



CWSF 2023 Finalists: Nate Bennet, Elana DeLuca, Ava Terfiak, Isabelle Young and Zachary Carter Phillips

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Peterborough Science Fair



Peterborough Regional Science Fair



@PtboScienceFair

The 56th Annual Peterborough Regional Science Fair



April 9th, 2024

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Thank you to all our sponsors whose support and generosity make the Science Fair possible!

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Bronze Level (\$100-\$249) Continued



Dr. Stephanie Rutherford
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Dorothy Howard-Gill

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Sponsors

Thank you to all our sponsors whose support and generosity make the Science Fair possible!

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Bronze Level (\$100-\$249)



University Scholarship (\$1000)



Gold Level (\$500-\$999)



Dr. Raymond & Kathleen March



The Women Surgeons of Peterborough and the Kawarthas



Welcome from the Dean of Science

I would like to welcome all of you to the 2024 Peterborough Regional Science Fair at Trent University. I am delighted to see our campus bustling with energy as we continue this cherished tradition that has endured for over five decades.

I wish to express my appreciation to the dedicated individuals who make this fair possible – the committee members, judges, teachers, parents, volunteers, and sponsors. Their unwavering commitment ensures the success of this event, and for that, we are deeply grateful. To our esteemed participants, I commend you for your enthusiasm and dedication to the pursuit of scientific knowledge. Your participation enriches the fair and contributes to its legacy of excellence. I also extend my gratitude to the teachers and parents whose support and encouragement are invaluable to the success of our young scientists.

Trent University takes pride in its rich tradition of scientific research, experiential learning, and community engagement. The Peterborough Regional Science Fair embodies these values, providing young minds with opportunities for exploration and discovery, essential elements in shaping a future informed by science.

As you explore our picturesque campus, I encourage you to take in the beauty of our surroundings. The Faryon Bridge over the Otonabee River offers breathtaking views of Trent. Let the natural splendor inspire your scientific curiosity. Take the time to connect with fellow participants from across the Kawarthas, for in your shared passion lies the promise of endless scientific exploration.

I hope that today's experiences leave a lasting impression on you. I wish you all the best of luck and an enjoyable time at the Fair, and I look forward to welcoming you back next year.

Holger Hintelmann Ph.D.
Dean of Science

Special Awards: Junior, Intermediate and Senior Continued

- \$1,000 Entrance Scholarship, University of Ottawa: Senior
- \$1,000 Entrance Scholarship, Trent University: Senior

Canada Wide Science Fair Grand Prize Junior, Intermediate or Senior

Students will compete at the Canada-Wide Science Fair, Carleton University, Ottawa, May 25th to June 1st, 2024

\$100 Third Place
Trip to Canada-Wide Science Fair with support from The Peterborough Regional Science Fair

\$150 Second Place
Sponsored by Dr. Stephanie Rutherford
Trip to Canada-Wide Science Fair with support BWXT and The Peterborough Regional Science Fair

\$200 for Best of Fair Kathleen Peacock Award
Sponsored by Ray and Kathleen March
Trip to Canada-Wide Science Fair with support from The Peterborough Regional Science Fair

G	T	P	J	O	M	E	N	E	R	G	Y	K	M	Y
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X	M	A	T	T	E	R	Y	J	X	R	Y	G	Z	V

- Beaker
- Biology
- Cells
- Chemistry
- Data
- Energy
- Experiment
- Inventor
- Laboratory
- Magnifier
- Matter
- Measure
- Microscope
- Organism
- Research
- Ruler
- Scales
- Telescope
- Thermometer

Senior 11-12 Continued

Health & Life Sciences

- Honourable Mention, Third, Second, First
Sponsored by Ontario Power Generation

Earth & Environmental Sciences

- Honourable Mention, Third, Second, First
Sponsored by The Rotary Environmental INNOVATORS Fund

