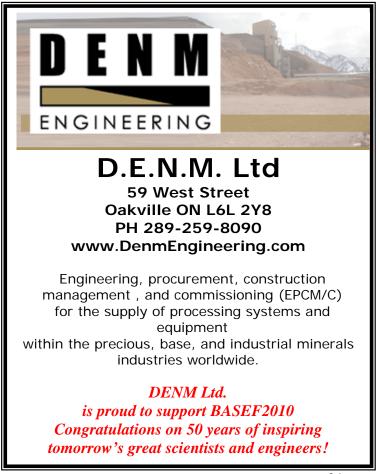
Carolyn Anderson, J 7-8, Physical Sciences & Math Oakville Christian School, Independent

G03, The Night In Shining

Pollution Meg Sharpley, Deanna Khes-Grabiec J 7-8, Earth and Environmental St. Augustine, HWCDSB

G04, Electrolyte Challenge

Emily Dalingwater, J 7-8, Physical Sciences & Math Dalewood, HWDSB



G05, Make It Sound Right!

Alex Zou, J 7-8, Physical Sciences & Math Dalewood, HWDSB

G06, Citrus Boost

Samantha Cruz, Leslee Coutinho J 7-8, Physical Sciences & Math Holy Name of Jesus, HWCDSB

G07, He Shoots He Scores

Matthew Gledhill, J 7-8, Physical Sciences & Math Blessed Sacrament, HWCDSB

G08, Shape Strength

Justin Park, Jason Yao J 7-8, Physical Sciences & Math Ancaster Meadow, HWDSB

G09, Basketball Bounce

Maddy Seatle, Rebecca Rayner J 7-8, Physical Sciences & Math W. H. Morden Public School, HDSB

G10, To Ski Or Not To Ski

Thomas Akdeniz, J 7-8, Physical Sciences & Math Appleby College, Independent

G11, Crazy Chemical Reaction Rates

Sumeeta Prihar, Taylor McMahon J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

G12, Insane lodine

Andrew Lien, Peter Brown J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

G13, Supercool and Snap Freeze Sebastian Kelley, J 7-8, Physical Sciences & Math

Rotherglen School (Oakville), Independent

G14, Interesting lodine

Sophie Pietropaolo, J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

G15, Candy Chromatography

Alison Murphy, Anastasia Tolfa J 7-8, Physical Sciences & Math Rotherglen School (Oakville), Independent

G16, Magnetic Transpotation

Ben Rosen, Riley Greene J 7-8, Physical Sciences & Math Ryerson, HWDSB

G17, Don't cry over the spilled milk!

Jordanne Mulkewich, J 7-8, Health Sciences Ryerson, HWDSB

G18, Osmosis, Diffusion and Eggs

Jacquelyn Rose Ireland, Shu Sing Chen J 7-8, Physical Sciences & Math Queen Victoria, HWDSB

G19, Blade Power

Kareem Collins, Oneil Stubbs J 7-8, Physical Sciences & Math Cathy Wever, HWDSB

G20, Is BIGGER Really Better?

Rebekah Sheppard, Holly Gallo J 7-8, Physical Sciences & Math Lisgar, HWDSB

H01, Proportional, Integral, and Derivative Control of a Line Following Robot

Benjamin Alderson, J 7-8, Engineering and Computing Guardian Angels, HWCDSB

H02, Getting the most from electricity.

Martin Boote, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

H03, There is Nothing Without TRUSS

Mark MacCauley, J 7-8, Engineering and Computing Holy Spirit, HWCDSB

H04, Fuel Cells- Fueling The Future

Iman Munier, J 7-8, Engineering and Computing Al-Falah Islamic School, Independent

H05, Wind Energy Eimear Kirby, Alexandra Lychy J 7-8, Engineering and Computing St. Bernadette, HWCDSB

H06, "Water, water, everywhere, Nor any drop to drink" Atmospheric Water Condensers To Provide Pure Drinking Water Calvin Rieder, J 7-8, Engineering and Computing Oakville Christian School, Independent

H07, THE OXIDIZATION OF METALS

Kristina Josipovic, Teresa Borreggine J 7-8, Physical Sciences & Math St. Paul, HWCDSB

H08, Puzzling Problems Katrina Mendoza, Polyxeni Psarakis J 7-8, Health Sciences Mother Teresa, HWCDSB

H09, Got Gas

Ashley Cosuins, Katie Antone J 7-8, Physical Sciences & Math Bennetto, HWDSB

H10, Plant Chromatography

Chelsea Andrews, J 7-8, Life Sciences Bennetto, HWDSB

H11, Candy Chromatography

Kassy Munn, Liz Hart J 7-8, Physical Sciences & Math Bennetto, HWDSB

H12, Magnetic Levitation Joshua Mioc, J 7-8, Engineering and Computing Regina Mundi, HWCDSB

L01, Brain Drain

Patrick Chong, J 7-8, Engineering and Computing Canadian Martyrs, HWCDSB

L02, What's Your Password? Justine Williams, J 7-8, Engineering and Computing Sir William Osler, HWDSB

L03, JUST WINGING IT John Hagemans, J 7-8, Engineering and Computing Corpus Chirsti, HWCDSB

