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**UW TO RETURN TO 'NORMAL'**

The university announced that it will return to pre-pandemic levels of in-person instruction for winter 2022.



**SEVERE WEATHER**

Many natural disasters are becoming increasingly common. P8

**MENTAL HEALTH IN SPORTS P5**

An athlete's mental health affects every aspect of their lives.

**TASTE THE COUNTRYSIDE P7**

The 10-day dining event is back with 22 restaurants in four townships.

**POLICING WOMEN'S LANGUAGE P10**

Women are often criticized for the way they speak and tend to alter their language in the workplace.

# Bardish Chagger re-elected in Waterloo. P2



NANCY ZHANG, IMPRINT ARCHIVES





# Federal Election 2021: Liberals hold onto minority government

Chidinma Umenwofor-Nweze  
Reporter

Liberal Party leader Justin Trudeau continues on as prime minister after the Liberals formed their second minority government in the early hours of Sept. 21. All parties are expected to maintain approximately the same number of seats in the House of Commons.

Looking toward the Kitchener-Waterloo region, Mike Morrice won one of two seats in parliament for the Green Party in Kitchener-Centre, gaining 35 per cent of the vote at the time of publication. He makes history as the first Green Member of Parliament (MP) elected in Ontario.

Morrice first ran in 2019, placing second, and has been campaigning hard since then. Morrice took the lead in the polls after Liberal incumbent Raj Saini dropped out of the race amid allegations he harassed a member of his staff.

Morrice's platform included special focus on housing afford-

ability, long-term care and health care, mental health support, climate change, gender-based violence, Indigenous reconciliation and anti-Black racism.

Morrice founded Sustainable Waterloo Region, a non-profit that helps businesses improve in environmental and economic sustainability. He also works at Wilfrid Laurier University as a social entrepreneur in residence, providing support for student startups.

He is also a board member at Kitchener Housing Inc and Women's Crisis Services of Waterloo Region, and previously worked with the Sanguen Health Centre, Kitchener Downtown Advisory Committee and Stirling Avenue Mennonite Church.

In the Waterloo riding, Bardish Chagger comfortably maintains her seat in parliament after gaining 44 per cent of the vote, and leading the Conservative Party candidate Meghan Shannon by approximately 9,000 votes. Chagger has worked as Minister of Diversity and Inclusion and Youth since 2019, but will not speculate

whether she will continue her mandate as a cabinet minister in the Trudeau government.

Minister Chagger once worked to foster diversity within the community and provide opportunities for social and economic engagement in the Kitchener-Waterloo Multicultural Centre. Chagger has also contributed to causes and organizations such as the Rotary Club of Waterloo, Interfaith Grand River, and the Workforce Planning Board of Waterloo Wellington Dufferin.

Chagger is an alumni of the University of Waterloo, having graduated with a bachelor's of science degree.

In Kitchener-Conestoga, incumbent Liberal candidate Tim Louis was leading a tight race against Conservative candidate Carlene Hawley, gaining 39 per cent of the vote in comparison to her 38 per cent at the time of publication. Louis is a successful full-time professional musician and recording artist. As an MP, he sits on the Standing Committee on Canadian Heritage and the Stand-



Liberal MP Bardish Chagger gained 44 per cent of the popular vote.

ing Committee on Agriculture and Agri-Food. He is a member of the National, Ontario, Rural, and Women's Liberal Caucuses, and is the Chair of Southwest Region Liberal Caucus.

A similar story unfolded in Kitchener South-Hespeler, where early morning on Sept. 21, Liberal candidate Valerie Bradford led with 37 per cent of the vote in comparison to Conservative candidate Tyler Calver's 36 per cent.

Bradford has been dedicated to

supporting small businesses and bringing jobs and investments to Waterloo Region as an economic development professional for the City of Kitchener. For the past eight years, she has served as the Chair of the Workforce Planning Board. She plans on contributing her expertise and skills toward the economic recovery from COVID-19. She is also particularly focused on increasing access to safe and affordable housing in her riding.

## How did women candidates fare in the election?

Nicola Rose  
Managing Editor

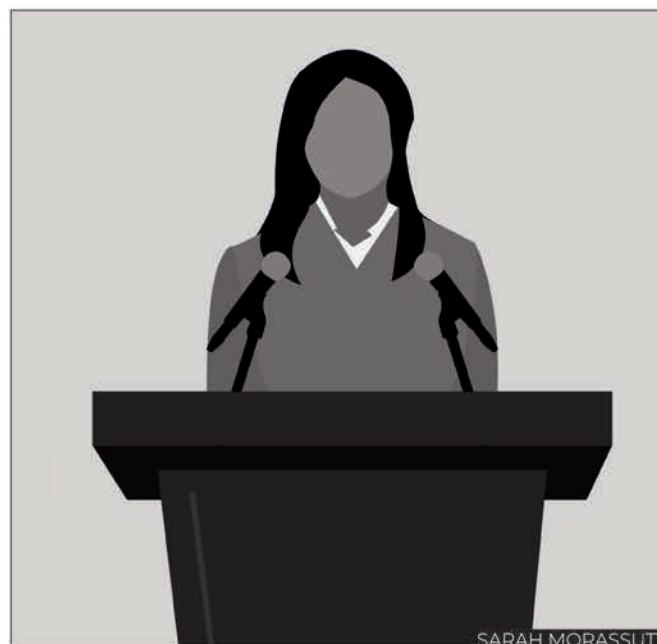
On Sept. 20, Canada held its 44th federal election. In the weeks leading up to the election, the organization Equal Voice noted that more women were running for parliament than ever before. This year, 43 per cent of candidates identified as women, an increase from 42 per cent in 2019 and 30 per cent in 2015.

