

# research

Fall/Winter 2017/18 · Volume XXXIV · Number 2

**Helping fill  
food banks**  
p. 4

**Toward  
healthy  
families**  
p. 15

**Art and  
social  
justice**  
p. 29

**Natural  
heritage  
protection**  
p. 34

**Why people  
give online**  
p. 7

**Seniors  
need access  
to activities**  
p. 21

**Hearing  
LGBTQ+  
concerns**  
p. 31

**Keys to  
Indigenous  
mental health**  
p. 40

# UNDER ONE SKY

See page 2





**Malcolm Campbell**  
VICE-PRESIDENT,  
RESEARCH

## Exploring the many facets of “connected” communities

**S**trong, functional communities are a vital part of the very fabric of our world, as they are at the University of Guelph. They help define who we are, where we will focus, and how we will move forward as a University.

We call them “connected” communities. The University’s strategic framework, *Our Path Forward*, outlines how we will continue strengthening those communities: by building knowledge-sharing partnerships, by communicating better inside and outside the University, by providing

vibrant campuses that are inclusive and respected, and by furthering our international relationships.

Communities can be seen everywhere in society. Their broad presence

gave us an ideal opportunity to explore their many facets in this edition of the University’s *Research* magazine.

In consultation with community research scholars, we turned our attention to five areas—youth, rural, municipal, wildlife, and justice-seeking communities. The last area informs the front and back covers of this edition. The photos bring to light two communities... one of Indigenous murdered or missing women, and another that seeks justice for them. In this case, our researchers’ role is

to increase awareness of Indigenous rights (see page 42).

The University of Guelph has a long history and prominent expertise in community-engaged research, including an extensive focus on Ontario’s rural communities. It’s one of the signature areas in our five-year strategic research plan. Community-engaged scholarship allows researchers to collaborate with a breadth of populations, using scholarly approaches and evidence to address the challenges and opportunities they identify.

One such area in which our expertise is evident is the work of the Community Engaged Scholarship Institute. The work of the institute, featured throughout this edition, builds capacity for community engagement and social innovation. It strengthens faculty and student engagement with local, national and international communities by brokering knowledge relationships, supporting engaged teaching and research, and promoting knowledge mobilization.

I am proud to have long been part of the University of Guelph community, and to have seen how knowledge generated here can be used locally and in other communities. I salute my research colleagues whose stories in this edition describe their commitment to improve life for millions of people.



## Under one sky

**M**ore than 4,200 Indigenous women are said to be missing and murdered in Canada. Only about 1,200 of these cases have been officially recognized and actively investigated. In October, 250-plus people gathered at the University of Guelph’s Alumni Stadium to stand in unity and

draw attention to this disparity. Together, they formed a human medicine wheel to communicate that Missing and Murdered Indigenous Women (MMIW) is a national issue.

The image on the front cover reminds viewers that MMIW impacts all four directions: east

(yellow), south (red), west (black) and north (white). The image on the back cover represents the 1,200 women said to be officially missing or murdered, and depicts what organizers say is Canada’s inadequate institutional view of this national crisis.

VICE-PRESIDENT, RESEARCH  
Malcolm Campbell

EDITOR AND DIRECTOR,  
RESEARCH COMMUNICATIONS  
Owen Roberts

PROJECT COORDINATOR  
Alaina Osborne

PROJECT MANAGER  
Liz Snyder

GRAPHIC DESIGN  
Lind Design

CONTRIBUTORS

*Research* is written and coordinated by participants in the University’s Students Promoting Awareness of Research Knowledge (SPARK) program.

Marika Li Janan Shoja Doost  
Alyssa Logan Megan Swim  
Alaina Osborne Karen K. Tran

ADDRESS CORRESPONDENCE TO:  
Liz Snyder, Manager,  
Research Communications and Marketing  
Room 451, University Centre  
University of Guelph, Guelph, ON N1G 2W1  
519-824-4120, Ext. 53781  
inforc@uoguelph.ca

PUBLICATION MAIL AGREEMENT NUMBER  
40064673

PLEASE RETURN UNDELIVERABLE  
CANADIAN ADDRESSES TO:  
Room 451, University Centre  
University of Guelph  
Guelph, ON N1G 2W1

ISSN 0841-9494



IMPROVE LIFE.

# contents

## FOCUS: COMMUNITIES

### 2 Message

What we mean by  
“connected” communities

### Out in Front

#### 4 Building life skills through community music

Donors, providers work  
together for the food bank

#### 5 Communities change, but *community* doesn't

What happens without  
a caregiver?

#### 6 A better understanding of learning disabilities

Mediation: A much better  
alternative than court

### Municipal

#### 7 Here's why people give online

#### 8 Diverse festivals spark people and profits

#### 10 Preventing household food waste from piling up

#### 12 A sustainable, renewable energy future for Canada

### Youth

#### 13 Giving youth a more level playing field

#### 14 Substance abuse among rural youth

Restoring justice for  
youth offenders

#### 15 The foundation of a functional community

#### 16 Exercise habits of preschoolers

At-home visits to promote  
fruit and vegetable  
consumption

Does our taste affect  
our health?

#### 17 Cooking for better health Benefits of plant proteins at breakfast

Increasing omega-3 fatty  
acids

Family Health Study

#### 18 Adopting more sustainable farming practices



Researchers are tracking how much and how often kids exercise— see page 16.

### Rural

#### 19 Food hub helps address emergency supply

#### 20 Interview Farmland conversion challenges perceptions

#### 21 Access is key to seniors' recreation in rural areas

### Immigrant

#### 22 Learning about Guelph- Wellington immigrants

#### 23 All about sponsoring a refugee

#### 24 Writer explores her Italian connection

#### 27 Drawing mandalas for better mental health

### Justice-seeking

#### 28 First response protocol gets another look

#### 29 “Re-Visioning” the experience of marginalized groups

#### 31 The LGBTQ+ community voices its diverse needs

### Wildlife

#### 32 Humane management for urban wildlife

#### 34 Providing safe passages to protect animals

#### 35 Canopies help keep Guelph green

#### 36 Create a simple rain garden: Here's how

### Indigenous

#### 38 Northern women's health and their communities are intertwined

#### 39 Knowledge transfer in Indigenous urban communities

#### 40 Keys to positive First Nations mental health

What's causing enteric illness  
in Canada's North

#### 42 Looking Forward Increasing public awareness of Indigenous rights

#### 43 Nishnabe Aaski Nation troubled food access



# Building life skills through community music



Play Who You Are Teen Camp 2017 at the University of Guelph

Improvisation—in music, theatre or dance—requires participants to work together, listen and trust each other to form a cohesive whole.

Prof. Ajay Heble and his collaborators at the International Institute for Critical Studies in Improvisation are working with KidsAbility Guelph, a group of therapists, teachers, volunteers and support staff, to bring youth with special needs into creative collaboration with world-class improvising artists.

For one week each year, participants work with a musician to develop immediate and long-term skills such as sharing, responsive listening, risk-taking and decision-making.

The final outcome of this collaborative workshop, called Play Who You Are, is an improvised performance at the Guelph Jazz Festival. This year marks the 10th anniversary of the Play Who You Are project.

—Alyssa Logan

Funding for this project is provided through a Partnership Grant from the Social Sciences and Humanities Research Council, and in-kind support from community partners: KidsAbility Centre for Child Development, Rainbow Day Camp, the College of Arts and the Guelph Jazz Festival.

# Donors and providers working together to fill the food bank

When it comes time to donate to food banks, people typically give canned and processed food that is near or past its best-before date. Fruits and vegetables are a more healthful option that many in Guelph

lack. Under a U of G initiative called Farm To Fork, students aim to help grocery shoppers meet the needs of food banks and consumers in Guelph and Kitchener, Ont.

Using a website—farm-to-fork.ca—developed by U of G student researchers, grocery store shoppers can find out exactly what products are needed by food banks, add those products to their shopping list and drop them off.

Computer science professor Dan Gillis developed the idea with community leader Danny Williamson

and a team of students in third-year computer science.

“We hope that a continually updated website will encourage people to donate to food banks throughout the year, instead of just at Thanksgiving, Christmas and Easter,” says Gillis.

He aims to provide solutions to food insecurity in Guelph. Students in the project develop some of the top characteristics future employers look for: problem-solving, knowledge transfer and translation, and teamwork.

Farm to Fork is currently being used

in Guelph and Kitchener food banks, and Gillis says an updated website will make expansion easier. With food bank use up 30 per cent in Guelph last year, expansion seems imminent—and much needed.

Funding for this research was provided by crowdfunding, the Elevator Project, the Better Planet Project, the Guelph Community Health Centre and a grant from the Learning Enhancement Fund at U of G.

**“We hope that a continually updated website will encourage people to donate to food banks throughout the year, instead of just at Thanksgiving, Christmas and Easter.”**

**—Prof. Dan Gillis**

# Communities change, but *community* doesn't

Sense of togetherness was vital during wartime, diaries project shows

**A**t the start of the First World War, farmers faced major labour shortages, uncertainty about the future of their industry, longer days and more stress because of inflation and conscription—all of which influenced their ability to sell their goods.

They found strength in their community by joining community groups.

Working with history professor Catharine Wilson, PhD student Kyle Pritchard found that people such as Guelph farmer James Bowman maintained a sense of community and security during a time of turmoil and recession.

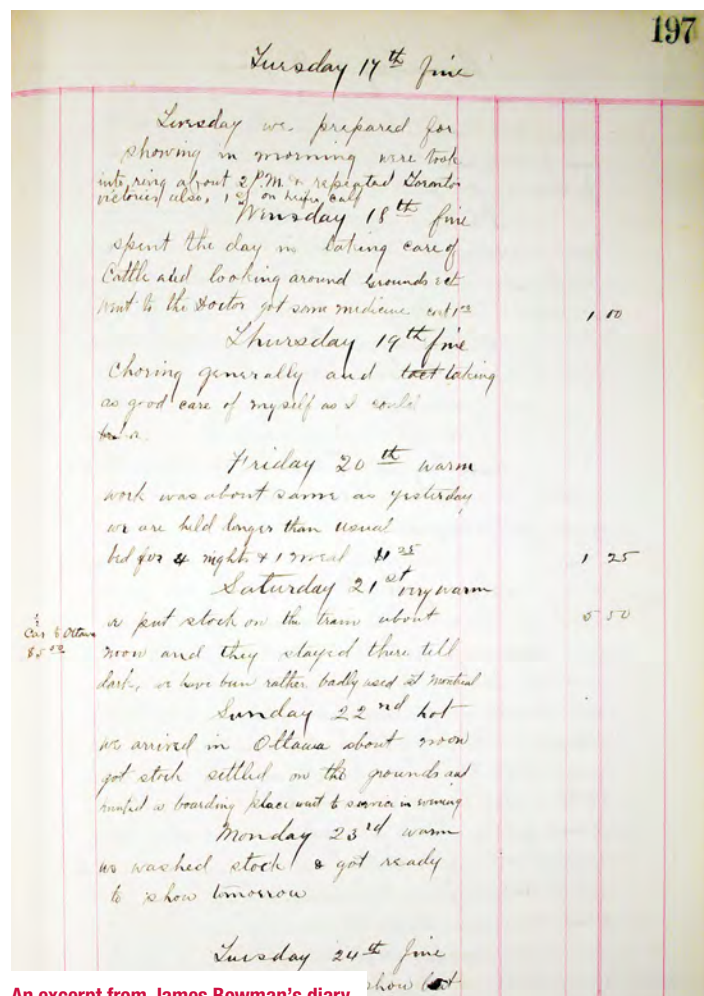
Searching through 240 pages of diary entries from 1914 to 1918, Pritchard found that Bowman listed the community-run organizations that he became involved with, including

the Committee of 100, the township council and the agricultural society.

Pritchard says these findings are relevant today—they can help inform community members about how to stay strong in the face of current hardships. Although the places in which people seek community have changed over time—Facebook, sports, the gym—people still rely heavily on each other. From familial supports to the church community, groups enable people to continue to support each other and encourage public discussion.

—Alyssa Logan

This project was supported by the Rural Diary Archive website, which is funded by the Francis and Ruth Redelmeier Professorship in Rural History.



An excerpt from James Bowman's diary

## What happens without a caregiver?

**F**or adult children of senior parents, caregiving can be challenging without proper skills and resources. Caregivers often have to advocate on behalf of their parents if the latter cannot do so on their own.

Psychology PhD candidate Karla Stroud will present a report to Grand River Hospital and the Waterloo Wellington Local Health Integration Network to raise awareness of the challenges faced by both seniors and their caregivers.

"The necessity of advocacy on behalf of seniors suggests that without a caregiver, some older adults may not have equitable access to health-care resources," says Stroud.