L04, Puck Shooter Matt Grant, I 9-10, Engineering and Computing Hillfield Strathallan College, Independent

L05, BOATBOT Jacob Weaver, I 9-10, Engineering and Computing Highland, HWDSB

L06, Laser Beats Steven Beltrano, J 7-8, Engineering and Computing St. Catherine of Siena, HWCDSB

L07, Tracking Motion Using A Nintendo Wiimote

Riley Easveld, S 11-12, Engineering and Computing North Park Collegiate and Vocational School, GEDSB

L08, Morphological and functional characterization of lower female genital epithelial cell cultures grown in different condit Vivian Leung,

S 11-12, Health Sciences Abbey Park High School, HDSB

L09, Breast Friends Forever

Andrea Dafel, J 7-8, Health Sciences Oakville Christian School, Independent

L10, The Effects of Multitasking on The Learning Process Andrew Allen, J 7-8, Health Sciences W. H. Morden Public School, HDSB

M01, PANIC....It's Not Organic! Organic vs Synthetic Fertalizers Asimah Mahmood, J 7-8, Biotechnology Cardinal Heights, HWDSB

M02, Soap vs. Sanitizer Renne Husin, Lauren Zuk J 7-8, Health Sciences St. Elizabeth Seton, HCDSB

M03, Welcome to the Garden of Weedin'!

Arabela Boskovic, Mahrukh Bhali J 7-8, Biotechnology Sir Wilfrid Laurier, HWDSB

M04, A Sticky Situation Victoria Miedema,

J 7-8, Health Sciences Jarvis District Christian School, Independent

M05, Adaptable Agriculture?

Isaac Bohm, J 7-8, Biotechnology St. Augustine, HWCDSB

M06, Get Down With ORAC Heather Wild, J 7-8, Biotechnology St. Augustine, HWCDSB

M07, Berry Banana Blast Kate MacArthur, J 7-8, Physical Sciences & Math Appleby College, Independent



M08, Gel Electrophorisis

experiments with Pigment Kennedy Novosel, Asheca Gayle J 7-8, Physical Sciences & Math Cathy Wever, HWDSB

M09, Tear-less onions

Juliana Sunavsky, J 7-8, Health Sciences St. Mark, HWCDSB

M10, Gasahol

Kadija Mohamed, Suzy Mccombe J 7-8, Physical Sciences & Math Bennetto, HWDSB

N01, Algae vs Corn

Greg Taylor, Sean Mitro J 7-8, Biotechnology Sir William Osler, HWDSB

N02, Innovative solar blanket design for pools: pay less, help the environment and swim

warm. Erik Bercik, Alex Bercik J 7-8, Engineering and Computing Ancaster Senior, HWDSB

N03, Metallic Corrosion

Mariyam Naeem, J 7-8, Physical Sciences & Math Al-Falah Islamic School, Independent

N04, The Best Colour of Light to Grow

Miguel Pestana, J 7-8, Life Sciences St. Elizabeth Seton, HCDSB

N05, No Bloom From This Garden

Andrew Dziuba, Randy Nguyen J 7-8, Earth and Environmental Sir Wilfrid Laurier, HWDSB

N06, Are Eco-tergents Truly "Gents"

Sara Abu Obaid, Ream Elbadri S 11-12, Earth and Environmental North Park Collegiate and Vocational School, GEDSB

N07, Bio-gas from Jatropha cake

Joe Span, S 11-12, Biotechnology King's Christian Collegiate, Independent

N08, Hot Rocks

Nicole Haverkamp, J 7-8, Physical Sciences & Math Jarvis District Christian School, Independent

N09, Plants Grow Better with CO2, Right?

Badr Huda, J 7-8, Earth and Environmental Al-Falah Islamic School, Independent

N10, Organic VS Inorganic

Fertilizers Which is Best? Aisha Soomro, J 7-8, Life Sciences Al-Falah Islamic School, Independent

P01, Secret Life of a Dustbuster

Emily Droppo, Connor Lawless J 7-8, Earth and Environmental W. H. Morden Public School, HDSB

P02, Two, Four, Six, Eight, Recycle to Insulate

Monica Caterini, Laura Orlando J 7-8, Earth and Environmental St. Augustine, HWCDSB

P03, Are We Walking On Thin Ice? Eric Harbour, Pasquale Frappa J 7-8, Earth and Environmental St. Joachim. HWCDSB

P04, What you can't see can hurt you

Siera Stampone, J 7-8, Earth and Environmental St. Joachim, HWCDSB

P05, Digging in the Dirt

Julia Roglich, J 7-8, Earth and Environmental Holy Spirit, HWCDSB

P06, Trash Talk

Kayla Coates, J 7-8, Earth and Environmental Mother Teresa, HWCDSB

P07, Scrubber for the World

Liam Armstrong, J 7-8, Earth and Environmental Oakville Christian School, Independent

P08, Ethanal: Turning Up the Heat

Emily Wood, Meghan De Jong S 11-12, Physical Sciences & Math King's Christian Collegiate, Independent

P09, VEGE-CHARGE

Andrea Martino, Tina Singh J 7-8, Earth and Environmental Hillfield Strathallan College, Independent

P10, Got Gas?