Equal Voice is a Canadian non-profit organization that aims to increase women's representation in politics at the federal, provincial and municipal levels. For the 2021 election, Equal Voice created a spreadsheet tracking the women nominees across the country and established a goal: they wanted

at least 40 per cent of nominated candidates and elected Members of Parliament (MPs) — 136 people — to be women or gender diverse.

However, although more than 40 per cent of the candidates in 2019 were women, only 29.5 per cent of MPs elected in 2019 are women. Unfortunately, women tend to perform more poorly in political settings than their male counterparts. Only one of Canada's five largest political parties — the Green Party — has a woman leader, and Canada has never elected a woman as prime minister.

While some results of the 2021 election are still being confirmed, Equal Voice has begun to track how women candidates performed. Imprint will provide an update on its website when the final results are in.



SARAH MORASSUTTI

### LAND ACKNOWLEDGEMENT

IMPRINT ACKNOWLEDGES THAT THE UNIVERSITY OF WATERLOO IS SITUATED ON THE TRADITIONAL TERRITORIES OF THE ATTAWANDARON (NEUTRAL), ANISHNAABEG, AND HAUDENOSAUNEE PEOPLES. THE UNIVERSITY OF WATERLOO IS SITUATED ON THE HALDIMAND TRACT, LAND PROMISED TO SIX NATIONS, WHICH INCLUDES SIX MILES ON EACH SIDE OF THE GRAND RIVER. THEREFORE, IMPRINT RECOGNIZES AND RESPECTS THIS LAND THAT IT IS SITUATED UPON.

UW INDIGENOUS STUDENT ASSOCIATION





# Ontario's vaccine passport program sparks debate

Rebecca Butler  
News Editor

The fourth wave of the COVID-19 pandemic has begun in Ontario, and early modelling shows that hospitals may be overwhelmed by the end of October. In an attempt to combat the spread of the disease and prevent further lockdowns, the Ontario government will be launching a vaccine passport program.

Known officially as the “enhanced COVID-19 vaccine certificate system,” it will require people to show their vaccination receipt and photo ID when entering certain facilities. The system will come into effect on Sept. 22.

“We know vaccines provide the best protection against COVID-19 and the Delta variant,” said Christine Elliott, Ontario deputy premier and minister of health. “To protect the health and well-being of Ontarians, our government will offer one more tool to encourage even more Ontarians to receive the vaccine so they can safely enjoy activities with their loved ones and support their local businesses.”

The passport requirement currently applies to “higher-risk” settings in which a mask cannot be worn the entire time. This includes restaurants, bars, gyms, nightclubs and concerts. Several universities in Ontario, including the University of Waterloo, are also requiring that students, staff, faculty and guests provide proof of vaccination before coming to campus.

Most Canadians approve of the new program — a poll conducted in September found that 80 per cent of Canadians are in favour of vaccine passports. However, there has been some opposition. The Canadian Civil Liberties Association argues that the passports are a violation of privacy, as vaccine status is considered personal health information and no one should be required to disclose it. Some bioethicists and Ontario government officials agree with these arguments.

“[The passports] may offer substantial public benefit, but it is an encroachment on civil liberties



HEATHER ECOBICHON

that should be taken only after careful consideration,” said Ann Cavoukian, former Ontario privacy commissioner.

A joint statement from the federal, provincial and territorial privacy commissioners stated that the program is acceptable only if the privacy risks associated with passports are proportionate to the public health purposes they are intended to address. In this way, the perceived loss of privacy is justified based on the public safety risk posed by COVID-19.

Despite support from the majority of the public, Ontario Premier Doug Ford has been hesitant about implementing the program. He initially stated that the passports would create a “split society,” increasing derisiveness between the vaccinated and unvaccinated.

However, he has since acknowledged that the passport program would be better than having to enter another lockdown.

“We have two options here. We either do this or we risk shutting down the economy, which would even be worse, having our hospital capacity maxed out and at the brink, having our kids stay at home, our college and university kids going back online. That is what we are trying to avoid,” Ford said.

At the time of writing, 74 per cent of Ontarians have received at least one dose and 69 per cent are fully vaccinated. The number of vaccine appointments doubled after the passport program was announced, indicating that the mandate will likely encourage more people to get vaccinated. Isaac Bogoch, one of Toronto’s leading

infectious diseases specialists, believes that this is a good thing.

“People who might have been sitting on the fence are going to say, ‘Wow, if I want to participate in non-essential activities, go to non-essential businesses, like restaurants, like bars, like concerts or whatever, I need a vaccine, I’m going to go get one,’” Bogoch said in an interview with CTV News Toronto.

Like many health experts, Bogoch said he believes that encouraging hesitant people to get vaccinated can prevent the spread of the disease and allow life to return to normal. While he views passports as a positive way of protecting individuals and their communities, others view it as being unfairly forced into vaccination.

“If we premise access to certain

rights or access to full participation in society on people being vaccinated, that becomes a form of coercion where you’re not really being vaccinated because you choose to. You’re being vaccinated because you feel you have no choice,” said Cara Zwibel, director of the Canadian Civil Liberties Association.

A recent U.S. court case on the same topic found that vaccine mandates “are not a hard coercion” because they are only being applied to non-essential services, and there are other options available for those who choose not to be vaccinated. The debate will continue as more provinces in Canada start to institute vaccine passports, with a federal passport possibly being introduced in the future.



# UW to return to 'normal' in-person learning for winter 2022

Alexandra Holyk  
Executive Editor

The University of Waterloo will be returning to pre-pandemic levels of in-person instruction beginning in the winter 2022 term, according to a memo sent to the campus community on Sept. 20.