—Janan Shoja Doost

Prof. Kieran O'Doherty, Department of Psychology, is Stroud's main adviser for this project. Other committee members include psychology professor Meghan McMurtry and Christine Stephens at Massey University in New Zealand.

## Report Highlights

- 1 Caregivers do not have the necessary knowledge or skills to support their parents in the way that they are required to.
- 2 Caregivers have described the health-care system as confusing and difficult to navigate.
- 3 Caregivers are required to assist their parents with health-related activities that cause emotional discomfort.
- 4 Caregivers are not always provided with the necessary information to be able to understand when to act if the safety of their parents is compromised.
- 5 Caregivers do not always feel comfortable advocating on their parents' behalf as they feel less qualified than professional helpers.

### Mediation: A much better alternative than court

**C**ommunity Justice Initiatives (CJI) of Waterloo Region is a non-profit organization that provides restorative justice services, such as mediation. Mediation services are a cost-effective alternative to court systems that help groups and individuals restore relationships and resolve conflicts.

Taylor-Anne Grills, a master's candidate in sociology and Amanda Jenkins, a PhD candidate in applied social psychology, conducted a focus group with representatives of community organizations to gather public opinions on implementing a mediation service in Guelph and Wellington County.

"Mediators act as impartial service providers that offer negotiation in order to resolve conflicts such as neighbour disputes, family issues and landlord housing disputes in a peaceful and positive way," says Grills. "They are trained to create a comfortable and affordable environment and meet with all parties individually in order to prepare everyone involved for safe and effective communication."

Through their research, Grills and Jenkins found that participants believed mediation services could offer local communities an effective approach outside the court system to resolve conflicts productively.

Participants also voiced concerns about potential obstacles to a mediation service, such as community lack of understanding of mediation and lack of accessibility to services for people living in rural areas.

—Megan Swim

Funding for this project was provided by the Research Shop at the Community Engaged Scholarship Institute.

## Toward a better understanding of common learning disabilities

**T**he lack of concrete strategies to help students with learning disabilities succeed at school has prompted U of G researchers to work with community partners to create accessible and informative fact sheets for parents and teachers about three common learning disabilities.

PhD candidate Andrea LaMarre and M.Sc. candidate Venus Bali have developed fact sheets on dyslexia (reading disabilities), dyscalculia (math) and dysgraphia (writing).

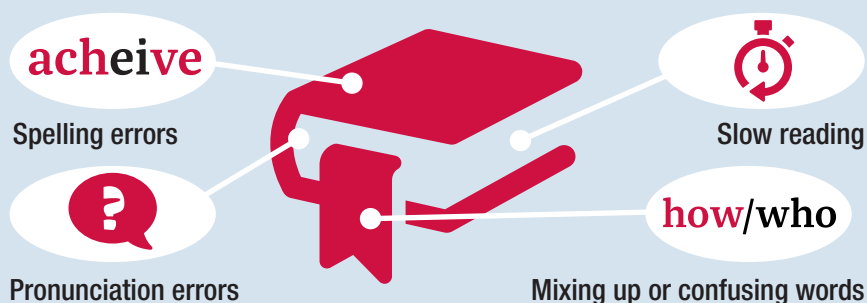
The materials discuss evidence-informed research on each learning disability. They offer advice for helping children and adolescents, as well as additional resources on the topic.

The fact sheets promote the need for flexibility and understanding in selecting strategies that support students with learning disabilities. They are based on community needs identified by the board of the Learning Disabilities Association of Wellington County.

—Megan Swim

### Dyslexia

**15–20 per cent of the population has dyslexia-like symptoms including:**



### How to help

#### Encourage use of:

- 👍 Self-questioning
- 👍 Checklists
- 👍 Graphic organizers
- 👍 Use of mnemonic devices (a pattern or rhyme to help with memory)
- 👍 Prompt cards

#### Strategies:

- 🧩 Verbally summarize the main idea(s) of a story
- 🧩 Observing and recording students' letter and sound knowledge during reading
- 🧩 Opportunities for students to explain and practise what they have learned

### Resources available

- Different organizations hold conferences and presentations on specific learning disabilities
- [guelph.universitytutor.com/guelph\\_dyslexia-tutoring](http://guelph.universitytutor.com/guelph_dyslexia-tutoring)





# What makes people give online?

Psychological model may help boost online fundraising



Researcher Oriana Vaccarino

## | Janan Shoja Doost

**C**ommunity groups know online fundraising has become more popular. It's user-friendly, global in scope and often raises more money than traditional fundraisers because it's simpler and more interactive.

But what's the best way to encourage people to donate online?

That's what Oriana Vaccarino, project manager with U of G's Community Engaged Scholarship Institute (CESI), and political science graduate student Curtis Nash are trying to find out, working with St. Joseph's Health Centre in Guelph as an example.

St. Joseph's Health Centre is a non-profit health organization that provides rehabilitation and support services.

**Fundraisers may increase the emotional investment of potential donors with a picture or video of the impact of the fundraising.**

"Most non-profit organizations only use their websites and social media platforms to provide information or collect donations rather than to stimulate fundraising," says Vaccarino. "This finding reveals that organizations have yet to fully capitalize on the benefits of online fundraising."

To make fundraising more effective, an organization needs to account for many factors. The research team reviewed existing knowledge and applied findings from journal publications to study online fund-

raising for St. Joseph's.

The researchers used an emotional state model called pleasure/arousal/dominance, a psychological approach that quantifies and measures all ranges of emotions.

To make online fundraising more pleasurable, researchers suggest that organizations make website visitors more comfortable by avoiding tedious tasks such as asking for additional information intended to distinguish human users from robots.

Visitors may be "aroused" by offers of rewards for specific donation levels. Fundraisers may increase the emotional investment of potential donors with a picture or video of the impact of the fundraising.

Researchers say potential donors feel their best, or more dominant, when they control how much money they donate.

So fundraisers might offer many options for donation amounts.

"Given that the amount of money raised has increased for organizations using online fundraising, and there is continued use of electronic devices and online platforms as modes of communication, online fundraising will continue to be an important source of revenue for organizations," says Vaccarino.

The researchers plan to present their results to organizations active in online fundraising.

**Funding for this project was provided by the Community Engaged Scholarship Institute. Results were prepared for St. Joseph's Health Centre Guelph and Elder Care, and St. Joseph's Health Centre Foundation.**



# Festivals and events promote togetherness

| Alyssa Logan

**G**uelph is home to more than a dozen well-known festivals for food, music, sports and literature, such as the Guelph Jazz Festival, the Hillside Festival, the Eden Mills Writers' Festival and the Speed River Inferno Track and Field Festival.

Researchers at the University of Guelph are exploring how such events improve the local economy and tourism, and develop a stronger sense of community between visitors and locals. Their question: what does successful tourism look and sound like in the city of Guelph?

## Guelph — the future of music festivals?

**C**anada's live music industry generated about \$628 million in revenue in 2016, including some well-known music festivals located in destinations off the beaten path. Research has shown that a vibrant music scene brings money into a community, no matter its size.

Prof. Chris Choi, School of Hospitality, Food and Tourism Management, is studying the impact of music festivals in Guelph along with HFTM professor Marion Joppe and PhD student Lena Liang. Choi says this research will help city representatives improve tourism and the local economy by pro-





From left: Pierre Kwenders plays the 2017 Guelph Jazz Festival; DJ Shub and smoke dancer Ty Smoke of the Oneida Nation create a dance party at a Hillside Festival tent; patrons create their own communal rhythms at the Conundrum; the Speed River Inferno Track and Field Festival attracts runners from more than 20 countries.

moting Guelph as a music city.

Following in-depth interviews with music industry stakeholders, the researchers proposed five key strategies for building on Guelph's existing music events.

Most strategies — strategic partnership, government support and further research — involved building better relationships with people able to sponsor or help build on the music scene. Other strategies included enhanced branding and unique event ideas.

Most interesting, Choi says, was the advice that the city collaborate more closely with U of G's School of Fine Art and Music.

"We already have an appre-

ciation for a variety of music genres. Now what we need is to build connections, creativity and cooperation amongst multiple groups in the city," he says.

**Funding for this project was provided by the Guelph Chamber of Commerce.**

### Running toward future tourism

In May 2015, the Speed River Inferno Track and Field Festival attracted amateur and professional runners from more than 20 countries to Guelph. Paralympic and Olympic athletes and amateur competitors took part in the one-day event held in U of G's Alumni Stadium.

The HFTM team studied the festival to help planners learn how they might generate more funding and sponsorship, attract more international athletes and draw more spectators. Demographic surveys of spectators and athletes allowed the researchers to study the festival's impact on Guelph's economy.

Although athletes and spectators expressed general satisfaction, professional and amateur athletes differed significantly over preferences.

Professional athletes unequivocally wanted a more competitive environment, including calling for a website with stats such as times and rankings.

Amateur runners wanted less

competition, and favoured fun runs and events for children.

Despite their differences, the majority of runners participated for similar reasons — to challenge their abilities, to run faster and to compete.

"Hopefully this research will help with future marketing campaigns for the Inferno festival," says Joppe.

She says this information can help organizers create innovative events to attract international athletes and tourists from elsewhere in Ontario.

**Funding for this research was provided by Athletics Canada, U of G's Department of Athletics, and the College of Business and Economics.**



# Household food waste: Every picture tells a story

| Megan Swim

**Nationally, food waste in Canada costs an estimated \$31 billion a year, with about half occurring in households.**

**F**ood waste habits spark a variety of emotions for people, including angst and disgust. Consumers know household food waste is not good for their communities, yet it's still a common problem. Why?

It turns out there are several reasons. Carly Fraser, a master's graduate in geography, conducted photo research to bring attention to household food waste in Guelph.

Nationally, food waste in Canada costs an estimated \$31 billion a year, with about half occurring in households.

Negative perceptions and privacy issues have made household food waste a challenge for researchers to study.

To ensure privacy, Fraser asked participants to take their own photos of food thrown out over two weeks.

During interviews, she discussed the photos with the participants, and asked questions about food storage, waste patterns, disposal systems and participants' feelings.

Each photo was meant to tell a story — and they did.

During the interviews, participants disclosed emotions such as guilt, disgust and shame, as well as apathy and even pride.

They also discussed their daily choices and reasons that they considered items as waste.

"My goal was to get people talking about



**Sherry Swim**  
Health-care professional

“The amount of food I waste can vary week to week, depending on activities outside of my job as a nurse. I find sometimes there is not time to plan for leftovers, and quickly prepared foods are made instead. I don't feel very bothered when I waste food as I believe getting rid of excess waste is a cleansing feeling. I could improve the amount of waste I produce by planning meals in advance and knowing the exact amounts I'll need.”



**Alejandro Escobar**  
University student

“Any food I buy from a restaurant or any food I make for dinner is almost never wasted, unless it has to be. I've grown up with the 'always clear my plate rule,' meaning that the portion size I put on my plate was decided by me and so I should finish everything. I could improve by discouraging food waste in other people, such as my friends and family.”




**Vincent Li**  
Elementary school student

“I think it's bad to waste food but sometimes I do. I feel bad and guilty when I waste food. In the future, I will always make sure I put my food waste in the compost bin.”

**Participants disclosed emotions such as guilt, disgust and shame, as well as apathy and even pride.**





their food waste and bring awareness to this problem at a household level,” Fraser says. “A huge finding for me was how personal our food waste can be. I was interested in the ways people might connect their own food wasting to larger issues in the world around us.”

She says her project has allowed Guelph citizens to think deeply about how they feel about food waste, including plans to reduce that waste.

This research was funded by the Department of Geography and the Social Sciences and Humanities Research Council.





# Ensuring a sustainable, renewable energy future for Canada

| Megan Swim

**T**he large area of land required to generate renewable energy from sources such as water, wind and solar is often considered a limitation to building a sustainable energy future.

But Prof. Kirby Calvert, Department of Geography and co-director of the Community Energy Knowledge Action Partnership (CEKAP), says it's not only the amount of land we should focus on. We also need to consider the type of land to be used for renewable energy generation, including active and idle farmland, lake beds and brownfields.

Calvert's interest in land use and renewable energy development dates back at least a decade to a fourth-year undergraduate course he took as a student. That's when he realized renewable energy would be a prime driver of land use and land cover change into the future.

"My research on renewable energy connects my desire to see a more sustainable future with my interests in what shapes the world around us," he says.

His research focuses partly on how adopting renewable energy will change how we use, relate to and organize our land resources.

He also looks at governance of land and resources—for example, who makes decisions about what land will be used for renewable energy production.

Calvert's projects and tools are intended to help municipal leaders and policy-makers improve land use decisions.