Ishaan Kapur, J 7-8, Biotechnology Hillfield Strathallan College, Independent

Q01, Grass

Darien Robinson, J 7-8, Life Sciences Holy Name of Jesus, HWCDSB

Q02, The Spud Grows On?

Kellie Mead, J 7-8, Life Sciences Holy Name of Jesus, HWCDSB

Q03, Less Wind ... More Power

Matthew Smrke, J 7-8, Engineering and Computing Oakville Christian School, Independent

Q04, To Freeze or Not to Freeze ?

Dannie Marie Marlor, Julie Hesson J 7-8, Physical Sciences & Math St. Therese of Lisieux, HWCDSB

Q05, What's Over Your Head

Ian McArthur, Stewart Cameron J 7-8, Earth and Environmental Sir William Osler, HWDSB

Q06, Carbonation Situation

Shelby Tom, J 7-8, Engineering and Computing Dalewood, HWDSB

Q07, Particulate Travels- The

quarry story David Bowman, J 7-8, Earth and Environmental St. Augustine, HWCDSB

Q08, Growing Crystals In... Acid?!

Amy Ni, Sanjana Randhawa J 7-8, Physical Sciences & Math W. H. Morden Public School, HDSB

Q09, Predicting the Weather

maddie Wharton, J 7-8, Earth and Environmental W. H. Morden Public School, HDSB

Q10, NOT Down the Drain

Adriana Skaljin, J 7-8, Earth and Environmental St. Therese of Lisieux, HWCDSB

R01, Crystal Clear

Nicole Markic, J 7-8, Physical Sciences & Math Appleby College, Independent





R02, Break down

Camila Benmessaoud, J 7-8, Earth and Environmental Al-Falah Islamic School, Independent

R03, The Effects Of Climate Change On The Great Lakes Region

Alexandra da Silva, J 7-8, Earth and Environmental St. Agnes, HWCDSB

R04, The Amazing Lodestone

Olivia Newport, J 7-8, Earth and Environmental Corpus Chirsti, HWCDSB

R05, Mold FX

Mahsa Zahedi, Sogund Jalali J 7-8, Life Sciences Queen Victoria, HWDSB

R06, Fun with Mold

Fahmeed Abdulmatlub, Mishquatel Wahed J 7-8, Life Sciences Cathy Wever, HWDSB

R07, 3 MEALS 1 DAY ON SUNLIGHT Will Redgate,

J 7-8, Engineering and Computing Lisgar, HWDSB

R08, Crystal Clear?

Amy Hasselman, Claire Yao J 7-8, Physical Sciences & Math Forest Trail Public School, HDSB

R09, Talking To Plants ... Are You Crazy!? Anastasia Stojakovic, Milica Stankovic

J 7-8, Life Sciences Lisgar, HWDSB

R10, Liquids Affecting Plant Growth

Natalie Di Giandomenico, J 7-8, Life Sciences St. Agnes, HWCDSB

S01, How Clean Is The Air

Matthew Clarke, Graham Ahrens J 7-8, Earth and Environmental Lisgar, HWDSB

S02, Blue Energy - Generating Electricity from the Power of the World's Tides Joshua Nemy, I 9-10, Earth and Environmental Hillfield Strathallan College,

Independent

S03, Lets Go Green by Going Grey

Hilary Mann, Mary Ma S 11-12, Earth and Environmental North Park Collegiate and Vocational School, GEDSB

S04, Crystal Ball ?

Briana Moniz, Daniela Domingues J 7-8, Earth and Environmental St. Brigid, HWCDSB

S05, A Germination Fascination: Compost & Artificially-Made Soil, Take It or Leaf It

Ajit Panag, Kim Nguyen S 11-12, Earth and Environmental North Park Collegiate and Vocational School, GEDSB

S06, what materials make the best insulation?

Jesse Hilton, Breanna Travassos J 7-8, Physical Sciences & Math St. David, HWCDSB

S07, Sea Glass -- Nature's Beauty Lindsay Bushey,

J 7-8, Physical Sciences & Math St. Mark, HWCDSB

S08, Sneggle

Melissa Martiniello, Ivana Koren J 7-8, Physical Sciences & Math St. David, HWCDSB

S09, Ice A-salt

Paula MacPherson, J 7-8, Physical Sciences & Math St. David, HWCDSB

S10, Worms At Work Hannah Kurchik, Rachael Pinter J 7-8, Earth and Environmental St. Paul, HWCDSB

T01, Have You Ever Seen A Lawn Smile?

Nicole Szabo, Landon Tulk J 7-8, Earth and Environmental Sir William Osler, HWDSB

T02, To Breathe Or Not To Breathe

Sarah Donoff, Alexa Scott J 7-8, Earth and Environmental Sir William Osler, HWDSB

T03, Sour Power!

Austin McNeil, I 9-10, Engineering and Computing T.A. Blakelock High School, HDSB

T04, A New Focus: Reflecting Towards Higher Power Output of Photovoltaics

Joy Liu, I 9-10, Engineering and Computing Westmount, HWDSB

T05, Electrosis Engineering

Brandon Beck, J 7-8, Physical Sciences & Math St. Elizabeth Seton, HCDSB

T06, SOS Light

Mitchell Langley, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

T07, Holey Propellers!