In the memo, UW president Vivek Goel and provost James Rush wrote that they are confident the university can prepare for a return to in-person academic activities in the next term.

"Though none of us can predict exactly how the pandemic will change over the months to January, we know that vaccination is the key to getting to a post-pandemic experience of teaching and learning," they wrote.

The memo also stated that more than 30,000 UW community members have disclosed their vaccination status — of these folks, more than 95 per cent are fully vaccinated. Most of the remaining individuals have told the school

they will be fully vaccinated in the coming weeks.

"As we plan to deliver a more normal level of winter term classes in person, we will continue to work with our local public health team to make sure our plans protect your physical and mental health," the memo continued. "This means we will largely return to our pre-pandemic approaches to academic life at Waterloo."

*"We will largely return to our pre-pandemic approaches to academic life at Waterloo."*

VIVEK GOEL AND JAMES RUSH,  
PRESIDENT AND PROVOST

The memo also states that all undergraduate students will be able

to start planning their in-person courses for the winter term — an option that hasn't been available to students in almost two years.

Since there are still many barriers for international students looking to come back to Canada, Goel and Rush said the university is "committed to working with these students and our government partners to address these problems before the winter term begins."

The proof of vaccination submission portal launched on Aug. 27. By Aug. 28, more than 12,000 community members uploaded their proof of vaccination status, according to UW on Twitter.

UW community members are encouraged to provide their proof of vaccination status as soon as possible even if they don't plan on returning to campus until January. The deadline for students, staff, faculty and guests to submit their proof of vaccination status or start the process for accommodation or exemption is Oct. 17 and can be done through Campus Check-In.



ANDRES FUENTES

## A breakdown of events at the 2021 Kitchener-Waterloo Oktoberfest

Nicole Howes  
Assistant News Editor

The 53rd annual Kitchener-Waterloo Oktoberfest is back and will be taking place over the course of three weekends starting Sept. 24. This is Canada's largest Bavarian Festival and while some events will be virtual, there are still plenty of outdoor activities to participate in. It's a great opportunity to learn more about the German traditions of the original Oktoberfest in Munich.

In past years, this event has seen an economic benefit of more than \$22 million from the nine-day festival. The president of Bingemans — a recreational centre that is involved in hosting this year's Oktoberfest — Mark Bingeman told CBC News: "It's not our tra-

ditional Kool Haus with the large tents and that sort of experience, certainly through COVID and the challenges it's had we all need to be working together to bring that tourism back."

This year, some events include:

**Micro-Festhallen: Sept. 24 & Oct. 11**

Venues all around Waterloo will be hosting live Oktoberfest entertainment as well as Oktoberfest food specials and beer pairings. Some local bars include Morty's, Waterloo Brewing and Bobby O'Briens.

**WunderWagon: Sept. 24 & Oct. 11**

For the first time ever, Oktoberfest will be cruising down neighbourhoods where there will be the best local bands and entertainers performing on a 14-foot mobile stage. Most WunderWagon shows

will be a surprise so check out their Facebook and Instagram channels to stay in the loop and enjoy some classic and current favourites.

**Kool Haus Bingemans: Sept. 24, 25 & Oct. 1, 2**

Bingemans will be hosting outdoor Oktoberfest events including live entertainment, traditional food and the most popular local and German beers.

**Oktoberfest at the Alpine Club: Sept. 24, 25 & Oct. 1, 2, 8, 9**

Visit the Alpine Club to get all your favourite Oktoberfest foods including sausage, cabbage rolls, pig tail and schnitzel — only open for three weekends!

Community members can also watch the opening ceremonies streamed live on Sept. 24 at noon and the Oktoberfest Thanksgiving



VIA KITCHENER NEWS

Day Parade broadcasting live on CTV News Kitchener on Oct. 11.

While this event is a great opportunity to enjoy a popular Ger-

man festival, the Onkel Hans Food Drive is an important part of Oktoberfest and welcomes any donations from community members.



# sports & health



**WRITE FOR SPORTS**  
Want to go to UW games for *Imprint*?  
You'll be able to talk to players, coaches, and fans!  
For more info, email [sports@uwimprint.ca](mailto:sports@uwimprint.ca).

## Good mental health a prerequisite for good athletic performance

Anicka Bakos  
Reporter

There is growing evidence that good mental health correlates with good athletic performance and that mental health disorders in athletes are more common than people might expect them to be.

U Sports' most recent National College Health Assessment Survey indicated that in 2016, 32 per cent of students were diagnosed or treated for anxiety or depression.

Dr. Carla Edwards is a former elite-level athlete who played for the Mount Allison University women's volleyball team in the 1990s. She is an assistant clinical professor at McMaster University, president of the International Society for Sport Psychiatry and high performance mental health advisor to Swimming Canada, and now works with U Sports student-athletes to help them manage their mental health issues.

In an interview with *Imprint*, Edwards said mental health disorders in athletes are quite common.

"Athletes can develop the same mental health disorders as everyone else in the general population, including mood disorders

(depression, bipolar disorder), anxiety disorders (including panic disorder, generalized anxiety disorder, social anxiety disorder, obsessive-compulsive disorder), ADHD, sleep disorders, alcohol and substance use disorders, trauma, personality disorders and other conditions such as low self-esteem, body image concerns, disordered eating and self-harm behaviour. It is common for many of these to coexist, including depression, anxiety and disordered eating," Edwards said.

She noted that there is a direct relationship between good mental health in student athletes and successful athletic performances.