His community work brings together perspectives from farmers, non-governmental organizations, recreational users and others from British Columbia to Nova Scotia.



No land is needed with this solar energy approach.

Having found that land availability does not limit a renewable energy future, Calvert is now looking at how land may be reallocated to produce that energy without compromising other functions such as food production.

That's important because he's found that multiple renewable energy technologies often compete for land used to grow food.

To explore these questions, Calvert involves undergraduate students through independent studies each year and works with master's students.

"This research opens up a wide range of possibilities for local citizens to be more

involved in decisions surrounding an improved energy future," he says. "The University of Guelph can play a unique role in understanding energy transitions by building and maintaining connections with rural spaces that help us work at an urban-rural integration."

This research is funded mostly by the Social Sciences and Humanities Research Council. Projects have also received funding from CEKAP, World Wildlife Fund Canada, the City of Guelph, the United States Department of Agriculture, Pennsylvania State University and institutional grants.





Student nutrition programs help address hunger.

# Community-based research gives youth a more level playing field

| Marika Li

## Feeding the future

**G**rowing up in a one-size-fits-all world is tough.

Youth often lack funds and experience, so they require support from their communities to reach their full potential. U of G researchers from the College of Social and Applied Human Sciences partnered with youth programs in the Guelph-Wellington area to help improve life for local children and teens with varying circumstances.

**S**tudent nutrition programs (SNPs) provide children with daily breakfast, lunch or snack foods to help the one in five students who start their day hungry to concentrate better in class—and it's working, according to U of G research.

Graduate students Amanda Jenkins, Angela Underhill and Jayme Marrotte from the Research Shop at the Community Engaged Scholarship Institute teamed up with Food and Friends, a local charity, to

examine how elementary students in five schools in the Guelph area use and perceive SNPs.

They say the benefits of SNPs go beyond nutrition — many students find the program to be a positive social experience, while other students gain leadership skills through volunteering.

The researchers also interviewed principals and program coordinators. Offering an SNP meant the school staff and local



## Substance abuse among rural youth: a harm-reduction approach

**T**he remoteness of a small town and few places offering leisure or employment can allow youth substance abuse to take root.

Adrienne Crowder from the Wellington Guelph Drug Strategy (WGDS) partnered with Prof. Mavis Morton, Department of Sociology and Anthropology, to interview local service providers and determine how to help rural youth.

There's no silver bullet to a problem as complex as substance abuse, but researchers believe the solution lies in local support resources with flexible hours and locations.

Wellington youth service providers said the most commonly used drugs are marijuana, crystal meth and alcohol.

Substance abuse is defined as the point where drug use starts to impact the user's life, especially relationships and responsibilities at home, work and school. Users often experience shame and stigma, so it can be difficult to seek help.

The fear of stigma is exacerbated in rural communities where "everybody knows everybody"—even if youth realize they need help, getting transportation for an appointment in an urban centre can expose their situation to the entire community.

Ignoring or shaming users can ultimately increase the risks of harm and abuse. The WGDS recommends local service providers use a "harm reduction approach" for rural substance users that focuses on prevention, treatment, health and enforcement.

Informing youth about risks related to substances and supporting users through school and employment can ultimately reduce drug use.

parents had to overcome challenges such as funding cuts and lack of volunteers.

"The principals from all five schools feel SNPs are an extra commitment, but they're really happy to have the program," Jenkins says.

Depending on the school's funding, the program may offer only one meal or snacks, but the five SNPs examined are

open to all students. Making the program available to all students ensures that kids have access to the healthful food they need in a non-judgmental way.

"These programs are open for anyone to use, which goes a long way toward destigmatizing them," Jenkins explains. "SNPs are about creating community and making sure all kids have enough to eat."

## Restoring justice for youth offenders

**N**early half of the 90,000 Canadian youth who commit a crime annually enter the criminal justice system, with each offender costing society roughly \$825,000 throughout their adolescence.

The lengthy and expensive process from police contact to community reintegration has led local organizations to consider alternatives—namely restorative justice programs—for low-risk youth offenders.

This justice approach allows low-risk

offenders to take responsibility for their actions through financial compensation and community service. Sending a youth through a restorative justice program typically costs less than \$1,000, and can be done at any time during the criminal justice process.

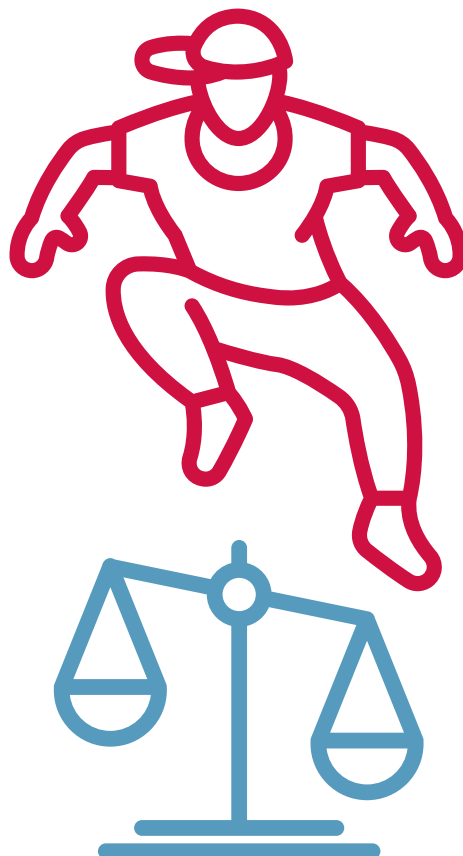
At the request of Family Counselling and Support Services for Guelph-Wellington and the Canadian Families and Corrections Network, graduate students and Research Shop interns Nicole Jeffrey, Alexandra Therien and Venus Bali collected and analyzed current research on Canadian youth offenders and alternative justice systems.

"The focus of restorative justice is on repairing the harm that's been done, rather than retribution or punishment," Jeffrey says.

Another major benefit of restorative justice programs is the decrease in recidivism, or the likelihood that a criminal will reoffend. Decreased recidivism may be linked to a focus on informing the offender about how crime violates people and relationships, including open discussion between victim and offender.

Jeffrey, Therien and Bali summed up their findings in a comprehensive infographic distributed widely by their community partners.

Students received in-kind or monetary support from the Research Shop at the Community Engaged Scholarship Institute. Student nutrition programs are funded by the Children's Foundation of Guelph through its Food and Friends program.







# Healthy families: The foundation of a functional community

| Megan Swim and Marika Li

**P**oor eating and exercise habits are compromising Canadians' health—and no demographic is exempt. Research has shown that children aged 5 years and under are in a critical age range to form behaviours that result in lifelong health habits.

Guelph researchers are trying to help. They've created the country's first long-term study designed to engage community partners and families, called the Guelph Family Health Study (GFHS).

GFHS is following families with children aged 18 months to 5 years old in Guelph and surrounding areas over the next decade to explore health behaviours, empower parents with personalized health information for their families and discover how behaviour change impacts biological responses linked to obesity and chronic disease risk.

The multi-project study uses an integrated knowledge transition model in which participants are active members and decision-makers. It's overseen by the Family Advisory Council, which consists of 15 parents enrolled in the study. They meet three times a year to provide feedback on methods, study approaches and information awareness.

On the following two pages are the projects that are part of the study.

**Khaleed Khalfan, Kathy Kaye and their children are participating in the Guelph Family Health Study.**







## Healthy families

### At-home visits promote fruit and vegetable consumption

**L**ess than 30 per cent of Canadian children get their recommended daily amount of fruits and vegetables. But home visits from health educators have proved to change that — children who received home visits from health educators had decreased body fat percentage by 3.5 per cent, increased their daily fruit servings (0.92 serving per day) and had a higher intake of fibre (5.4 grams a day) compared to children whose families did not receive the home visits.

Prof. Jess Haines, Department of Family Relations and Applied Nutrition, developed the six-month intervention. She says that the project's success is due to motivational interviewing, a client-focused counselling style that helps families develop behaviour change strategies according to their individual experiences, challenges and environment.



## Exercise habits of preschoolers

**C**anadian children, including preschoolers, aren't meeting the recommended 180 minutes per day of physical activity. So GFHS researchers are implementing an intervention in which health educators identify exercise goals with families and create strategic plans to meet those goals.

Using two monitors, which participants wear on their wrist and waist every day for a week, Becky Breau, PhD candidate in Human

Health and Nutritional Sciences, is tracking how much and how often kids exercise. The monitors measure three levels of physical activity: moderate to vigorous (such as running), light (such as walking) and sedentary behaviour (such as lying down).

Based on the data collected by the monitors, researchers hope to see an increased level of activity and reduced amount of sedentary behaviour among the children.

## The genetics of taste

**W**e all taste things slightly differently. But does this affect our health, and how?

Elie Chamoun, a PhD student in Human Health and Nutritional Sciences, is looking at genetic differences in taste

that lead some kids to avoid healthy leafy greens, such as kale, because they taste exceptionally bitter.

He wants to know if some children are predisposed to developing unhealthy eating

habits at an early age due to their genes. Parents of the children involved in this study can use information on their child's taste perceptions to prepare meals that will increase fruit and vegetable consumption.



**TIP** Chamoun suggests cooking bitter veggies in olive oil and seasoning with herbs and spices, or blending leafy greens into smoothies and popsicles to mask bitter tastes.





## Healthy families

### Cooking for better health

A recent Health Canada synthesis report identified a need for research that strengthens the understanding of cooking and food preparation skills among Canadian families.

Angela Wallace, GFHS project coordinator, is investigating the association between paren-

tal food skills and fruit and vegetable intake. For instance, does a parent's food skill level and enjoyment of cooking affect how many fruits and vegetables are consumed in the household?

Wallace is collecting food skill surveys, food and bever-

age receipts and food records for both parents and children, and aims to use this information to create a foundation upon which researchers can create interventions or strategies to help improve food skill and choices, prevent disease and promote overall health.

### Family health study explores these areas

- **Social and family context:** General factors including parental stress and family functioning can provide an understanding of how social and family factors influence health behaviours in children.
- **Diet, activity and sleep:** Health behaviours such as food intake, food purchasing, physical activity and sleep are assessed to understand behaviour change.
- **Genetics:** DNA samples are used to examine how genetics is associated with differences in taste that may lead to changes in food intake and obesity risk.
- **Microbiome:** Examining how food intake affects gut bacteria and how these bacteria influence obesity and disease risk.
- **Blood biomarkers:** Substances in blood that impact the risk of diseases such as heart disease and diabetes are examined.
- **Body composition:** Using U of G's body composition lab, body composition (percentage of fat and muscle in the body) of children and parents is examined.

### Benefits of plant proteins at breakfast

Increasing the amount of dietary protein consumed at breakfast is associated with a lower fat mass percentage (FM%), according to Katherine Adamski, a recent B.A.Sc. graduate from the Department of Family Relations and Applied Nutrition.

Adamski measured the body composition of 46 preschool children, and measured protein consumption using three-day food records.

She found that children who consumed 15 grams of plant protein daily at breakfast had a two-per-cent lower fat mass percentage than children who consumed only five grams.

She says promoting more plant protein consumption at breakfast and stemming the trend of skipping breakfast among children and adolescents may help optimize health outcomes for a lifetime.



**TIP**

Adamski says nuts and seeds in oatmeal or peanut butter on toast are good plant-based protein options for breakfast.

### Increasing omega-3 fatty acids

Consuming omega-3 fatty acids can lead to a reduced risk of cancer. But few preschool children are consuming enough of them from sources such as vegetable oils, nuts and seeds. In fact, Guelph researchers found preschoolers' consumption met only one-sixth of their daily omega-3 fatty acid requirements.

And although they had adequate levels of omega-6, these children are still subject to chronic inflammation, a risk factor for metabolic disorders

and even certain cancers.

Jessie Mackinnon, a PhD student in Human Health and Nutritional Sciences, is determining the consumption levels and blood concentrations of

both fatty acids in preschoolers in order to highlight the lack of plant-based omega-3 fatty acid consumption in children and help parents prepare meals with both omega fatty acids in mind.

Support for the GFHS comes from community partners including Wellington-Dufferin-Guelph Public Health, Ontario Early Years Centre, the Guelph Family Health Team and the Guelph Community Health Centre.

Funding for the GFHS started with a private donation to the Health for Life Initiative at U of G. Projects within the GFHS have also received funding from the College of Social and Applied Human Sciences Dean's Challenge Grant, the Ontario Ministry of Agriculture, Food and Rural Affairs, Canada Foundation for Innovation and the Canadian Institutes of Health Research.