Computing & Engineering Sciences

- Honourable Mention, Third, Second, First
Sponsored by BWXT

Special Awards: Junior, Intermediate and Senior

- \$75 Random Rookie Raffle – Three \$25
- \$80 Peterborough Field Naturalists Award – Two \$40
- \$100 Institute for Integrative Conservation Biology at Trent University: Ecology & Evolution Award: Junior
- \$100 Sanofi Biogenius Canada Award
- \$100 Trent School of the Environment: Earth and Environmental Sciences
- \$100 Luc C. Matteau Award: Sponsored by Institute of Electrical and Electronic Engineers
- \$100 Rolls-Royce Award: Physical & Mathematical Sciences
- \$150 Professional Engineers of Ontario Peterborough Chapter Innovation & Impact Award
- \$200 Water Environment Association of Ontario Award: Intermediate—Two \$100
- \$200 Maple View Farms: Health and Life Sciences – Two \$100
- \$250 Otonabee Region Conservation Authority Award for Environmental Excellence: Junior Earth and Environmental Sciences
- \$200 Society of Environmental Toxicology and Chemistry Award (Laurentian SETAC Chapter): Two \$100
- \$400 Ontario Tech University Innovation Award – Two \$200



Welcome from the Chair

On behalf of the organizing committee, I am pleased to welcome you to the 2024 Peterborough Regional Science Fair!

Last year was our first year back in-person and it was so great to engage with participants, see their projects, and once again feel the excitement that the fair brings to Trent University. Our participants, their families and friends bring a special energy on fair day, and we look forward to experiencing that again this year.

This year our theme is artificial intelligence (AI). From virtual assistants in our homes (“Alexa, where is the Science Fair?”), to self-driving cars, to personalized medicine – AI applications are already transforming how we interact with each other and with the world around us. Our keynote speaker is Mamdouh Mina, a Professor at Fleming College and expert on “all things data”, who will talk about the impact of Big Data – including privacy, crime, networks and, of course, AI.

The goal of our fair is to encourage a love of science and we are thrilled you have entered. My personal favourite part of the fair is seeing the amazing questions you have come up with. I look forward to meeting many of you and to hearing about what you have found. And I know our judges and other committee members are excited to engage with you also. A few lucky participants will be selected to represent our fair at the Canada-Wide Science Fair, hosted by Youth Science Canada in Ottawa. I wish them all the best in Ottawa.

Finally, I would like to express my sincerest gratitude to all those who made this fair possible. This includes the incredible generosity of our sponsors and our dedicated volunteers who work throughout the year to organize the fair. Lastly, a massive cheer goes out to the students for their efforts, and to their parents and family members, mentors, teachers, and friends for their support and persistence to embrace science.

Celebrate Science. Engage. Explore. Experiment!

All my best for a great day.

A handwritten signature in black ink, appearing to read "Sara Pieper".

Sara Pieper, Ph.D.

Chair, Peterborough Regional Science Fair

Schedule of Events

- 8:15-8:45 Project set up
- 9:00-11:30 Judging
- 11:30-2:00 Public Viewing
- 12:15-1:00 Lunch Break (Primary and Elementary)
-Note: Cash is not accepted at the Trent cafeteria
- 12:30-1:15 Lunch Break (Junior, Intermediate and Senior)
- 2:00 Project takedown—Ice Cream in Wenjack Theatre donated by Central Smith

Committee Members

Sara Pieper, Chair	Sean Dunne, Logistics
Neil Emery, Vice-Chair	Craig Murray, Programme
Brian Patrick, Chief Judge	Shawna Corcoran, Logistics
Sumiko Polacco, Treasurer	Jill Emery, Operations
Patty Carlson, Secretary	Cassie DeFrancesco
Sarah Langer, Judges Coordinator	Jess Livingstone, CWSF Delegate
Smolly Coulson, Logistics	Alie Harvey, TWSP
Mary O'Grady, Logistics	

Special thanks to Laurence Emery for the Graphic Design work

Keynote Speaker at Awards Ceremony



Professor Mamdouh Mina is the Program Coordinator behind Fleming College's Computer Security and Investigations (CSI) program. As our guest speaker Mamdouh, will help us explore AI and Data Security. His specialties include: data security and privacy, project management, network design, network forensics and investigation, cybersecurity, risk assessment, data backup, wireless solutions and "researching and acquiring unique solutions to seemingly

impossible problems"... whew!