"Good mental health also helps to build and support healthy teammate relationships and positive behaviour in the sports environment," Edwards said.

Edwards cautioned that issues with mental health can cause a negative impact on athletic achievement as well as create disagreements within relationships.

"[Mental health struggles] erode and create conflicts in relationships, can lead to negative behaviours in sport and an overall decline in sport performance," Edwards said.

She also mentioned that men-

tal health struggles can lead to decreased effort and avoidance, which further affects the overall quality of experience for the athlete in the sport.

"There is no health or performance without mental health," Edwards said. "Just think about it — your body could be in its fittest, strongest, fastest state ever, but if you are struggling with anxiety, depression, insomnia, ADHD, disordered eating or other mental health challenges, it would be extremely difficult to produce or maintain...success."

Edwards pointed out that an athlete's mental health affects every area of their life — their appetite, energy, concentration, organization, execution of tasks and responsibilities, their desire to socialize with others, motivation to succeed, their initiative, ability to complete complex tasks as well as their ability to make good decisions and cope with stress.

She also noted that student athletes have more on their plates than most athletes because of exams and other demands associated with school.

Edwards acknowledged that the culture of sport does make reaching out for help difficult for many.

She said athletes often experi-

ence the very real fear of sport-related repercussions that may result from disclosure of any mental illness and cited common fears such as being cut from a team, not getting any playing time, being judged or bullied, losing opportunities for career advancement and being treated differently as some reasons for athletes not wanting to reach out for help.

Edwards noted that only a very small handful of U Sports institutions have formal mental health support in place for athletes.

As far as future improvements go, Edwards said she believes that every university should be screening athletes for mental health disorders as recent estimates indicate that 30 to 80 per cent of student athletes will have at least one mental health disorder during their university athletic career. Additionally, every university should have an established pathway of support. If not in their own department, then a Student Wellness system with a practitioner who has a knowledge of sport.

Edwards encourages students to get help early on if they need it.

"Be aware of the resources that are available for you at your school, both within the athletics department as well as [at] student

wellness on campus. It is wise to map out these resources before you actually need them, so you can more quickly line them up when needed. It's pretty normal to have good days and bad days, and weeks that have more stress because of exams, competition, or a combination of things. If you feel down or overly anxious for several days or weeks, and it starts to get in the way of sleeping, eating and overall function, definitely reach out for help," Edwards advised.

U Sports has also compiled a list of tips to take care of your mental health.

**Connect with people** Spend time with people who can inspire you.

**Be present** Stay in the moment and try not to dwell in the past or look too far ahead into the future. As a student-athlete it is easy to get overwhelmed, so take it day by day and focus on constant improvement.

**Practice positive self-talk** Positive self-talk is the key to both academic and athletic success! That little voice inside your head should be building you up, not knocking you down!

**Restore your brain and body** Don't neglect your physical health. Eat a well-balanced diet and get enough sleep.

**Unplug** Consciously take time to unplug and put aside your technology.

**imprint**

**THIS WEEK IN ATHLETICS**

WATERLOO WARRIORS

GO WARRIORS GO

ALUMNI

**BLACK AND GOLD DAY**

SATURDAY, SEPTEMBER 25  
2:00 PM | WARRIOR FIELD

WARRIORS VS. WARRIORS

**FREE TICKETS**

Reserve in advance at  
[GOWARRIORSGO.CA/TICKETS](http://GOWARRIORSGO.CA/TICKETS)

WARRIORS ALUMNI DAY

**WARRIOR RECREATION FITNESS CLASS MEMBERSHIP**

Only \$60/term  
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**WARRIOR INSIDER**

Stay up to date with the Warriors!  
[gowarriorsgo.ca/warriorsinsider](http://gowarriorsgo.ca/warriorsinsider)

**ATHLETES OF THE WEEK**

**HANA YOSHIDA**  
GOLF

**EVAN MORRISON**  
BASEBALL





## President's Anti-Racism Task Force book club open to UW community members

Nadia Khan  
Reporter

On June 15, 2020, the University of Waterloo publicly announced the formation of the President's Anti-Racism Task Force (PART), whose overall mission is to "weave anti-racism into the fabric and culture of all campus operations, communities, pedagogy and lifestyle."

In an interview with *Imprint*, PART's executive designate and coordinator, Charmaine Dean, stressed how this shift in policy begins with more representation. "The first thing we needed to do was hire more Black and Indigenous staff and faculty members on campus," she said. Recommendations like these are reported back

to UW president and vice-chancellor Vivek Goel, and are then carried out.

While focusing on goals such as decolonizing school curricula across all UW faculties and intersectionalizing its mental health strategy, PART additionally launched their very own anti-racism book club this July. The club engages in a monthly discussion about a different novel from their 12-book reading list, which is led by a different campus community member each meeting.

According to PART's reading list, these book club conversations are designed to cover nuanced topics including but not limited to "white fragility, anti-Black and anti-Indigenous racism in Canada, the Indian Act and the equity myth." Participation in

these book club meetings is open to all UW students, faculty and staff members.

Ultimately, these anti-racism book club meetings reinforce PART's desire for more BI-POC-centered discussions at UW. Though the organization was formed in response to "an explosion of world events," Dean cited how instrumental feedback from staff, students and alumni was in creating an open dialogue within PART. "We have an entrepreneurial and creative school culture," she said. "The community already had ideas [for us]."

PART's reading list includes *The Skin We're In* by Desmond Cole, *How to Be an Antiracist* by Ibram X. Kendi, *White Fragility* by Robin DiAngelo and more. The full reading list can be found on the university website.

