



DECEMBER 2020 EDITION

As acting vice-president, Research and Innovation at Trent University, I am thrilled to build on the work and successes of the Office of Research and Innovation. A fall term in the world of COVID-19 has presented researchers, students and staff with significant challenges, but it has also presented interesting opportunities for scientific innovation, deep dives into social issues, and the development of novel research methods.

This fall I have been continually amazed by the scope, depth and importance of the research taking place at our University. As we begin to look forward, we have much to celebrate - most recently the announcement of two new Canada research chairs, which further increases the number of highly engaged CRCs at Trent. Dr. Anne Pasek and Dr. Naomi Nichols will be steering academic explorations into some of society's most fundamental contemporary challenges - climate politics and youth homelessness - and through their research activity, will expand our interdisciplinary endeavours.



Dr. Cathy Bruce

As Trent remains committed to advancing knowledge through research, it is also important to cultivate the next generation of researchers and innovators. Serving as co-host of the **2020 STEAM Summit**, featuring Physics Nobel Laureate Dr. Donna Strickland, was a personal highlight for me this term. This event for elementary school classes was created by FemSteamPTBO and hosted by Trent University and Fleming College in an effort to encourage intermediate grade students to pursue careers in science, technology, engineering, arts and math. With what I experienced through this virtual event, I would say that the future of research is bright.

I wish you a safe and restful holiday, and a new year filled with inspiration and success. I look forward to sharing more stories from Trent in 2021.

Dr. Cathy Bruce
(Acting) Vice-President, Research and Innovation

Revolutionizing the Study of Complex Contemporary Challenges: Meet Trent's New Canada Research Chairs

Building on Trent's reputation for conscientious and future-focused research, the **University's two newest Canada Research Chairs** - Dr. Anne Pasek, CRC in Media, Culture and the Environment, and Dr. Naomi Nichols, CRC in Community-Partnered Social Justice - will steer academic explorations into some of society's most fundamental contemporary challenges - carbon and climate change, and youth homelessness.



Dr. Anne Pasek

CRC in Media, Culture and the Environment

As a cross-appointed professor within the School of the Environment and the Department of Cultural Studies, Professor Pasek will study climate communications and how carbon is represented in different contexts and conversations about the planet and its energy futures. Her research explores what climate change means for academics and how that changes research scholarship and methodology. Building on Trent's expertise as one of Canada's top postsecondary environmental institutions, Prof. Pasek will create a low carbon research lab to explore low carbon research and dissemination methods and engage students who are interested in the intersection of climate change and media production.



MEET PROF. PASEK



Dr. Naomi Nichols

CRC in Community-Partnered Social Justice

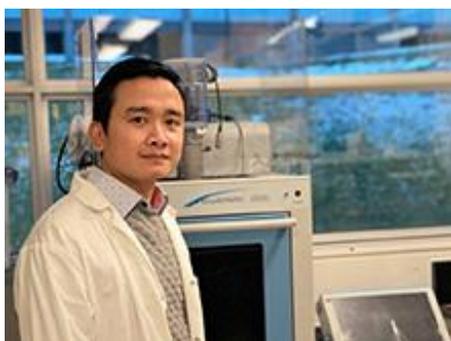
Professor Nichols joins Trent's Sociology faculty to build on a decade's worth of research into youth homelessness. With a focus on driving institutional change for Canada's most vulnerable youth, her research is steeped in data, and developed collaboratively alongside youth with lived experiences with homelessness. Adding to Trent's long-standing reputation as an institution with strong social justice expertise, Prof. Nichols will lead the creation of a community research for social change lab, which allows a diverse range of activist and advocacy groups the ability to engage in social research, access and own their data, and to participate equitably in evidence-based decision making.



MEET PROF. NICHOLS

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.



Global Research Earns Trent Professor a Golden Globe

The Golden Globe in Science and Technology for early-career scientists from the Ministry of Science and Technology in Vietnam was recently presented to Dr. Huy Dang, assistant professor in the Department of Chemistry and School of the Environment for his outstanding global research studying the impact of pollution.

A (Virtual) Game Changer for School of Nursing Students



Trent/Fleming School of Nursing students can now learn how to engage meaningfully in the workplace through a new virtual reality platform. The project is led by Professor Kim English, Dr. Cyndi Gilmer, Dr. Melissa Pestill, and Trent alumnus, Jeremy Brooks '16, founder and CEO of tech start-up, AVROD (Archaeological Virtual Reality Online Database).