Seems complicated, but don't worry, Mamdouh will change your mind. He is animated, enthusiastic and eager to reveal the world of data which surrounds us on earth and above in the clouds.

Awards

Junior 7-8

Physical & Mathematical Sciences:

- Honourable Mention, Third, Second, First

Health & Life Sciences

- Honourable Mention, Third, Second
- First: Dr. Agnes Moffat-Magee Award – Sponsored by Canadian Federation of University Women

Earth & Environmental Sciences

- Honourable Mention, Third, Second
- First: Thomas Howard Award – Sponsored by Dorothy Howard-Gill

Computing & Engineering Sciences

- Honourable Mention, Third, Second, First:
Sponsored by Institute of Electrical & Electronics Engineers

Intermediate 9-10

Physical & Mathematical Sciences

- Honourable Mention, Third, Second, First

Health & Life Sciences

- Honourable Mention, Third, Second, First
Sponsored by Ontario Power Generation

Earth & Environmental Sciences

- Honourable Mention, Third, Second, First
Sponsored by The Otonabee Region Conservation Authority

Computing & Engineering Sciences

- Honourable Mention, Third, Second, First
Sponsored by BWXT

Senior 11-12

Physical & Mathematical Sciences

- Honourable Mention, Third, Second, First
Sponsored by Trent University Chemistry Department

Awards

Primary K-3

General Science

- Honourable Mention, Award of Excellence and Best Overall

Elementary 4-6

Biological Science

- Honourable Mention, Award of Excellence and Best Overall

Physical Science

- Honourable Mention, Award of Excellence and Best Overall

Special Awards: Primary and Elementary

- \$50 Random Rookie Raffle – Two \$25
- \$80 Peterborough Field Naturalists Awards Elementary – Two \$40
- \$100 Institute for Integrative Conservation Biology at Trent University: Science & Discovery Elementary Award

All Divisions Eligible

- \$50 The Community Betterment Award Sponsored by Chad and Louise Campbell
- \$100 Shaw Computer Systems Award for Energy Management
- \$200 Frank Hancock Memorial Award Sponsored by the Peterborough Astronomical Association—Two \$100 awards

Teacher Award

Two awards are given to teachers that stand out as an inspiration to their students to explore science! \$100 Boro gift certificate.

Top School Award

This is awarded to the school with the most number of students participating in the fair...so get all your classmates involved! Sponsored by PRSF.

Participants

Primary Grades K-3

Mackenzie Assinck	Amelia Guyatt Fennell	Sage Newland
Josie Belanger	Madeline Haan	Mikka Oguto-Were
Sawyer Belanger	Maddison Hudson	Abigail Parker
Geneva Boshart	Thea Ingram	Ciaran Ragaz
Julia Bridgeman	Sydney Kirby	Terri Sanzo
Ezekiel Butler	Leanne Liu	Dominic Savegnago
Raylan Copeland	Samuel Liu	Oliver Snook
Gwendolyn Doucet	Ava Markle	Diana Tobin
Autumn Fawcett	Taylor McDannold	Laura Topping
Oliver Feldman Reyes	Jordyn McInroy	Naomi van Berkel
Leah Friesen	Ewan McLeod	Samantha Vignarajah
Adelena Gagliardi-Stabler	Roman McPhail	Mya Willett
Galvin Gagliardi-Stabler	Cora Muir	Lila Zamanifar
Olivia Goard	Evelyn Munro	Caroline Zhang