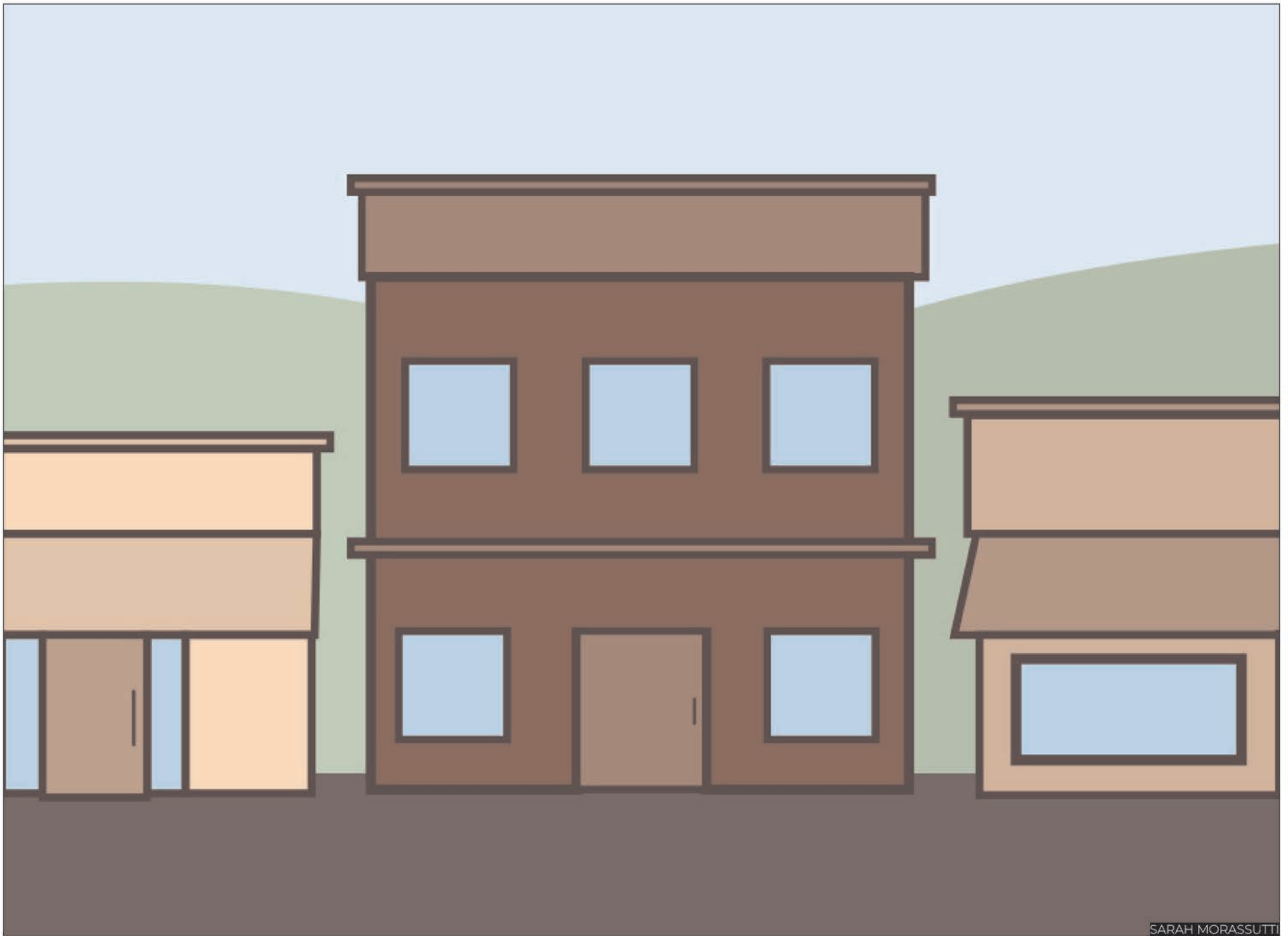
“

*“We have an entrepreneurial and creative school culture. The community already had ideas [for us].”*

”

CHARMAINE DEAN, EXECUTIVE DESIGNATE AND COORDINATOR OF PART





# Taste the Countryside

Abhiraj Lamba  
Arts and Life Editor

The pandemic has been tough for everyone, but especially for local businesses. After the extended lockdown last summer, local food establishments really started to feel the crunch. In an effort to support these establishments, the “Taste the Countryside” dining event was started last year, featuring 12 restaurants in the townships of Woolwich and Wellesley.

This year, the 10-day dining event is back, with 22 restaurants in four townships, including Wilmot and North Dumfries. From Sept. 23 to Oct. 3, participating businesses will be offering a fixed price menu at \$15 or \$35 — depending on the establishment —

for dine-in or take-out.

To encourage people to dine across the countryside, guests will also be able to enter a ballot for every Taste the Countryside meal that they have by posting a picture of their meal on social media. One of the ballot prizes this year is a train ride, offered by the Waterloo Central Railway, through the countryside from Northfield to St. Jacobs and Elmira and back.

To build on their mission to support local businesses, this year there was an additional requirement for participating restaurants — they had to incorporate at least three local ingredients in their menu. “Local for this year is anywhere in the townships of Woolwich, Wilmot, Wellesley and North Dumfries, so all of our four rural townships, as well as any local farmers’ markets

in the area,” explained Jasmine Nanda, an economic development and tourism intern with the Township of Woolwich.

Of course, the event came with its challenges. With many restaurants being understaffed right now, many couldn’t afford to set aside even a few hours to finalise and submit a menu for this year’s event. Moreover, the recent announcement of vaccine passports has added an extra layer of work for businesses.