## Adopting more sustainable farming practices

| Megan Swim

**"If you see all the people around you recycling and you're the only one who is not, you feel more obligated to start recycling."**

**F**arming communities around the world already face the consequences of environmental issues such as soil erosion and climate change. Farmers need to adopt more sustainable and environmentally friendly practices for the greater good, but why are some not doing so?

Although interventions that target public attitudes, such as awareness campaigns, are a good start, intentions and social norms better predict

behaviour change in rural communities, according to results of a literature review conducted by U of G's Research Shop.

Kathleen Slemon, an MA candidate in applied social psychology and an intern at the Research Shop, worked on a project to help create a more balanced, interdisciplinary approach to changing farmers' behaviour.

"It is important to get this information out there in order

to see how people respond to behaviour change strategies and how their behaviour changes as a result," Slemon says.

A common misconception is that altering people's attitudes will soon lead to behaviour change. Slemon found that attitudes were not the most important predictor of behaviour change—meaning other strategies are needed to effect change.

The team found that intentions were the best predictor of behaviour change. If someone generally favours recycling, for instance, but lacks intention to recycle, there's a lower chance they'll change their behaviour.

Studying intentions can be difficult, because participants may overstate their intention in order to align themselves with the social norms and expectations of their community.

"If you see all the people around you recycling and you're the only one who is not, you feel more obligated to start recycling," Slemon explains. "Farming communities are often close-knit, so if a farming practice became the norm in one community, then it is more likely to spread into others."

Strategies that may promote environmentally friendly behaviour changes include some form of commitment, the possibility of larger social consequences if there were no behaviour change and greater community reciprocity.







## How to promote environmentally friendly behaviour changes

### 1 Having a form of commitment:

This can include signing a form that shows you are committed to changing behaviour.

**2 Suggesting larger social consequences:** The suggestion of larger social consequences such as the threat of climate change on food production motivates people to change their behaviour.

**3 Indicating community reciprocity:** If someone behaves in a particular way, they will benefit, and so will their community.

“A lot of these farming strategies we are looking to promote among farmers have benefits in the long term, but the benefits of these changes are not seen right away,” Slemon says. “It can be difficult for producers to choose techniques that don’t have short-term benefits over techniques they are comfortable with using. This is what makes looking at behaviour change strategies so important.”



**Fresh vegetables without a perfect cosmetic appearance are still valuable to people in need of healthful food.**

# Addressing emergency food supply

| Megan Swim

**M**ore Guelph-area farmers may contribute less-than-perfect produce for local emergency food centres, but they need help overcoming specific obstacles, according to U of G researchers.

Carly Fraser, a Research Shop intern at the Community Engaged Scholarship Institute, surveyed 28 farmers in Guelph Wellington County on their participation in a community food hub.

All farmers in the study said they have surplus produce that they would be willing to donate to food banks — especially if they get help with transportation costs.

That produce consists of fresh, healthy fruits and vegetables without a perfect cosmetic appearance.

The Seed Community Food Hub aims to increase the amount of fresh produce available to emergency food supply cen-

tres by becoming a central distribution centre for Guelph.

Fraser wished to learn whether farmer support could help alleviate the concerns identified by emergency food providers and to see how the food hub might be able to support farmers as well.

“The goal of the research was to gain specific insight into the needs of farmers for participating in local food hubs,” she says.

Creating clear expectations and eliminating potential barriers would encourage farmers to participate in local food hubs year-round.

Potatoes, sweet corn, beets, carrots and squash were all identified as products grown in large quantities by multiple farmers.

“When farmers donate or sell their imperfect produce to the food hub, it creates a direct link for people to access quality, fresh food,” says Fraser. “Seeing these imperfect produce items as valuable also gives farmers access to a new market.”



## Interview

Prof. Wayne Caldwell



# Farmland conversion in southern Ontario

| Alyssa Logan

For more than 40 years, the GTA has seen widespread farmland conversion for urban and suburban uses. The Ontario Greenbelt Plan was created in 2004 to preserve prime farmland in the Greater Golden Horseshoe, after officials watched the number of farmers there decline by almost 45 per cent since the 1970s.

As farmland continues to be converted to other uses, a number of perceptions need to be addressed, says Prof. Wayne Caldwell, School of Environmental Planning and Rural Development, who is measuring the effectiveness of the Greenbelt Plan.

### Q How are you conducting this research?

A Our researchers, Emma Drake and Sara Epp, have been going out to the municipalities in the Greater Golden Horseshoe—Niagara, Halton, York, for example—and identifying official plan amendments that will lead to development in the next 10 to 20 years. This analysis allows us to see which plans for development were created before and after the Greenbelt Plan, and how much land has been lost since its initiation.

### Q Based on your findings, has the Greenbelt Plan been successful?

A Definitely. The Greenbelt Plan has virtually eliminated new development within protected countryside. And farm land loss outside of the greenbelt has also slowed down as provincial policy forces developers to intensify within existing built-up areas, so there is less pressure on agricultural land.

### Q Why do some members of the public perceive the Greenbelt Plan as a failure?

A Some people may see the plan as a failure, especially when they are driving around rural communities and see development of residential areas. The reality is that they are often looking at development that was approved before the Greenbelt Plan was adopted. But from a farmland protection perspective, our research shows that the plan has been successful.

### Q Once a farm has been purchased by developers, why wouldn't development start right away?

A Most of the reasons are the housing market, financial issues and waiting for approvals. Also, if an area isn't likely to experience population

growth, developers will delay developing until growth pressures warrant it. In Huron County, some subdivisions approved in the 1960s still aren't developed for this reason.

### Q What happens to farmland in the greenbelt once it's bought?

A The Greenbelt Plan delineates a large area as protected countryside. Within this area, uses are primarily limited to agriculture. This includes farms, natural spaces and essential services.

### Q What happens to greenbelt farmers once their land has been purchased?

A Farmers buy and sell farmland. Within the protected countryside of the greenbelt, farmers buy and sell farmland as they do elsewhere within the province. This land comes with limitations in terms of use that limit it to agriculture, farms, farm residences and other essential services.

### Q What does it mean to farming near urban areas?

A For producers that live around newly developed areas, they may have to change the way they do their business. If a residential area is created, it may pose a problem for a livestock operation, including potential complaints about noise, flies, dust, odours, light, smoke and even vibrations. As development continues, producers are looking to adopt practices that help to minimize conflict with neighbours.

### Q Does farming in close proximity to development actually benefit any particular type of producers?

A Some types of farming thrive near urban locations. Fresh produce farmers, for example, find it helpful to be in close proximity to a residential area, where they may have a nearby market to sell to.

Additional collaborators include master's student Emma Drake and PhD candidate Sara Epp. This research is funded by the Ontario Ministry of Agriculture, Food and Rural Affairs – U of G Partnership.





# Access is key to seniors' recreation in rural Ontario

| Karen K. Tran

**W**hen the East Wellington Community Services received funding to develop seniors' services, the organization decided to approach seniors directly to learn what programs they wanted.

A survey in Erin, Ont., that included about 15 per cent of the town's senior citizen population found most popular potential activities were support groups, educational classes and volunteering.

But first, seniors needed access to these activities.

Jayne Marrotte, a student in the University of Guelph's master of public health program, says barriers such as transportation deter participation.

"It's often not about increasing the number of activities offered, but more about improving access to the activities that are already offered, and increasing people's awareness of these activities and resources," says Marrotte.

Besides travel limitations, barriers identified by seniors were lack of awareness of activities, activities offered at inconvenient times of day, health worries, cost and uneasiness about going out alone.

Nevertheless, many seniors indicated that they enjoyed attending events and wished to see more options for activities and classes.

"Educational activities, social engagement, support groups and health and wellness activities are important to keep older adults engaged in their community," says Marrotte. "Participating in these activities allows them to feel a sense of community and support, as well as maintain their physical and mental health."

Researchers recommended that the Rural Seniors Advisory Group (RSAG)



Lack of transit restricts rural seniors' activities.

assessing the needs of seniors in East Wellington use resources to organize flexible transportation, increase event advertising, develop volunteer opportunities, and offer more support groups, sporting activities and other free or low-cost events.

RSAG will also maintain an existing Alzheimer and dementia support group run by the Ontario Telemedicine Network, and coordinate a monthly speaker series on the specific needs of older adults.

The Ontario Senior Secretariat provided a one-time honorarium to fund RSAG's organized events, including a walking program at the Erin Indoor Recreation Centre, a transportation assistance program and an older adults' expo.

This research was supported by U of G's Research Shop in the Community Engaged Scholarship Institute. The report was prepared for RSAG by interns Marrotte and Amanda Matheson, and project manager Oriana Vaccarino.

Support also came from Prof. Belinda Leach, associate dean of research in the College of Social and Applied Human Sciences; Research Shop coordinators Karen Nelson and Samantha Blostein; and Becky Walker and Kari Simpson of East Wellington Community Services.



## IMMIGRANT

# Learning about immigrants' lives in Guelph-Wellington

**New surveys look at immigrants' employment, social well-being and community access**

**| Janan Shoja Doost**

**A**bout 20 per cent of the Guelph-Wellington population consists of immigrants. Although most newcomers report feeling welcome, many experience challenges as they adjust to their new lives. Understanding their experiences is imperative to improving their transition to a new country.

That's why U of G's Community Engaged Scholarship Institute (CESI) has teamed up with community groups, including the Guelph-Wellington Local Immigration Partnership, to gather new data on immigrants and their well-being.

Community researchers surveyed immigrants throughout Guelph-Wellington to understand their experiences with employment, social interactions and access to services.

The majority of respondents said they are highly aware of health and physical services available, but less aware of financial and housing services.

This research also revealed that immigrants still face many employment challenges. Most newcomers said they are employed, but not in fields in which they are trained or have worked before. Unemployed immigrants said a lack of transportation services, limited networking opportunities and language issues were key barriers to finding jobs.

CESI's main contribution to the project was to help share the survey results.

"Our role was to take the immigrant survey findings that were gathered by the



**The majority of survey respondents said they are highly aware of health and physical services available, but less aware of financial and housing services.**

partnership and synthesize them so that they could be shared more easily with the various stakeholders in the community that can use them," says Caroline Duvieusart-Dery, knowledge mobilization coordinator at CESI.

"This information will give local organizations and the city a better understanding of the specific needs of immigrants and the issues that should be prioritized, as well as recommendations on how we can better support newcomers as they make Guelph their home."

CESI also worked with the Volunteer Centre (now the People and Information Network), the City of Guelph and Immigrant Services to learn how immigrants are represented on boards of directors in Guelph-Wellington, how they are recruited for these positions, and what challenges they might face when con-

sidering joining a community board or committee.

For this study, researchers surveyed 74 not-for-profit, public and private organizations to learn about diversity of local boards of directors.

Some organizations had few immigrants on their boards; in others, up to half of board members were born abroad.

These survey results were used in creating the Newcomers on Board project, which seeks to increase the participation of immigrants on local boards by matching skilled immigrants with interested organizations.

"An increase in the diversity of those who make up boards of directors often leads to increased innovation and creative ideas, as each person brings their unique experience and perspective," says Duvieusart-Dery.





Syrian refugee and her child at a volunteer camp in Kos, Greece, 2015

# Sponsoring a refugee

| Janan Shoja Doost

In the wake of the Syrian refugee crisis, many resources have been made available to help refugees adjust to a new life in Canada. However, various resources and tools can sometimes feel confusing and overwhelming for refugees and their sponsors.

Thanks to the Community Engaged Scholarship Institute (CESI) and its community partners, information about local resources, services and other supports available has been compiled into one handbook to assist current or prospective refugee sponsors in Guelph-Wellington.