Elton Schiott, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

T08, Heat Wave

Michael Scolaro, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

T09, MY ROCKET WILL GO HIGHER

Mostafa Mohammed El Sabagh, J 7-8, Engineering and Computing Dalewood, HWDSB

T10, Recycling Plastic Waste - A Concrete Solution Alex Smith.

J 7-8, Engineering and Computing Dalewood, HWDSB

U01, The Triagular Prismical Truss Bridge

Mitchell Bossert, J 7-8, Engineering and Computing St. Elizabeth Seton, HCDSB

U02, Here Comes The Sun... A Greener Way of Life!

Jacqueline Taylor, Steve Thakkar J 7-8, Engineering and Computing Oakville Christian School, Independent

U03, Hydrodynamic Boat Hulls

Nic Cunningham, J 7-8, Engineering and Computing Oakville Christian School, Independent

U04, Give Me My Personal Space!

Noura Kabbani, Meggie Kuypers J 7-8, Engineering and Computing W. H. Morden Public School, HDSB

EXHIBITOR LISTING Continued ...



U05, Weight! Is it time for a Detour

Thomas Evers, J 7-8, Engineering and Computing Oakville Christian School, Independent

U06, The Pet Pop-out

Holly McNeil, Emily Muscat J 7-8, Engineering and Computing St. Anthony of Padua, HCDSB

U07, Blocking Bluetooth®

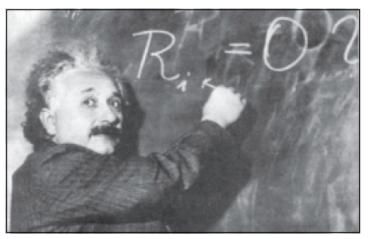
Louis Garber, Valen Varangu Booth J 7-8, Physical Sciences & Math Dalewood, HWDSB

U08, To Rip or Not to Rip

Gabriel Leon-Reyes, Jordan-lee Marcellin-Graham J 7-8, Physical Sciences & Math Holy Name of Jesus, HWCDSB



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

~ Albert Einstein

Congratulations to BASEF on 50 years of Science Success!

Thank you to all the participants & volunteers who made it possible.

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

U09, IsoPOD

Maggie Hunter, J 7-8, Engineering and Computing St. Augustine, HWCDSB

U10, Bridge Wars

Tanner Gariepy, J 7-8, Engineering and Computing St. Augustine, HWCDSB

V01, No Brainer? I Think Not!

Jenna D'Aurizio, Mikaela Brough J 7-8, Health Sciences W. H. Morden Public School, HDSB

V02, Game On: How Do You React? Andy Reid, J 7-8, Health Sciences St. Augustine, HWCDSB

V03, Oh ...Sweet It Is! Jessie Berdan, Neha Arun J 7-8, Health Sciences Lisgar, HWDSB

V04, The influence of TNF-alpha and IFN-gamma on the expression of the macrophage receptor with collagenous structure (MARCO) Julia Lee, S 11-12, Health Sciences Hill Park, HWDSB

V05, Bones As You Know Them Pauline Movrin, Samantha Keyes J 7-8, Health Sciences Guardian Angels, HWCDSB

V06, Rain, Rain Go Away! Monica Phonthaphanh, Erin Kyle J 7-8, Life Sciences Sir Wilfrid Laurier, HWDSB

V07, Phantom Load Brandon Elliot, Daniel Abbott J 7-8, Physical Sciences & Math St. Therese of Lisieux, HWCDSB

V08, Insulation Investigation Julian Martinez de Hoz, J 7-8, Physical Sciences & Math St. Elizabeth Seton, HCDSB

V09, My Grandma Is Faster Than That Danny Davies, J 7-8, Health Sciences Hillfield Strathallan College,

Independent

Independent

V10, squeeze, freeze, or premium breeze Nicole Arski, Olivia Arski J 7-8, Physical Sciences & Math Rotherglen School (Oakville),



SPECIAL AWARDS

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

City of Hamilton Mayor's Award

Prize: 1st: \$500, 2nd: \$300, 3rd: \$200

Criteria: Deserving projects by Hamilton students in the Biotechnology division.

Acquired Brain Injury Awards

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

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

American Society for Quality (ASQ) – Hamilton Section Award

Prize: One cash prize of \$100

Criteria: Best project demonstrating the use of quality tools and principles

ArcelorMittal Dofasco Chemical Testing Award

Prize: \$50

Criteria: Project that best displays the use of chemical testing and/or chemical principles to solve a technical problem.

ArcelorMittal Dofasco Commercial Award

Prize: \$50

Criteria: Project which best displays, the use of commercial and business planning tools in developing a potentially new or improved commercial product

ArcelorMittal Dofasco Engineering & Maintenance Technology Award

Prize: \$50

Criteria: Deserving project that best displays the use of Engineering & Maintenance Technology principles and design to solve a technical problem.

ArcelorMittal Dofasco Environment Award

Prize: \$50

Criteria: Project that best displays the use of physics, chemistry or engineering to explore or solve a technical problem associated with environmental issues.