“It takes away from some of their human resources and staffing power to work on side projects like this, so it’s difficult, but businesses have been really resilient and they have been forging forward,” said Jenna Morris, an economic development and tourism officer with the Township of Woolwich.

Last year, the event didn’t see a lot of stu-

dents, since most of them weren’t on campus. This year, however, they are expecting a much larger student presence.

“There’s a number of transportation services that can bring students out to parts of the countryside and we really encourage students to come, participate and see what the region has to offer. I mean, it’s a totally different experience than the urban cities of the region,” Morris said.

“We have a large farming community. We’ve got horse and buggy [rides] in all of the townships. It’s a total experience on its own, so come out and spend a weekend of it,” Morris added.

More information about the event can be found on their Instagram, @tastethecountryside and on the Explore Waterloo website.

SARAH MORASSUTTI





## Severe weather and climate change in the Kitchener-Waterloo region

The annual average temperature is projected to increase by 2C to 3C by 2050, including 32 days of extreme summer heat if current emissions continue, and 60 days if current emissions continue by the 2080s.

Hayley Austin  
Science Editor

**E**mergency alerts from Environment Canada have rung on residents of Southern Ontario's phones frequently over the past few months as severe storms have ravaged the region.

Many natural disasters, such as tornadoes, are becoming increasingly common as temperatures change drastically due to climate change. Naturally, climate varies and can be extreme one year and moderate the next. However, with the impact of human activities such as burning of fossil fuels for energy production, substantial swings in climate have been observed worldwide.

In Ontario, average temperatures are expected to rise, which may lead to a higher frequency of severe weather events including record-breaking storms, floods, droughts and heatwaves as has been seen this summer. Tornadoes form under a unique set of circumstances, as warm, humid air collides with cold and dry air, usually producing a thunderstorm first. When warm air rises through the colder air, it creates an updraft and may move in a way that allows the updraft to rotate and draw in more warm air, increasing its rotation speed. This is known as a mesocyclone.

Water droplets from the mesocyclone's moist air form a funnel cloud that continues to grow until it hits the ground and officially becomes a tornado. Supercells, which are characterized by a deep and consistently rotating updraft, are the most destructive kind of tornado.

Like other natural disasters, tornadoes are influenced heavily by climate. When it comes to the climate of Southern Ontario, there are two major factors which are at play — its location in the middle of the Northern American landscape and the Great Lakes. Being in the middle of the continent leads to more swings in temperature between warmer summers and colder winters, as the land is far from the ocean, which acts as a

stabilizer.

In the summer, high pressure systems from the subtropical Atlantic Ocean force warm and humid air into the Great Lakes region. In the winter, frequent storm systems can be seen as cold Arctic air masses

can result in rapid changes in air temperatures and more extreme snowstorms near the shores.

As reported by the Interdisciplinary Centre on Climate Change at the University of Waterloo, the local climate in the Kitch-

emissions continue, and 60 days if current emissions continue by the 2080s. In the best case scenario, with net-zero emissions, 15 days of extreme heat can be expected per summer.

Total annual precipitation is also expected to increase, likely by four to six per cent in the 2020s and eight to twelve per cent in the 2050s, with more intense rain and storms predicted as well.

From January to mid-August of this year, 17 tornadoes ripped through Southwestern Ontario. Frances Lavinge-Therriault, a research assistant with Western University's Northern Tornadoes Project, said his team is seeing an increase in the number of not only storms but tornadoes in Southern Ontario.

Lavinge-Therriault said in an interview with CBC News that "the old average for Ontario is 12 to 12.5 tornadoes. We are slightly above average at 17 so far."

In the Kitchener-Waterloo area, severe thunderstorm warnings have become frequent. Rob Kuhn, an Environment Canada meteorologist, tweeted out that as of 12 a.m. on Sept. 8, Kitchener's Stanley Park had seen a total of 26 millimetres of rain from two thunderstorms that day. This unusual amount of precipitation from the storm caused flooding in some areas and power was knocked out as well.

Multiple possible tornado touchdowns from the same storm around Lake Huron are being investigated by Lavinge-Therriault and the team at Western University.

With an increasing frequency of extreme weather events already being observed in Southern Ontario, it is becoming increasingly important to prioritize climate action and be aware of how to stay safe when it comes to severe weather.

Environment Canada recommends preparing a first aid kit before the storm and sheltering in place during the storm such as in a basement should there be a tornado, staying away from windows and doors. For more information on how you can stay safe during storms, visit [GetPrepared.ca](http://GetPrepared.ca) or call 1 800 O-Canada.



move southward into the region at the same time as the polar jet stream is at play.

The Great Lakes also impact Ontario's climate, as large bodies of water gain and lose heat slower than the surrounding land. This

ener-Waterloo region is predicted to get "warmer, wetter and more extreme." The annual average temperature is projected to increase by 2C to 3C by 2050, including 32 days of extreme summer heat if current



# UW researchers use mathematical models to analyze the use of ultrasound to target tumours

Sarah Hammond  
Reporter

Researchers at the University of Waterloo are using mathematical models to analyze the use of ultrasound to target cancerous tumours.

About eight years ago, Dr. James Drake, the chief surgeon at the Hospital for Sick Children, approached the biomedical research group at the University of Waterloo with the proposal to look into the uses of High-Intensity Focused Ultrasound (HIFU) for treatment of tumours and lesions.

"Ultrasound has been around in medicine for a long while, but it is usually the low frequency kind that is being used in medical imaging," said Siv Sivaloganathan, head of the biomedical research group in the Department of Applied Mathematics at UW. "The last decade or two, we are suddenly interested in high frequency ultrasound which carries a lot more energy. If you focus the ultrasound using a transducer, you can destroy the tumor at that point."