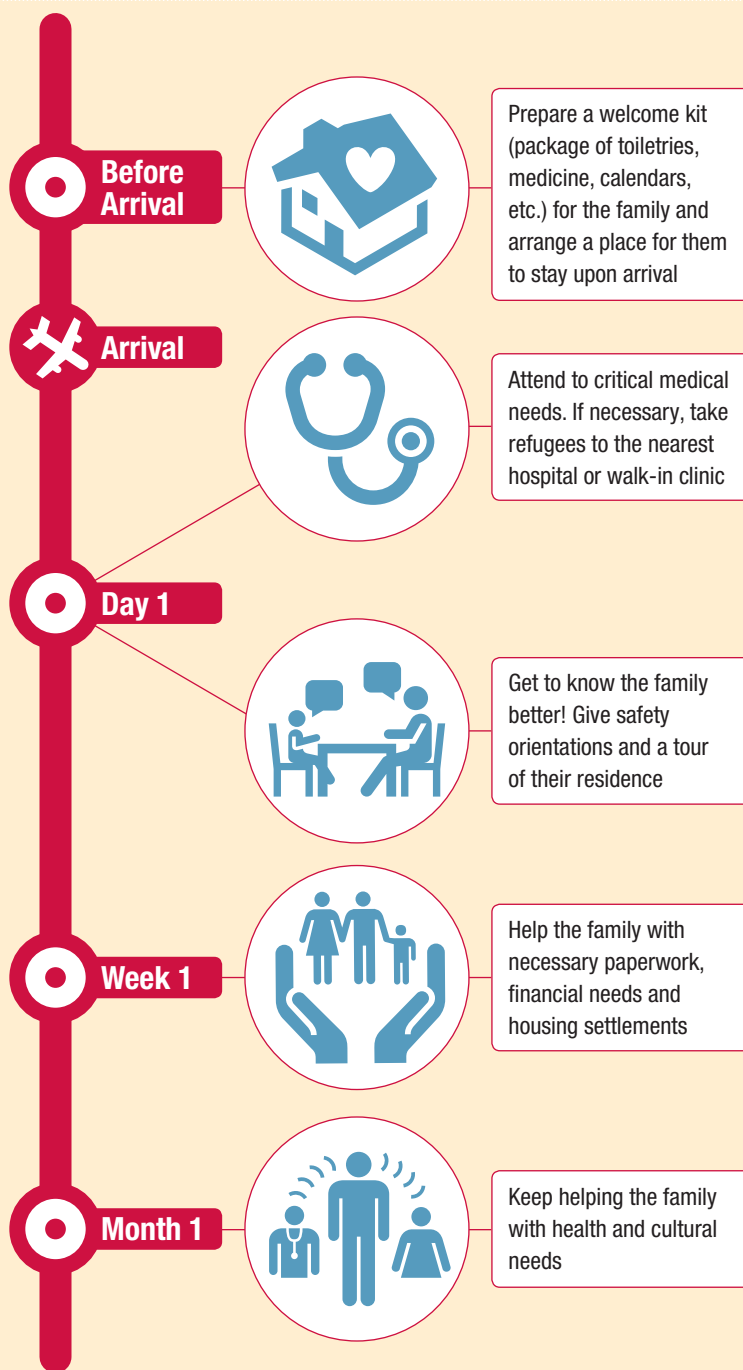
Although the momentum for the creation of a refugee sponsorship handbook came from the arrival of Syrian refugees in Canada, the document is meant to serve the needs of sponsors working with any refugee group.

**“Local organizations and citizen groups have shown extraordinary leadership in welcoming refugees to the region. The handbook—along with other projects—was our way to build on U of G’s strengths to contribute meaningfully to these efforts.”**  
—Caroline Duvieusart-Dery,  
Project manager at CESI



## A timeline of sponsor responsibilities

Examples of steps included in the handbook to help sponsors support refugees throughout the resettlement process





# My Italian connection

**Family roots were key to my academic, personal and creative approach to Italian Canadian heritage research**

**| Alaina Osborne**

**I**t's rare to uncover your own family history during an experiential learning course. And it's even more unique when that research acts as inspiration for your undergraduate thesis in studio art.

But that's what happened when I became involved in the Italian Heritage Project, an initiative that allows University of Guelph students and Guelph community members to collect and preserve Italian Canadian narratives and artifacts.

Why Italians?

After the devastation of the Second World War, the wave of emigrants who left Italy for the True North Strong and Free had an immense impact here. In Guelph, the Italian Canadian presence is especially strong. Builders, bakers, artists, chefs, farmers and families helped shape the Guelph-Wellington area into the place it is today through their diverse expertise, crafts and skill. No wonder Guelph's twin city is Treviso, Italy.





From left: *The Annunciation* (detail) by Juan de Flandes, circa 1500, Cincinnati Art Museum; the author's grandmother, Pierina, in 1956. Top right: Alaina Osborne today.

I met my adviser, Prof. Sandra Parmegiani (head of two programs here, European studies and Italian studies) while interviewing her for an immigration newsletter story. I was intrigued by her research and so I decided to enrol in her learning and language course. There, I could explore family history and add to a growing collection of stories from community members.

While other students interviewed Italian Canadian immigrants in the local community, I talked to my mother and

**Resembling the Virgin Mary at the Annunciation, my Nonna embodies the modest ideal of a young Italian woman in one image. The seriousness fades in another photo, however, as she sports fashionable sunglasses and a smile.**



The author

two aunts to better understand the experiences of my late grandparents (my Nonni), who immigrated to Canada from Northern Italy in the 1950s.

Of all the material left from their lives, photographs proved to be the most significant in volume and content. In fact, I searched through more than 200 of them. That collection led me to frame my research around a select group of photographs that I analyzed using theories on a variety of topics including gender, identity, religion, memory and migration.

For example, gender plays a significant role in identity formation, according to research. Resembling the Virgin Mary at the Annunciation, with a book—perhaps the Bible—in hand, my Nonna embodies the modest ideal of a young Italian woman in one image. The seriousness fades in another photo, however, as she sports fashionable sunglasses and a smile. It was important to include both of these images in my project to show the dynamic nature of my Nonna's identity. Other images, such as a photo of my grandparents visiting Niagara Falls with their youngest child, were included to illustrate how they explored and were interested in Canadian landmarks.

Simultaneously, I created a series of artworks in response to my research that eventually became a part of the Italian

Heritage Project as well.

These artworks, along with my critical, reflective writing and the photographs I studied, will be uploaded online in a virtual exhibition. The U of G library is currently developing the Italian Heritage Project website, which will act as a digital resource of artifacts, photographs, interview transcripts and more.

Delving into my family history has not only given me a new perspective on my identity, but it has also given me a new appreciation and emotional attachment to the struggles and contributions of Italian Canadian people.

On a larger scale, this research helps to open up and preserve the past, allowing us to understand the experiences and struggles of immigrants historically and today.

I presented my research and artwork at the 7th Annual Italian Canadian Archives Project Conference, held at the Art Gallery of Guelph and the city's Italian Canadian Club.

The Italian Heritage Project was created in collaboration with the University of Guelph and the Italian Canadian Archives Project.

Alaina Osborne is the senior student writer in the Students Promoting Awareness of Research Knowledge (SPARK) program.









# Drawing mandalas for better mental health

**Mobile app aims to provide free, accessible art therapy for refugees**

**| Karen K. Tran**

In 2016, Canada welcomed more than 46,700 refugees to the country. Canada's commitment continues, as many more government and privately sponsored refugees plan to be resettled in communities across the country.

But can the Canadian mental health system handle the numbers? That system is already overwhelmed, and new resources are limited and challenging to navigate. Current programming does not meet these needs — so where can refugees turn?

Now, there's a new app being developed for that — specifically, for helping refugees work through potential mental health challenges — thanks to two researchers at the University of Guelph. They are planning to devise a free mobile app that offers guided art therapy built to address trauma.

The app — named Ankaa — was developed by master's students Adele Heagle, public health and international development, and Oliver Cook, computer science. Their app is designed to help refugees work through traumatic experiences by drawing mandalas. Mandalas are wheel-like images made up of repeated geometric shapes and patterns.

Studies have shown that drawing mandalas can help reduce the severity of post-traumatic stress disorder, which refugees are statistically more likely to develop than members of the general population. Art therapy is a proven mental health support, and this app aims to make this type of support accessible anywhere via mobile devices with limited language barriers.

Among refugees to Canada, one of the

most common languages spoken and read is Arabic, says Heagle.

"We chose a name rooted in Arabic, as it also aligns with the vision of a phoenix — Ankaa is of Arabic origin and refers to the brightest star in the Phoenix constellation," she says. "A phoenix is the symbol for Ankaa as it represents an image of a mythical creature that is able to rise from the ashes, much like we hope those using Ankaa will rise from their traumatic experiences."

Mandalas are significant symbols representing the universe in Buddhist and Hindu cultures. Globally, people practise drawing mandalas as a form of spiritual meditation. Mandalas also appear in nature, math and art history.

Ankaa has options for free-form e-drawing and invites users to express traumas creatively. As the user draws, the actions are automatically mirrored by the Ankaa app in real time to create the multiple segments of a mandala, like a kaleidoscope. This mirroring aspect makes drawing easier on a hand-held electronic device.

The app allows users to learn more about benefits of art therapy, and to save and share their mandalas with others. Ankaa also gives users access to local mental health resources.

The app is still in prototype stage. Following extensive testing and development involving refugees and an expert advisory committee, Ankaa is scheduled for public release by summer 2018.

Heagle and Cook collaborated as participants in U of G's global health course. For this project, they consulted with Prof. Sherilee Harper, Population Medicine, and Dr. Warren Dodd, who completed a PhD in epidemiology and international studies.

**A Tibetan mandala painting on a monastery ceiling in Upper Pisang, Nepal, with an example of a mandala drawn with the Ankaa app: Studies have shown that drawing mandalas can help reduce the severity of post-traumatic stress disorder.**



# Helping the community help women

Researchers interviewed 33 women in the Guelph-Wellington community who had experienced the sexual assault and domestic violence first response protocol. They also conducted an online survey and held focus groups to understand the perspectives of service providers.

| Megan Swim

### Improving the effectiveness of a first response protocol for sexual assault and domestic violence

**R**elationships, interactions, service delivery and collaboration between agencies and women experiencing sexual assault and domestic violence all affect the usefulness of the Sexual Assault and Domestic Violence First Response Protocol, according to U of G community-engaged research.

About 40 per cent of Canadian women have reported being sexually assaulted at least once since age 15. Every day in Canada, 3,300 women have to sleep in emergency shelters to escape domestic violence.

That's why Prof. Mavis Morton, Department of Sociology and Anthropology, and graduate students worked with the Guelph Wellington Action Committee on Sexual Assault and Domestic Violence to assess the effectiveness of that first response protocol. These guidelines are

## Action and tension: Recommendations and observations after protocol analysis

**A**fter analyzing the first response protocol, U of G researchers cite action points and tension points that reflect their findings and create suggestions for further improving the protocol, as follows.

### Action Points

Action points are suggestions that result from research with the women and service providers about their experiences and recommended protocol changes.



#### 1. Judgment/Not Believed

Women reported that being listened to, believed and supported by service providers helped them build trusting relationships and encouraged them to have further interactions. Offering a private, non-judgmental space makes women feel more comfortable in sharing their experiences with service providers.



#### 2. Coordination/Collaboration

Service providers need to build relationships with other providers in order to know what current and reliable resources are available for women. Providers also need to understand protocol expectations in order to implement the protocol more effectively.



#### 3. Protocol Accessibility Improvements

The protocol needs to be more accessible to service providers. Suggestions include shortening the document to one-page handouts, making the protocol public and available online, using plain language and creating documents that may be used by the general public or women experiencing violence.

### Tension Points

Tension points reflect differences in perspectives between women and service providers about women's experiences and recommended protocol changes.



#### 1. Privacy

What feels like privacy for the service providers is not always the same experience for women. For example, conditions in waiting rooms, over the phone or in older buildings where sound travels were not considered private for women disclosing their experiences to service providers.



#### 2. Coordination/Collaboration

The lack of communication and personal relationships between agencies creates challenges in providing adequate resources for women. Differing philosophies and values reduce collaboration between agencies.



#### 3. Risk Assessment

Disagreement within and between agencies about what is considered abuse and high risk creates problems in responding to the situation. Agencies use different risk assessment tools, creating multiple interpretations of the same scenario.





intended to help local service providers ensure victim safety and offender accountability.

“This research provides legitimacy to a group of people and agencies that are working together on a very prevalent, important social problem,” says Morton. “We used multiple perspectives and different levels of experience in order to assess the protocol.”

The committee created the protocol in 2003 after recognizing a need for more collaboration between service providers and better help for women experiencing sexual assault or domestic violence.

After an updated version of the protocol was published in 2010, the committee recognized that hearing from the people who use and operate these services — women in the community and service providers — would further improve the protocol.

Researchers interviewed 33 women in the Guelph-Wellington community who had experienced the first response protocol. They also conducted an online survey and held focus groups to understand the perspectives of service providers.

“If you just give a woman a number and resources, she is much less likely to use that resource and you may be sending her to one that no longer exists, so service providers need to build relationships with each other to know what resources are available,” says Morton.

“Ensuring that service providers understand protocol expectations, are familiar with first response techniques and are able to identify needs in order to address changes were all significant in making the first response protocol work well.”

Researchers developed tools to share their findings and have created resources — information sheets, a media presentation, an online video, a report and an academic publication — to help raise awareness among the public, the Guelph-Wellington community, the media and other researchers.

The project brought together the Guelph Wellington Action Committee on Sexual Assault and Domestic Violence and the University of Guelph.