Trip Award Winners

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ArcelorMittal Dofasco Hot Mill Award

Prize: \$50

Criteria: Project that best displays the use of creative principles and design to solve a manufacturing or process problem.

ArcelorMittal Dofasco Human Resources Training and Development Award

Prize: \$50

Criteria: Project that best displays the use of teaching and training techniques in explaining or exploring a technical program.

ArcelorMittal Dofasco Information Systems Award

Prize: \$50

Criteria: Deserving project that uses Information Systems and design to solve a technical problem.

ArcelorMittal Dofasco Product Research & Automotive Applications Award

Prize: \$50

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

ArcelorMittal Dofasco Medical Department Award

Prize: \$50

Criteria: Project that best displays the use of scientific principles in exploring or solving a problem related to human health issues.

ArcelorMittal Dofasco Product Development Business Process Award

Prize: \$50

Criteria: Project that best displays the use of Product Development principles and design in developing a new consumer product with commercial potential.

ArcelorMittal Dofasco Quality Systems Award

Prize: \$50

Criteria: Project that best displays the use of Quality Systems principles and design to solve a technical problem.

ArcelorMittal Dofasco Research and Development Award

Prize: \$50

Criteria: Project that displays the best use of investigative research and scientific principles to explore or solve a technical problem.

ArcelorMittal Dofasco Steelmaking Award

Prize: \$50

Criteria: Project that best displays the use of Engineering and Materials Science principles to solve a technical problem.

Artistically Inspired Display Award

Prize: Two awards of \$50 each

Criteria: To the most artistically inspired display

Canadian Institute of Mining & Metallurgy Hamilton Branch Awards

Prize: Two cash prizes of \$100 each.

Criteria: For projects relating to mining and metallurgy.

Canadian Nuclear Society (Sheridan Park Branch) Awards

Prize: Two awards at the intermediate or senior levels for \$125 each & two at the junior level for \$75 each. Criteria: Cash & certificate awards for outstanding projects related to Mining, Metallurgy, and petroleum, any level

Cancer Assistance Program Awards

Prize: Three awards

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

Chemical Institute of Canada, Hamilton Section Award

Prize: Three cash prizes of \$100 each.

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

Criteria: One deserving junior project in environmental studies.

Conservation Halton Environmental Sciences Award

Prize: \$100 each to two projects

Criteria: Best and second best Environmental Projects done by Halton Student(s)



D.E.N.M. Mining & Mineral Processing Awards

Prize: Three cash awards of 1st prize \$100, 2nd prize \$75, and 3rd prize \$50

Criteria: Outstanding engineering, physical sciences or environmental sciences projects (any level) with a preference to projects relating to Mining and Mineral processing

Dillon Consulting Science and Engineering Award

Prize: Once cash award of \$150 to any division or level

Criteria: Applies to any project in any BASEF Division showing excellence in science and/or engineering **Doris Casey Disability Solutions Award**

Prize: \$100 will be presented to the winning project.

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

Dr. Colin J.L. Lock Memorial Chemistry Award

Prize: \$100

Criteria: Project demonstrating the best application of chemistry.

Dr. M. Doyle Award

Prize: Total value of \$250 prize includes: a cash award, a plaque and a trophy for the winner's school Criteria: Best biology project.

Dr. Nicola Simmons Award in Cognition Studies

Prize: \$100

Criteria: An exemplary project in cognition studies.

Dr. Odette Tunks Awards

Prize: Two awards of \$100 each

Criteria: Two awards for the most creative or innovative project, any level.

Earth Day Hamilton Award

Prize: \$50

Criteria: Project which best displays creative solutions to local and global environmental challenges.

Edward H. Oldham Patent Award

Prize: One (1) gift-in-kind US Provisional Patent Application, there will be two runner ups to this award Criteria: Assistance in preparation of a US Provisional Patent. The winner will be the "best" patentable entry at BASEF.





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Electrical Construction Association of Hamilton Award

Prize: \$250

Criteria: A project displaying the best, safest use of electricity in a creative manner.

EnviroExpo Special Award sponsored by Via Rail Canada

Prize: One award of \$100

Criteria: An outstanding project that applies the combined skill and science to address a pressing environmental issue. In addition to traditional science content, the project must incorporate an artistic discipline and fall into one of the seven areas of environmental focus: Renewable Energy, Sustainable Development, Resource Management, Environmental Influences on Health, Culture Society and the Environment, the Greening of Products and Services or Biodiversity. The EnviroExpo Special Award is open to all students, grades 7-12

Gowlings Innovation Award

Prize: \$250

Criteria: The award will be given in any category for a project that exploits multiple areas of intellectual property protection, namely trademarks, patents, industrial design and copyright. The prize includes a complimentary consultation with a patent or trademark agent at the Gowlings Hamilton office.

Hamilton Association daVinci Award

Sponsored by the Hamilton Association for the Advancement of Literature, Science & the Arts Prize: \$300, honourary membership in the Association and an invitation to attend meetings Criteria: The best candidate combination of personal initiative with the use of the scientific method.