According to Sivaloganathan, using ultrasound to destroy tumours would be a huge advancement for treatment since the patients are not subject to side effects associated with radiation or chemotherapy, and no follow-up medications would be required.

Sivaloganathan, along with co-authors Messoud Efendiyev, named the 2019 James D. Murray Distinguished Visiting Professor, as well as UW graduate student June Murlley, published a paper titled, "Dimension estimate of uniform attractor for a model of high intensity focussed ultrasound-induced thermotherapy," which outlines the process as a simple model using a simple linear



equation — a combination of a wave equation and a heat equation.

"The only problem that crops up, is in the process of focusing the ultrasound is that there will be energy deposited in healthy tissue, though not as much as at the focal point," Sivaloganathan said. "The [goal] is to try and balance the absorbance of energy in healthy tissue so that you don't elevate the temperature in normal tissue too much. You can do that in many ways — one of the ways is using Pulsed High-Intensity Focused Ultrasound, so you periodically use it for certain amounts of time."

In order to monitor the temperature of the surrounding tissue, HIFU is used in conjunction with Magnetic Resonance Imaging

(MRI). It is difficult to measure the temperature within bone, therefore when the tumour is on bone, it is unknown how the bone marrow may be negatively affected.

The research team aims to find a solution to this problem using mathematical models and computational solutions in conjunction with clinical observations.

The use of ultrasound on tumors has been previously accomplished at the Hospital for Sick Children in Toronto by interventional radiologist Dr. Michael Temple. HIFU was used successfully on a youth with an osteoid osteoma, a benign bone tumour, in his leg. This technique allowed for the patient, who had been in excruciating pain, to avoid surgery and instead undergo a 30-minute procedure

resulting in no complications, quick recovery and no additional pain.

HIFU technology also has many other possible medical applications. The research group is also interested in looking into its uses to disrupt blood clots and deliver drugs across the blood-brain barrier.

Since there have been successes in the past using HIFU on benign tumours, there are high hopes for the research being done at UW and that the technology will be able to be applied to cancerous tumours as well.

Home to one of the only mathematical biology labs, UW is uniquely equipped to tackle this project and provide mathematical solutions that will hopefully form the path toward clinical trials.

## Write for science and tech

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**Next scheduled post-mortem meeting:**  
 Virtual due to COVID-19

**Next scheduled board of directors meeting:**  
 Virtual due to COVID-19

# opinion



## HAVE YOUR SAY

Submit your letter to the editor or your community editorial to opinion@uwimprint.ca. Find more opinions at uwimprint.ca.

# Stop policing women's language

Women are often criticized for the way they speak. Teenage girls are lambasted for their vocal fry and reliance on filler words such as "like" and "um," while adult women are called shallow, catty, hysterical, and assigned many other negative traits for displaying emotion or speaking in a higher pitch.

In the business world especially, women are routinely encouraged to alter their language to achieve professional success. This linguistic pressure appears in many forms — from women being encouraged to lower their voices and use fewer emotional terms when presenting, to women's language and tone in written communication being scrutinized. There are many popular jokes about how many exclamation marks a woman should use in a work email — enough to sound friendly (or she risks being called a b\*\*\*\*), but not so many that she comes across as ditz or unintelligent.

Women face many challenges in professional settings, both as a result of systems that have been designed without them in mind and as a result of explicit discrimination based on their gender identity and presentation.

During the COVID-19 pandemic, many of the systemic challenges working women face were highlighted. In medical fields, personal protective equipment is often not designed to fit average women's bodies, so

women on the frontlines were left exposed. Women were also more likely than men to reduce their working hours or leave their jobs when stay-at-home orders resulted in childcare options like daycares, schools, and extracurricular programs being shut down.

Even office temperatures can function as a barrier to women's success. According to the New York Times, men often prefer cooler temperatures in their workplaces, whereas women, who generate less body heat in the first place, tend to perform less well when temperatures decline.

Yet another barrier women face is the correlation between pitch and perceived leadership ability. Research from Northwestern University suggests that both men and women are less likely to rate candidates with higher voices as competent, successful leaders. Furthermore, the perception of women as "shrill" can occur even when people are aware of issues with gender discrimination.

In general, women in leadership roles face excessive criticism for their language choices and style of speech. As a result of this discrimination, few women are able to obtain leadership positions. According to data compiled by the Globe and Mail, only four per cent of executives at Canada's largest publicly traded companies have female CEOs.

Unfortunately, many of the proposed

solutions to these issues do not actually challenge the systems of discrimination that harm women — they are band-aid fixes that expect women to alter themselves to be more like men.

*"Only four per cent of executives at Canada's largest publicly traded companies have female CEOs."*

GLOBE AND MAIL

Of the few successful female political leaders, many have undergone extensive speech training, such as former Prime Minister of the United Kingdom Margaret Thatcher, who altered her accent and made her voice pitch deeper than the average woman's to support her political career.

There are now a litany of training options and tech fixes that help women adjust their language in professional settings. For example, the "Just Not Sorry" Gmail plug-in that highlights terms like "just," "I think" and "sorry" in emails.

However, these solutions do not challenge the misogynistic nature of many workplaces, nor do they help reduce the discrimination women face in and out of the workplace. The policing of women's language, and the association of certain styles of speaking with intelligence, need to be left behind.

The perception that men's language is better-suited to professional and leadership settings is an outdated idea in a world where gender equality is the goal. Instead of changing how women behave, we should expand the range of what is considered professional and competent, especially when studies have shown that women's tendencies toward co-operation, politeness and collaboration can lead to improved working conditions for everyone.