## Re-Visioning difference

Art-making builds community and dialogue around experiences of marginalized groups

| Alaina Osborne

**P**eople who are marginalized — people with disabilities, those in Indigenous and LGBTQ+ communities, among others — are vital producers and consumers of culture. However, this vitality is rarely acknowledged in mainstream Canadian society, leading to stereotypes and “single stories” about marginalized and misrepresented communities.

Researchers at U of G’s Re-Vision: The Centre for Art and Social Justice are challenging these stereotypical narratives through arts and community-based research intended to cultivate and amplify marginalized voices.

Prof. Carla Rice, Department of Family Relations and Applied Nutrition and director of Re-Vision, works with people from misrepresented communities in workshops that allow marginalized people to create videos that tell their own stories.

“Our work is all about supporting and creating community among people who haven’t felt it because of systemic power imbalances,” says Rice, pointing to examples in health care and education.

She has led projects exploring the experiences of people with health-care systems that have often treated their bodies as experiments or spectacles.

CONTINUED ON NEXT PAGE



Prof. Carla Rice (seated, second from right) and participants at a digital storytelling workshop

#### RE-VISIONING DIFFERENCE FROM PREVIOUS PAGE

Digital storytelling workshops have allowed people with disabilities and health-care providers to examine expertise and the vitality of disabled bodies in health care. Workshops with other groups have also discussed what it means to be human and who has the right to determine what is “normal,” “healthy” and “productive.”

Rice and the Re-Vision Centre adapt the digital storytelling process to fit the needs of various communities. Researchers typically work with 10 to 15 participants over three to five days to develop self-reflexive videos.

Some videos tell linear storylines; others are more abstract. Rather than dictate the result, researchers provide resources and video technicians to help bring participants’ experiences to life.

Researchers then show the videos to various audiences, including health-care providers, educators and artists. The

works are presented along with information about common stereotypes that this research aims to dispel.

The videos may be used for training in health-care facilities and in schools. Video makers and audience members are interviewed before and after their experiences.

Digital storytelling has also examined relationships between individuals from Indigenous communities and the public school system.

Indigenous students in public schools often report that they are “hidden in plain sight.” Because of the absence or misrepresentation of Indigenous peoples and perspectives in subjects such as Canadian history and politics, students often avoid outwardly identifying as Indigenous for fear of social stigma and harassment.

Digital stories made by Indigenous students, parents and teachers can help non-Indigenous educators make school systems more inclusive and better informed. These stories have enabled

teachers and policy-makers to regard Indigenous students as contributors to a vital educational system and as producers of different kinds of knowledge.

Re-Vision researchers use information from digital storytelling projects to create multimedia, including links to videos, for scholars and the public.

Rice says this research not only challenges dominant narratives about Indigenous, disabled and non-normative experiences but also blurs the lines between “elite” arts and community art-making. She has observed more arts-based research in the social sciences.

“Art allows people to have conversations about pressing issues,” she says. “In some cases, access to art means access to life.”

These research projects have been funded by the Social Sciences and Humanities Research Council, the Canadian Institutes of Health Research, Women’s Health Xchange, the Canada Foundation for Innovation and the Canada Research Chair program.





# LGBTQ+ community voices its diverse needs

**Not-for-profit organizations across Canada work with the LGBTQ+ community to improve local organizations**

**| Megan Swim**

**T**he voice of the LGBTQ+ community in the Guelph-Wellington area is being heard with the help of new U of G research.

A study by University scholars has recommended ways to improve current programs and develop strategies that meet the diverse needs of the LGBTQ+ community.

The study was conducted by Yuriko Cowper-Smith, a PhD candidate in the Department of Political Science, and political science master's student Anna Kopec.

They worked with Out On The Shelf (OOTS), a not-for-profit (NFP) organization that offers a resource centre for the local LGBTQ+ community.

"We wanted to support OOTS in their decision-making processes as they undergo changes to their organizational structure and programming," says Cowper-Smith. "Participants showed a willingness to share their practices, and opportunities and barriers to expanding their organization."

Working with OOTS, Cowper-Smith explored how not-for-profits serve the LGBTQ+ community, deliver their services and programming, and adapt to changes in services. Following six informative interviews with NFPs across Canada, the research team analyzed their programming, organizational and financial structures.

U of G researchers also conducted an online survey with the LGBTQ+ commu-



nity in Guelph-Wellington to determine specific needs for programs and activities within the NFPs. Most survey participants were either younger than 25 or 25 to 37 years old, with a variety of sexual orientations and gender identities.

The NFP organizations voiced similar goals to those of survey participants, including diversifying staff, focusing on organizational strengths, emphasizing community-specific issues and targeting unique areas of importance for their community.

Current strengths of the various organizations included contact through social media, community responsiveness and strong partnerships with community groups. Significant challenges for organizations were funding, capacity, staff retention and lack of time.

Data from the online survey also offered perspectives on the needs, priorities and goals of OOTS. Survey participants suggested ways to improve current programs, increase communication, promote new strategies to connect the centre with the community and promote other potential partners.

Restructuring community programming has led to an opportunity for the LGBTQ+ community to speak up about what needs to change, says Cowper-Smith.

"The need to align a community's wishes and priorities into the design of the programming is why this type of research is so important. The results that came out of the research speak to the gap that must be bridged between the services that are available to the LGBTQ+ community and their needs, priorities and goals."



# Developing humane management strategies for urban wildlife

| Karen K. Tran



**Urban wildlife is living in city parks, rummaging through the trash and stealing your leftover food, and being killed in run-ins with traffic.**

That's the scenario in Guelph, a community getting bigger and busier all the time. According to Statistics Canada, the area's population has risen by an average of 1,250 people per year since 2012. Animals from white-tailed deer to stray cats pose a hazard to themselves and to traffic in the city.

University of Guelph researchers are exploring potential management systems to accommodate animals and humans alike.

### Freeing stranded white-tailed deer

Tatiana Zakharova, a master of landscape architecture student, created a design proposal using green infrastructure methods for stranded white-tailed deer in the Hanlon Creek Conservation Area.

Hunting and catch-and-release strategies have seen little success, or are unsuitable for the city environment. Zakharova suggests installing educational signs, lights and reflectors, fencing and jump-outs, as well as a multi-use overpass that would connect the natural area west of Highway 6 with Preservation Park and the Hanlon Creek Conservation Area, where the deer are stranded.

"The proposed combination of physical and sensory control elements along with policy and educational solutions are not only about the animals — they're also about

the people, about the city," she says. "If we understand what's best for the natural area, for the animals and for the people living and commuting here, we can deter or compel the deer to cross where appropriate. We also want to educate the people so they understand what is happening."

### Ten thousand cats

And then there are cats.

Estimates vary widely, but Guelph is believed to be home to as many as 10,000 outdoor cats. The Guelph Cat Population Taskforce (GCPT) is working with researchers and engaging the community to try to manage them.

Surveys have found most people support humane strategies such as rehoming,

spaying or neutering and raising public awareness. But Tyler Flockhart, a post-doctoral researcher in the Department of Integrative Biology, says basic information about the population is lacking—and that makes management tough.

"Decision-makers are being asked to implement appropriate interventions without simple information such as exactly how many cats there are, where they live and how citizens feel about those cats in their neighbourhood," he says.

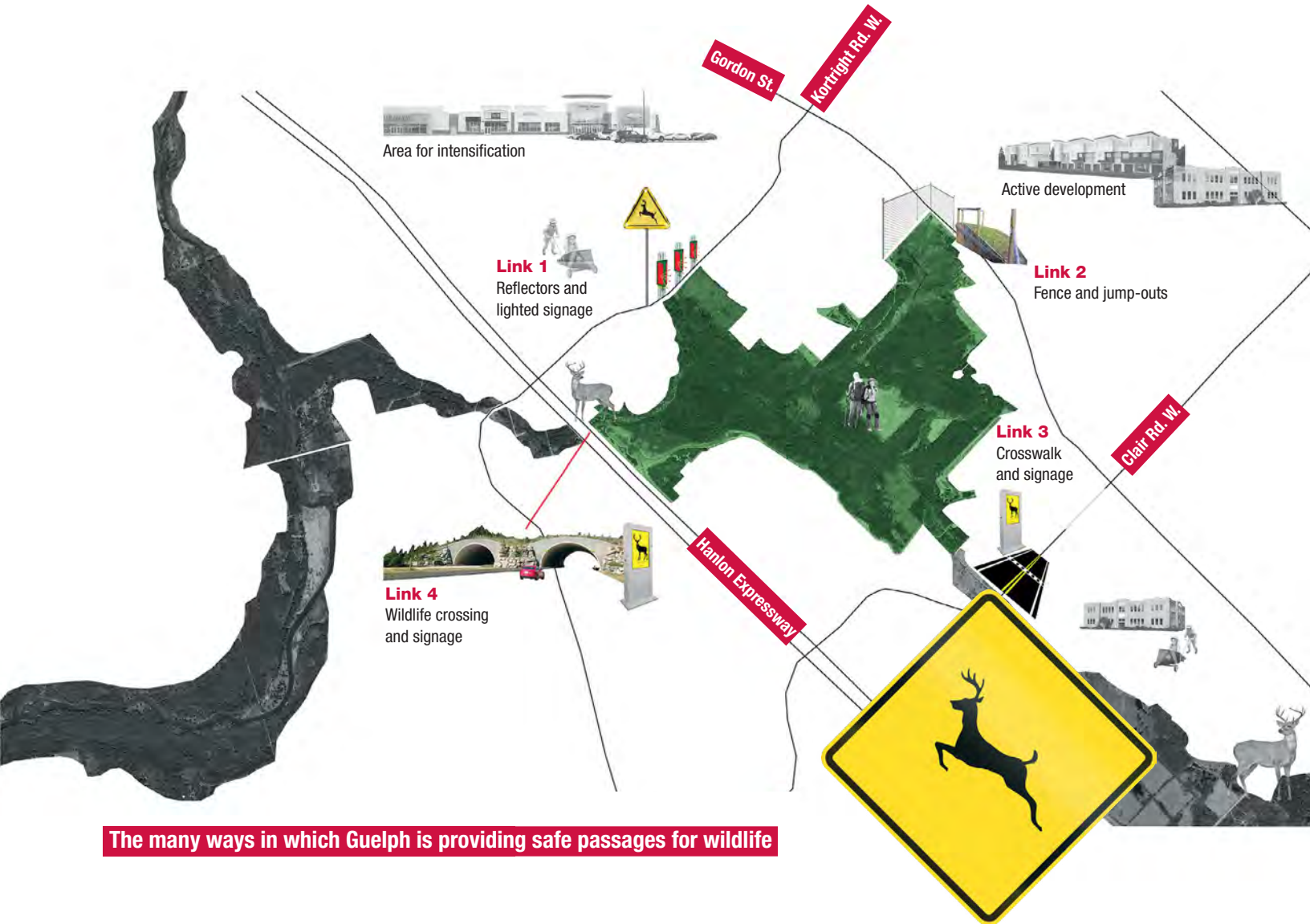
The researchers are gathering public opinion and providing unbiased professional expertise to city councilors and the public, to help support decisions that will potentially influence animal bylaw changes in Guelph.



**"These animals are not choosing to be urban wildlife."**

—Researcher  
Tatiana Zakharova





The many ways in which Guelph is providing safe passages for wildlife

A further problem is that urban wildlife is often seen as a form of entertainment. Onlookers snap pictures on their phones or pause in conversation to point out a squirrel, fox, bird, cat or deer, which look so out of place amid concrete and bricks instead of the natural green environment.

"A lot of people don't think there are many community cats around. You don't tend to see them because they're nocturnal or living in areas when they're not interacting with people daily," says Lauren Van Patter, an MA graduate of the Department of Geography.

### Strong connections

With the public's growing concern about animal welfare, it's clear that humane animal management strategies need to be prioritized, says Van Patter. People have strong connections to animals of all kinds and don't want to see them suffer.

Zakharova says the community needs to understand these animals have no choice.

"They're not choosing to be urban wildlife," she says. "We have a responsibility to talk about it, to understand the situation and what is happening

to animals, and to contemplate and install some alternatives for them to live their lives in a healthy manner."

The GCPT study was supported by Prof. Shane Bateman, Department of Clinical Studies.

Task force partners include the City of Guelph, Cats Anonymous, Guelph Humane Society, Guelph Area Veterinary Association, Nature Guelph, New Hope Animal Rescue and various U of G departments.

