

The 52nd Annual
**Peterborough
Regional
Science Fair**



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Peterborough Science Fair



Peterborough Regional Science Fair



@PtboScienceFair

April 6th - 9th, 2021

Sponsors

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

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Sponsors

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

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Friends and Contributions

Mary O'Grady
Dr. Rachel Wortis
Dr. Marcel Dorken

Dr. Jim Schaefer
Dr. Julian Aherne
Dr. Teresa Stotesbury

Special Awards: Junior, Intermediate and Senior (Continued)

- \$200 Noblegen Impact Award: Junior, Intermediate or Senior
- \$1,000 Entrance Scholarship, Trent University: Senior
- \$1,000 Entrance Scholarship, University of Ottawa: Senior

Top School Award

This is awarded to the school with the largest combined total of winning projects...so get all your classmates involved! Sponsored by Peterborough County Medical Society.

Teacher Award

Two awards are given to teachers that stand out as an inspiration to their students to explore science! \$100 gift certificate for Brant Basics in Peterborough

Canada Wide Science Fair Grand Prize

Four students to compete at the Canada-Wide Science Fair, Virtual (Ottawa) May 17th to 21st, 2021
Junior, Intermediate or Senior
<https://youthscience.ca/science-fairs/cwsf/ottawa-2021/>

\$100 Fourth place
Sponsored by Stephanie Rutherford

\$100 Third Place
Sponsored by SGS Canada Inc. Lakefield
Trip to Canada-Wide Science Fair sponsored by Noblegen

\$100 Second Place
Sponsored by Fadhil Pharmasave
Trip to Canada-Wide Science Fair sponsored by BWXT

\$200 for Best of Fair Kathleen Peacock Award
Sponsored by Ray and Kathleen March
Trip to Canada-Wide Science Fair sponsored by NSERC
Young Innovators



Welcome from the Dean of Science

As Dean of Science of Trent University, I am delighted to welcome you to the 2021 Peterborough Regional Science Fair (PRSF). This is a remarkable year for the fair as, in the face of a pandemic, it moves to a virtual format for the first time in its 52 year history.

Especially in this challenging year, I want to recognize that the Fair was made possible because of the dedication and service of the PRSF committee members, judges, teachers, parents, volunteers and sponsors. They are always putting in a tremendous time and energy to organize the best Fair possible. This year the transition from in-person to virtual has meant that even more effort was committed to make sure that the PRSF would continue.

Trent University has a strong tradition in scientific research, experiential learning and community engagement. That's why I take pride in the way Trent University supports The Peterborough Regional Science Fair, which offers many of those same elements for the youngest members of our community. More than ever, we need a world that is informed by science and nurtured by the spirit of scientific curiosity and discovery.

Normally I would have the pleasure of welcoming you to our physical campus where you could experience our unique academic environment first-hand. For this, we will have to wait until next year, but in the meantime please take full advantage of the online format to learn from each other and connect with other young science enthusiasts participating from all corners of the Kawarthas.

I wish you all good luck and a lot of fun in the Fair and its competitions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Holger'.

Holger Hintelmann Ph.D.
Dean of Science



Welcome from the Director

On behalf of all the organizers and volunteers, we are thrilled to welcome you to the Virtual Peterborough Region Science Fair 2021. For participants and organizers alike, there were a few “technical difficulties” along the way - but here we are! Thank you for your patience and perseverance. Together we have navigated our way through the first (and hopefully the last) pandemic science fair.

This has been a year like no other for science — researchers have been in the media spotlight every day for more than a year since COVID-19 overwhelmed the world. At the time, I was in charge of the grave task of shutting down Trent University’s research labs but when our communities realized the absolute urgency of engaging our scientists, they were the first university units to reopen. In a similar vein, a greater understanding of science starts with youth. That is why, despite the challenges our committee was determined to offer a virtual fair so that this long-standing community event could continue. You can take away hockey, dance, soccer, volleyball and so many other extracurriculars, but science will prevail!

Experts in virology, infectious diseases, healthcare and computer technology have dominated social media, Tv, radio, and movies which illustrates the importance of a STEM profession. As a Plant Biochemist I can assure you a career of experiments and exploration is very fulfilling. Whether its disease, climate change, or ecosystem degradation, I encourage you to continue with your passion for science and study solutions. We can’t wait to see what you have to share. Maybe it’s a discovery about a plant-based protein for your breakfast cereal, saving wildlife or mopping up pollution, our judges are ready to dive into your online project boards.

We know all of you will have a fun and a fulfilling time participating and we are delighted you have entered. A fortunate few will be selected to represent our region and compete at the Virtual Canada-Wide Science Fair hosted by Youth Science Canada in May. We would like to express our sincerest gratitude to all those students who made this fair possible. And an extra shout-out goes to our first-time participants, whom we hope to have back next year in-person. I wish to express a huge thank-you for the ongoing incredible

Computing & Engineering Science

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

Special Awards Primary and Elementary

- \$50 Random Rookie Raffle – Two \$25
- \$50 Peterborough Field Naturalists Awards – Two \$25
- \$100 Institute for Integrative Conservation Biology at Trent University: Science & Discovery Elementary Award
- \$100 Frank Hancock Memorial Award -All divisions eligible - Sponsored by the Peterborough Astronomical Association
- \$100 Shaw Computer Systems Award for Energy Management -All divisions eligible