SARAH MORASSUTTI

Nicola Rose  
 Managing Editor







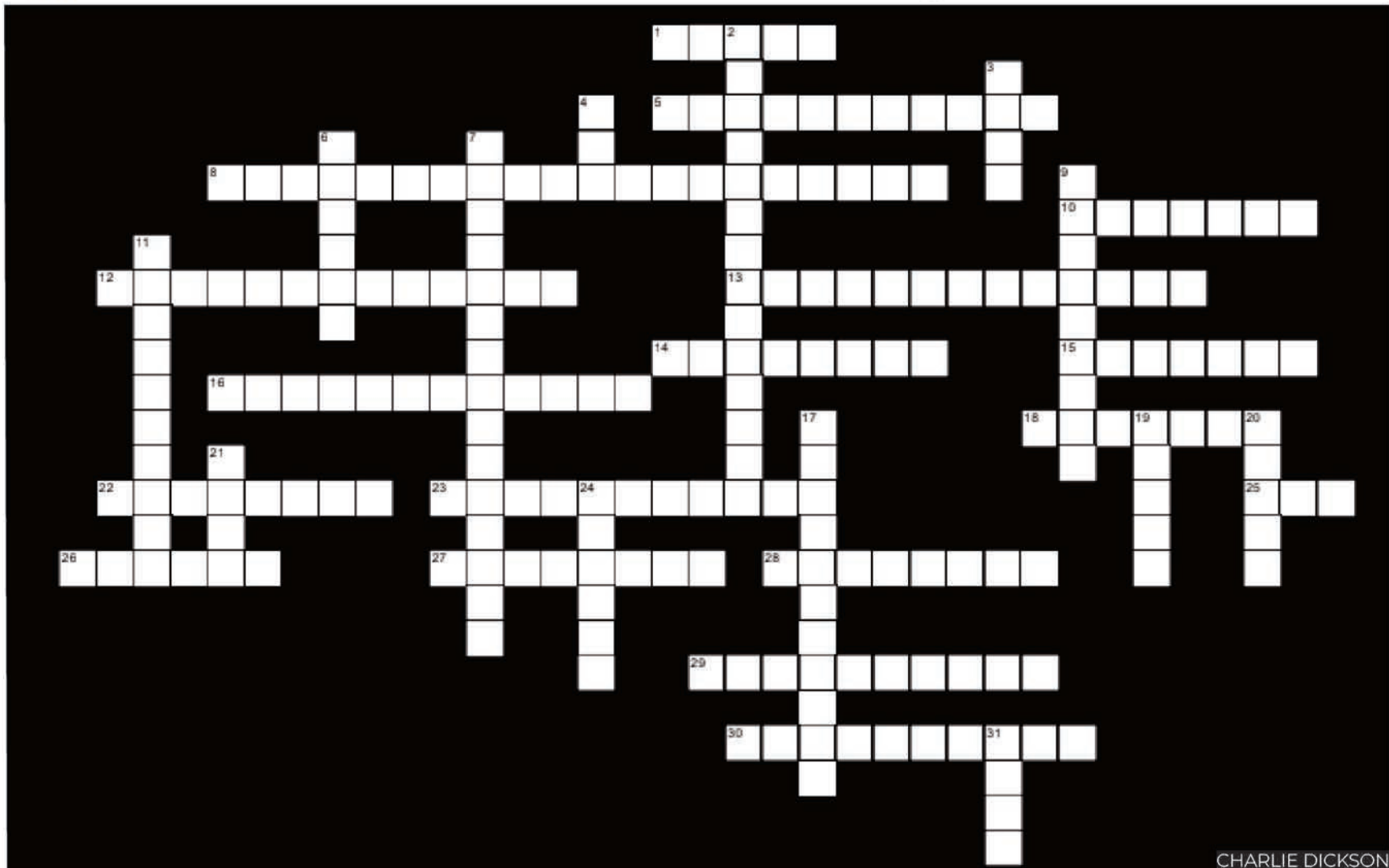
# distractions



**Q: WHAT DO GEESE DO WHEN THEY ARE STUCK IN TRAFFIC?**

**A: THEY HONK!**

## Imprint crosswords | Things in Waterloo



CHARLIE DICKSON

### Across

1. A founder of the university
5. Restaurant formerly on UW campus, before closing during Christmas break 2018
8. Former parking lot that now serves as a meeting place for the community
10. Donkeys, llamas and peacocks, all in one place
12. All buses lead here. Shop!
13. 30,000 people on Ezra Street X
14. Small local theatre on King Street
15. You're reading it
16. German Anabaptist (Mennonite) with a university college at UW named after him
18. A distiller no longer with us
22. Target practice at Columbia lake
23. Traditional German festival celebrated in Kitchener-Waterloo
25. Just passing through campus
26. Street that shares its name with a city in Saskatchewan
27. Come to hear the BeBop, cool cats and all your other boogie woogie tastes
28. Promised six miles of land alongside the Grand River

29. This body of water resides in Waterloo Park
30. Canadian phone company who made its beginnings in Waterloo

### Down

2. Grad students develop games here
3. WUSA's old name
4. Pioneering family
6. Colour Wilfred Laurier and UW share in common
7. UW professor who won a Nobel Prize in physics
9. 1950s-style restaurant near campus
11. Annual football celebration
17. Our demonym
19. UW's unofficial school animal
20. UW men's athletic teams originally went by this name
21. Building on Phillip Street, another way of calling someone famous
24. The City of Kitchener (Waterloo's Neighbour) went by this name prior to WWI
31. Name of the road that circles around UW Campus