**"If we understand what's best for the natural area, for the animals and for the people living and commuting here, we can deter or compel the deer to cross where appropriate."**





# Enhancing urban wildlife

As Guelph and other cities grow, wildlife populations struggle to survive in the remaining green space. Now, two U of G graduate students have teamed up with local organizations in two projects to protect the city's natural heritage.

| Marika Li



**Dorian Pomezanski monitors the wildlife corridor at Dallan Lands.**



## Safe passages protect animals

For many mammals, reptiles and amphibians, being unable to seek out different habitats for food or reproduction can mean population decline or total extinction from the area. That's what was happening to wildlife in the Dallan Lands in south Guelph, where housing developments threatened to isolate an ecologically significant wetland from surrounding habitat.

In response, property developers installed a wildlife corridor and two underpasses outside of the development along Poppy Drive East.

A wildlife corridor is a strip of untouched vegetation that allows creatures to migrate between habitats. Wildlife underpasses are tunnel and fence systems within corridors, installed under roads. Both allow animals to move between habitats safely.

Dorian Pomezanski, a master's student in geography working with Prof. Lorne Bennett, has monitored the wildlife corridor and underpasses in the Dallan Lands since 2013. At the request of the City of Guelph and local consulting firm North-South Environmental Inc., Pomezanski hopes to learn whether wildlife benefit from these mitigation measures.

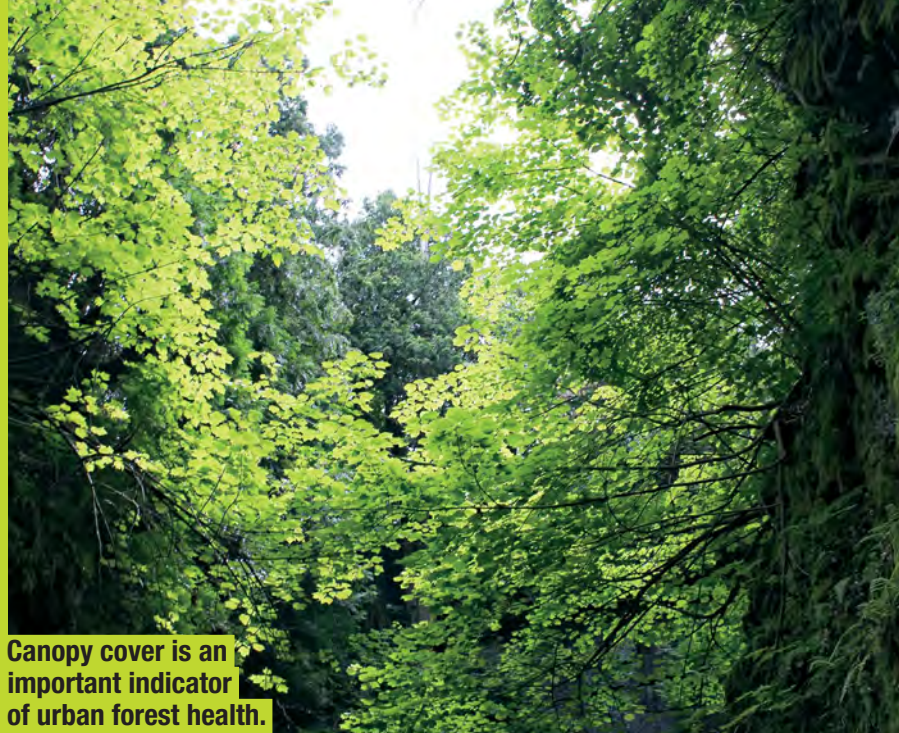
He has captured and sorted nearly 2.3 million images of crossing wildlife. High-quality trail cameras use motion-triggered capture for warm-blooded animals, while 15-second time lapses can collect images of cold-blooded animals.

The images revealed more than 25 species of mammals, birds, amphibians and reptiles using the corridor





**Researchers captured and sorted nearly 2.3 million images of crossing wildlife.**



**Canopy cover is an important indicator of urban forest health.**

## Setting a green target

and tunnels. The most frequent visitors included mice, voles, rabbits, raccoons, skunks, frogs and snakes.

Frogs and snakes are especially sensitive to habitat disturbances—there were more than 800 frog crossings and 275 snake crossings in the first year of tunnel operation alone.

To Pomezanski, that's success.

"Our tunnels and corridors were successful because the designers took time to consider the biological needs of the wildlife that would be using them," he says. "We found that a lot of animals looked very comfortable crossing the tunnels. That's something we were pleased to see."

The benefits of wildlife corridors extend beyond conserving and connecting habitat. Corridors offer valuable green space and educational opportunities for residents, and provide researchers with insights on animal behaviour and human-wildlife interactions.

"There is a growing movement of landscape connectivity conservation, particularly in southern Ontario where our landscape has been fragmented for so long," says Pomezanski. "We've been ignoring the costs associated with removing natural areas and wildlife populations."

**G**uelph researchers are up to something shady—they want more trees in the city to cover streets, sidewalks, lawns and parking lots.

Canopy cover — the ground area shaded by branches and leaves — is an important indicator of urban forest health. Jessica Brommer, a recent graduate of U of G's master of landscape architecture program, worked with the City of Guelph and local non-profit Trees for Guelph to see whether the city can reach the recommended 40-per-cent total canopy cover.

There's good reason to increase canopy cover. Urban forests become valuable habitat for wildlife while improving health for community residents, who can exercise and socialize outdoors. Trees can remove pollutants from air, water and soil. They also recharge groundwater supplies and lower the costs required to run and manage a city.

Working with Profs. Robert Corry and Jim Taylor, School of Environmental Design and Rural Development, Brommer identified existing land covers using satellite imagery and geographic information systems. The team's spatial

data revealed that the city's canopy cover is 28 per cent and that a further 22 per cent of the city's area could be planted. Industrial, institutional and low-density residential areas with open spaces have the most potential for planting efforts.

To reach the target of 40-per-cent canopy cover, about half of the available space would need to be used for tree planting. However, not planting trees allows the municipality to minimize costs or to provide space for parking or recreation.

While the target is achievable based on available plantable space, there are many other important factors to consider," Brommer says. "Landscape design goals might require open space for play or sunlight. Or, if a park is being planned in an area with a relatively low canopy cover, a designer may choose to use more trees than they typically would."

The wildlife underpass monitoring project was supported by U of G's Department of Geography and North-South Environmental Inc. The canopy cover modelling project was funded by Tree Canada and TD Friends of the Environment, and received in-kind support from Trees for Guelph.





From the how-to department...

# Create a simple rain garden

| Marika Li

Impermeable surfaces such as concrete and asphalt may cause social and environmental problems by enabling stormwater runoff to carry pollutants into water bodies. One way homeowners can prevent runoff and improve their communities is by planting a rain garden.

Rain gardens are designed to take up the stormwater that urban development, such as housing and driveways, prevents from being absorbed into the soil. Rain gardens also filter contaminants from stormwater and help recharge the groundwater supplies that communities rely on.

The simplest rain gardens consist of a catch basin topped with mulch and hardy native plants.

Alison Maxwell, a graduate of U of G's master of landscape architecture program, examined the effectiveness of five simple rain gardens planted across Guelph for sustainable stormwater management. She found the five gardens held a total of 300,000 litres of stormwater per year.

"If enough of these rain gardens are created within a city, the impact on municipal stormwater systems could be significant," Maxwell says.

She says the most important factor in rain garden effectiveness is design. Simple rain gardens may be made in existing soils with inexpensive materials.

This project received in-kind support from U of G's School of Engineering, the City of Guelph's Healthy Landscapes program and RAIN Community Solutions.



A rain garden in downtown Guelph. Left, top: pink turtle head; bottom: New England aster

## How to create your own rain garden in 10 easy steps

**1** Locate an area on your property with soil that drains well. It should be situated where your roof's downspout can be easily redirected, at least 3.5 m away from your home or any building. Rain gardens should not be placed over septic systems or drainage tile.

**2** Calculate the area of your roof in centimetres.

**3** Calculate how much soil you need to remove by multiplying your roof area by the amount of water your rain garden will retain. Small rain gardens commonly hold 2.5 cm of rainwater. But for a rain garden that acts as a natural stormwater facility, multiply the area by 6.4 cm. For instance, if your roof area is 500 cm<sup>2</sup> and you want your garden to hold 2.5 cm of rainwater, your catch basin will be 12,500 cm<sup>3</sup>.







**4** Create a catch basin by removing the necessary amount of soil. For example, a rain garden with a volume of 5,000 cm<sup>3</sup> could be roughly 50 cm wide, 10 cm long and 10 cm deep. If your soil drains well, you can have a garden with a small, deep basin. Slower-draining, clay-rich soils need a wider, shallow area.

**5** Mound the soil into beds around the garden edges to better contain stormwater. To create an overflow area, keep one mounded bed shorter and line it with filter fabric topped with river rock. The overflow area should direct excess water toward an appropriate location, such as a road.

**6** Cover the entire garden bed with 10 to 15 centimetres of shredded pine bark mulch. The mulch layer should be thicker on the mounded edges. Smaller mulch pieces are more likely to stay in place.

**7** Move mulch aside and dig holes in the soil at the bottom of the catch basin and on mounded beds where you want your plants to grow.

**8** Plant your preferred greenery in the soil and surround it with mulch. Tough perennial plants that can handle wet-dry soil cycles are ideal for rain gardens. Native succulents, prairie grasses, shrubs and some tree varieties are good choices for summers with infrequent rainfall. Plants that need more consistent moisture can be used in areas with higher rainfall.

**9** Water deeply at the base of each plant immediately after planting and up to three times a week until they have been established. After that, the garden will not need to be watered unless there's a drought.

**10** Enjoy your new garden!







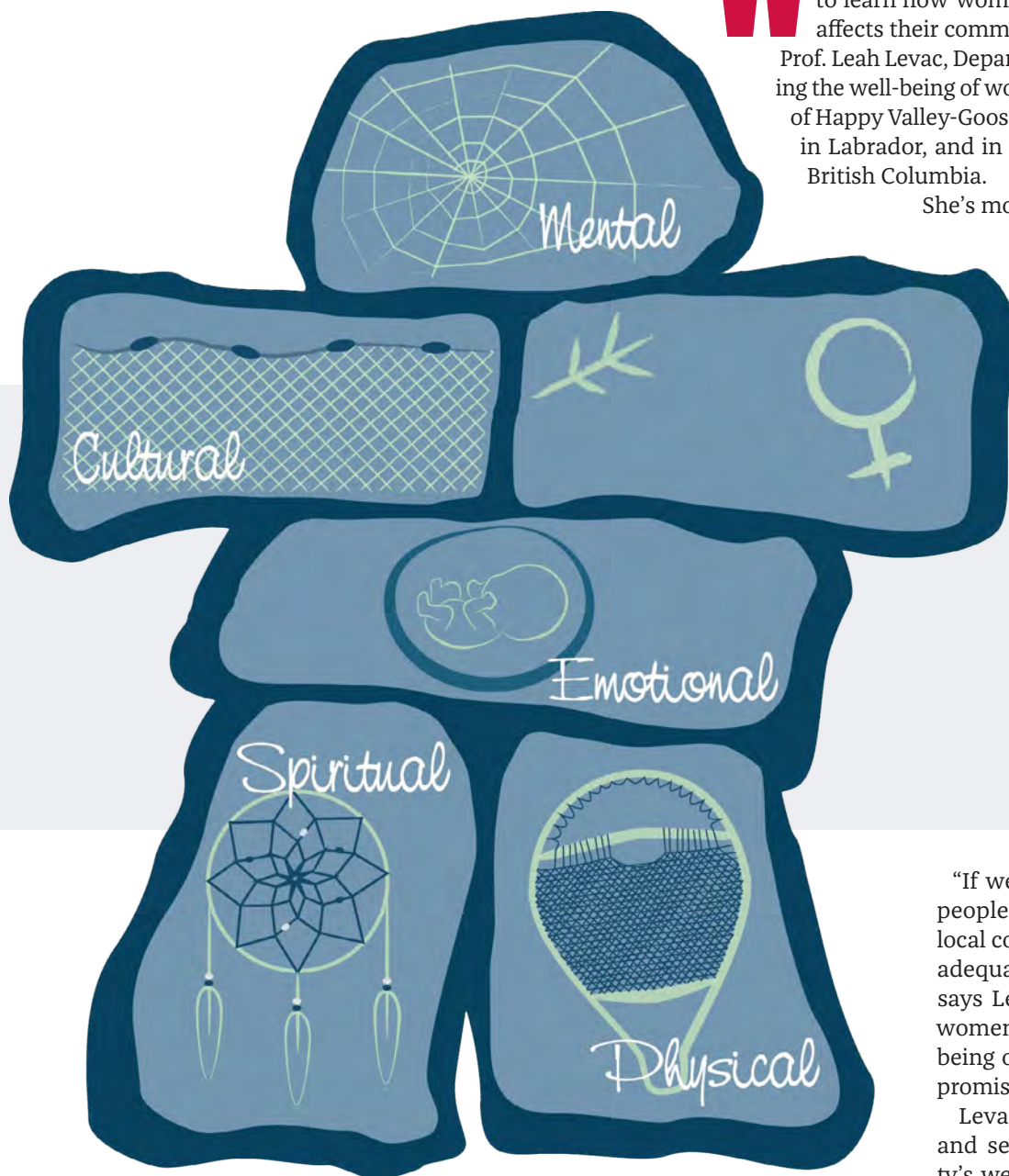
## Well-being of Northern women and their communities is intertwined

| Janan Shoja Doost

**W**orking with local women in Northern communities along with community organizations and Indigenous governments, University of Guelph researchers hope to learn how women's well-being is affected by and affects their communities.