Hamilton Wentworth Occasional Teacher Local

Environment and Education Award

Prize: \$50 and certificate

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

Healthy Lifestyles Award

Prize: \$ 50 and certificate

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

Presentation and Aesthetics Award

Prize: \$50 and certificate

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

Hillfield Strathallan College Awards of Excellence

Design and Engineering

Prize: One cash award of \$100

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

Environmental Sciences

Prize: One cash award of \$100

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

Prize: One cash award of \$100

Criteria: Intermediate project that best displays excellence in sampling design in a health science project **Horizon Utilities Corporation Award**

Prize: Three awards of \$300 each

Prize: I nree 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

Hydro One Energy Ambassador Award

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

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

IEEE Hamilton Section Awards

Prize: Two prizes of \$100 each

Criteria: Two projects which show the best use of Electronics in a science or engineering project, any level.



Intel Excellence Awards for regional science fairs affiliated with the Intel International Science & Engineering Fair

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

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

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

Prize: certificates

Criteria: deserving intermediate and senior projects related to topics of interest to the following organizations <u>American Meteorological Society</u>: For an Intermediate or Senior project Best ability and creativity in an atmospheric science exhibit.

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

ASM Materials: outstanding exhibit in materials science.

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

Herbert Hoover Young Engineer Award: Outstanding Engineering Project.

<u>International Society for Optical Engineering</u>: Best project in the area of Optical Science or Engineering. <u>MU Alpha Theta</u>: Intermediate or Senior project demonstrating the most challenging, original, thorough and creative investigation or problem involving mathematics.

<u>Ricoh Sustainable Development Award</u>: Most outstanding project, selected among all the general award categories, whose principles and technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses.

Society for In Vitro Biology: Grade 11 project exhibiting in the areas of plant or animal in vitro biology or tissue culture.

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

The James A. Winger Award sponsored by Hamilton Amateur Astronomers

Prize: \$100 award plus an Astronomy book.

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

John. W. Howard Materials Research Award

Prize: \$100

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

Joseph Brant Memorial Hospital Award

Prize: \$100

Criteria: Project which displays the most innovative and creative technical medical assistance for individuals in a setting where medical treatment is not readily available.

Laurentian Chapter of SETAC Award

Prize: One cash prize of \$150

Criteria: Best project and presentation on a topic related to Environmental toxicology, chemistry, pollution, contamination, remediation or environmental protection.

McMaster Engineering Society Award

Prize: \$250

Criteria: Best junior engineering project.

McMaster University Faculties of Science & Engineering Tuition Awards

Prize: Five \$500 tuition awards, to be redeemed upon acceptance of successful admission to either of the Faculties of Science or Engineering.

Criteria: Excellent science or engineering projects.

Mechanical Contractors Association of Hamilton Award

Prize: \$250

Criteria: Best intermediate or senior engineering project.

Mechanical & Industrial Engineering Technology Awards

Prize: \$100

Criteria: Outstanding project related to industrial engineering or manufacturing, any level

Mathematics Awards

Prize: \$75 to each of two projects

Criteria: Deserving projects in the mathematics division, or any project from any division demonstrating a thorough understanding of statistics, any level.



Michael G. DeGroote Institute for Infectious Disease Research Internship Award

Prize: One paid Summer Internship of 6 weeks, as a research assistant in a laboratory at the M.G. DeGroote IIDR Institute at McMaster University (Value \$2,152.50)

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

Mohawk College School of Engineering Technology Awards

Building & Construction Sciences Awards

Prize: \$50

Criteria: deserving project related to any branch of civil engineering, any category, any level. Prize: \$50

Criteria: deserving project related to planning, design, operation of any transportation mode or facility, any category, any level.

Prize: \$50

Criteria: deserving project related to building sciences, building materials, energy conservation in structures, any category, any level.

Chemical and Environmental Engineering Technology Awards

Prize: \$100

Criteria: One deserving intermediate or senior project related to applied chemistry. Prize: \$50

Computer Science & Information Technology - Computer Excellence Award

Prize: \$50

Criteria: Project which demonstrates thorough understanding of computer applications and design in today's world.

Electrotechnology Engineering Award

Prize: Two cash awards of \$50 each

Criteria: One award for \$50 to a deserving junior project in engineering studies. Second award for \$50 to a deserving project in engineering studies

National Science & Engineering Research Council (NSERC) Awards

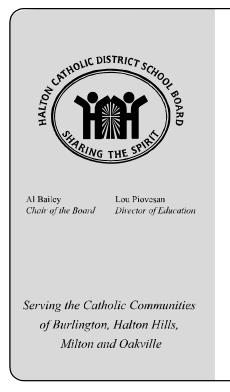
Prize: \$250 to each of two projects.

Criteria: Deserving projects demonstrating innovative and creative research by the student.

Nelson Steel Awards

Prize: \$100 to two outstanding projects

Criteria: Related to two of the following fields: Steel, Environmental or Chemistry. Preference given to junior levels



CONGRATULATIONS to all BASEF 2010 participants and **BEST WISHES** for continued success in all of your endeavours!

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



Nipissing University Regional Science Fair Award

Prize: One scholarship award of \$1000

Criteria: To a senior project, any category to be paid out upon registration at Nipissing University

Ontario Association of Medical Laboratories

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

Criteria: Outstanding project at any level in disciplines such as biochemistry, chemistry, microbiology, toxicology, and forensic science, and incorporating analytical laboratory techniques or physical methods of analysis, for example a spectrometer or chromatograph.