Special Awards: Junior, Intermediate and Senior

- \$50 Random Rookie Raffle – Two \$25
- \$50 Peterborough Field Naturalists Award – Two \$25: Junior
- \$100 Institute for Integrative Conservation Biology at Trent University: Ecology & Evolution Award: Junior
- \$250 Otonabee Region Conservation Authority Award for Environmental Excellence: Junior Earth and Environmental
- \$100 Trent School of the Environment: Intermediate Earth and Environmental
- \$100 John S. Mackelvie Award: Junior, Intermediate or Senior -Sponsored by Institute of Electrical and Electronic Engineers
- \$150 Professional Engineers of Ontario Peterborough Chapter Innovation & Impact Award: Junior, Intermediate or Senior
- \$100 The Ted Rogers Innovation Award: Junior, Intermediate or Senior -Sponsored by Rogers Communications Inc.
- \$200 Ontario Tech University Innovation Award – Two \$100: Junior, Intermediate or Senior
- \$200 Noblegen Innovation Award: Junior, Intermediate or Senior

Awards (Continued)

Health & Life Sciences

- Honourable Mention, Third Place
- Second: Kenneth Tsiang Memorial Award – Sponsored by Louise Tsiang
- 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 Science

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

Intermediate 9-10

Physical & Mathematical Sciences

- Honourable Mention, Third, Second
- First: Sponsored by BWTX

Health & Life Science

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

Earth & Environmental Science

- Honourable Mention, Third, Second, First

Computing & Engineering Science

- Honourable Mention, Third, Second, First

Senior 11 - 12

Physical & Mathematical Science

- Honourable Mention, Third, Second, First

Health & Life Science

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

Earth & Environmental Science

- Honourable Mention, Third, Second, First

generosity from our sponsors. In a difficult year, so many have come through to support the virtual fair. Thanks also to our dedicated team of volunteers who work throughout the year to organize this event.

Lastly thank you to the students for their efforts, their parents, mentors, teachers and friends for their support and persistence through these unique times. Cherish your collector COVID badge.

Experiment, explore, experience!

Best wishes



Neil Emery, Ph.D.
Director

Schedule of Events

- Tuesday, April 6th: Project will be available for public viewing through the following link: <https://projectboard.world/ysc/regional>
- Friday, April 9th at 6:30 PM: Live Zoom Awards Ceremony. The link to the awards ceremony will be available on the Science Fair website: www.peterboroughsciencefair.com

Committee Members

Neil Emery, Chair	Sean Dunne, Logistics
Sara Pieper, Co-Chair	Robert Loney, Technical Support
Brian Patrick, Chief Judge	Craig Murray, Programme
Louise Campbell, Treasurer	Stephanie Rutherford, Fundraising
Patty Carlson, Secretary	Dorothy Howard- Gill, Fundraising
Sarah Langer, Judges Coordinator	Gina Collins, Fundraising
Smolly Coulson, Logistics	Jill Emery, Administration

Participants

Primary (Grades K-3)

Abrielle Clement	Austin McInnes	Jasper Newland
Shiven Dave	Lilli Mills	Jerry Wang
Isaac Jones	Connor Nedeljkovic	Laiba Yusuf
Taylor McDannold	Tearyn Nedeljkovic	

Elementary (Grades 4-6)

Desmond Bonner	Connor Georg	Owen Martin
Fina Burrows	Willow Herold	Madeleine McInnes
Zackary Carter Phillips	Hadley Jennings	Owen Mills
Manha Chaudhry	Olivia Jones	Orianna Ryan
Kirean Cunniffie	Kai Kekki	Ella Sehn
Jonah Dsouza	Max Knowles	Claire Sehn

Junior (Grade 7-8)

Hrish Dave	Prutha Pathak	Zoe Shufelt
Naomi DSouza	Shreya Plassery	Jason Wang
Lucas Firth	Lucas Sedlak	Declan Naegeli
Rowan Sutcliffe Dummitt		

Intermediate (Grades 9-10)

Calvin Karthik	Shaun Plassery
Oliver Leighton	Sydney Watson

Senior (Grade 11-12)

Ainsley Hickerson	Andrew Phillips	Emily Spencer
Jessica Livingstone	Amy Rushlow	Kendrick Webster
Ciarra Lungley	Kennedy Drover-Fitchett	

Sudoku

		2				4		
		6	8	9	1			
	9		2	7				8
	2							5
8	6		5		2		7	4
4							2	
6				8	3			1
			6	1	9	5		
		9				7		

	3	8	6		5			9
5		9	7		2			
2				9		8		
						3		6
9								1
4	7							
		2		1				4
			3		8	1		2
	5		9		4	7	3	

	8			2	9	7		1
	9			7				
		2	4					
		4		1	7	3		8
3								6
1		8	6	5		9		
					4	5		
				6			1	
6		5	1	3			4	

		6		4		7	5	
			3	1		2		
1					7			
	2	8			3	4		9
9								3
5		3	9			8	2	
			8					2
		4		3	6			
	6	9		5		1		

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

Junior 7 – 8

Physical & Mathematical Science:

- Honourable Mention
- Third: Sponsored by Institute of Electrical & Electronics Engineers
- Second: Kenneth Tsiang Memorial Award; Sponsored by Louise Tsiang
- First: Sponsored by Institute of Electrical & Electronics Engineers