Global Collaboration Inspires New Circumpolar Education Institute

An exciting new global partnership between Trent University, the University of the Arctic and the University of Northern British Columbia will advance the curriculum on the Circumpolar North. The Læra Institute for Circumpolar Education will promote faculty exchanges and conferences, as well as hosting a series of student conferences.



Student Research Yields Insight into New Therapeutic Approaches for Cancer and Diabetes

With mentorship and support from Dr. Sanela Martic in Forensics, Environmental and Life Sciences master's student Tyra Lewis explores quercetin as an anti-oxidant, which could yield new insight into therapeutic approaches for serious diseases, including cancer and diabetes.



Big DNA Datasets Helping Predict Crop Defense Against Fungus

New research by Trent's Dr. Barry Saville, and Agriculture and Agri-Food Canada research scientist, Dr. Guus Bakkeren, will contribute to the development of a new biotechnology platform that helps control pests and pathogens that can cost Canadian farmers more than \$100 million annually.



Dental Analysis Research at Trent Reveals Aspects of Ancient Life in Belize

Through the Ka'Kabish Archaeological Research Project, students and faculty researchers at Trent University Durham GTA are excavating an ancient Maya ruin in the Belize rain forest and analyzing artifacts in the lab back on campus. They are examining ancient dental samples in close detail, excited to discover more about things such as diet and social and political status.

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.



Why might women be less eager to get the coronavirus vaccine?

The Washington Post

"We need an intersectional lens to understand how women might decline a vaccine for very different reasons," writes Trent's Dr. Kelly McGuire, cautioning against making sweeping assumptions to recent survey trends showing vaccine-hesitancy among women.



The Scientific Basis of Dream Interpretation

Discover Magazine

The scenes we see and feel in our dreams are a reflection of our own life and what we're going through when we are awake, finds Trent researcher, Dr. Teresa DeCicco. She also investigates the impact of our pandemic preoccupations on our dreams.



Exploring Impact of Nanosilver on Fish and Freshwater

The Globe and Mail

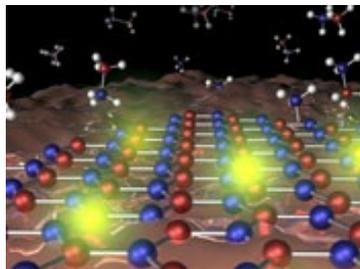
Researchers including Dr. Chris Metcalfe, director of Trent's Institute for Watershed Science, explore the environmental impact of microscopic silver particles that can be found in everyday items like athletic clothing and yoga mats.



How We Rely on Older Adults, Especially During the Coronavirus Pandemic

The Conversation

According to Dr. Sally Chivers, professor of English and Gender & Women's Studies at Trent University, "unprecedented" might be the word of the COVID-19 pandemic. However, for many, especially older adults, life has taken many abrupt turns.



Solving a Scientific Riddle - New Research Yields a Pragmatic Solution for Quantum Computing

Nature Materials

New hexagonal boron-nitride research, co-authored by Physics and Astronomy professor, Dr. Carlo Bradac, could have significant implications for a range of quantum applications, including encryption of information, sensing and material science.



Holiday Food Drives: Tossing a Can of Beans into a Donation Bin isn't Enough

National Post

"It's time for us to demand more of our state and ourselves. Universal, publicly funded health care and education are effective, so why not embrace this approach to income and food?" writes Trent School of the Environment's Dr. Michael Classens and postdoctoral fellow Mary Anne Martin in this opinion piece.

RESEARCH ON DISPLAY: FOSTERING INNOVATION

Funding is essential to paving the way for Trent's researchers 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.

Trent researchers, Dr. Paul Wilson and Dr. Micheline Manseau recently received more than \$1.3 million in funding from Genome Canada to **bolster their conservation efforts for boreal caribou**, an iconic Canadian land mammal and one of the country's most significant at-risk species.

Four **Trent University researchers have received a combined \$404,418 in federal funding** as part of the recent Canada Foundation for Innovation (CFI) announcement to support research topics, including violence against LGBTQ+ communities, freshwater fisheries management, microbial induced intestinalis and the factors influencing migratory patterns in Canadian bird populations.

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