Ontario Ministry of the Environment Award

Prize: One cash prize of \$100, to be sent after the fair and one award must go to a junior project. Criteria: To an outstanding project in any category which demonstrates a creative approach to an environmental problem that could lead to cleaner air, land or water

Primary Fluid Systems Awards

Junior or Intermediate Engineering Awards Two prizes each of : \$250, \$150, \$100 Criteria: Deserving projects in junior or intermediate engineering. Junior or Intermediate Physical Sciences Awards Two prizes each of : \$125, \$75, \$50 Criteria: Deserving projects in junior or intermediate physical sciences. Junior or Intermediate Earth & Environmental Awards Two prizes each of: \$125, \$75, \$50 Criteria: Deserving projects in junior or intermediate earth & environment.

Procor Engineering Awards

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

Criteria: Excellent engineering projects.

Professional Engineers Ontario (Hamilton-Burlington Chapter) Awards

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

Criteria: To the top three outstanding Engineering Project Exhibitors at any level.



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

Best Wishes to all BASEF 2010 Participants





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



Prize: Two awards of \$100 each

Criteria: To two deserving engineering projects.

Royal Botanical Gardens Award

Prize: \$100 gift certificate from RBG shop plus 1 year RBG Family Membership Criteria: Best project in botanical or environmental sciences

Safety Management Systems Software Award

Prize: \$100 and a plaque

Criteria: A project that incorporates the most innovative integration of programming code to analyze data or to operate a piece of equipment.

The Venture Science and Engineering Innovation Award, McMaster University

Prize: Free registration to Venture Engineering Science Camp on August 3rd-August 6th 2010 and a certificate to the winning project

Criteria: Is presented to one junior project that demonstrates creativity and originality.

University of Ontario Institute of Technology Innovation Award

Prize: Two Awards of \$100 each, to be sent after the fair and one award must go to a junior project. Criteria: Outstanding projects demonstrating the most innovative development, adaptation, or use of technology in any subject area.

University of Ottawa Admission Scholarship

Prize: \$1000 admission scholarship (or two \$500 scholarship for a pair project) toward tuition fees upon being accepted into and registration in an undergraduate program in the faculties of Engineering, Science or Health Sciences at the University of Ottawa.

Criteria: The most deserving Senior project.

Weirdest Project Award

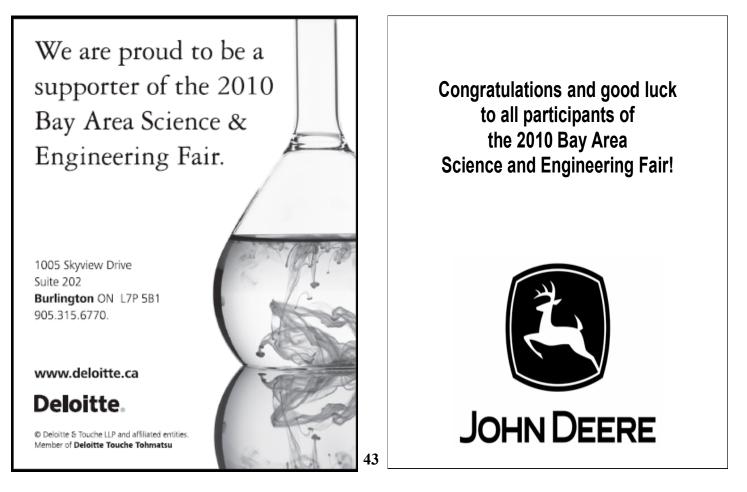
Prize: UFO Detector Device & Nikola Tesla Library

Criteria: The unusual, strangest, or subject matter that goes beyond the reality of scientific explanation

Zonta Club of Hamilton Awards

Prize: \$300 will be shared by a limited number of projects.

Criteria: Outstanding projects by females, any category, any level.





MERIT AWARDS





Sponsored by Primary Fluid Systems

Merit Awards recognize the tremendous amount of thought and effort that has gone into the projects entered into the BASEF Regional Science Fair. They are the result of an extensive judging process undertaken by up to 150 independent judging volunteers who have come forward from educational institutions, local government organizations, business and industry in our regions. All participants in the Bay Area Science and Engineering Fair are eligible to win Merit Awards.

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

Scoring:

over 90% and ranking in top 7.5% of category: over 80% and next 10% of category: over 75% and next 12.5% of category: over 75% and not in the top 30% of category: earns Gold medal & cash award earns Silver medal & cash award earns Bronze medal & cash award earns Honourable Mention certificate & cash award

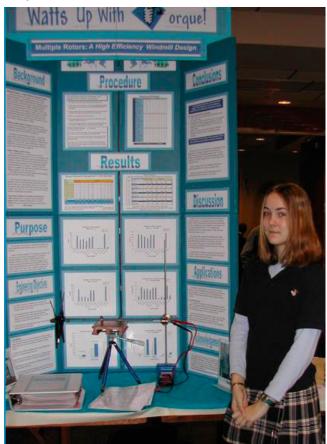
For Junior, Intermediate, Senior levels in:

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

The Mohawk College & Sheridan Institute Tuition Scholarships

Mohawk College of Applied Arts and Technology & Sheridan Institute of Technology and Advanced Learning will provide \$500 scholarships to ALL BASEF 2010 Merit Award Medal (Gold, Silver, Bronze) winners. The scholarship may be used toward first year tuition upon the recipients' acceptance and registration in any full-time program at either Mohawk or Sheridan. If multiple scholarships are accumulated over more than one year, only one of these scholarships may be used.

