



TRENT Breakthroughs

CHALLENGING THE WAY WE UNDERSTAND THE WORLD, WITH NEW RESEARCH AND INNOVATION TRENDS AT TRENT

SPRING 2019 EDITION

In this edition of *Trent Breakthroughs* you will find thought-provoking research stories, many surrounding the outdoors - perfect timing for spring. Read on to learn how birds survive the harsh winter; an international study of river health impacting global ecosystems; and, a surprise finding that Neanderthals abandoned their spears to hunt a certain fast-footed creature.



Dr. Neil Emery at the 2019 Teaching Excellence Awards at Trent University

You can also catch up on Trent's Canada research chair in the Physics of Biomaterials, Dr. Aaron Slepkov and his students' research turned viral media story about creating plasma in microwaved grapes. In addition, we highlight a brand new research group at Trent, collaborating to assist researchers in better mobilizing their findings publicly about issues like climate change and species extinctions. In true multi-disciplinary style, Trent University research goes beyond the physical sciences and intersects with the humanities and social sciences - read more about today's finance and interest rate quandaries; current federal politics; and a personal Indigenous memoir from one of Trent's awarded elders.

I hope you enjoy reading this *Trent Breakthroughs* edition, unearthing fresh discoveries in our ever-changing physical and social world.

Dr. Neil Emery
Vice-President, Research and Innovation
Trent University

P.S. I hope you saw the [national coverage of Cleantech Commons](#) on page B6 in the April 16 issue of the *Globe and Mail*. Adam Bisby's article shares the University's plans to "host companies that work in environmental fields such as clean technology, biotechnology and agri-food; provide experiential learning and employment for students; forge new research partnerships; and bring economic development to the region."



*Read the *Globe and Mail* article featuring the Cleantech Commons at Trent University*

THE FUTURE IS NOW: TRENT'S IMPACT IN THE NEWS

In the lab, throughout the community, and around the globe, Trent faculty, students, and alumni are conducting research that makes a difference. We've

selected a few of our most recent and inspiring research success stories to share with you.



Tracking Porcupines and Owls...Right Here on Campus

Trent's 1,400-acre campus is home to students and staff, of course, but what plants and animals also call these lands home? As part of the Trent Lands and Nature Areas Plan, students are helping to document the plants and wildlife on select parcels of campus to better understand Trent's cultural and natural heritage.



Think Bugs are Creepy? Not to this ROM Intern

Insects have always been a passion for Meghan Ward. Now the Trent Biology student has landed a dream internship at the Royal Ontario Museum where she gets to put that passion to work, organizing a massive collection of insects through with the museum's Natural History Department.



Science, Meet Communications

Climate change and widespread deforestation are looming worldwide crises requiring scientific understanding. Yet the public often has a hard time understanding scientific language and literature. The Trent Research Group for Communicating Conservation Science is helping to bridge the gap, guiding researchers to use plain language to better communicate important findings to the public.



The Best Way to Study History is Hands-On

You can read about history in a book or you can learn about it first-hand through an archaeological dig, just like a group of Trent Durham GTA students did at Henry House, an Oshawa historical site. These students applied their learning in the real world, and had the chance to get their hands dirty (literally!) at the same time.



Technologizing Sexual Violence: Can We Really Innovate the Problem Away?

This is the question Trent's Dr. Deborah White explores in a dynamic blog post that recently received international attention as the winner of the Best Blog or Comment from the Write to End Violence Against Women Awards. The Sociology prof has dedicated two decades to researching institutional responses to sexual violence.

Health of Our Rivers Affects Global Ecosystems

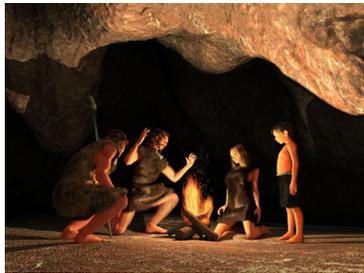
Together with a team of more than 150 researchers from 40 countries, Trent's Dr. Maggie Xenopoulos is working to better address how organic carbon is decomposed in rivers across the world. Professor Xenopoulos contributed data from 12 streams in southern Ontario and the Peterborough region to the

study, featured in *Science Advances*.