Prof. Leah Levac, Department of Political Science, is studying the well-being of women in the Northern communities of Happy Valley-Goose Bay and the NunatuKavut region in Labrador, and in Kitimat and the Haisla Nation in British Columbia.

She's monitoring changes in mental, physical, financial and social well-being of community members to understand obstacles and improve the overall well-being of these communities.



### Well-being concerns among Northern women

- Access to the land
- Access to mutual aid
- Availability of community resources
- Understanding how technology contributes to connection and isolation
- Preventing loss of access and practices related to traditional food sources

"If we don't understand how different people are experiencing well-being in local communities, we cannot formulate adequate policies that serve the public," says Levac. "This is important because women may have experiences that are being overlooked, and that may be compromising their and others' well-being."

Levac is exploring how Indigenous and settler women define a community's well-being. About 200 women from





partner communities have participated in focus groups and sharing circles with her research team. Participants are explaining community issues from their perspective and revealing major themes.

The study has found women in Labrador communities express a disconnect from their land base, which has traditionally provided leisure, food and sense of identity. They said barriers to land access are exacerbated by ongoing development of the Lower Churchill hydroelectric project.

Similar factors affect women in B.C. who see the consequences of social and developmental issues every day. These women face challenges with service access, including dwindling educational opportunities and lack of access to health services, particularly for mental health.

Levac's work may help governments and organizations evaluate and prioritize the needs of diverse community members in Labrador and B.C. Her research may also offer solutions to issues that may hinder community improvement. She expects the project will help improve the lives of all women and community members in these

Northern communities.

Next, Levac plans to focus on women aged 14 to 24 in Northern communities to better understand their well-being and their roles in their communities.

"Community-engaged research must respond to community needs," says Levac. "All of the research I am involved with tries to respect local knowledge of communities and makes a positive contribution to partners. I am motivated by this research having positive impacts on people's lives."

**Funding for this project was provided by an Insight Grant from the Social Sciences and Humanities Research Council and an Early Researcher Award from the Ontario Ministry of Research, Science and Innovation.**

**Collaborators include Lisa McMurtry, project coordinator; Prof. Dan Gillis, School of Computer Science; and Sylvia Moore of the Labrador Institute, Memorial University of Newfoundland. The project is based on previous and ongoing work with political science professor Deborah Stienstra, holder of the Jarislowsky Chair in Families and Work, and Gail Baikie, professor of social work at Dalhousie University.**

## Knowledge transfer in Indigenous urban communities

**C**an Indigenous tradition and culture be effectively expressed and shared in modern, highly urbanized centres? Indeed, says Prof. Kim Anderson, Department of Family Relations and Applied Nutrition. She found that urban environments are not necessarily barriers to traditional knowledge transfer. True, it's more difficult to access land for activities such as hunting and fishing. However, she says, there are ample opportunities for cultural and individual expression in places such as friendship centres or community hubs that provide Indigenous people access to cultural programs and services.





# Three keys to positive First Nations mental health

**Reconnecting with nature, tradition and community makes for positive mental health in Canadian Indigenous communities**

| Alyssa Logan

**C**onnections to the land, traditional activities and openness to diverse spiritual views seem to be the key to strength, resilience and positive mental health in one Indigenous community in Canada, and may be a model for others.

Because of a long history of oppression, Indigenous communities across the nation have suffered from significantly high rates of mental illness, substance abuse, depression and suicide. But one Indigenous community along the James Bay and Hudson Bay coastlines stands out for its positive mental health outcomes and decreased need for western mental health services.

University of Guelph-Humber Prof. David Danto, Department of Psychology, and Prof. Russ Walsh, Duquesne University in Pittsburgh, Pennsylvania, are learning why the community has such positive

mental health outcomes. They interviewed elders, healers and mental health service providers in the community to identify what distinguishes it from others.

Mental health research typically looks at rates of suicide and illness. But these researchers are focused on what makes this community strong.

"It was important to us that we understood what factors promoted strength, resilience and positive mental health outcomes in a culturally appropriate, sensitive and compatible way with their members," says Danto.

Using an Indigenous medicine wheel model — integrating mental, emotional, physical and spiritual health — Danto learned of three important messages in connecting strength and resilience with positive mental health.

First, participants said that it was crucial that individuals had a strong and deep connection to land and tradition.

The environment is known to promote mental health in Indigenous communities, providing members with healthful food, physical activity and freedom from settler culture.

Interviewees also explained that their community is open to diverse approaches to spirituality, community engagement and shared parenting roles. Neighbours often teach children in the community about manners, respect and caring for each other.

Finally, Danto says Indigenous communities benefit from connecting to traditional practices developed over hundreds of years.

Next, the researchers will look at data recently collected at a second Cree community around James Bay to understand how land-based interventions — such as elders taking at-risk youth on camping, hunting and fishing trips — affect mental health.

Funding for this research was provided by the University of Guelph-Humber.

## Identifying the cause of enteric illness in the Canadian North

| Karen K. Tran

**W**hat do dogs, clams and water have in common? University of Guelph researchers suspect there's more connecting them than you might think.

A team led by population medicine professors Sherilee Harper and Jan Sargeant hopes to find out why the world's highest rates of enteric ill-

nesses, including diarrhea and vomiting, are being reported in the Canadian North. The researchers believe the answer could be found if they can link dogs, clams or water — significant parts of Inuit life — to a shared pathogen.

Since 2006, Harper has collected data on the high prevalence of enteric illness in the Arctic. Along with Sargeant, she started the PAWS (People, Animals, Water and

Sustenance) project in 2013 to try to identify the cause of disease.

Harper explains that understanding interactions of Inuit citizens with dogs, clams and water is vital to determining how disease-causing parasites such as *Cryptosporidium* and *Giardia* are transmitted.

All three factors are part of life in the Canadian North. Dogs are regarded as more than pets — they can also be



working sled dogs. With longer shipping times and potential food spoilage, many community members prefer to depend on local hunting and gather-





**“It was important to us that we understood what factors promoted strength, resilience and positive mental health outcomes in a culturally appropriate, sensitive and compatible way with their members.”**  
**Prof. David Danto**

Victoria Mamnguqsualuk, *Travelling on the Land, Summer, 1975*, graphite and coloured pencil on paper. Purchased with funds donated by Blount Canada Ltd., 1980, Macdonald Stewart Art Centre Collection at the Art Gallery of Guelph.



ing. And although potable tap water is available in Iqaluit, many people still prefer to draw water from streams for traditional reasons.

Working with Indigenous partners from the community is integral to this research. Without their guidance, says Harper, the team would not have thought to consider clams as a suspect in disease transmission or known which water-collecting spots were the most popular.

Through its partnership with the Nunavut Research Institute, Harper's team tested for parasites in drinking water for a year.

Researchers also compared stool samples from working dogs and companion animals.

Local doctors told researchers that enteric illness out-

breaks occurred during clam harvesting season. Although the team lacks definitive evidence that eating clams causes enteric illness, the potential link was worth investigating under the PAWS project.

“There's a lot of Indigenous knowledge integrated in the project to guide and help us make those connections,” says Harper. “It's not very often that social scientists work together with natural scientists on lab work for a project to try and answer these bigger, overarching research questions.”

After they analyze the samples and data, Harper and her team hope to be able to show

conclusive evidence about the source of enteric illness in Iqaluit.

The PAWS project is funded by the Arctic Network of Centres of Excellence of Canada.

Other contributors were pathology professors Scott Weese and Karen Shapiro; Ashlee Cunsolo, director of the Labrador Institute of Memorial University of Newfoundland; and Victoria Edge and Rebecca Guy, both with the Public Health Agency of Canada. The research team also included graduate students Danielle Julien-Wright, Anna Manore and Stephanie Masina.



The N'Swakamok Native Friendship Centre and the Greater Sudbury Police Service hosted the Missing and Murdered Indigenous Women and Girls Conference in December 2017. Five students co-presented papers with history professor Brittany Luby; it was their first experience as presenters at a professional conference. This photo was taken before they returned to Guelph, in a moment of celebration. Back row (left to right): Emily Hall, Dawson Ham, Roy Rebelo, Luby, Thomas Milne, Lauren Eby, Olivia Flegg and Angelique Nightingale. Front row: Emma Stelter and Kathryn Hughes.

# Increasing public awareness of Indigenous territorial rights

**R**esearch has shown that collaborative learning has a positive effect on educational achievement. Although many studies have focused on collaboration in elementary and secondary classrooms, I believe that the benefits of discussion and negotiation do not end with graduation.

This belief lured me to work in the Tri-University Graduate Program in History — a program that combines the faculty and resources of three universities.

Although I have yet to take full advantage of that program, I had the privilege of collaborating across departments at the University of Guelph for **I STAND #InUnity**. This public art initiative drew on expertise from the Office of Intercultural Affairs, the Aboriginal Resource Centre and the College of Social and Applied Human Sciences.

Together we organized a human medicine wheel to help others better understand the crisis of missing and murdered Indigenous women (MMIW) in Canada. I encourage you to examine the front and back covers of this magazine and learn about MMIW with us.

I agree with American poet and peacemaker

Mattie Stepanek: “When there is teamwork and collaboration, wonderful things can be achieved.” **I STAND #InUnity** is just one of them.

## Research focus

I am working on my first book-length manuscript, *Drowned* (tentative title), for the University of Regina Press. The book responds to the popular belief that the Second World War ushered in a period of unparalleled economic growth across Canada. Indeed, historians J. M. Bumsted and Douglas Owram have linked an increase in per-capita income with improved standards of living nationwide.

My research demonstrates that Anishinaabe families living in the Winnipeg River drainage basin did not prosper with Canadians at large. Instead, Anishinaabe families experienced a precipitous decline in living standards as their hunting, fishing and *manomin* cultivation areas were inundated with water.

Yet *Drowned* is not a declensionist narrative. I am primarily interested in how Anishinaabe families living in northwestern Ontario used





diverse strategies — adaptation, cooperation, passive resistance — to manage environmental change caused by Whitedog Falls Generating Station in the 1950s and the 1960s. I am born of survivors.

I also seek to raise public awareness of Indigenous issues through poetry. In winter 2018, my newest poem will be published by Prairie Fire.

It will introduce readers to Hayter Reed, former assistant Indian commissioner for the Northwest Territories. Reed ought to be a noted villain in Canadian history: he banned First Nations living on reserve from using modern farming equipment.

While Euro-originated farmers benefited from the use of thresher and combine, First Nations were required to fashion their own farming tools. Reed's policy harmed many First Nations families by jeopardizing their ability to harvest crops and by starving many First Nations off otherwise arable land.

Whether through peer-reviewed articles or poetry, my research is intended to increase public awareness of Indigenous

territorial rights (and their compromise) in Canada.

### The future

I hope to continue raising public awareness about Indigenous issues through articles and art. To date, adults have been the primary beneficiaries of my work. I would like to think creatively about introducing children to Indigenous issues.

In fall 2017, I signed with Westwood Creative Artists. I have written my first children's book and hope to see it in print in 2019.

*Encounter* (its tentative title) is based on Jacques Cartier's journals. It shows readers how cultural biases can interfere with daily interactions. It also reminds readers that many of our differences exist at the surface level.

All of my work reminds readers of the value of connection to each other and to the land. I write to help build a future where we are more intimately connected as allies and as creatures of Earth.

### Nishnabe Aaski Nation troubled food access

**N**on-traditional foods such as cheese and milk are shipped to Northern First Nations communities and sold at exaggerated prices. For example, four litres of bagged dairy milk costs \$12.60 in some Northern communities, even though many First Nations people have traditionally relied on wild sources, such as fish and fresh game, for similar nutrients. A team of Guelph researchers led by Prof. Elliott Currie is collaborating with First Nations communities, including the Nishnabe Aaski Nation, to determine how to connect their needs for nutrition and food supplies with the communities' traditional knowledge. They also aim to help foster job creation in communities that produce and market food, including farmed fish, greenhouse vegetables or raised meat.