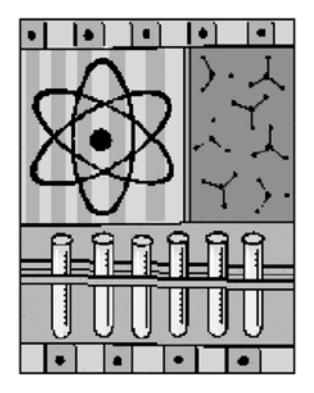




2004 Best-in-Fair Winner Dayna Walker

Happy 50th Anniversary BASEF!

We are proud to sponsor BASEF and the 2010 Merit Awards!



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

Thomas A. Edison



Burlington, Ontario www.primaryfluid.com



GRAND PRIZE AWARDS



WINNERS OF GRAND AWARDS HAVE DESIGNED, RESEARCHED AND PRESENTED EXCELLENT PROJECTS.

ARCELORMITTAL DOFASCO PINNACLE AWARDS

BASEF's Pinnacle Awards are presented to each of the top three projects in the fair. These awards are based on the project's Merit Award score. Each winner receives an engraved plaque; trophies are awarded to the winners' schools.

DRS. RANJAN SUR AND MONALISA SUR AWARD

For the best intermediate or senior level project at the fair, a plaque to the winner's school.

ROY MIDDLETON MEMORIAL AWARD

For the best Junior level project at the fair, a plaque to the winner's school.

SUSAN JOYCE MEMORIAL AWARDS

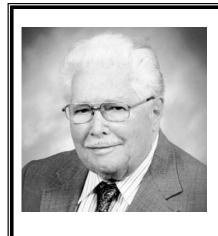
For the top project in each of the six categories at the Junior level, a keeper trophy for each student.

HERB GILDEA MEMORIAL TROPHY

A trophy is awarded to the secondary school accumulating the most points. Points are earned from the number of projects entered from intermediate and senior levels of each school and those projects earning Gold, Silver, Bronze and Honourable Mention Merit Awards.

BASEF COMMITTEE TROPHY

A trophy is awarded to the elementary school accumulating the most points. Points are earned from the number of projects entered from the junior level of each school and those projects earning Gold, Silver, Bronze and Honourable Mention Merit Awards.



In Memoriam

C. Roy Middleton 1910-2009

Roy is remembered for his contributions to the Hamilton District Science and Engineering Fair, in particular the annual award in his honour.

A BASEF Founder The Hamilton Spectator, Retired

Sponsors are

- Boehringer Ingelheim Canada
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- Halton Catholic District School Board
- Hamilton Halton Construction Association
- Hamilton Wentworth Catholic District School Board
- Hamilton Wentworth District School Board
- Hillfield Strathallan College
- Ontario Power Generation
- Youth Science Ontario

TEAM ONTARIO at CWSF

Along with all other Ontario CWSF trip winners, BASEF students awarded CWSF trips will be named to "Team Ontario". Each Ontario CWSF trip-winner will receive a Team Ontario jacket.

All-expense paid trips to the 2010 Intel International Science & Engineering Fair, to be held in San Jose California, USA from May 9 to 14, 2010. Chosen from excellent secondary school (Intermediate & Senior level) projects, up to 4 trips, two singles and a pair project (dependant on funding levels), will be awarded. NOTE: Winners must be able to travel into the USA (Canadian citizenship or landed immigrant status, with valid passport in-hand).

Sponsors are

- Mohawk College •
- McMaster University
- Union Gas

CANADA WIDE SCIENCE FAIR TRIP AWARDS

All-expense paid trips to the 2010 Canada Wide Science Fair, to be held in Peterborough, Ontario from May 15 to May 23, 2010. Up to 16 trips (dependant on funding levels) will be awarded for excellent projects. All projects

The top single project advancing to CWSF will earn the Ontario Ministry of Research & Innovation Stepping Stone Award

> Youth Science Canada Sciences jeunesse Canada

entered in BASEF 2010 are eligible.

INTEL INTERNATIONAL SCIENCE & ENGINEERING FAIR TRIP AWARDS













AND ENGINEERING FAIR SAN JOSE 2010

INTEL INTERNATIONAL SCIENCE



Bay Area Science and Engineering Fair On your 50th anniversary

Wishing you a bright future as you continue to inspire and celebrate young scientists in your communities

from, Your friends at



Please visit us at www.youthscienceontario.ca

Bold Future

Because we believe in big ideas and infinite possibilities, ArcelorMittal Dofasco is proud to sponsor and be part of the Bay Area Science and Engineering Fair. Congratulations, BASEF, on 50 years of providing opportunities for this community's young visionaries and innovators.