Elementary Grades 4-6

Alexis Adams	Ben Chard	Malcolm Feldman Maturano
Abigail Ahee	Samarpan Cheema	Clara Fraser
Adria Andreoli	Roger Christie	Udayvir Gharial
Grayson Bates	Wesley Clark	Nora Gilbert
Rosemary Belanger	Verna Conlin Hanley	Isla Girard
Josephine Berlinger	Owen Cross	Anna Grasswell
Oskar Breukelaar	Kinsley Curry	Brynn Groenwold
Abbey Bridgeman	Annabelle DeBlock	Jessica Hamilton
Ayla Carswell-Gomez	Fern Dickinson	Bentley Heffernan
Dharma Chantegreil	Isabella Dinnick	Grace Hur

Elementary Grades 4-6 Continued

Mackenzie Ingram	Everley Mervin	Jennifer Scheepers
Isabelle Jackson	Sadie Moloney	Sam Sinacori
Wynn Jennings	Julia Monks	Audrey Sweeney
Joycelyn Kang	Colin Narduzzi	Andrew Tan
Ilakkiyan Karthik	Jasper Newland	Alexa Truong
Jack Kerswill	Malachi Ogutu-Were	Liah Van
Quinn Kirby	Londyn Panter	Isaiah van Berkel
Elsa Ziyi Kong	Lucas Patton	Robbie Wade
Victoria Lee	Kayley Pelletier	Hunter Webb
Alaina MacDonald	Leah Ragaz	Maria Woodcroft
Jack Matchett	Kara Rogers	Adeline Zhang
Kailey McDannold	Riley Salo	Violet Atkinson

Junior Grades 7-8

William Acs	Casey Dennison	Evelyn Leahy
Beck Akiyama	Andrew Ding	Nathan Li
Saad Alherish	Saskia Dorken	Sienna Lott
Ella Baklinski	Jonah D'Souza	David Lucas
Angelo Berlingeri	Maggie Dunford	Pearl MacGregor
Nellie Brand	Pazlie Flagler	Madeleine Mcdowell
Ivy Carstensen	Charlotte Fleming	Pierce Meehan
Kayley Carter Phillips	Brooklynn Gear	Corinne Moore
Colby Cavanagh	Amiyah Gentle	Patrick Moyer
Ava Chartrand	Theo Greisman-Blank	Francesca Murphy
Sara Cockburn	Ruby Hale	Emmitt O'Brien
Zach Cockburn	Claire Jalsevac	Matthias Ogutu-Were
Juliette Dallaire	Kyla Lazarus	Andrew Pei

Junior Grades 7-8 Continued

Eric Persaud-Meraram	Marley Schielke	Rishav Upadhya
Teresa Poland	Claire Sehn	Benjamin Van
Lucy Pye	Aviraj Sembhi	Nathan Van
Kiana Raviraj	Hunter Simpkins	Miles Vardy
Liam Robertson	Samantha Stewart	Benjamin Velasquez
Nik Roudny	Alex Sytnyk	Abhiram Vemula
Lilah Sampson	Keira Thorndyke	Aviendha Wight

Intermediate Grades 9-10

Violet Atkinson	Katherine Guan	Rachel Pei
Jade Baik	Isaiah Jalsevac	John Paul Poland
Kazia Bailey	Clare Leahy	Rajeasha Rathnakumar
Alex Beaubien	Joseph Leahy	Eleanor Sehn
John Canning	Robert MacGregor	Sophia Shulyarenko
David Connell	Courtney McGuigan	Payton Slimmon
Aaron Davis	Veronica Mitchell	Lauren Sytnyk
Participy Durham	Gregory Murray	Will Velasquez
Victoria Fraser	Kaylee Parr	Heidi Westbye
Dominic Garlick-Rittwage	Ashley Pearson	Isabelle Young
Ellie Girdlestone		

Senior Grades 11-12

Kylee Chamberlain	Callie Fobear	Aidan Miklos
Hansen Chen	Diane Gillispie	Eddie Morrison
Yuyang Chen	Ashley Jones	August Nadolny
Emma Cribby	Kaitlyn Lungley	Kira Schuller
Tatum DeVille	Morgan McConville	