BREAKING BARRIERS: TRENT RESEARCHERS MAKE HEADLINE NEWS

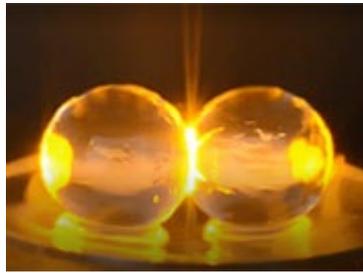
The breakthrough research conducted by faculty at Trent has not gone unnoticed in the news. Check out the buzz these Trent researchers are making regionally, nationally, and around the world.



Surprising Insights into Neanderthals' Diet

CBC

Neanderthals were more adaptable at hunting than previously thought, according to new research from Trent's Dr. Eugene Morin. His study examining animal bones from up to 400,000 years ago in modern-day France reveals that a staple of the Neanderthal diet was rabbit - a speedy animal not easily hunted by spear.



Goodness, Gracious, Grape Balls of Fire!

New York Times

Exploding grapes in a microwave - a party trick or a science experiment that sparked the attention of media around the world? It happens to be both thanks to research led by undergraduate students at Trent. Working with Dr. Aaron Slepkov, the team has answered the question of why microwaved grapes become a fireball, producing light and sparks.



What Happened to the Splendour of Trudeau? A Trent Expert Weighs in

El Furgon

It was with great fanfare that Canadians elected Justin Trudeau as prime minister in 2015. Even Americans publicly expressed their admiration for the young, progressive politician. But polls now show that if an election were held today, the Conservatives would win. What went wrong? Trent's Dr. David Sheinin weighs in.



Brrr...Windchill Survival for Birds of all Feathers

Fox News

When the windchill dips so low that humans run for cover, people often wonder how birds



Telling Her Tale, In Her Own Words

Manitoulin Expositor

"Storytelling is an important part of our culture, and my book continues that way of



Anxious About Interest Rates? Welcome (back?) to the 1980s

Ottawa Citizen

Canadians are being told to brace for "nasty" hikes in interest rates. Trent University

survive. Trent graduate student Alexandra Anderson explains how birds are built to survive freezing temperatures, for longer periods of time than humans, by using a counter-current blood circulation in their legs.

teaching by telling stories of my childhood. It is a large undertaking to record and teach our language so others can speak and keep it alive." Read more about Dr. Shirley Williams new book, *Shoolee: The Early Years*.

Durham's Dr. Robert Wright looks back at the rising rates of the 1980s in order to better understand rate increases that may be on the horizon. It's a history lesson that could have bearing on our near futures.

RESEARCH ON DISPLAY: FOSTERING INNOVATION

Funding is the lifeblood that helps pave the way for Trent's innovators to make new and important discoveries, advancing the way we understand the world and the environment we share. Here is a sampling of recent funding Trent researchers have received.

CFI Boost for Underwater Archaeology and Soil Health Research

A **\$322,193 funding injection from the Canadian Foundation of Innovation** will help bring even more state-of-the-art labs and equipment to Trent for two innovative research projects. Dr. James Conolly is the recipient of a grant to support the new Maritime Archaeology Research Laboratory, studying cultural heritage of everything from submerged forests to historic shipwrecks. Dr. Karen Thompson was awarded funding as part of her Agricultural Soil Health Laboratory, focusing on improving soil health as a means to better protect Canada's valuable natural resources while improving food security.

From African Scarification to Indigenous/Settler Alliances: Trent Projects Granted SSHRC Funding

Two Trent University professors recently received **\$138,098 in Insight Development Grants and seven graduate students received another \$122,500 in Talent Program grants** for a total of \$260,598 in funding for the University through the Social Sciences and Humanities Research Council (SSHRC). The Insight Development Grants were awarded to Dr. Katrina Keefer, of Trent's History Department, to support her research that will help descendants of enslaved Africans trace their ancestors' origins, and to Dr. Lynne Davis, Chanie Wenjack School for Indigenous Studies, to further explore how long-term Indigenous/settler alliances have emerged.

Help a Student Succeed



Give a gift to Trent today

Follow @TrentUniversity #TrentUResearch to read more research highlights and stories, and share your own #TrentU research stories.

Peterborough Campus
1600 West Bank Drive
Peterborough, ON Canada, K9L 0G2
Phone: 1-855-MY-TRENT

Durham Greater Toronto Area Campus
55 Thornton Road South
Oshawa, ON Canada, L1J 5Y1
Phone: 1-888-665-5559

trentu.ca/research

JOIN THE CONVERSATION

